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WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

MONTHLY SUMMARY AND REVIEW

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

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE YEARS 1883 AND 1884.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

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WASHINGTON, D. C.
MARCH, 1888.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF JANUARY, 1883.

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WASHINGTON, D. C.:
FEBRUARY, 1884.

SUMMARY AND REVIEW

OF

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STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for January, 1883. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.19	766.8	62.1	16.7	81.7	15	.....	.....	.....	5	1	3	7	.....	.....	.....	1	0.37	9.3
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	30.11	764.9	58.6	14.8	69.5	2	4	9	8	2	1	1	.....	4	.....	.....	5	6.00	152.5
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.05	763.3	64.0	17.8	66.7	2	3	16	8	2	.....	.....	.....	.....	.....	.....	4	6.15	156.2
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.04	763.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.21	767.4	58.5	14.7	65.3	3	4	7	2	6	2	5	2	.....	.....	.....	3	1.75	44.5
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.14	765.6	50.0	10.0	74.1	4	4	18	4	1	.....	.....	.....	.....	.....	.....	2	3.66	93.0
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	49.8	9.9	59.3	4	12	9	4	2	.....	.....	.....	.....	.....	.....	2	1.42	36.0
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2559	780	.....	.....	30.22	767.5	54.7	12.6	56.6	5	7	2	6	5	3	.....	3	.....	.....	.....	2	0.83	21.1
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.17	766.3	61.9	16.6	39.2	.....	24	.....	.....	.....	2	.....	.....	5	.....	.....	4	0.86	21.8
AUSTRALIAN.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.92	759.9	30.01	762.2	63.9	17.7	71	.....	.....	.....	5	11	11	2	2	.....	.....	.....	4	0.42	10.7
AUSTRO-HUNGARIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.58	751.2	30.15	765.9	32.7	0.4	80.0	1	.....	1	7	5	3	1	13	.....	.....	.....	7	0.37	9.5
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.30	744.2	30.11	764.7	29.1	−1.6	.....	1	3	4	5	1	2	5	10	.....	.....	.....	6	0.86	21.9
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.22	742.3	30.15	765.7	25.5	−3.6	83.5	4	2	.....	.....	4	2	.....	1	18	.....	.....	7	0.33	8.4
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.84	732.6	30.16	766.0	31.8	−0.1	72.6	.....	4	2	7	9	4	4	.....	1	.....	.....	4	0.70	17.7
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.64	727.5	30.13	765.4	29.1	−1.6	81	1	5	6	3	1	10	4	1	.....	.....	.....	5	1.34	34.1
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.63	727.3	30.10	764.4	30.4	−0.9	82.5	.....	4	5	2	.....	.....	2	12	6	.....	.....	7	2.74	69.5
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	29.08	738.7	30.13	765.4	26.2	−3.2	73.0	2	6	5	2	7	5	.....	4	.....	.....	.....	7	1.28	32.5
Neu Schmecks	N. 49 10	E. 20 14	1.29 p.m.	3297	1005	26.59	675.4	30.10	764.5	31.6	−0.2	71.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	1.19	30.3
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.92	759.9	30.04	762.9	45.0	7.2	69.8	2	3	4	.....	2	1	5	14	.....	.....	.....	7	1.26	31.9
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.63	752.7	30.08	764.1	31.3	−0.4	75	5	....	4	5	1	5	10	1	.....	.....	.....	6	1.23	31.3
Szegedin *a*	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.85	758.3	30.14	765.5	33.4	0.8	73.1	4	1	3	.....	7	2	1	5	7	.....	.....	7	0.43	10.9
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.96	760.9	30.06	763.4	41.9	5.5	64.6	.....	1	2	.....	.....	3	5	13	7	.....	.....	6	0.95	24.1
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.41	746.9	30.16	766.1	31.6	−0.2	71.2	3	3	4	1	.....	10	2	1	7	.....	.....	6	1.51	38.3
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.64	752.8	29.74	755.4	40.3	4.6	77.8	.....	1	3	7	11	9	.....	.....	.....	.....	.....	6	3.08	78.2
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.47	748.5	29.71	754.6	42.5	5.8	86.3	.....	.....	1	7	11	7	4	1	.....	.....	.....	7	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.81	757.2	42.0	5.6	80.7	.....	.....	4	6	4	5	10	2	.....	.....	.....	7	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.28	743.7	29.82	757.4	39.8	4.3	87.6	2	1	4	5	6	6	7	.....	.....	.....	.....	9	.....	.....
Bradford *d*	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.39	746.5	29.79	756.7	41.6	5.3	84.7	.....	2	5	9	1	6	1	3	.....	.....	.....	7	5.00	127.0
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	30.01	762.2	30.04	763.0	79.5	26.4	72.9	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	.....	4	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	.....	.....	43.9	6.6	83.7	1	3	3	9	4	5	5	1	.....	.....	.....	7	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.80	756.9	29.93	760.2	43.5	6.4	86.0	1	.....	3	9	4	2	6	2	4	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.64	752.8	29.87	758.7	47.5	8.6	81.4	.....	.....	6	6	6	5	7	1	.....	.....	.....	8	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2205	672	27.58	700.1	29.80	756.9	77.0	25.0	62.8	2	.....	2	.....	4	5	17	1	.....	.....	.....	7	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.59	751.6	29.63	752.6	45.1	7.3	83.1	.....	.....	2	13	10	2	4	.....	.....	.....	.....	7	6.68	169.7
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.12	765.0	30.17	766.3	59.3	15.2	93.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.52	749.8	29.73	755.1	40.9	4.9	82.3	1	.....	4	8	3	3	7	5	.....	.....	.....	7	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.75	755.6	29.92	760.0	44.2	6.8	81.7	1	1	2	7	6	2	7	5	.....	.....	.....	8	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.63	752.6	29.93	760.2	46.0	7.8	83.1	.....	2	3	7	6	6	6	1	.....	.....	.....	7	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.89	759.2	29.93	760.2	43.9	6.6	79.6	.....	1	4	8	3	3	7	5	.....	.....	.....	8	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.61	752.1	29.87	758.7	42.6	5.9	82.0	.....	3	4	10	2	8	1	3	.....	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.89	759.2	29.97	761.2	58.8	14.9	78.3	5	6	6	6	1	3	1	3	.....	.....	.....	6	1.66	42.2
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.15	765.8	30.20	767.1	71.7	22.1	86.3	2	1	.....	1	4	9	7	7	.....	.....	.....	6	.....	.....
Oscott *a*	N. 52 28	W. 1 55	0.00 m.	483	147	29.33	745.0	29.86	758.4	41.1	5.1	85.8	.....	1	3	6	8	3	6	3	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.67	753.6	29.90	759.4	43.4	6.3	83.6	.....	1	2	7	5	3	8	3	2	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.80	756.9	29.87	758.7	46.0	7.8	87.7	.....	1	3	9	4	5	5	3	1	.....	.....	8	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.55	750.6	29.65	753.1	40.1	4.5	83.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	2 04 p.m.	60	18	30.00	762.0	30.07	763.8	42.6	5.9	71.9	4	1	.....	4	2	1	3	14	2	.....	.....	8	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.56	750.8	29.85	758.2	41.9	5.5	83.2	.....	1	3	10	8	.....	3	4	2	.....	.....	8	3.61	91.7
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.73	755.1	29.76	755.9	41.3	5.2	84.6	.....	2	6	6	2	8	6	1	.....	.....	.....	7	3.76	95.5
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.83	757.7	40.3*b*	4.6*b*	82.1*b*	2	....	5	7	3	4	8	1	1	.....	.....	9	.....	.....
Stratfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.70	754.4	29.92	760.0	43.7	6.5	85.4	1	1	7	7	2	8	3	2	.....	.....	.....	7	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.82	757.4	29.87	758.7	49.9	9.9	77.9	.....	.....	8	9	3	6	4	1	.....	.....	.....	8	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.66	753.4	29.68	753.9	47.8	8.8	79.6	...	1	4	5	9	8	3	1	.....	.....	.....	9	.....	.....
CANADIAN.																										
Bathurst *d*	N. 47 39	W. 65 43	7.45 a.m.	35	11	.....	.....	.....	.....	1.9	−16.7	.....	.....	8	.....	1	2	1	.....	.....	15	.....	.....	2	.....	.....
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	30.02	762.5	30.07	763.8	6.9	−13.9	91.4	3	5	12	8	.....	2	.....	.....	1	5932	9547	6	2.74	69.6
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	30.04	763.0	30.11	764.8	−2.2	−19.0	92.2*a*	2	4	7	5	.....	.....	1	2	10	2432	3914	4	1.90	48.3
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.91	759.7	30.13	765.3	4.5	−15.3	94.8	2	5	7	3	.....	.....	12	2	.....	.....	.....	7	1.04	26.4
Dalhousie *a*	N. 48 04	W. 66 21	7.32 a.m.	45	14	30.04	763.0	30.09	764.3	−2.7	−19.3	.....	.....	2	16	1	.....	.....	2	.....	9	.....	.....	4	1.80	45.7
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	30.06	763.5	30.08	764.0	0.7	−17.4	85.2*a*	1	8	2	14	2	1	1	2	.....	14051	22012	7	0.96	24.4
Fort Garry *a*	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.34	745.2	30.25	768.3	−19.7	−28.7	94.9	13	6	2	1	4	2	.....	2	.....	8794	14152	4	0.26	6.6
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	30.08	764.0	30.15	765.8	−1.5	−18.6	92.4	2	13	3	1	.....	.....	1	2	9	.....	.....	5	4.03	102.6
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	28.96	735.6	30.17	766.3	12.4	−19.9	94.1	3	2	5	7	4	2	3	1	4	.....	.....	8	2.15	54.4
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.98	761.5	30.12	765.0	13.0	−10.6	97.3	5	4	16	1	1	1	.....	1	2	.....	.....	5	4.34	110.2
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	338	103	29.70	754.4	30.12	765.0	15.5	−9.2	79.1	.....	1	.....	22	...	.....	1	7	.....	.....	.....	8	2.50	63.5
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.79	756.7	30.15	765.8	10.1	−12.2	86.3	5	3	4	2	5	1	3	8	.....	6786	10921	8	1.74	44.2
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.94	760.5	30.16	766.1	3.2	−16.0	87.3	4	1	8	1	4	6	3	2	2	.....	.....	7	2.01	51.1
Ottawa	N. 45 26	W. 75 45	7.05 a.m.	224	68	29.87	758.7	30.14	765.5	2.3	−16.5	90.9	8	.....	2	4	.....	2	1	.....	14	.....	.....	6	2.38	60.5
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	625	191	29.35	745.5	30.11	764.8	9.2	−12.7	77.7	2	.....	5	2	7	.....	9	1	5	8021*c*	12908*c*	8	3.55	90.2
Peterboro *b*	N. 44 17	W. 78 20	6.54 a.m.	688	210	29.39	746.5	30.23	767.8	9.7	−12.4	73.6	1	.....	10	1	1	.....	4	3	9	.....	.....	6	1.10	27.9
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.40	746.7	30.15	765.8	16.2	−8.8	97.6	4	1	8	6	3	.....	2	6	1	7125	11466	8	2.42	61.5
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.45	748.0	30.15	765.8	16.2	−8.8	85.5	5	1	12	2	.....	2	6	3	.....	.....	.....	8	1.90	48.3
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.85	758.2	30.15	765.8	0.4	−17.6	85.4	1	7	9	2	.....	1	1	5	5	.....	.....	6	4.63	117.6
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.62	752.3	30.12	765.0	−2.3	−19.1	85.7	.....	1	4	1	1	1	7	...	10	.....	.....	6	1.98	50.3
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.33	745.0	30.09	764.3	15.2	−9.3	92.8*b*	2	1	4	8	3	7	2	2	2	12111	19490	8	2.89	73.4
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	30.08	764.0	30.13	765.3	10.1	−12.2	90.8	7	11	3	.....	2	1	1	3	3	.....	.....	6	2.33	59.2
Saint John, N. B.	N. 45 17	W. 66 03	7.44 a.m.	150	46	29.96	761.0	30.14	765.5	8.8	−12.9	97.9	13	7	1	2	.....	1	.....	7	.....	.....	.....	5	2.78	70.6
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.86	758.4	21.8	−5.7	.....	3	15	7	1	.....	2	.....	2	1	.....	.....	.....	0.24	6.1
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	28.76	730.5	30.16	766.1	11.4	−11.4	93.7	1	1	9	3	2	4	1	.....	10	.....	.....	9	3.13	79.5
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.97	761.2	30.03	762.7	11.3	−11.5	96.8	2	2	9	10	.....	1	1	2	4	8484	13653	7	3.56	90.4
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.74	755.4	30.15	765.8	15.3	−9.3	86.0	5	3	9	5	2	.....	3	4	.....	9412	15147	8	2.55	64.8
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26	29.98	761.5	30.08	764.0	11.2	−11.6	91.9	1	5	10	4	4	.....	2	1	4	.....	.....	5	.....	.....
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	29.04	737.6	30.17	766.3	14.1	−9.9	89.1	2	.....	1	12	4	1	3	3	5	.....	.....	8	2.97	75.4
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	30.05	763.3	30.12	765.0	20.2	−6.6	79.0	2	10	5	.....	1	1	5	5	2	7949	12792	8	3.80	96.5
CAPE COLONY.																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	29.93	760.2	29.96	761.0	71.4	21.9	79.6	.....	.....	6	10	1	3	8	3	.....	.....	.....	4	0.74	18.8
Springbok *g*	S. 29 45	E. 17.43	1.19 p.m	?	?	27.86	707.6	.....	.....	82.5	28.1	46.4	.....	.....	.....	4	6	11	3	.....	.....	.....	.....	.....	0	0

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CHINESE. (*Sub*).	° ′	° ′																								
Sung-shu-chwang	N. 36 07	E. 103 56	7.04 p.m.	4987	1520	24.65	626.0	.....	.....	17.8	— 7.9	.....	2	1	15	.....	.....	1	4	8	.....	.....	.....	1	.....	.....
Tchang-kia-tchouang	N. 38 17	E. 116 14	7.53 p.m.	98	30	30.30	769.6	30.41	772.4	26.2	— 3.2	70	3	.....	.....	6	3	1	.....	4	14	.....	.....	2	0.43	11.0
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	30.33	770.4	30.35	771.0	33.8	1.0	82	4	8	5	1	.....	1	10	.....	2	.....	.....	5	0.00	15.3
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.96	761.0	30.01	762.2	33.1	0.6	82	1	3	4	4	5	9	3	1	1	.....	.....	8	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.95	760.7	29.97	761.2	32.7	0.4	89	1	2	6	4	1	8	7	2	.....	.....	.....	6	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.17	740.9	29.21	742.0	13.8	—10.1	84	11	7	.....	1	1	.....	1	10	.....	.....	.....	7	.....	.....
Ivigtut	N. 61 12	W. 48 00	8.56 a.m.	16	5	29.11	739.4	29.13	739.9	13.6	—10.2	.....	1	.....	.....	1	.....	5	.....	.....	24	.....	.....	7	.....	.....
Jacobshavn	N. 69 13	W. 50 55	8.44 a.m.	42	13	29.33	744.9	29.37	746.1	4.3	—15.4	.....	1	.....	.....	2	4	3	4	.....	17	.....	.....	5	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.14	740.1	29.18	741.2	31.1	— 0.5	88	.....	.....	.....	.....	6	9	5	10	1	.....	.....	8	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.52	749.8	29.56	750.7	41.0	5.0	81	2	1	2	6	9	8	.....	.....	3	.....	.....	8	.....	.....
Upernavik	N. 72 47	W. 56 00	8.24 a.m.	39	12	29.40	746.7	29.45	747.9	—4.4	—20.2	.....	4	.....	.....	1	.....	.....	17	.....	9	.....	.....	4	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.85	758.2	29.94	760.5	32.7	0.4	89	.....	3	1	6	2	4	8	5	2	.....	.....	5	.....	.....
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.44	747.7	30.10	764.6	46.4	8.0	93.7	.....	1	3	.....	1	2	.....	.....	24	.....	.....	.....	0.85	21.6
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.46	748.3	30.01	762.3	41.4	5.2	93.7	7	1	1	9	9	2	.....	2	.....	.....	.....	.....	2.13	54.0
Arras	N. 50 18	E. 2 46	0.19 p.m.	239	73	29.72	755.0	29.99	761.8	39.2	4.0	88.1*k*	.....	2	6	4	5	4	7	3	.....	.....	.....	.....	1.35	34.4
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	29.94	760.5	30.02	762.5	47.3	8.5	64.2	15	7	.....	.....	.....	3	3	3	.....	.....	.....	4	2.76	70.1
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.49	749.0	30.06	763.6	40.3	4.6	82	1	1	3	7	6	6	6	1	.....	.....	.....	8	2.14	54.3
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.76	755.8	30.03	762.8	41.5	5.3	79.9	.....	3	4	3	4	6	9	2	.....	.....	.....	7	2.38	60.4
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.08	738.7	30.02	762.4	40.8	4.9	82.6	3	.....	.....	.....	11	1	1	15	.....	.....	.....	.....	3.91	99.3
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.77	756.2	30.04	763.0	47.5	8.6	76.9	1	2	2	3	4	12	6	1	.....	.....	.....	6	1.78	45.2
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.49	749.0	30.06	763.5	42.4	5.8	84.3	5	.....	4	6	7	2	2	5	.....	.....	.....	.....	1.85	46.9
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.71	754.5	29.95	760.7	47.8	8.8	88.9	.....	1	5	8	3	5	7	.....	2	.....	.....	7	7.64	194.0
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.89	759.2	29.97	761.2	44.1	6.7	81.5	8	4	2	3	.....	1	5	8	.....	.....	.....	4	1.97	50.0
Chalons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.68*e*	753.8*e*	30.02*e*	762.4*e*	39.4*e*	4.1*e*	81.3*f*	1*e*	1	2	4	3	16	1	.....	.....	.....	.....	7	2.24	56.8
Charleville *h*	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.51	749.5	30.02	762.6	38.5	3.6	76.8*e*	1	.....	2	3	2	6	11	4	.....	.....	.....	7	2.90?	73.7?
Clermont-Fd	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.67	728.2	30.05	763.3	43.9	6.6	72.1	13	2	4	3	5	3	1	.....	.....	.....	.....	6	1.50	38.2
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.20	741.6	30.07	763.8	39.4	4.1	79.3	7	3	4	6	1	1	.....	6	3	.....	.....	.....	1.59	40.3
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.19	741.3	30.08	764.0	36.9	2.7	90.5	.....	.....	8	2	3	3	12	3	.....	.....	.....	7	3.48	88.5
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.45	697.1	30.05	763.3	39.7	4.3	70	3	1	2	2	.....	1	4	5	13	.....	.....	3	2.26	57.4
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.87	733.2	30.01	762.3	47.5	8.6	67.2	3	.....	.....	.....	10	7	2	9	.....	.....	.....	5	3.34	84.8
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.28	743.7	30.08	764.0	40.6	4.8	77.8	3	5	1	2	.....	2	16	2	.....	.....	.....	.....	2.58	65.6
Gueret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.44	722.4	30.06	763.4	42.4	5.8	74.8	2	3	5	8	3	3	2	2	3	.....	.....	.....	2.90	73.7
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.67	753.6	29.95	760.7	45.1	7.3	81.6	1	.....	6	5	5	10	4	.....	.....	.....	.....	6	2.12	53.9
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.45	747.9	30.02	762.4	51.8	11.0	70.9	.....	2	11	3	.....	2	12	1	.....	.....	.....	4	1.96	49.9
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.89	759.1	29.99	761.7	47.7	8.7	77.8	1	2	2	6	5	4	8	3	.....	.....	.....	8	3.61	91.8
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	29.00	736.5	30.09	764.2	39.6	4.2	79.4	5	7	4	.....	1	7	4	3	.....	.....	.....	8	1.61	40.8
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.72	754.8	30.04	763.0	41.9	5.5	87.9	3	1	5	7	2	9	3	1	.....	.....	.....	6	3.52	89.5
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.73	755.1	30.00	762.0	51.4	10.8	71.3	1*a*	8	7	3	.....	2	7	2	.....	.....	.....	.....	4.73	120.3
Mont Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.76	628.8	29.60	751.7	37.4	3.0	59.2	2	4	5	17	1	1	.....	1	.....	.....	.....	4	2.10	53.3
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.88	758.9	30.01	762.2	50.0	10.0	77.5	11	.....	.....	.....	1	9	3	5	2	.....	.....	2	5.27	133.8
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.22	742.1	30.03	762.7	36.7	2.6	83.2	6	5	5	5	6	.....	.....	4	.....	.....	.....	.....	1.44	36.5
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.89	759.2	30.04	762.9	47.8	8.8	76.8	1	3	1	7	4	3	9	3	.....	.....	.....	8	3.78	95.9
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.91	759.7	30.02	762.6	52.7	11.5	63.5	7	9	.....	2	3	2	1	6	1	.....	.....	6	2.64	67.1
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.11	536.2	.....	.....	23.0	— 5.0	.....	.....	8	6	5	.....	2	.....	10	.....	.....	.....	6	5.10	129.7
Privas ..... [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.97	735.8	30.07	763.8	42.8	6.0	72.5*e*	16	3	.....	.....	12	.....	.....	.....	.....	.....	.....	5	4.82	122.4
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.05	636.2	.....	.....	29.7	— 1.3	88.9	4	3	8	4	3	4	3	2	.....	.....	.....	6	4.79	121.7
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	29.99	761.7	30.02	762.5	48.2	9.0	83.9	.....	1	3	4	7	5	3	6	2	.....	.....	4	9.33	237.
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.77	756.2	29.99	761.8	45.9	7.7	73.3	.....	3	3	4	7	5	7	2	.....	.....	.....	5	3.68	93.4
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.86	707.7	30.06	763.4	42.8	6.0	79.0	1	5	8	2	2	4	4	1	4	.....	.....	.....	3.06	77.6
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.94	760.5	29.99	761.7	43.2	6.2	79.8	2	1	2	7	2	9	3	5	.....	.....	.....	6	2.51	63.8
Saint Lo *c*	N. 49 06	W. 1 05	0.04 p.m.	134	41	.....	.....	.....	.....	43.2	6.2	78.8	.....	3	7	5	1	6	6	.....	.....	.....	.....	6	2.24	56.9
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.86	758.5	30.03	762.7	41.9	5.5	79.9	2	1	3	4	8	1	7	3	2	.....	.....	6	1.81	46.0
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.37	746.0	30.10	764.4	46.8	8.2	84.9	1	8	6	4	2	8	1	1	.....	.....	.....	6	1.75	44.5
Tours	N. 47 24	E. 0 41	0.11 p.m.	107	51	28.85	758.2	30.03	762.7	44.6	7.0	82.9	2	1	1	10	2	1	4	10	.....	.....	.....	4	3.25	82.6
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.52	749.7	30.01	762.2	41.4	5.2	81.8*e*	.....	1	7	8	2	7	6	.....	.....	.....	.....	.....	2.19	55.6
Sub-Series.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	0.03 p.m.	131	40	29.95	760.7	30.07	763.8	50.9	10.5	71.8	5	3	6	7	2	1	3	2	2	.....	.....	6	3.59	91.2
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.58	726.0	30.11	764.7	33.4	0.8	77.0	2	1	4	4	3	2	9	3	3	.....	.....	6	1.91	48.4
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.19	741.5	30.04	763.0	35.4	1.9	72.8	1	6	4	2	.....	7	.....	2	9	.....	.....	5	1.54?	39.1?
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.89	759.3	30.06	763.5	33.1	0.6	71.1	1	5	3	4	.....	6	7	3	2	.....	.....	7	0.93	23.5
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.57	751.0	30.10	764.5	32.4	0.2	68.0	3	4	4	5	2	9	3	.....	1	.....	.....	6	0.99	25.1
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.74	755.4	30.07	763.7	37.8	3.2	73.9	.....	.....	.....	13	5	1	2	10	.....	.....	.....	7	1.74	44.1
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.27	743.5	29.98	761.6	35.6	2.0	79.6	5	4	1	.....	14	3	2	2	.....	.....	.....	6	1.26	31.9
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.68	753.9	30.06	763.6	36.9	2.7	73.9	4	.....	3	5	4	2	6	7	.....	.....	.....	7	1.76	44.8
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1355	413	28.60	726.4	30.09	764.3	36.0	2.2	75.0	2	1	8	4	5	.....	2	9	.....	.....	.....	8	1.59	40.5
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.96	760.9	30.05	763.2	32.5	0.3	87.6	1	1	3	8	1	7	8	1	1	.....	.....	6	1.59	40.4
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	30.00	762.0	30.02	762.4	34.0	1.1	81.4	.....	3	3	6	.....	8	8	3	.....	.....	.....	6	1.83	46.4
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.63	752.7	30.07	763.8	34.3	1.3	74.4	1	3	2	3	7	5	5	5	.....	.....	.....	6	0.92	23.3
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.85	758.2	30.05	763.2	34.7	1.5	76.8	2	2	4	4	2	4	9	4	.....	.....	.....	6	0.95	24.2
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	30.06	763.6	30.11	764.7	25.7	— 3.5	88.3	3	5	1	3	6	8	1	4	.....	.....	.....	7	1.80	45.6
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.19	716.1	30.06	763.4	33.3	0.7	76.1	7	3	3	4	1	1	6	5	1	.....	.....	7	1.27	32.3
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	30.11	764.7	30.12	765.1	30.6	— 0.8	79.5	1	2	3	7	5	9	1	3	.....	.....	.....	7	0.46	11.6
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.51	749.5	30.04	762.9	37.4	3.0	79.7	2	.....	4	3	1	.....	2	8	11	.....	.....	7	1.58	40.2
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.09	738.8	30.01	762.3	36.5	2.5	77.2	5	.....	6	2	.....	.....	7	11	.....	.....	.....	7	0.79	20.1
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	30.04	763.0	30.06	763.6	32.0	0.0	89.9	4	.....	2	6	3	8	7	1	.....	.....	.....	8	0.83	21.0
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.62	752.4	30.02	762.5	52.0	11.1	.....	9	2	1	6	2	3	.....	8	.....	.....	.....	7	3.69	93.7
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	30.00	761.9	30.05	763.2	74.0	23.3	46	.....	3	9	12	.....	1	4	2	.....	.....	.....	3	0.33	8.4
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.47	748.5	29.95	760.7	78.0	25.6	25	6	10	6	6	2	.....	.....	.....	1	.....	.....	2	0.14	3.6
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.89	759.3	29.93	760.2	79.9	26.6	61	4	14	12	1	.....	.....	.....	.....	.....	.....	.....	2	0.12	3.0
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	28.05	712.4	29.90	759.5	80.6	27.0	25	.....	2	6	2	.....	4	12	5	.....	.....	.....	3	0	0
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.37	695.1	29.91	759.6	76.9	24.9	35	.....	.....	4	5	.....	10	11	1	.....	.....	.....	3	0.05	1.3
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.25	742.8	30.02	762.6	60.6	15.9	58	.....	.....	2	.....	.....	1	4	1	23	.....	.....	4	2.39	60.7
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	29.08	738.5	30.01	762.2	63.0	17.2	52	.....	1	8	.....	1	2	1	.....	18	.....	.....	4	5.37	136.4
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.43	747.6	30.02	762.4	68.0	20.0	49	1	3	10	.....	1	1	7	3	5	.....	.....	3	1.97	50.0
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.91	734.2	29.96	761.0	76.8	24.9	40	.....	2	1	3	4	2	2	1	16	.....	.....	3	0.39	9.9
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.61	726.8	30.00	761.9	71.3	21.8	50	5	2	.....	.....	2	2	.....	3	17	.....	.....	3	0.57	14.5
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.64	752.8	30.03	762.7	65.7	18.7	58	1	1	2	1	.....	1	1	.....	24	.....	.....	2	4.72	119.9
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.69	754.1	30.02	762.4	62.8	17.1	75	.....	2	1	.....	.....	.....	2	1	25	.....	.....	2	2.68	68.1
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.84	757.8	30.03	762.7	65.2	18.4	63	1	4	15	.....	2	2	4	1	2	.....	.....	3	1.93	49.0
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.95	709.9	30.03	762.8	62.8	17.1	54	10	10	3	1	.....	1	1	1	4	.....	.....	2	1.11	28.2
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.91	759.8	30.00	761.9	74.8	23.8	60	1	4	2	.....	2	3	.....	4	15	.....	.....	2	0	0
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.99	761.8	30.02	762.4	67.7	19.8	61	10	4	4	1	1	.....	2	1	8	.....	.....	1	0.07	1.8
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.90	759.4	30.02	762.6	65.9	18.8	76	.....	2	.....	2	.....	1	3	7	16	.....	.....	1	0.32	8.1
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.93	760.1	30.02	762.5	68.2	20.1	67	1	6	14	4	.....	.....	.....	1	5	.....	.....	1	0	0
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.70	754.4	30.05	763.4	60.6	15.9	85	.....	.....	.....	6	.....	3	3	19	.....	.....	.....	3	1.77	45.0
Zanzibar *d*	S. 6 10	E. 39 11	2.45 p.m.	23	7	29.79	756.8	29.82	757.3	85.2	29.6	66	5	.....	1	.....	2	1	5	13	.....	.....	.....	5	2.49	63.2
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.52	724.5	30.01	762.3	66.3	19.1	56	1	12	3	4	1	7	.....	3	.....	.....	.....	4	1.22	31.0
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.44	722.4	.....	.....	80.7	27.1	39	.....	1	1	.....	.....	13	16	.....	.....	.....	.....	2	0	0
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.68	753.9	.....	.....	81.8	27.7	56	.....	.....	.....	.....	.....	1	13	12	5	.....	.....	5	0	0

Stations.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
ITALIAN.	° ′	° ′																								
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.66	753.4	30.09	764.2	40.8	4.9	59	2	1	1	.....	1	8	3	6	9	.....	.....	6	2.84	72.2
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.56	750.7	30.10	764.5	38.1	3.4	79	2	3	10	6	1	4	3	2	.....	.....	.....	7	3.83	97.2
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.96	761.0	30.08	763.9	39.7	4.3	71	11	4	.....	2	.....	3	2	9	.....	.....	.....	6	3.09	78.5
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.15	740.5	30.10	764.6	37.2	2.9	82	1	12	.....	.....	.....	.....	6	12	.....	.....	.....	6	4.63	117.6
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157	48	29.82	757.5	30.02	762.5	46.6	8.1	59	10	2	.....	1	1	5	.....	10	2	.....	.....	5	8.70	220.9
Mondovi	N. 44 23	E. 7 48	0.39 p.m.	1824	556	28.11	714.1	30.11	764.9	36.9	2.7	67	1	1	24	1	.....	2	2	.....	.....	.....	.....	5	3.86	98.1
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.95	760.8	30.00	762.1	41.5	5.3	84	8	7	4	3	.....	2	2	5	.....	.....	.....	7	2.03	51.6
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.75	755.7	30.02	762.4	45.5	7.5	68	2	2	4	3	.....	2	3	15	.....	.....	.....	6	2.61	66.2
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.87	758.7	29.96	760.9	48.7	9.3	68	3	1	2	2	1	....	9	13	.....	.....	.....	6	3.19	81.1
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.79	756.6	29.97	761.2	51.4	10.8	59	17	2	1	3	5	1	.....	1	1	.....	.....	6	3.89	98.8
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.72	754.9	29.98	761.4	51.8	11.0	68	6	5	4	.....	4	6	.....	6	.....	.....	.....	6	3.44	87.5
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.09	738.8	30.00	761.9	49.8	9.9	74	4	3	8	6	4	4	2	.....	.....	.....	.....	6	2.71	68.8
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	29.76	755.8	29.96	760.9	54.9	12.7	69	1	23	1	.....	1	2	2	.....	1	.....	.....	5	0.25	6.3
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.71	754.7	29.97	761.1	56.3	13.5	60	3	3	5	6	.....	.....	.....	9	5	.....	.....	8	5.48	139.1
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.90	759.4	29.94	760.5	55.9	13.3	70	3	2	1	7	5	1	2	10	.....	.....	.....	8	3.08	78.2
Sub-Series.																										
Naples	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.45	748.0	29.98	761.5	51.4	10.8	65.9	3	3	3	4	3	2	1	12	.....	.....	.....	6	2.55	64.8
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	22.01	559.1	.....	.....	19.0	−7.2	72.3	.....	1	2	4	.....	7	3	14	.....	.....	.....	5	3.04	77.0
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	22.09	559.8	.....	.....	22.6	−5.2	57.0	7	3	1	.....	.....	4	9	7	.....	.....	.....	5	14.49	368.0
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	29.98	761.5	30.01	762.2	28.8	−1.8	87.0	2	10	3	.....	.....	.....	.....	.....	16	.....	.....	9	5.66	143.8
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.92	759.9	29.96	760.9	26.0	−3.3	81.6	1	5	8	8	6	2	.....	.....	1	8810	14338	8	2.52	63.9
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	29.91	759.7	29.92	760.0	26.2	−3.2	88.8	11	7	9	1	.....	.....	3	.....	.....	1160	1866	6	1.55	39.5
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	26	8	30.04	763.0	30.07	763.7	38.8	3.8	70.4	.....	5	9	.....	.....	1	.....	.....	16	.....	.....	3	3.98	101.2
Kagoshima	N. 31 35	E. 130 33	8.50 p.m.	14	4	30.19	766.9	30.21	767.2	42.0	5.6	80.1	22	4	.....	.....	.....	.....	1	1	3	.....	.....	4	3.67	93.3
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.95	762.8	30.13	765.4	34.9	1.6	83.5	4	10	12	1	1	1	.....	2	.....	2438*g*	3779*g*	6	2.69	67.9
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	30.12	765.1	30.14	765.6	41.2	5.1	74.2	3	10	8	.....	.....	.....	5	5	.....	5491	8836	3	2.72	69.1
Minasaka	N. 31 50	E. 131 26	8.54 p.m.	26	8	30.16	766.1	30.19	766.8	42.8	6.0	74.9	.....	.....	15	.....	.....	.....	.....	1	15	.....	.....	3	4.10	104.1
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	30.00	762.0	30.21	767.4	41.4	5.2	77.3	6	4	.....	2	.....	2	.....	6	11	2990	4811	6	2.22	56.3
Nilgata	N. 37 55	E. 139 03	9.24 p.m.	32	10	30.02	762.5	30.06	763.4	34.1	1.1	80.6	5	.....	12	7	1	4	2	.....	.....	9244	14876	9	4.88	123.8
Nobiru	N. 38 23	E. 141 12	9.32 p.m.	15	5	29.91?	761.2?	29.99	761.6	30.2	−1.0	83.5	12	14	1	.....	1	.....	1	2	.....	9794	15761	6	3.32	84.2
Numazu	N. 35 06	E. 138 51	9.23 p.m.	32	10	29.98	761.4	30.01	762.3	39.7	4.3	69.2	1	1	.....	1	4	....	12	2	10	.....	.....	2	2.35	59.7
Osaka	N. 34 42	E. 135.30	9.10 p.m.	13	4	30.12	765.2	30.14	765.6	36.7	2.6	78.8	11	3	5	2	.....	.....	2	8	.....	6062	11043	6	2.32	58.8
Sakai	N. 35 01	E. 133 31	9.01 p.m.	10	3	30.15	765.7	30.16	766.0	37.7	3.3	81.0	1	.....	18	2	1	.....	3	3	3	.....	.....	8	7.51	190.8
Supporo	N. 43 04	E. 141 23	9.33 p.m.	60	18	.....	.....	.....	.....	20.8	−6.2	84.2	1	8	3	2	1	8	.....	.....	8	5902	9498	8	1.77	44.9
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.95	760.7	30.03	762.7	36.2	2.3	67	16	6	3	.....	2	2	1	.....	1	.....	.....	3	2.84	72.2
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.09	764.2	30.14	765.6	38.9	3.9	74.8	6	8	2	.....	.....	.....	1	11	3	4047	7478	6	3.24	82.3
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.70	754.4	29.89	759.2	81.3	27.4	68.8	3	.....	.....	.....	.....	1	9	18	.....	.....	.....	8	7.44	189.0
MEXICAN.																										
Altata *g*	N. 24 40	W. 107 55	4.56 a.m.	?	?	.....	.....	.....	.....	52.9	11.6	91.4	5*h*	11	.....	1	1	.....	3	2	.....	.....	.....	.....	.....	.....
Guanajuato	N. 21 01	W. 100 48	5.24 a.m.	6759	2060	23.71	602.3	29.93	760.3	50.2	10.1	83	1	2	1	7	2	2	.....	3	13	.....	.....	4	0.16	4.2
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24.38	619.2	30.22	767.0	46.6	8.1	86	7	12	2	4	.....	.....	.....	1	5	.....	.....	5	0.02	0.4
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.79	756.8	30.05	763.2	63.1	17.3	78	3	20	.....	.....	.....	3	....	5	.....	.....	.....	5	0.04	1.0
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.14	587.8	30.33	770.4	45.0	7.2	76	.....	3	.....	.....	.....	.....	.....	.....	28	.....	.....	4	0.15	3.7
Morelia	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	24.29	617.0	30.17	766.3	46.0	7.8	70	1	.....	.....	1	6	14	9	.....	.....	.....	.....	2	inap.	inap.
Pabellon *o*	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.98	609.1	30.11	764.9	48.4	9.1	80	3	.....	2	4	.....	.....	.....	2	5	.....	.....	1	0.08	2.0
Puebla	N. 19 02	W. 98 03	5.30 a.m.	7113	2168	23.44	594.9	30.34	770.5	43.4	6.3	69	.....	1	.....	.....	.....	.....	.....	1	29	.....	.....	2	0	0
Zacatecas	N. 22 44	W. 102 20	5.18 a.m.	8100	2469	22.57?	574.3?	30.27?	769.9?	44.1	6.7	71	2	.....	.....	23	.....	1	1	4	.....	.....	.....	6	0.45	11.3
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.00	761.9	30.00	761.9	40.6	4.8	.....	.....	.....	2	7	5	7	6	4	.....	.....	.....	.....	2.39	60.6
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.93	760.3	29.99	761.7	30.0	2.2	.....	.....	4	.....	7	7	4	5	4	.....	.....	.....	.....	2.10	53.2
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.99	761.7	29.99	761.7	39.0	3.9	85.4	.....	.....	3	7	5	3	7	5	1	.....	.....	.....	1.79	45.4
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.97	761.1	30.01	762.3	39.0	3.9	79.5	.....	.....	4	5	9	4	5	4	.....	.....	.....	5	1.51	38.3
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7.15 p.m.	?	?	29.86	758.5	.....	.....	78.3	25.7	86.4	10	14	3	2	2	.....	.....	.....	.....	.....	.....	7	25.72	653.0
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.75	755.7	29.82	757.3	34.9	1.6	78.0	1	.....	2	2	13	10	1	.....	2	.....	.....	6	5.98	151.8
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.67	753.7	29.69	754.0	33.1	0.6	70.7	1	3	.....	5	7	4	.....	.....	11	.....	.....	7	2.86	72.7
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.80	757.0	29.96	760.9	24.4	−4.2	89.8	1	1	2	5	4	.....	9	8	1	.....	.....	8	0.91	23.0
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.53	750.1	29.56	750.7	29.3	−1.5	.....	1	3	7	8	4	4	1	1	2	.....	.....	8	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.63	752.7	29.68	753.9	30.2	−1.0	74.7	4	1	3	6	4	4	.....	2	7	.....	.....	7	4.54	115.2
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	29.96	761.0	30.12	765.0	57.9	14.4	80.9	2	12	9	3	2	2	....	.....	1	.....	.....	5	5.31	134.9
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.15	740.5	30.17	766.4	52.7	11.5	75.6	3	.....	7	5	4	.....	4	6	2	.....	.....	5	4.61	117.0
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.16	766.0	30.24	768.2	65.3	18.5	65.5	1	1	3	11	.....	10	5	.....	.....	.....	.....	5	1.26	31.9
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.84	757.8	30.20	767.1	53.2	11.8	74.1	5	4	4	3	4	.....	3	8	.....	.....	.....	5	5.56	141.1
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.09	764.3	30.16	766.1	60.6	15.9	73.9	3	7	6	3	6	.....	.....	2	4	.....	.....	5	5.83	148.1
St. Paulde Loanda	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.71	754.6	29.91	759.7	79.7	26.5	84.5	3	3	18	7	.....	.....	.....	.....	.....	.....	.....	6	0.39	10.0
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.30	642.5	30.14	765.5	38.3	3.5	74.7	.....	8	5	2	3	6	3	1	3	.....	.....	7	18.49	469.6
RUSSIAN.																										
Akmolinski *a*	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	29.06	738.0	30.26	768.7	−3.1	−19.5	83.0	.....	.....	2	15	7	1	1	1	3	.....	.....	6	0.05	1.5
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.85	758.3	29.87	758.7	6.4	−14.2	88.7	4	4	3	7	6	3	4	.....	.....	.....	.....	9	0.86	21.9
Ashuradn	N. 36 54	E. 53 55	3.44 p.m.	79	24	30.27	768.8	30.17	766.4	44.1	6.7	81.7	3	4	4	1	.....	2	9	8	.....	.....	.....	6	0.10	2.5
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.34	770.6	30.26	768.5	17.8	−7.8	72.9	2	7	6	3	2	4	4	2	1	.....	.....	5	0.21	5.3
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	30.24	768.0	30.19	766.8	36.9	2.7	79.9	7	3	.....	8	5	2	1	1	4	.....	.....	6	0.44	11.2
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.82	757.3	30.38	771.6	1.9	−16.7	78.9	.....	1	1	17	.....	.....	1	1	10	.....	.....	6	1.41	35.8
Bielosersk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.52	749.8	30.04	763.0	5.2	−14.9	88.0	2	5	3	6	3	6	1	1	4	.....	.....	7	0.50	12.6
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.83	757.6	30.09	764.3	16.0	−8.9	93.8	5	2	4	5	9	1	1	2	2	.....	.....	7	0.91	23.1
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.98	736.0	30.04	763.1	0.5	−17.5	76.1	.....	2	11	9	3	1	1	1	3	.....	.....	7	0.47	12.0
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.72	755.6	30.21	767.4	18.5	−7.5	81.5	1	6	2	2	2	4	5	3	6	.....	.....	6	0.37	9.4
Irkutsk	N. 52 16	E. 104 16	7.05 p.m.	1536	468	28.72	729.4	30.58	776.7	−3.6	−19.8	86.1	1	2	.....	.....	1	5	.....	1	21	.....	.....	4	0.39	9.9
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.76	755.9	30.06	763.5	1.6	−16.9	75.6	2	1	7	5	7	7	1	.....	1	.....	.....	7	0.67	17.0
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	29.78	756.5	29.84	757.8	13.1	−10.5	88.7	1	2	8	7	5	.....	1	.....	7	.....	.....	8	0.42	10.8
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	30.14	765.5	30.10	766.0	24.4	−4.2	87.2	1	8	.....	.....	.....	1	2	3	10	.....	.....	2	0.22	5.6
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.46	748.3	30.15	765.8	16.9	−8.3	83.4	5	5	4	4	3	6	2	2	.....	.....	.....	7	1.22	31.1
Koslov	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.52	749.8	30.11	764.7	4.5	−15.3	87.5	3	5	5	6	4	4	1	1	2	.....	.....	7	1.10	27.9
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	30.04	763.1	30.07	763.7	26.8	−2.9	81.3	1	4	2	3	6	7	4	3	1	.....	.....	4	0.91	23.2
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.93	760.2	30.13	765.4	13.5	−10.3	71.5	1	4	6	7	3	3	4	3	.....	.....	.....	6	0.82	20.7
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.54	750.4	30.08	764.0	6.4	−14.2	80.7	3	8	6	1	4	2	.....	2	5	.....	.....	6	0.28	7.0
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	30.13	765.4	30.21	767.3	21.4	−5.9	83.4	2	3	3	3	4	.....	4	6	6	.....	.....	5	0.76	19.2
Nikolaievsk	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.92	759.9	30.00	762.1	−12.6	−24.8	69.0	.....	.....	9	.....	.....	.....	.....	.....	22	.....	.....	5	0.22	5.6
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	30.26	768.6	30.40	772.2	23.7	−4.6	49.2	.....	7	.....	1	.....	3	.....	.....	20	.....	.....	2	0.12	3.1
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.73	755.1	29.94	760.6	10.0	−12.2	83.3	4	10	4	8	4	.....	1	.....	.....	.....	.....	7	1.13	28.7
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.61	752.2	30.15	765.7	23.7	−4.6	77.5	3	8	3	3	3	8	2	1	.....	.....	.....	7	0.62	15.8
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	30.08	764.0	30.10	764.5	41.0	5.0	72.6	.....	.....	3	1	.....	2	23	.....	2	.....	.....	6	0.08	2.0
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	30.02	762.5	30.04	762.9	10.6	−11.9	85.2	2	6	3	6	5	4	2	2	1	.....	.....	7	0.75	19.0
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	423?	42?	29.90	759.4	30.06	763.6	34.3	1.3	68.5	4	1	3	5	1	2	1	11	3	.....	.....	6	1.30	33.1
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.73	755.1	30.46	773.6	3.2	−16.0	81.4	.....	3	7	.....	5	3	12	.....	1	.....	.....	6	0.08	2.0
Starol Bykhov	N. 53 31	E. 30 16	2.09 p.m.	423?	129?	29.69	754.0	30.19	766.8	15.6	−9.1	76.8	3	3	.....	2	1	16	1	5	.....	.....	.....	7	0.94	23.8
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.74	730.0	30.23	767.8	34.3	1.3	56.0	3	8	.....	.....	1	6	5	.....	8	.....	.....	5	0.55	13.9
Tomsk *b*	N. 56 30	E. 84 58	5.48 p.m.	256?	78?	29.92	760.1	30.24	768.0	−0.2	−17.9	79.3	1	1	1	1	15	5	1	.....	4	.....	.....	6	.....	.....
Vlatka	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.30	744.2	30.00	762.0	−1.1	−18.4	.....	3	4	5	1	6	2	3	2	5	.....	.....	7	0.47	11.9
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.67	753.6	30.12	765.0	27.1	−2.7	78.0	5	3	2	6	9	3	2	1	.....	.....	.....	6	0.92	23.5
Wilna	N. 54 41	E. 25 18	1.49 p.m.	388	118	29.68	753.9	30.13	765.4	21.7	−5.7	84.5	2	3	3	4	7	6	.....	3	3	.....	.....	8	0.21	5.3
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	30.04	762.9	30.30	771.2	−4.7	−20.4	84.2	.....	1	9	3	2	3	8	1	4	.....	.....	5	0.61	15.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for January, 1883. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
SCOTTISH.	° ′	° ′																								
Monach Light H.	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.58	751.3	44.5	6.9	92.0	.....	3	4	4	11	6	3	.....	.....	.....	.....	10	5.70	144.8
North Unst	N. 60 51	W. 0 53	0.04 p.m.	230	70	.....	.....	29.66	753.4	.....	.....	.....	1	3	5	4	15	2	1	.....	.....	.....	.....	9	.....	.....
SPANISH.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.92	759.9	30.02	762.6	53.4	11.9	69	1	4	6	10	3	2	2	3	.....	3227	5193	3	2.26	57.5
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.04	763.1	30.10	764.6	54.9	12.7	67	1	8	1	1	4	15	.....	.....	1	2426	3905	5	2.02	51.2
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.10	688.4	30.16	766.1	41.9	5.5	77	12	.....	5	9	5	.....	.....	.....	.....	4969	7998	5	2.49	63.2
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.87	708.7	30.15	765.8	46.6	8.1	71.4	1	5	2	7	.....	2	2	6	6	4889	7868	4	2.37	60.2
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.94	760.4	30.09	764.2	51.6	10.9	68.0	.....	11	2	11	2	1	.....	2	2	1506	2422	4	1.32	33.5
Oviedo	N. 43 23	W. 5 49	11.45 a.m.	800	244	29.17	741.0	30.05	763.3	47.8	8.8	76	.....	1	1	3	10	7	9	.....	.....	3620	5826	7	1.87	47.6
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.12	739.6	30.02	762.6	51.4	10.8	84.1	.....	1	3	6	8	3	1	.....	9	6742	10850	7	10.58	268.6
Sub-Series.																										
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.91	759.8	29.97	761.2	76.6	24.8	76.3	13	1	.....	.....	.....	1	5	9	2	3287?	6087?	3	7.59	192.9
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	30.10	764.4	30.20	767.0	58.3	14.6	70	5	6	5	1	3	2	4	1	4	.....	.....	5	7.78	197.8
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	30.04	763.0	30.13	765.3	76.1	24.5	86	1	.....	.....	.....	1	3	9	2	15	.....	.....	4	6.06	153.8
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.81	757.1	29.85	758.1	12.0	-11.1	96	6	2	.....	9	7	4	.....	.....	3	.....	.....	5	1.36	34.6
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.83	757.7	29.88	759.0	20.1	—6.6	90	5	5	3	11	1	.....	1	1	4	.....	.....	7	2.23	56.6
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.84	758.0	29.89	759.3	22.1	—5.5	86	2	.....	.....	6	2	2	.....	.....	19	.....	.....	5	0.59	15.0
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.80	756.8	29.97	761.3	27.9	—2.3	84	4	3	5	8	7	3	1	.....	.....	.....	.....	8	0.42	10.7
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.93	760.3	29.99	761.8	31.6	—0.2	87	4	5	2	7	7	3	3	.....	.....	.....	.....	8	1.34	34.1
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.87	758.8	29.96	761.0	25.5	—3.6	93.0	1	7	1	9	7	6	.....	.....	.....	.....	.....	7	0.86	21.9
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.63	727.1	30.10	764.6	38.5	3.6	77.9	8	2	.....	9	6	3	1	2	.....	.....	.....	8	2.28	58.0
TURKISH.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.06	763.6	41.7	5.4	72	11	3	.....	1	.....	2	1	13	.....	.....	.....	9	2.60	66.1
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.00	762.0	52.2	11.2	.....	4	4	2	1	.....	6	3	11	.....	.....	.....	6	4.21	107.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.99	761.8	60.8	16.0	71.6	7	.....	2	15	3	.....	1	1	2	.....	.....	8	12.73	323.3
Samakov *a*	N. 42 12	E. 23 45	1.42 p.m.	?	?	26.71	678.4	.....	.....	31.1	—0.5	73.6	1	7	4	.....	2	4	1	3	8	.....	.....	6	0.50	12.7
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	30.12	765.0	30.21	767.3	20.7	—6.3	71.4	9	5	5	3	6	.....	2	1	.....	4798	7722	8	2.43	61.7
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.38	746.2	30.09	764.3	10.8	-11.8	76.0	3	3	15	2	3	2	3	.....	.....	8143	13105	7	2.19	55.6
Apache, Fort	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	25.08	637.0	30.20	767.1	19.9	—6.7	71.1	.....	.....	.....	1	.....	2	6	22	.....	4579	7369	3	0.85	21.6
Assinnaboine, Ft.	N. 48 32	W. 109 42	4.49 a.m.	2710	826	27.17	690.1	30.21	767.3	3.0	-16.1	63.5	1	1	6	11	.....	.....	1	7	4	8216	13222	6	2.47	62.7
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	29.00	736.6	30.23	767.8	38.4	3.6	84.8	.....	11	5	2	1	4	4	3	1	6777	10906	6	15.82	401.8
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	30.18	766.6	30.19	766.8	28.0	—2.2	77.7	9	7	4	2	1	2	.....	4	2	7242	11655	7	5.43	137.9
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	30.04	763.0	30.24	768.1	44.4	6.9	81.7	3	7	3	.....	.....	1	2	2	13	2046	3293	7	7.00	177.8
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.19	766.8	30.24	768.1	30.2	—1.0	75.5	7	2	7	.....	1	1	3	5	5	3471	5586	8	3.16	80.3
Barnegat	N. 39 46	W. 74 06	7.12 a.m.	20	6	30.17	766.3	30.19	766.8	28.8	—1.8	83.6	4	8	4	4	.....	1	5	5	.....	11705	18837	7	3.91	99.3
Behring Id.	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.38	746.2	29.40	746.7	25.0	—3.9	.....	10	2	.....	2	2	2	3	10	.....	11580	18636	8	0.61	15.5
Bennett, Fort	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.53	724.6	30.27	768.8	—1.6	-18.7	80.3	1	8	.....	1	.....	5	.....	4	12	5766	9279	6	0.37	9.4
Benton, Fort	N. 47 50	W. 110 40	4.45 a.m.	2700	823	27.21	691.1	30.19	766.8	8.4	-13.1	69.8	2	.....	.....	7	.....	1	.....	7	14	5377	8653	6	0.75	19.0
Billings *a*	N. 45 49	W. 108 30	4.54 a.m.	3115?	949?	26.76	679.7	.....	.....	9.8	-12.3	71.6	1	2	10	5	2	.....	5	3	2	7712	12411	7	0.03	16.0
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.24	717.3	30.23	767.8	—6.2	-21.2	87.5	6	8	2	.....	1	4	4	1	5	7089	11408	5	0.25	6.3
Block Id.	N. 41 10	W. 71 36	7.22 a.m.	27	8	30.16	766.1	30.19	766.8	28.1	—2.2	77.5	11	3	2	3	1	2	1	7	1	11815	19014	6	3.95	100.3
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.36	694.9	30.29	769.4	12.6	-10.8	90.5	8	8	4	2	.....	6	.....	1	2	2270	3653	5	3.77	95.8
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	30.03	762.7	30.20	767.1	22.8	—5.1	72.4	2	13	9	2	1	1	.....	2	1	7393	11898	6	3.59	91.2
Brownsville	N. 25 53	W. 97 26	5.38 a.m	43	13	30.08	764.0	30.13	765.3	50.6	10.3	88.6	14	.....	.....	1	10	.....	.....	1	5	5913	9513	5	1.22	31.0
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	696	212	29.35	745.5	30.15	765.8	18.9	—7.3	84.7	1	1	1	11	7	1	.....	9	.....	10261	16513	9	1.69	42.9
Buford, Fort *c*	N. 48 00	W. 103 56	5.12 a.m.	1900	579	28.02	711.7	30.28	769.1	—7.6	-22.0	80.4	1	4	7	.....	3	.....	6	2	5	5160	8304	5	1.98	50.3
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.87	758.7	30.18	766.6	12.6	-10.8	79.7	7	1	2	1	11	.....	4	4	1	7229	11033	9	0.93	23.6
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.81	757.2	30.23	767.8	29.4	—1.4	84.0	9	2	2	4	3	3	3	4	1	7052	11349	7	2.74	69.6
Campc	N. 32 37	W. 116 25	4.22 a.m.	2500	762	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.19	766.8	30.21	767.3	35.2	1.8	86.6	11	5	3	4	3	1	1	2	1	8614	13863	6	5.34	135.6
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.17	766.3	30.20	767.1	31.7	—0.2	78.5	10	7	3	3	3	1	1	3	.....	10886	17519	6	5.00	127.0
Cape Mendocino *k*	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.54	750.3	30.24	768.1	43.0	6.1	81.7	2	11	.....	.....	.....	6	.....	.....	1	10077	16217	3	2.91	73.9
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.17	766.3	30.19	766.8	55.5	13.1	83.5	3	2	1	.....	8	3	4	10	.....	6693	10771	4	5.66	143.8
Champaign	N. 40 08	W. 88 14	6.15 a.m.	767	234	29.30	744.2	30.17	766.3	16.1	—8.8	65.5	3	7	4	5	6	3	.....	3	.....	9929	15979	8	1.08	27.4
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	30.14	765.5	30.20	767.1	48.1	8.9	87.4	4	3	3	6	.....	.....	2	7	6	4929	7932	4	4.06	103.1
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.30	744.2	30.19	766.8	35.8	2.1	87.1	3	5	.....	6	1	1	3	12	.....	3546	5707	5	8.87	225.3
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.37	746.0	30.23	767.8	37.0	2.8	79.1	1	8	4	3	4	3	1	6	1	4654	7490	7	9.31	236.5
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6089	1856	23.85	605.8	30.12	765.0	16.3	—8.7	48.0*c*	2	16	9	2	1	.....	1	.....	.....	11183	17997	3	0.88	22.4
Chicago *a*	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.39	746.5	30.14	765.5	14.6	—9.7	74.0	.....	4	8	7	3	6	1	1	.....	7140	11490	6	1.74	44.2
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	18	5	30.17	766.3	30.19	766.8	31.7	—0.2	87.4	7	4	3	2	3	1	1	10	.....	8344	13428	6	4.14	105.2
Cincinnati	N. 39 06	W. 84 30	5.30 a.m.	620	189	29.51	749.5	30.20	767.1	28.4	—2.6	84.7	9	4	3	4	4	1	5	.....	1	4660	7499	9	2.82	71.6
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.38	746.2	30.16	766.1	19.4	—7.0	86.2	3	2	5	5	7	6	3	.....	.....	7581	12200	8	1.55	39.4
Coleman City *b*	N. 31 53	W. 99 18	5.31 a.m.	1709	521	28.33	719.6	30.21	767.3	30.7	—0.7	79.7	11	3	1	6	5	1	.....	.....	2	6380	10267	4	0.09	2.3
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.28	743.7	30.18	766.6	23.5	—4.7	76.2	5	3	6	4	3	2	3	5	.....	6465	10404	9	3.20	81.3
Concho, Fort	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.19	716.0	30.21	767.3	30.0	—1.1	73.3	7	1	2	5	1	.....	.....	1	14	5616	9038	5	0.18	4.6
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.47	748.5	30.18	766.6	11.0	-11.7	60.2	3	11	8	1	1	1	3	3	.....	6990	11249	5	1.16	29.5
Davis, Fort	N. 39 38	W. 103 56	5.12 a.m.	4940	1506	25.19	639.8	30.17	766.3	30.1	—1.1	73.6	2	.....	.....	5	1	1	.....	.....	22	3556	5713	2	0.02	0.5
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1660	506	28.39	721.1	30.20	767.1	22.8	—5.1	83.7	4	1	2	11	6	.....	.....	5	2	4217	6786	8	5.48	139.2
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.21	640.3	30.15	765.8	10.9	-11.7	88.2	1	1	5	9	.....	1	3	9	2	2994	4818	5	0.74	18.8
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.18	766.6	30.20	767.1	29.9	—1.2	86.1	10	6	1	8	2	1	.....	3	.....	11737	18888	7	3.25	82.5
Denison	N. 33 48	W. 96 32	5.42 a.m.	767	234	29.37	746.0	30.21	767.3	30.3	—0.9	84.3	11	3	.....	.....	5	4	1	3	4	5428	8735	5	1.19	30.2
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.63	625.6	30.15	765.8	21.0	—5.8	65.0	1	3	4	3	11	3	.....	1	5	4941	7952	2	2.35	59.7
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.26	743.2	30.23	767.8	3.9	-15.6	60.7	11	7	2	2	1	4	1	2	1	5277	8492	4	1.72	43.7
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.40	746.7	30.16	766.1	19.3	—7.1	85.2	4	4	3	11	2	1	4	2	.....	8750	14082	7	1.69	42.9
Dodge City *b*	N. 37 45	W. 100 00	5.28 a.m.	2512	766	27.46	697.5	30.21	767.3	14.2	—9.9	76.6	3	6	1	9	1	2	4	2	1	5791*h*	9320*h*	4	0.44	11.2
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.41	747.0	30.18	766.6	5.4	-14.8	58.4	2	9	5	2	1	1	1	.....	10	3015	4852	5	1.59	40.4
Duluth	N. 46 48	W. 92 06	6.00 a.m.	644	184	29.33	745.0	30.14	765.5	—3.5	-19.7	84.6	.....	5	8	9	2	.....	1	2	4	6223	10015	5	1.12	28.4
Eagle Pass	N. 28 44	W. 100 29	5.26 a.m.	780	238	29.38	746.2	30.22	767.6	39.2	4.0	74.8	4	5	.....	3	.....	10	.....	1	8	3500	5633	5	0.01	0.3
Eagle Rock	N. 43 32	W. 111 55	4.40 a.m.	4650	1415	25.33	643.4	30.29	769.4	5.5	-14.7	80.2	14	.....	.....	17	.....	.....	.....	.....	.....	7725	12432	4	2.08	52.8
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	30.08	764.0	30.15	765.8	12.6	-10.8	76.7	5	11	8	1	2	.....	2	.....	.....	9104	14651	6	3.20	81.3
Elliott, Fort	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.28	692.9	30.21	767.3	18.1	—7.7	57.1	4	8	1	2	6	4	.....	2	4	7181*c*	11556*c*	2	inap.	inap.
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3760	1146	26.34	669.0	30.22	767.6	32.2	0.1	65.9	1	9	6	.....	2	3	.....	1	9	3967	6384	2	0.10	2.5
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.38	746.2	30.15	765.8	21.9	—5.6	82.1	1	1	7	7	5	2	3	3	2	8225	13237	9	2.66	67.6
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	612	186	29.38	746.2	30.10	764.5	4.3	-15.4	81.7	4	6	10	4	3	.....	1	1	2	5824	9373	5	1.29	32.8
Fredericksburg	N. 30 17	W. 98 52	5.32 a.m.	1700	518	28.37	720.6	30.19	766.8	38.0	3.3	83.0	8	2	3	7	3	.....	3	2	3	5274	8488	5	0.51	13.0
Galveston	N. 29 18	W. 94 47	5.49 a.m.	48	15	30.12	765.0	30.16	766.1	48.9	9.4	86.6	12	1	1	2	2	4	7	2	.....	10867	17487	4	6.46	164.1
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.40	746.7	30.10	764.5	18.6	—7.4	83.8	1	2	7	3	2	4	4	5	3	9206	14814	10	2.44	62.0
Grant, Fort	N. 32 39	W. 109 57	4.48 a.m.	4860	1481	25.28	642.1	30.18	766.6	31.5	—0.3	71.5	4	6	1	1	.....	2	7	7	3	4151	6680	3	1.71	30.7
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	19	6	30.18	766.6	30.20	767.1	41.8	5.4	92.8	6	5	2	4	2	1	.....	10	1	10976	17664	6	13.90	353.0
Helena	N. 46 34	W. 112 04	4.40 a.m.	4100	1250	25.77	654.5	30.20	767.1	15.2	—9.3	89.6	.....	2	.....	17	.....	.....	.....	.....	12	4209	6870	6	0.57	14.5
Henrietta *p*	N. 33 46	W. 98 12	5.35 a.m.	980	300	29.14	740.1	30.21	767.3	27.7	—2.4	80.3	4	2	.....	.....	1	3	.....	1	4	2666	4290	5	0.07	1.8
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.71	729.2	30.25	768.3	—0.9	-18.3	57.1*h*	1	20	.....	.....	.....	10	.....	.....	.....	8017	12902	4	0.17	4.3
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.32	744.7	30.16	766.1	21.6	—5.8	78.0	3	4	5	3	6	2	1	7	.....	5094	8198	8	1.32	33.5
Indianola *a*	N. 28 32	W. 96 31	5.42 a.m.	26	8	30.11	764.8	30.14	765.5	46.7	8.2	87.6	13	1	2	.....	4	3	3	4	.....	11029	17749	6	0.97	24.6
Jacksboro	N. 33 12	W. 98 10	5.35 a.m.	1120	341	29.00	736.6	30.24	768.1	30.9	—0.6	63.1	11	4	1	1	4	7	1	1	1	5033	9066	5	0.08	2.0
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.16	766.1	30.21	767.3	53.5	11.9	87.3	1	2	3	2	5	.....	.....	5	13	1853	2981	6	4.77	121.2
Keogh, Fort	N. 46 22	W. 105 56	5.04 a.m.	2372	723	27.51	698.7	30.20	767.1	1.2	-17.1	73.3	3	2	5	3	2	2	.....	3	11	5116	8223	7	0.18	4.6
Keokuk *a*	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.49	749.0	30.19	766.8	11.2	-11.6	75.3	2	10	6	3	.....	2	3	3	1	7012	11284	4	1.24	31.5
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.11	764.8	30.13	765.3	70.0	21.1	88.9	2	2	.....	.....	3	7	4	9	4	7837	12612	6	2.82	71.6
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.19	766.8	30.21	767.3	38.4	3.6	86.6	7	4	4	4	1	.....	1	10	.....	11063	17804	6	8.16	207.3

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for January, 1883.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																										
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.14	740.1	30.22	767.6	32.6	0.4	90.6	4	3	4	4	1	1	2	11	1	4367	7028	7	7.94	201.7
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.30	744.2	30.14	765.5	1.2	−17.1	78.2	8	2	5	4	8	2	.....	.....	2	5012	9036	4	1.54	39.1
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.31	744.5	30.27	768.8	13.6	−10.2	76.6	4	11	.....	.....	3	1	1	3	8	5182	8340	5	0.75	19.0
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.39	746.5	30.26	768.6	24.4	−4.2	80.3	.....	.....	5	3	3	8	6	4	2	2626	4226	6	3.56	90.4
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.86	758.4	30.19	766.8	35.9	2.2	78.4	3	10	2	3	3	2	3	3	2	4152	6682	6	5.44	138.2
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	371	113	29.76	755.9	30.16	766.1	46.5	8.1	61.0	3	.....	1	.....	.....	1	7	19	.....	5525	8891	3	1.62	41.1
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.58	751.3	30.17	766.3	30.7	−0.7	75.3	5	.....	5	3	5	4	2	7	.....	6582	10592	8	3.52	89.4
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.48	748.8	30.20	767.1	31.4	−0.3	77.0	1	2	4	5	2	1	1	9	6	2462	3962	6	4.58	116.3
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.38	746.2	30.08	764.0	13.5	−10.3	73.2	.....	6	7	1	5	3	5	3	1	9161	14742	7	5.17	131.3
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.19	766.8	30.20	767.1	41.3	5.2	88.6	7	9	2	4	.....	2	.....	6	1	7540	12134	7	8.85	224.8
Madison	N. 43 05	W. 89 24	6.10 a.m.	949	289	29.05	737.9	30.14	765.5	4.3	−15.4	72.9	4	8	5	4	3	3	1	2	1	6666	10728	5	1.01	25.7
Maginnis Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.45	646.4	30.00	762.0	11.1	−11.6	55.2	3	9	18	.....	.....	.....	.....	1	.....	12083	19445	8	1.30	33.0
McKavett, Fort *d*	N. 30 48	W. 100 07	5.28 a.m.	2240	683	27.87	707.9	30.26	768.0	30.7	−0.7	77.0	5	2	1	3	7	.....	.....	3	6	5086	8185	5	0.02	0.5
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.27	743.4	30.05	763.3	8.7	−12.9	69.5	.....	5	16	3	5	2	.....	.....	.....	8049	12953	6	2.36	59.9
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.54	757.9	30.20	767.1	35.4	1.9	85.5	3	8	1	3	3	3	1	2	7	3654	5880	7	4.83	122.7
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.33	745.0	30.13	765.3	9.6*a*	−12.4*a*	82.3*a*	3	7	8	4	4	2	1	.....	2	9071	14598	6	1.60	42.2
Missoula, Fort	N. 46 50	W. 114 07	4.32 a.m.	3140	957	26.75	679.4	30.21	767.3	4.6	−15.2	75.1	4	6	2	2	1	.....	.....	9	7	3037	4888	8	1.95	49.5
Mobile	N. 30 41	W. 88 02	6.16 a.m.	41	12	30.14	765.5	30.18	766.6	47.9	8.8	85.0	14	3	2	1	6	2	1	1	1	4351	7002	6	8.80	223.5
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.94	760.5	30.18	766.6	44.2	6.8	83.5	1	6	.....	1	2	9	1	6	5	4017	6466	6	7.20	182.9
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	29.12	739.6	30.23	767.8	−14.8	−26.0	97.9	11	4	5	2	4	4	.....	.....	1	10699	17218	4	1.19	30.2
Morgantown	N. 39 40	W. 79 50	6.49 a.m.	963	293	29.14	740.1	30.20	767.1	29.7	−1.3	80.1	1	.....	5	13	1	1	.....	4	6	5595	9004	8	4.93	125.2
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.42	594.9	30.05	763.3	0.5	−17.5	83.3	1	22	4	3	.....	1	.....	.....	.....	27561	33089	3	4.10	105.7
Nashville	N. 36 10	W. 86 47	6.21 a.m.	507	154	29.59	751.6	30.20	767.1	33.9	1.1	84.5	2	9	2	2	3	4	5	3	1	5201	8370	8	3.73	94.7
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	30.08	764.0	30.20	767.1	20.8	−6.2	79.7	10	1	4	3	.....	1	.....	9	3	6600	10622	7	3.60	91.4
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	30.16	766.1	30.22	767.6	23.4	−4.8	77.0	9	4	4	3	1	1	.....	6	3	5247	8444	7	4.38	111.2
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	30.10	764.5	30.16	766.1	53.0	11.7	70.6	4	3	.....	2	5	6	5	6	.....	6437	10369	5	10.03	270.0
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	30.14	765.5	30.19	766.8	25.1	−3.8	79.0	9	7	5	4	2	.....	2	2	.....	7980	12842	7	5.82	147.8
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	30.03	762.7	30.22	767.6	25.9	−3.4	83.3	4	1	7	2	2	2	1	7	5	5175	8328	7	3.22	81.8
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.18	766.6	30.21	767.3	36.3	2.4	84.6	7	3	1	6	3	.....	1	9	1	4870	7837	5	6.91	175.5
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.10	688.3	30.22	767.6	8.8	−12.9	74.9	2	2	8	2	1	2	.....	3	11	6762	10882	4	1.20	30.5
Olympia	N. 47 03	W. 122.53	3.57 a.m.	36	11	30.13	765.3	30.17	766.3	34.0	1.1	84.4	1	.....	.....	3	18	.....	.....	2	7	3198	5147	7	5.68	144.3
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.99	736.3	30.26	768.6	6.8	−14.0	68.3	7	8	4	.....	5	2	.....	2	3	5858	9427	4	1.01	25.6
Ogdaamie	N. 71 17	W. 156 40	1.41 a.m.	17	5	29.95	760.7	29.97	761.2	−20.4	−29.1	99.3*e*	4	2	9	2	.....	2	7	5	.....	10155	10342	3	0.14	3.6
Oswego	N. 43 29	W. 76 35	7.02 a.m.	304	93	29.80	756.9	30.15	765.8	20.8	−6.2	68.5	1	2	4	4	7	7	3	3	.....	8725	14041	9	1.10	29.5
Palestine	N. 31 45	W. 95 40	5.45 a.m.	523	162	29.64	752.8	30.22	767.6	37.6	3.1	77.9	7	8	1	1	6	1	1	6	.....	6777	10906	6	3.79	96.3
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.16	766.1	30.19	766.8	50.5	10.3	82.3	8	2	.....	2	2	1	3	10	3	4553	7327	5	9.97	253.2
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	92	28	30.12	765.0	30.23	767.8	28.2	−2.1	78.1	4	10	2	4	.....	2	.....	7	2	6634	9711	6	4.13	104.9
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.44	413.0	30.14	765.5	−3.8	−19.9	81.9	4	7	9	6	.....	.....	.....	5	.....	9538 *o*	15350 *o*	4	0.54	13.7
Pioche	N. 37 56	W. 114 26	4.30 a.m.	6110	1862	24.06	611.1	30.26	768.6	20.2	−6.6	69.4	4	14	4	5	3	.....	.....	.....	1	4928	7448	3	0.20	5.1
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	762	232	29.32	744.7	30.17	766.3	25.8	−3.4	83.6	3	5	3	6	4	.....	2	5	3	4270	6872	9	3.22	81.8
Poplar River *c*	N. 48 08	W. 105 10	5.07 a.m.	2030	619	27.86	707.6	30.21	767.3	.....	.....	.....	.....	25	2	.....	.....	.....	.....	1	.....	.....	.....	3	0.46	11.7
Port Eads	N. 29 09	W. 89 15	6.11 a.m.	7	2	30.16	766.1	30.17	766.3	55.6	13.1	88.7	7	3	.....	.....	6	3	7	5	.....	9412	15148	5	8.83	224.3
Port Huron	N. 43 00	W. 82 26	6.38 a.m.	633	193	29.42	747.3	30.15	765.8	13.6	−10.2	80.8	.....	5	5	8	4	2	3	3	1	7441	11975	8	1.65	41.9
Portland, Maine	N. 43 39	W. 70 15	7.27 a.m.	45	14	30.12	765.0	30.17	766.3	17.6	−8.0	67.6	12	10	5	2	1	.....	.....	1	.....	6788	10924	5	2.53	64.3
Portland, Oregon	N. 45 32	W. 122 43	3.57 a.m.	67	20	30.15	765.8	30.22	767.6	35.4	1.9	86.3	5	3	.....	.....	11	1	2	2	7	4016	6464	8	13.71	348.2
Portsmouth *b*	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	42.7	5.9	92.1	3	3	.....	2	5	.....	.....	15	1	.....	.....	8	11.43	290.3
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5340	1628	24.79	629.7	30.17	766.3	24.0	−4.4	77.9	1	2	6	11	6	1	1	.....	3	4017	6465	3	0.31	7.9
Provincetown	N. 42 03	W. 70 11	7.27 a.m.	26	8	30.14	765.5	30.17	766.3	27.2	−2.7	78.0	4	7	5	2	2	4	1	5	1	8997	14489	7	4.76	120.9
Punta Rassa *a*	N. 26 29	W. 82 01	6.40 a.m.	13	4	30.15	765.8	30.16	766.1	63.1	17.3	89.8	2	1	.....	.....	4	7	5	12	.....	7590	12215	6	1.29	32.8
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	350	106	29.91	759.7	30.28	769.1	35.4	1.9	84.9	19	6	1	.....	3	.....	.....	.....	2	4015	6461	3	0.87	22.1
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.45	748.0	30.16	766.1	18.8	−7.3	87.5	1	2	7	9	3	4	4	1	.....	10301	16577	9	0.94	23.9
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.71	754.6	30.28	769.1	33.6	0.9	85.1	.....	2	3	5	7	3	3	1	7	2119	3410	6	2.98	75.7
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	65	20	30.19	766.8	30.27	768.8	37.8	3.2	88.5	9	6	1	.....	4	5	2	.....	4	3770	4458	4	2.23	56.6
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	568	173	29.58	751.3	30.22	767.6	20.5	−6.4	85.6	3	12	5	3	1	3	2	2	.....	8783	14132	7	0.94	23.9
Saint Michael, Ft	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.69	751.8	29.64	752.8	15.8	−9.0	99.1	2	.....	1	1	4	5	3	13	2	7176*h*	11549*h*	9	2.63	66.8
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	811	247	29.21	741.9	30.15	765.8	−2.5	−19.2	83.6	3	3	5	8	.....	5	1	.....	6	4751	7646	4	0.64	16.3
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.24	742.7	30.22	767.6	−17.5	−27.5	95.0	4	11	.....	7	3	3	.....	1	2	6894	11094	4	0.33	8.4
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.73	653.5	30.30	769.6	21.2	−6.0	59.5	1	.....	.....	2	.....	6	1	.....	21	2333	3755	5	1.47	37.3
San Antonio	N. 29 25	W. 98 25	5.34 a.m.	673	205	29.45	748.0	30.18	766.6	41.0	5.0	81.9	10	4	1	2	1	1	.....	7	5	3961	6375	5	0.37	9.4
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	30.06	763.5	30.13	765.3	47.9	8.8	64.2	7	1	1	1	.....	1	8	11	1	4157	6690	3	1.09	27.7
Sandusky	N. 41 25	W. 82 40	6.37 a.m.	639	195	29.44	747.8	30.16	766.1	20.2	−6.6	79.5	3	4	9	6	4	3	1	1	.....	10037	16153	8	1.01	25.7
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	30.18	766.6	30.21	767.3	26.9	−2.8	82.2	4	7	5	5	.....	2	.....	8	.....	11727	18872	6	3.35	85.1
San Francisco *b*	N. 37 48	W. 122 26	3.58 a.m.	60	18	30.18	766.6	30.24	768.1	44.2	6.8	84.8	4	11	2	2	2	3	3	2	.....	5307	8540	4	1.92	48.8
Santa Fé	N. 35 41	W. 105 57	5.04 a.m.	7106	2166	23.16	588.3	30.21	767.3	21.5	−5.8	66.9	9	2	.....	3	3	5	.....	7	2	7159	11521	3	0.42	10.7
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	30.12	765.0	30.22	767.6	50.1	10.1	75.0	8	7	3	3	4	1	2	3	.....	4756	7654	6	7.34	186.4
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	20.34	669.0	30.20	767.1	10.6	−11.9	74.7	2	2	9	8	.....	.....	3	5	2	8431	13568	5	0.54	13.7
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.94	760.5	30.18	766.6	38.7	3.7	82.0	4	10	1	1	4	3	2	6	.....	4534	7297	6	3.54	89.9
Sill, Fort	N. 34 40	W. 98 23	5.34 a.m.	1200	366	28.91	734.3	30.24	768.1	25.4	−3.7	71.4	16	4	.....	1	5	2	.....	3	.....	8790	14146	4	0.20	5.1
Silver City	N. 32 46	W. 108 14	4.55 a.m.	5890	1795	24.20	617.0	30.15	765.8	26.8	−2.9	78.6	7	12	3	1	.....	.....	.....	.....	8	2132	3431	2	1.68	42.7
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.84	757.9	29.91	759.7	36.5	2.5	76.1	1	1	.....	.....	.....	3	19	6	1	6105	9825	7	4.69	119.1
Smith, Fort *a*	N. 35 22	W. 94 24	5.50 a.m.	449	137	29.71	754.6	30.21	767.3	28.8	−1.8	81.7	3	2	6	1	.....	.....	6	.....	12	4231	6809	6	2.71	68.8
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.17	766.3	30.21	767.3	42.6	5.9	88.6	12	4	4	3	1	.....	.....	7	.....	5775	9294	6	5.63	143.0
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	28.09	713.5	30.23	767.8	20.1	−6.6	82.0	.....	4	3	5	3	.....	1	5	10	3311	5329	7	2.13	54.1
Springfield, Ill	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.47	748.5	30.20	767.1	19.5	−6.9	77.7	7	7	4	4	2	4	.....	3	.....	7707	12403	7	1.90	49.8
Springfield, Mo	N. 37 12	W. 93 18	5.55 a.m.	1351	412	28.69	728.7	30.21	767.3	22.9	−5.1	86.5	2	11	4	3	4	4	.....	1	2	7202	11590	5	1.05	26.7
Starkville	N. 33 35	W. 88 49	6.13 a.m.	455	123	29.70	754.4	30.20	767.1	39.4	4.1	85.6	5	7	2	1	8	2	2	2	2	6526	10502	6	9.85	250.2
Stevenson, Fort *b*	N. 47 35	W. 101 28	5.22 a.m.	1750	534	28.21	716.5	30.27	768.8	−8.3	−22.4	81.3	.....	14	4	1	.....	2	4	2	2	8149	13115	5	0.41	10.4
Stockton, Fort	N. 30 53	W. 102 53	5.16 a.m.	3010	917	27.07	687.6	30.21	767.3	30.0	−1.1	68.0	3	4	1	16	3	1	1	1	1	5743	9242	2	0	0
Thatcher's Island	N. 42 38	W. 70 34	7.26 a.m.	48	15	30.13	765.3	30.19	766.8	25.8	−3.4	79.9	4	9	7	3	4	.....	2	2	.....	13096	21076	7	5.12	130.0
Thomas, Camp	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.35	694.7	30.16	766.6	32.2	0.1	81.5	.....	2	.....	2	2	5	.....	.....	20	.....	.....	2	1.23	31.2
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.42	747.3	30.16	766.1	19.3	−7.1	76.0	2	2	3	9	4	2	1	5	3	7140	11490	7	1.77	45.0
Tucson	N. 32 14	W. 110 53	4.45 a.m.	2369	722	27.66	702.6	30.16	766.1	36.6	2.6	76.1	.....	1	.....	.....	14	12	1	1	2	2640	4249	3	1.27	32.3
Umatilla	N. 45 55	W. 119 20	4.11 a.m.	340	103	29.90	759.4	30.29	769.4	25.9	−3.4	85.5	1	2	1	3	5	10	4	2	3	4099	6597	6	2.56	65.0
Verde, Fort	N. 34 33	W. 111 52	4.40 a.m.	?	?	.....	.....	.....	.....	30.5	−0.8	63.5	9	10	8	3	1	.....	.....	.....	.....	.....	.....	4	0.44	11.2
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.93	760.2	30.20	767.1	42.8	6.0	78.5	5	5	.....	3	1	7	1	4	5	4698	7561	6	7.65	194.3
Visalia	N. 36 20	W. 119 17	4.11 a.m.	348	106	29.86	758.4	30.25	768.3	34.1	1.2	85.8	2	1	2	1	5	7	5	4	4	1862	2996	3	0.06	1.5
Washakie, Fort	N. 42 59	W. 108 43	4.53 a.m.	5580	1702	24.34	618.2	30.13	765.3	7.8	−13.4	75.9*d*	1	3	15	3	3	1	1	.....	4	5906	9502	4	0.83	21.1
Washington, D.C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	30.12	765.0	30.24	768.1	27.3	−2.6	87.3	4	3	.....	3	4	2	1	8	6	2077	4368	7	3.15	80.0
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.03	661.2	30.16	766.1	8.4	−13.1	79.9	4	10	6	5	.....	1	2	1	2	6547	10536	4	0.14	3.6
Williamsport	N. 41 15	W. 77 03	7.00 a.m.	561	171	29.57	751.1	30.20	767.1	22.6	−5.2	81.8	1	4	7	.....	.....	1	10	1	7	3332	5362	8	2.78	70.6
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	30.15	765.8	30.21	767.3	43.8	6.6	87.3	3	6	2	4	3	1	3	8	1	4449	7160	8	0.33	100.8
Winnemucca	N. 40 59	W. 117 43	4.17 a.m.	4327	1319	25.74	653.8	30.28	769.1	16.8	−8.4	70.5	1	.....	2	12	.....	.....	1	14	1	6099	10781	4	0.65	16.5
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.81	731.8	30.23	767.8	2.6	−16.3	64.5	6	9	3	3	2	1	3	2	2	5345	8602	4	1.06	26.9
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.97	761.2	30.12	765.0	44.5	6.9	60.9	10	3	1	2	.....	.....	3	7	5	3435	5528	2	0.96	24.4
Sub-Series.																												
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.03	559.6	.....	.....	51.6	10.9	73	4	1	1	4	4	.....	2	2	13	1835	2953	6	4.12	104.6
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	30.04	763.0	30.10	764.5	67.5	19.7	89.3	2	2	.....	.....	2	4	10	1	10	3945	6349	3	4.74	120.4
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	30.08	764.0	30.09	764.3	71.3	21.8	84.4	16	.....	.....	.....	.....	1	1	.....	13	3149	5069	4	3.73	94.7
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.05	763.3	30.05	763.3	77.1	25.1	86	.....	.....	.....	.....	.....	10	20	1	.....	.....	.....	6	3.59	91.2
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.39	746.5	29.95	760.7	77.6	25.3	89	.....	.....	.....	.....	3	.....	.....	.....	28	.....	.....	7	0.47	11.9
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Paul, Alaska *d*	N. 57 47	W. 152 21	1.59 a.m.	54	16	29.58	751.3	29.64	752.8	32.7	0.4	81.6	1	2	.....	3	5	2	3	2	9	.....	.....	6	11.90	302.3
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	131	40	30.04	763.0	30.17	766.3	75.8	24.3	76.5	.....	.....	.....	.....	.....	2	23	6	.....	3752	6038	5	3.03	92.2
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	30.00	762.0	30.07	763.8	−28.9	−33.8	70.6	.....	13	8	5	4	1	.....	.....	.....	9720	15642	2	0.71	18.0

OCEAN SQUARE DATA FOR JANUARY, 1883.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W. 22.5°	30.05	763.3	75.1	23.9					1	1	1	18		10	2.6
12.5 27.5	30.04	763.0	75.7	24.3				1		2	2	19		7	2.9
12.5 32.5	30.03	762.7	75.9	24.4			1	1		1	4	16		8	3.0
12.5 37.5	30.03	762.7	76.2	24.6		2	1				6	9		13	2.9
17.5 22.5	30.11	764.8	72.8	22.7						2	5	17		7	2.6
17.5 27.5	30.10	764.5	73.1	22.8	1				2	2	3	18		5	3.1
17.5 32.5	30.09	764.3	69.6	20.9	1			2		2	6	13		7	3.1
17.5 37.5	30.10	764.5	74.0	23.3		2				2	10	9		8	3.0
17.5 52.5	30.12	765.0	74.9	23.8						2	5	12		12	2.4
17.5 57.5	30.11	764.8	75.3	24.1							11	18	1	1	2.2
22.5 22.5	30.18	766.6	70.5	21.4	2					5	8	9		7	2.8
22.5 27.5	30.16	766.1	71.1	21.7	1	1			2	6	7	9		5	2.6
22.5 32.5	30.16	766.1	72.3	22.4	1	1			1	5	7	8		8	2.8
22.5 37.5	30.17	766.3	72.5	22.5					4	8	9	3		6	2.4
22.5 42.5	30.18	766.6	72.9	22.7						2	13	9		7	2.8
22.5 47.5	30.19	766.8	72.9	22.7						3	9	13		0	2.8
22.5 52.5	30.18	766.6	73.1	22.8					2		10	14		5	2.7
22.5 57.5	30.18	766.6	73.0	22.8	1				2	1	9	18			2.7
22.5 62.5	30.18	766.6	73.2	22.9					3	4	9	15			3.1
22.5 67.5	30.18	766.6	73.2	22.9				1	2	4	13	11			2.5
22.5 72.5	30.15	765.8	73.4	23.0	2	1				7	13	8			2.5
27.5 22.5	30.21	767.3	67.4	19.7	2	2	1	2	2	9	4	7		2	2.8
27.5 27.5	30.19	766.8	68.2	20.1	2	4	1	2	4	7	4	5		2	2.7
27.5 32.5	30.19	766.8	69.3	20.7	7	2		1	1	4	8	3		5	2.8
27.5 37.5	30.21	767.3	71.9	22.2	5	2			2	3	7	7		5	2.8
27.5 42.5	30.23	767.8	70.4	21.3	5	3		1	1	2	7	9		3	2.3
27.5 47.5	30.25	768.3	70.5	21.4	4	3		1	2	2	7	7		5	2.4
27.5 52.5	30.24	768.1	70.8	21.6	3	1		2	3	2	7	11		2	2.2
27.5 57.5	30.24	768.1	70.6	21.4	1	1		2	4	4	5	13		1	2.5
27.5 62.5	30.23	767.8	70.7	21.5	1	1		2	6	4	7	9	1		2.5
27.5 67.5	30.23	767.8	70.8	21.6	2	1	1	3	2	6	6	10			2.4
27.5 72.5	30.21	767.3	70.4	21.3	2	1	1		2	10	9	6			2.5
27.5 77.5	30.20	767.1	68.0	20.0	1	2		1	6	8	8	5			2.5
32.5 12.5	30.21	767.3	63.0	17.2	4	4	4	2	1	9	5	2			2.0
32.5 17.5	30.23	767.8	63.9	17.7	3	4	4	2	3	14		1			1.6
32.5 22.5	30.19	766.8	64.3	17.9	2	7	3	2	0	7	2	2			3.1
32.5 27.5	30.17	766.3	64.7	18.2	1	8	3	3	5	8	1	2			2.7
32.5 32.5	30.17	766.3	65.3	18.5	1	13	1	3	3	5	1	3		1	2.8
32.5 37.5	30.19	766.8	65.3	18.5	3	11	4	2	3	4	1	2		1	2.9
32.5 42.5	30.21	767.3	64.6	18.1	3	8	5	2	3	2	1	5		2	2.9
32.5 47.5	30.23	767.8	64.7	18.2	5	8	7	4	1	1		3		2	3.0
32.5 52.5	30.24	768.1	65.0	18.3		10	4	4		3	3	5		2	2.7
32.5 57.5	30.22	767.6	65.5	18.6	3	6	7	4	4	3		4			3.0
32.5 62.5	30.21	767.3	63.7	17.6	3	5	1	9	5	5	1	2			2.3
32.5 67.5	30.21	767.3	64.1	17.8	5	6	1	10	3	3		2	1		3.0
32.5 72.5	30.20	767.1	61.5	16.4	9	2		5	5	3	2	5			2.7
32.5 77.5	30.20	767.1	53.2	11.8	8	3	1	5	3	3	1	7			2.5
37.5 12.5	30.14	765.5	58.3	14.6	3	6	1	7	10	2	1	1			2.7
37.5 17.5	30.10	764.5	60.1	15.6		9	6	7	8	1					3.1
37.5 22.5	30.13	765.3	60.5	15.8		11	5	7	6	1		1			2.9
37.5 27.5	30.13	765.3	60.3	15.7		10	7	7	6			1			2.7
37.5 32.5	30.09	764.3	59.8	15.4	1	10	0	10	2			1		1	3.0
37.5 37.5	30.08	764.0	58.7	14.8	1	13	6	7	2			1		1	3.2
37.5 42.5	30.08	764.0	57.1	13.9	2	15	4	7	1			1		1	3.4
37.5 47.5	30.12	765.0	55.4	13.0	4	14	5	5	2					1	3.5
37.5 52.5	30.14	765.5	54.7	12.6	3	14	1	10	1			2			3.5
37.5 57.5	30.17	766.3	54.7	12.6	6	7	2	10	1	2		3			3.5
37.5 62.5	30.14	765.5	54.3	12.4	5	8	3	7	2	1		5			3.6
37.5 67.5	30.18	766.6	51.1	10.6	8	8	1	4	1	2	1	6			3.5
37.5 72.5	30.18	766.6	43.5	6.4	9	5		3	4	1	1	8			3.3
42.5 12.5	29.97	761.2	55.2	12.9		5	4	11	10			1			3.5
42.5 17.5	29.89	759.2	56.2	13.4		8	6	10	6			1			4.1
42.5 22.5	29.91	759.7	55.6	13.1		7	10	10	3	1					3.9
42.5 27.5	29.88	758.9	54.6	12.6		10	5	14	2						4.4
42.5 32.5	29.85	758.2	53.5	11.9	2	10	6	13							4.2
42.5 37.5	29.86	758.4	50.9	10.5	2	14	6	9							4.5
42.5 42.5	29.91	759.7	46.6	8.1	3	16	3	7	1			1			4.2
42.5 47.5	29.98	761.5	41.6	5.3		18	5	6	2						4.3
42.5 52.5	30.01	762.2	39.6	4.2	1	14	2	8	2	1		3			4.0
42.5 57.5	30.05	763.3	37.7	3.2	3	14	3	5		3	1	2			4.1
42.5 62.5	30.09	764.3	34.7	1.5	8	10	3	3	1	1	1	4			3.6
42.5 67.5	30.15	765.8	26.9	−2.8	10	7	2	1	2	2	1	5	1		3.2
47.5 12.5	29.80	756.9	52.3	11.3	1	3	6	13	6	2					4.9
47.5 17.5	29.65	753.1	51.7	10.9	1	6	6	9	7	2					4.9
47.5 22.5	29.63	752.6	50.5	10.3		7	12	9	3						4.6
47.5 27.5	29.60	751.8	49.0	9.4	1	10	9	7	2	2					5.1
47.5 32.5	29.58	751.3	46.3	7.9	1	11	8	9		2					4.8
47.5 37.5	29.60	751.8	42.1	5.6	1	15	9	4	1			1			4.7
47.5 42.5	29.70	754.4	37.2	2.9	2	15	8	4	1			1			4.9
47.5 47.5	29.73	755.1	29.5	−1.4	1	18	7	5							4.5
52.5 12.5	29.60	751.8	47.9	8.8		3	4	8	7	7	2				4.6
52.5 17.5	29.48	748.8	46.9	8.3	1	4	5	8	5	7		1			4.8
52.5 22.5	29.41	747.0	45.5	7.5		6	7	5	4	7	1	1			4.7
52.5 27.5	29.36	745.7	42.5	5.8	2	9	4	6	5	3	1	1			4.9
52.5 32.5	29.43	747.5	38.9	3.8	1	9	7	4	4	5		1			4.5
52.5 37.5	29.44	747.8	34.3	1.3	2	15	7	4	1		1	1			4.5
52.5 42.5	29.46	748.3	28.8*a*	−1.8*a*	2	18	4	5				2			4.3
52.5 47.5	29.55*a*	750.6*a*	23.2*g*	−4.9*g*	5	17	4	2						3	4.1
57.5 12.5	29.45	748.0	42.6	5.9	1	3	1	8	5	13					4.5
57.5 17.5	29.35	745.5	40.7	4.8	1	5	1	7	3	12	1	1			4.5
57.5 22.5	29.28	743.7	38.7	3.7	2	5	4	3	4	10	1	1		1	4.2
57.5 27.5	29.23	742.4	34.9	1.6	1	6	3	3	4	10	1	2		1	4.2
57.5 32.5	29.25	742.9	32.9	0.5	2	7	2	3	4	8		4		1	4.5
57.5 37.5	29.22	742.2	29.6*g*	−1.3*g*	4	9	2	3	4	4	1	4			4.2
57.5 42.5	29.29	744.0	24.6*m*	−4.1*m*	3	14	3	4	1			4		2	4.2
57.5 47.5	29.31*a*	744.5*a*			9	17	1	1				1		2	4.0

NOTE.—See General Remarks.

NIKOLAIEVSK-ON-THE-AMOOR, SIBERIA.

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount. Upper.	Clouds. Amount. Lower.	Clouds. Direction. Up'er	Clouds. Direction. Lo'er	Rainfall or melted snow in past 24 hours.		WEATHER.
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles per hour	Metrs per sec.	0–10	0-10	0–10	From	From	Inch.	Mill.	
1882.																		
July 1	29.75	755.6	29.84	757.8	53.4	11.9	76	n.	2	1			2			0	0	
2	29.81	757.1	29.89	759.3	52.0	11.1	90	n.	2	1			10			0	0	
3	29.91	759.8	30.00	762.0	55.2	12.9	91	calm	0	0			10			0	0	
4	29.85	758.2	29.94	760.4	54.9	12.7	93	calm	0	0			8			0	0	
5	29.93	760.1	30.01	762.3	47.7	8.7	89	calm	0	0			1			0	0	
6	29.99	761.7	30.08	763.9	58.8	14.9	66	calm	0	0			1			0	0	
7	30.02	762.4	30.10	764.6	60.6	15.9	79	calm	0	0			8			0	0	
8	29.98	761.5	30.07	763.7	62.8	17.1	80	e.	4	2			10			0	0	
9	29.94	760.4	30.02	762.6	63.9	17.7	65	e.	7	3			5			0	0	
10	29.84	757.9	29.93	760.1	61.7	16.5	75	e.	11	5			4			0	0	
11	29.76	756.0	29.85	758.2	61.3	16.3	89	e.	4	2			10			0	0	
12	29.71	754.6	29.80	756.8	62.1	16.7	89	se.	13	6			10			0.047	1.2	
13	29.72	755.0	29.81	757.2	61.0	16.1	86	se.	7	3			7			0	0	
14	29.86	758.4	29.95	760.6	58.8	14.9	81	se.	13	6			10			0	0	
15	29.97	761.3	30.06	763.5	57.6	14.2	82	e.	11	5			10			0	0	
16	29.94	760.5	30.03	762.7	66.0	18.9	81	e.	4	2			10			0	0	
17	29.76	755.8	29.84	758.0	66.4	19.1	83	calm	0	0			4			0	0	
18	29.83	757.6	29.91	759.8	55.2	12.9	87	calm	0	0			1			0	0	
19	29.69	754.0	29.77	756.2	55.2	12.9	77	n.	2	1			1			0	0	
20	29.34	745.2	29.43	747.4	68.2	20.1	89	e.	2	1			10			0	0	
21	29.35	745.6	29.44	747.8	68.0	20.0	92	e.	4	2			10			0.173	4.4	
22	29.45	748.1	29.54	750.3	63.7	17.6	98	calm	0	0			10			0.346	8.8	
23	29.49	749.0	29.58	751.2	66.7	19.3	91	e.	11	5			10			0.835	21.2	
24																		
25	29.04	737.6	29.13	739.8	75.7	24.3	68	calm	0	0			10			0	0	
26	29.25	743.0	29.34	745.2	64.6	18.1	71	calm	0	0			1			0	0	
27	29.63	752.5	29.71	754.7	58.5	14.7	78	calm	0	0			0			0	0	
28	29.56	750.7	29.64	752.9	66.4	19.1	79	e.	20	9			10			0	0	
29	29.70	754.3	29.78	756.5	57.4	14.1	90	calm	0	0			10			0	0	
30	29.61	752.1	29.70	754.3	55.2	12.9	89	calm	0	0			10			0	0	
31	29.18	741.2	29.27	743.4	63.5	17.5	94	se.	7	3			10			0.402	10.2	
Mean	29.69	754.2	29.78	756.4	60.8	16.0	83.2						7			1.803	45.8	
August 1	29.36	745.8	29.45	748.0	57.7	14.3	94	calm	0	0			10			0.303	7.7	
2	29.61	752.0	29.69	754.2	58.5	14.7	91	calm	0	0			10			0.106	2.7	
3	29.77	756.1	29.85	758.3	63.5	17.5	94	calm	0	0			0			0	0	
4	29.80	756.9	29.89	759.1	69.6	20.9	92	se.	9	4			10			0	0	
5	29.52	749.9	29.61	752.1	74.7	23.7	85	e.	13	6			10			0	0	
6	29.57	751.1	29.66	753.3	67.6	19.8	84	ne.	4	2			5			0	0	
7	29.37	746.1	29.46	748.3	73.2	22.9	55	w.	20	9			0			0	0	
8	29.61	752.1	29.70	754.3	64.2	17.9	80	w.	9	4			9			0.630	16.0	
9	29.82	757.5	29.91	759.7	56.7	13.7	74	calm	0	0			5			0	0	
10	29.93	760.2	30.02	762.4	55.9	13.3	75	calm	0	0			10			0	0	
11	29.87	758.6	29.95	760.8	59.4	15.2	67	calm	0	0			2			0	0	
12	29.76	756.0	29.85	758.2	62.4	16.9	68	calm	0	0			2			0	0	
13	29.69	754.2	29.78	756.4	64.2	17.9	93	calm	0	0			2			0	0	
14	29.70	754.3	29.78	756.5	66.0	18.9	83	calm	0	0			4			0	0	
15	29.69	754.2	29.78	756.4	65.7	18.7	81	calm	0	0			2			0	0	
16	29.71	754.6	29.80	756.8	65.7	18.7	80	calm	0	0			0			0	0	
17	29.65	753.2	29.74	755.4	69.1	20.6	78	calm	0	0			0			0	0	
18	29.65	753.2	29.74	755.4	70.7	21.5	49	calm	0	0			10			0	0	
19	29.63	752.5	29.71	754.7	68.2	20.1	91	e.	4	2			10			0	0	
20	29.51	749.5	29.60	751.7	64.9	18.3	94	calm	0	0			10			0.882	22.4	
21	29.54	750.3	29.63	752.5	60.8	16.0	90	e.	7	3			10			0.551	14.0	
22																		
23	29.71	754.6	29.80	756.8	64.2	17.9	71	calm	0	0			8			0	0	
24	29.93	760.2	30.02	762.4	62.6	17.0	84	calm	0	0			10			0	0	
25	29.81	757.3	29.90	759.5	57.4	14.1	87	calm	0	0			10			1.071	27.2	
26	29.49	749.0	29.58	751.2	57.0	13.9	94	nw.	2	1			10			0.244	6.2	
27	29.59	751.5	29.67	753.7	55.9	13.3	85	calm	0	0			10			0	0	
28	29.69	754.1	29.78	756.3	54.0	12.2	90	calm	0	0			0			0	0	
29	29.72	755.0	29.81	757.2	58.6	14.8	89	calm	0	0			0			0	0	
30	29.73	755.1	29.82	757.3	61.7	16.5	81	e.	2	1			0			0	0	
31	29.87	758.8	29.96	761.0	53.8	12.1	74	calm	0	0			0			0	0	
Mean	29.68	753.8	29.76	756.0	62.8	17.1	83.3						6			3.787	96.2	
September 1	29.74	755.4	29.83	757.6	57.4	14.1	67	calm	0	0			10			0	0	
2	29.90	759.4	29.98	761.6	56.5	10.3	55	calm	0	0			1			0	0	
3	29.78	756.4	29.87	758.6	55.2	12.9	77	calm	0	0			9			0	0	
4	29.53	750.1	29.62	752.3	67.6	19.8	62	calm	0	0			9			0	0	
5	29.76	755.9	29.85	758.1	51.3	10.7	56	calm	0	0			5			0	0	
6	29.72	755.0	29.81	757.2	58.3	14.6	89	calm	0	0			10			0.181	4.6	
7	29.78	756.5	29.87	758.7	53.8	12.1	89	calm	0	0			10			0.071	1.8	
8	29.98	761.4	30.06	763.6	49.1	9.5	87	calm	0	0			0			0	0	
9	29.98	761.4	30.06	763.6	55.8	13.2	89	calm	0	0			1			0	0	
10	30.03	762.8	30.12	765.0	53.8	12.1	91	calm	0	0			0			0.008	0.2	
11	29.98	761.4	30.06	763.6	55.0	12.8	90	calm	0	0			0			0	0	
12	29.86	758.4	29.95	760.6	55.0	12.8	82	calm	0	0			0			0	0	
13	29.94	760.5	30.03	762.7	55.9	13.3	87	calm	0	0			6			0	0	
14	30.07	763.7	30.15	765.9	45.1	7.3	74	calm	0	0			0			0	0	
15	30.08	764.0	30.17	766.2	44.4	6.9	88	calm	0	0			0			0	0	
16	30.04	763.0	30.13	765.2	45.5	7.5	83	calm	0	0			0			0	0	
17	29.89	759.1	29.97	761.3	53.4	11.9	79	calm	0	0			0			0	0	
18	29.84	757.9	29.93	760.1	57.0	13.9	90	calm	0	0			0			0	0	
19	29.87	758.8	29.96	761.0	59.2	15.1	89	calm	0	0			0			0	0	
20	29.86	758.5	29.95	760.7	59.4	15.2	73	se.	4	2			0			0	0	
21	29.81	757.2	29.90	759.4	58.8	14.9	89	e.	7	3			10			0	0	
22	29.78	756.4	29.87	758.6	59.5	15.3	90	se.	2	1			10			0	0	
23	29.69	754.1	29.78	756.3	55.6	13.1	95	calm	0	0			10			0.283	7.2	
24	29.66	753.3	29.74	755.5	48.0	8.9	78	nw.	7	3			10			0.079	2.0	
25	29.71	754.6	29.80	756.8	51.3	10.7	74	calm	0	0			0			0	0	
26	29.83	757.6	29.91	759.8	49.5	9.7	92	calm	0	0			5			0.016	0.4	
27	30.15	765.7	30.23	767.9	39.0	3.9	84	calm	0	0			10			0.012	0.3	
28	30.05	763.3	30.14	765.5	34.9	1.6	73	calm	0	0			10			0	0	
29	29.97	761.2	30.06	763.4	40.1	4.5	68	calm	0	0			10			0	0	
30	30.00	761.9	30.08	764.1	40.1	4.5	84	calm	0	0			0			0	0	
Mean	29.88	758.8	29.96	761.0	52.0	11.1	80.8						5			0.650	16.5	
October 1	29.91	759.6	29.99	761.8	41.9	5.5	85	calm	0	0			0			0	0	
2	29.86	758.5	29.95	760.7	46.9	8.3	81	calm	0	0			10			0	0	
3	29.83	757.6	29.91	759.8	44.8	7.1	74	calm	0	0			10			0	0	
4	29.85	758.1	29.93	760.3	40.5	4.7	90	calm	0	0			10			0.016	0.4	
5	29.87	758.6	29.95	760.8	33.4	0.8	83	calm	0	0			0			0	0	

NIKOLAIEVSK-ON-THE-AMOOR, SIBERIA—CONTINUED.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level Inch.	Barometer. Reduced to sea-level Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity. Per cent.	Wind. Direction. From.	Wind. Velocity. Miles perhour	Wind. Velocity. Metrs prsec.	Wind. Force 0-10	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0-10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Rainfall or melted snow in past 24 hours. Mill.	WEATHER.
1882.																		
October 6	29.80	756.9	29.89	759.1	41.2	5.1	69	calm	0	0			10			0	0	
7	29.92	760.0	30.01	762.2	41.2	5.1	90	calm	0	0			10			0.394	10.0	
8	29.93	760.3	30.02	762.5	42.3	5.7	91	n.	2	1			0			0.126	3.2	
9	29.56	750.9	29.65	753.1	43.0	6.1	90	calm	0	0			10			0.205	5.2	
10	29.68	753.8	29.76	756.0	43.0	6.1	76	nw.	7	3			10			1.087	27.6	
11	29.83	757.6	29.91	759.8	38.3	3.5	77	calm	0	0			1			0	0	
12	29.79	756.6	29.87	758.8	36.1	2.3	82	calm	0	0			0			0	0	
13	29.73	755.2	29.82	757.4	42.3	5.7	64	nw.	7	3			10			0	0	
14	29.89	759.1	29.97	761.3	34.7	1.5	64	calm	0	0			10			0	0	
15	29.52	749.9	29.61	752.1	39.4	4.1	80	w.	9	4			10			0	0	
16	29.39	746.6	29.48	748.8	29.8	— 1.2	98	w.	22	10			10			0.031	0.8	
17	29.97	761.1	30.05	763.3	26.6	— 3.0	74	w.	2	1			10			0	0	
18	29.99	761.8	30.08	764.0	22.6	— 5.2	76	calm	0	0			0			0	0	
19	30.02	762.6	30.11	764.8	31.6	— 0.2	70	w.	7	3			10			0	0	
20	29.95	760.8	30.04	763.0	31.3	— 0.4	79	calm	0	0			10			0.205	5.2	
21	29.91	759.8	30.00	762.0	30.6	— 0.8	49	w.	9	4			0			0	0	
22	30.16	766.0	30.24	768.2	28.4	— 2.0	44	w.	4	2			0			0	0	
23	30.17	766.4	30.26	768.6	31.6	— 0.2	79	calm	0	0			10			0	0	
24	30.10	764.6	30.19	766.8	20.8	— 6.2	74	calm	0	0			0			0	0	
25	30.02	762.6	30.11	764.8	23.7	— 4.6	86	calm	0	0			0			0	0	
26	30.01	762.3	30.10	764.5	25.2	— 3.8	82	calm	0	0			10			0	0	
27	29.90	759.5	29.99	761.7	31.6	— 0.2	70	calm	0	0			5			0	0	
28	29.85	758.2	29.94	760.4	30.2	— 1.0	92	calm	0	0			10			0.205	5.2	
29	30.13	765.3	30.22	767.5	23.0	— 5.0	86	calm	0	0			10			0.016	0.4	
30	30.36	771.1	30.45	773.3	7.5	—13.6	83	calm	0	0			0			0	0	
31	30.09	764.2	30.17	766.4	24.4	— 4.2	91	e.	18	8			10			0.008	0.2	
Mean	29.90	759.5	29.99	761.7	33.1	0.6	78.4						6			2.291	58.2	
November 1	29.27	743.5	29.36	745.7	32.4	0.2	96	calm	0	0			10			0.606	15.4	
2	29.91	759.7	30.00	761.9	24.1	— 4.4	59	w.	11	5			10			inap.	inap.	
3	30.01	762.3	30.10	764.5	12.9	—10.6	86	calm	0	0			5			0.012	0.3	
4	29.25	743.0	29.34	745.2	35.8	2.1	85	e.	9	4			10			0.551	14.0	
5	29.54	750.2	29.62	752.4	23.7	— 4.6	81	w.	20	9			10			0.307	7.8	
6	29.35	745.6	29.44	747.8	19.0	— 7.2	78	calm	0	0			10			0.150	3.8	
7	29.41	747.1	29.50	749.3	8.6	—13.0	57	w.	22	10			2			0	0	
8	29.54	750.3	29.63	752.5	3.2	—16.0	62	w.	9	4			0			inap.	inap.	
9	29.72	755.0	29.81	757.2	3.2	—16.0	57	w.	7	3			10			0	0	
10	29.91	759.7	30.00	761.9	3.2	—16.0	47	w.	9	4			0			0	0	
11	30.01	762.3	30.10	764.5	— 4.4	—20.2	68	calm	0	0			0			0	0	
12	30.28	769.2	30.37	771.4	— 3.6	—19.8	62	w.	13	6			0			0	0	
13	30.30	769.7	30.39	771.9	— 3.3	—19.6	56	w.	7	3			0			0	0	
14	30.15	765.9	30.24	768.1	— 3.3	—19.6	62	w.	4	2			0			0	0	
15	29.90	759.5	29.99	761.7	— 6.9	21.6	56	w.	4	2			0			0	0	
16	29.90	759.4	29.98	761.6	2.8	—16.2	50	w.	7	3			2			0	0	
17	29.82	757.3	29.90	759.5	— 2.6	—19.2	57	calm	0	0			0			0	0	
18	29.82	757.3	29.90	759.5	— 3.3	—19.6	50	calm	0	0			0			0	0	
19	29.66	753.3	29.74	755.5	— 1.5	—18.6	65	calm	0	0			4			0	0	
20	29.60	751.8	29.69	754.0	2.8	—16.2	61	calm	0	0			10			0	0	
21	29.54	750.3	29.63	752.5	7.2	—13.8	92	calm	0	0			8			0	0	
22	29.72	754.8	29.80	757.0	17.6	— 8.0	77	calm	0	0			10			0.031	0.8	
23																		
24	29.86	758.5	29.95	760.7	— 2.2	—19.0	76	w.	13	6			10			0	0	
25	29.58	751.3	29.67	753.5	—18.0	—27.8	79	calm	0	0			0			0	0	
26	29.53	750.0	29.61	752.2	—19.5	—28.6	80	calm	0	0			0			0	0	
27	29.63	752.7	29.72	754.9	—10.1	—23.4	58	w.	7	3			0			0	0	
28	29.56	750.8	29.65	753.0	1.4	—17.0	79	calm	0	0			1			0	0	
29	29.02	737.1	29.11	739.3	17.6	— 8.0	83	calm	0	0			10			0.094	2.4	
30	29.11	739.5	29.20	741.7	5.0	—15.0	51	w.	9	4			5			0	0	
Mean	29.69	754.0	29.77	756.2	4.8	—15.1	68.1						4			1.752	44.5	
December 1	29.35	745.6	29.44	747.8	— 1.8	—18.8	76	calm	0	0			0			0	0	
2	29.35	745.4	29.43	747.6	5.0	—15.0	82	calm	0	0			10			0.118	3.0	
3	29.40	746.8	29.49	749.0	— 4.7	—20.4	73	w.	20	9			10			0	0	
4	28.99	736.3	29.08	738.5	— 3.3	—19.6	79	w.	25	11			10			0	0	
5	29.39	746.4	29.47	748.6	— 1.1	—18.4	66	w.	20	9			0			0	0	
6	29.66	753.4	29.75	755.6	— 9.4	—23.0	51	calm	0	0			0			0	0	
7	29.73	756.4	29.87	758.6	—14.1	—25.6	77	calm	0	0			10			0	0	
8	29.87	758.6	29.95	760.8	—17.7	—27.6	70	calm	0	0			0			0	0	
9	29.98	761.6	30.07	763.8	—13.0	—25.0	71	w.	11	5			10			0.0 8	0.2	
10																0.012	0.3	
11	29.50	749.4	29.59	751.6	— 3.3	—19.6	75	w.	18	8			10			0.016	0.4	
12	29.82	757.5	29.91	759.7	— 9.8	—23.2	67	w.	7	3			10			inap.	inap.	
13	29.85	758.2	29.94	760.4	— 6.9	—21.6	71	nw.	13	6			10			0	0	
14	29.77	756.1	29.85	758.3	2.8	—16.2	90	w.	18	8			10			0.126	3.2	
15	30.10	764.5	30.19	766.7	3.2	—16.0	85	calm	0	0			10			0.094	2.4	
16	29.86	758.5	29.95	760.7	— 0.4	—18.0	89	calm	0	0			10			0 094	2.4	
17	29.61	752.1	29.70	754.3	28.4	— 2.0	84	w.	11	5			10			0.189	4.8	
18	29.90	759.5	29.99	761.7	— 1.5	—18.6	77	w.	9	4			10			0.087	2.2	
19	30.11	764.8	30.20	767.0	1.4	—17.0	74	w.	7	3			10			0.039	1.0	
20	30.06	763.6	30.15	765.8	— 6.2	—21.2	72	nw.	4	2			2			0	0	
21	29.92	760.0	30.01	762.2	— 9.0	—22.8	68	calm	0	0			5			0	0	
22	29.66	753.3	29.74	755.5	—13.4	—25.2	70	calm	0	0			10			0	0	
23	29.91	759.8	30.00	762.0	—13.0	—25.0	54	calm	0	0			2			0	0	
24	29.98	761.4	30.06	763.6	—15.2	—25.2	70	calm	0	0			10			0	0	
25	30.00	762.1	30.09	764.3	—28.1	—33.4	73	calm	0	0			3			0	0	
26	29.90	759.5	29.99	761.7	—20.2	—29.6	72	calm	0	0			10			0.047	1.2	
27	30.01	762.2	30.10	764.4	—16.6	—27.0	65	calm	0	0			2			0.039	1.0	
28	29.91	759.6	29.99	761.8	—24.5	—31.4	68	nw.	4	2			0			0	0	
29	29.81	757.2	29.90	759.4	— 4.4	—20.2	61	w.	11	5			0			0	0	
30	29.39	746.6	29.48	748.8	— 3.3	—19.6	75	nw.	11	5			10			0.028	0.7	
31	29.48	748.7	29.56	750.9	—13.0	—25.0	65	w.	11	5			10			0	0	
Mean	29.74	755.5	29.83	757.7	— 7.1	—21.7	72.5						7			0.898	22.8	
1883.																		
January 1	29.39	745.5	29.48	748.7	—12.3	—24.6	73	w.	20	9			10			0	0	
2	29.63	752.5	29.71	754.6	0.3	—17.6	73	w.	18	8			10			0	0	
3	29.87	758.8	29.96	761.0	—10.8	—23.8	66	calm	0	0			0			0	0	
4	29.67	753.6	29.76	755.8	— 2.6	—19.2	51	w.	11	5			4			0	0	
5	29.60	751.7	29.68	753.9	— 4.7	—20.4	60	calm	0	0			0			0	0	
6	29.79	756.6	29.87	758.8	— 4.4	—20.2	74	calm	0	0			0			0	0	
7	29.83	757.6	29.91	759.8	—14.8	—26.0	77	calm	0	0			0			0	0	

NOTE.—The above observations, taken at 7 a. m., Washington time, were received too late for publication in the DAILY BULLETIN, and are given here in full from date of last published report (June 30, 1882). For continuation of this station, see Russian series, DAILY BULLETIN.

REVIEW.

INTERNATIONAL METEOROLOGY.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade.*]

The following description refers to chart ii. for the month of January, 1883, issued herewith.

This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and prevailing wind-direction over the northern hemisphere during the above month, as determined from one observation taken simultaneously each day at 7 a. m. Washington, or 0 h. 8 m. p. m. Greenwich, mean time.

For January, 1883, the distribution of mean atmospheric pressure is as follows: the area of barometric minima, which is indicated by the isobar for 29.2 (741.7), occupies southern Greenland and the ocean eastward to western Iceland. The area of barometric maxima, 30.5 (774.7), covers the southern half of the government of Irkootsk, Siberia, and extends southward to the desert of Gobi. The lowest mean pressure reported was 29.13 (739.9), at Ivigtut, Greenland, and the highest was 30.56 (776.2), at Irkootsk, Siberia, being a range of 1.43 inches, or 36.3 millimetres, in the mean pressure for the month. To the southward and eastward of the region of least pressure the barometric gradient rapidly increases, until the isobar for 30.0 (762.0) is reached. That isobar extends from the Gulf of Saint Lawrence southeastward to abont W. 50°, thence eastward along the fortieth parallel to about W. 10°, where it curves to the northeastward and runs along the western coast of Europe to northern Russia. In the United States the pressure is least in the upper lake region, where the means range from 30.05 (763.3) to 30.1 (764.5). In all other parts of the country the means range from 30.15 (765.8) to 30.29 (769.4), the pressure being greatest in California, Nevada, Idaho, and Oregon. In Canada the mean pressure is least in the northern part of the maritime provinces, where it ranges from 30.07 (763.8) to 30.12 (765.0). In central Europe the mean atmospheric pressure ranges from 30.0 (762.0) to 30.1 (764.5). In the southern part of the Italian peninsula it is below 30.0 (762.0). In northern Russia, the Scandinavian peninsula, and the British Isles it ranges from 29.6 (751.8) to 29.95 (760.7). The isobar for 30.3 (769.6) encloses northeastern China. To the eastward the pressure gradually decreases to 30.0 (762.0) in eastern Japan. Over the Atlantic ocean, between N. 40° and 50°, the mean pressure ranges from 29.6 (751.8) to 30.0 (762.0). South of N. 40° it ranges from 30.1 (764.5) to 30.25 (768.3).

Compared with the chart for the preceding month (December, 1882) there has been a decided increase of pressure on the Pacific coast, in the maritime provinces of Canada, and in New England. The pressure has also increased in all other sections of the United States excepting the Rocky mountain districts, where it is slightly below that of the preceding month. Over the Atlantic ocean, north of the forty-fifth parallel, the pressure has decreased about .3 inch. South of the above-mentioned parallel there has been an increase of pressure.

In Europe the increase of pressure has averaged .15 inch throughout the continent, except in the Scandinavian peninsula, where a decrease of about .02 inch is shown. In eastern Asia and in Hindostan the pressure has remained unchanged; in other parts of Asia it has decreased.

Compared with the corresponding month of previous years, the atmospheric pressure for January, 1883, was above the normal over the United States and Canada. The districts of greatest excess were the north Pacific coast region, New England, and the Canadian maritime provinces. In Europe the atmospheric pressure was below the normal of the last six years, as shown in the table below.

The following table shows the mean pressure and mean temperature, with corresponding departures, for January, 1883, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the last six years:

Countries.	Mean pressure.			Mean temperature.		
	Jan. mean of 6 (1877-'82) years.	Jan., 1883.	Departure.	Jan. mean of 6 (1877-'82) years.	Jan., 1883.	Departure.
				°	°	°
Algeria	30.18	30.15	− 0.03	56.8	57.5	+ 0.7
Austria	30.19	30.12	− 0.07	33.1	32.2	− 0.9
British Isles	30.04	29.83	− 0.21	40.3	43.4	+ 3.1
Denmark	30.05	29.97	− 0.08	32.0	32.9	+ 0.9
France	30.16	30.03	− 0.13	41.7	44.0	+ 2.3
Germany	30.13	30.06	− 0.07	32.1	34.0	+ 1.9
India*	29.95	30.00	+ 0.05	72.8	70.5	− 2.3
Italy	30.11	30.02	− 0.09	49.0	45.4	− 3.6
Norway	29.84	29.79	− 0.05	30.0	30.6	+ 0.6
Portugal	30.19	30.18	− 0.01	51.7	52.9	+ 1.2
Russia	30.12	30.10	− 0.02	22.4	15.6	− 6.8
Spain	30.18	30.10	− 0.08	52.3	52.0	− 0.3
Sweden	29.91	29.92	+ 0.01	25.4	23.2	− 2.2

* Mean for five years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of January, 1883, as compared with the means for six years:

Stations.	Mean pressure.			Mean temperature.		
	Jan. mean of 6 (1877-'82) years.	Jan., 1883.	Departure.	Jan. mean of 6 (1877-'82) years.	Jan., 1883.	Departure.
				°	°	°
Gibraltar	30.17	30.17	normal	59.7	59.3	− 0.4
Malta, Mediterranean Sea	30.07	29.97	− 0.10	59.3	58.8	− 0.5
Sandwick Manse, Orkney Islands	29.93	29.65	− 0.28	39.0	40.1	+ 1.1
Bridgetown, Barbadoes	30.01	30.04	+ 0.03	80.0	79.5	− 0.5
Cape Town, Cape Good Hope	29.97	.....	.....	79.2	.....	.....
Fort Napier, Natal, South Africa	29.80	29.80	normal	78.3	77.0	− 1.3
Freetown, Sierra Leone	29.89	.....	.....	86.0	.....	.....
Mauritius, Indian Ocean	29.95	29.89	− 0.06	81.5	81.3	− 0.2
Melbourne, New South Wales	29.96	30.01	+ 0.05	62.7	63.9	+ 1.2
Nassau, Bahamas*	30.16	30.20	+ 0.04	71.2	71.7	+ 0.5
Godthaab, Greenland	29.50	29.21	− 0.29	15.6	13.8	− 1.8
Stykkisholm, Iceland	29.59	29.18	− 0.41	28.2	31.1	+ 2.9
Thorshavn, Färöe Islands	29.76	29.56	− 0.20	38.3	41.0	+ 2.7
Zi-Ka-Wei, China	30.39	30.35	− 0.04	34.9	33.8	− 1.1
Athens, Greece	30.11	30.02	− 0.09	52.3	52.0	− 0.3
Cagliari, Sardinia, Italy*	30.11	29.96	− 0.15	54.8	54.9	+ 0.1
Tokei, Japan	30.07	30.03	− 0.04	35.3	36.2	+ 0.9
Angra, Azores†	30.04	30.12	+ 0.08	57.6	57.9	+ 0.3
Funchal, Madeira Islands	30.19	30.24	+ 0.05	64.7	65.3	+ 0.6
Ponta Delgado, Azores	30.10	30.16	+ 0.06	60.5	60.6	+ 0.1
Archangel, Russia	29.80	29.87	+ 0.07	9.0	6.4	− 2.6
Tiflis, Russia	30.20	30.23	+ 0.03	39.3	34.3	− 5.0
Astrakhan, Russia	30.21	30.26	+ 0.05	25.2	17.8	− 7.4
Ekaterinburg, Russia	30.12	30.04	− 0.08	5.8	0.5	− 5.3
Tashkend, Toorkistan, Asia	.....	.....	.....	.....	.....	.....
Barnaul, Siberia, Asia	30.42	30.38	− 0.04	1.6	1.9	+ 0.3
Yeniseisk, Siberia, Asia	30.40	30.36	− 0.04	− 7.7	− 4.7	+ 3.0
Pekin, China	30.40	30.40	normal	22.4	23.7	+ 1.3
Nikolaevsk on the Amoor, Asia	.....	30.00	.....	− 7.3	−12.6	− 5.3
San Juan de Puerto Rico, W. I*	30.07	30.13	+ 0.06	75.1	76.1	+ 1.0
Beirut, Turkey in Asia	30.12	29.99	− 0.13	59.7	60.8	+ 1.1
Mexico, Mexico	.....	30.33	.....	.....	45.0	.....
Havana, Cuba, W. I*	30.11	30.10	− 0.01	71.5	67.5	− 4.0
Paramaribo, D. Guiana, S. A	30.00	30.05	+ 0.05	78.6	77.1	− 1.5
York Factory, B. A	30.00	30.07	+ 0.07	−25.3	−28.9	− 3.6

* Mean for five years only. † Mean for four years only.

The mean temperature of the air was below the normal in all districts of the United States except in Florida and in southern California, where it was slightly above. The greatest departures occurred in Minnesota, Dakota, and Wisconsin, where the temperature was about 11° (6° Cent.) below the normal. In Canada the temperature was below the normal. In Europe the mean temperature was above the normal in the central and western, and slightly below in the southern, districts. In Hindostan the temperature was 2°.3 below the five years' mean. The highest temperature reported was 81°.8 Fahr. (27°.7 Cent.), at Trichinopoly, and the lowest was 60°.6 Fahr. (15°.9 Cent.), at Sibsagar and Lahore.

The following are some of the extreme mean temperatures reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Zanzibar, East Africa	85.2	29.6	York Factory, B. A	—28.9	—33.8
Mauritius, Indian Ocean	81.3	27.4	Ooglaamie, Alaska	—20.4	—29.1
Saint Paul de Loando, W. Africa	79.7	26.5	Nikolaevsk on the Amoor	—12.6	—24.8
Bridgetown, Barbadoes	79.5	26.4	Yeniseisk, Siberia	— 4.7	—20.4
Batavia, Island of Java	78.3	25.7	Upernavik, Greenland	— 4.4	—20.2
Puerto Berrio, D. Guiana	77.6	25.3			

In the United States the prevailing winds were mostly from north, by west to southwest, except on the Pacific coast, where they were generally southerly. In Canada the winds were northerly and westerly. Over the north Atlantic ocean the winds were as follows: north of the thirtieth parallel and from W. 70° eastward to W. 35°, mostly northwesterly. Between N. 40° and 60° and W. 35° and 10° they were northwesterly, southeasterly, and southwesterly, the latter direction predominating. South of N. 30° northeasterly winds prevailed. In Europe the winds were from east to southeast and southwest in the central and northern districts, and were variable in the southern section. In Japan the winds were mostly westerly and northwesterly.

The rainfall during January 1883, was considerably above the average in the eastern part of the United States. In the upper Mississippi and Ohio valleys, and over all the country west of the hundredth meridian, the precipitation was less than the average. In Canada it was generally below the average. In Europe the rainfall was normal or slightly below the normal.

GENERAL REMARKS.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevation of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms, upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least, this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the alphabet of the letter so used.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

Arrows show direction of, and fly with, the wind. Force is shown as follows:

Symbols.	Force.	Velocity. Miles per hour.	Velocity. Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of General Maritz, Commandant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10, and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation. Tchang-kia-tchouang, the original gives barometer in millimetres reduced to sea-level, temperature in Centigrade, velocity in kilometres for past 3 hours 53 minutes, clouds on scale of 0–10, no distinction between upper and lower.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted. At Jacobshavn and Upernavik, the observations are taken at 8 a. m., instead of 8.44 and 8.24 a. m., respectively.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Mont Louis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. At Besançon the observations are taken at at midday instead instead of 0.32 p. m.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (by authority of the Secretary of Public Works—furnished by co-operation of Señor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico, and respective observers).—All conversions are published as given in the originals, but when an evident mistake has been made the data is queried at this office. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperatures in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Astrakhan, Ashurada and Baku, the barometer-cistern is below sea-level.

SCOTTISH SERIES (furnished by co-operation of Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society at Edinburg, and respective observers).—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rainfall, temperature, and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Professor E. Plantamour, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota and Navassa the barometer is corrected for temperature only; at Puerto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES (furnished by co-operation of E. Malmburg, Director of the Nautical Meteorological Bureau at Stockholm).—The originals give the barometer as read off. The movement of the air is indicated by force on a scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on a scale of 0 to 9 and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operation of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals

give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

ERRATA.

DAILY BULLETIN, October 1st, 1881, page 3, Danish series, Godthaab, reduced barometer, 30.16 inches, should read 29.16.

January 1st, 1883, page 8, sch. "Wm. Wiler," Saint Johh's river, should read Saint John's river.

7th, page 5, Smith, Fort, Arkansas, humidity, 74, should read 94.

13th, page 3, Italian, Pesaro, humidity, 53, should read 93.

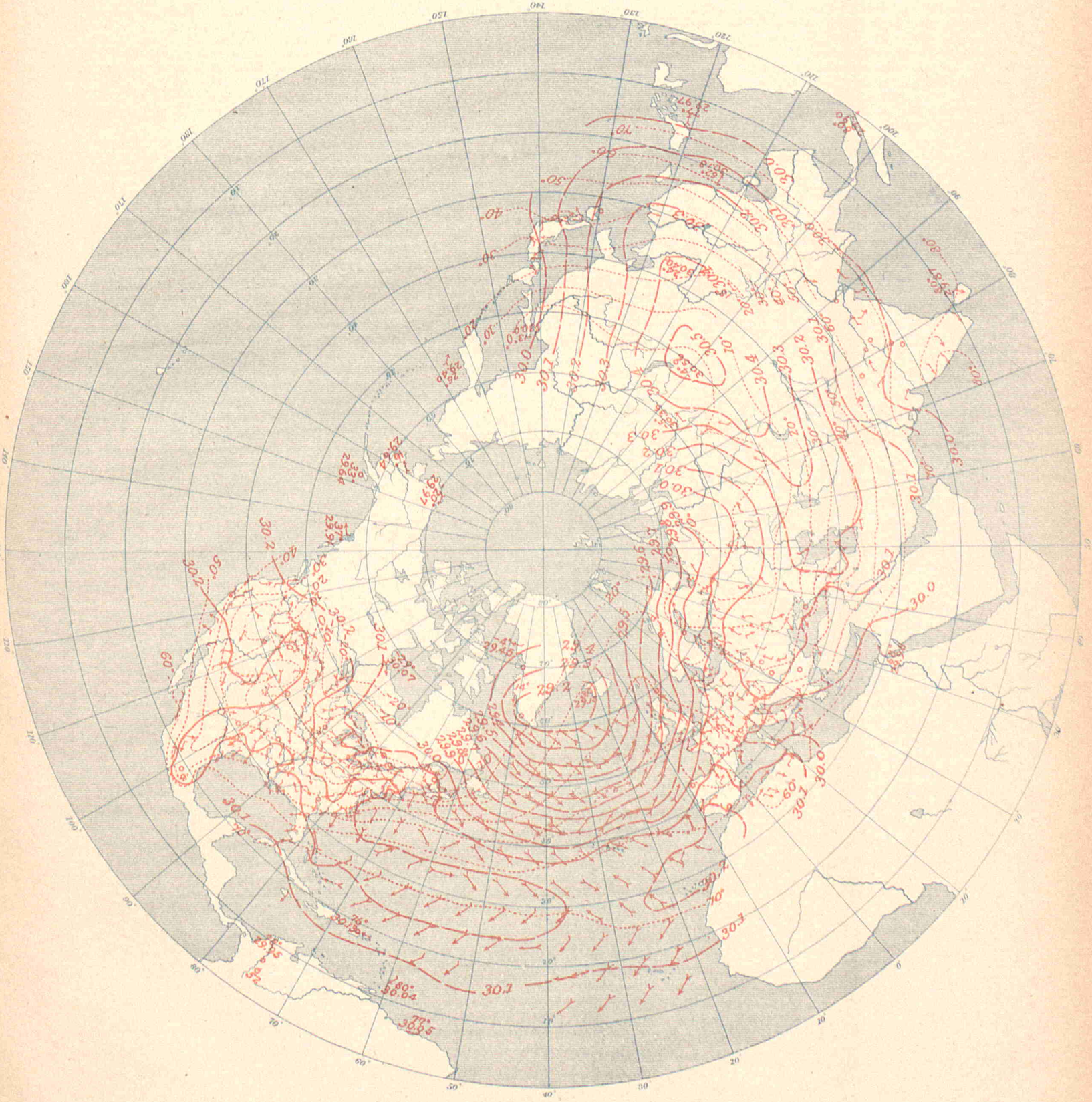
22d, page 2, French, Rouen, actual barometer, 30.21 inches, should read 30.41.

25th, page 3, Mauritius, temperature, 57°.9 Fahr., 14°.4 Cent., should read 81°.8 Fahr., 27°.7 Cent.; Italian, Florence, humidity, 86, should read 66.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. January, 1883. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B. Hazen, Chief Signal Officer.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF FEBRUARY, 1883.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
MARCH, 1884.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

FEBRUARY, 1883.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for February, 1883. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.29	769.4	60.6	15.9	79.5	5	1	1	.....	16	.....	4	1	.....	.....	.....	0	0	0
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	30.27	768.8	59.2	15.1	64.0	4	4	8	5	1	.....	1	4	1	.....	.....	3	0.46	11.8
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.20	767.0	60.4	15.8	68.5	1	8	10	5	3	.....	1	.....	.....	.....	.....	3	1.54	39.0
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.19	766.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.28	769.1	61.0	16.1	72.6	.....	4	5	10	.....	4	3	2	.....	.....	.....	1	0.18	4.7
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.28	769.1	53.2	11.8	64.3	8	11	5	1	1	.....	1	1	.....	.....	.....	1	0.41	10.5
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	56.7	13.7	24.9	3	14	1	4	3	3	.....	.....	.....	.....	.....	1	0.12	3.0
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2559	780	.....	.....	30.30	769.7	56.3	13.5	41.5	7	6	2	1	5	1	2	4	.....	.....	.....	0	0	0
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.29	769.4	67.6	19.8	28.6	3	14	.....	.....	1	3	.....	1	6	.....	.....	2	inap.	inap.
AUSTRALIAN.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.76	755.9	29.85	758.2	64.6	18.1	75	2	.....	2	2	5	11	4	.....	2	.....	.....	5	1.56	39.6
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.72	754.9	30.30	769.5	41.2	5.1	67.8	.....	.....	2	6	2	3	5	10	.....	.....	.....	6	1.05	26.7
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.46	748.3	30.26	768.7	34.7	1.5	81.0	1	4	3	4	.....	.....	2	14	.....	.....	.....	5	0.62	15.7
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.35	745.5	30.26	768.6	29.7	—1.3	81.5	.....	5	.....	.....	4	.....	.....	.....	19	.....	.....	5	0.86	21.9
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.98	736.1	30.28	769.1	39.2	4.0	72.4	3	5	2	4	4	2	6	.....	2	.....	.....	7	0.91	23.2
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.78	730.9	30.26	768.7	33.6	0.9	85	.....	7	.....	3	4	9	5	.....	.....	.....	.....	5	1.06	26.8
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.87	733.4	30.28	769.1	35.6	2.0	85.5	.....	3	8	.....	1	2	2	6	6	.....	.....	9	1.63	41.4
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	29.24	742.6	30.28	769.2	30.9	—0.6	69.8	1	5	1	1	8	9	2	3	.....	.....	.....	5	1.02	26.0
Neu Schmecks	N. 49 10	E. 20 14	1.29 p.m.	3297	1005	26.74	679.2	30.23	767.9	35.8	2.1	59.6	1	.....	2	3	.....	1	5	1	15	.....	.....	5	2.74	69.7
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	30.12	765.1	30.24	768.0	47.8	8.8	68.6	.....	3	4	2	2	5	6	6	.....	.....	.....	4	2.55	64.7
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.75	755.7	30.21	767.2	38.5	3.6	62	7	1	2	1	3	5	8	1	.....	.....	.....	4	0.53	13.4
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.98	761.5	30.27	768.9	39.0	3.9	69.6	2	1	7	.....	9	4	.....	1	4	.....	.....	6	0.44	11.1
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	30.14	765.5	30.24	768.0	47.1	8.4	61.3	.....	.....	.....	3	.....	3	2	10	10	.....	.....	5	2.07	52.6
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.50	750.8	30.30	769.7	37.6	3.1	70.6	2	4	6	.....	.....	12	.....	.....	4	.....	.....	6	1.04	26.3
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.74	755.4	29.84	757.9	43.8	6.6	74.2	1	2	4	6	8	6	1	.....	.....	.....	.....	6	4.70	119.4
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.04	752.8	29.88	758.9	43.6	6.4	81.4	.....	1	2	12	8	4	1	.....	.....	.....	.....	6	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.98	761.5	45.5	7.5	77.9	.....	1	8	8	3	6	2	.....	.....	.....	.....	6	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.42	747.3	29.96	761.0	43.7	6.5	81.2	.....	2	4	6	10	6	.....	.....	.....	.....	.....	8	.....	.....
Bradford *d.*	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.54	750.3	29.94	760.5	44.5	6.9	79.8	.....	1	2	12	.....	9	.....	.....	.....	.....	.....	7	1.52	38.6
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.99	761.7	30.02	762.5	80.7	27.1	69.3	.....	.....	.....	.....	.....	.....	.....	28	.....	.....	.....	4	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	30.02	762.5	30.13	765.3	46.8	8.2	80.6	.....	5	11	3	6	3	.....	.....	.....	.....	.....	7	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.90	761.0	30.11	764.8	45.6	7.6	82.4	.....	2	3	9	6	1	.....	.....	7	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.84	757.9	30.07	763.8	47.6	8.9	78.1	.....	3	5	7	9	3	1	.....	.....	.....	.....	7	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2205	672	27.56	700.0	29.78	756.4	80.6	27.0	60.6	1	.....	1	.....	2	4	16	4	.....	.....	.....	6	.....	.....
Freetown	N. 8 30	W. 13 14	11.50 a.m.	224	68	29.63	752.6	29.86	758.4	86.5	30.3	87.7	6	4	4	3	2	.....	8	1	.....	.....	.....	3	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.81	757.2	29.85	758.2	44.2	6.8	85.6	.....	1	5	14	5	2	1	.....	.....	.....	.....	7	4.53	115.1
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.21	767.3	30.27	768.8	61.6	16.4	93.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.62	752.3	29.83	757.7	44.1	6.7	70.3	.....	.....	4	11	7	5	1	.....	.....	.....	.....	7	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.91	759.7	30.09	764.3	45.3	7.4	80.1	.....	2	3	11	8	2	1	.....	1	.....	.....	8	1.85	47.0
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.83	757.7	30.12	765.0	47.6	8.7	82.8	.....	5	6	8	3	5	.....	.....	1	.....	.....	6	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	30.05	763.3	30.09	764.3	45.8	7.7	79.6	.....	2	6	8	10	1	1	.....	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.76	755.9	30.02	762.5	45.9	7.7	78.5	.....	6	2	16	1	3	.....	.....	.....	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	30.07	763.8	30.15	765.8	58.6	14.8	87.3	2	9	2	2	1	5	2	5	.....	.....	.....	5	2.51	63.8
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.18	766.6	30.22	767.6	74.3	23.5	77.8	.....	.....	.....	.....	.....	10	11	7	.....	.....	.....	5	.....	.....
Oscott *a*	N. 52 28	W. 1 55	0.00 m.	483	147	29.47	748.5	30.00	762.0	45.2	7.3	80.7	1	1	5	5	10	3	2	.....	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.83	757.7	30.05	763.3	45.9	7.7	81.9	.....	3	2	9	6	7	.....	.....	1	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	30.02	762.5	30.10	764.5	47.5	8.6	88.1	.....	3	5	8	2	6	.....	1	3	.....	.....	8	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.61	752.1	29.71	754.6	41.5	5.3	86.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Scutari Cemet'y	N. 41 00	E. 29 03	2.04 p.m.	60	18	30.11	764.8	30.17	766.3	39.2	4.0	76.9	14	4	.....	3	1	2	.....	4	.....	.....	.....	8	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.72	754.9	30.02	762.5	46.6	8.1	80.1	.....	2	5	13	4	3	.....	.....	1	.....	.....	6	2.16	54.9
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.86	758.4	29.89	759.2	44.9	7.2	81.2	.....	.....	5	15	4	3	1	.....	.....	.....	.....	7	1.72	43.7
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	30.01	762.2	43.8	6.6	77.8	.....	1	10	6	8	1	2	.....	.....	.....	.....	8	.....	.....
Strathfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.87	758.7	30.09	764.3	46.8	8.2	83.4	1	3	9	7	4	4	.....	.....	.....	.....	.....	7	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	30.03	762.7	29.08	764.0	51.3	10.7	78.9	.....	5	6	9	3	4	1	.....	.....	.....	.....	7	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m	23	7	29.80	758.4	29.89	759.2	46.0	8.1	77.9	.....	4	4	9	3	7	1	.....	.....	.....	.....	9	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.79	756.7	30.18	766.6	56.9	13.8	68.6	.....	12	4	3	3	3	1	2	.....	.....	.....	4	4.40	111.8
CANADIAN.																										
Bathurst *d*	N. 47 39	W. 65 43	7.45 a.m.	35	11	.....	.....	.....	.....	5.1	-14.9	.....	.....	5	.....	1	.....	.....	1	.....	17	.....	.....	3	1.50	38.1
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	30.05	763.3	30.10	764.5	11.0	-11.7	86.7	2	6	9	2	4	2	1	1	1	6273	10096	5	2.85	72.4
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	30.06	763.5	30.13	765.3	2.7	-16.3	91.8	.....	5	6	10	.....	2	.....	1	4	3009	4939	5	2.56	65.0
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.91	759.7	30.16	766.1	9.7	-12.4	95.1	2	5	11	3	.....	.....	4	3	.....	.....	.....	8	1.70	43.2
Dalhousie *a*	N. 48 04	W. 66 21	7.32 a.m.	45	14	30.04	763.0	30.09	764.3	4.3	-15.4	.....	.....	.....	16	.....	.....	.....	4	.....	7	.....	.....	4	1.82	46.2
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	30.00	763.5	30.08	764.0	7.2	-13.8	86.9	2	9	2	7	2	.....	.....	2	4	14158	22784	8	1.00	25.4
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.37	746.0	30.26	768.6	-12.0	-24.9	77.0	8	5	4	5	2	2	.....	2	.....	7384	11884	4	0.58	14.7
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	30.11	764.8	30.18	766.6	5.8	-14.6	88.5	.....	10	3	.....	.....	.....	4	2	9	.....	.....	5	2.89	73.4
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	29.05	737.9	30.24	768.1	13.8	-10.1	93.5	1	7	6	4	1	2	1	2	4	.....	.....	7	3.75	95.2
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	30.02	762.5	30.16	766.1	15.7	—9.1	90.3	3	5	12	1	2	1	.....	1	3	.....	.....	5	4.21	106.9
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	338	103	29.78	756.4	30.19	766.8	18.8	—7.3	88.8	1	2	2	19	.....	.....	1	3	.....	.....	.....	7	1.50	38.1
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.81	757.2	30.17	766.3	14.4	—9.8	86.3	1	2	8	6	2	1	1	7	.....	6955	11192	7	2.39	60.7
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.99	761.7	30.03	762.7	18.1	—7.7	79.2	2	13	2	6	1	3	.....	1	.....	.....	.....	.....	.....	.....
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.93	760.2	30.15	765.8	10.0	-12.2	85.5	2	1	9	2	4	1	2	5	1	.....	.....	8	2.52	64.0
Ottawa	N. 45 26	W. 75 45	7.05 a.m.	223	68	29.88	758.9	30.15	765.8	7.8	-13.4	89.1	1	2	6	1	3	1	3	6	5	.....	.....	5	2.20	55.9
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.41	747.0	30.16	766.1	8.5	-13.1	79.3	2	.....	10	2	1	7	4	.....	2	7559	12165	8	3.93	99.8
Peterboro	N. 44 17	W. 78 20	6.54 a.m.	688	210	29.48	748.8	30.26	768.6	10.9	-11.7	81.4	1	.....	10	5	.....	.....	4	1	7	.....	.....	6	0.96	24.4
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.47	748.5	30.22	767.6	18.1	—7.7	79.8	2	2	8	7	1	.....	1	2	5	5726	9214	6	4.77	121.2
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.54	750.3	30.24	768.1	19.0	—7.2	88.1	2	.....	18	.....	1	.....	5	1	1	.....	.....	6	3.83	97.3
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.80	756.9	30.15	765.8	4.6	-15.2	85.1	1	5	11	2	.....	.....	3	3	3	.....	.....	5	5.15	130.8
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.64	752.8	30.14	765.5	0.0	-17.8	81.8	.....	7	3	.....	.....	2	3	1	12	.....	.....	5	1.74	44.2
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.40	746.7	30.16	766.1	16.7	—8.5	92.5	3	3	7	6	2	6	.....	1	.....	11425	18386	9	5.32	135.1
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	30.08	764.0	30.14	765.5	15.3	—9.3	89.5	4	9	6	4	.....	1	1	2	1	.....	.....	5	2.73	69.3
Saint John, N. B.	N. 45 17	W. 66 03	7.44 a.m.	150	46	29.98	761.5	30.16	766.1	14.1	—9.9	89.0	9	7	3	2	1	1	3	2	.....	.....	.....	5	2.12	53.8
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.97	761.2	17.0	—8.3	.....	4	11	6	3	1	1	1	1	.....	.....	.....	.....	0.39	9.9
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	28.85	732.8	30.24	768.1	12.1	-11.1	93.4	.....	6	11	2	1	4	2	.....	2	.....	.....	7	5.30	134.6
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	30.04	763.0	30.10	764.5	10.5	-11.9	90.1	.....	4	9	5	5	1	1	1	2	7499	12068	6	2.94	74.7
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.81	757.2	30.22	767.6	16.8	—8.4	88.3	2	4	10	4	.....	.....	2	4	2	8194	13187	5	2.54	64.5
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26	30.02	762.5	30.12	765.0	5.5	-14.7	85.9	3	.....	14	3	4	.....	3	.....	1	.....	.....	8	.....	.....
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	29.10	739.1	30.26	768.6	13.8	-10.1	87.2	2	2	4	8	2	.....	3	5	2	.....	.....	6	6.45	163.8
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	30.09	764.3	30.16	766.1	22.2	—5.4	78.6	3	10	1	.....	2	2	5	5	.....	9095	14636	7	4.26	108.2
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	29.87	758.7	29.90	759.4	71.7	22.1	82.9	.....	.....	4	12	2	3	6	1	.....	.....	.....	4	0.22	5.6
Springbok	S. 29 45	E. 17 43	1.19 p.m	?	?	27.86	707.6	.....	.....	83.9	28.8	58.8	.....	2	1	9	.....	11	5	.....	.....	.....	.....	.....	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for February, 1883. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
CHINESE. (*Sub*).	° ′	° ′																								
Sung-shu-chwang	N. 36 07	E. 103 56	7.04 p.m.	4987	1520	24.58	624.3	.....	.....	21.4	— 5.9	.....	.....	3	.....	.....	2	4	2	2	15	.....	.....	1	.....	.....
Tchang-kia-tchouang.	N. 38 17	E. 116 14	7.53 p.m.	98	30	30.30	769.5	30.41	772.3	28.0	— 2.2	90	1	1	.....	8	2	2	3	5	6	.....	.....	6	1.63	41.5
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	30.31	769.9	30.34	770.5	37.2	2.9	89	9	2	5	.....	.....	1	4	6	1	.....	.....	8	3.58	90.9
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	30.10	764.4	30.14	765.6	35.8	2.1	80	1	4	5	.....	1	12	5	.....	.....	.....	.....	7	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	30.08	764.0	30.10	764.5	37.6	3.1	90	.....	4	5	3	6	7	2	1	.....	.....	.....	7	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.16	740.7	29.21	741.8	3.7	—15.7	95	6	8	1	2	6	1	2	1	1	.....	.....	8	.....	.....
Ivigtut	N. 61 12	W. 48 00	8.56 a.m.	16	5	29.13	739.8	29.15	740.3	0.6	—14.1	.....	2	.....	1	1	.....	3	.....	3	18	.....	.....	6	.....	.....
Jacobshavn	N. 69 13	W. 50 55	8.44 a.m.	42	13	29.22	742.2	29.27	743.4	—3.1	—19.5	.....	.....	.....	1	3	3	4	4	.....	13	.....	.....	5	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	28.97	735.9	29.02	737.0	30.9	— 0.6	88	.....	.....	3	5	2	10	4	2	2	.....	.....	8	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.51	749.6	29.55	750.5	41.2	5.2	82	.....	1	4	8	6	7	.....	1	1	.....	.....	8	.....	.....
Upernavik	N. 72 47	W. 56 00	8.24 a.m.	39	12	29.24	742.7	29.29	743.9	—7.6	—22.0	.....	2	1	.....	3	2	.....	12	2	6	.....	.....	6	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.98	761.4	30.07	763.7	36.3	2.4	89	.....	3	4	2	1	8	8	1	1	.....	.....	8	.....	.....
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.68	753.8	30.35	770.8	47.7	8.7	86.7	.....	1	2	.....	1	7	.....	1	16	.....	.....	.....	2.26	57.5
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.67	753.5	30.22	767.5	43.9	6.6	91.7	5	1	.....	7	9	4	1	1	.....	.....	.....	1.32	33.5
Arras	N. 50 18	E. 2 46	0.19 p.m.	239	73	29.93	760.2	30.20	767.0	44.4	6.9	86.4	1	3	6	6	6	4	.....	2	.....	.....	.....	.....	1.68	42.6
Avignon	N. 43 57	E. 4 48	0.27 p.m	65	20	30.13	765.3	30.21	767.3	51.8	11.0	62	9	13	.....	.....	1	3	2	.....	.....	.....	.....	3	1.75	44.5
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.70	754.3	30.27	768.8	45.1	7.3	75	2	2	3	7	6	4	1	3	.....	.....	.....	7	1.19	30.3
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.95	760.7	30.22	767.7	45.7	7.6	75.2	1	3	7	4	6	3	4	.....	.....	.....	.....	7	1.48	37.5
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.32	744.7	30.24	768.2	49.3	9.6	75.7	3	2	.....	10	2	1	1	9	.....	.....	.....	.....	3.07	78.0
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	30.00	761.9	30.27	768.8	48.9	9.4	72.3	5	2	4	1	2	10	1	3	.....	.....	.....	5	2.09	53.1
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.68	753.9	30.25	768.3	45.9	7.7	79.3	3	.....	5	5	3	2	7	3	.....	.....	.....	.....	1.57	39.9
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.92	760.0	30.17	766.2	50.5	10.3	84.7	1	2	4	11	4	3	.....	3	.....	.....	.....	6	11.06	280.8
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	30.09	764.3	30.17	766.2	46.8	8.2	82.2	9	7	.....	.....	1	2	4	5	.....	.....	.....	6	1.61	40.8
Chalons-sur-Marne.	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.89	759.2	30.21	767.2	45.3	7.4	81.1	2	1	2	3	8	4	1	.....	7	.....	.....	6	1.37	34.7
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.69	754.2	30.21	767.4	43.2	6.2	76.4	3	1	8	2	3	5	6	.....	.....	.....	.....	7	2.07	52.5
Clermont-Fd	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.89	733.7	30.28	769.0	40.2	7.9	68.0	9	3	2	2	4	1	1	6	.....	.....	.....	6	1.74	44.3
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.41	747.0	30.28	769.1	45.7	7.6	72.7	6	3	4	4	4	2	.....	5	.....	.....	.....	7	1.59	40.4
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.39	746.4	30.27	768.9	43.7	6.5	89.8	.....	5	12	4	.....	3	3	1	.....	.....	.....	6	1.21	30.8
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.65	702.4	30.24	768.2	45.0	7.2	34.0	4	1	2	1	.....	1	.....	.....	19	.....	.....	3	3.32	84.4
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	29.06	738.0	30.19	766.9	53.4	11.9	59.6	2	.....	.....	.....	6	6	7	7	.....	.....	.....	5	2.12	53.9
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.49	749.0	30.28	769.1	40.4	8.0	68.8	3	9	5	1	2	2	6	.....	.....	.....	.....	.....	1.36	34.5
Gueret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.66	728.0	30.28	769.2	45.9	7.7	71.8	2	2	3	10	1	2	1	7	.....	.....	.....	1	1.79	45.5
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.95	760.8	30.23	767.8	47.8	8.8	79.2	2	3	3	12	1	5	2	.....	.....	.....	.....	6	2.22	56.4
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.67	753.6	30.24	768.2	52.7	11.5	60.1	4	3	5	7	.....	2	5	2	.....	.....	.....	.....	4.26	108.3
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	30.10	764.4	30.20	767.0	50.4	10.2	73.1	2	.....	2	7	10	1	3	.....	3	.....	.....	7	3.73	94.8
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	29.21	741.8	30.29	769.4	44.8	7.1	71.7	6	7	1	.....	3	6	2	3	.....	.....	.....	5	1.50	38.0
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.93	760.2	30.24	768.0	45.5	7.5	82.5	4	6	4	6	2	5	.....	1	.....	.....	.....	6	1.37	34.8
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.92	759.9	30.19	766.8	50.3	13.5	64.2	.....	6	6	5	1	5	4	1	.....	.....	.....	6	0.78	19.9
Mont Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.95	633.7	29.79	756.7	41.5	5.3	43.9	2	4	5	7	1	1	1	7	.....	.....	.....	3	0.89	22.5
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	30.07	763.8	30.20	767.0	54.9	12.7	68.7	17	.....	.....	.....	3	2	3	.....	3	.....	.....	3	1.26	32.0
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.41	746.9	30.21	767.4	44.1	6.7	73.0	1	1	6	6	8	2	.....	4	.....	.....	.....	.....	1.22	31.1
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	30.10	764.5	30.26	768.6	51.4	10.8	67.5	2	1	3	7	6	3	5	1	.....	.....	.....	7	2.06	52.4
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	30.13	765.4	30.24	768.2	56.1	13.4	48.6	8	6	.....	1	1	6	2	3	1	.....	.....	4	0.20	5.2
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.27	540.2	.....	.....	23.9	— 4.5	.....	1	4	4	7	.....	1	1	10	.....	.....	.....	5	4.02	102.0
Privas [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	29.17	741.0	30.26	768.7	48.0	8.9	68.0	14	2	.....	1	5	1	1	2	2	.....	.....	4	7.53	191.3
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.26	641.6	.....	.....	31.8	— 0.1	79.4	4	2	6	3	3	.....	3	7	.....	.....	.....	4	4.29	109.0
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.22	767.6	30.25	768.4	50.9	10.5	81.1	1	.....	.....	4	4	4	.....	6	9	.....	.....	5	5.94	151.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.99	761.7	30.21	767.3	49.3	9.9	78.6	2	4	6	6	2	5	2	1	.....	.....	.....	3	2.18	55.4
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	28.06	712.8	30.26	768.7	44.6	7.0	71.9	1	8	.....	1	2	14	1	1	.....	.....	.....	.....	2.20	55.9
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	30.17	766.2	30.21	767.4	46.6	8.1	77.3	.....	5	6	6	3	6	2	.....	.....	.....	.....	7	1.59	40.3
Saint Lo	N. 49 06	W. 1 05	0.04 p.m.	134	41	.....	.....	.....	.....	47.5	8.6	73.7	10	2	9	7	2	3	.....	1	.....	.....	.....	5	2.21	56.2
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	30.07	763.8	30.24	768.0	47.5	8.6	92.5	2	.....	5	4	11	1	3	.....	2	.....	.....	6	1.26	32.1
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.58	751.3	30.31	769.8	49.3	9.6	76.2	2	5	5	4	1	10	.....	1	.....	.....	.....	4	2.23	56.7
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	30.07	763.8	30.25	768.3	48.7	9.3	69.6	4	1	1	6	6	4	2	4	.....	.....	.....	5	1.75	44.5
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.73	755.1	30.22	767.6	44.8	7.1	76.5	2	6	5	8	5	1	.....	1	.....	.....	.....	.....	1.06	27.0
Sub-Series.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	0.03 p.m.	131	40	30.13	765.3	30.28	769.1	53.2	11.8	66.4	2	3	8	2	2	1	4	6	.....	.....	.....	5	5.10	129.4
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.79	731.2	30.30	769.6	38.5	3.6	79.0	.....	4	7	4	2	6	2	1	2	.....	.....	7	0.78	19.7
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.37	746.1	30.22	767.7	40.1	4.5	74.3	1	5	3	1	1	7	.....	.....	10	.....	.....	6	0.80	20.2
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	30.08	763.9	30.22	767.7	39.0	3.9	71.2	.....	5	4	3	2	5	6	3	.....	.....	.....	7	0.30	7.6
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.72	754.9	30.26	768.5	36.7	2.6	72.5	1	3	5	2	2	9	6	.....	.....	.....	.....	6	0.72	18.4
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.81	757.2	30.29	769.3	44.8	7.1	70.1	1	1	.....	14	2	1	4	5	.....	.....	.....	6	1.51	38.4
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.46	748.2	30.17	766.3	42.1	5.6	74.2	.....	3	4	3	14	3	.....	1	.....	.....	.....	7	0.60	15.2
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.87	758.8	30.24	768.1	43.9	6.6	72.2	.....	6	1	5	5	4	6	1	.....	.....	.....	7	0.99	25.2
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1355	413	28.81	731.7	30.29	769.4	41.4	5.2	77.2	.....	1	8	4	3	4	1	7	.....	.....	.....	6	1.83	46.4
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	30.09	764.2	30.18	766.5	39.2	4.0	82.5	.....	3	6	3	1	5	9	1	.....	.....	.....	8	1.01	25.6
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	30.13	765.4	30.15	765.8	38.8	3.8	80.4	1	2	4	5	3	6	7	.....	.....	.....	.....	8	0.89	22.5
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.81	757.1	30.24	768.2	39.6	4.2	73.9	.....	3	3	6	5	5	4	2	.....	.....	.....	7	0.63	15.9
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	30.01	762.3	30.21	767.3	40.1	4.5	76.7	1	.....	10	1	3	3	8	2	.....	.....	.....	7	0.62	15.7
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	30.22	767.5	30.26	768.7	30.7	— 0.7	80.4	1	2	3	5	1	11	4	1	.....	.....	.....	5	0.25	6.3
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.40	721.4	30.28	769.1	38.1	3.4	78.4	2	10	3	4	.....	2	3	2	2	.....	.....	8	1.17	29.8
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	30.24	768.0	30.25	768.4	35.1	1.7	78.5	1	3	4	4	2	7	5	2	.....	.....	.....	6	0.30	7.6
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.70	754.3	30.23	767.8	43.9	6.6	75.8	1	1	10	1	2	3	.....	3	7	.....	.....	7	1.36	34.6
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.28	743.8	30.21	767.2	43.9	6.6	78.7	3	2	9	.....	3	.....	8	3	.....	.....	.....	6	1.08	27.4
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	30.18	766.5	30.21	767.2	36.1	2.3	85.3	1	.....	3	3	2	9	8	2	.....	.....	.....	8	0.17	4.2
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.76	755.9	30.15	765.7	50.5	10.3	.....	14	1	3	1	2	1	1	5	.....	.....	.....	7	2.06	52.3
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.95	760.7	30.00	762.0	75.2	24.0	51	1	2	8	11	.....	1	1	4	.....	.....	.....	4	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.46	748.2	29.93	760.2	81.2	27.3	16	7	8	5	5	1	.....	.....	2	.....	.....	.....	2	0	0
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.86	758.5	29.90	759.5	79.3	26.3	64	7	20	1	.....	.....	.....	.....	.....	.....	.....	.....	1	0	0
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	28.01	711.4	29.83	757.8	88.2	31.2	19	.....	5	12	5	.....	2	3	1	.....	.....	.....	3	0	0
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.34	694.3	29.84	757.9	83.4	28.6	29	.....	.....	6	6	.....	7	6	3	.....	.....	.....	2	0	0
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.22	742.3	30.00	761.9	64.4	18.0	39	3	3	9	.....	.....	.....	2	.....	11	.....	.....	3	0.33	8.4
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	29.03	737.3	29.96	760.9	66.2	19.0	40	.....	2	18	.....	1	.....	.....	.....	7	.....	.....	3	0.02	0.5
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.39	746.6	29.97	761.3	71.8	22.1	31	.....	8	11	2	2	1	2	2	.....	.....	.....	3	0	0
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.84	732.4	29.87	758.7	86.1	30.1	23	1	1	4	5	3	.....	1	2	11	.....	.....	3	0	0
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28 58	725.8	29.94	760.5	77.0	25.0	26	6	4	1	.....	.....	.....	1	11	5	.....	.....	3	0	0
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.59	751.5	29.98	761.4	65.8	18.8	46	1	5	6	2*	.....	.....	.....	1	13	.....	.....	2	0	0
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.64	752.8	29.96	761.0	68.1	20.1	50	1	5	.....	1	.....	.....	.....	2	19	.....	.....	3	0.02	0.5
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.76	755.8	29.95	760.6	68.8	20.4	47	2	8	13	2	.....	.....	.....	1	2	.....	.....	3	0.17	4.3
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.90	708.6	29.96	761.0	66.0	18.9	37	7	13	5	.....	.....	.....	.....	1	2	.....	.....	3	0.14	3.6
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.84	757.9	29.92	760.0	80.0	26.7	51	.....	.....	.....	2	6	4	3	6	7	.....	.....	2	0.22	5.6
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.92	759.9	29.94	760.5	73.6	23.1	50	4	7	4	7	.....	1	.....	3	2	.....	.....	2	2.09	53.1
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.80	756.9	29.92	760.0	69.2	20.7	53	1	2	.....	6	.....	.....	.....	1	18	.....	.....	1	0.03	0.8
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.87	758.6	29.96	761.0	70.7	21.5	61	1	2	14	4	.....	1	.....	.....	6	.....	.....	2	0.05	1.3
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.61	752.1	29.96	761.0	63.9	17.7	78	.....	1	.....	3	.....	2	2	20	.....	.....	.....	5	0.71	18.0
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.50	724.0	29.98	761.4	71.4	21.9	34	4	12	1	2	5	1	.....	3	.....	.....	.....	4	0	0
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.39	721.1	.....	.....	88.7	31.5	25	.....	1	2	.....	.....	16	9	.....	.....	.....	.....	2	0	0
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.65	753.1	.....	.....	86.3	30.2	40	.....	.....	.....	.....	.....	2	16	9	1	.....	.....	2	0	0
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.84	757.9	30.26	768.6	46.8	8.2	60	1	.....	2	3	2	9	4	4	3	.....	.....	6	4.97	126.3
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.73	755.1	30.26	768.6	47.1	8.4	69	1	3	5	5	1	8	2	3	.....	.....	.....	6	3.92	99.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
	Result of Simultaneous Observations for February, 1883.																									
ITALIAN.—Cont'd.	° ′	° ′																								
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	30.14	765.5	30.25	768.4	46.2	7.9	68	7	2	2	1	2	2	2	9	1	.....	.....	6	2.28	57.8
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.33	744.9	30.26	768.6	44.6	7.6	75	4	2	.....	.....	.....	5	4	13	.....	.....	.....	6	2.13	54.1
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157	48	30.01	762.3	30.21	767.3	50.5	10.3	63	11	1	.....	4	.....	2	1	8	1	.....	.....	6	5.04	128.1
Mondovi	N. 44 23	E. 7 48	0.39 p.m.	1824	556	28.30	718.8	30.29	769.3	42.3	5.7	65	.....	3	20	1	.....	1	2	1	.....	.....	.....	4	2.80	71.2
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	30.18	766.6	30.23	767.9	47.1	8.4	75	7	5	.....	3	1	4	2	6	.....	.....	.....	6	0.66	16.8
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.95	760.6	30.21	767.2	51.6	10.9	61	3	3	1	4	2	.....	4	11	.....	.....	.....	7	1.46	37.2
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	30.06	763.4	30.14	765.6	52.3	11.3	67	2	.....	3	3	3	1	8	8	.....	.....	.....	7	3.24	82.2
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.99	761.8	30.17	766.4	55.4	13.0	54	9	5	2	2	3	2	4	1	.....	.....	.....	5	2.96	75.2
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.91	759.7	30.17	766.3	52.7	11.5	61	7	4	.....	3	4	1	3	6	.....	.....	.....	4	1.57	39.8
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.26	743.3	30.17	766.4	52.7	11.5	75	3	10	6	4	2	2	1	.....	.....	.....	.....	6	2.42	61.6
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	29.95	760.6	30.14	765.6	57.2	14.0	67	.....	15	.....	.....	.....	6	1	1	5	.....	.....	4	2.04	51.7
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.93	760.2	30.18	766.6	57.2	14.0	55	2	6	3	.....	.....	.....	.....	16	1	.....	.....	4	1.59	40.5
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	30.10	764.4	30.14	765.5	56.3	13.5	69	2	1	2	3	4	2	2	12	.....	.....	.....	7	2.35	59.6
Sub-Series.																										
Naples	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.65	753.1	30.19	766.8	54.1	12.3	62.4	4	2	2	6	1	2	2	9	.....	.....	.....	6	1.96	49.8
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	22.19	563.3	.....	.....	22.1	−5.5	74.2	.....	.....	9	3	.....	5	4	7	.....	.....	.....	5	2.23	56.5
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	22.20	563.8	.....	.....	27.1	−2.7	57.0	2	1	6	1	.....	3	11	4	.....	.....	.....	4	5.51	140.0
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	30.18	766.5	30.21	767.3	26.4	−3.1	83.0	2	5	.....	.....	.....	1	.....	.....	20	.....	.....	6	2.57	65.2
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	30.16	766.1	30.20	767.1	22.8	−5.1	74.4	1	3	9	5	2	5	2	.....	1	5582	8983	6	1.86	47.2
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	30.19	766.7	30.20	767.0	23.5	−4.7	91.0	14	3	5	.....	.....	....	3	2	1	6608	10700	5	0.57	14.5
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	26	8	30.10	764.5	30.13	765.2	40.5	4.7	72	1	7	1	.....	.....	.....	3	.....	16	.....	.....	4	3.76	95.4
Kagoshima	N. 31 35	E. 130 33	8.50 p.m.	14	4	30.18	766.7	30.20	767.0	45.9	7.7	76.9	14	4	.....	.....	.....	1	1	4	4	.....	.....	4	4.55	115.6
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	30.02	762.4	30.20	767.1	36.2	2.3	82.7	12	9	5	.....	.....	.....	2	.....	.....	2915	4691	6	3.54	89.8
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	30.15	765.7	30.17	766.3	45.5	7.5	69.0	5	7	4	.....	3	.....	4	5	.....	5490	8836	5	3.62	91.9
Miasaka	N. 31 56	E. 131 26	8.54 p.m.	26	8	30.10	766.2	30.19	766.9	46.2	7.9	81.0	2	.....	4	.....	1	.....	.....	.....	21	.....	.....	6	3.26	82.7
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	30.00	762.0	30.21	767.4	43.4	6.3	79.1	8	4	.....	1	.....	1	.....	5	9	2479	3889	6	3.62	91.9
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	30.17	766.3	30.21	767.3	33.8	1.0	84.1	8	.....	3	4	5	2	1	5	.....	4069	6549	8	5.46	138.3
Nobiru	N. 38 23	E. 141 12	9.32 p.m.	15	5	30.16	766.0	30.17	766.4	30.6	−0.8	84.3	16	3	3	.....	.....	1	.....	5	.....	5528	8891	4	2.04	51.7
Numazu	N. 35 06	E. 138 51	9.23 p.m.	32	10	30.10	764.5	30.14	765.5	39.8	4.3	77.8	4	.....	.....	.....	1	1	13	1	8	.....	.....	8	6.10	154.9
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	30.19	766.9	30.21	767.3	37.8	3.2	81.7	11	3	1	.....	.....	.....	2	11	.....	5795	9320	6	4.21	107.0
Sakai	N. 35 01	E. 133 31	9.01 p.m.	10	3	30.22	767.5	30.23	767.8	39.5	4.2	79.1	2	1	6	.....	2	.....	13	3	1	.....	.....	8	7.16	182.0
Supporo	N. 43 04	E. 141 23	9.33 p.m.	60	18	.....	.....	.....	.....	19.8	−6.8	85.5	2	5	1	.....	.....	3	1	.....	16	3103	4994	7	0.39	9.9
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	30.09	764.3	30.17	766.2	35.1	1.7	83.9	13	1	2	.....	.....	1	5	3	3	4918	7914	5	4.58	116.3
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.14	765.5	30.19	766.9	39.9	4.4	76.0	9	4	.....	.....	.....	.....	.....	13	2	4423	7118	7	4.76	120.9
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.68	753.9	29.87	758.7	81.0	27.2	71.2	1	2	3	1	.....	2	13	6	.....	.....	.....	7	4.38	111.2
MEXICAN.																										
Guanajuato	N. 21 01	W. 100 48	5.24 a.m.	6759	2060	23.70	602.1	29.94	760.1	53.4	11.9	84	.....	4	.....	5	2	2	1	9	5	.....	.....	3	1.82	46.3
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24.34	618.2	30.11	764.4	50.3	10.3	87	3	10	2	4	.....	4	1	4	.....	.....	.....	5	1.16	29.4
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.74	755.2	29.99	761.7	60.6	15.9	75	1	18	.....	.....	.....	1	3	5	.....	.....	.....	2	0	0
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.13	587.4	30.28	769.1	48.7	9.3	81	.....	5	.....	.....	.....	.....	.....	.....	23	.....	.....	3	1.73	43.9
Morelia	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	24.31	617.5	30.24	768.1	51.4	10.8	68	.....	.....	.....	.....	6	14	7	1	.....	.....	.....	4	2.05	52.0
Pabellon.*a*	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.97	608.9	30.05	763.3	51.6	10.8	68	3	.....	1	.....	.....	1	.....	1	21	.....	.....	3	0.09	2.2
Puebla	N. 19 02	W. 98 03	5.30 a.m.	7113	2168	23.41	594.6	30.28	769.1	46.3	8.0	73	.....	2	.....	.....	.....	.....	3	23	.....	.....	.....	3	0.29	7.4
Zacatecas	N. 22 44	W. 102 26	5.18 a.m.	8100	2469	22.53	572.3	30.27	769.0	48.0	8.9	68	1	1	1	10	.....	5	6	4	.....	.....	.....	5	0.64	16.2
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.15	765.8	30.15	765.8	44.8	7.1	.....	.....	2	4	7	9	4	2	.....	.....	.....	.....	.....	1.52	38.7
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	30.08	763.9	30.13	765.3	41.7	5.4	.....	2	5	1	7	6	5	2	.....	.....	.....	.....	.....	1.55	39.4
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.57	39.9
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	30.14	765.5	30.14	765.5	44.6	7.0	80.3	.....	2	4	8	6	4	4	.....	.....	.....	.....	.....	1.57	39.8
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	30.11	764.9	30.16	766.1	44.6	7.0	78.9	.....	3	5	7	5	5	3	.....	.....	.....	.....	6	1.29	32.7
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7 15 p.m.	?	?	29.85	758.3	.....	.....	78.1	25.6	87.3	7	10	6	1	.....	.....	.....	4	.....	.....	.....	6	17.56	446.0
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.88	758.9	29.94	760.5	39.0	3.9	69.0	.....	4	2	3	12	5	1	.....	1	.....	.....	7	6.03	153.2
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.78	756.4	29.82	757.4	35.6	2.0	61.5	.....	2	2	5	7	5	.....	1	6	.....	.....	5	2.64	67.0
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.93	760.3	30.09	764.2	31.1	−0.5	78.8	2	1	4	4	3	4	7	3	.....	.....	.....	7	1.42	36.1
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.64	752.9	29.67	753.5	33.4	0.8	.....	3	1	3	6	4	6	1	1	3	.....	.....	7	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.71	754.7	29.76	755.9	32.5	0.3	72.2	.....	3	.....	5	2	5	.....	3	10	.....	.....	6	2.23	56.7
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	30.07	763.8	30.23	767.9	57.0	13.9	79.9	2	6	7	1	2	5	4	1	.....	.....	.....	5	2.50	63.6
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.24	742.8	30.26	768.6	55.6	13.1	65.9	.....	.....	2	3	7	2	6	7	1	.....	.....	5	1.05	26.6
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.20	767.1	30.29	769.4	63.6	17.6	61.2	2	.....	.....	10	1	8	5	1	1	.....	.....	5	2.88	73.2
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.95	760.7	30.30	769.7	54.3	12.6	66.1	5	2	1	4	5	.....	.....	9	2	.....	.....	5	2.21	56.1
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.21	767.2	30.28	769.0	59.4	15.2	68.3	3	8	2	4	2	1	5	2	1	.....	.....	4	3.78	96.1
St. Paulde Loanda	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.66	753.4	29.86	758.4	82.9	28.3	87.0	1	3	20	4	.....	.....	.....	.....	.....	.....	.....	7	1.24	31.6
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.43	645.8	30.28	769.2	39.2	4.0	73.8	.....	3	4	5	2	8	1	5	.....	.....	.....	6	11.37	288.7
RUSSIAN																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	29.10	739.2	30.32	770.2	−3.5	−19.7	83.8	.....	.....	4	13	3	5	....	1	2	.....	.....	5	0.11	2.8
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	30.05	763.2	30.07	763.7	19.9	−6.7	86.9	1	2	6	10	6	2	.....	1	.....	.....	.....	8	0.24	6.2
Ashurada	N. 36 54	E. 53 55	3.44 p.m.	79	24	30.36	771.1	30.26	768.7	43.3	6.3	75.9	9	6	5	3	.....	.....	2	2	1	.....	.....	6	1.19	30.3
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.48	774.2	30.40	772.1	25.0	−3.9	63.2	4	2	1	.....	.....	9	8	3	1	.....	.....	4	0.07	1.7
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	30.38	771.6	30.33	770.4	38.5	3.6	76.7	10	.....	.....	1	6	1	.....	4	6	.....	.....	4	0.17	4.4
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.82	757.4	30.38	771.6	3.0	−16.1	81.0	1	.....	.....	22	.....	.....	.....	1	4	.....	.....	7	2.35	59.6
Bielosersk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.76	756.0	30.26	768.6	20.7	−6.3	78.5	1	2	5	2	5	3	.....	1	9	.....	.....	6	0.42	10.6
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.99	761.8	30.25	768.4	24.1	−1.4	88.5	.....	2	4	5	8	4	2	2	1	.....	.....	5	0.98	24.9
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	29.22	742.1	30.26	768.7	13.8	−10.1	76.8	4	4	14	6	.....	.....	.....	.....	.....	.....	.....	7	0.15	3.7
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.89	759.1	30.37	771.3	22.5	−5.3	81.2	8	1	2	1	1	4	2	7	2	.....	.....	7	0.30	7.7
Irkutsk	N. 52 16	E. 104 16	7.05 p.m.	1536	468	28.61	726.7	30.44	773.2	3.0	−16.1	79.1	1	1	.....	.....	.....	6	2	.....	18	.....	.....	5	0.26	6.7
Kasalinsk	N. 45 46	E. 62 07	4.16 p.m.	147	45	29.84	757.8	30.01	762.3	11.56	−11.46	69.7	6	3	1	4	.....	.....	5	2	7	.....	.....	4	.....	.....
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	30.08	764.0	30.36	771.2	16.0	−8.9	75.8	3	2	5	3	7	6	.....	1	1	.....	.....	8	0.19	4.8
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	30.01	762.2	30.06	763.5	20.5	−6.4	81.6	.....	2	9	12	4	.....	.....	.....	1	.....	.....	6	0.12	3.1
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	30.19	766.9	30.21	767.4	28.8	−1.8	86.8	.....	4	.....	.....	.....	.....	5	7	12	.....	.....	8	0.65	16.6
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.65	753.2	30.34	770.6	21.7	−5.7	83.2	6	2	.....	3	2	5	3	7	.....	.....	.....	7	0.79	20.1
Koslov	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.84	757.9	30.42	772.6	15.4	−9.2	88.9	3	2	1	6	9	2	1	2	2	.....	.....	8	0.43	10.9
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	30.19	766.9	30.22	767.5	31.3	−0.4	74.7	1	2	2	5	4	9	5	.....	.....	.....	.....	4	0.35	9.0
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	30.12	765.1	30.32	770.1	19.2	−7.1	73.3	2	3	.....	3	1	3	9	7	.....	.....	.....	8	0.25	6.3
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.82	757.5	30.35	770.8	19.2	−7.1	78.1	.....	4	5	2	7	1	1	.....	8	.....	.....	6	0.69	17.0
Nikolajev	N. 46 58	E. 31 58	2.16 p.m.	62	19	30.25	768.3	30.32	770.2	26.8	−2.9	79.8	4	.....	.....	3	3	..	4	8	6	.....	.....	6	0.28	7.1
Nikolaievsk *a*	N. 53 08	E. 140 45	9.31 p.m.	59	18	30.07	763.8	30.16	766.0	−7.1	−21.7	64.8	.....	.....	7	.....	.....	.....	.....	.....	20	.....	.....	3	0.30	7.6
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	30.23	767.9	30.38	771.7	29.3	−1.5	62.5	1	3	.....	6	.....	3	.....	.....	15	.....	.....	4	0.58	14.8
Petro-Alexandrovsk	N. 41 48	E. 61 05	4.12 p.m.	328	100	30.03	762.8	30.41	772.4	25.2	−3.8	58.1	2	2	4	4	.....	.....	2	9	5	.....	.....	5	inap.	inap.
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.96	761.0	30.17	766.3	20.5	−6.4	78.2	3	8	3	5	2	1	.....	.....	6	.....	.....	5	0.80	20.2
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.80	756.8	30.32	770.2	29.5	−1.4	71.8	1	4	3	2	3	7	6	2	.....	.....	.....	6	0.69	17.5
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	30.11	764.7	30.13	765.2	49.1	9.5	75.2	.....	1	5	5	4	1	7	.....	5	.....	.....	6	1.37	34.9
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	30.21	767.4	30.23	767.8	20.7	−6.7	81.1	1	5	3	2	7	7	.....	2	1	.....	.....	5	0.54	13.6
Samarkand	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.72	704.0	30.34	770.5	27.7	−2.4	63.1	2	.....	2	1	1	13	1	2	16	.....	.....	4	.....	.....
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.74	755.3	30.46	773.8	1.6	−16.9	80.3	.....	1	1	5	6	2	10	.....	3	.....	.....	6	0.08	2.0
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	423?	42?	29.96	761.0	30.20	767.0	36.1	2.3	76.4	9	6	.....	2	4	.....	.....	7	.....	.....	.....	8	0.75	19.0
Starol Bykhov	N. 53 31	E. 30 16	2.09 p.m.	423?	129?	29.89	759.1	30.38	771.6	23.4	−4.8	69.9	1	3	.....	.....	.....	3	13	2	3	3	.....	6	1.02	25.8
Tashkend	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.62	726.9	30.42	772.7	23.7	−4.6	60.0	4	1	.....	.....	.....	1	2	.....	4	10	.....	4	0.29	7.4
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409?	28.81	731.8	30.29	769.3	38.3	3.5	62.0	1	1	.....	.....	.....	5	14	4	.....	3	.....	6	0.68	17.4
Tomsk	N. 56 30	E. 84 58	5.48 p.m.	256?	78?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.63	701.9	30.37	771.4	12.6	−10.8	75.0	1	1	8	1	.....	.....	1	6	10	.....	.....	4	.....	.....
Vlatka	N. 58 36	E. 41 94	3.27 p.m.	581?	177	29.58	751.4	30.26	768.7	16.5	−8.6	.....	3	1	9	3	8	1	.....	1	2	.....	.....	9	0.18	4.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
RUSSIAN —Cont'd	° ′	° ′																								
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	30.26	768.6	30.33	770.3	7.3	-13.7	61.9?	12	2	.....	.....	.....	2	.....	3	9	.....	.....	3	0.01	0.3
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.83	757.7	30.28	769.0	32.2	0.1	72.1	6	2	5	3	7	2	1	2	.....	.....	.....	6	0.66	16.7
Wilna	N. 54 41	E. 25 18	1.49 p.m.	388	118	29.87	758.7	30.32	770.0	27.7	-2.4	72.8	1	3	2	2	7	9	2	1	1	.....	.....	5	0.27	6.8
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	30.02	762.4	30.34	770.6	-5.8	-21.0	80.7	.....	1	10	1	3	1	3	1	8	.....	.....	4	1.15	29.2
SCOTTISH.																										
Monach Light H.	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.68	753.9	44.6	7.0	91.7	.....	1	6	8	9	2	.....	1	1	.....	.....	9	5.90	149.9
Norht Unst	N. 60 51	W. 0 53	0.04 p.m.	230	70	.....	.....	29.77	756.1	.....	.....	.....	1	5	2	3	13	3	.....	1	.....	.....	.....	8	.....	.....
SPANISH.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	30.13	765.3	30.24	768.0	56.3	13.5	64	.....	3	4	12	2	3	3	1	.....	1734	2791	2	1.11	28.3
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.24	768.1	30.30	769.6	57.0	13.9	64	1	5	3	2	2	12	.....	2	1	2259	3035	4	3.27	83.1
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.27	692.7	30.32	770.2	45.3	7.4	64	6	.....	1	7	5	1	.....	8	.....	5830	9382	4	2.29	58.1
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	28.03	712.0	30.32	770.0	50.2	10.1	63.2	.....	1	1	7	5	1	6	6	1	6229	10024	5	0.94	23.8
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	30.13	765.2	30.28	769.1	53.8	12.1	65	.....	4	1	13	1	1	5	3	2	1326	2134	3	0.18	4.7
Oviedo	N. 43 23	W. 5 49	11.45 a.m.	800	244	29.35	745.6	30.22	767.7	47.8	8.8	71	11	.....	1	.....	7	2	6	1	.....	.....	.....	7	1.76	44.6
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.26	743.2	30.17	766.3	53.4	11.9	77.9	3	.....	4	3	7	.....	2	4	5	8378	13483	5	10.40	264.2
Sub-Series.																										
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.93	760.1	29.98	761.6	77.7	25.4	72.1	3	.....	.....	.....	.....	1	16	8	.....	2826	5235	2	0.52	13.2
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	30.20	767.0	30.30	769.5	59.9	15.2	63	2	3	3	.....	3	4	10	1	2	.....	.....	4	2.43	61.7
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	30.04	763.0	30.13	765.3	75.0	23.9	85	.....	.....	1	.....	.....	13	6	6	2	.....	.....	4	4.81	122.2
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.98	761.6	30.02	762.6	18.9	-7.3	97	3	1	.....	11	11	.....	.....	1	1	.....	.....	7	0.48	12.2
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	30.00	762.1	30.06	763.4	26.4	-3.1	89	3	3	1	16	1	.....	.....	1	3	.....	.....	7	0.36	9.2
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.99	761.7	30.03	762.8	28.4	-2.0	84	1	3	1	4	9	.....	.....	1	9	.....	.....	7	0.35	8.8
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.95	760.8	30.13	765.3	32.7	0.4	78	2	1	5	5	8	3	3	1	.....	.....	.....	8	0.34	8.6
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.96	761.0	30.14	765.5	34.3	1.3	84	1	3	3	5	6	6	3	1	.....	.....	.....	5	0.59	15.0
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	30.02	762.6	30.11	764.8	29.5	-1.4	88.4	1	5	3	3	7	2	4	3	.....	.....	.....	8	0.52	13.3
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.82	732.1	30.28	769.1	43.9	6.6	67.7	18	2	1	.....	4	1	1	1	.....	.....	.....	6	1.31	33.2
TURKISH.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.22	767.5	38.1	3.4	78	17	3	.....	2	.....	2	2	2	.....	.....	.....	9	1.87	47.5
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.19	766.8	53.6	12.0	.....	6	11	3	3	.....	1	.....	4	.....	.....	.....	4	2.17	55.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	30.01	762.2	59.7	15.4	66.5	1	2	6	13	2	1	.....	3	.....	.....	.....	7	9.25	234.9
Samakov	N. 42 12	E. 23 45	1.42 p.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	30.15	765.8	30.24	768.1	25.3	-3.7	72.6	1	7	7	4	8	.....	.....	1	.....	4995	8038	7	3.00	76.2
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.48	748.8	30.19	766.8	11.4	-11.4	76.4	.....	1	18	2	1	2	4	.....	.....	7322	11783	6	2.02	51.3
Apache, Fort	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	25.04	636.0	30.14	765.5	28.9	-1.7	75.6	1	.....	.....	5	2	2	4	12	2	5073	8164	5	2.46	62.5
Assinnaboine, Ft.	N. 48 32	W. 109 42	4.49 a.m.	2710	826	27.29	693.2	30.33	770.4	4.8	-15.1	59.8	1	.....	1	20	1	.....	.....	4	1	9049	14563	4	0.72	18.3
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	29.11	739.4	30.33	770.4	45.1	7.3	84.6	.....	10	2	1	2	3	4	5	1	6036	9714	5	3.22	81.8
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	30.26	768.6	30.27	768.8	32.4	0.2	74.8	8	5	3	3	4	.....	3	2	.....	6354	10226	6	5.18	131.6
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	30.14	765.5	30.34	770.6	51.3	10.7	82.1	.....	4	1	.....	3	.....	2	6	12	2066	3325	7	1.49	37.8
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.27	768.8	30.32	770.1	36.1	2.3	72.7	5	7	3	5	.....	1	3	2	2	4054	6524	6	4.69	119.1
Barnegat	N. 39 46	W. 74 06	7.12 a.m.	20	6	30.25	768.3	30.27	768.8	32.4	0.2	79.9	7	6	3	4	1	.....	3	4	.....	10472	16853	7	5.98	151.9
Behring Id	N. 55 12	E. 165 55	11.12 p.m.	20	6	30.08	764.0	30.10	764.5	27.8	-2.3	.....	2	1	4	4	5	9	3	.....	.....	10145	16326	7	2.98	75.7
Bennett, Fort	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.03	727.2	30.36	771.1	8.6	-13.0	82.6	1	3	1	2	.....	4	.....	2	15	3992	6424	4	0.40	10.2
Benton, Fort	N. 47 50	W. 110 40	4.45 a.m.	2700	823	27.34	694.4	30.34	770.6	9.7	-12.4	64.2	.....	.....	1	10	.....	.....	.....	3	14	4640	7467	3	0.45	11.4
Billings	N. 45 49	W. 108 30	4.54 a.m.	3115?	949?	26.89	683.0	.....	.....	7.7	-13.5	68.0	1	1	13	7	1	.....	1	3	1	6891	11090	4	0.49	12.4
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.33	719.6	30.31	769.9	2.6	-16.3	85.3	5	9	5	1	1	1	3	1	2	5723	9210	4	0.66	16.7
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	30.21	767.3	30.24	768.1	30.5	-0.8	73.4	8	7	4	2	.....	3	1	3	.....	10965	17646	5	4.09	103.9
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.37	695.2	30.33	770.4	13.2	-10.4	89.1	7	7	3	.....	.....	2	1	2	6	2036	3277	3	1.20	30.5
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	30.05	763.3	30.21	767.3	26.3	-3.2	67.3	2	8	8	5	1	3	1	.....	.....	6754	10869	6	2.74	69.6
Brownsville	N. 25 53	W. 97 26	5.38 a.m	43	13	30.10	764.5	30.14	765.5	54.7	12.6	89.1	13	.....	.....	.....	12	1	.....	1	1	8071	12902	7	1.01	25.7
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	696	212	29.41	747.0	30.21	767.3	21.0	-6.1	85.9	.....	2	2	15	1	1	1	6	.....	10125	16294	7	4.04	102.6
Buford, Fort *a*	N. 48 00	W. 103 56	5.12 a.m.	1900	579	28.17	715.5	30.35	770.9	-2.1	-18.9	82.9	1	3	10	.....	1	1	1	1	9	4185	6735	2	0.36	9.1
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.86	758.4	30.17	766.3	18.8	-7.3	79.2	4	1	2	1	14	.....	2	1	3	6622	10657	7	1.07	27.2
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.92	760.0	30.34	770.6	35.1	1.7	78.5	6	1	.....	5	4	.....	4	7	1	6788	10924	6	8.52	216.4
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.30	769.6	30.32	770.1	42.9	6.1	82.2	4	6	3	5	2	1	.....	6	1	8975	14444	6	3.72	94.5
Cape May *a*	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.26	768.6	30.29	769.4	37.1	2.8	73.2	4	4	1	3	5	2	3	4	1	10681	17189	4	5.67	144.0
Cape Mendocino *f*	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.40	746.7	30.10	764.5	41.0	5.0	78.9	1	7	.....	.....	.....	6	.....	4	4	12129	19519	3	2486	72.6
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.24	768.1	30.26	768.6	63.4	17.4	81.9	4	.....	.....	1	1	8	6	8	.....	5258	8462	4	0.04	1.0
Champaign	N. 40 08	W. 88 14	6.15 a.m.	767	234	29.43	747.5	30.30	769.6	21.2	-6.0	69.6	2	10	.....	4	3	3	3	3	.....	7397	11904	6	5.07	128.8
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	30.24	768.1	30.30	769.6	52.9	11.6	87.0	1	4	3	7	.....	.....	2	9	2	5342	8595	4	0.92	23.4
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.44	747.8	30.33	770.4	44.1	6.7	81.4	2	5	2	7	1	1	4	6	.....	3874	6234	5	5.47	138.9
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.47	748.5	30.33	770.4	45.7	7.6	76.5	5	4	2	3	6	1	2	5	.....	5179	8335	8	3.34	84.8
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6089	1856	23.98	609.1	30.25	768.3	12.0	-11.1	56.5*b*	5	8	10	1	.....	2	.....	.....	2	4940	7950	2	0.25	6.3
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.53	750.0	30.28	769.1	18.4	-7.6	73.2	.....	1	12	9	.....	.....	3	2	1	5854	9422	4	4.74	120.4
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	18	5	30.27	768.8	30.29	769.4	37.6	3.1	76.4	5	3	1	1	5	.....	4	9	.....	7803	12558	5	2.53	64.3
Cincinnati	N. 39 06	W. 84 30	5.30 a.m.	620	189	29.63	752.6	30.32	770.1	34.3	1.3	83.6	5	3	9	3	3	2	.....	3	.....	4464	7184	8	8.22	208.8
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.48	748.8	30.27	768.8	24.4	-4.2	83.8	..	3	11	4	4	4	1	1	.....	7027	11309	8	6.77	172.0
Coleman City *c*	N. 31 53	W. 99 18	5.31 a.m.	1709	521	28.34	719.8	30.22	767.6	36.2	2.3	85.0	9	3	1	2	4	2	1	3	.....	6851	11025	8	1.75	44.4
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.38	746.2	30.28	769.1	30.4	-0.9	79.2	1	5	7	3	5	2	3	2	.....	6418	10329	7	6.18	157.0
Concho, Fort	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.25	717.5	30.27	768.8	37.2	2.9	78.2	8	1	.....	1	3	1	.....	4	10	5797	9329	6	1.20	30.5
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.59	751.6	30.29	769.4	18.7	-7.4	66.4	.....	8	4	5	.....	1	4	5	1	5806	9344	5	4.42	112.3
Davis, Fort	N. 30 38	W. 103 56	5.12 a.m.	4940	1506	25.24	641.1	30.20	767.1	35.8	2.1	68.5	5	1	1	2	.....	1	.....	3	15	4323	6957	5	0.02	0.5
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1660	506	28.47	723.1	30.29	769.4	10.3	-12.1	78.5	7	2	1	9	1	.....	3	2	3	2717	4372	3	1.17	29.7
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.38	644.6	30.30	769.6	13.8	-10.1	82.8	.....	1	2	6	3	.....	1	1	14	1649	2654	3	1.32	33.5
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.27	768.8	30.29	769.4	35.6	2.0	83.3	7	5	.....	6	2	2	3	3	.....	11571	18621	6	4.07	103.4
Denison	N. 33 48	W. 96 32	5.42 a.m.	767	234	29.45	748.0	30.29	769.4	30.2	2.3	86.0	11	1	1	3	2	3	3	2	2	4825	7766	7	2.78	70.6
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.75	628.6	30.27	768.8	15.2?	-9.3?	72.3	2	1	.....	2	14	2	.....	1	6	2499	4022	1	0.45	11.4
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.37	746.0	30.34	770.6	14.0	-10.0	67.1*a*	6	6	4	2	3	2	1	2	2	4379	7047	5	2.51	63.8
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.50	749.3	30.25	768.3	22.9	-5.1	86.2	2	1	9	9	2	.....	2	.....	3	6641	10688	6	3.22*	81.8
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2512	766	27.59	700.8	30.33	770.4	18.0	-7.8	78.9	3	9	4	2	.....	3	4	1	2	7210	11603	3	1.42	36.1
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.53	750.0	30.29	769.4	12.7	-10.7	63.2	1	3	5	4	2	.....	1	1	11	2492	4010	5	2.60	66.0
Duluth	N. 46 48	W. 92 06	6.00 a.m.	644	184	29.44	747.8	30.25	768.3	4.7	-15.2	80.0	1	2	6	7	5	.....	2	1	4	5621	9046	5	0.78	19.8
Eagle Pass	N. 28 44	W. 100 29	5.26 a.m.	780	238	29.40	746.7	30.24	768.1	48.3	9.1	79.7	5	4	.....	.....	3	13	.....	2	1	4661	7501	8	0.32	8.1
Eagle Rock	N. 43 32	W. 111 55	4.40 a.m.	4650	1415	25.38	644.6	30.28	769.1	-6.5	-21.4	84.0	21	.....	.....	4	.....	.....	.....	.....	3	4536	7300	2	2.38	60.5
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	30.09	764.3	30.16	766.1	17.3	-8.2	76.7	3	5	6	5	4	1	2	2	.....	8360	13454	6	3.63	92.2
Elliott, Fort	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.39	695.7	30.29	769.4	22.4	-5.3	53.9	3	4	2	2	6	2	1	5	3	6018*e*	10650*e*	4	0.53	13.5
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3760	1146	26.31	668.3	30.19	766.8	40.3	4.6	62.4	1	13	5	1	.....	.....	3	.....	5	4969	7997	5	0.40	10.2
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.48	748.8	30.25	768.3	24.5	-4.2	82.6	.....	3	8	7	3	.....	2	1	4	7506	12080	7	5.94	150.9
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	612	186	29.49	749.0	30.21	767.3	5.8	-14.6	78.0*a*	1	4	9	5	3	.....	1	2	3	5529	8898	6	1.27	32.3
Fredericksburg *b*	N. 30 17	W. 98 52	5.32 a.m.	1700	518	28.42	721.9	30.22	767.6	46.1	7.8	86.1	6	1	4	.....	9	.....	3	3	.....	5256	8459	8	0.87	22.1
Galveston	N. 29 18	W. 94 47	5.49 a.m.	48	15	30.16	766.1	30.20	767.1	52.3	11.3	88.9	6	1	1	.....	2	8	3	7	.....	10999	17701	6	1.15	29.2
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.52	749.8	30.23	767.8	20.6	-6.3	82.2	1	2	9	5	3	.....	1	5	2	8910	14339	8	4.30	109.2
Grant, Fort	N. 32 39	W. 109 57	4.48 a.m.	4860	1481	25.24	641.1	30.10	764.5	35.4	1.9	61.9	4	4	1	.....	1	2	8	6	2	6395	10292	5	1.40	35.6
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	19	6	30.28	769.1	30.30	769.6	46.5	8.1	86.0	1	3	3	5	2	2	1	11	.....	12159	19568	6	3.08	78.2
Helena	N. 46 34	W. 112 04	4.40 a.m.	4100	1250	25.89	657.6	30.29	769.4	9.1	-12.7	90.5	.....	1	1	6	.....	.....	.....	.....	20	2017	3236	4	0.73	18.5
Henrietta	N. 33 46	W. 98 12	5.35 a.m.	980	300	29.24	742.7	30.30	769.6	33.5	0.8	83.0	10	3	.....	.....	2	6	2	2	3	5733	9230	7	2.23	56.6
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.82	732.0	30.34	770.6	6.6	-14.1	61.7	1	10	2	4	3	8	.....	.....	.....	6543	10530	5	0.47	11.9
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.45	748.0	30.30	769.6	26.7	-2.9	77.3	5	6	3	2	3	3	3	2	1	3791*b*	6101*b*	6	7.19	182.6
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	30.15	765.8	30.18	766.6	50.6	10.3	88.2	12	1	1	.....	5	5	1	3	.....	10542	16965	7	0.81	20.6
Jacksboro	N. 33 12	W. 98 10	5.35 a.m.	1120	341	29.05	737.9	30.29	769.4	34.9	1.6	66.6	8	3	1	2	3	5	2	1	3	4915	7910	6	2.04	51.8
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.24	768.1	30.29	769.4	58.9	14.9	87.6	5	1	.....	1	3	.....	.....	4	14	1493	2406	4	0.48	12.2
Keogh, Fort	N. 46 22	W. 105 56	5.04 a.m.	2372	723	27.64	702.0	30.32	770.1	2.4	-16.4	74.4	2	3	2	8	.....	.....	.....	3	10	3595	5785	3	0.11	2.8

RESULT OF SIMULTANEOUS OBSERVATIONS FOR FEBRUARY, 1883.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea: Feet.	Metr's	Mean Barometer, Actual: Inch.	Actual: Mill.	Reduced: Inch.	Reduced: Mill.	Mean Temperature: Fah.	Cent.	Mean Rel. Humidity.	Wind, Directions: N	NW	W	SW	S	SE	E	NE	C	Total Movement: Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation: Inch.	Mill.
U. S.—Continued.	° ′	° ′																								
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.60	751.8	30.30	769.6	20.2	—6.6	74.8	3	6	6	4	1	2	4	2	......	5761	9271	5	6.13	155.7
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.14	765.5	30.16	766.1	72.8	22.7	85.4	1	......	......	......	......	4	16	7	......	8263	13298	5	0.80	20.3
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.30	769.6	30.32	770.1	44.8	7.2	77.6	3	2	2	6	2	......	2	11	......	11352	18269	6	2.87	72.9
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.24	742.7	30.32	770.1	40.9	4.9	85.4	7	2	1	6	......	......	1	8	3	4649	7482	7	3.46	87.9
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.44	747.8	30.28	769.1	10.7	-11.8	72.8	5	4	5	3	7	4	......	......	......	5229	8415	4	1.25	31.7
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.40	746.7	30.35	770.9	22.0	—5.6	78.4	3	8	1	......	2	2	2	1	9	3963	6378	5	2.92	74.2
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.51	749.5	30.38	771.6	17.6	—8.0	74.1	......	......	1	2	......	3	9	5	8	2325	3742	3	0.82	20.8
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.97	761.2	30.30	769.6	41.2	5.1	80.2	6	3	......	1	4	......	3	3	8	3982	6408	7	6.47	164.3
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	371	113	29.71	754.6	30.11	764.8	45.0	7.2	69.1	2	2	......	......	1	3	3	15	2	4519	7272	4	3.47	88.1
Louisville	N. 38 15	W 85 45	6.25 a.m.	530	162	29.70	754.4	30.29	769.4	35.7	2.1	70.3	3	4	6	1	7	......	3	4	......	6774	10902	8	8.72	221.5
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.58	751.3	30.30	769.6	39.7	4.3	67.0	1	4	6	4	3	1	4	4	1	3131	5039	6	2.94	74.7
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.48	748.8	30.18	766.6	10.6	-11.9	72.0	......	4	11	4	1	1	5	1	1	8092	13023	6	2.99	75.9
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.29	769.4	30.30	769.6	47.0	8.3	87.7	5	4	1	9	......	2	......	7	......	8810	14178	6	3.14	79.8
Madison	N. 43 05	W. 89 24	6.10 a.m.	949	289	29.18	741.2	30.27	768.8	11.4	-11.4	72.6	3	2	10	4	1	3	2	1	2	6112	9836	4	1.64	41.7
Maginnis Fort.	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.58	649.7	30.33	770.4	14.4	—9.8	46.9	4	8	12	2	......	2	....	......	......	8507	13690	4	0.59	15.0
McKavett, Fort. *h*	N. 30 48	W. 100 07	5.28 a.m.	2240	683	27.92	709.2	30.30	769.6	39.4	4.1	83.8	6	......	1	2	3	2	1	3	2	4160	6695	8	1.61	40.9
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.38	746.2	30.16	766.1	10.0	-12.2	64.6	4	6	8	3	3	2	2	......	......	6766	10889	4	1.43	36.3
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.96	761.0	30.31	769.9	38.5	3.6	88.3	7	2	3	1	2	3	2	6	2	4663	7504	7	8.09	205.5
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.46	748.3	30.26	768.6	15.6	—9.1	78.9	2	11	7	4	......	1	2	1	......	9363	15068	5	2.64	67.1
Missoula, Fort	N. 46 50	W. 114 07	4.32 a.m.	3140	957	26.89	683.0	30.32	770.1	6.8	-14.0	76.0	3	3	3	1	2	......	2	6	8	2065	3323	4	0.69	17.5
Mobile	N. 30 41	W. 88 02	6.16 a.m.	41	12	30.21	767.3	30.25	768.3	54.9	12.7	84.4	13	......	......	2	5	3	2	3	......	4271	6874	6	3.63	92.2
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	30.03	762.7	30.27	768.8	52.6	11.4	83.6	3	3	1	2	1	6	2	7	3	4137	6656	7	2.00	50.8
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	29.20	741.7	30.30	769.6	—4.7	-20.4	96.2	5	4	5	......	5	3	......	......	6	7514	12092	5	0.74	18.8
Morgantown	N. 39 40	W. 79 50	6.49 a.m.	963	293	29.25	742.9	30.32	770.1	35.3	1.8	71.5	5	1	2	13	......	......	1	5	1	6508	10473	6	7.07	179.6
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.43	595.1	30.05	763.3	1.9	-16.7	92.6	......	20	3	4	1	......	......	......	......	32402	52143	4	5.65	143.5
Nashville	N. 36 10	W. 86 47	6.21 a.m.	507	154	29.70	754.4	30.31	769.9	40.4	4.7	79.2	4	7	2	......	4	3	5	3	......	5597	9007	7	7.89	200.4
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	30.12	765.0	30.24	768.1	24.4	—4.2	75.9	2	8	5	2	1	1	1	5	3	4967	7993	5	5.00	127.0
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	30.22	767.6	30.26	768.6	28.0	—2.2	77.9	4	7	5	3	1	1	2	2	3	4841	7791	5	6.02	152.9
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	30.16	766.1	30.22	767.6	59.2	15.1	78.7	6	1	......	......	6	11	1	3	......	5736	9231	7	1.59	40.4
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	30.18	766.6	30.23	767.8	28.8	—1.8	76.0	4	7	6	6	......	2	2	1	......	7713	12413	6	5.72	145.3
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	30.09	764.3	30.28	769.1	29.1	—1.6	83.1	......	1	10	4	3	......	3	4	3	5577	8975	6	4.58	116.3
Norfolk *a*	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.29	769.4	30.32	770.1	42.7	5.9	76.4	5	2	2	5	......	....	3	7	3	5483	8824	5	3.84	97.5
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.24	691.9	30.34	770.6	10.3	-12.1	75.8	......	6	11	1	3	1	......	3	3	5824	9373	3	1.38	35.1
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	30.16	766.1	30.20	767.1	29.8	—1.2	81.5	1	......	......	1	4	......	1	1	20	1432	2304	6	3.18	80.8
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	29.10	739.1	30.37	771.4	16.5	—8.6	72.4	9	3	4	......	5	4	......	1	2	5134	8262	4	1.09	27.7
Ooglaamie	N. 71 17	W. 156 40	1.41 a.m.	17	5	30.22	767.6	30.24	768.1	—9.2	-22.9	99.5	1	3	8	5	4	2	4	......	1	9279	14933	4	0.84	21.3
Oswego	N. 43 29	W. 76 35	7.02 a.m.	304	93	29.84	757.9	30.19	766.8	24.2	—4.3	70.7	1	0	4	3	8	4	1	1	......	9026	14526	8	2.76	70.1
Palestine	N. 31 45	W. 95 40	5.45 a.m.	523	162	29.70	754.4	30.28	769.1	44.0	6.7	79.4	7	1	1	2	3	3	3	8	......	6901	11106	7	4.01	101.8
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.23	767.8	30.26	768.6	56.5	13.6	85.9	9	1	......	......	1	7	2	6	2	4780	7692	5	2.12	53.8
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	92	28	30.19	766.8	30.30	769.6	34.0	1.1	70.6	3	7	2	5	1	2	2	3	3	4986	8024	7	5.04	128.0
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.58	446.5	30.30	769.6	2.1	-16.6	84.4	1	3	8	12	......	......	......	4	......	......	......	3	0.49	12.4
Pioche	N. 37 56	W. 114 26	4.30 a.m.	6110	1862	24.00	609.6	30.16	766.1	21.5	—5.8	70.2	3	14	......	1	5	1	......	......	4	4835	7778	2	0.28	7.1
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	762	232	29.42	747.3	30.28	769.1	31.9	—0.1	79.8	2	3	8	5	3	......	2	2	3	4600	7403	7	4.92	125.0
Poplar River *a*	N. 48 08	W. 105 10	5.07 a.m.	2030	619	27.97	710.4	30.32	770.1	......	......	......	......	19	3	3	......	1	......	1	......	......	......	2	0.43	10.9
Port Eads	N. 29 09	W. 89 15	6.11 a.m.	7	2	30.21	767.3	30.22	767.6	58.8	14.9	91.1	1	......	......	......	2	8	4	13	......	8029	12921	6	0.95	24.1
Port Huron	N. 43 00	W. 82 26	6.38 a.m.	633	193	29.51	749.5	30.24	768.1	16.6	—8.6	86.7	1	2	8	5	6	1	......	3	2	6129*d*	9864*d*	6	4.00	101.6
Portland, Maine	N. 43 39	W. 70 15	7.27 a.m.	45	14	30.14	765.5	30.19	766.8	21.3	—5.9	68.1	6	10	6	3	1	......	......	2	......	6132	9868	5	2.81	71.4
Portland, Oreg. *a*	N. 45 32	W. 122 43	3.57 a.m.	67	20	30.18	766.6	30.25	768.3	28.9	—1.7	73.7	4	3	......	......	2	1	6	3	8	3124	5028	4	2.34	59.4
Portsmouth *b*	N. 35 02	W. 76 04	7.04 a.m.	40	12	......	......	......	......	47.4	8.6	88.3	4	2	1	5	2	1	......	11	......	10771*d*	17334*d*	7	3.16	80.3
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5340	1628	24.73	628.1	30.09	764.3	27.6	—2.4	76.0	3	2	......	9	9	......	2	......	3	5042	8114	3	0.63	16.0
Provincetown	N. 42 03	W. 70 11	7.27 a.m.	26	8	30.17	766.3	30.20	767.1	28.2	—2.1	74.8	3	4	7	6	2	3	1	2	....	7845	12625	6	5.00	127.0
Punta Rassa	N. 26 29	W. 82 01	6.40 a.m.	13	4	30.20	767.1	30.21	767.3	65.7	18.7	86.8	2	......	......	......	......	1	16	9	......	6715	10806	4	0.01	0.3
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	350	106	29.78	756.4	30.15	765.8	37.3	2.9	74.7	13	12	......	......	2	......	......	......	1	4311	6938	2	0.39	9.9
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.50	749.3	30.21	767.3	21.0	—6.1	86.3	......	7	9	5	2	5	......	......	......	11190	16399	8	2.28	57.9
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.62	752.3	30.19	766.8	31.4	—0.3	83.5	4	6	1	......	3	1	4	4	5	1730	2784	5	1.17	29.7
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	65	20	30.05	763.3	30.13	765.3	39.7	4.3	82.8	7	5	......	1	5	6	2	1	1	3817	6141	2	1.11	28.2
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	568	173	29.69	754.1	30.33	770.4	26.9	—2.8	89.6	5	8	2	2	5	2	3	1	......	6937	11163	6	5.88	149.4
Saint Michael, Ft	N. 63 48	W. 162 00	1.20 a.m.	30	9	30.34	770.6	30.37	771.4	9.4	-12.6	99.0	5	2	2	......	7	6	1	3	2	8165	13140	6	0.34	8.6
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	811	247	29.33	745.0	30.26	768.6	5.9	-14.5	83.1	3	4	3	9	......	3	2	......	4	4620	7435	4	0.44	11.2
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.28	743.7	30.25	768.3	—7.8	-22.1	85.1	2	11	1	1	3	5	......	......	5	5152	8292	3	0.24	6.1
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.71	653.0	30.27	768.8	19.9	—6.7	60.5	1	4	1	......	......	1	1	2	18	2590	4168	3	0.72	18.3
San Antonio	N. 29 25	W. 98 25	5.34 a.m.	673	205	29.48	748.8	30.20	767.1	48.5	9.2	81.3	10	......	2	......	......	9	3	2	2	5242	8435	8	0.33	8.4
San Diego *a*	N. 32 43	W. 117 10	4.19 a.m.	67	20	30.01	762.2	30.08	764.0	48.0	8.9	69.0	4	4	4	2	......	2	4	7	......	4699	4344	4	0.95	24.1
Sandusky	N 41 25	W. 82 40	6.37 a.m.	639	195	29.54	750.3	30.26	768.6	25.8	—3.4	80.0	......	9	9	4	......	3	2	1	......	9685	15586	7	4.12	104.6
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	30.24	768.1	30.27	768.8	30.7	—0.7	79.3	2	10	5	5	......	1	4	1	......	10231	16465	6	4.22	107.2
San Francisco *a*	N. 37 48	W. 122 26	3.58 a.m.	60	18	30.06	763.5	30.14	765.5	44.4	6.9	77.3	10	3	3	2	2	5	......	1	1	5133	8261	4	1.04	26.4
Santa Fé	N. 35 41	W. 105 57	5.04 a.m.	7106	2166	23.19	589.0	30.27	768.8	29.8	—1.2	60.9	5	2	2	1	5	3	1	9	......	6037	9714	4	0.96	24.4
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	30.22	767.6	30.30	769.6	55.1	12.8	76.9	5	5	2	4	4	......	4	3	1	4703	7570	4	2.34	59.4
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.44	671.6	30.28	769.1	12.0	-11.1	69.0	1	3	8	11	......	......	......	2	3	7405	11917	4	0.31	7.9
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	30.01	762.2	30.26	768.6	43.8	6.6	84.1	7	2	......	1	4	1	3	6	4	4409*a*	7095*a*	7	7.24	183.9
Sill, Fort	N. 34 40	W. 98 23	5.34 a.m.	1200	366	29.00	736.6	30.31	769.9	29.9	—1.2	74.9	14	5	......	2	4	2	1	......	......	7660	12327	6	2.27	57.7
Silver City	N. 32 46	W. 108 14	4.55 a.m.	5890	1795	24.28	616.7	30.13	765.3	31.6	—0.2	76.3	4	9	2	......	1	3	......	......	9	2958	4760	5	0.63	16.0
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	30.01	762.2	30.08	764.0	33.1	0.6	71.4	......	......	......	......	......	3	13	12	......	4946	7959	6	6.92	201.2
Smith, Fort. *a*	N. 35 22	W. 94 24	5.50 a.m.	449	137	29.80	756.9	30.30	769.6	33.8	1.0	82.9	3	3	2	1	1	......	12	1	5	4415	7105	6	5.62	142.7
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.27	768.8	30.31	769.9	49.6	9.8	85.7	6	.....	9	3	......	1	1	7	1	6765	10887	3	2.33	59.2
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	28.21	716.5	30.34	770.6	14.0	-10.0	80.2	......	1	......	5	......	1	6	3	12	1990	3202	3	2.95	74.9
Springfield, Ill.	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.59	751.6	30.32	770.1	26.0	—3.3	79.0	1	10	2	4	3	2	5	1	......	5953	9570	4	7.53	191.3
Springfield, Mo.	N. 37 12	W. 93 18	5.55 a.m.	1351	412	28.79	731.3	30.30	769.6	29.0	—1.7	79.5	5	4	1	3	6	5	2	1	1	6441	10366	5	5.65	143.5
Starkville	N. 33 35	W. 88 49	6.13 a.m.	455	123	29.80	756.9	30.30	769.6	44.8	7.1	84.2	12	1	1	2	3	2	4	1	2	6865	11048	8	8.41	213.6
Stevenson, Fort *t*	N. 47 35	W. 101 28	5.22 a.m.	1750	534	28.25	717.5	30.27	768.8	-8.5	-22.5	79.0	......	13	1	......	......	1	1	3	1	3927	6321	3	0.10	2.5
Stockton, Fort	N. 30 53	W. 102 53	5.16 a.m.	3010	917	27.10	688.3	30.23	767.8	36.8	2.7	74.6	7	2	3	9	1	3	2	1	......	6167	9924	5	0.54	13.7
Thatcher's Island	N. 42 38	W. 70 34	7.26 a.m.	48	15	30.17	766.3	30.23	767.8	26.0	—3.3	82.7	3	13	5	2	2	1	1	1	......	11609	17073	5	3.41	86.6
Thomas, Camp	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.33	694.2	30.16	766.1	38.5	3.6	81.1	......	3	......	......	1	2	6	1	15	......	......	4	1.54	39.1
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.52	749.8	30.26	768.6	24.7	—4.1	74.9	3	1	9	8	2	......	3	2	......	6346	10212	7	4.28	108.7
Tucson	N. 32 14	W. 110 53	4.45 a.m.	2369	722	27.59	700.8	30.07	763.8	43.3	6.3	66.6	1	......	1	......	13	7	4	......	2	4288	6900	3	0.51	13.0
Umatilla	N 45 55	W. 119 20	4.11 a.m.	340	103	30.03	762.7	30.41	772.4	10.0	-12.2	88.9	......	1	3	2	......	14	......	2	6	2628	4229	3	0.57	14.5
Verde, Fort	N. 34 33	W. 111 52	4.40 a.m.	?	?	......	......	......	......	36.0	2.2	63.2	6	6	6	5	2	......	......	3	......	......	......	4	1.35	34.3
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	30.08	764.0	30.28	769.1	48.1	8.9	79.0	6	4	......	......	4	4	3	4	3	4346	6992	6	6.70	170.2
Visalia	N. 36 20	W. 119 17	4.11 a.m.	348	106	29.75	755.6	30.13	765.3	38.4	3.6	80.6	......	4	......	1	5	11	4	1	2	2249	3619	3	0.54	13.7
Washakie, Fort	N 42 59	W. 108 43	4.53 a.m.	5580	1702	24.48	621.8	30.24	768.1	-9.9	-23.3	82.4*h*	1	2	13	2	......	2	2	1	5	2309	3716	2	0.65	16.5
Washington, D.C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	30.20	767.1	30.32	770.1	34.1	1.2	79.2	1	7	2	4	2	......	1	4	7	3250	5230	6	5.08	129.0
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.13	663.7	30.25	768.3	10.9	-11.7	79.5	5	7	10	2	......	......	1	3	......	5990	9040	2	0.52	13.2
Williamsport	N. 41 15	W. 77 03	7.00 a.m.	561	171	29.63	752.6	30.26	768.6	27.2	—2.7	75.0	2	8	4	2	......	3	3	1	5	4170	6711	7	3.00	76.2
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	30.26	768.6	30.32	770.1	50.6	10.3	81.5	3	1	6	3	2	1	3	8	1	5144	8279	6	2.09	53.1
Winnemucca	N. 40 59	W. 117 43	4.17 a.m.	4327	1319	25.67	652.0	30.19	766.8	16.6	—8.6	75.7	......	......	1	6	......	......	2	16	3	5559	8946	2	0.17	4.3
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.93	734.8	30.35	770.9	10.5	11.9	70.0	4	3	7	1	3	1	......	2	7	3719*i*	5985*i*	3*i*	1.06	26.9
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.89	759.2	30.04	763.0	48.1	8.9	63.6	4	4	2	1	......	2	1	11	3	4167	6705	3	0.68	17.3

Sub-Series.

STATIONS.	Latitude.	Longitude.	Local Time.	Feet.	Metr's	Actual: Inch.	Actual: Mill.	Reduced: Inch.	Reduced: Mill.	Fah.	Cent.	Mean Rel. Humidity.	N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	Average Cloudiness. 0–10	Inch.	Mill.
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.04	559.8	......	......	53.4	11.9	73	5	1	1	5	1	1	3	3	8	2089	3362	7	2.03	51.6
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	30.05	763.3	30.12	765.0	69.7	20.9	86.7	1	......	......	......	1	7	18	1	......	6470	10412	2	1.33	33.8
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	30.07	763.8	30.08	764.0	70.6	21.4	81.8	15	......	......	......	......	......	......	......	13	3125	5029	2	0.31	7.9
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.02	762.5	30.02	762.5	76.7	24.8	91	1	......	......	......	......	3	19	5	......	......	......	6	9.19	233.4
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.34	745.2	29.89	759.2	80	26.7	83	1	1	......	......	1	......	......	......	25	......	......	8	0.72	18.3
Rivas *h*	N. 11 26	W. 85 47	6.25 a.m.	150	46	......	......	......	......	75.8	24.3	91.0*t*	......	......	......	......	......	......	......	20	......	......	......	2	......	......
St. Paul, Alaska *b*	N. 57 47	W. 152 21	1.59 a.m.	54	16	30.11	764.8	30.17	766.3	28.9	—1.7	77.7	6	2	......	2	1	2	......	5	8	......	......	7	3.08	78.2
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	131	40	30.03	762.7	30.16	766.1	74.8	23.8	74.6	......	......	......	......	......	......	24	4	......	4487	7220	5	2.94	74.7
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	30.10	764.5	30.17	766.3	-23.3	-30.7	......	......	13	11	2	1	......	1	......	......	9940	15997	4	0.13	3.3

OCEAN SQUARE DATA FOR FEBRUARY, 1883.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W. 22.5°	30.03	762.7	75.5	24.2						1	4	19		4	2.9
12.5 27.5	30.07	763.8	75.3	24.1					1		3	20		4	2.7
12.5 32.5	30.06	763.5	75.6	24.2							8	15		5	2.5
12.5 37.5	30.07	763.8	75.8	24.3							11	13		4	2.7
12.5 42.5	30.07	763.8	75.7	24.3						1	11	10		6	2.9
12.5 47.5	30.10	764.5	76.2	24.6							10	9		9	3.0
12.5 52.5	30.08	764.0	77.0	25.0							10	8		10	2.9
17.5 22.5	30.09	764.3	73.1	22.8						1	4	21		2	2.9
17.5 27.5	30.12	765.0	73.2	22.9				1			4	20		3	3.0
17.5 32.5	30.13	765.3	73.6	23.1		1					9	15		3	2.8
17.5 37.5	30.15	765.8	73.7	23.2						1	11	13		3	2.8
17.5 42.5	30.16	766.1	73.7	23.2						3	11	10		4	2.9
17.5 47.5	30.19	766.8	73.8	23.2						3	14	7		4	2.9
17.5 52.5	30.15	765.8	74.3	23.5	1						11	11		5	2.9
17.5 57.5	30.12	765.0	74.8	23.8	1						10	17			2.6
22.5 22.5	30.16	766.1	70.4	21.3	2				1	1	8	15		1	2.8
22.5 27.5	30.19	766.8	70.8	21.6	1			1	1	1	8	14		2	2.6
22.5 32.5	30.18	766.6	71.8	22.1	1				1	1	12	10		3	2.8
22.5 37.5	30.23	767.8	72.1	22.3	1				1	4	8	11		3	2.7
22.5 42.5	30.24	768.1	72.1	22.3	1				1	6	6	12		2	2.8
22.5 47.5	30.23	767.8	72.1	22.3	2				2	3	8	11		2	2.8
22.5 52.5	30.21	767.3	72.7	22.6	1					6	11	8		2	2.5
22.5 57.5	30.20	767.1	72.8	22.7	1					3	9	15			2.5
22.5 62.5	30.20	767.1	73.0	22.8						4	12	12			2.8
22.5 67.5	30.19	766.8	73.3	22.9						2	16	10			2.9
22.5 72.5	30.18	766.6	73.2	22.9						5	17	6			2.6
27.5 22.5	30.22	767.6	65.0	18.3	2	1	1	1	1	3	8	11			2.9
27.5 27.5	30.23	767.8	67.9	19.9	1	2	2		4	2	6	11			2.7
27.5 32.5	30.25	768.3	68.7	20.4	2	2			2	2	7	11		2	2.9
27.5 37.5	30.27	768.8	68.8	20.4	3	2			2	2	6	11		2	2.6
27.5 42.5	30.29	769.4	68.7	20.4	6	2		2		5	4	7		2	2.8
27.5 47.5	30.29	769.4	68.6	20.3	3	2		2	1	5	5	8		2	2.7
27.5 52.5	30.26	768.6	70.0	21.1	3	1			3	6	6	8		1	2.5
27.5 57.5	30.25	768.3	69.4	20.8	2	1			1	6	8	10			2.4
27.5 62.5	30.25	768.3	70.5	21.4	4			1	1	7	9	6			2.6
27.5 67.5	30.25	768.3	71.1	21.7				1	3	7	8	9			2.7
27.5 72.5	30.24	768.1	70.8	21.6	1			1	2	7	11	6			2.6
27.5 77.5	30.24	768.1	70.3	21.3	2	1			1	10	9	5			2.5
32.5 12.5	30.26	768.6	63.1	17.3	2	2		7	1	5	5	6			2.1
32.5 17.5	30.28	769.1	63.6	17.6	2	2		7	2	6	5	4			1.8
32.5 22.5	30.27	768.8	63.9	17.7	4	2	2	6	4	2	5	3			3.1
32.5 27.5	30.25	768.3	64.2	17.9	3	3	3	4	4	3	3	5			2.9
32.5 32.5	30.24	768.1	64.2	17.9	1	4	6	4	1	7		4		1	3.1
32.5 37.5	30.25	768.3	64.1	17.8	2	6	4	3	3	3	3	3		1	3.1
32.5 42.5	30.26	768.6	63.6	17.6	4	7	3	2	5	3		3		1	3.1
32.5 47.5	30.28	769.1	62.7	17.1	5	4	3	3	7			5			3.0
32.5 52.5	30.27	768.8	63.0	17.2	4	3	3	5	6		2	5			2.8
32.5 57.5	30.26	768.6	63.6	17.6	7	5	1	5	4	2	2	2			3.2
32.5 62.5	30.26	768.6	63.9	17.7	5	5		4	4	4	2	4			2.5
32.5 67.5	30.27	768.8	65.1	18.1	7	4	1	3	3	6	1	3			2.6
32.5 72.5	30.28	769.1	63.0	17.2	4	1	1	2	7	2	1	10			3.3
32.5 77.5	30.30	769.6	57.7	14.3	3	1	2	4	4	1		13			2.4
37.5 12.5	30.26	768.6	58.2	14.6	3	3	2	9	1	4	3	3			2.0
37.5 17.5	30.23	767.8	59.3	15.2	1	4	4	9	1	3	2	4			2.7
37.5 22.5	30.20	768.6	60.1	15.6	3	5	3	5	2	3	5	2			2.8
37.5 27.5	30.28	769.1	59.8	15.4	4	6	3	3	4	5	3				2.7
37.5 32.5	30.20	767.1	58.8	14.9	2	5	6	3	5	4		3			3.3
37.5 37.5	30.15	765.8	58.0	14.4	1	10	3	1	7	4		2			3.4
37.5 42.5	30.16	766.1	56.0	13.3	4	8	3	5	3	2		3			3.4
37.5 47.5	30.20	767.1	55.2	12.9	3	12	1	4	3	1		4			3.5
37.5 52.5	30.23	767.8	53.7	12.1	5	6	5	4	3	2	2	1			3.2
37.5 57.5	30.21	767.3	52.3	11.3	4	11	2	3	3	3	1	1			3.6
37.5 62.5	30.22	767.6	53.5	11.9	10	7	1	4	2	1	1	2			3.5
37.5 67.5	30.24	768.1	52.4	11.3	10	6	1	3	3	4		1			3.5
37.5 72.5	30.28	769.1	46.3	7.9	11	3	1	2	5	1		5			3.2
42.5 12.5	30.14	765.5	55.2	12.9	2	3	2	9	4	4	2	2			3.3
42.5 17.5	30.09	764.3	55.2	12.9	2	2	6	9	3	5		1			3.9
42.5 22.5	30.07	763.8	54.7	12.6	1	3	8	8	4	4					3.9
42.5 27.5	30.05	763.3	54.0	12.2	1	7	5	8	4	3					4.1
42.5 32.5	29.98	761.5	52.9	11.6	2	8	5	6	5	2					4.4
42.5 37.5	29.98	761.5	50.3	10.2	3	12	1	6	4	1		1			4.6
42.5 42.5	30.02	762.5	46.2	7.9	2	12	4	4	5			1			4.2
42.5 47.5	30.05	763.3	40.4	4.7	4	13	3	3	3	1		1			4.2
42.5 52.5	30.11	764.8	37.3	2.9	6	11	3	3	4	1					4.1
42.5 57.5	30.12	765.0	36.5	2.5	5	11	2	2	5	2	1				4.1
42.5 62.5	30.16	766.1	31.6	−0.2	4	12	3		5	2		2			3.6
42.5 67.5	30.18	766.6	29.1	−1.6	8	7	1	3	3	4	2				3.4
47.5 12.5	29.99	761.7	49.6	9.8		2	6	5	9	3	2	1			4.1
47.5 17.5	29.89	759.2	50.7	10.4		2	6	8	8	4					4.3
47.5 22.5	29.86	758.4	46.0	7.8	2	1	8	9	6	2					5.0
47.5 27.5	29.79	756.7	47.6	8.7	1	8	6	5	6	2					5.1
47.5 32.5	29.73	755.1	45.5	7.5	3	9	5	6	4	1					5.0
47.5 37.5	29.75	755.6	42.3	5.7	1	12	4	5	4	1		1			5.0
47.5 42.5	29.80	756.9	36.3	2.4	2	15	3	3	4			1			4.4
47.5 47.5	29.87	758.7	28.1	−2.2	3	14	4	4	2		1				4.3
52.5 12.5	29.81	757.2	49.0	9.4	1	2	2	16	5	1	1				4.3
52.5 17.5	29.67	753.6	46.2	7.9	1	1	3	15	6	1	1				4.5
52.5 22.5	29.59	751.6	44.2	6.8		2	5	12	6	1	1	1			5.1
52.5 27.5	29.57	751.1	41.3	5.2	2	6	5	9	5	1					4.9
52.5 32.5	29.56	750.8	38.9	3.8	1	10	5	5	6	1					4.8
52.5 37.5	29.54	750.3	34.2	1.2	1	13	4	4	6						4.7
52.5 42.5	29.57	751.1	28.1	−2.2		17	3	5	3						4.4
52.5 47.5	29.59	751.6	21.7	−5.7	5	14	3	6							4.0
57.5 12.5	29.56	750.8	42.8	6.0			1	16	7	2		2			4.8
57.5 17.5	29.42	747.3	41.6	5.3	2	1	1	14	8	1		1			4.6
57.5 22.5	29.30	744.2	39.3	4.1	2		3	11	8	2	1	1			5.0
57.5 27.5	29.23	742.4	35.6	2.0	2	7	2	8	7	1	1				4.9
57.5 32.5	29.26	743.2	31.5*e*	−0.3*e*	4	11	1	4	7	1					4.8
57.5 37.5	29.26	743.2	27.7*f*	−2.4*f*	5	11	1	7	4						4.6
57.5 42.5	29.32	744.7			4	16	2	4	1			1			4.3
57.5 47.5	29.36	745.7			9	11	1	5				1		1	4.0

NOTE.—See General Remarks.

IRKUTSK, SIBERIA.

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount.		Clouds. Direction.		Rainfall or melted snow in past 24 hours.		WEATHER.
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles per hour	Metrs pr sec.	0-10	Upper. 0-10	Lower. 0-10	Up'er From	Lo'er From	Inch.	Mill.	
1882.																		
August 1	28.37	720.6	29.96	760.9	65.3	18.5	58	calm			0		2			0	0	
2	28.48	723.4	30.08	764.1	61.7	16.5	94	w.			1		9			0.055	1.4	
3	28.53	724.6	30.11	764.7	70.2	21.2	63	calm			0		7			0.004	0.1	
4	28.37	720.7	29.96	760.9	66.4	19.1	81	calm			0		4			0.039	1.0	
5	28.18	715.7	29.74	755.4	69.6	20.9	60	calm			0		4			0.067	1.7	
6	28.32	719.2	29.91	759.6	63.1	17.3	61	calm			0		2			0	0	
7	28.22	716.9	29.79	756.7	68.7	20.4	49	calm			0		0			0	0	
8	28.22	716.9	29.80	756.8	67.0	19.8	63	s.			2		9			0	0	
9	28.28	718.3	29.85	758.1	70.0	21.1	86	calm			0		10			0.248	6.3	
10	28.23	717.1	29.80	756.8	69.8	21.0	82	calm			0		8			0	0	
11	28.08	713.1	29.62	752.3	73.9	23.3	71	ne.			2		4			0	0	
12	28.03	711.9	29.57	751.0	73.8	23.2	66	sse.			1		8			0	0	
13	28.02	711.8	29.56	750.8	74.7	23.7	71	nne.			4		9			0	0	
14	28.26	717.7	29.85	758.1	62.4	16.9	89	calm			0		9			0	0	
15	28.05	712.5	29.62	752.4	64.6	18.1	83	sw.			1		10			0.421	10.7	
16	28.30	718.7	29.87	758.6	68.5	20.3	71	calm			0		6			0	0	
17	28.21	716.4	29.78	756.4	65.3	18.5	75	calm			0		8			0	0	
18	28.07	712.9	29.64	752.9	64.0	17.8	76	calm			0		5			0.630	16.0	
19	28.05	712.4	29.63	752.0	60.3	15.7	99	calm			0		10			0	0	
20	28.40	721.4	30.01	762.3	58.8	14.9	71	nw.			1		7			0.787	20.0	
21	28.36	720.4	29.96	760.9	62.4	16.9	69	s.			1		5			0	0	
22	28.08	713.3	29.65	753.0	67.8	19.9	53	se.			1		3			0	0	
23	28.71	729.1	30.37	771.4	40.8	8.2	87	calm			0		2			0	0	
24	28.44	722.4	30.06	763.5	57.2	14.0	64	calm			0		1			0	0	
25	28.33	719.6	29.93	760.1	62.4	16.9	61	calm			0		2			0	0	
26	28.36	720.4	29.95	760.6	66.0	18.9	69	calm			0		7			0	0	
27	28.22	716.7	29.79	756.7	66.6	19.2	68	sse.			1		10			0	0	
28	28.21	716.6	29.78	756.4	68.5	20.3	69	calm			0		4			0	0	
29	27.97	710.5	29.52	749.8	70.3	21.3	65	s.			2		10			0	0	
30	27.96	708.6	29.45	748.0	67.3	19.6	64	calm			0		4			0	0	
31	28.48	723.3	30.13	765.2	47.8	8.8	96	calm			0		10			0.217	5.5	
Mean	28.25	717.5	29.83	757.6	65.3	18.5	72.1						6			2.469	62.7	
September 1	28.54	725.0	30.20	767.1	46.9	8.3	93	calm			0		10			0	0	
2	28.25	717.6	29.90	759.4	45.1	7.3	90	wnw.			1		10			0.260	6.6	
3	28.41	721.6	30.05	763.2	49.8	9.9	88	nw.			2		9			0	0	
4	28.44	722.3	30.09	764.2	46.9	8.5	96	nw.			1		10			0.354	9.0	
5	28.40	721.3	30.02	762.5	54.9	12.7	69	calm			0		0			0	0	
6	28.38	720.8	30.00	761.9	55.9	13.3	66	calm			0		0			0	0	
7	28.33	719.5	29.93	760.3	57.9	14.4	60	calm			0		0			0	0	
8	28.45	722.6	30.06	763.0	58.5	14.7	76	calm			0		8			0	0	
9	28.32	719.4	29.92	759.9	61.7	16.5	62	calm			0		0			0	0	
10	28.54	725.0	30.18	766.0	52.5	11.4	85	calm			0		1			0	0	
11	28.24	717.4	29.85	758.1	58.5	14.7	76	calm			0		9			0	0	
12	28.51	724.2	30.17	766.4	45.3	7.4	93	nw.			5		10			0.374	9.5	
13	28.54	724.9	30.20	767.0	46.9	8.3	85	calm			0		10			0	0	
14	28.34	719.7	29.97	761.1	51.4	10.8	62	calm			0		7			0	0	
15	28.18	715.7	29.78	756.3	57.6	14.2	71	calm			0		3			0	0	
16	28.32	719.2	29.93	760.1	50.7	13.7	68	calm			0		8			0	0	
17	28.35	720.0	29.98	761.6	49.8	9.9	96	calm			0		10			0.138	3.5	
18	28.14	714.8	29.79	756.7	42.1	5.6	95	nw.					10			1.189	30.2	
19	28.30	718.8	29.95	760.7	44.8	7.1	76	calm			0		2			0	0	
20	28.13	714.6	29.76	755.9	48.7	9.3	74	calm			0		1			0	0	
21	28.71	729.1	30.42	772.7	33.3	0.7	96	calm			0		8			0.205	5.2	
22	28.05	727.8	30.34	770.0	40.8	4.9	68	calm			0		0			0	0	
23	28.60	720.3	30.24	768.0	52.3	11.3	53	calm			0		0			0	0	
24	28.48	723.4	30.11	764.9	52.7	11.5	79	calm			0		8			0	0	
25	28.64	727.5	30.33	770.4	40.5	4.7	77	calm			0		6			0	0	
26	28.71	729.1	30.39	772.0	41.0	5.0	69	calm			0		0			0	0	
27	28.65	727.7	30.33	770.4	43.5	6.4	61	calm			0		0			0	0	
28	28.57	725.7	30.22	767.0	49.5	9.7	64	calm			0		0			0	0	
29	28.39	721.1	30.03	762.7	50.5	10.3	69	calm			0		0			0	0	
30	28.13	714.6	29.75	755.7	51.6	10.9	69	calm			0		0			0	0	
Mean	28.42	721.9	30.06	763.6	49.6	9.8	76.4						5			2.520	64.0	
October 1	28.37	720.7	30.05	763.2	39.6	4.2	92	nw.			4		10			0.197	5.0	
2	28.45	722.7	30.13	765.3	40.1	4.5	72	calm			0		0			0	0	
3	28.47	723.1	30.17	766.3	33.1	0.6	96	wnw.					10			0.138	3.5	
4	28.43	722.0	30.13	765.2	33.3	0.7	69	calm			0		0			0	0	
5	28.43	722.1	30.13	765.4	31.3	— 0.4	87	calm			0		5			0	0	
6	27.87	707.8	29.50	749.4	41.4	5.2	73	calm			0		9			0	0	
7	28.58	725.8	30.31	769.8	26.4	— 3.1	54	n.			2		1			0	0	
8	28.54	724.9	30.25	768.3	32.4	0.2	95	ese.			1		2			0	0	
9	28.48	723.4	30.16	766.0	39.7	4.3	59	ese.			1		0			0	0	
10	28.34	719.9	30.00	762.0	44.1	6.7	60	se.			2		8			0	0	
11	28.22	716.7	29.86	758.4	45.9	7.7	64	se.			2		3			0	0	
12	28.32	719.3	29.97	761.2	45.3	7.4	98	calm			0		10			0.386	9.8	
13	28.77	730.8	30.50	774.7	31.5	— 0.3	98	calm			0		2			0.004	0.1	
14	28.68	728.4	30.40	772.2	30.9	— 0.6	62	calm			0		0			0	0	
15	28.36	720.4	30.05	763.2	36.1	2.3	77	sse.			2		0			0	0	
16	28.12	714.3	29.77	756.1	43.0	6.1	75	calm			0		10			0	0	
17	28.44	722.3	30.14	765.6	31.6	— 0.2	70	n.			2		8			0	0	
18	28.28	718.3	29.98	761.6	29.7	— 1.3	78	calm			0		0			0	0	
19	28.61	726.8	30.37	771.4	21.7	— 5.7	77	calm			0		0			0	0	
20	28.71	729.3	30.44	773.1	31.3	— 0.4	48	calm			0		0			0	0	
21	28.50	723.8	30.19	766.8	36.1	2.3	50	calm			0		0			0	0	
22	28.38	720.8	30.08	763.9	33.3	0.7	60	calm			0		6			0	0	
23	28.30	718.9	29.98	761.5	36.9	2.7	51	calm			0		1			0	0	
24	28.57	725.7	30.31	769.9	24.3	— 4.3	72	calm			0		9			0	0	
25	28.37	720.6	30.10	764.5	24.3	— 4.3	76	calm			0		0			0	0	
26	28.27	718.0	29.98	761.4	28.4	— 2.0	85	calm			0		10			0	0	
27	28.32	719.4	30.06	763.5	21.7	— 5.7	98	nw.			3		10			0.098	2.5	
28	28.99	736.4	30.82	782.8	8.8	—12.9	72	calm			0		7			0	0	
29	29.08	738.6	30.94	785.8	3.0	—16.1	84	calm			0		0			0	0	
30	28.84	732.4	30.68	779.2	2.8	—16.2	91	calm			0		0			0	0	
31	28.49	723.6	30.25	768.3	18.1	— 7.7	93	e.			1		7			0	0	
Mean	28.47	723.1	30.18	766.6	30.6	— 0.8	74.4						4			0.823	20.9	

IRKUTSK, SIBERIA.—CONTINUED.

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount.		Clouds. Direction.		Rainfall or melted snow in past 24 hours.		WEATHER.
												Upper.	Lower.	Up'er	Lo'er			
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles perhour	Metrs prsec.	0–10	0–10	0–10	From	From	Inch.	Mill.	
1882.																		
November 1	28.56	725.3	30.33	770.3	16.7	— 8.5	97	calm			0		0			0	0	
2	28.03	727.2	30.42	772.7	12.0	—11.1	83	nne.			1		0			0.022	0.5	
3	28.44	722.3	30.19	766.7	20.7	— 6.3	99	wnw.			2		2			0	0	
4	28.00	711.3	29.71	754.7	23.9	— 4.5	94	nw.			6		10			0	0	
5	28.97	735.8	30.84	783.4	— 2.7	—19.3	73	nnw.					0			0	0	
6	28.82	732.1	30.64	778.3	8.4	—13.1	74	calm			0		8			0	0	
7	28.92	734.5	30.77	781.6	0.9	—17.3	87	calm			0		0			0.012	0.3	
8	28.98	736.0	30.82	782.9	4.5	—15.3	85	calm			0		8			0	0	
9	28.82	731.9	30.66	778.8	1.6	—16.9	87	calm			0		0			0	0	
10	28.67	728.3	30.47	773.9	12.4	—10.9	70	calm			0		8			0	0	
11	28.56	725.7	30.36	771.1	12.7	—10.7	88	nne.			1		5			0.004	0.1	
12	28.97	735.7	30.83	783.0	— 0.2	—17.9	91	calm			0		0			0	0	
13	29.37	746.1	31.30	794.9	— 7.4	—21.9	89	calm			0		0			0	0	
14	29.29	743.9	31.20	792.5	— 6.7	— 21.5	93	calm			0		0			0	0	
15	29.02	737.0	30.89	784.5	— 0.8	—18.2	100	calm			0		0			0	0	
16	28.98	736.0	30.84	783.2	1.2	—17.1	100	calm			0		0			0	0	
17	28.82	732.1	30.63	778.0	10.9	—11.7	77	calm			0		3			0	0	
18	29.17	740.8	31.02	787.9	4.8	—15.1	83	ene.			4		0			0	0	
19	28.60	728.0	30.48	774.3	5.2	—14.9	100	calm			0		3			0	0	
20	28.17	715.5	29.93	760.1	14.0	—10.0	87	calm			0		10			0	0	
21	28.57	725.7	30.30	771.2	11.7	—11.3	61	calm			0		8			0	0	
22	28.89	733.8	30.70	779.8	10.9	—11.7	79	calm			0		5			0	0	
23	29.05	737.9	30.92	785.3	0.1	—17.7	71	ne.			2		3			0	0	
24	28.81	731.8	30.55	775.9	29.7	— 1.3	76	calm			0		9			0.122	3.1	
25	28.61	726.8	30.37	771.4	21.0	— 6.1	83	calm			0		0			0	0	
26	28.08	713.1	29.77	756.1	29.3	— 1.5	62	ene.			2		0			0	0	
27	28.76	730.5	30.55	776.0	14.5	— 9.7	62	nw.			3		3			0	0	
28	28.51	724.2	30.30	769.5	12.0	—11.1	77	e.			2		0			0	0	
29	28.09	713.4	29.81	757.1	22.5	— 5.3	84	calm			0		3			0	0	
30	28.04	712.1	29.75	755.6	22.8	— 5.1	89	nnw.			5		10			0.016	0.4	
Mean	28.71	729.2	30.51	775.0	10.2	—12.1	83.4						3			0.173	4.4	
December 1	28.28	718.4	30.09	764.3	3.0	—16.1	88	calm			0		7			0	0	
2	27.99	710.9	29.75	755.6	10.2	—12.1	95	e.			1		6			0	0	
3	28.54	724.8	30.38	771.7	— 2.9	—19.4	70	n.					10			0	0	
4	28.13	714.4	29.86	758.4	19.4	— 7.0	88	nnw.					9			0	0	
5	28.64	727.4	30.47	773.9	2.7	—16.3	67	nw.			3		0			0	0	
6	28.87	733.2	30.77	781.5	—10.3	—23.5	82	n.			1		0			0	0	
7	29.02	737.2	30.95	786.2	—14.3	—25.7	68	n.			2		9			0	0	
8	28.83	732.3	30.83	783.0	—31.7	—35.4	80	calm			0		0			0	0	
9	28.94	735.0	30.97	786.7	—38.2	—39.0	81	calm			0		0			0	0	
10	29.08	738.7	31.12	790.4	—36.0	—37.8	86	calm			0		9			0	0	
11	28.84	732.6	30.78	781.9	—19.7	—28.7	85	calm			0		3			0	0	
12	28.41	721.7	30.35	770.8	—23.8	—31.0	93	calm			0		10			0	0	
13	28.75	730.2	30.65	778.4	—11.2	—24.0	85	nnw.			4		8			0	0	
14	29.11	739.3	31.06	788.8	—17.0	—27.2	85	calm			0		0			0	0	
15	29.23	742.5	31.22	793.0	—24.2	—31.2	89	calm			0		2			0	0	
16	29.29	743.9	31.28	794.5	—24.2	—31.2	89	calm			0		0			0	0	
17	29.35	745.4	31.37	796.8	—29.7	—34.3	86	calm			0		0			0	0	
18	29.35	745.4	31.39	797.4	—34.6	—37.0	86	calm			0		0			0	0	
19	29.30	744.2	31.36	796.6	—38.6	—39.2	84	calm			0		0			0	0	
20	29.35	745.4	31.39	797.2	—32.8	—36.0	85	calm			0		0			0	0	
21	28.87	733.2	30.85	783.6	—28.3	—33.5	91	calm			0		0			0	0	
22	28.73	729.8	30.60	778.8	—18.8	—28.2	93	calm			0		10			0	0	
23	28.70	728.9	30.62	777.8	—18.8	—28.2	97	calm			0		8			0	0	
24	28.05	727.7	30.52	775.2	— 6.2	—21.2	94	nw.					10			0	0	
25	29.16	740.6	31.15	791.1	—24.9	—31.6	84	calm			0		0			0	0	
26	28.66	728.0	30.67	778.9	—35.3	—37.4	85	calm			0		0			0	0	
27	28.41	721.6	30.33	770.4	—21.6	—29.8	93	calm			0		2			0	0	
28	28.66	727.9	30.57	776.5	—16.6	—27.0	89	nw.			2		8			0.106	2.7	
29	29.12	739.7	31.02	788.0	— 6.5	—21.4	84	calm			0		10			0	0	
30	29.16	740.7	31.07	789.2	— 8.0	—22.2	83	calm			0		2			0	0	
31	29.03	737.4	30.96	786.4	—15.5	—26.4	81	calm			0		0			0	0	
Mean	28.86	732.9	30.79	782.0	—17.9	—27.7	85.5						4			0 106	2.7	
1883.																		
January 1	28.74	730.0	30.64	778.3	—12.1	—24.5	89	calm			0		0			0	0	
2	28.76	730.4	30.63	778.0	— 5.8	—21.0	89	calm			0		8			0.114	2.9	
3	28.98	736.2	30.84	783.4	1.2	—17.1	95	calm			0		0			0	0	
4	28.59	726.1	30.39	771.9	9.1	—12.7	90	se.			3		10			0	0	
5	28.85	732.9	30.67	779.0	9.9	—12.3	86	calm			0		9			0.079	2.0	
6	28.67	728.1	30.46	773.6	12.6	—10.8	91	ne.			2		0			0	0	
7	28.46	722.8	30.25	768.3	9.3	—12.6	92	calm			0		9			0.012	0.3	

NOTE.—The above observations, taken at 7 a. m., Washington time, were received too late for publication in the DAILY BULLETIN, and are given here in full from date of last published report (July 31, 1882). For continuation of this station, see Russian series, DAILY BULLETIN.

REVIEW.

INTERNATIONAL METEOROLOGY.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0-10.]

The following description refers to chart ii. for the month of February, 1883, issued with this SUMMARY. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and prevailing wind-direction over the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m. Washington, or 0 h. 8 m. p. m., Greenwich, mean time:

For the month of February, 1883, two areas of barometric minima are shown on the chart. The first of these occupies the Arctic ocean between Greenland and Iceland, and is indicated by the isobar for 29.1 (739.1); the second area of low-pressures is in British India, and is enclosed by the isobar for 29.9 (759.4). To the southward and eastward of the region of absolute minima, the barometric gradient rapidly increases, until the isobar for 30.0 (762.0) is reached. That isobar extends from the Gulf of Saint Lawrence southeastward to the forty-second parallel and thence northeastward over the southern part of Great Britain to Scandinavia. The areas of barometric maxima are indicated by the isobaric lines for 30.4 (772.1) and 30.3 (769.6), respectively. The first of these occupies central Asia and extends as a ridge of high-pressures from the Gulf of Pe-Che-Li westward to the central part of European Russia; the highest mean reported is 30.46 (773.7) at Semipalatinsk. The second area of high-pressures is exhibited in the United States, and extends from the Northwest Territories of British America southeastward to Arkansas and thence eastward to the Atlantic ocean; over this region the pressure ranged from 30.3 (769.6) to 30.35 (770.9). In other parts of the United States and Canada it ranged from 30.1 (764.5) to 30.25 (768.3). A third area of high-pressures, 30.3 (769.6), occupies the central part of the Iberian peninsula. Over the Atlantic ocean, between N. 20° and 40°, the mean atmospheric pressure ranges from 30.0 (762.0) to 30.28 (769.1); in Europe it ranges from 30.0 (762.0) in the northern, to 30.25 (768.3) in the southern, and 30.35 (770.9) in the eastern, sections.

Compared with the chart for the preceding month, there has been no material change in the position of the area of absolute minima; the pressure at the centre has, however, decreased about .1 inch, the mean at Stykkisholm, Iceland, being now 29.02 (731.1). In the United States and Canada there has been a general increase of pressure, except on the Pacific coast, where it is slightly below that of the preceding month. Over the Atlantic ocean, north of the fifty-fifth parallel, the pressure has decreased slightly; to the southward of that latitude it has increased somewhat. Throughout the continent of Europe and over the British Isles there has been an increase of pressure, averaging .15 inch. In the northern and eastern parts of Asia the pressure has decreased, while in the central and western sections an increase is shown. In British India the mean pressure is .06 inch lower than in the preceding month.

Compared with the corresponding month of previous years, the mean atmospheric pressure for February, 1883, was above the normal over the United States and Canada, the departure being greatest in the Mississippi and Missouri valleys. In Europe the pressure was everywhere above the normal.

The following table gives the mean pressure and mean temperature, with corresponding departures, for February, 1883, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the last six years:

Countries.	Mean pressure.			Mean temperature.		
	Feb. mean of 6 (1877-'82) years.	Feb., 1883.	Departure.	Feb. mean of 6 (1877-'82) years.	Feb., 1883.	Departure.
				°	°	°
Algeria	30.16	30.27	+ 0.11	58.5	59.4	+ 0.9
Austria	30.04	30.26	+ 0.22	37.7	37.7	normal
British Isles	29.86	30.00	+ 0.14	43.0	45.8	+ 2.8
Denmark	29.84	30.10	+ 0.26	34.1	34.9	+ 0.8
France	30.07	30.24	+ 0.17	46.7	47.9	+ 1.2
Germany	29.96	30.23	+ 0.27	37.3	39.6	+ 2.3
India[a]	29.94	29.94	normal	74.7	74.8	+ 0.1
Italy	30.04	30.21	+ 0.17	50.5	50.5	normal
Norway	29.70	29.95	+ 0.25	31.7	35.2	+ 3.5
Portugal	30.19	30.28	+ 0.09	55.1	55.0	— 0.1
Russia	29.99	30.29	+ 0.30	26.5	23.8	— 2.7
Spain	30.12	30.27	+ 0.15	55.2	53.0	— 2.2
Sweden	29.77	30.08	+ 0.31	24.2	28.4	+ 4.2

[a] Mean for five years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of February, 1883, as compared with the means for six years:

Stations.	Mean pressure.			Mean temperature.		
	Feb. mean of 6 (1877-'82) years.	Feb., 1883.	Departure.	Feb. mean of 6 (1877-'82) years.	Feb., 1883.	Departure.
				°	°	°
Gibraltar	30.17	30.27	+ 0.10	60.3	61.6	+ 1.3
Malta, Mediterranean Sea	30.04	30.15	+ 0.11	58.7	58.6	— 0.1
Sandwick Manse, Orkney Islands	29.71	29.71	normal	40.3	41.5	+ 1.2
Bridgetown, Barbadoes	30.01	30.02	+ 0.01	80.0	80.7	+ 0.7
Cape Town, Cape Good Hope	29.99	.....	.....	79.8	.....	.....
Fort Napier, Natal, South Africa	29.82	29.78	— 0.04	78.4	80.6	+ 2.2
Freetown, Sierra Leone	29.84	29.86	+ 0.02	81.5	86.5	+ 5.0
Mauritius, Indian Ocean	29.92	29.87	— 0.05	81.1	81.0	— 0.1
Melbourne, New South Wales	30.01	29.85	— 0.16	64.2	64.6	+ 0.4
Nassau, Bahamas *	30.15	30.22	+ 0.07	71.2	74.3	+ 3.1
Godthaab, Greenland	29.55	29.21	— 0.34	14.1	3.7	—10.4
Stykkisholm, Iceland	29.52	29.02	— 0.50	27.7	30.9	+ 3.2
Thorshavn, Färöe Islands	29.65	29.55	— 0.10	39.2	41.2	+ 2.0
Zi-Ka-Wei, China	30.32	30.34	+ 0.02	38.8	37.2	— 1.6
Athens, Greece	30.06	30.15	+ 0.09	53.6	50.5	— 3.1
Cagliari, Sardinia, Italy	30.02	30.14	+ 0.12	56.9	57.2	+ 0.3
Tokei, Japan *	30.10	30.17	+ 0.07	40.0	35.1	— 4.9
Angra, Azores	.....	30.23	.....	57.8	57.0	— 0.8
Funchal, Madeira Islands	30.24	30.29	+ 0.05	64.7	63.7	— 1.0
Ponta Delgado, Azores	30.20	30.28	+ 0.08	60.3	59.4	— 0.9
Archangel, Russia	29.72	30.07	+ 0.35	11.0	19.9	+ 8.9
Tiflis, Russia	30.10	30.29	+ 0.19	43.0	38.3	— 4.7
Astrakhan, Russia	30.12	30.40	+ 0.28	26.3	25.0	— 1.3
Ekaterinburg, Russia	29.98	30.26	+ 0.28	11.2	13.8	+ 2.6
Tashkend, Toorkistan, Asia	30.30	30.42	+ 0.12	37.5	23.7	—13.8
Barnaul, Siberia, Asia	30.31	30.38	+ 0.07	5.1	3.0	— 2.1
Yeniseisk, Siberia, Asia	30.29	30.34	+ 0.05	2.3	— 5.8	— 8.1
Pekin, China	30.35	30.38	+ 0.03	28.1	29.3	+ 1.2
Nikolaevsk on the Amoor, Asia	.....	.....	.....	— 4.4	— 7.1	— 2.7
San Juan de Puerto Rico, W. I.*	30.08	30.13	+ 0.05	74.3	75.0	+ 0.7
Beirut, Turkey in Asia	30.04	30.01	— 0.03	60.4	59.7	— 0.7
Mexico, Mexico	30.25	30.28	+ 0.03	46.4	48.7	+ 2.3
Havana, Cuba, W. I.	30.08	30.12	+ 0.04	71.0	69.7	— 1.3
Paramaribo, D. Guiana, S. A	30.02	30.02	normal	78.9	76.7	— 2.2
York Factory, B. A	30.07	30.17	+ 0.10	—21.8	—23.3	— 1.5

* Mean for five years only.

The following are some of the extreme mean temperatures reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Africa	86.5	30.3	York Factory, B. A	—23.3	—30.7
Springbok, Fontein, S. Africa	83.9	28.8	Ooglaamie, Alaska	— 9.2	—22.9
Saint Paul de Loando, W. Africa	82.7	28.3	Upernavik, Greenland	— 7.6	—22.0
Mauritius, Indian Ocean	81.0	27.2	Nikolaevsk on the Amoor	— 7.1	—21.7
Bridgetown, Barbadoes	80.7	27.1	Yeniseisk, Siberia	— 5.8	—21.0

The mean temperature of the air in the United States was above the normal in the Atlantic and Gulf states; elsewhere it was below the normal, the greatest deficiency occurring in the middle slope and northern plateau regions, where it was 12° and 16°, respectively. In Canada the temperature was below the normal. In Europe the mean temperature of the air was normal, or slightly below, in the southern peninsulas; elsewhere it was above the normal, presenting the unusual

phenomenon of abnormally high temperatures in connection with abnormally high-pressures. In British India the temperature was 0°.1 above the five years' mean. The highest mean temperature reported was 88°.7 Fahr. (31°.5 Cent.) at Bellary, and the lowest was 63°.9 Fahr. (17°.7 Cent.) at Sibsagar.

In the United States the prevailing winds were generally northerly, northwesterly, and westerly; on the coast of the Carolinas they were northeasterly. In Canada they were mostly westerly. Over the north Atlantic ocean the winds were mostly northerly and northwesterly between N. 30° and 60°, and from W. 75° eastward to W. 30°; from W. 30° eastward to the European coasts they were southwesterly. In Europe the winds were mostly southwesterly in the western, and southerly to southeasterly in the eastern, parts of the continent. On the coast of China and in Japan they were mostly northerly.

The rainfall during February, 1883, was above the average in that part of the United States north of N. 35° and from the Rocky mountains eastward to the Atlantic. In the south Atlantic and Gulf states, and in the districts west of the Rocky mountains, the precipitation was less than the average, the deficiency on the Pacific coast being very marked. In Canada the rainfall was above the average, except in the maritime provinces, where it was slightly below. In Europe it was generally below the average, except in the British Isles, where it was in excess.

With this REVIEW is issued international chart iii. for the month of October, 1881. This chart continues the series of international charts begun in November, 1877, and exhibits the paths of the principal atmospheric depressions that have appeared in the northern hemisphere. The data are charted for each day of the month on the maps accompanying each issue of the "International Bulletin," and from these charts and additional data are traced the movements of the centres of barometric minima.

The paths of twenty-nine depressions which appeared during October, 1881, have thus been traced; in addition are also shown the paths of three typhoons which occurred in the China sea during the month. The tracks of these last are copied from Mr. Marc Dechevrens' "Typhoons of 1881."

The depressions charted are distributed as follows: Seven are traced in the United States and Canada; one in the Hudson bay region, and one in Alaska and the Northwest Territories of British America, the latter being a continuation of a disturbance which originated in eastern Asia. Seven depressions are traced over the Atlantic ocean; three of these are continuations of storms which developed in the United States; one, number xxv., was apparently of tropical origin, and the remaining three were first observed near the coasts of Newfoundland and Labrador. Two depressions are charted in Greenland, in which region the atmospheric pressure remained low during the first half of the month. In Europe fifteen depressions are traced, six of which entered the continent from the ocean. Three disturbances are shown in western Siberia, one of these, number xxii., is a continuation of the depression charted as number ii., and is traced from the western part of the United States. One depression appears over the Sea of Okhotsk, and is traced thence eastward over the Pacific ocean to Alaska and British North America.

In the United States and Canada the depressions pursued, in general, an east-northeasterly course; over the Atlantic the movement of the various storm-centres appears to have been sluggish and their paths somewhat erratic. In Europe a majority of the disturbances are traced in the southern districts, and have moved in a southeasterly direction; the few depressions traced in northern Europe have pursued a northeasterly course, with one exception, number xxviii., which moved from north to south. The most violent storms of the month were numbers xviii. and xxiii.; the former passed over the British Isles and northern Europe between the 13th and 15th, and, on account of the great loss of life and immense damage to shipping and other property which resulted from it, ranks as one of the most severe storms on record. Number xxiii. moved in a southeasterly direction from the 22d to 24th, and was scarcely less severe than its predecessor of the 13–15th. A noteworthy feature of the month was the unusual number of depressions which traversed southern Europe.

The following descriptions refer to the depressions traced in the United States and Canada:

I.—During the 9th there was a steady decrease of pressure at stations in California, and by the 10th the barometer had fallen to 29.8 (756.9), with cloudy weather, but no rain. During the 10th the disturbance moved rapidly eastward, and on the 11th it reached Dakota, its central region being enclosed by the isobar for 29.8 (756.9). Moving by an east-northeasterly course over Minnesota, Wisconsin, and Michigan, the disturbance, on the 12th, occupied Lakes Huron and Michigan, and was attended by abundant rains and high winds on the lakes and at stations to the eastward of the centre. During the 12th the depression moved down the Saint Lawrence valley, causing general rains during its passage. On reaching the Gulf a further decrease of pressure appears to have occurred, and as the disturbance moved to the northeastward of Newfoundland it caused moderate sw. to nw. gales and squally weather over the Gulf of Saint Lawrence. On the 14th the depression was shown to the northeastward of Newfoundland, attended by rainy weather and moderate gales in the southeast quadrant. This depression is hereafter described as number xix.

II.—Slowly decreasing pressure during the 13th and 14th in Utah, Colorado, and Kansas indicated the development of this depression, which, by the 15th, had moved in a northeasterly direction to the lake region. High winds to moderate gales and rain prevailed at stations on the lakes, and continued at stations in the Saint Lawrence valley during the passage of the disturbance towards the Gulf. This depression passed eastward over the ocean, and is hereafter described as low area xxii.

III.—This was a slight disturbance which developed in Kansas during the 16th; it moved northeastward and on the 17th was central near Davenport, Iowa, where the barometer read 29.96 (761.0); heavy rain. The rain and cloud-areas extended over the lake region, and as the disturbance moved eastward to New England it caused moderate easterly gales on Lake Ontario. Strong northwesterly gales occurred on the lakes as a result of the rapid increase of pressure which took place immediately after the passage of the depression. On the 18th the disturbance occupied New England and the lower Saint Lawrence valley; during the day it passed into the Atlantic, and on the 19th was central south of Nova Scotia, attended by rainy weather in the maritime provinces and snow to the eastward. H. M. S. "Fantome," which left Notre Dame bay, Newfoundland, on the 18th, with a schooner in tow, encountered on the 19th a heavy ene. gale and furious snow storm, during which the hawser parted and she lost the schooner. The "Fantome" was then put to sea and occupied three days in steaming one hundred and seventy-five miles through a heavy snow storm. By the 20th the disturbance had filled up or become merged in low area xxii.

IV.—This was a slight depression which appeared in the Lake Superior region on the 19th; it moved eastward, causing light rains in the upper lake region and Ontario, and dissipated on the 20th, in the province of Quebec.

V.—On the 20th the barometer at York Factory, British America, read 29.31 (744.5), being a fall of .43 inch since the observation of the 19th. On the 21st the shifting of the wind, followed by rising barometer at York Factory, indicated that the centre had passed to the eastward over Hudson Bay and beyond the field of observation.

VI.—During the 22d there was a decrease of pressure in Texas and Indian Territory, and by the 23d the decrease had extended eastward and northward to Mississippi and Missouri, causing rainy weather during the 22d and 23d in the districts named. During the latter date the depression moved northeastward and was central in Illinois on the 24th, the region of

least pressure being enclosed by the isobar for 29.8 (756.9). Rainy weather prevailed in the lower lake region, but the winds remained moderate in force. Continuing its northeasterly movement the disturbance appeared on the 25th in Ontario, where it was joined by low area vii., which had advanced from the northwest. During the day the combined system moved east-northeastward, and on the 26th it was central as a storm of considerable energy over the Gulf of Saint Lawrence, with the pressure below 29.0 (736.6) at the centre. Steep gradients were formed over the ocean between W. 40° and 50°, and fresh to strong southerly gales were reported by vessels in that region, while equally strong northwesterly gales occurred in rear of the depression and along the coasts of the United States. During the 26th the disturbance moved over Newfoundland, and on the 27th it was central, with undiminished energy, northeast of that island. This storm is hereafter described as low area xxvii.

VII.—This depression appeared in Manitoba on the 24th, when the preceding depression (vi.) was in Illinois. It moved east-southeastward over the lake region and united with low area vi. in Ontario on the 25th.

VIII.—On the 27th a barometric trough extended from Manitoba to Texas, the pressure being least in Kansas, where the barometer read 29.66 (753.4). During the day the disturbance moved slowly northeastward, and on the 28th it was central in Nebraska, the barometer at Omaha reading 29.53 (750.0). Cloudy and rainy weather prevailed at stations to the northeastward and eastward of the centre, but no high winds were reported on the 28th. By the following day the storm-centre had reached the Lake Superior region, the central pressure being now about 29.4 (746.7). Rainy weather continued over the lake region, and, owing to the increase of the barometric gradient in the northeast quadrant, the wind attained the force of a strong breeze (25 to 30 miles) over the lakes. On the 30th the disturbance was north of Lake Superior; it moved thence eastward over northern Canada to the mouth of the Saint Lawrence, where it was central on the 31st, attended by general rains in the maritime provinces and the lower Saint Lawrence valley.

The following refer to the depressions traced over the Atlantic ocean and in Europe:

IX.—This depression occupied the Italian peninsula on the 1st, the lowest reported barometric reading being 29.83 (757.7) at Rome. Cloudy and rainy weather prevailed over the peninsula and at stations on the shores of the Gulf of Venice. On the 2d the depression occupied the Adriatic, and on the 3d it entered Austro-Hungary, where it apparently dissipated.

X.—This was probably identical with a disturbance which at the close of September was near the northern coast of Norway. By October 1st it had reached the Baltic Provinces of Russia—pressure at Saint Petersburg, 29.93 (760.1). The disturbance moved southeastward, with decreasing pressure at the centre, and on the 2d it was shown near Kasan, where the barometer read 29.78 (756.5), wind sw., light rain. It continued its southeasterly movement and filled up during the 3d.

XI.—This depression occupied the basin of the Mediterranean on the 4th. On the 5th the pressure was least in Sardinia. During the 6th and 7th the disturbance moved slowly southeastward, with gradually increasing pressure, and finally disappeared on the last-mentioned date.

XII.—A secondary disturbance appeared near Newfoundland on the 4th; it remained stationary on the 5th, the pressure having decreased to 29.32 (744.7) near the Straits of Belle Isle. On the 6th the disturbance moved north-northeastward, and on the 7th it apparently merged with a large and deep depression which had occupied southern Greenland during the first week of the month. During the 5th and 6th an area of high-pressures occupied the eastern part of the United States and Canada; in consequence of this distribution of pressure strong northwesterly gales were experienced by vessels near the coasts of the United States, and equally strong westerly and southwesterly gales were reported on the Banks and to the eastward. The heavy north and northwest gales which occurred on the coast of Labrador on the 5th, and which caused great damage to shipping, were due to the existence of this depression.

XIII.—This depression appeared in western Siberia on the 5th, and on the 6th it was central near Akmolinski, where the barometer read 29.41 (747.1), wind sw., 56 miles an hour. During the day the storm-centre moved northeastward, and on the 7th it was shown near Yeniseisk, barometer 29.52 (749.9), wind sw., 9 miles. By the following day the disturbance had passed beyond the range of the observations.

XIV.—On the 7th there was a decrease of pressure in southern Spain and in Algeria; on the 8th the circulation of the winds at stations on the eastern coast of Spain and in Algeria indicated that the centre of disturbance was over the Mediterranean, and probably near the Balearic Isles. On the 9th and 10th the area of low barometer was in Sardinia and central Italy, with a secondary disturbance in Sicily. On the 11th the depressions united and moved over Greece and Turkey, the barometric readings within the area of disturbance ranging from 29.72 (754.9) to 29.8 (756.9). On the 12th the centre was over the Ægean sea; thence it moved northeastward over the Black sea, and finally dissipated in southern Russia during the 14th.

XV.—From the 1st to 7th the barometric readings at Godthaab, Greenland, ranged from 29.04 (737.6) to 29.35 (745.5), and during that time south and southeast gales of force 7–8, with rainy weather, prevailed in Iceland, and strong west and southwest gales were reported over the ocean north of the fiftieth parallel. During the period mentioned (1st to 7th) an area of high-pressures, 30.4 (772.1) to 30.6 (777.2), occupied northern and western Europe, while another high area—30.4 (772.1)—prevailed over the Azores. During the 7th and 8th the high area of northern Europe began to give way, and a rapid decrease of pressure occurred over northern Scandinavia in advance of the deep depression near Iceland, which had now begun to move eastward. On the 9th the disturbance was between Iceland and the Färöe islands; on the 10th it was central in Scandinavia, the pressure having decreased to 28.95 (735.3) near the centre. Strong westerly gales prevailed over Denmark and at stations on the shores of the Baltic, while southerly and southwesterly winds prevailed over the Gulf of Bothnia. On the 11th the disturbance passed northward into the Arctic, and when last observed the pressure was 28.6 (726.4) at Gjæsver; Finmark. Cloudy and rainy weather prevailed over the British Isles and northern Europe during the passage of the depression.

XVI.—This depression appeared over southern England and northern France on the 8th, the pressure at the centre being about 30.05 (763.3). It moved northeastward, with rapidly decreasing pressure, and on the 9th its centre was off the western coast of Denmark, where the pressure was 29.52 (749.8). During the day it moved northward and merged in low area xv, which then occupied Scandinavia.

XVII.—During the 8th the atmospheric pressure decreased rapidly over Newfoundland and the Gulf of Saint Lawrence, and on the 9th a depression appeared near Labrador. It moved rapidly northeastward at a high latitude, this movement being probably due to the area of high-pressures which occupied the ocean from 30° northward to 55°, north latitude. On the 10th the centre was south of Iceland; barometer at Stykkisholm, 29.1 (739.1), wind se. and e., force 4, raining. On the 11th the disturbance appeared near the Färöe islands, the pressure having decreased to 28.38 (720.8) at Thorshavn. Steep gradients were formed over the British Isles and the North sea; strong westerly gales prevailed over the former, and were especially heavy in the northern part of the kingdom, while moderate to strong se. gales occurred over the latter region. On the 12th the centre of disturbance was off the Norwegian coast; the wind at Thorshavn shifted to nw., and the moderate to strong westerly and northwesterly gales continued in the British Isles, with rainy weather and falling

temperature. To the eastward of the centre southerly winds and rising temperature prevailed. The depression moved slowly north-northeastward on the 13th and 14th, and passed into the Arctic on the latter date.

XVIII. and XVIII *a*.—These depressions united during the 12th, and from them was developed the disastrous storm which swept over the British Isles and northern Europe a few days later. On the 10th a barometric trough existed over the Gulf of Saint Lawrence and the maritime provinces, the pressure being least near Prince Edward island. By the following day the pressure over the maritime provinces and the Gulf had increased to 30.2 (767.1), while the region of low-pressures (xviii. *a*) was transferred to about N. 50°, W. 45°, where the barometer read 29.96 (761.0). At the same time the circulation of the winds, as shown by vessel-reports near N. 42°, W. 55°, indicated the development of another disturbance in that region. An area of high-pressures, 30.2 (767.1), occupied the eastern part of the United States and Canada, and stretched eastward to the sixtieth meridian. Another high area existed over the Azores, and extended westward to the fiftieth meridian. Over the region situated between the above-mentioned high areas the pressure ranged from 30.0 (762.0) to 30.1 (764.5). By the 12th the area of low-pressures had moved slowly northeastward, and was now shown near N. 49°, W. 45°, where the pressure was from 29.92 (760.0) to 30.05 (763.3). The high area of the Azores had become contracted and now extended only to the fortieth meridian, while that of the United States had advanced to about W. 55°. During the 12th the disturbance appears to have moved quickly northeastward, causing a decrease of about .2 inch in the pressure over the Azores. Meanwhile, the pressure was rapidly decreasing at the centre of disturbance, and on the 13th the isobar for 29.4 (746.7) indicated the centre, in about N. 55°, W. 20°. Prior to the 13th the pressure at the centre varied between 30.0 (762.0) and 29.9 (759.4), and the winds remained moderate in force, but as the pressure decreased they attained, on the 13th, the force of a moderate to strong gale in all quadrants of the depression. On the 13th westerly and northwesterly winds prevailed in the northern and eastern parts of Great Britain, which were under the influence of low area xvii., then central off the Norwegian coast, while in Ireland and at western and southwestern stations in England the winds changed to southerly and southwesterly. On the 14th the storm-centre was over the North sea; it was there that the storm exhibited its maximum violence, and caused such immense loss of life and property. On that day the atmospheric pressure at the centre of disturbance decreased to 28.5 (723.9), and very heavy rain fell in the British Isles and western Europe. In France and along the eastern shores of the North sea the pressure ranged from 29.3 (744.2) to 29.8 (756.9), so that between those districts and the centre of disturbance exceedingly steep gradients were formed. In Ireland and southwestern England the winds changed to northwesterly; in the southeastern counties of England they were southwesterly, and in Scotland, northerly, blowing with the force of a heavy gale in all districts. Over the eastern part of the North sea and along the European coast from northern France northeastward to Denmark, furious ssw. to sw. gales prevailed, causing much damage. Vessels were capsized in the harbors; the rivers rose above their ordinary level and, in some instances, flooded the adjacent districts; telegraph lines were prostrated and all communication was interrupted. In a paper by Mr. Charles Harding, F. M. S., published in the "Quarterly Journal of the Meteorological Society," the losses and casualties (vessels abandoned, foundered, stranded, dismasted, etc.,) reported at Lloyd's as having occurred on the coasts of the British Isles during the prevalence of this gale, are given as no less than two hundred and five vessels, with a loss of sixty-six lives. The published "Weekly Wreck Returns" for the second week in October showed the number of vessels lost off the coasts of the United Kingdom to be eighty-five, the number of lives lost or missing being one hundred and thirty-eight. In addition, the storm caused great damage to property and loss of life among the fishing population between the Forth and the Tweed, from fifty to sixty fishing boats being reported missing. On land the storm was equally severe; forty-six persons were killed and about forty sustained severe injuries, and in all parts of the kingdom, chimney-stacks, roofs, and walls were blown down; telegraph lines prostrated, and thousands of the finest and strongest trees were leveled with the ground. The gale was very destructive in the Netherlands; in fact, very few places in Great Britain or along the eastern shores of the North sea escaped without suffering more or less damage. It is estimated that 43,000 tons of produce, including 20,464 tons of coal, were lost at sea during this gale, and the loss to shipping property represented a money value of from $20,000,000 to $25,000,000. By the morning of the 15th the centre of the disturbance was on the eastern coast of southern Sweden, where the pressure was 28.7 (729.0). The wind at stations in Denmark, Germany, and the Netherlands had now changed to the westward, and blew with the force of a heavy gale; at Neufahrwasser, Memel, and other German ports on the shores of the Baltic, southwesterly to south-southwesterly winds of force 8 to 9 prevailed, with easterly gales over the Gulf of Bothnia, and moderate to strong northerly winds in southern Norway. By the 16th the pressure had increased to 29.4 (746.7), but was still lowest over the Baltic and the Gulf of Finland. The winds over the Gulf of Bothnia had changed to northerly and continued to blow with undiminished force, but to the southward they had decreased in violence. On the morning of the 17th the pressure was least in Finland, where it was about 30.0 (762.0), and increasing. An area of high-pressures now occupied central and western Europe, and was spreading northward, and by the 18th the region of greatest pressure occupied Scandinavia and Finland, while another area of high-pressures was shown in northeastern Russia and Siberia.

XIX.—This was a continuation of the depression first traced as i., and described above. On the 14th the disturbance was shown to the northeastward of Newfoundland, attended by moderate to fresh gales; on the 15th the centre was near N. 52°, W. 35°; vessels between W. 32° and 25° had sse. to se. winds of force 5 to 7, with cloudy or rainy weather, and pressure ranging from 29.65 (753.1) to 29.95 (760.7), while those between W. 37° and W. 50°, had northwesterly breezes of force 2 to 7. During the day the storm-centre moved slightly south of east to about N. 50°, W. 25°, where it appeared on the morning of the 16th; the s. s. "Köln," T. Jüngst, commanding, reported, in N. 49° 23′, W. 25° 33′, barometer 29.35 (745.5), wind n., force 5, raining; while the s. s. "Rhynland," W. G. Randle, commanding, in N. 49° 22′, W. 22° 37′, had barometer 29.48 (748.8), wind sse., force 6, stormy weather. On the 17th the disturbance was apparently central between W. 25° and 20° and near the fiftieth parallel. Moderate to strong south-southwesterly to south-southeasterly gales were reported from W. 20° eastward, with moderate to strong northeast to northwest breezes and squally weather between N. 50° and 55°, and W. 28° and 35°. During the 18th and 19th the disturbance moved southeastward over the Bay of Biscay. On the 20th the depression was in southern France, followed by slight disturbances which appear to have been offshoots from low area xxii., then central as a very severe storm over mid-ocean. On the 21st the disturbance reached northern Italy, the pressure having decreased to 29.6 (751.8). Higher temperature and general rains accompanied the passage of the depression over France and Italy. During the 21st and 22d it moved eastward over Austro-Hungary, attended by increasing pressure, and on the 23d it disappeared in the Caucasus mountains.

XX.—Between the 14th and 17th the atmospheric pressure over southern Greenland ranged from 28.93 (734.8) to 29.19 (741.4). On the last-mentioned date the shifting of the wind and rapid fall in the barometer at Stykkisholm, Iceland, indicated that the disturbance was passing to the northward of

that island. At the same time a depression, which had moved from the Gulf of Saint Lawrence, developed great energy when south of Greenland, and caused stormy weather over mid-ocean.

XXI.—This disturbance appeared in northern Italy on the 15th; it moved slowly southeastward during the day, and on the 16th the centre was over the Adriatic, causing strong ne. winds at stations on the northern and western shores of that sea. The course of the disturbance appears to have changed to the northeastward during the day, and by the 17th the depression had filled up in Austro-Hungary.

XXII.—This was a continuation of the disturbance described as number ii. of this REVIEW, and was noteworthy on account of its violence over the ocean and on the coasts of the British Isles. During the 15th and 16th it passed over the Gulf of Saint Lawrence, attended by moderate to strong gales and heavy rain. During the 16th it began to exhibit increased energy, and by the 17th the barometric readings near the centre were below 29.0 (736.6). The following reports indicate the severity of the storm: on the 16th, the bark "Fawn" had a heavy nne. to ssw. gale; carried away yards and sails, stove bulwarks, forward house and cabin-doors, and shifted cargo. From the 16th to 21st the ship was under bare poles. The bark "Cherokee" appears to have encountered first the gales produced by low area xix., and then again those of low area xxii. on the 19th and 20th. This vessel reported on the 16th, in N. 48° 20′, W. 41°, heavy sw. gale, changing to wnw. hurricane, which lasted until afternoon of the 19th. On the morning of the 20th (position not given), the barometer suddenly fell from 29.6 (751.8) to 28.4 (721.3), (correction unknown); hurricane beginning again at sse. and backing to nne.; ship under bare poles, lost one boat and stove bulwarks. On the 17th, Captain P. J. Irving, commanding the s. s. "Republic," in N. 48° 07′, W. 42° 44′, reported barometer 28.97 (735.8), wind wnw., 9; vessels to the westward of the forty-second meridian reported violent nw. gales, while strong southerly gales prevailed near W. 35°. On the 18th the storm-centre was near N. 54°, W. 35°; Captain Luckhurst, commanding the s. s. "Thames," reported in N. 55° 05′, W. 33° 58′, barometer 28.8 (731.5), wind e., force 6. On this date vessels between N. 50° and 45°, and W. 35° and 50°, reported nw. gales of hurricane force. Steep gradients were formed to the westward of the depression, the pressure having increased to 30.2 (767.1) over Newfoundland and eastward to the fiftieth meridian. On the 18th the s. s. "Devonia," in N. 51° 13′, W. 36° 00′, had a strong s. breeze, increasing to hurricane, with terrific sea; s. s. "The Queen," in N. 48° 57′, W. 31° 56′, strong ssw. gale, cloudy; s. s. "Elbe," in N. 50° 27′, W. 25° 30′, heavy sse. gale and high sea. The s. s. "Suevia," in N. 46° 47′, W. 35° 40′, had terrific w. to nw. storm, with very high sea, and the s. s. "Nederland," in N. 48° 01′, W. 46° 48′, reported heavy nnw. gale, high sea, and violent hail squalls. The s. s. "Hibernian," which arrived at Halifax, Nova Scotia, on the 21st, reported having passed through one of the most furious gales ever experienced in the Atlantic. On the 18th (no position given), the barometer remained at 28.4 (721.3) for twenty-four hours; the steamer sustained much damage. On the 19th the storm-centre was near N. 58°, W. 32°, the winds near the immediate centre being light, but those in the southwest and northwest quadrants blowing with hurricane force. During the day the depression appears to have moved abruptly southeastward, this change in direction being probably due to the rapid extension westward of an area of high-pressure, 30.6 (777.2), whose centre was then in northern Scandinavia. On the 20th the region of least pressure was between N. 45° and 50° and W. 25° and 20°; strong southeast to east gales prevailed on, and to the northward of, the forty-ninth parallel, and between W. 20° and 10°, with heavy nne. to nw. gales to the southwestward, and westerly breezes in the Azores. The bark "Europa," in N. 46°, W. 31°, reported barometer 28.65 (727.7), nne. hurricane, lasting eight hours; lost and split sails, etc. Bark "Lewis Smith," in N. 44° 30′, W. 37°, had a nne. hurricane, lasting twelve hours, during which she lost foremast and jibboom, broke stanchions, etc., and lay on her beam-ends for twenty-four hours. The barkentine "Bend Or" foundered in N. 49° 10′, W. 37° 30′, having withstood the gale for three days. The disturbance moved slowly eastward on the 21st, and its influence extended to the British Isles and western Europe, where rainy weather with rising temperature prevailed. On the 21st the ship "Knight Companion" had a heavy s. gale in N. 49° 40′, W. 10° 20′, shifted cargo, and sustained other damage. On the 22d and 23d the storm-centre lay to the southwestward of Ireland, at no great distance from the coast; very strong gales now prevailed in all quadrants of the disturbance, the centre of which was now enclosed by the isobar for 28.8 (731.5). Many vessels were driven ashore or foundered on the British coasts, and the loss of life was very great; the s. s. "Clan Macduff" was wrecked off the Welsh coast during this gale. The disturbance moved southeastward over France to Italy, where it appeared on the 24th, the pressure having increased to 29.55 (750.6); it was apparently forced in that direction by the area of high-pressures which still prevailed in northern Europe. After the disturbance passed to the eastward of the coast line, the slight increase of pressure which occurred was again checked by the approach of low area xxv., which had advanced to about N. 51°, W. 22°, by the 24th. The chart for the 25th showed low area xxii. to be central in Austro-Hungary, where the pressure ranged from 29.37 (746.0) to 29.5 (749.3). On the 25th the anticyclone over northern Europe began to move westward towards Iceland, and the depression in the south then took up a northeasterly direction and passed into Russia, where it was central, near Moscow, on the 26th, barometer at that station reading 29.37 (746.0), wind nw., light snow. On the same date there was a sw. gale of 45 miles an hour at Lugan, barometer 29.49 (749.1). On the 27th the storm-centre was in the Ural region, barometer at Ekaterinburg 29.03 (737.3), wind sw., 27 miles an hour. On the 28th the disturbance passed into central Asia and beyond the field of observation.

XXIII.—This was a slight disturbance which appeared in the Bay of Biscay on the 18th; on the 19th it was central in southern France, barometer at Lescar 29.69 (754.2), wind w., force 3; easterly and northeasterly winds prevailed at stations to the northward. On the 20th this depression was probably merged in low area xix.

XXIV.—This depression developed in the Black sea region on the 19th, and by the 20th the barometer had fallen to 29.59 (751.6) at Nikolaiev. During the 21st and 22d the disturbance moved north-northeastward and disappeared on the last-mentioned date.

XXV.—This disturbance was of tropical or sub-tropical origin, and was probably formed prior to the 20th. The earliest vessel-reports relative thereto are the following: on the 20th the bark "Hosea Rich," in N. 23° 45′, W. 62° 30′, took the southwest quarter of a cyclone; blowing with great violence for a few hours; vessel lost and split several sails. The bark "Neptun," in N. 25°, W. 60°, on the same date, reported a cyclone which began at e. and backed to nne., lasting but a short time, when it died to a calm for a few minutes, then sprang up again from w., veered to sw., and blew very hard for twenty-four hours; vessel lost trysails and split several others, barometer 28.18? (715.8?). On the 21st the bark "Pilgrim," in N. 27°, W. 62°, encountered a furious hurricane lasting eight hours, during which the vessel lay with her lee deadeyes in the water, filling her decks up to the weather side of the main hatch; every sail bent was blown out of the gaskets; main-topgallant yard was broken, and much running gear was carried away. In two hours the barometer fell from 30.0 (762.0) to 28.8 (731.5); the captain reported the wind as being the strongest he had experienced in twenty-seven years. Vessels on the fortieth parallel had strong northeasterly gales. On the 22d the storm-centre, having moved to the northeastward, was near N. 38°, W. 52°, and was enclosed by the isobar for 29.6 (751.8); the ship "St. John," in N. 38°,

W. 54°, had a se. to ne. hurricane, lasting twenty hours, during which she lost and split sails; and the whaling steamer "Lucretia," in N. 37° 30′, W. 46° 00′, lost topmasts and jibboom in a heavy gale. Vessels near N. 35° and between W. 40° and 50° had hard s. and ssw. gales. On the 23d the storm-centre was apparently near N. 40°, W. 43°; the winds had now shifted to n. and nw. over the region west of W. 45°, and blew with the force of a strong gale. The ship "Ella," in N. 41°, W. 51°, had a violent n. gale, in which she lost part of rail and bulwarks, shifted cargo and had cabin flooded; the bark "Sunbeam," in N. 36° 06′, W. 45° 28′, reported barometer 29.52 (749.8), wind w., force 9; and the U. S. steamer "Lancaster," in N. 38° 55′, W. 49° 05′, barometer 29.58 (751.3), wind n., force 7. By the 24th the centre of disturbance, having moved rapidly northeastward, had reached N. 50°, W. 24°, where the lowest reported barometric reading was 29.37 (746.0). Fresh easterly winds now prevailed over Ireland, while moderate to strong westerly and northwesterly winds were reported to the westward of the twenty-fifth meridian. During the 24th a depression, 29.8 (756.9), developed over Newfoundland and the Banks, and by the 25th the two depressions had apparently united, forming an extended barometric trough, within which moderate, variable winds prevailed. By the 26th the trough had divided; the western half was now merged in an important depression which had moved over the United States, the atmospheric pressure at the centre having rapidly decreased as the disturbance neared Newfoundland. The eastern half occupied the southern part of the Bay of Biscay and the northern part of the Iberian peninsula, the centre being apparently off the coast of the latter. Between these centres of disturbance the pressure began to increase over the ocean, and the high area of the Azores showed a tendency to unite with that which existed over Iceland. On the 27th and 28th the disturbance moved slowly over the Iberian peninsula, and by the 29th it was shown as an extensive but shallow depression covering the Mediterranean and Algeria. Rain fell at stations in Italy and southern France, with cloudy weather in Spain and Algeria, accompanied by high winds in the latter. On the 30th the centre of disturbance appeared to be over the Gulf of Genoa, and by the 31st it had moved over Italy to the Adriatic, the pressure ranging from 29.55 (750.6) to 29.7 (754.4).

XXVI.—This depression appeared in western Siberia on the 23d, pressure at Akmolinski 29.64 (752.8), wind sw.; on the 24th there was no material change in the position of the disturbance, but by the 25th it had moved northeastward beyond the limits of observation.

XXVII.—This was a continuation of the disturbance described as low area vi. of this REVIEW. On the 27th it was central as a storm of considerable energy to the northeastward of Newfoundland, causing strong s. to sw. gales in the eastern quadrants. The depression moved slowly north-northeastward, and on the 28th it was to the southwestward of Greenland, the lowest reported pressure being 29.54 (750.3), wind ssw., force 6, observed on board the s. s. "Buenos Ayrean," in N. 54° 58′, W. 43° 55′. To the westward of the thirtieth meridian the pressure was above 30.0 (762.0). On the 29th the disturbance advanced slowly eastward, the high-pressure in front of it gradually giving way; during this time stormy weather prevailed to the eastward and southward of the depression. On the 30th the storm-centre was apparently near N. 55°, W. 25°, and at the close of the month it was shown in N. 56°, W. 20°; the barometer at the centre now read 29.39 (746.5), and strong southerly gales prevailed off the Irish coasts, while the area of high-pressures, which had occupied the British Isles, was being forced to the eastward.

XXVIII.—This depression appeared in Scandinavia on the 27th, and was chiefly remarkable for the abnormal track of the centre. On the 27th the pressure decreased to 29.95 (760.7) in Norway, accompanied by rainy weather at southern stations; the disturbance moved south-southeastward, and on the 28th it occupied the Baltic, causing snow or rain at stations in northern Europe. On the 29th the disturbance moved into northern Germany, where it was apparently dissipated.

XXIX.—On the 15th there was a decrease of pressure over the Sea of Okhotsk, the barometer at Nikolaevsk on the Amoor having fallen from 29.83 (757.6) to 29.54 (750.2). By the 16th the decrease had spread southeastward over the Pacific ocean; in the report of the s. s. "Belgic," H. Davidson, commanding, in N. 43° 48′, E. 167° 56′, on the 16th, the barometer read 29.62 (752.3), showing a decrease of about .4 inch since the observation of the 15th; wind ese., force 6, overcast, rainy. The s. s. "Belgic" appears to have moved eastward in the western quadrants of the depression for several days, or until the course of the disturbance changed to the northward. On the 17th, in N. 43° 34′, E. 174° 10′, the barometer read 29.11 (739.4), wind wnw., force 8, overcast, rainy; 18th (19th, ship's date), in N. 43° 11′, E. 180° 00′, barometer 29.56 (750.8), wind wnw., force 8, cloudy. The s. s. "Oceanic," W. H. Kidley commanding, in N. 35° 10′, W. 171° 46′, had w. wind of force 6, barometer falling from 30.08 (764.0) to 29.98 (761.5). On the 19th the s. s. "Belgic," in N. 43° 11′, W. 174° 04′, reported barometer 29.58 (751.3), wind wsw., force 4, raining. On the 20th the storm-centre appears to have been near the "Belgic;" that vessel, in N. 43° 05′, W. 167° 34′, reported barometer 29.16 (740.7), wind sw., force 6, cloudy. By the 21st the steamer had passed to the eastward of the storm-centre, which was now apparently moving northeastward; the "Belgic," in N. 42° 55′, W. 161° 00′, reported barometer 29.12 (739.6), wind sw. by s., force 6, fair. At the same time the pressure had decreased to the northward, the barometer at Fort Saint Michaels, Alaska, read 29.45 (748.0), a fall of .18 inch, wind shifting from se. to e. During the 22d the disturbance moved northward, the pressure continuing to decrease at Fort Saint Michaels, where the barometer on the 22d read 29.28 (743.7), wind e. On the 23d the wind at the above station shifted to ne., with barometer down to 29.22 (742.2); 24th, barometer 29.12 (739.6), wind ne. At Ooglaamie, Alaska, on the 23d, the pressure was about 29.74 (755.4) throughout the day, wind nne. to ne., 20 to 28 miles an hour, snowing; on the 24th, barometer at that station slowly falling to 29.52 (749.8), wind n. to ne., increasing from 13 miles to 44 miles an hour, snowing. On the 25th the pressure at Fort Saint Michaels was 29.14 (740.1), wind n., increasing to 20 miles an hour, light snow; at Ooglaamie the barometer ranged from 29.46 (748.3) to 29.51 (749.5), wind n., decreasing in force. On the 26th the wind remained at n., but increased to 40 miles an hour at Fort Saint Michaels, barometer slowly rising. On the 27th the decrease of pressure spread to the eastward, causing a fall in the barometer at Sitka. On the 28th the centre of disturbance was apparently to the eastward of Sitka, where the barometer read 29.23 (742.4), wind ne., light. On the 29th and 30th the disturbance occupied eastern Alaska and the Northwest Territories of British America. On the 31st a depression, which was probably identical with the present disturbance, appeared in Manitoba.

The following notes on the typhoons of October, 1881, are taken from Mr. Marc Dechevrens' "Typhoons of 1881."

I.—This typhoon was one of the most disastrous of the season; it was first observed to the eastward of Luzon on September 29th and 30th. Moving in a westerly direction south of Manila, it reached the China sea on October 1st; during its passage over Luzon it caused much damaged in the southern provinces of that island, and was attended by heavy rains, which added considerably to the damage resulting from the violent winds. The typhoon appears to have been much more violent in the southern semi-circle, with westerly winds, than in the northern, with easterly winds. Several vessels encountered the typhoon in the China sea, and all agree as to the violence of the disturbance, especially in the force of the westerly winds. The report of the s. s. "Fleurs Castle," which was within the calm-centre, is interesting; the typhoon first gave evidence of its approach on the 2d, in about N. 14°, E. 112°, by strong, increasing nw. breeze, with violent squalls and heavy rain; sky black and threatening, and barometer falling

rapidly. At 3.30 p. m. of the 2d the barometer had fallen to 28.8 (731.5), wind blowing from the nw. with terrific force; at 5 p. m. the barometer read 28.3 (718.8), which was its lowest reading; at 5.30 the weather suddenly brightened, the wind falling almost to a calm; 6 p. m., barometer 28.3 (718.8), a large number of birds alighted on the ship and remained until 7 p. m.; at 7.30 the wind suddenly burst out from the sw. with renewed fury; at 11 p. m. the barometer read 29.2 (741.7), rising, and wind moderating. The typhoon is here well-defined with its nw. wind, shifting to w., and then to sw. after the passage of the centre. The duration of the calm was about an hour and a quarter, and the velocity of translation of the typhoon was about ten and a half miles an hour; thus it may be inferred that the diameter of the calm-centre was about ten or twelve miles; within this region myriads of birds sought refuge, and a clear sky, with sunshine, prevailed. Notice should be taken of the depth of the central depression, as indicated by the reading of the barometer, 28.3 (718.8), on board the "Fleurs Castle," which was then in about N. 15°, E. 113°; at the same hour the barometer on board H. M. S. "Magpie," in the bay of Hoihow, Hainan, read 29.78 (756.4), thus giving a gradient of 1.48 inches for a distance of three hundred and forty-five miles. After crossing the meridian of 115° east longitude the typhoon appears to have divided into two parts; these segments moved west-northwestward on nearly parallel lines until the 5th, when they entered the Gulf of Tonquin. Vessel-reports indicate that both of these disturbances exhibited great energy during their passage over the China sea. The northernmost segment, after rounding the southern part of Hainan, passed northwestward over the Gulf of Tonquin and entered China. During the 5th, 6th, and 7th it passed northeastward over the provinces of Quang-Si, Kiang-Si, and Che-Kiang, and reached the Yellow sea to the southward of Cape Shan-Tung. Moving northeastward it crossed the peninsula of Corea and passed into the Sea of Japan, where it was central on the 9th; during that day it moved over the northern part of Niphon, and on the 10th it disappeared in the Pacific. At Zi-Ka-Wei, during the passage of the disturbance, the lowest barometric reading was 29.82 (757.4) at 4 a. m. of the 8th, with heavy rain from 2 to 3 a. m. At stations in Japan, during the passage, the lowest readings ranged from 29.55 (750.6) to 29.75 (755.6). The second, or southernmost, segment was the most disastrous in its effect on life and property. It appears to have passed over the southern part of the province of Tonquin, and to have moved over central China much farther to the westward than its companion; it also reached a higher latitude; it lost much of its violence during the 9th and 10th, on which date it reached the Gulf of Pe-Che-Li; it then moved southeastward over Corea to southern Japan, without exhibiting any storm-energy, and finally passed into the Pacific as a slight depression on the 13th. The velocity of translation of the first, or northern, segment of the typhoon, which retained its original energy longer and which moved with greater rapidity than the other, was about nine miles an hour from Luzon to Tonquin; in China it was about fifteen miles, and in the Yellow sea and Japan it increased to thirty miles an hour. The second, or southern, segment moved over China at the rate of about twelve miles an hour, and after again leaving the continent on the 11th, its velocity was about thirteen miles an hour. This typhoon is reported to have been one of the most disastrous ever experienced on the coast of Tonquin. But few buildings were able to withstand the fury of the wind, and were consequently leveled; the high tide, assisted by the heavy rain which fell, inundated the country and augmented the damage and suffering. Up to the 8th the number of junks known to have been lost was sixty-one, and the bodies of two hundred and twenty-seven persons had been recovered. At Tallee there were six feet of water in the houses three or four miles distant from the sea-shore, and the current was so strong that it swept away the greater part of the town; the estimated number of persons drowned was three thousand. The bishop of western Tonquin, in a telegram sent to Paris a few days after the storm, stated that two hundred churches and thirty-four parsonages and colleges were destroyed, and two thousand houses blown down.

II.—This typhoon was observed on the 12th, on which date it was to the eastward of Luzon and moving in a northwesterly direction. During the day it passed over the northern part of Luzon, causing furious gales in that island; at Manila the wind blew in gusts for a short time at the rate of seventy miles an hour, but the mean velocity of the wind during the heaviest period of the storm did not exceed fifty miles an hour; the wind blew from the sw., and the lowest reading of the barometer was 29.62 (752.3). At Tuguegarao, in northern Luzon, the barometer at 8.15 p. m. of the 12th read 29.3 (744.2), wind se., 40 miles an hour, stormy weather. It moved over the China sea during the 13th and 14th; its violence was felt by the ship "Geraldine Paget," which, after being roughly handled by the typhoon, was finally driven on the eastern side of Pratas shoal (about N. 20°, E. 115°). The typhoon passed south of Pratas reef, and moving in a northwesterly direction it entered China, in about the latitude of Hong-Kong, on the early part of the 15th. The barometric minimum observed on board H. M. S. "Magpie," anchored about forty miles south of Hong-Kong, was 29.14 (740.1), wind nw., force 10, with torrents of rain. On board the s. s. "Rosetta," to the eastward of Hong-Kong, in about N. 22° 29′, E. 116° 14′, the lowest reading was 29.41 (747.0), wind se. by e., force 10. The storm does not appear to have extended very far north, since it was scarcely felt beyond the Straits of Formosa. The centre of the typhoon passed very near Hong-Kong and caused great damage to native craft in, and near, the harbor. At Macao more than fifty junks of all sizes were completely wrecked, and as many more were damaged. At Canton the destruction to life and property was very great, caused chiefly by the heavy floods which occurred during the passage of the typhoon. After passing Hong-Kong the typhoon moved north, or northeastward, losing much of its violence, as it was scarcely felt at Zi-Ka-Wei, but on reaching the sea on the 17th it developed new energy. It moved northeastward over the Yellow sea and the peninsula of Corea on the 17th, accompanied by squally weather and southerly backing to northwesterly winds of force 6 to 8. After passing over the Sea of Japan it entered Niphon and crossed over that island towards the Pacific, where it disappeared on the 18th; it manifested no violence when in Japan, its presence being indicated only by light rains and a slight decrease of pressure. The velocity of translation of this typhoon was about ten and three-quarter miles an hour when over the China sea (13–15th); it afterwards increased to fifteen miles an hour in China, and when over the Yellow sea and the Sea of Japan it averaged thirty-six miles an hour.

III.—This typhoon apparently originated in the southeastern part of the Philippine archipelago prior to the 18th; it moved west-northwestward, and passed Mindoro island on that date, exhibiting much violence during its passage. On the 19th the wind reached a velocity of 50 miles nnw. at Tuguegarao, and of 34 miles w. at Manila, with heavy rain at the former station. From the 20th to 24th the typhoon moved slowly westward over the China sea, causing, during its progress, the wreck of the American ship "Humboldt" on the Paracel islands. Passing to the southward of Hainan the centre of the typhoon entered the Gulf of Tonquin on the 24th; the lowest observed pressure during its passage over the China sea was 29.42 (747.3), and the highest winds reported were of force 9; there were no reports of damage in the Gulf of Tonquin. During the 24th the disturbance passed over western Tonquin and into central China; it moved north-northeastward, causing fresh to strong winds at stations east of the centre, and on the 28th it was to the northward of the Gulf of Pe-Che-Li. It was attended by heavy weather over the Gulf and the northern part of the Yellow sea; it then passed over northern Corea and into the Sea of Japan, and thence southeastward over Niphon to the Pacific, where it disappeared on the 30th, its passage over Niphon being hardly perceptible. The velocity of translation

was as follows: in the China sea, from the 19th to 22d, 5.2 miles, and from the 22d to 25th, 9.7 miles; in central China, from the 25th to 28th, 18.3 miles; over northern China and the Sea of Japan, from the 28th to 30th, 21.7 miles an hour.

GENERAL REMARKS.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevation of stations is obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least, this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the alphabet of the letter so used.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

Arrows show direction of, and fly with, the wind. Force is shown as follows:

SYMBOLS.	FORCE.	VELOCITY.	
		MILES PER HOUR.	METRES PER SECOND.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

On February 1, 1883, the following change was made in publishing marine data in the "Daily International Bulletin":

All marine reports are classified as to districts, which are designated as follows: District No. 1, North Atlantic; District No. 2, South Atlantic, &c., under which headings the respective reports are printed.

BOUNDARIES OF DISTRICTS.

District No. 1 comprises the Atlantic ocean, its arms and tributaries, from the equator northward to the pole, and in the arctic from 100° E., westward to 100° W., of Greenwich.

District No. 2 comprises the Atlantic ocean, its arms and tributaries, from the equator southward to the pole, and in the antarctic from 20° E., westward to 70° W., of Greenwich.

District No. 3 comprises the Pacific ocean, its arms and tributaries, from the equator northward to the pole, and in the arctic from 100° W., westward to 100° E., of Greenwich.

District No. 4 comprises the Pacific ocean, its arms and tributaries, from the equator southward to the pole, and in the antarctic from 70° W., westward to 145° E., of Greenwich.

District No. 5 comprises the Indian ocean, its arms and tributaries, from the Asiatic continent southward to the pole, and in the antarctic from 20° E., eastward to 145° E., of Greenwich.

The following remarks relate to the individual peculiarities in the *methods* of recording, and the *times* of taking, the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of General Maritz, Commandant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind-direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10, and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation. Tchang-Kia-Tchouang, the original gives barometer in millimetres reduced to sea-level, temperature in Centigrade, velocity in kilometres for past 3 hours 53 minutes, clouds on scale of 0–10, no distinction between upper and lower.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted. At Jacobshavn and Upernavik, the observations are taken at 8 a. m., instead of 8.44 and 8.24 a. m., respectively.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Mont Louis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is

employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. At Besançon the observations are taken at at midday instead instead of 0.32 p. m.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only, and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (by authority of the Secretary of Public Works—furnished by co-operation of Señor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico, and respective observers).—All conversions are published as given in the originals, but when an evident mistake has been made the data is queried at this office. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Astrakhan, Ashurada and Baku, the barometer-cistern is below sea-level. At Kasalinsk, the barometer appears to have a large error.

SCOTTISH SERIES (furnished by co-operation of Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society at Edinburg, and respective observers).—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rainfall, temperature, and humidity are not given at North Unst. The wind-direction is given to 32 points.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Professor E. Plantamour, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota and Navassa the barometer is corrected for temperature only; at Puerto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind-direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind-direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES (furnished by co-operation of E. Malmberg, Director of the Nautical Meteorological Bureau at Stockholm).—The originals give the barometer as read off. The movement of the air is indicated by force on a scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on a scale of 0 to 9 and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operation of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

OCEAN SQUARES.—The table of ocean square data shows (1) the location

of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

ERRATA.

DAILY BULLETIN, February 3, 1883, page 7, district No. 1, bk. "Galena," Cardiff, Eng., should read Cardiff, Wales; same correction on 5, 6, 8, 9, 10, 11, 12, 17, 19, 20.

17th, page 3, Italian, Syracuse, actual barometer 29.98 inches, should read 29.89.

19th, page 1, British, Truro, temperature 8°.6 Cent., should read 8°.9.

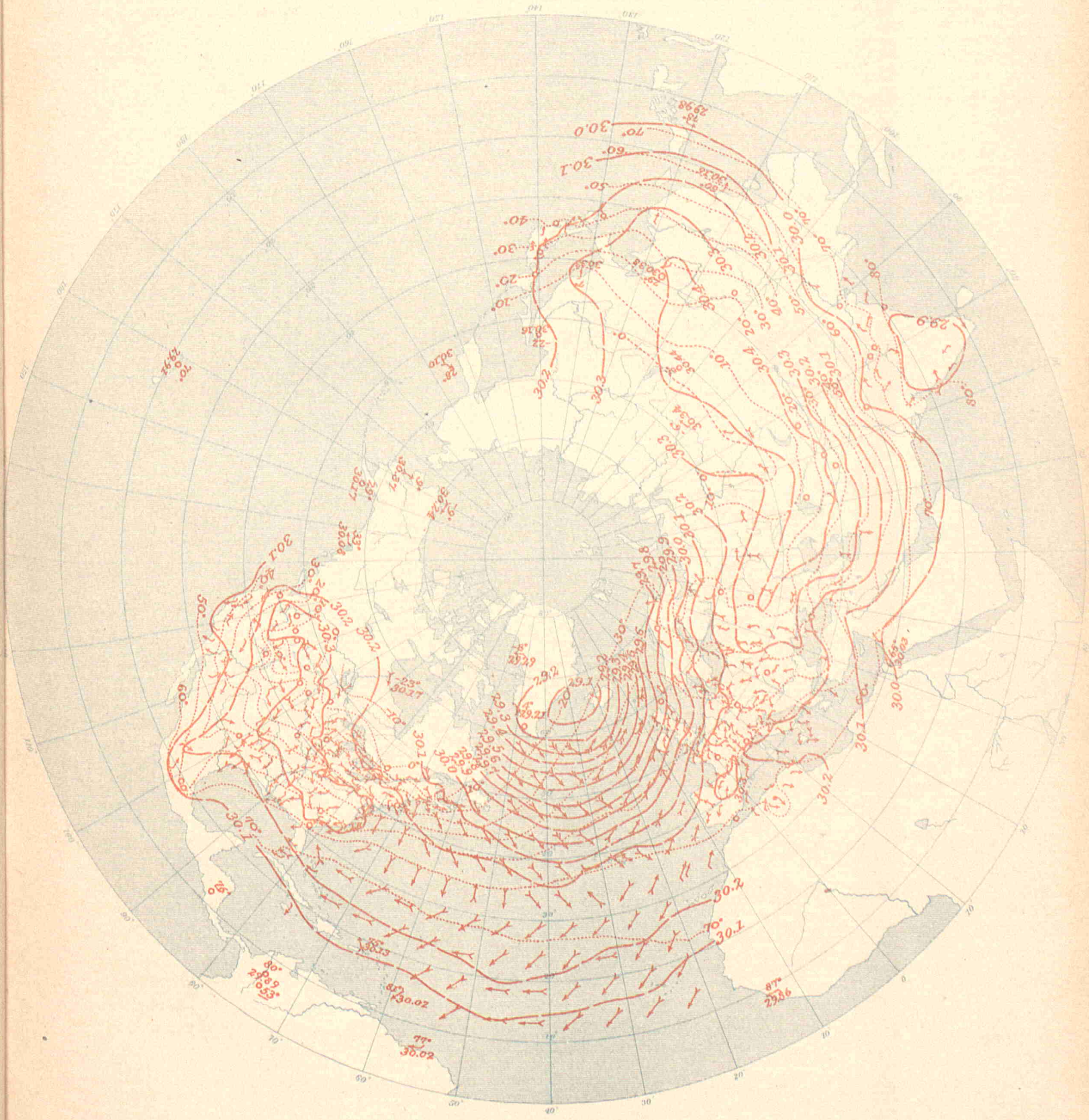
25th, page 5, St. Paul, Minnesota, temperature 14°.2 Cent., should read —14°.2.

26th, page 1, British, Sheffield, reduced barometer 785.7 mm., should read 775.7.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

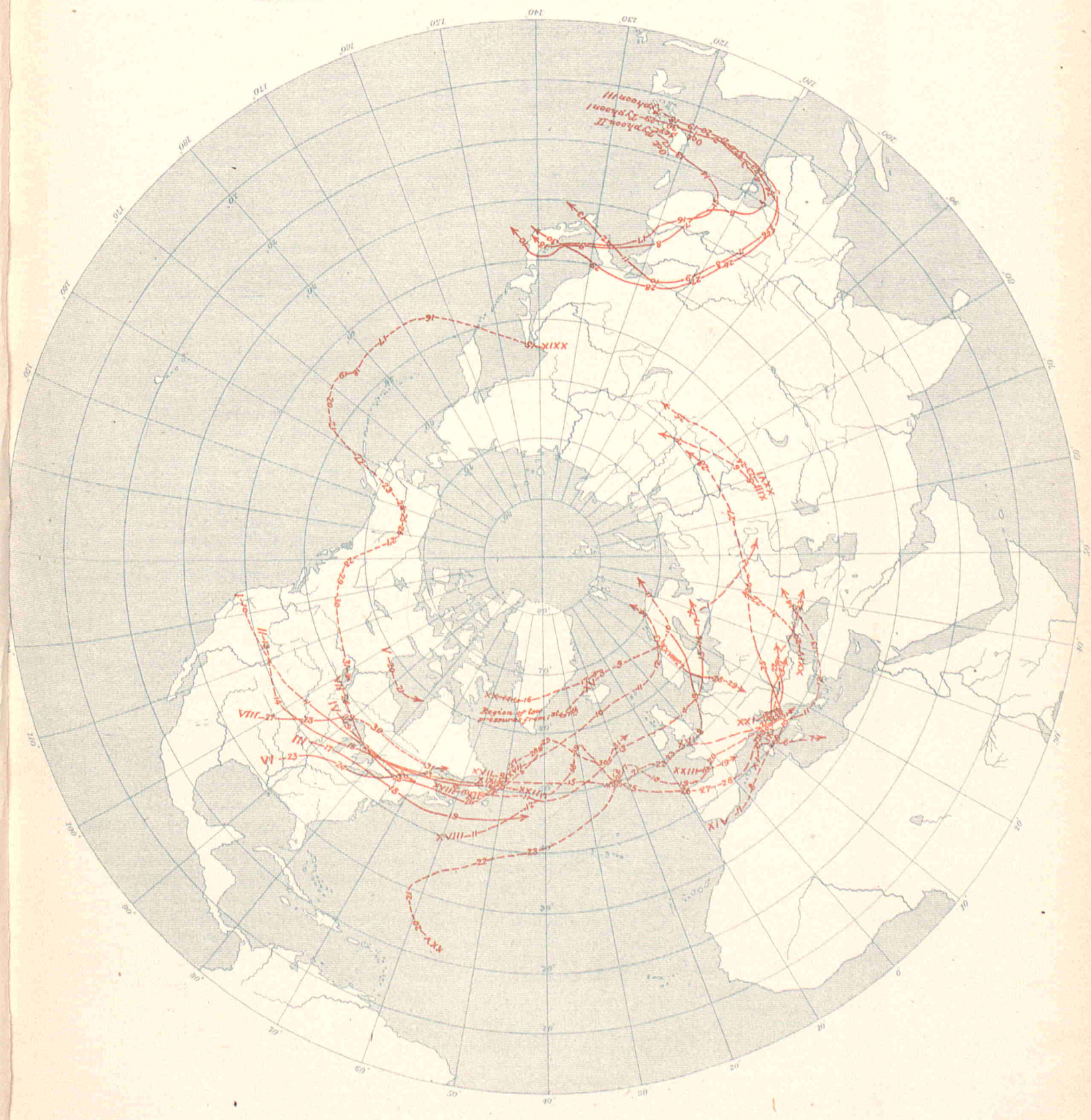
International Chart II. February, 1883. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.

International Chart III. October, 1881. Storm-Tracks.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF MARCH, 1883.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
APRIL, 1884.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

MARCH, 1883.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for March, 1883. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	O	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	29.97	761.2	59.4	15.2	80.8	3	.....	.....	.....	13	.....	15	.....	.....	.....	.....	1	1.57	39.8
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	29.93	760.2	58.8	14.9	56.5	3	.....	17	4	2	1	2	2	.....	.....	.....	3	4.22	107.1
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	29.88	758.9	58.6	14.8	66.3	3	13	7	2	1	2	.....	3	.....	.....	.....	4	3.75	95.2
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	29.87	758.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	29.99	761.7	56.7	13.7	72.5	3	10	4	10	2	2	.....	.....	.....	.....	.....	4	1.06	26.9
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	29.98	761.4	56.3	13.5	60.0	7	7	14	2	.....	.....	.....	1	.....	.....	.....	1	0.42	10.6
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	55.4	13.0	32.7	2	9	8	3	7	2	.....	.....	.....	.....	.....	2	0.32	8.1
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2559	780	.....	.....	29.99	761.8	59.4	15.2	35.5	7	5	.....	5	1	.....	8	5	.....	.....	.....	2	0.24	6.0
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	29.95	760.8	62.6	17.0	32.9e	9	4	.....	1	3	4	1	1	8	.....	.....	3	imap.	imap.
AUSTRALIAN.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	30.00	761.9	30.09	764.2	62.7	17.0	78	3	.....	4	2	6	9	4	2	1	.....	.....	4	4.15	105.4
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.27	743.5	29.84	757.8	40.6	4.8	66.8	2	....	3	12	2	.....	2	10	.....	.....	.....	8	2.87	72.9
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.04	737.7	29.84	757.8	45.9	7.7	77.2	3	4	9	4	1	1	1	8	.....	.....	.....	7	0.91	23.0
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	28.91	734.4	29.79	756.6	30.0	—1.1	77.7	12	3	.....	.....	7	1	.....	.....	8	.....	.....	7	0.07	17.1
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.55	725.2	29.82	757.4	39.0	3.9	88.9	.....	5	1	10	3	2	6	3	1	.....	.....	5	2.32	59.0
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.32	719.4	29.79	756.6	38.8	3.8	85.0	2	7	2	1	5	10	3	1	.....	.....	.....	7	2.49	63.3
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.46	722 8	29.85	758.2	33.1	0.6	77.7	.....	2	7	3	.....	1	6	8	4	.....	.....	8	1.48	37.5
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.78	731.0	29.80	757.0	32.2	0.1	72.2	1	7	4	3	3	2	3	8	.....	.....	.....	8	1.78	45.3
Neu Schmecks	N. 49 10	E. 20 14	1.29 p.m.	3297	1005	26.31	668.2	29.76	756.0	31.6	—0.2	74.8	1	1	4	2	.....	5	2	4	12	.....	.....	7	2.32	59.0
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.61	752.1	29.72	754.8	45.7	7.6	71.2	1	1	4	6	3	1	8	7	.....	.....	.....	5	4.94	125.4
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.30	744.2	29.76	755.9	38.1	3.4	68.0	5	5	6	3	4	3	1	4	.....	.....	.....	5	2.39	60.8
Szegedin *a*	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.50	749.4	29.80	756.8	39.9	4.4	73.5*d*	3	8	2	2	7	2	1	2	3	.....	.....	7	2.15	54.6
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.69	754.1	29.79	756.6	44.4	6.9	57.4	.....	1	.....	6	1	1	1	12	9	.....	.....	7	3.32	84.5
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.13	740.0	29.86	758.5	36.3	2.4	62.5	5	6	6	2	.....	4	3	5	.....	.....	.....	6	0.97	24.7
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.85	758.2	29.95	760.7	37.5	3.1	70.8	1	9	3	3	2	6	2	5	.....	.....	.....	6	4.35	110.5
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.77	756.1	30.02	762.5	41.0	5.0	69.6*b*	12	2	3	5	1	2	2	4	.....	.....	.....	7	.....	.....
Bidston	N. 53 24	W. 3 04	11.50 a.m.	197	60	.....	.....	29.96	761.0	39.8	4.3	69.0	3	6	7	4	1	2	3	5	.....	.....	.....	6	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.40	746.7	29.94	760.5	38.9	3.8	70.8	4	3	6	3	1	3	6	5	.....	.....	.....	6	.....	.....
Bradford *e*	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.53	750.0	29.92	760.0	39.0	3.9	75.0	.....	6	1	3	.....	5	.....	11	.....	.....	.....	7	0.89	22.6
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.98	761.5	30.01	762.2	81.2	27.3	69.5	.....	.....	.....	.....	.....	1	2	28	.....	.....	.....	4	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	29.84	757.9	29.94	760.5	41.4	5.2	72.5	10	6	2	3	.....	.....	6	4	.....	.....	.....	6	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.79	756.7	29.93	760.2	39.7	4.3	76.0	7	2	2	6	.....	.....	5	6	3	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.74	755.4	29.97	761.2	42.9	6.1	62.0	10	4	5	1	.....	2	4	5	.....	.....	.....	5	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2205	672	27.63	701.8	29.85	758.2	75.7	24.3	67.8	.....	1	.....	.....	4	5	16	3	2	.....	.....	6	.....	.....
Freetown	N. 8 30	W. 13 14	11.50 a.m.	224	68	29.65	753.1	29.88	758.9	83.7	28.7	84.2	6	2	5	5	5	2	5	1	.....	.....	.....	3	.....	.....
Galway *a*	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.96	761.0	30.00	762.0	43.9	6.6	67.9	9	4	4	1	2	.....	.....	10	.....	.....	.....	5	1.08	27.4
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	29.90	759.4	29.95	760.7	58.5	14.7	94.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.75	755.6	29.96	761.0	40.3	4.6	63.4	8	1	9	3	2	.....	3	5	.....	.....	.....	7	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.76	755.9	29.93	760.2	48.4	9.1	62.1	9	7	2	2	3	0	2	6	.....	.....	.....	6	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.62	752.3	29.93	760.2	42.2	5.7	70.5	11	7	2	1	1	2	2	5	.....	.....	.....	6	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.90	759.4	29.94	760.5	40.6	4.8	57.5*a*	11	5	2	2	2	.....	3	6	.....	.....	.....	6	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.68	753.9	29.94	760.5	40.0	4.4	68.5	5	4	2	5	.....	3	1	11	.....	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.77	756.1	29.84	757.9	58.2	14.6	84.9	.....	10	9	5	1	6	.....	.....	...	.....	.....	5	2.15	54.6
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.06	763.5	30.10	764.5	72.5	22.5	70.8	3	4	1	6	1	8	2	6	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.71	754.6	29.94	760.5	40.9	4.9	62.5	9	4	4	3	2	1	1	7	.....	.....	.....	6	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.87	758.7	29.94	760.5	43.9	6.6	67.3	1	12	1	2	1	1	1	10	2	.....	.....	6	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.85	758.2	29.95	760 7	37.4	3.0	87.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Scutari Cemet'y *a*	N 41 00	E. 29 03	2.04 p.m.	60	18	29.73	755.1	29.80	756.9	49.0	9.4	67.5	3	2	2	8	9	1	...	5	.....	.....	.....	7	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.67	753.6	29.95	760.7	40.8	4.9	79.3	4	3	2	3	3	.....	1	13	2	.....	.....	7	.....	.....
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.92	760.0	29.95	760.7	41.3	5.2	71.2	11	4	5	1	1	1	7	1	.....	.....	.....	6	0.72	18.3
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.80	756.9	38.8	3.8	62.5	4	6	5	2	1	1	3	9	.....	.....	.....	8	.....	.....
Strathfeld Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.71	754 6	29.94	760.5	42.2	5.7	71.4	8	3	6	1	1	.....	9	3	.....	.....	.....	7	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.93	760.2	29.97	761.2	47.4	8.6	69.2	4	10	4	1	1	.....	5	6	.....	.....	.....	6	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m	23	7	30.00	762.0	30.03	762.7	44.9	7.2	66.7	11	2	5	.....	.....	3	5	5	.....	.....	.....	7	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.47	748.5	29.87	758.7	56.8	13.8	66.4	1	9	7	7	2	3	2	.....	.....	.....	.....	6	2.07	52.6
CANADIAN.																										
Bathurst *d*	N. 47 39	W. 65 43	7.45 a.m.	35	11	.....	.....	.....	.....	16.3	—8.7	.....	.....	10	.....	1	1	.....	.....	1	14	.....	.....	5	2.10	53.3
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.74	755.4	29.78	756.4	20.2	—6.6	86.7	4	3	10	3	4	2	2	2	1	8815	14186	6	3.53	89.7
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.73	755.1	29.80	756.9	13.9	—10.1	88.0	2	8	6	9	.....	1	2	3	.....	4923	7923	7	4.81	122.2
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.71	754.6	29.92	760.0	11.0	—11.7	90.9	2	13	11	2	.....	2	.....	1	.....	.....	.....	5	2.86	72.6
Dalhousie *b*	N. 48 04	W. 66 21	7.32 a.m.	45	14	29.74	755.4	29.80	756.9	8.9	—12.8	.....	.....	.....	19	1	.....	.....	5	.....	4	.....	.....	5	2.95	74.9
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.78	756.4	29.80	756.9	12.1	—11.1	88.4	4	10	4	3	4	1	2	2	1	14745*c*	23729*c*	9	2.32	58.9
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.35	745.5	30.18	766.6	—2.1	—18.9	76.8	12	2	4	3	1	2	.....	5	2	8417	13546	3	0.29	7.4
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	29.78	756.4	29.85	758.2	14.1	—9.9	82.2	.....	16	2	3	.....	1	2	2	5	.....	.....	6	3.86	98.0
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	28.86	733.0	30.05	763.3	14.0	—10.0	95.8	2	8	.....	5	3	1	1	2	9	.....	.....	2	2.50	63.5
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.69	754.1	29.83	757.7	24.0	—4.4	88.9	4	3	13	2	5	2	1	1	.....	.....	.....	7	4.75	120.6
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	338	103	29.56	750.8	29.97	761.2	20.4	—6.4	88.0	.....	2	5	17	1	1	.....	5	.....	.....	.....	5	1.91	48.5
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.62	752.3	29.97	761.2	15.0	—9.4	85.3	5	6	7	4	2	.....	2	4	1	5214*c*	8392*c*	6	3.28	83.3
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.72	754.9	29.70	755.9	26.4	—3.1	85.1	1	9	3	7	.....	7	1	3	.....	.....	.....	.....	.....	.....
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.71	754.6	29.92	760.0	13.1	—10.5	77.1*c*	3	3	10	1	4	2	1	5	2	.....	.....	5	3.30	83.8
Ottawa	N. 45 26	W. 75 45	7.05 a.m.	223	68	29.68	753.9	29.95	760.7	7.8	—13.4	89.0	1	4	7	2	1	1	1	1	13	.....	.....	5	1.68	42.7
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	625	191	29.27	743.4	30.00	762.0	7.4	—13.7	77.0	3	.....	6	1	3	2	9	5	2	6074	9775	5	0.75	19.0
Peterboro	N. 44 17	W. 78 20	6.54 a.m.	688	210	29.22	742.2	30.03	762.7	14.8	—9.6	70.4	.....	3	6	4	.....	.....	.....	1	17	.....	.....	5	1.82	46.2
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.27	743.4	30.02	762.5	17.5	—8.1	92.7	2	7	8	4	2	.....	2	4	2	6825	10983	5	2.37	60.2
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.33	745.0	30.03	762.7	16.8	—8.4	88.0	4	4	11	2	2	.....	4	3	1	.....	.....	6	1.91	48.5
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.54	750.3	29.88	758.9	7.7	—13.5	79.7	2	2	12	.....	.....	1	4	3	7	.....	.....	6	3.55	90.2
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.50	749.3	29.98	761.5	1.2	—17.1	86.5*c*	.....	13	3	.....	.....	2	5	.....	8	.....	.....	5	0.85	21.6
Sangeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.27	743.4	30.01	762.2	15.4	—9.2	93.4	1	4	3	5	4	6	1	2	5	9201	14807	5	0.80	20.3
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.77	750.1	29.83	757.7	19.5	—6.9	86.4	6	13	1	5	.....	1	.....	3	2	.....	.....	3	2.66	67.6
Saint John, N. B.	N. 45 17	W. 66 03	7.44 a.m.	150	46	29.65	753.1	29.83	757.7	19.7	—6.8	91.3	11	4	1	6	.....	1	.....	8	.....	.....	.....	6	5.84	148.3
Saint Pierre *g*	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.75	755.6	25.4	—3.7	.....	1	5	4	3	1	3	1	6	.....	.....	.....	.....	0.56	14.2
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	29.66	753.4	30.05	763.3	12.3	—10.9	91.8	2	4	6	4	1	2	2	1	9	.....	.....	5	2.79	70.9
Sydney	N. 46 08	W. 60 10	8.07 a.m	37	11	29.76	755.9	29.82	757.4	21.0	—6.1	86.7	3	2	5	8	4	2	3	2	2	9421	15161	7	6.84	173.7
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.01	752.1	30.01	762.2	17.3	—8.2	81.9	4	5	8	2	2	1	1	2	6	8176	13158	5	2.30	59.9
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26	29.70	754.4	29.80	756.9	23.5	—4.7	88.1	6	2	12	1	4	1	2	1	2	.....	.....	7	.....	.....
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	28.90	734.0	30.05	763.3	15.1	—9.4	79.6	5	1	11	3	7	1	2	1	.....	.....	.....	5	3.82	97.0
Yarmouth	N 43 50	W. 66 02	7.44 a.m.	61	19	29.81	757.2	29.88	758.9	26.4	—3.1	81.7*a*	8	9	1	2	4	1	3	2	1	9705	15618	7	4.57	116.1
Saint Johns, N.F *c*	N. 47 34	W. 52 54	8.36 a.m.	230?	70?	29.73	755.1	30.00	762.0	23.9	—4.5	.....	.....	2	13	3	1	3	.....	6	.....	.....	.....	6	0.50	12.7
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.00	762.0	30.03	762.7	71.5	21.9	81.5	.....	.....	6	10	1	4	6	4	.....	.....	.....	4	1.70	43.2
Springbok *b*	S. 29 45	E. 17 43	1.19 p.m	?	?	27.86	707.6	.....	.....	80.0	26.7	36.2	.....	2	1	7	.....	12	6	1	.....	.....	.....	.....	0	0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for March, 1883. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
CHINESE. (*Sub*).	° ′	° ′																								
Sung-shu-chwang	N. 36 07	E. 103 56	7.04 p.m.	4987	1520	24.54	623.4	.....	.....	39.6	4.2	.....	.....	2	3	1	.....	.....	.....	1	24	.....	.....	2	.....	.....
Tchang-kia-tchouang.	N. 38 17	E. 116 14	7.53 p.m.	98	30	30.08	764.0	30.19	766.8	41.0	5.0	74	2	1	.....	5	.....	2	.....	10	11	.....	.....	3	0.46	11.7
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	30.16	766.0	30.18	766.6	45.7	7.6	85	5	1	1	1	.....	6	8	9	.....	.....	.....	6	2.24	57.0
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.81	757.2	29.86	758.4	31.8	— 0.1	68	9	5	1	2	3	4	1	4	2	.....	.....	6	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.86	758.5	29.88	759.0	34.0	1.1	78	4	2	10	2	1	4	4	4	.....	.....	.....	6	.....	.....
Godthaab.	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.81	757.2	29.85	758.3	21.0	— 6.1	91	6	3	.....	4	9	1	2	4	2	.....	.....	8	.....	.....
Ivigtut *a*	N. 61 12	W. 48 00	8.56 a.m.	16	5	29.89	759.1	29.91	759.6	27.7	— 2.4	.....	1	3	.....	2	5	6	.....	1	12	.....	.....	8	.....	.....
Jacobshavn	N. 69 13	W. 50 55	8.44 a.m.	42	13	29.91	759.6	29.95	760.8	17.6	— 8.0	.....	2	.....	.....	5	2	7	5	.....	19	.....	.....	6	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	30.04	763.1	30.09	764.2	31.6	— 0.2	85	.....	1	3	3	2	3	7	6	6	.....	.....	6	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.98	761.4	30.00	762.0	37.8	3.2	69	8	1	5	4	2	.....	3	8	.....	.....	.....	7	.....	.....
Upernavik	N. 72 47	W. 56 00	8.24 a.m.	39	12	29.90	759.5	29.95	760.7	8.1	—13.3	.....	.....	.....	.....	6	1	1	11	.....	12	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.78	756.5	29.87	758.8	33.1	0.6	78	3	1	5	4	2	1	3	9	3	.....	.....	6	.....	.....
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.27	743.5	29.93	760.3	46.4	8.0	81.9	.....	4	5	2	2	8	1	1	8	.....	.....	.....	1.40	35.5
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.37	746.0	29.92	760.0	40.6	4.8	82.8	4	4	1	7	3	.....	.....	12	.....	.....	.....	.....	2.26	57.3
Arras	N. 50 18	E. 2 40	0.19 p.m.	239	73	29.61	752.0	29.87	758.7	40.1	4.5	81.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.31	8.0
Avignon	N. 43 57	E. 4 48	0.27 p.m	65	20	29.74	755.3	29.82	757.3	50.0	10.0	53.7	4	17	.....	3	2	5	.....	.....	.....	.....	.....	.....	2.20	56.0
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.30	744.2	29.87	758.7	41.7	5.4	63	.....	5	1	3	2	5	4	11	.....	.....	.....	6	2.11	53.5
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.63	752.7	29.91	759.7	41.0	5.0	60.7	1	4	4	2	3	2	6	9	.....	.....	.....	6	1.21	30.8
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	28.90	734.1	29.81	757.2	42.8	6.0	72.0	1	.....	1	5	9	1	1	13	.....	.....	.....	.....	1.40	35.5
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.60	751.8	29.86	758.5	46.2	7.9	65.8	5	6	4	6	1	2	4	3	.....	.....	.....	7	2.57	65.3
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.31	744.5	29.87	758.8	43.2	6.2	70.5	7	3	6	5	2	1	.....	7	.....	.....	.....	5	0.59	15.1
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.74	755.3	29.98	761.4	46.0	7.8	70.3	6	4	3	1	1	.....	2	13	1	.....	.....	6	1.19	30.2
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.84	757.9	29.91	759.7	43.0	6.1	74.0	1	2	4	8	4	3	.....	8	1	.....	.....	6	1.50	38.1
Chalons-sur-Marne.	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.51	749.6	29.84	757.8	42.1	5.6	80.5	6	4	3	1	4	4	1	5	3	.....	.....	5	1.49	37.8
Charleville *a*	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.33	745.0	29.85	758.2	40.6	4.8	.....	2	2	4	2	1	5	9	5	.....	.....	.....	5	1.34	34.1
Clermont-Fd	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.47	723.1	29.85	758.2	42.8	6.0	59.2	8	7	4	3	3	2	1	3	.....	.....	.....	7	1.68	42.6
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.00	736.5	29.86	758.5	41.4	5.2	63.1	7	2	2	6	3	2	1	8	.....	.....	.....	8	1.52	38.6
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	28.97	735.7	29.85	758.2	36.5	2.5	77.6	2	2	9	5	.....	1	9	3	.....	.....	.....	4	2.86	72.7
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.24	691.8	29.82	757.3	41.7	5.4	58.2	1	1	.....	.....	.....	.....	.....	.....	29	.....	.....	4	1.87	47.5
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.65	727.8	29.79	756.7	47.1	8.4	56.1	4	13	4	2	2	5	.....	1	.....	.....	.....	5	3.24	82.2
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.04	737.7	29.83	757.7	43.3	6.3	68.6	1	7	7	3	.....	3	6	4	.....	.....	.....	.....	3.28	83.2
Gueret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.26	717.9	29.87	758.8	38.8	3.8	81.9	7	7	1	6	5	.....	2	3	.....	.....	.....	.....	4.26	108.1
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.69	754.0	29.96	761.0	44.1	6.7	69.9	7	4	4	2	.....	3	2	9	.....	.....	.....	6	1.04	26.4
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.28	743.6	29.85	758.1	48.9	9.4	63.6	2	3	13	4	2	.....	5	2	.....	.....	.....	6	3.03	76.9
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.84	757.8	29.94	760.4	46.8	8.2	59.4	11	4	2	4	1	.....	2	7	.....	.....	.....	6	1.30	33.1
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	28.79	731.2	29.86	758.4	40.6	4.8	62.7	7	11	2	.....	4	2	1	4	.....	.....	.....	7	0.95	24.2
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.60	751.9	29.92	760.0	40.8	4.9	82.5	5	1	8	.....	2	.....	4	11	.....	.....	.....	5	1.81	45.9
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.52	749.9	29.80	756.8	50.4	10.2	53.1	2	8	10	5	1	1	3	1	.....	.....	.....	5	1.85	47.0
Mont Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.55	623.5	29.39	746.5	34.9	1.6	57.9	4	2	8	11	1	.....	3	2	.....	.....	.....	4	3.07	78.0
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.67	753.7	29.80	757.0	51.3	10.7	66.5	1	8	6	.....	5	3	1	4	3	.....	.....	.....	1.27	32.2
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.02	737.2	29.83	757.6	38.3	3.5	68.5	8	6	7	2	2	2	1	3	.....	.....	.....	.....	1.70	43.3
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.77	756.1	29.93	760.3	45.9	7.7	59	4	4	3	4	3	.....	3	10	.....	.....	.....	7	1.11	28.1
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.73	755.2	29.85	758.1	50.9	10.5	50.7	2	13	2	1	.....	8	2	3	.....	.....	.....	5	1.55	39.4
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	20.87	530.0	.....	.....	17.6	— 8.0	.....	.....	8	7	6	1	1	.....	8	.....	.....	.....	.....	7.00	177.9
Privas..... [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.76	730.6	29.85	758.3	44.2	6.8	.....	20	.....	.....	.....	9	1	.....	1	.....	.....	.....	4	1.24	31.5
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	24.85	631.1	.....	.....	23.5	— 4.7	93.0	1	6	6	6	1	6	2	3	.....	.....	.....	7	7.85	199.4
Rochefort *a*	N. 45 56	W. 0 58	0.04 p.m.	29	9	29.77	756.1	29.80	756.9	46.6	8.1	77.5	4	4	2	5	.....	2	1	10	2	.....	.....	5	8.31	211.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.05	753.2	29.87	758.7	44.2	6.8	68.9	6	6	1	4	1	3	1	9	.....	.....	.....	6	1.93	49.1
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.65	702.4	29.85	758.3	38.5	3.6	78.4	2	8	5	.....	.....	10	4	1	1	.....	.....	.....	1.40	35.5
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.89	759.3	29.94	760.5	42.8	6.0	68.9	4	4	.....	3	3	2	3	12	.....	.....	.....	5	1.38	35.0
Saint Lo	N. 49 06	W. 1 05	0.04 p.m.	134	41	29.79	756.7	29.95	760.7	41.4	5.2	73.2	5	7	4	2	1	1	5	4	2	.....	.....	6	2.37	60.1
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.72	754.9	29.88	759.0	42.3	5.7	58.9	5	2	3	4	3	1	2	10	1	.....	.....	5	1.14	28.9
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.17	741.0	29.89	759.3	48.2	9.0	63.4	1	5	10	2	1	10	2	.....	.....	.....	.....	5	1.20	30.6
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	29.70	754.4	29.88	759.0	45.3	7.4	60.6	8	5	3	5	2	3	.....	5	.....	.....	.....	4	1.81	45.9
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.38	746.3	29.87	758.8	41.0	5.0	.....	4	5	3	3	4	.....	9	3	.....	.....	.....	.....	1.37	34.7
Sub-Sertes.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	0.03 p.m.	131	40	29.74	755.5	29.89	759.3	49.6	9.8	62.9	8	1	7	8	1	2	1	3	.....	.....	.....	6	3.98	101.1
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.39	721.0	29.89	759.1	34.9	1.6	63.5	1	5	6	3	1	2	4	8	1	.....	.....	5	1.68	42.6
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.00	736.5	29.84	757.8	36.9	2.7	65.3	1	5	5	1	2	1	4	8	4	.....	.....	4	1.46	37.0
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.73	755.1	29.88	758.9	35.2	1.8	52.6	1	14	.....	1	1	8	2	4	.....	.....	.....	6	0.28	7.1
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.34	745.1	29.86	758.5	32.4	0.2	64.1	5	5	3	3	4	3	3	3	2	.....	.....	7	0.64	16.2
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.41	747.1	29.88	758.9	38.7	3.7	63.6	2	1	2	12	1	1	3	9	.....	.....	.....	7	2.33	59.2
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.13	739.8	29.84	757.9	34.2	1.2	65.1	4	6	2	2	4	2	3	8	.....	.....	.....	5	1.18	30.0
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.51	749.6	29.89	759.1	38.7	3.7	59.5	6	6	4	4	3	1	4	3	.....	.....	.....	5	1.11	28.2
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1355	413	28.38	720.9	29.80	758.4	37.2	2.9	68.8	1	.....	8	7	5	.....	1	9	.....	.....	.....	7	1.94	49.4
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.81	757.1	29.90	759.4	33.8	1.0	73.5	2	5	4	3	.....	6	2	8	1	.....	.....	6	0.03	16.1
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.87	758.7	29.89	759.1	34.0	1.1	67.1	4	4	4	4	2	.....	3	8	2	.....	.....	7	0.46	11.7
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.46	748.3	29.89	759.3	33.1	0.6	63.9	2	4	5	5	1	2	6	6	.....	.....	.....	6	0.72	18.4
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.68	753.9	29.88	759.0	35.8	2.1	60.0	1	3	6	3	.....	2	5	10	1	.....	.....	6	0.53	13.4
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.79	756.6	29.84	757.8	29.8	— 1.2	77.3	5	3	6	3	5	.....	2	7	.....	.....	.....	6	0.41	10.5
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	27.98	710.7	29.83	757.7	34.5	1.4	64.5	3	9	3	2	.....	1	5	7	1	.....	.....	7	1.00	25.5
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.84	757.9	29.85	758.3	31.5	— 0.3	75.0	5	4	4	3	2	4	1	7	1	.....	.....	8	1.14	29.0
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.31	744.4	29.83	757.7	38.3	3.5	65.7	4	1	9	.....	2	1	4	5	5	.....	.....	6	1.38	35.0
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	28.89	733.8	29.81	757.2	37.4	3.0	59.9	10	2	7	1	2	.....	6	3	.....	.....	.....	6	1.31	33.3
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.89	759.2	29.91	759.8	32.0	0.0	82.3	6	3	3	5	1	4	2	7	.....	.....	.....	7	0.37	9.5
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.45	748.0	29.84	757.8	56.5	13.6	.....	6	.....	9	7	9	.....	.....	.....	.....	.....	.....	6	3.38	85.8
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.85	758.2	29.90	759.5	79.2	26.2	62	.....	.....	11	20	.....	.....	.....	.....	.....	.....	.....	3	0.12	3.0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.36	745.8	29.83	757.7	88.8	31.6	20	1	3	12	12	2	1	.....	.....	.....	.....	.....	2	0.52	13.2
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.84	758.0	29.88	758.9	81.5	27.5	65	1	23	7	.....	.....	.....	.....	.....	.....	.....	.....	1	0	0
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.99	710.9	29.80	756.9	90.7	32.6	14	.....	9	17	2	1	1	.....	.....	1	.....	.....	3	0.13	3.3
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.31	693.6	29.80	757.0	84.1	28.9	41	.....	1	9	7	.....	1	8	5	.....	.....	.....	3	0.01	0.3
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.11	739.4	29.86	758.4	76.6	24.8	36	5	5	8	.....	.....	.....	4	2	7	.....	.....	3	0.43	10.9
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.92	734.6	29.83	757.6	76.8	24.9	39	1	2	14	.....	1	1	1	1	10	.....	.....	3	1.48	37.6
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.28	743.6	29.84	757.9	84.4	29.1	20	1	3	15	2	1	2	2	3	2	.....	.....	3	0.10	2.5
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.75	730.2	29.76	755.9	94.0	34.4	17	.....	5	7	6	2	1	2	1	7	.....	.....	3	0.34	8.6
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.48	723.5	29.82	757.4	87.8	31.0	21	6	13	4	.....	1	.....	1	3	3	.....	.....	3	0.21	5.3
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.46	748.3	29.84	757.8	79.5	26.4	37	1	4	8	2	.....	1	.....	1	14	.....	.....	2	0.82	20.8
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.50	749.3	29.81	757.2	84.5	29.2	30	5	13	2	.....	.....	.....	1	4	6	.....	.....	3	0.39	9.9
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.63	752.4	29.81	757.1	82.3	27.9	34	2	14	9	1	1	.....	.....	2	2	.....	.....	3	0.39	9.9
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.81	706.5	29.82	757.5	78.2	25.7	35	6	10	10	1	1	1	.....	1	1	.....	.....	4	2.64	67.1
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.74	755.4	29.82	757.5	86.2	30.1	56	.....	1	3	5	13	6	.....	2	1	.....	.....	3	1.19	30.2
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.80	756.8	29.82	757.3	82.3	27.9	55	.....	7	8	10	4	1	.....	1	.....	.....	.....	4	1.52	38.6
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.66	753.4	29.78	756.4	82.9	28.3	43	1	3	.....	8	.....	.....	1	2	16	.....	.....	2	0	0
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.79	756.6	29.88	758.9	77.0	25.0	79	.....	2	2	8	7	3	2	.....	7	.....	.....	3	0.08	2.0
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.52	749.8	29.86	758.5	69.3	20.7	77	.....	1	.....	3	.....	1	.....	26	.....	.....	.....	6	5.83	148.1
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.40	721.4	29.84	757.8	83.0	28.3	31	3	16	5	1	2	1	3	.....	.....	.....	.....	4	0	0
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.33	719.6	.....	.....	94.1	34.5	27	1	4	5	2	.....	11	7	1	.....	.....	.....	5	0.28	7.1
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.59	751.6	.....	.....	92.6	33.7	39	.....	1	.....	.....	.....	7	15	5	3	.....	.....	6	.....	.....
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.39	746.5	29.81	757.2	44.6	7.0	46	.....	.....	1	5	.....	8	6	9	2	.....	.....	7	3.67	93.2
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.28	743.7	29.81	757.2	44.4	6.9	51	1	3	7	8	.....	8	4	.....	.....	.....	.....	6	2.09	53.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for March, 1883. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	N E	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
ITALIAN.—Cont'd	° ′	° ′																								
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.69	754.0	29.80	756.8	45.0	7.2	55	6	1	3	4	3	.....	5	8	1	.....	.....	6	2.45	62.2
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	28.87	733.4	29.80	757.0	43.7	6.5	55	10	4	1	.....	3	5	6	2	.....	.....	.....	5	2.05	52.0
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157	48	29.58	751.3	29.77	756.2	47.7	8.7	52	7	.....	.....	8	2	4	4	6	.....	.....	.....	6	6.26	159.0
Mondovi	N. 44 23	E. 7 48	0.39 p.m.	1824	556	27.85	707.3	29.81	757.2	40.6	4.8	53	6	5	14	.....	2	.....	3	1	.....	.....	.....	3	1.10	28.0
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.73	755.1	29.78	756.4	44.6	7.0	78	2	5	.....	6	1	5	2	10	.....	.....	.....	7	0.78	19.8
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.52	749.9	29.78	756.5	48.2	9.0	58	4	4	2	6	2	.....	1	12	.....	.....	.....	8	4.23	107.5
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.64	752.9	29.73	755.1	48.4	9.1	60	3	.....	6	3	6	3	1	9	.....	.....	.....	7	5.78	146.8
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.59	751.5	29.76	756.0	53.1	11.7	49	6	3	4	9	3	.....	1	2	3	.....	.....	7	4.99	126.8
Lecce	N. 40 22	E. 18 12	1.21 p.m.	230	72	29.52	749.8	29.78	756.3	53.4	11.9	59	6	4	3	7	5	4	.....	2	.....	.....	.....	6	3.74	94.9
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	28.91	734.2	29.80	756.9	53.8	12.1	75	.....	5	7	10	4	5	.....	.....	.....	.....	.....	7	6.17	156.8
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	29.59	751.5	29.78	756.5	54.5	12.5	62	1	12	5	1	3	5	1	.....	3	.....	.....	7	2.11	53.6
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.57	751.1	29.82	757.4	57.0	13.9	56	.....	6	10	7	.....	.....	.....	7	1	.....	.....	6	7.00	179.2
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.75	755.6	29.79	756.7	59.0	15.0	66	3	2	7	9	3	3	2	2	.....	.....	.....	7	2.59	65.7
Sub-Series.																										
Naples *a*	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.26	743.3	29.79	756.7	51.3	10.7	64	.....	3	3	15	1	1	2	5	.....	.....	.....	7	7.76	197.0
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	21.77	552.9	.....	.....	17.2	−8.2	76.5	1	.....	5	8	.....	3	2	12	.....	.....	.....	7	10.24	260.0
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8300	2548	21.82	554.1	.....	.....	19.4	−7.0	76.1	5	.....	.....	2	1	11	10	2	.....	.....	.....	6	7.32	186.0
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	29.92	760.1	29.95	760.7	31.6	−0.2	79.6	2	7	3	.....	.....	.....	1	.....	18	.....	.....	7	3.34	84.8
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.90	759.4	29.94	760.4	29.6	−1.4	78.8	1	4	10	8	3	.....	2	2	1	7914	12736	8	3.85	97.6
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	29.91	759.7	29.92	759.9	29.4	−1.5	89.1	5	6	10	1	1	.....	4	2	2	7724	12432	6	2.84	72.3
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	26	8	29.95	760.8	29.98	761.5	43.9	6.6	72.4	1	14	5	1	.....	.....	1	1	8	.....	.....	4	7.13	181.2
Kagoshima	N. 31 35	E. 130 33	8.50 p.m.	14	4	30.07	763.8	30.09	764.1	48.0	8.9	77.6	15	5	.....	.....	3	.....	.....	3	5	.....	.....	4	5.11	129.6
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.85	758.3	30.03	762.8	40.8	4.9	75.6	14	4	8	1	2	.....	1	1	.....	4007	6448	6	3.55	90.0
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Miasaka	N. 31 56	E. 131 26	8.54 p.m.	26	8	30.04	763.1	30.07	763.8	47.8	8.8	79.4	3	3	7	.....	1	.....	.....	.....	17	.....	.....	4	3.77	95.8
Miyako	N. 39 39	E. 141 59	9.36 p.m.	98	30	29.82	757.5	29.93	760.3	30.8	−0.7	78.2	5	1	20	3	.....	.....	1	1	.....	2397	3857	4	5.01	127.2
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.89	759.1	30.09	764.4	45.9	7.7	73.0	13	5	.....	1	.....	1	.....	3	8	3416	5498	4	6.60	167.5
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	29.96	760.9	29.99	761.8	37.2	2.9	80.5	7	.....	9	5	.....	3	2	5	.....	6473	10418	7	6.19	156.9
Nobiru	N. 38 23	E. 141 12	9.32 p.m.	15	5	29.93	760.2	29.95	760.6	34.7	1.5	79.3	11	9	4	.....	1	.....	.....	2	4	3839	6178	4	3.11	79.0
Numazu	N. 35 06	E. 138 51	9.23 p.m.	32	10	29.91	759.7	29.94	760.5	44.3	6.9	72.2	5	.....	.....	1	5	.....	9	3	8	.....	.....	6	8.75	222.2
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	30.02	762.5	30.04	762.9	42.6	5.9	75.0	9	2	6	.....	1	.....	4	9	.....	7190	11481	6	2.80	71.2
Sakai *a*	N. 35 01	E. 133 31	9.01 p.m.	10	3	30.07	763.7	30.08	764.0	42.7	5.9	76.8	4	4	9	1	1	.....	3	6	2	.....	.....	6	4.39	111.5
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.89	759.1	29.96	761.1	41.0	5.0	75.1	12	3	3	1	2	1	4	2	3	5823	9371	5	6.39	162.2
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.98	761.5	30.04	762.9	44.6	7.0	70.2	7	5	1	3	1	.....	5	8	1	5623	9049	6	2.74	69.6
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.84	757.9	29.93	760.2	81.5	27.5	69.1	2	3	2	.....	1	1	14	8	.....	.....	.....	7	4.99	126.7
MEXICAN.																										
Guanajuato	N. 21 01	W. 100 48	5.24 a.m.	6759	2060	23.69	601.9	29.91	759.8	53.3	11.8	80	.....	2	.....	4	2	6	1	5	11	.....	.....	4	1.22	31.0
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24.32?	619.4?	30.08	764.1	51.3	10.7	82	2	15	.....	2	..	4	.....	3	5	.....	.....	6	1.15	29.1
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.11	587.0	30.22	767.5	49.3	9.6	70	.....	1	1	.....	1	.....	.....	.....	28	.....	.....	3	0.73	18.5
Morelia	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	24.29	617.0	30.21	767.3	52.1	11.2	61	.....	.....	.....	1	2	11	7	10	.....	.....	.....	2	0.75	19.0
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.95	608.2	29.99	761.7	52.3	11.3	66	.....	.....	4	1	1	.....	.....	.....	25	.....	.....	4	1.48	37.6
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.41	594.5	30.23	768.0	48.4	9.1	76	.....	.....	.....	.....	.....	.....	.....	2	29	.....	.....	2	1.00	40.6
Zacatecas	N. 22 44	W. 102 20	5.18 a.m.	8100	2469	22.54	572.7	30.21	767.2	46.9	8.2	70	.....	.....	1	22	.....	2	6	.....	.....	.....	.....	5	0.60	15.2
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.89	759.2	29.89	759.2	39.0	3.9	.....	3	3	6	1	2	2	4	10	.....	.....	.....	.....	1.30	33.0
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.83	757.6	29.88	759.0	35.2	1.8	.....	3	4	5	.....	5	2	7	5	.....	.....	.....	.....	1.37	34.9
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.94	49.2
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.88	759.0	29.88	759.0	38.5	3.6	71.7	2	4	6	2	2	2	6	6	1	.....	.....	.....	0.94	23.9
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.85	758.1	29.89	759.3	39.0	3.9	.....	6	2	5	3	2	3	.....	10	.....	.....	.....	5	1.50	38.2
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7 15 p.m.	?	?	29.86	758.4	.....	.....	79.7	26.5	85.9	11	2	2	3	1	3	1	8	.....	.....	.....	6	5.08	129.0
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.82	757.3	29.88	758.9	34.9	1.6	58.0	6	5	4	2	5	1	5	1	2	.....	.....	5	2.02	51.3
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.78	756.4	29.82	757.4	32.2	0.1	64.8	4	2	.....	10	3	1	2	2	7	.....	.....	6	1.22	31.1
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.71	754.8	29.87	758.7	32.2	0.1	52.6	6	1	4	7	1	.....	2	9	1	.....	.....	6	0.06	1.4
Gjaesvaer	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.60	751.7	29.62	752.3	28.9	−1.7	...	7	3	.....	3	3	4	1	5	5	.....	.....	8	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.71	754.5	29.75	755.7	29.5	−1.4	71.7	7	2	1	5	3	.....	4	5	4	.....	.....	7	4.12	104.6
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	29.88	759.0	30.04	763.1	57.0	13.9	78.0	4	5	3	4	.....	4	7	4	.....	.....	.....	5	3.97	100.8
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	28.90	734.1	29.91	759.6	54.3	12.4	57.0	5	1	5	3	10	2	1	3	1	.....	.....	6	5.78	146.9
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	29.95	760.8	30.04	763.1	61.2	16.2	61.9	1	1	2	17	4	1	2	2	1	.....	.....	7	6.07	154.2
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.58	751.2	29.94	760.5	53.1	11.7	65.0	5	3	2	5	4	4	4	4	.....	.....	.....	6	7.42	188.4
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	29.98	761.4	30.05	763.2	59.4	15.2	66.5	3	7	3	3	2	1	4	7	1	.....	.....	4	6.80	172.7
St. Paulde Loanda	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.68	753.8	29.87	758.8	81.9	27.7	86.5	1	5	11	11	1	1	.....	1	.....	.....	.....	8	7.38	187.4
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.08	637.0	29.93	760.1	34.2	1.2	81.0	.....	9	4	1	2	2	12	.....	1	.....	.....	6	9.65	245.1
RUSSIAN																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.91	734.2	30.05	763.3	21.7	−5.7	84.1	.....	1	3	12	4	6	4	.....	1	.....	.....	3	0.42	10.6
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.66	753.4	29.68	753.9	20.5	−6.4	75.1	4	2	6	7	1	4	2	1	4	.....	.....	6	0.92	23.3
Ashurada	N. 36 54	E. 53 55	3.44 p.m.	79	24	30.06	763.4	29.96	761.0	55.2	12.9	72.8	10	7	8	1	.....	.....	1	3	1	.....	.....	5	1.82	46.3
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.02	762.6	29.94	760.5	40.8	4.9	60.3	2	5	7	2	4	4	4	2	1	.....	.....	7	0.18	4.6
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	29.99	761.7	29.94	760.5	48.6	9.2	69.3	8	.....	.....	7	11	3	.....	1	1	.....	.....	4	0.05	1.2
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.67	753.5	30.19	766.9	27.0	−2.8	72.0	.....	2	2	9	.....	.....	.....	3	15	.....	.....	5	0.35	9.0
Bieloserk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.28	743.7	29.77	756.2	22.5	−5.3	71.8	2	5	5	2	4	1	2	2	8	.....	.....	7	0.86	21.9
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.53	750.0	29.78	756.5	26.1	−3.3	82.1	5	1	4	8	4	1	1	7	.....	.....	.....	7	0.86	21.9
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.88	733.5	29.89	759.1	25.5	−3.6	74.7	2	1	7	5	3	7	3	2	1	.....	.....	8	0.58	14.7
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.40	746.7	29.88	758.9	32.0	0.0	75.2	3	4	6	5	6	2	3	2	.....	.....	.....	7	1.08	27.5
Irkutsk	N. 52 16	E. 104 16	7.05 p.m.	1536	468	28.60	726.4	30.35	770.8	23.0	−5.0	72.1	4	.....	.....	.....	.....	3	1	.....	23	.....	.....	2	0.00	1.6
Kasalinsk	N. 45 46	E. 62 07	4.16 p.m.	147	45	.....	.....	.....	.....	45.1	7.3	59.3	7	1	2	3	2	1	7	4	4	.....	.....	5	0.40	10.2
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.54	750.4	29.83	757.6	25.7	−3.5	64.9	3	5	2	7	6	1	5	.....	2	.....	.....	7	1.90	48.2
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	29.61	752.1	29.66	753.4	23.7	−4.6	68.8	1	3	8	4	3	2	.....	4	6	.....	.....	7	0.43	10.9
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	29.86	758.3	29.87	758.8	39.4	4.1	81.9	4	4	1	.....	2	5	4	1	10	.....	.....	6	1.40	37.1
Kloff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.12	739.6	29.78	756.5	30.0	−1.1	72.9	4	4	6	4	4	4	1	4	.....	.....	.....	7	1.15	29.1
Kosloy	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.27	743.5	29.83	757.7	24.4	−4.2	85.2	2	3	5	0	6	4	2	3	.....	.....	.....	7	1.50	38.0
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	29.80	757.0	29.83	757.6	29.1	−1.6	72.9	6	3	6	0	1	1	3	5	.....	.....	.....	6	0.05	16.4
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.61	752.1	29.80	757.0	35.1	1.7	70.6	1	3	6	9	2	3	2	5	.....	.....	.....	8	0.73	18.5
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.26	743.2	29.76	756.0	25.2	−3.8	74.3	1	6	5	1	9	3	3	2	1	.....	.....	7	0.52	13.1
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.80	756.8	29.87	758.7	37.0	2.8	77.3	3	2	1	4	9	3	1	7	1	.....	.....	6	1.32	33.5
Nikolaievsk *a*	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.84	757.9	29.93	760.1	8.2	−13.2	75.7	1	.....	6	.....	.....	.....	1	2	1	19	.....	4	1.00	27.0
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	30.00	762.1	30.15	765.7	41.5	5.3	53.0	2	3	.....	7	1	6	.....	1	11	.....	.....	2	0.44	11.2
Petro-Alexandrovsk	N. 41 48	E. 61 05	4.12 p.m.	328	100	29.61	752.2	29.97	761.2	52.5	11.4	55.1	2	1	4	5	2	4	4	5	4	.....	.....	8	2.74	69.6
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.50	749.4	29.70	754.3	23.9	−4.5	67.6	2	9	3	5	.....	3	1	4	4	.....	.....	6	1.95	49.5
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.28	743.6	29.79	756.7	30.7	−0.7	69.0	6	5	9	3	2	3	.....	2	1	.....	.....	8	0.93	23.6
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	29.89	759.2	29.91	759.7	55.6	13.1	79.7	.....	1	6	8	1	1	13	.....	1	.....	.....	6	4.24	107.7
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	29.74	755.4	29.76	755.8	22.8	−5.1	71.6	2	6	5	2	4	2	2	8	.....	.....	.....	6	0.49	12.5
Samarkand	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.54	699.4	30.00	761.9	54.7	12.6	55.2	.....	2	2	6	1	1	1	1	17	.....	.....	6	1.52	38.6
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.51	749.5	30.20	767.2	27.9	−2.3	77.9	4	1	3	1	2	2	13	1	4	.....	.....	7	0.48	12.2
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	423?	42?	29.63	752.5	29.86	758.4	44.1	6.7	67.0	6	7	1	6	7	1	.....	3	.....	.....	.....	6	2.92	74.1
Staroi Bykhov	N. 53 31	E. 30 16	2.09 p.m.	423?	129?	29.32	744.8	29.80	757.0	28.6	−1.9	65.9	2	2	4	1	4	12	1	5	.....	.....	.....	9	4.09	104.1
Tashkend *a*	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.32	719.2	29.98	761.6	55.2	12.9	45.2	4	4	1	3	.....	.....	1	9	8	.....	.....	7	0.79	20.0
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.50	724.0	29.92	760.0	53.1	11.7	43.0	2	7	1	1	5	4	5	.....	6	.....	.....	6	1.38	35.0
Tomsk	N. 56 30	E. 84 58	5.48 p.m.	258?	78?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.44	697.1	29.98	761.5	44.2	6.8	67.7	1	6	6	4	1	.....	3	4	6	.....	.....	6	1.32	33.6
Viatka	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.13	739.8	29.79	756.6	22.8	−5.1	.....	1	6	1	2	5	3	3	1	9	.....	.....	5	0.73	18.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for March, 1883. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
RUSSIAN.—Cont'd	° ′	° ′																								
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.39	746.4	29.83	757.6	31.1	—0.5	65.4	9	4	8	3	3	1	.....	3	.....	.....	.....	7	0.58	13.8
Wilna	N. 54 41	E. 25 18	1.49 p.m.	388	118	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.96	761.1	30.27	768.8	26.2	—3.2	71.4	1	3	8	4	1	3	4	1	6	.....	.....	5	0.08	1.9
SCOTTISH.																										
Monach Light H.	N. 57 31	W. 7 42	11.37 a.m.	150	46	29.99	761.7	30.00	762.0	41.3	5.2	91.0	9	1	5	3	2	4	.....	7	.....	.....	.....	6	2.20	55.9
Norht Unst	N. 60 51	W. 0 53	0.04 p.m.	230	70	29.67	753.6	29.93	760.2	.....	.....	.....	9	3	4	4	1	2	3	5	.....	.....	.....	.....	.....	.....
SPANISH.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.74	755.3	29.84	758.0	53.2	11.8	56	.....	4	6	10	4	2	3	2	.....	2794	4497	3	1.39	35.4
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	29.87	758.6	29.93	760.1	52.7	11.5	67	1	13	1	5	1	6	1	1	2	1919	3089	7	7.97	202.4
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	26.84	681.8	29.88	758.9	41.9	5.5	72	8	1	3	9	5	1	1	3	.....	5696	8202	6	3.00	76.1
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.66	702.5	29.91	759.8	48.9	9.4	58.5	2	2	7	9	4	4	.....	3	.....	8368	13435	5	2.34	59.4
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.74	755.5	29.89	759.2	53.1	11.7	63.0	.....	8	2	5	5	.....	1	10	1	1775	2857	6	0.66	16.8
Oviedo	N. 43 23	W. 5 49	11.45 a.m.	800	244	29.10	739.3	29.98	761.5	42	5.5	79	8	3	1	.....	1	2	12	4	.....	.....	.....	9	4.09	103.9
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	28.96	735.5	29.86	758.5	49.8	9.9	68.5	1	1	1	5	2	3	3	8	7	7351	11509	6	4.86	123.4
Sub-Series.																										
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.89	759.2	29.95	760.6	81.2	27.3	72.7	1	2	.....	4	2	6	13	3	.....	3992	7392	1	0.89	22.8
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.88	758.9	29.98	761.4	58.0	14.5	70.8	1	5	12	2	4	3	4	.....	.....	.....	.....	7	6.01	152.8
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.99	761.7	30.08	764.0	74.7	23.7	91	.....	.....	.....	.....	1	7	.....	3	20	.....	.....	3	3.77	95.8
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.69	754.2	29.73	755.2	25.3	—3.7	75	13	1	2	6	3	.....	.....	4	2	.....	.....	6	0.52	13.1
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.74	755.5	29.80	756.8	30.2	—1.0	75	5	7	2	6	1	.....	2	8	.....	.....	.....	7	0.23	5.9
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.74	755.4	29.79	756.7	32.0	0.0	61	8	4	1	4	2	.....	.....	3	9	.....	.....	6	0.41	10.4
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.63	752.7	29.82	757.4	30.0	—1.1	63	7	3	6	5	.....	.....	3	6	1	.....	.....	7	0.74	18.8
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.72	755.0	29.78	759.5	31.1	—0.5	79	6	1	6	6	1	.....	4	7	.....	.....	.....	6	1.80	45.8
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.75	755.6	29.83	757.8	27.9	—2.3	77.4	11	7	.....	8	1	2	.....	2	.....	.....	.....	6	0.86	21.9
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.39	721.0	29.85	758.2	40.3	4.6	62.7	18	1	1	1	8	1	.....	1	.....	.....	.....	7	0.80	20.2
TURKISH.																										
Constantinople	N 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.85	758.2	48.7	9.3	66	5	2	4	7	2	3	3	5	.....	.....	.....	7	4.57	116.1
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	29.85	758.2	54.7	12.6	.....	2	2	6	7	6	.....	3	5	.....	.....	.....	7	2.16	55.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.94	760.4	65.7	18.7	62	3	2	10	10	.....	2	.....	4	.....	.....	.....	5	3.30	83.8
Samakov *e*	N. 42 12	E. 23 45	1.42 p.m.	?	?	26.54	674.1	.....	.....	38.1	3.4	81.4	1	1	6	4	.....	.....	.....	.....	13	.....	.....	.....	.....	.....
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	29.91	759.7	30.00	762.0	26.3	—3.2	63.7	7	4	7	5	4	1	.....	3	.....	6098	9814	7	1.77	45.0
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.33	745.0	30.03	762.7	12.1	—11.1	74.8	1	8	10	2	3	1	1	3	2	7522	12105	5	0.66	16.8
Apache, Fort	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	25.04	636.0	30.00	763.5	36.6	2.6	80.5	.....	1	.....	1	.....	5	6	17	1	5030	8095	5	2.03	51.6
Assinnaboine, Ft.	N. 48 32	W. 109 42	4.49 a.m.	2710	826	27.24	691.9	30.25	768.3	23.4	—4.8	70.4	.....	1	2	14	.....	.....	6	6	2	7323	11785	5	1.61	40.9
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.90	734.0	30.11	764.8	43.0	6.1	74.2	3	8	11	4	3	.....	1	.....	1	7720	12424	5	3.73	94.7
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	29.99	761.7	30.00	762.0	31.5	—0.3	75.5	6	6	4	2	2	5	1	5	.....	8049	12953	5	3.09	78.5
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	29.92	760.0	30.12	765.0	45.0	7.2	76.8	1	2	4	.....	2	1	1	3	17	2647	4260	6	3.17	80.5
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.02	762.5	30.07	763.8	34.4	1.3	64.2	8	5	3	4	1	2	1	2	5	4753	7649	5	3.68	93.5
Barnegat	N. 39 46	W. 74 06	7.12 a.m.	20	6	29.99	761.7	30.01	762.2	32.7	0.4	71.0	5	8	4	4	1	2	3	3	1	12443	20025	5	3.28	83.3
Behring Id	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.78	756.4	29.80	756.9	24.2	—4.3	.....	3	5	2	4	1	2	11	2	.....	10698	17216	8	0.61	15.5
Bennett, Fort	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.52	724.4	30.22	767.6	22.7	—5.2	81.5	1	5	.....	.....	.....	6	1	5	13	6359	10234	6	0.64	16.3
Benton, Fort	N. 47 50	W. 110 40	4.45 a.m.	2700	823	27.27	692.6	30.25	768.3	24.7	—4.1	67.3	1	.....	2	1	.....	.....	3	12	19	4767	7672	4	1.34	34.0
Billings	N. 45 49	W. 108 30	4.54 a.m.	3115?	949?	26.83	681.5	30.21	767.3	26.2	—3.2	74.4	1	.....	8	4	4	.....	6	2	6	6218	10007	5	1.53	38.9
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.27	718.0	30.19	766.8	16.1	—8.8	79.6	6	5	1	1	2	1	5	4	6	7193	11576	7	0.38	9.7
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	29.94	760.5	29.97	761.2	30.3	—0.9	67.5	13	3	2	6	.....	2	.....	4	1	13502	21729	4	2.47	62.7
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.23	691.6	30.15	765.8	34.1	1.2	77.1	6	9	11	.....	.....	1	1	2	1	2598	4181	2	0.28	7.1
Boston *a*	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.76	755.9	29.92	760.0	28.8	—1.8	65.9	2	9	7	7	1	2	.....	2	.....	9259	14901	4	2.33	59.2
Brownsville	N. 25 53	W. 97 26	5.38 a.m.	43	13	29.95	760.7	30.00	762.0	62.6	17.0	92.2	4	.....	.....	.....	12	1	5	4	5	7061	11363	6	0.03	16.0
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	696	212	29.21	741.9	30.00	762.0	21.6	—5.8	77.3	.....	1	7	7	7	2	3	4	.....	9497	15284	5	1.08	27.4
Buford, Fort *a*	N. 48 00	W. 103 56	5.12 a.m.	1900	579	28.13	714.5	30.27	768.8	16.3	—8.7	76.4	6	5	4	2	2	.....	6	5	1	9449	16378	5	0.91	23.1
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.64	752.8	29.95	760.7	17.9	—7.8	79.1	11	2	.....	1	10	.....	1	1	5	6153	9902	6	1.15	29.2
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.72	754.9	30.14	765.5	39.4	4.1	76.2	8	3	2	7	1	1	4	5	.....	7638	12292	6	2.15	54.6
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.03	762.7	30.05	763.3	39.4	4.1	74.1	5	5	2	6	6	2	1	4	.....	11353	17916	6	4.45	113.0
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	29.99	761.7	30.02	762.5	36.1	2.3	75.7	8	5	2	5	2	1	6	2	.....	13587	21866	5	4.66	118.4
Cape Mendocino *a*	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.27	743.4	29.96	761.0	47.9	8.8	84.1	5	7	.....	1	.....	11	.....	2	4	10600*e*	16199*e*	3	1.68	46.7
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.07	763.8	30.09	764.3	57.3	14.1	79.3	4	6	1	1	7	1	3	8	.....	6805	10951	5	5.03	127.8
Champaign	N. 40 08	W. 88 14	6.15 a.m.	767	234	29.22	742.2	30.08	764.0	27.9	—2.3	70.0	5	6	4	5	4	2	1	4	.....	11486	18485	6	0.77	19.6
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	30.01	762.2	30.07	763.8	48.4	9.1	80.6	4	4	8	7	.....	1	2	4	1	6603	10626	6	4.84	122.9
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	868	246	29.19	741.4	30.07	763.8	40.6	4.8	72.0	2	4	2	10	.....	2	2	8	1	4698	7561	6	6.54	166.1
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.27	743.4	30.12	765.0	43.3	6.3	68.5	4	4	5	8	1	2	4	3	.....	5666	9118	6	4.95	125.7
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6089	1856	23.98	609.1	30.18	766.6	29.5	—1.6	61.2	5	13	4	4	1	.....	.....	3	1	7438	11970	3	0.85	21.6
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.32	744.7	30.06	763.5	28.1	—2.2	66.2	3	8	5	6	4	.....	2	3	.....	6704	10789	5	0.42	10.7
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	18	5	30.00	762.0	30.02	762.5	35.3	1.8	72.2	7	5	4	1	4	1	4	5	.....	10237	16474	4	2.67	67.8
Cincinnati	N. 39 06	W. 84 30	6.30 a.m.	620	189	29.40	746.7	30.09	764.3	35.7	2.1	79.1	5	3	4	3	4	1	3	8	.....	5254	8455	6	3.48	88.4
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.26	743.2	30.04	763.0	25.1	—3.8	79.0	3	3	5	1	6	7	1	5	.....	8066	12981	7	1.34	34.0
Coleman City	N. 31 53	W. 99 18	5.31 a.m.	1709	521	28.25	717.5	30.10	764.5	45.4	7.4	83.7	8	4	.....	10	4	2	.....	3	.....	6510	12086	6	3.65	92.7
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.16	740.7	30.04	763.0	30.8	—0.7	76.2	.....	7	3	6	7	1	2	5	.....	7410	11925	6	3.20	81.3
Concho, Fort	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.11	714.0	30.08	764.0	46.4	8.0	86.0	3	1	1	6	3	3	.....	7	7	6457	10391	6	3.99	101.3
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.40	746.7	30.09	764.3	29.5	—1.4	65.8	3	8	6	4	1	1	2	6	.....	7387	11888	5	0.73	18.5
Davis, Fort	N. 39 38	W. 103 56	5.12 a.m.	4940	1506	25.18	639.6	30.00	763.5	44.9	7.2	69.7	6	.....	3	8	3	.....	.....	.....	11	4630	7451	4	0.52	13.2
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1660	506	28.29	718.6	30.10	764.5	36.8	2.7	83.4	.....	.....	1	19	.....	.....	1	8	2	3770	6067	4	2.44	62.0
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.35	643.9	30.19	766.8	26.6	—3.0	87.4	3	.....	1	5	3	.....	.....	8	11	1865	3001	6	0.84	21.3
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.01	762.2	30.03	762.7	34.0	1.1	76.2	5	6	.....	8	2	2	2	6	.....	14133	22744	5	2.84	72.1
Denison	N. 33 48	W. 96 32	5.42 a.m.	767	234	29.27	743.4	30.10	764.5	45.4	7.4	76.3	11	1	.....	3	10	.....	1	3	2	4133	6651	6	3.54	89.9
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.71	627.6	30.15	765.8	35.1	1.7	68.7	4	1	1	1	14	2	.....	2	6	3928	6321	3	0.21	5.3
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.19	741.4	30.15	765.8	28.5	—1.9	70.5	11	3	4	2	1	2	3	5	.....	5836	9392	5	0.57	14.5
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.29	744.0	30.04	763.0	25.9	—3.4	82.5	7	4	4	4	2	1	3	1	5	7025	11305	4	1.55	39.4
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2512	766	27.45	697.2	30.18	766.6	32.3	0.2	74.0	6	3	4	2	3	1	4	6	2	7626	12273	4	0.42	10.7
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.34	745.2	30.10	764.5	25.5	—3.6	67.9	1	13	2	2	2	3	.....	2	6	3580	5701	5	0.32	8.1
Duluth	N. 46 48	W. 92 06	6.00 a.m.	644	184	29.29	744.0	30.08	764.0	16.1	—8.8	77.6	4	6	6	4	3	.....	1	1	6	7758	12485	6	0.38	9.7
Eagle Pass	N. 28 44	W. 100 29	5.26 a.m.	780	238	29.26	743.2	30.08	764.0	56.7	13.7	81.8	4	2	.....	.....	.....	15	1	5	4	4134	6653	6	5.59	142.0
Eagle Rock	N. 43 32	W. 111 55	4.40 a.m.	4950	1415	25.32	643.1	30.18	766.6	23.7	—4.6	77.9	15	1	.....	11	.....	.....	.....	3	1	5759	9268	3	0.41	10.4
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.77	756.1	29.84	757.9	20.1	—6.6	71.3	7	10	4	4	4	.....	1	1	.....	11069	17814	6	3.01	91.7
Elliott, Fort	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.28	692.9	30.11	764.8	35.6	2.0	69.0	7	4	1	3	2	3	1	6	4	8649	13919	4	0.04	1.0
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3760	1146	26.29	667.8	30.09	764.3	48.9	9.4	59.3	.....	6	9	1	.....	2	3	1	9	4450	7162	4	2.09	53.1
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.26	743.2	30.02	762.5	24.7	—4.1	76.6	1	3	3	5	7	2	.....	6	4	7080	11394	6	1.25	31.7
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	612	186	29.34	745.2	30.05	763.3	10.1	—12.2	77.9	11	6	3	1	4	2	1	.....	3	6711	10800	6	0.33	8.4
Fredericksburg	N. 30 17	W. 98 52	5.32 a.m.	1760	518	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galveston	N. 29 18	W. 94 47	5.49 a.m.	48	15	30.02	762.5	30.06	763.5	59.8	15.4	85.2	5	2	1	2	9	3	5	4	.....	8150	13116	7	4.93	125.2
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.34	745.2	30.04	763.0	23.2	—4.9	82.5	5	6	2	2	4	2	4	1	5	7997	12725	7	0.57	14.5
Grant, Fort	N. 32 39	W. 109 57	4.48 a.m.	4856	1481	25.22	640.6	30.05	763.3	43.5	6.4	60.0	5	2	1	.....	5	2	5	7	4	4965	7990	5	1.27	32.3
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	19	6	30.02	762.5	30.04	763.0	44.5	6.9	78.5	4	5	6	4	1	1	1	9	.....	14708	23680	5	7.60	193.0
Helena	N. 46 34	W. 112 04	4.40 a.m.	4100	1250	25.83	656.1	30.20	767.1	28.3	—2.1	85.5	.....	1	.....	16	.....	.....	.....	.....	14	4460	7178	4	0.73	18.5
Henrietta	N. 33 46	W. 98 12	5.35 a.m.	980	300	29.06	738.1	30.10	764.5	42.6	5.9	81.1	8	2	.....	2	6	5	2	6	.....	6181	9947	6	1.70	44.7
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.71	729.2	30.19	766.8	22.0	—5.6	64.6	5	9	.....	1	3	6	2	4	1	7393	11898	6	0.42	10.7
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.22	742.2	30.06	763.5	30.8	—0.7	71.4	4	4	2	6	1	1	4	6	3	5290	8513	4	3.25	82.5
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	30.00	762.0	30.13	765.3	61.1	16.2	89.5	3	.....	3	2	7	3	5	5	3	9801	15773	6	5.38	136.7
Jacksboro	N. 33 12	W. 98 10	5.35 a.m.	1120	341	28.90	734.0	30.11	764.8	44.5	6.9	58.9	10	2	.....	5	2	7	1	2	2	5166	8314	5	2.24	56.9
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.06	763.5	30.10	764.5	54.3	12.4	77.2	...	6	4	5	2	2	2	5	5	4767	7672	4	3.84	97.5
Keogh, Fort	N. 46 22	W. 105 56	5.04 a.m.	2372	723	27.56	700.0	30.22	767.6	26.4	—3.1	78.8	4	.....	5	2	1	2	2	7	8	6390	10284	5	0.39	9.9

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea Feet.	Altitude of Barometer above sea Metrs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
U. S.—Continued.	° ′	° ′																								
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.42	747.3	30.11	764.8	30.0	—1.1	74.8	3	10	5	4	2	1	4	3	.....	7628	12276	4	1.07	27.2
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.03	762.7	30.05	763.3	70.0	21.1	79.0	5	1	.....	3	5	4	5	8	.....	8097	12982	5	0.87	22.1
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.03	762.7	30.05	763.3	41.5	5.3	74.0	4	4	5	5	1	1	1	10	.....	14262	22952	5	6.28	159.5
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.04	737.6	30.10	764.5	38.4	3.6	76.4	6	3	4	7	.....	1	2	5	3	5942	9562	6	4.01	101.9
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.26	743.2	30.08	764.0	22.2	—5.4	69.4	9	6	2	2	10	1	.....	1	.....	6440	10304	4	1.05	26.7
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.21	741.9	30.15	765.8	33.3	0.7	73.1	9	7	.....	1	6	5	1	2	.....	6440	10304	4	3.21	81.5
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.25	742.9	30.11	764.8	39.1	3.9	79.9	.....	.....	2	.....	1	2	15	2	9	1732	2787	4	5.24	107.7
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.76	755.9	30.09	764.3	46.8	8.2	66.1	11	2	2	4	1	.....	2	2	7	4311	6938	5	2.87	72.9
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	371	113	29.67	755.6	30.07	763.8	51.4	10.8	88.3	2	1	4	1	3	3	.....	9	8	3852	6199	5	3.22	81.8
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.47	748.5	30.06	763.5	37.3	2.9	66.2	5	5	6	5	4	.....	.....	6	.....	7551	12200	6	3.11	79.0
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.33	745.0	30.05	763.3	39.4	2.4	59.3	1	6	6	2	4	.....	4	6	2	3859	6210	5	3.11	79.0
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.35	745.5	30.05	763.3	11.6	—11.3	66.9	4	8	6	5	3	3	1	1	.....	7150	11516	6	1.51	38.4
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.04	763.0	30.05	763.3	44.2	6.8	83.5	5	6	3	8	1	.....	3	5	.....	10926	17583	5	5.56	141.2
Madison	N. 43 05	W. 89 24	6.10 a.m.	949	289	29.00	739.6	30.07	763.8	22.5	—5.3	71.9	5	11	3	4	4	2	.....	2	.....	7600	12240	6	0.32	8.1
Maginnis Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.58	649.7	30.18	766.6	26.6	—3.0	45.8	.....	9	10	6	.....	1	1	4	.....	7542	12137	6	1.46	37.1
McKavett, Fort	N. 30 48	W. 100 07	5.28 a.m.	2240	683	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.25	742.9	30.02	762.5	13.8	—10.1	66.8	7	7	10	3	.....	3	.....	.....	1	7145	11498	5	0.62	15.7
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.75	755.6	30.10	764.5	44.4	6.9	75.1	1	5	3	3	5	1	3	7	3	4891	7871	5	4.43	112.5
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.27	743.4	30.06	763.5	26.1	—3.3	72.8	3	9	6	5	1	.....	2	5	.....	10369	16687	7	0.28	7.1
Missoula, Fort	N. 46 50	W. 114 07	4.32 a.m.	3140	957	26.70	679.7	30.14	765.5	30.0	—1.1	63.2	2	10	1	1	.....	2	.....	8	7	3204	5253	4	1.49	37.8
Mobile	N. 30 41	W. 88 02	6.16 a.m.	41	12	30.06	763.5	30.10	764.5	50.9	10.5	81.0	11	6	.....	5	1	1	.....	5	2	4142	7149	5	4.21	106.9
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.84	757.9	30.08	764.0	47.0	8.3	81.9	4	4	4	3	4	1	2	4	5	4642	7470	5	3.61	91.7
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	29.09	738.9	30.17	766.3	7.1	—13.8	83.7	14	2	3	4	2	2	.....	1	3	9951	16030	4	0.38	9.7
Morgantown	N. 39 40	W. 79 50	6.49 a.m.	963	293	29.01	736.8	30.07	763.8	33.7	0.9	72.2	4	1	4	10	.....	1	1	7	3	6990	11249	6	4.01	101.9
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.23	590.0	29.75	755.6	—0.5	—18.1	97.7	1	21	4	2	.....	1	1	1	.....	.....	.....	3	4.18	106.2
Nashville	N. 36 10	W. 86 47	6.21 a.m.	507	154	29.48	748.8	30.08	764.0	41.1	5.1	75.7	3	8	5	3	3	3	2	1	5700	9173	6	3.91	100.1
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	29.86	758.4	29.98	761.5	26.1	—3.3	68.3	10	3	2	5	1	1	.....	3	4	6205	9985	5	1.64	41.7
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	29.94	760.5	29.99	761.7	29.9	—1.2	71.5	7	5	5	5	.....	.....	2	1	6	6033	9709	5	3.35	85.1
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	30.02	762.5	30.08	764.0	56.6	13.7	76.4	7	6	1	1	2	6	5	3	.....	5570	8964	5	5.01	127.3
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	29.91	759.7	29.96	761.0	29.2	—1.6	68.2	5	7	8	6	.....	.....	3	.....	2	9131	14699	4	3.12	79.2
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.83	757.7	30.01	762.2	29.6	—1.3	73.7	3	4	8	7	.....	.....	4	2	3	6820	10970	5	1.63	41.4
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	36	9	30.02	762.5	30.05	763.3	39.7	4.3	71.0	5	1	5	4	4	2	2	7	1	6531	10510	5	3.03	77.0
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.11	688.6	30.17	766.3	28.8	—1.8	75.9	.....	7	5	3	.....	6	2	1	7	6980	11233	5	0.47	11.9
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	30.02	762.5	30.06	763.5	39.4	4.1	89.0	3	1	.....	.....	1	.....	.....	.....	20	962	1548	5	2.99	75.9
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.93	734.8	30.18	766.6	29.7	—1.3	70.2	12	4	1	3	3	2	2	4	.....	6465	10404	5	0.52	13.2
Ooglaamie	N. 71 17	W. 156 40	1.41 a.m.	17	5	30.02	762.5	30.04	763.0	-18.5	-28.1	97.8	1	.....	2	7	4	5	4	8	.....	8056	13000	5	0.14	3.6
Oswego	N. 43 29	W. 76 35	7.02 a.m.	304	93	29.64	752.8	29.98	761.5	23.3	—4.8	73.0	6	7	3	3	6	4	.....	1	1	7853	12638	7	0.84	21.3
Palestine	N. 31 45	W. 95 40	5.45 a.m.	523	162	29.55	750.6	30.12	765.0	50.9	10.5	77.8	5	3	.....	1	10	1	3	8	.....	7575	12190	7	5.38	136.7
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.07	763.8	30.10	764.5	52.0	11.1	78.9	6	5	3	4	3	1	1	8	.....	6002	9659	6	3.20	82.8
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	92	28	29.93	760.2	30.03	762.7	33.0	0.6	69.3	2	11	.....	7	1	2	1	4	3	5919	9525	4	2.02	51.3
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.69	449.3	30.28	769.1	10.2	—12.1	80.0	3	7	6	7	.....	.....	.....	8	.....	.....	.....	3	0.61	15.5
Ploche	N. 37 56	W. 114 26	4.30 a.m.	6110	1862	24.02	610.1	30.16	766.1	37.5	3.1	61.7	2	13	.....	7	5	2	.....	.....	2	5910	8063	4	0.89	15.0
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	762	232	29.19	741.4	30.04	763.0	30.8	—0.7	76.9	6	7	1	6	4	2	1	4	.....	5431	8745	6	2.51	63.8
Poplar River	N. 48 08	W. 105 10	5.07 a.m.	2030	619	27.96	710.2	30.26	768.6	.....	.....	.....	.....	17	2	5	.....	1	.....	6	.....	.....	.....	5	0.74	18.8
Port Eads	N. 29 09	W. 89 15	6.11 a.m.	7	2	30.08	764.0	30.09	764.3	57.1	13.9	88.5	5	1	4	1	6	2	1	11	.....	8165	13528	4	4.12	104.6
Port Huron	N. 43 00	W. 82 26	6.38 a.m	633	193	29.30	744.2	30.02	762.5	19.9	—6.7	85.9	4	5	5	6	2	2	.....	2	5	6894d	11095d	6	2.80	72.6
Portland, Maine	N. 43 39	W. 70 15	7.27 a.m.	45	14	29.84	757.9	29.89	759.2	24.8	—4.0	63.9	6	8	3	6	2	.....	.....	6	.....	7579	12197	5	1.58	40.1
Portland, Oreg	N. 45 32	W. 122 43	3.57 a.m	67	20	29.96	761.0	30.03	762.7	43.9	6.6	85.1	3	5	.....	.....	7	1	1	.....	14	2750	4426	4	6.40	162.6
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	45.2	7.3	78.0	2	6	2	9	2	1	.....	9	.....	14349	23092	6	10.13	257.3
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5340	1628	24.75	628.6	30.09	764.3	37.9	3.3	81.3	.....	1	2	1	19	1	.....	1	6	4735	7620	4	2.33	59.2
Provincetown	N. 42 03	W. 70 11	7.27 a.m.	26	8	29.90	759.4	29.93	760.2	28.3	—2.1	72.4	3	10	5	5	3	2	1	1	1	9830	15820	6	2.10	54.9
Punta Rassa	N. 26 29	W. 82 01	6.40 a.m.	13	4	30.06	763.5	30.07	763.8	62.4	16.9	79.4	4	4	1	1	3	4	4	10	.....	8210	13212	5	0.64	16.7
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	350	106	29.65	753.1	30.02	772.5	48.9	9.4	76.4	8	11	.....	.....	7	1	1	1	2	4790	7718	2	2.60	66.0
Rochester	N. 43 08	W. 77 42	6 57 a.m.	621	189	29.30	744.2	30.00	762.0	21.1	—6.1	81.5	2	3	10	8	3	2	2	1	.....	10538	16959	7	1.65	41.9
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.48	748.8	30.04	763.0	41.9	5.5	83.4	2	1	.....	1	4	3	3	8	9	1978	3183	4	1.73	43.9
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	65	20	29.93	760.2	30.01	762.2	49.5	9.7	86.0	1	1	.....	.....	7	21	1	.....	.....	4688	7544	2	3.70	94.0
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	568	173	29.80	749.3	30.13	765.3	33.3	0.7	88.5	4	10	2	3	5	1	1	5	.....	8530	13728	5	2.29	58.2
Saint Michael, Ft	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.81	757.2	29.85	758.2	13.9	-10.1	99.2	3	3	.....	3	3	10	1	7	1	8518	13708	7	0.96	24.4
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	811	247	29.17	740.9	30.08	764.0	19.1	—7.2	73.5	6	7	6	5	1	1	.....	.....	5	4521	7276	6	0.09	1.5
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.22	742.2	30.16	766.1	1.7	-16.8	85.0	4	14	2	4	3	2	.....	1	1	7495	11917	4	0.11	2.8
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.64	651.2	30.16	766.1	40.4	4.7	53.1	3	3	.....	.....	.....	4	2	4	15	4136	6656	3	1.75	44.4
San Antonio	N. 29 25	W. 98 25	5.34 a.m.	673	205	29.35	745.5	30.06	763.5	55.1	12.8	82.2	5	3	.....	.....	2	6	3	5	7	4290	6904	7	5.30	134.6
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.97	761.2	30.04	763.0	54.5	12.5	84.5	9	8	2	.....	4	2	2	2	2	4288	6901	8	0.41	10.4
Sandusky	N. 41 25	W. 82 40	6.37 a.m.	639	195	29.32	744.7	30.04	763.0	28.1	—2.2	75.1	2	8	2	8	2	2	4	3	.....	11824	19028	5	0.69	17.5
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	29.98	761.5	30.01	762.2	30.8	—1.2	75.0	4	10	7	4	.....	4	.....	2	.....	12866	20705	5	1.45	36.8
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.96	761.0	30.04	763.0	50.3	10.2	88.5	.....	2	10	10	3	2	.....	1	3	6555	10549	8	3.01	76.5
Santa Fé	N. 35 41	W. 105 57	5.04 a.m.	7106	2166	23.19	589.0	30.17	766.3	39.5	2.5	64.4	5	.....	2	4	2	2	4	11	1	6839	11000	4	0.40	10.2
Savannah a	N. 32 05	W. 81 05	6.44 a.m.	87	26	30.01	762.2	30.10	764.5	51.2	10.7	65.0	1	9	5	10	3	.....	.....	2	.....	6130	9865	5	3.31	84.1
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.40	670.5	30.20	767.1	24.1	—4.4	71.0	2	3	14	10	.....	.....	1	1	.....	6224	10016	4	1.05	26.7
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.85	758.2	30.10	764.5	49.6	9.8	78.1	3	4	4	1	8	2	1	7	1	4486	7219	6	5.85	148.6
Sill, Fort	N. 34 40	W. 98 23	5.34 a.m.	1200	366	28.83	732.3	30.12	765.0	40.2	4.6	72.9	11	4	.....	2	6	1	1	3	3	8774	14120	5	1.68	42.7
Silver City	N. 32 46	W. 108 14	4.55 a.m.	5890	1795	24.26	616.2	30.04	763.0	38.6	3.7	79.5	8	13	1	.....	.....	.....	1	1	7	2576	4146	4	1.57	40.0
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.86	758.4	29.93	760.2	40.3	4.0	73.3	.....	3	1	.....	1	2	15	8	1	6200	10074	7	16.00	400.4
Smith, Fort	N. 35 22	W. 94 24	5.50 a.m.	449	137	29.61	752.1	30.10	764.5	40.9	4.9	76.2	7	2	.....	1	.....	.....	9	1	11	4237	6819	6	1.20	30.5
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.02	762.5	30.06	763.5	44.5	6.9	77.4	6	6	6	3	2	.....	1	7	.....	8011	12892	4	6.13	155.7
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	28.05	712.5	30.18	766.6	33.5	0.8	88.0	.....	1	1	4	1	3	4	5	12	2972	4300	3	0.75	19.0
Springfield, Ill	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.39	746.5	30.11	764.8	34.0	1.1	72.3	5	8	2	7	1	2	2	4	.....	8181	13100	5	1.36	34.5
Springfield, Mo	N. 37 12	W. 93 18	5.55 a.m.	1351	412	28.63	727.2	30.13	765.3	35.8	2.1	75.1	7	2	3	4	6	4	2	3	.....	7498	12067	6	1.68	42.7
Starkville	N. 33 35	W. 88 49	6.13 a.m.	455	123	29.62	752.3	30.11	764.8	46.2	7.9	72.0	10	1	4	2	7	.....	3	2	2	6901	11202	5	3.02	76.7
Stevenson, Fort	N. 47 35	W. 101 28	5.22 a.m.	1750	534	28.20	716.3	30.18	766.6	12.3	-10.9	78.7	4	6	2	1	.....	.....	4	2	4	6049	9735	6	0.05	16.5
Stockton, Fort	N. 30 53	W. 102 53	5.16 a.m.	3010	917	27.00	685.8	30.08	764.0	45.6	7.6	80.3	1	.....	1	14	4	4	2	4	1	6541	10527	3	1.77	45.0
Thatcher's Island	N. 42 38	W. 70 34	7.26 a.m.	48	15	29.88	758.9	29.94	760.5	27.8	—2.3	76.4	3	13	4	5	1	1	.....	4	.....	14193	22841	4	2.00	50.8
Thomas, Camp	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.30	693.4	30.08	764.0	46.7	8.2	85.4	2	.....	.....	1	.....	1	3	.....	24	.....	.....	4	1.33	33.8
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.31	744.5	30.04	763.0	27.1	—2.7	62.2	2	5	10	6	.....	2	2	4	.....	8031	12924	6	0.78	19.8
Tucson	N. 32 14	W. 110 53	4.45 a.m.	2309	722	27.55	699.8	30.01	762.2	50.6	10.3	76.1	.....	.....	.....	2	7	13	3	.....	6	2690	4329	3	1.14	29.0
Umatilla	N 45 55	W. 119 20	4.11 a.m.	340	103	29.73	755.1	30.11	764.8	38.7	3.7	86.7	.....	1	3	2	2	17	.....	3	3	3869	6226	4	1.20	30.5
Verde, Fort	N. 34 33	W. 111 52	4.40 a.m.	?	?	.....	.....	.....	.....	45.1	7.3	70.4	5	9	3	2	3	4	1	4	.....	.....	.....	2	1.03	41.4
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.84	757.9	30.10	764.5	50.4	10.2	70.3	5	2	1	1	5	7	4	4	2	4818	7754	6	3.19	81.0
Visalia	N. 36 20	W. 119 17	4.11 a.m.	348	106	29.63	752.6	30.01	762.2	49.7	9.8	73.5	1	6	1	2	1	11	3	2	4	2489	4000	3	2.48	63.0
Washakie, Fort	N 42 59	W. 108 43	4.53 a.m.	5580	1702	24.46	621.3	30.18	766.6	21.3	—5.9	79.5	2	2	12	4	3	6	2	.....	.....	4473	7198	2	0.35	8.9
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	29.94	760.5	30.06	763.5	31.9	—0.1	77.4	2	12	.....	2	3	4	.....	4	4	4323	6957	6	3.27	83.1
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.05	661.7	30.12	765.0	27.1	—2.7	69.8	2	1	15	.....	.....	.....	8	4	1	6117	9844	4	0.15	3.8
Williamsport	N. 41 15	W. 77 03	7.00 a.m.	561	171	29.40	746.7	30.03	762.7	26.8	—2.9	72.1	1	8	7	1	1	5	1	6	4	4649	7482	6	2.01	51.1
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	30.01	762.2	30.07	763.8	45.5	7.5	75.3	4	5	6	6	1	2	3	5	.....	6319	10170	5	5.78	146.8
Winnemucca	N. 40 59	W. 117 43	4.17 a.m.	4327	1319	25.63	651.0	30.13	765.3	35.8	2.1	64.0	1	.....	.....	8	1	.....	2	18	1	5956	9585	3	0.97	24.6
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.70	730.5	30.15	765.8	23.6	—4.7	65.4	10	1	3	2	1	3	5	1	5	5726	9215	4	1.42	36.1
Yuma	N. 32 45	W 114 36	4.30 a.m.	141	43	29.79	756.7	29.94	760.5	56.9	13.8	75.0	2	8	2	2	3	2	1	8	3	3027	5837	2	imap.	imap.
Sub-Series.																										
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.04	559.8	.....	.....	54.2	12.3	74	4	1	4	5	3	2	1	4	7	2032	3270	8	1.88	47.8
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	29.96	761.0	30.03	762.7	68.3	20.2	83.5	2	1	.....	5	5	10	3	4	1	5666	9022	4	9.58	243.3
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	30.05	763.3	30.06	763.5	71.6	22.0	87.0	18	1	.....	.....	.....	1	.....	.....	11	3046	4902	3	2.57	65.3
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.04	763.0	30.04	763.0	76.6	24.8	84	2	.....	.....	.....	.....	1	16	12	.....	.....	.....	5	3.16	80.8
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.41	747.0	29.97	761.2	79.2	26.2	85	7	.....	.....	.....	1	.....	.....	.....	23	.....	.....	9	5.66	143.8
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Paul, Alaska e	N. 57 47	W. 152 21	1.59 a.m.	54	16	29.68	753.9	29.74	755.4	33.9	1.1	83.2	2	2	2	3	1	5	1	2	10	.....	.....	7	9.49	241.0
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	131	40	29.99	761.7	30.12	765.0	75.9	24.4	75.2	.....	.....	.....	.....	2	5	21	3	.....	2489	4006	4	3.65	92.7
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	30.20	767.1	30.27	768.8	-20.4	-29.1	79.1	2	16	6	2	1	.....	2	2	.....	9530	15337	5	0.74	18.8

OCEAN SQUARE DATA FOR MARCH, 1883.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W. 22.5°	30.00	762.0	75.6	24.2	1					1		23		6	2.4
12.5 27.5	30.03	762.7	74.9	23.8	1				1		1	22		6	2.4
12.5 32.5	30.02	762.5	76.2	24.6				1			3	24		3	2.3
12.5 37.5	30.03	762.7	75.8	24.3	1			1			7	18		4	2.3
12.5 42.5	30.04	763.0	76.9	24.9		1				2	4	17		7	2.6
12.5 47.5	30.05	763.3	77.4	25.2		1				2	5	18		5	2.1
12.5 52.5	30.04	763.0	77.7	25.4	1					1	6	17		6	2.2
17.5 22.5	30.04	763.0	73.0	22.8	2			1		1		21		6	2.4
17.5 27.5	30.07	763.8	73.2	22.9	1		1			1	2	20		6	2.4
17.5 32.5	30.06	763.5	73.2	22.9	2			1	1		7	19		1	2.2
17.5 37.5	30.07	763.8	73.6	23.1	2	1		1	1	1	9	14	1	1	2.4
17.5 42.5	30.07	763.8	74.2	23.4	1	1		1	2	2	6	10		2	2.4
17.5 47.5	30.10	764.5	74.6	23.7	1	2		1	1	5	4	14		3	2.4
17.5 52.5	30.06	763.5	75.1	23.9	3					6	5	13		4	2.3
17.5 57.5	30.07	763.8	75.6	24.2					4	5	6	16			2.0
22.5 22.5	30.07	763.8	70.0	21.1	5		1	2		1	3	14		5	2.4
22.5 27.5	30.07	763.8	70.0	21.1	2	2	2				4	20		1	2.3
22.5 32.5	30.08	764.0	70.3	21.3	3		1	1	5	1	4	16			2.4
22.5 37.5	30.08	764.0	71.0	21.7	4		1	2	3	5	4	12			2.1
22.5 42.5	30.09	764.3	71.8	22.1	2	1	1	2	2	6	3	13		1	2.4
22.5 47.5	30.08	764.0	72.2	22.3	3	4	1	2	2	5	3	10		1	2.5
22.5 52.5	30.09	764.3	72.7	22.6	4	4			7	4	3	9			2.4
22.5 57.5	30.10	764.5	72.8	22.7	1	3		5	8	1	3	10			2.2
22.5 62.5	30.09	764.3	72.9	22.7	4	1		5	5	2	5	9			2.3
22.5 67.5	30.09	764.3	73.0	22.8	5	2	2	2	5	1	5	9			2.4
22.5 72.5	30.08	764.0	77.7	25.4	6	4	1		5	5	5	4	1		2.4
27.5 22.5	30.07	763.8	65.8	18.8	7	2	1	2	2	1	2	14			2.4
27.5 27.5	30.05	763.3	66.5	19.2	3	5	2	1	2	2	2	14			2.4
27.5 32.5	30.07	763.8	67.2	19.6	8	1		2	5	1	5	9			2.4
27.5 37.5	30.09	764.3	67.9	19.9	4	1	1	4	3	2	7	9			2.5
27.5 42.5	30.08	764.0	68.2	20.1	1	1	2	5	2	6	4	9		1	2.5
27.5 47.5	30.07	763.8	68.6	20.3	3	3	2	2	5	5	3	7		1	2.5
27.5 52.5	30.07	763.8	68.9	20.5	7	3	2	4	7	1	2	5			2.5
27.5 57.5	30.07	763.8	69.3	20.7	3	6	2	5	7	5	1	2			2.2
27.5 62.5	30.05	763.3	69.5	20.8	6	7		6	8	2					2.5
27.5 67.5	30.04	763.0	69.7	20.9	8	5	3	4	2	5		4			2.7
27.5 72.5	30.04	763.0	69.6	20.9	12	3		4	6	2		4			2.6
27.5 77.5	30.12	765.0	68.2	20.1	7	3	1	5		8	1	6			1.8
32.5 12.5	30.00	762.0	60.5	15.8	6	5	3	5	1		3	8			2.4
32.5 17.5	30.03	762.7	61.1	16.2	4	6	1	4	2	2	3	9			1.8
32.5 22.5	30.02	762.5	62.2	16.8	5	6	1	4	2	3	2	8			2.2
32.5 27.5	30.05	763.3	62.9	17.2	3	6	3	5	2	3	4	5			2.2
32.5 32.5	30.07	763.8	63.6	17.6	8	1	2	5	2	3	3	7			3.0
32.5 37.5	30.06	763.5	63.9	17.7	5	4	1	4	3	3	3	8			2.7
32.5 42.5	30.06	763.5	64.1	17.8	1	3	1	5	4	6	4	6		1	3.1
32.5 47.5	30.05	763.3	63.3	17.4	3	2	5	5	5	3	2	5		1	2.7
32.5 52.5	30.01	762.2	64.4	18.0	2	5	4	9	5	3		3			2.9
32.5 57.5	29.98	761.5	62.0	16.7	1	11	3	7	4	2	2	1			3.5
32.5 62.5	29.94	760.5	61.1	16.2	3	12	2	5	5	1	1	2			2.9
32.5 67.5	29.94	760.5	61.5	16.4	3	11	3	4	5	1		4			3.7
32.5 72.5	30.03	762.7	61.0	16.1	11	5	1	7	3	3	1				3.7
32.5 77.5	30.06	763.5	51.7	10.9	10	2	2	8	1	3		5			2.8
37.5 12.5	29.95	760.7	56.4	13.6	6	3	4	3	3	2	3	7			2.7
37.5 17.5	29.97	761.2	57.8	14.3	4	6	1	4	2	2	1	11			2.8
37.5 22.5	30.02	762.5	56.9	13.8	2	8		3	3	2	4	9			2.6
37.5 27.5	30.04	763.0	59.3	15.2	4	5	2	4	3	3	5	5			2.4
37.5 32.5	30.08	764.0	58.0	14.4	9	2		6	3	4	3	4			2.7
37.5 37.5	30.05	763.3	60.0	15.6	6	3	1	4	6	4	2	5			2.9
37.5 42.5	30.05	763.3	58.4	14.7	3	4		5	10	3	2	4			3.6
37.5 47.5	29.99	761.7	56.0	13.3	4	5	4	3	6	4	2	3			3.8
37.5 52.5	29.94	760.5	54.9	12.7		7	3	6	8	2	3	2			4.0
37.5 57.5	29.90	759.4	53.3	11.8	3	9	2	7	3	6		1			4.1
37.5 62.5	29.88	758.9	50.7	10.4	7	7	2	4	4	4		3			3.7
37.5 67.5	29.90	759.4	45.6	7.6	13	5	1	3	3	2		4			4.1
37.5 72.5	29.97	761.2	45.5	7.5	14	6	2	3	1	3		2			4.0
42.5 12.5	29.92	760.0	53.6	12.0	5	3	2	2	4	3	2	10			2.8
42.5 17.5	29.96	761.0	54.7	12.6	4	5	2	1	2	1	4	12			3.3
42.5 22.5	30.02	762.5	55.3	12.9	8	1	1	3	3	2	3	10			3.4
42.5 27.5	30.06	763.5	55.5	13.1	7		2	2	4	4	5	7			3.6
42.5 32.5	30.04	763.0	55.4	13.0	6	2	2	3	4	8	1	5			3.7
42.5 37.5	30.03	762.7	54.5	12.5	3	3	1	5	4	7	1	7			3.9
42.5 42.5	30.00	762.0	51.1	10.0	6	4	1	2	7	4	3	4			4.2
42.5 47.5	29.95	760.7	45.5	7.5	4	5	1	2	7	7	1	4			4.1
42.5 52.5	29.90	759.4	42.0	5.6	5	3		2	9	7	2	3			4.1
42.5 57.5	29.83	757.7	40.2	4.6	6	6	4	2	7	3	2	1			4.3
42.5 62.5	29.83	757.7	33.5	0.8	8	9	2	3	4	2	1	2			4.0
42.5 67.5	29.89	759.2	29.5	−1.4	9	7	2	5	2	1	1	4			3.8
47.5 12.5	29.97	761.2	50.2	10.1	11		2	2	2	3	4	7			3.4
47.5 17.5	29.98	761.5	51.0	10.6	7	2	1	2	2	3	6	8			4.0
47.5 22.5	30.05	763.3	51.5	10.8	7	3	1	1	4	1	3	11			3.6
47.5 27.5	30.04	763.0	49.6	9.8	6	3		2	5	6	1	8			4.0
47.5 32.5	30.06	763.5	48.8	9.3	5	3		4	5	6	5	3			4.3
47.5 37.5	30.05	763.3	48.4	9.1	5	4	3	2	5	7	1	4			3.9
47.5 42.5	29.99	761.7	43.4	6.3	1	8	1	4	7	3	3	4			3.9
47.5 47.5	29.93	760.2	35.0	1.7	5	2	6	4	5	5	1	3			3.8
52.5 12.5	30.02	762.5	46.8	8.2	11	2	1	2	3	2	3	7			3.6
52.5 17.5	30.06	763.5	48.8	9.3	9	2	1	1	3	3	2	10			3.5
52.5 22.5	30.10	764.5	47.9	8.8	8	2	1	1	5	3	4	7			3.6
52.5 27.5	30.11	764.8	46.4	8.0	5	3		2	8	6	2	5			3.4
52.5 32.5	30.07	763.8	44.4	6.9	5	2	3	2	6	6	2	5			3.8
52.5 37.5	30.01	762.2	46.1	7.8	1	5	2	3	6	5	3	6			3.1
52.5 42.5	29.94	760.5	36.6	2.0	3	3	2	6	3	9	1	2	1	1	3.2
52.5 47.5	29.89	759.2	28.8	1.8	3	3	2	8	1	8	2	3		1	2.9
57.5 12.5	30.04	763.0	41.5	5.3	12	2	2	4	2	1	1	7			3.5
57.5 17.5	30.09	764.3	41.4	5.2	10	3	3	3	2	1	3	6			3.4
57.5 22.5	30.12	765.0	40.8	4.9	5	2	2	4	2	6	1	9			3.1
57.5 27.5	30.10	764.5	40.0	4.4	7	3		5	3	8	3	2			2.9
57.5 32.5	30.04	763.0	38.4	3.6	3	5	1	3	5	10		4			3.2
57.5 37.5	29.99	761.7	35.0	1.7	4	5	1	1	8	5	4	3			3.0
57.5 42.5	29.93	760.2	33.4	0.8	4	3		6	4	7	4	2		1	2.9
57.5 47.5	29.89	759.2			4	2	1	4	6	4	4	4	1	1	2.8

REVIEW.

INTERNATIONAL METEOROLOGY.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following description refers to chart ii. for the month of March, 1883, issued with this SUMMARY. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and prevailing wind-direction over the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich mean time.

Three areas of barometric minima are shown on the chart for March, 1883. The first of these is indicated by the isobarometric line for 29.7 (754.4), and occupies the extreme northern part of Scandinavia and the White sea region. The second area of low pressure is over Newfoundland, the Gulf of Saint Lawrence, and the northern part of the Canadian maritime provinces; over this region the mean pressure ranges from 29.75 (755.6) to 29.8 (756.9). The third area occupies southern Hindostan, where the pressures range from 29.76 (755.9) to 29.8 (756.9); in other parts of British India the mean pressure varies from 29.82 (757.4) to 29.9 (759.4). From the area of absolute minima over the White sea, a barometric trough extends southwestward to the Mediterranean, and covers nearly the whole of European Russia to the north, and the Italian peninsula to the southward; within this trough the mean pressure ranges from 29.72 (754.9) to 29.8 (756.9). In central and western Europe the mean pressure varies from 29.82 (757.4) to 29.95 (760.7), the barometric gradient increasing slowly in a westerly direction. On the North American continent, the mean pressure gradually increases from 29.8 (756.9) over the Gulf of Saint Lawrence, to 30.07 (763.8) near the ninetieth meridian. To the westward of that meridian the pressure is above 30.1 (764.5), except on the immediate Pacific coast.

The areas of barometric maxima are found in Siberia and in North America, respectively. The first occupies that part of Siberia lying between N. 50° and 60° and E. 95° and 110°, the highest mean being 30.35 (770.9), at Irkutsk. The second area is indicated by the isobar for 30.2 (767.1), and occupies the southern part of the Northwest Territories, Manitoba, eastern Montana, and western Dakota; in those districts the mean pressure ranges from 30.2 (767.1) to 30.25 (768.3). Over the Atlantic ocean, between 30° and 50° North, the mean pressure ranges from about 29.85 (758.2), near the coast of Nova Scotia, to about 30.05 (763.3) in the vicinity of the Azores; from those islands eastward to the European coasts the mean pressure gradually decreases. North of 50° north latitude and between W. 35° and 15°, the mean pressure varies from 30.05 (763.3) to 30.1 (764.5).

Compared with the chart for the preceding month (February), there has been a marked and general decrease of pressure over North America, Europe, and Asia. The area of barometric minima, 29.1 (739.1), which, in February, occupied the region between Greenland and Iceland, has moved eastward with increased pressure; at the same time there has been a great increase over Greenland, Iceland, and the ocean north of the fiftieth parallel. At Godthaab, Greenland, and at Stykkisholm, Iceland, the mean pressure in March, 1883, was .65 inch and 1.07 inches above that of the preceding month. In Europe the decrease of pressure was least in the British Isles and Scandinavia, and was greatest in Russia and Austria. In North America the decrease was greatest in Canada and the New England states, and least in the southwestern part of the United States. Over the Atlantic Ocean south of 40° north latitude there has been a decrease of pressure.

Compared with the corresponding month of previous years, the mean atmospheric pressure in March, 1883, over the United States, was above the normal, except on the Pacific coast, New England, and the immediate Atlantic and Gulf coasts, where it was less than the normal. In Canada it was everywhere below the normal. In Europe the pressure was below the normal, except in the Scandinavian peninsula, where it was about normal.

The following table gives the mean pressure and mean temperature, with corresponding departures, for March, 1883, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the last six years:

Countries.	Mean pressure.			Mean temperature.		
	Mch. mean of 6 (1877–'82) years.	Mch., 1883.	Departure.	Mch. mean of 6 (1877–'82) years.	Mch., 1883.	Departure.
				°	°	°
Algeria	30.09	29.96	− 0.13	62.9	58.4	− 4.5
Austria	29.96	29.80	− 0.16	45.3	38.1	− 7.2
British Isles	29.95	29.95	normal	46.1	41.6	− 4.5
Denmark	29.87	29.87	normal	36.5	33.0	− 3.5
France	30.03	29.87	− 0.16	53.2	44.0	− 9.2
Germany	29.98	29.87	− 0.11	42.4	34.9	− 7.5
India*	29.81	29.83	+ 0.02	84.5	83.4	− 1.1
Italy	29.98	29.79	− 0.19	55.5	49.0	− 6.5
Norway	29.74	29.76	+ 0.02	35.4	32.2	− 3.2
Portugal	30.08	29.92	− 0.16	59.6	53.7	− 5.9
Russia	29.87	29.81	− 0.06	34.3	29.5	− 4.8
Spain	30.06	29.91	− 0.15	59.4	50.0	− 9.4
Sweden	29.74	29.79	+ 0.05	30.1	29.4	− 0.7

* Mean for five years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of March, 1883, as compared with the means for six years:

Stations.	Mean pressure.			Mean temperature.		
	Mch. mean of 6 (1877–'82) years.	Mch., 1883.	Departure.	Mch. mean of 6 (1877–'82) years.	Mch., 1883.	Departure.
				°	°	°
Gibraltar	30.07	29.95	− 0.12	62.3	58.5	− 3.8
Malta, Mediterranean Sea	29.98	29.84	− 0.14	61.7	58.2	− 3.5
Sandwick Manse, Orkney Islands	29.77	29.95	+ 0.18	40.3	37.4	− 2.9
Bridgetown, Barbadoes	30.00	30.01	+ 0.01	80.7	81.2	+ 0.5
Cape Town, Cape Good Hope	30.00	.....	.....	77.7	.....	.....
Fort Napier, Natal, South Africa	29.89	29.85	− 0.04	77.4	75.7	− 1.7
Freetown, Sierra Leone	29.88	29.88	normal	87.4	83.7	− 3.7
Mauritius, Indian Ocean	29.94	29.93	− 0.01	80.9	81.5	+ 0.6
Melbourne, New South Wales	30.06	30.09	+ 0.03	62.5	62.7	+ 0.2
Nassau, Bahamas	30.11	30.10	− 0.01	72.6	72.5	− 0.1
Godthaab, Greenland	29.78	29.85	+ 0.16	18.0	21.0	+ 3.0
Stykkisholm, Iceland	29.60	30.09	+ 0.49	26.7	31.6	+ 4.9
Thorshavn, Färöe Islands	29.72	30.00	+ 0.28	38.5	37.8	− 0.7
Zi-Ka-Wei, China	30.25	30.18	− 0.07	44.0	45.7	+ 1.7
Athens, Greece	30.00	29.84	− 0.16	59.1	56.5	− 2.6
Cagliari, Sardinia, Italy	29.96	29.78	− 0.18	59.5	54.5	− 5.0
Tokei, Japan *	30.04	29.96	− 0.08	42.6	41.0	− 1.6
Angra, Azores *	30.11	30.04	− 0.07	58.2	57.0	− 1.2
Funchal, Madeira Islands	30.15	30.04	− 0.11	64.0	61.2	− 2.8
Ponta Delgado, Azores	30.18	30.05	− 0.13	60.9	59.4	− 1.5
Archangel, Russia	29.93	29.98	+ 0.05	22.8	20.5	− 2.3
Tiflis, Russia	29.98	29.92	− 0.06	52.8	53.1	+ 0.3
Astrakhan, Russia	29.99	29.94	− 0.05	40.7	40.8	+ 0.1
Ekaterinburg, Russia	29.92	29.89	− 0.03	20.6	25.5	− 1.1
Tashkend, Toorkistan, Asia	30.14	29.98	− 0.16	54.2	55.2	+ 1.0
Barnaul, Siberia, Asia	30.25	30.19	− 0.06	23.3	27.0	+ 3.7
Yeniseisk, Siberia, Asia	30.19	30.27	+ 0.08	23.0	26.2	+ 3.2
Pekin, China	30.21	30.15	− 0.06	43.0	41.5	− 1.5
Nikolaevsk on the Amoor, Asia	.....	.....	.....	8.3	8.2	− 0.1
San Juan de Puerto Rico, W. I.*	30.07	30.04	− 0.03	75.6	74.7	− 0.9
Beirut, Turkey in Asia	29.99	29.94	− 0.05	63.9	65.7	+ 1.8
Mexico, Mexico*	30.19	30.22	+ 0.03	50.3	49.3	− 1.0
Havana, Cuba, W. I.	30.07	30.03	− 0.04	72.9	68.3	− 4.6
Paramaribo, D. Guiana, S. A	30.02	30.04	+ 0.02	79.5	76.6	− 2.9
York Factory, B. A	30.11	30.27	+ 0.16	−12.8	−20.4	− 7.6

* Mean for five years only.

The mean temperature of the air in the United States was below the normal over the entire country east of the Rocky mountains; in the districts west of the Rocky mountains the temperature was above the normal. In Canada it was below the normal. In Europe the mean temperature of the air was much below the normal, the departures being greatest in the central and southern districts; the month was one of the coldest on record in Europe. In British India the mean temperature was about 1° below the five years' mean. The highest mean temperature reported was 94°.1 Fahr. (34°.5 Cent.), at Bellary, and the lowest was 69°.3 Fahr. (20°.7 Cent.), at Sibsagar.

The following are some of the extreme mean temperatures reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Africa	83.7	28.7	York Factory, B. A	—20.4	—29.1
Saint Paul de Loando, W. Africa	81.9	27.7	Ooghamie, Alaska	—18.5	—28.1
Mauritius, Indian Ocean	81.5	27.5	Upernavik, Greenland	8.1	—13.3
Bridgetown, Barbadoes	81.2	27.3	Jacobshavn, Greenland	17.6	— 8.0
Manila, Philippine Islands	81.2	27.3	Godthaab, Greenland	21.0	— 6.1

In the United States the prevailing directions of the wind were as follows: northerly, northwesterly, and westerly in all districts, except the south Atlantic states, where it was southwesterly. In Canada they were mostly westerly and northwesterly. Over the north Atlantic ocean from the coasts of the United States eastward to W. 55° and between N. 25° and 45°, the winds were mostly northerly and northwesterly; from W. 55° to W. 40°, and between N. 30° and 45°, they were southerly; from W. 40° eastward to the European coasts, and between N. 30° and 50°, they were mostly northeasterly; south of N. 30° northeasterly winds prevailed; north of N. 50° they were southerly, except near the British coasts, where they were northerly. In Europe the prevailing winds were northeasterly and northerly to westerly. On the coast of China the winds were northeasterly. In Japan they were northerly and westerly.

The rainfall during March, 1883, was less than the average over that part of the United States lying north of N. 35°, and east of the hundredth meridian, and also in the east Gulf states and the middle Pacific coast region; the greatest deficiencies occurred in New England and on the Pacific coast. In all other districts of the United States the rainfall was in excess of the average. In Canada it was below the average, except in the maritime provinces, where it was slightly above. In Europe the rainfall was generally below the average, the precipitation being mostly in the form of snow.

As a special feature of the month of March, 1883, may be mentioned the abnormal conditions of temperature and pressure in Europe; unusually low mean temperatures occurred in connection with abnormally low pressures. In the preceding month (February) abnormally high pressure was accompanied by high temperature.

GENERAL REMARKS.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevation of stations is obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer cistern above sea-level; at least, this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the alphabet of the letter so used.

On February 1, 1883, the following change was made in publishing marine data in the "Daily International Bulletin":

All marine reports are classified as to districts, which are designated as follows: District No. 1, North Atlantic; District No. 2, South Atlantic, &c., under which headings the respective reports are printed.

BOUNDARIES OF DISTRICTS.

District No. 1 comprises the Atlantic ocean, its arms and tributaries, from the equator northward to the pole, and in the arctic from 100° E., westward to 100° W., of Greenwich.

District No. 2 comprises the Atlantic ocean, its arms and tributaries, from the equator southward to the pole, and in the antarctic from 20° E., westward to 70° W., of Greenwich.

District No. 3 comprises the Pacific ocean, its arms and tributaries, from the equator northward to the pole, and in the arctic from 100° W., westward to 100° E., of Greenwich.

District No. 4 comprises the Pacific ocean, its arms and tributaries, from the equator southward to the pole, and in the antarctic from 70° W., westward to 145° E., of Greenwich.

District No. 5 comprises the Indian ocean, its arms and tributaries, from the Asiatic continent southward to the pole, and in the antarctic from 20° E., eastward to 145° E., of Greenwich.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

Arrows show direction of, and fly with, the wind. Force is shown as follows:

Symbols.	Force.	Velocity. Miles per hour.	Velocity. Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

The following remarks relate to the individual peculiarities in the *methods* of recording, and the *times* of taking, the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of General Maritz, Commandant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemberg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is

measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind-direction is given to 32 points and weather by the Beaufort notation. At Bradford, no observations are taken on Sunday, except the rainfall, and in the monthly summary the letter designating a certain number of days missing applies to all the data except rainfall.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10, and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation. At Tchang-Kia-Tchouang the original gives barometer in millimetres reduced to sea-level, temperature in Centigrade, velocity in kilometres for past 3 hours 53 minutes, clouds on scale of 0–10, no distinction between upper and lower.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted. At Jacobshavn and Upernavik, the observations are taken at 8 a. m., instead of 8.44 and 8.24 a. m., respectively.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Mont Louis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. At Besançon the observations are taken at at midday instead instead of 0.32 p. m.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only, and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10. When snow has fallen at Stelvio and Valdobbia, it is not certain whether the amount given refers to melted or unmelted.

JAPANESE SERIES (furnished by co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (by authority of the Secretary of Public Works—furnished by co-operation of Señor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico, and respective observers).—All conversions are published as given in the originals, but when an evident mistake has been made the data is queried at this office. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys-Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Astrakhan, Ashurada and Baku, the barometer-cistern is below sea-level. At Kasalinsk, the barometer appears to have a large error.

SCOTTISH SERIES (furnished by co-operation of Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society at Edinburg, and respective observers).—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rainfall, temperature, and humidity are not given at North Unst. The wind-direction is given to 32 points.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Professor E. Plantamour, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES (by authority of the Secretary of War—furnished

by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota and Navassa the barometer is corrected for temperature only; at Puerto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind-direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind-direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES (furnished by co-operation of E. Malmberg, Director of the Nautical Meteorological Bureau at Stockholm).—The originals give the barometer as read off. The movement of the air is indicated by force on a scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on a scale of 0 to 9 and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operation of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

ERRATA.

MONTHLY SUMMARY, February, 1882, page 1, Australian series, Melbourne, actual barometer should read 29.97, 761.3, reduced 30.06, 763.6, temperature 63°.8 Fahr., 17°.7 Cent., R. H. 71.0 instead of data as published.

DAILY BULLETIN, March 2, 1883, page 1, Canadian, Cornwall, reduced barometer 750.9 mm., should read 756.9 mm.

15th, page 5, San Diego, actual barometer 752.7 mm., should read 762.7 mm.

16th, page 2, Indian, Nagpur, actual barometer 71.38 mm., should read 731.8 mm.

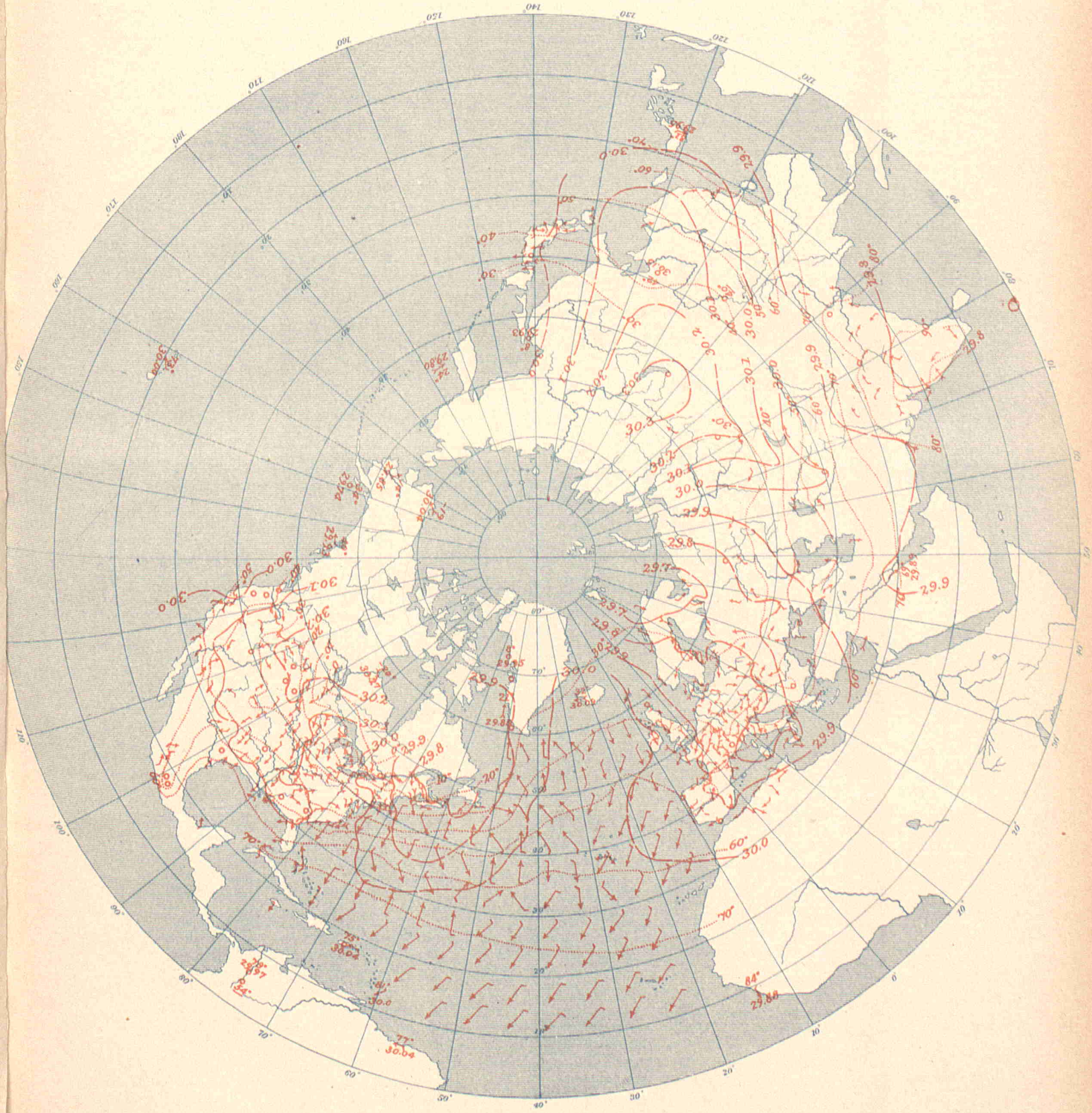
27th, page 5, Sanford, actual barometer 766.0 mm., should read 761.0 mm.

Page 3, Portuguese, Serra da Estralla, velocity in miles and metres during March should be omitted and the following inserted instead in force column for each day according to its respective position: 1, 4, 4, 5, 7, 5, 5, 5, 5, 5, 3, 4, 4, 5, 4, 4, 6, 5, 6, 7, 6, 5, 4, 4, 5, 2, 7, 0, 7, 2, 4.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. March, 1883. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W. B. Hazen, Chief Signal Officer.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF APRIL, 1883.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
MAY, 1884.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

APRIL, 1883.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for April, 1883. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	29.98	761.5	65.5	18.6	74.8	8	.....	.....	.....	8	1	13	.....	.....	.....	.....	1	0.44	11.1
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	29.95	760.8	63.3	17.4	62.3	8	1	8	3	.....	.....	2	8	.....	.....	.....	3	2.29	58.1
La Galle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	29.92	759.9	63.9	17.7	69.1	3	14	.....	4	1	.....	5	3	.....	.....	.....	4	1.65	42.0
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	29.91	759.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	29.99	761.7	63.0	17.2	59.3	4	7	8	4	2	2	.....	3	.....	.....	.....	4	1.60	40.6
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	29.97	761.3	60.3	15.7	50.8	5	9	5	7	2	1	.....	1	.....	.....	.....	2	0.61	15.4
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	61.2	16.2	33.8	2	8	11	.....	4	2	1	2	.....	.....	.....	2	1.77	45.0
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2559	780	.....	.....	29.98	761.4	65.7	18.7	36.3	12	5	1	.....	1	2	4	5	.....	.....	.....	2	0.46	11.8
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	29.94	760.5	74.8	23.8	36.0	1	13	.....	.....	1	2	1	1	11	.....	.....	3	0.17	4.4
AUSTRALIAN.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	30.04	763.1	30.13	765.3	58.9	14.9	78	7	2	2	2	2	8	3	4	.....	.....	.....	6	0.96	24.4
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.36	745.7	29.91	759.6	55.2	12.9	51.5	.....	1	1	5	.....	5	6	12	.....	.....	.....	7	1.95	49.6
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.19	741.3	29.96	761.0	47.7	8.7	60.9	1	6	5	1	.....	.....	7	10	.....	.....	.....	8	0.67	17.0
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.03	737.4	29.91	759.6	44.2	6.8	70.4	12	6	.....	.....	.....	.....	.....	.....	12	.....	.....	8	1.27	32.2
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.67	728.3	29.93	760.1	52.7	11.5	60.6	1	4	3	5	5	5	3	4	.....	.....	.....	6	2.43	61.7
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.43	722.1	29.88	758.9	50.2	10.1	64	2	8	3	3	4	6	3	1	.....	.....	.....	8	2.91	73.8
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.59	726.1	29.94	760.5	48.0	8.9	68.3	.....	7	4	3	.....	1	2	11	2	.....	.....	7	3.13	79.5
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.93	734.8	29.93	760.3	44.6	7.0	69.2	2	2	4	.....	1	13	3	5	.....	.....	.....	8	3.42	86.8
Neu Schmecks	N. 49 10	E. 20 14	1.29 p.m.	3297	1005	26.50	673.0	29.91	759.4	42.4	5.8	63.2	1	.....	.....	.....	.....	5	6	4	14	.....	.....	6	0.81	20.6
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.69	754.1	29.80	756.9	50.4	10.2	61.1	.....	1	5	1	6	5	5	7	.....	.....	.....	4	1.37	34.7
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.39	746.6	29.85	758.3	52.3	11.3	52	9	3	4	4	4	2	3	1	.....	.....	.....	7	1.91	48.5
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.60	751.8	29.88	758.9	54.3	12.4	55.5	1	9	4	1	4	4	1	1	5	.....	.....	7	0.98	24.9
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.81	757.2	29.91	759.7	56.3	13.5	51.1	.....	5	6	3	.....	1	.....	13	2	.....	.....	6	1.59	40.4
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.23	742.4	29.95	760.7	50.4	10.2	56.6	6	10	4	.....	1	5	2	1	1	.....	.....	7	1.51	38.3
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.92	760.0	30.01	762.2	47.3	8.5	69.2	.....	3	2	3	4	9	7	2	.....	.....	.....	6	1.70	43.2
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.74	755.4	29.98	761.5	50.3	10.2	65.4	3	2	.....	4	10	2	5	4	.....	.....	.....	6	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.99	761.7	50.3	10.2	63.3	.....	5	8	2	1	7	4	3	.....	.....	.....	6	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.45	748.0	29.99	761.7	51.0	10.6	59.4	1	3	3	6	6	2	7	2	.....	.....	.....	7	.....	.....
Bradford	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.57	751.1	29.97	761.2	51.0	10.6	64.5	.....	4	3	7	.....	3	.....	8	.....	.....	.....	8	2.04	67.0
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.98	761.5	30.01	762.2	83.2	28.4	65.8	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	.....	4	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	29.91	759.7	30.02	762.5	54.6	12.6	56.7	2	8	5	4	3	1	1	6	.....	.....	.....	6	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.88	758.9	30.00	762.0	52.8	11.6	65.3	1	2	.....	5	3	1	4	5	9	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.77	756.1	30.00	762.0	50.2	10.1	70.7	2	4	5	.....	.....	11	7	1	.....	.....	.....	6	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2205	672	27.63	701.8	29.88	758.9	74.7	23.7	54.3	6	1	.....	.....	1	8	10	4	.....	.....	.....	4	.....	.....
Freetown	N. 8 30	W. 13 14	11.50 a.m.	224	68	29.68	753.9	29.91	759.7	85.7	29.8	79.4	3	3	14	4	2	2	1	1	.....	.....	.....	2	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.88	758.9	29.91	759.7	51.6	10.9	68.6	.....	4	7	6	4	1	7	1	.....	.....	.....	5	1.45	36.8
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	29.93	760.2	29.97	761.2	62.4	16.9	91.6	h	5	6	2	.....	.....	6	3	.....	.....	.....	6	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.77	756.1	29.98	761.5	49.1	9.5	65.2	1	.....	8	6	5	.....	5	5	.....	.....	.....	8	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.83	757.7	30.01	762.2	52.8	11.6	68.0	5	2	4	5	3	3	3	5	.....	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.71	754.6	30.01	762.2	50.7	10.4	77.1	8	3	2	1	3	6	2	5	.....	.....	.....	5	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	.....	.....	30.02	762.5	52.1	11.2	59.9	4	4	5	2	4	3	2	6	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.74	755.4	29.99	761.7	52.7	11.5	60.9	2	4	1	8	2	4	.....	9	.....	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.82	757.4	29.90	759.4	61.9	16.6	85.6	.....	9	7	1	.....	4	1	8	.....	.....	.....	3	0.31	7.9
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.02	762.5	30.07	763.8	78.6	25.9	66.7	3	.....	.....	3	5	9	2	8	.....	.....	.....	5	.....	.....
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.47	748.5	30.00	762.0	52.3	11.3	58.4	4	2	2	5	6	1	4	6	.....	.....	.....	6	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.77	756.1	30.00	762.0	52.3	11.3	62.5	2	4	2	6	3	5	1	7	.....	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.92	760.0	29.99	761.7	53.0	11.7	69.3	1	.....	1	3	9	5	7	2	2	.....	.....	6	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.87	758.7	29.97	761.2	46.8	8.2	80.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	.....	.....
Scutari Cemet'ya	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.78	750.4	29.85	758.2	56.4	13.6	68.0	6	2	2	5	7	.....	.....	5	2	.....	.....	7	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.73	755.1	30.01	762.2	53.8	12.1	73.1	1	1	.....	6	6	.....	4	12	.....	.....	.....	6	2.89	73.4
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.96	761.0	29.99	761.7	50.8	10.4	70.8	1	4	7	8	2	1	7	.....	.....	.....	.....	7	1.78	45.2
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	30.01	762.2	50.2	10.1	62.7	2	.....	7	5	3	2	4	7	.....	.....	.....	7	.....	.....
Strathfeld Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.79	756.7	30.01	762.2	54.2	12.3	67.0	.....	5	4	6	2	3	4	6	.....	.....	.....	6	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.96	761.0	30.02	762.5	55.6	13.1	66.0	2	3	4	3	5	4	7	2	.....	.....	.....	6	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.91	759.7	29.93	760.2	51.2	10.7	70.6	2	6	3	1	5	5	5	3	.....	.....	.....	7	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.53	750.0	29.92	760.0	63.5	17.5	67.0	.....	7	8	3	3	1	7	1	.....	.....	.....	6	0.53	13.5
CANADIAN.																										
Bathurst f	N. 47 39	W. 65 43	7.45 a.m.	35	11	.....	.....	.....	.....	33.5	0.8	.....	.....	2	.....	1	1	.....	3	1	16	.....	.....	5	.....	.....
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.90	759.4	29.94	760.5	32.6	0.3	78.5	4	5	4	6	2	5	2	2	.....	5830	9382	6	3.17	80.5
Chatham*	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.91	759.7	29.97	761.2	31.4	—0.3	81.2	2	8	6	6	1	2	.....	5	.....	2989	4810	6	2.20	55.9
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.78	750.4	29.98	761.5	32.3	0.2	75.3	.....	12	9	.....	.....	.....	5	4	.....	.....	.....	5	1.89	48.0
Dalhousie d	N. 48 04	W. 66 21	7.32 a.m.	45	14	29.92	760.0	29.97	761.2	28.1	—2.2	.....	.....	2	15	.....	.....	.....	5	1	3	.....	.....	6	0.87	22.1
Father Point*	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.91	759.7	29.93	760.2	30.5	—0.8	92.5	6	5	4	2	5	3	1	3	1	.....	.....	8	0.64	16.3
Fort Garry*	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.15	740.9	29.99	761.7	26.1	—3.3	84.7	8	3	.....	5	2	6	2	1	3	7787	12532	6	0.86	21.8
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	29.91	759.7	29.99	761.7	31.4	—0.3	77.6	6	10	4	.....	2	.....	3	3	2	.....	.....	6	3.40	86.4
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	28.86	733.0	30.01	762.2	34.1	1.2	99.2	6	2	1	5	5	1	2	3	5	.....	.....	6	2.07	52.6
Halifax*	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.83	757.7	29.97	761.2	34.6	1.4	79.4a	1	10	3	1	5	2	3	4	1	.....	.....	4	3.74	95.0
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	338	103	29.57	751.1	29.98	761.5	36.0	2.2	96.0	1	.....	4	12	.....	1	.....	12	.....	.....	.....	5	1.06	40.6
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.68	753.9	30.02	762.5	32.9	0.5	80.2	5	1	7	6	3	1	1	6	.....	4965	7990	6	1.83	46.5
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.87	758.7	29.91	759.7	36.7	2.6	82.8	2	3	5	7	5	3	1	4	.....	.....	.....	7	2.75	69.8
London	N. 43 00	W. 81 15	6.43 a.m.	816	248	29.09	738.9	30.03	762.7	35.6	2.0	81.7	3	5	.....	8	3	3	1	7	.....	.....	.....	6	2.09	53.1
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.79	756.7	29.99	761.7	33.0	0.6	68.6	6	2	13	.....	2	1	.....	6	.....	.....	.....	6	1.48	37.6
Ottawa	N. 45 26	W. 75 45	7.05 a.m.	223	168	29.75	755.0	30.00	762.0	31.1	—0.5	80.6	8	4	5	1	.....	.....	.....	3	9	.....	.....	5	0.52	13.2
Parry Sound*	N. 45 19	W. 80 01	6.48 a.m.	625	191	29.30	744.2	30.01	762.2	30.3	—0.9	82.9	7	.....	.....	3	5	5	3	5	2	7161	11524	5	1.89	48.0
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.30	744.2	30.01	762.2	35.3	1.8	88.9	.....	1	3	2	6	.....	1	9	8	5505	8956	6	1.85	47.0
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.33	745.0	30.00	762.0	34.9	1.6	85.8	3	6	4	2	1	2	11	1	.....	.....	.....	6	2.30	58.4
Quebec*	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.60	753.4	29.99	761.7	29.3	—1.5	81.2	2	7	5	.....	.....	.....	6	.....	10	.....	.....	6	0.70	17.8
Rockliffe*	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.54	750.3	30.01	762.2	28.4	—2.0	82.8	2	8	4	.....	.....	2	6	.....	8	.....	.....	5	0.77	19.6
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.25	742.9	29.98	761.5	34.7	1.5	77.2	5	9	.....	3	2	3	2	4	2	.....	.....	5	1.53	38.9
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.24	742.7	29.98	761.5	34.7	1.5	79.8	1	1	.....	6	5	3	4	7	3	7203	11687	6	0.75	19.0
Saint John, N. B.	N. 45 17	W. 66 03	7.44 a.m.	150	46	29.79	750.7	29.96	761.0	34.1	1.2	80.9	8	3	.....	5	2	2	3	7	.....	.....	.....	4	2.13	54.1
Saint Johns, N.F.	N. 47 34	W. 52 54	8.30 a.m.	230?	70?	29.78	756.4	30.04	763.0	32.6	0.3	.....	2	.....	9	3	3	8	.....	5	.....	.....	.....	5	0.90	22.9
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.92	760.0	34.4	1.3	.....	4	6	4	7	1	1	2	4	1	.....	.....	.....	5.88	149.3
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	28.69	728.7	30.01	762.2	34.2	1.2	77.2	1	4	3	4	4	3	7	2	2	.....	.....	6	2.11	53.6
Sydney*	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.90	759.4	29.95	760.7	33.7	0.9	80.0	3	2	4	4	3	2	2	2	8	7333	11801	7	2.57	65.3
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.64	752.8	30.03	762.7	34.5	1.4	78.9	6	4	4	3	1	1	2	8	1	6850	11024	7	2.54	64.5
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26	29.84	757.9	29.94	760.5	34.4	1.3	81.1	4	5	6	3	4	1	3	4	.....	.....	.....	6	0.37	9.4
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	28.93	734.8	30.02	762.5	36.7	2.6	80.2	6	2	3	3	7	2	2	5	.....	.....	.....	6	1.89	48.0
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.90	759.4	29.97	761.2	36.1	2.3	81.8	4	5	1	2	3	3	5	4	3	3375	5431	6	2.90	73.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill
CAPE COLONY	° ′	° ′																								
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	29.96	761.0	29.99	761.7	67.1	19.5	80.4	1	.....	9	6	5	.....	7	1	1	.....	.....	5	1.32	33.5
Springbok	S. 29 45	E. 17 43	1.19 p.m	?	?	27.88	708.1	.....	.....	74.6	23.7	28.0	2	10	1	4	.....	6	4	3	.....	.....	.....	.....	0.06	1.5
CHINESE. (*Sub*).																										
Sung-shu-chwang	N. 36 07	E. 103 56	7.04 p.m.	4987	1520	25.10	637.5	.....	.....	55.8	13.2	.....	1	2	1	1	2	5	1	4	13	.....	.....	.....	.....	.....
Tchang-kia-tchouang	N. 38 17	E. 116 14	7.53 p.m.	98	30	29.89	759.2	30.00	762.0	56.5	13.6	57.4	1	.....	.....	4	1	2	1	6	15	.....	.....	5	1.36	34.6
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	29.99	761.8	30.02	762.4	54.9	12.7	85	5	.....	1	.....	1	7	9	6	1	.....	.....	8	3.78	96.1
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	30.03	762.8	30.08	764.0	44.1	6.7	69	2	2	4	2	3	7	5	5	.....	.....	.....	7	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	30.05	763.3	30.07	763.8	47.3	8.5	70	1	1	8	4	2	4	6	4	.....	.....	.....	5	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.71	754.5	29.75	755.6	22.6	— 5.2	85	8	4	1	2	4	2	1	4	4	.....	.....	7	.....	.....
Ivigtut	N. 61 12	W. 48 00	8.56 a.m.	16	5	29.71	754.5	29.72	755.0	27.5	— 2.5	.....	4	3	.....	.....	4	2	.....	.....	17	.....	.....	7	.....	.....
Jacobshavn	N. 69 13	W. 50 55	8.44 a.m.	42	13	29.77	756.2	29.82	757.4	18.1	— 7.1	.....	1	1	1	3	4	1	12	.....	7	.....	.....	5	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.55	750.6	29.60	751.7	36.5	2.5	87	.....	1	3	2	1	7	2	10	4	.....	.....	7	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.85	758.3	29.88	758.9	46.8	8.2	81	.....	.....	4	10	3	8	4	1	.....	.....	.....	7	.....	.....
Upernavik	N. 72 47	W. 56 00	8.24 a.m.	39	12	29.81	757.1	29.85	758.3	7.3	—13.7	.....	5	.....	.....	4	.....	.....	4	3	14	.....	.....	6	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.99	761.7	30.08	764.0	46.0	7.8	73	2	1	4	7	1	2	7	6	.....	.....	.....	4	.....	.....
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.36	745.8	30.01	762.3	56.5	13.6	75.5	1	7	3	2	4	1	4	.....	8	.....	.....	.....	1.65	41.8
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.45	748.1	30.00	762.1	52.7	11.5	85.2	6	1	.....	2	5	.....	.....	13	3	.....	.....	4	0.76	19.4
Arras	N. 50 18	E. 2 46	0.19 p.m.	239	73	29.70	754.4	29.96	760.9	52.5	11.4	76.2	2	4	5	4	2	3	4	6	.....	.....	.....	.....	1.05	26.7
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	29.82	757.5	29.90	759.5	61.0	16.1	47.9	6	13	1	3	.....	4	.....	3	.....	.....	.....	2	4.86	123.5
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.41	746.9	29.96	761.0	55.2	12.9	54.0	1	2	1	4	4	4	3	11	.....	.....	.....	7	2.02	51.3
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.73	755.2	30.00	762.0	54.1	12.3	51.8	4	3	3	2	1	3	3	11	.....	.....	.....	6	0.89	22.6
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.02	737.0	29.90	759.5	56.1	13.4	65.8	2	.....	.....	4	7	3	1	13	.....	.....	.....	.....	1.77	45.0
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.69	754.2	29.96	760.9	57.0	13.9	58.4	4	7	4	3	3	5	.....	4	.....	.....	.....	5	2.15	54.6
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.39	746.5	29.94	760.4	58.3	14.6	49.4	7	5	4	3	1	2	1	7	.....	.....	.....	.....	0.65	16.5
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.78	756.3	30.02	762.5	54.5	12.5	71.7	5	2	1	8	3	.....	3	7	1	.....	.....	6	3.48	88.5
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.90	759.4	29.98	761.4	55.0	12.8	61.0	4	3	7	2	3	2	.....	9	.....	.....	.....	4	1.03	26.2
Chalons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.64	752.8	29.96	761.0	56.8	13.8	66.3	2	4	4	4	10	1	1	4	.....	.....	.....	4	1.82	46.1
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.45	747.9	29.95	760.8	57.4	14.1	50.2	4	2	3	2	1	6	7	5	.....	.....	.....	5	0.99	25.1
Clermont-Fd	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.58	726.0	29.93	760.1	55.0	12.8	49.4	11	5	3	1	3	5	.....	2	.....	.....	.....	6	1.70	43.3
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.10	739.2	29.97	761.1	55.8	13.2	49.2	4	3	3	2	2	5	.....	11	.....	.....	.....	5	1.96	49.8
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.10	739.2	29.96	761.0	53.1	11.7	57.1	.....	8	3	1	3	3	6	6	.....	.....	.....	.....	2.25	57.1
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.34	694.5	29.86	758.4	54.9	12.7	43.9	.....	.....	1	.....	1	2	2	22	.....	.....	.....	5	2.30	58.3
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.76	730.4	29.87	758.8	57.6	14.2	53.6	.....	.....	.....	.....	5	13	6	6	.....	.....	.....	6	4.14	105.1
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.13	740.0	29.90	759.5	57.2	14.0	56.0	2	13	3	1	.....	6	3	2	.....	.....	.....	.....	2.32	58.8
Gueret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.36	720.3	29.95	760.6	52.9	11.6	56.5	5	5	3	9	2	1	1	4	.....	.....	.....	.....	1.84	46.7
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.83	757.6	30.10	764.5	54.9	12.7	62.4	5	5	5	1	3	4	.....	7	.....	.....	.....	.....	0.89	22.6
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.36	745.7	29.92	760.0	58.8	14.9	53.1	1	.....	17	2	2	.....	7	1	.....	.....	.....	5	2.92	74.2
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.91	759.6	30.01	762.2	57.0	13.9	55.7	3	2	3	3	10	1	.....	8	.....	.....	.....	5	0.81	20.5
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	28.88	733.6	29.94	760.4	55.0	12.8	51.9	11	7	2	.....	6	2	1	1	.....	.....	.....	.....	1.79	45.5
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.68	753.8	29.99	761.7	54.5	12.5	59.5	8	3	5	1	3	1	4	5	.....	.....	.....	5	1.22	31.0
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.61	752.2	29.88	759.0	59.0	15.0	62.3	.....	5	10	7	2	1	5	.....	.....	.....	.....	6	3.58	91.0
Mont Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.70	627.3	29.54	750.3	43.2	6.2	47.7	5	6	1	7	1	1	7	2	.....	.....	.....	6	1.58	40.2
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.74	755.5	29.87	758.7	60.4	15.8	67.6	.....	.....	.....	6	2	5	7	10	.....	.....	.....	3	5.41	137.5
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.13	740.0	29.91	759.7	54.5	12.5	56.1	10	5	1	5	2	1	2	4	.....	.....	.....	.....	2.18	55.4
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.80	758.5	30.08	763.9	57.4	14.1	54.0	2	7	4	.....	4	3	1	9	.....	.....	.....	6	1.26	31.9
Perpignan	N. 42 42	W. 2 53	0.19 p.m.	105	32	29.81	757.2	29.92	760.0	61.0	16.1	47.0	4	12	.....	.....	.....	8	3	3	.....	.....	.....	5	2.47	62.8
Pic du Midi (Sum-[mit.)	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.05	534.6	.....	.....	25.2	— 3.8	.....	.....	8	4	3	.....	.....	3	8	4	.....	.....	6	3.78	96.1
Privas	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.85	732.7	29.91	759.7	56.7	13.7	55.2	17	2	1	2	.....	7	.....	.....	1	.....	.....	3	3.53	89.6
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.02	635.6	.....	.....	34.3	1.3	87.8	7	3	3	1	6	4	1	5	.....	.....	.....	7	4.64	117.8
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	29.94	760.5	29.97	761.3	59.0	15.0	79.0	6	1	4	2	1	1	1	8	6	.....	.....	4	1.23	31.2
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.76	755.8	29.97	761.3	56.7	13.7	60.7	7	5	2	3	2	3	3	5	.....	.....	.....	4	0.80	20.3
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.78	705.6	29.94	760.5	48.7c	9.3c	66.4c	1	10	5	.....	.....	4	5	4	1	.....	.....	.....	2.10	53.3
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.96	760.9	29.93	760.1	55.0	12.8	62.7	8	4	5	1	2	4	1	5	.....	.....	.....	6	1.70	43.3
Saint Lo	N. 49 06	W. 1 05	0.04 p.m.	134	41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.82	757.5	29.98	761.6	55.6	13.1	53.3	10	3	4	2	2	4	1	4	.....	.....	.....	.....	0.87	22.1
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.27	743.4	29.99	761.7	57.4	14.1	64.3	6	8	3	2	3	4	2	2	.....	.....	.....	5	2.11	53.6
Tours	N. 47 24	E. 0 41	0.11 p.m.	107	51	29.80	756.8	29.97	761.3	58.5	14.7	53.4	7	4	2	3	4	3	3	4	.....	.....	.....	4	1.98	50.3
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.49	749.1	29.98	761.0	54.1	12.3	54.7	5	4	2	.....	4	4	3	8	.....	.....	.....	5	1.18	30.0
Sub-Series.																										
St. Martin du Hinx	N. 43 35	W. 1 16	0.03 p.m.	131	40	29.84	758.0	29.99	761.8	57.9	14.4	62.3	3	11	8	3	.....	1	2	2	.....	.....	.....	6	3.58	90.8
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.52	724.4	29.98	761.5	50.9	10.5	53.2	.....	2	2	4	1	4	2	14	1	.....	.....	6	0.57	14.5
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.12	739.6	29.96	761.0	52.0	11.1	53.4	3	3	1	.....	.....	6	4	10	3	.....	.....	4	0.41	10.3
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.89	759.3	30.04	763.0	49.6	9.8	51.9	2	10	1	.....	1	6	2	7	1	.....	.....	7	0.80	21.9
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.50	749.4	30.04	762.9	46.4	8.0	58.4	4	6	7	.....	.....	3	5	5	.....	.....	.....	8	0.54	13.7
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.52	749.7	29.96	761.0	55.4	13.0	51.6	1	.....	1	6	.....	.....	5	16	1	.....	.....	6	1.92	48.9
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.26	743.3	29.98	761.4	52.7	11.5	51.0	6	4	1	1	5	7	3	3	.....	.....	.....	5	0.52	13.1
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.61	752.0	29.97	761.3	55.9	13.3	44.7	5	3	1	3	4	3	4	7	.....	.....	.....	6	0.25	6.3
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1355	413	28.50	723.9	29.94	760.4	52.2	11.2	61.1	.....	.....	2	11	6	2	2	7	.....	.....	.....	6	1.61	41.0
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.97	761.2	30.06	763.5	48.6	9.2	61.3	1	5	2	3	1	4	8	6	.....	.....	.....	7	0.30	7.5
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	30.05	763.2	30.06	763.6	46.4	8.0	64.8	3	2	4	1	.....	2	5	9	4	.....	.....	7	0.30	7.7
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.60	751.8	30.02	762.4	48.6	9.2	56.3	5	4	1	6	.....	2	5	7	.....	.....	.....	7	0.09	17.6
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.83	757.7	30.02	762.6	50.5	10.3	57.1	5	6	3	1	2	2	8	3	.....	.....	.....	6	0.01	15.6
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	30.06	763.4	30.10	764.6	45.3	7.4	68.9	1	10	2	1	1	6	1	8	.....	.....	.....	8	0.67	17.0
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.12	714.2	29.98	761.4	50.0	10.0	53.5	2	8	2	.....	.....	1	4	9	4	.....	.....	7	2.17	55.2
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	30.07	763.7	30.08	764.1	42.8	6.0	73.5	9	3	3	.....	1	3	3	8	.....	.....	.....	8	1.37	34.8
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.42	747.3	29.96	761.0	54.5	12.6	55.1	9	1	4	.....	.....	.....	2	4	10	.....	.....	7	1.24	31.5
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.00	736.6	29.89	759.2	54.5	12.5	46.3	8	2	6	.....	1	.....	8	5	.....	.....	.....	6	1.38	35.0
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	30.08	764.0	30.11	764.7	43.7	6.5	75.2	1	1	5	3	.....	5	3	12	.....	.....	.....	8	0.78	19.8
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.51	749.6	29.89	759.3	63.7	17.6	.....	5	.....	1	6	17	.....	1	.....	.....	.....	.....	5	2.42	61.5
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.74	755.4	29.79	756.7	81.5	27.5	71	.....	1	10	19	.....	.....	.....	.....	.....	.....	.....	2	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.24	742.6	29.69	754.1	101.7	38.7	13	1	3	14	10	1	1	.....	.....	.....	.....	.....	0	0	0
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.75	755.6	29.78	756.5	85.2	29.0	70	.....	14	12	4	.....	.....	.....	.....	.....	.....	.....	1	0	0
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.91	708.9	29.70	754.5	94.9	34.9	24	.....	18	4	4	.....	1	1	2	.....	.....	.....	4	0.29	7.4
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.26	692.3	29.75	755.6	84.4	29.1	49	2	1	.....	.....	4	1	12	10	.....	.....	.....	3	1.70	43.2
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.97	735.8	29.69	754.1	92.2	33.4	27	6	4	8	.....	.....	.....	3	3	6	.....	.....	4	0.18	4.6
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.75	730.3	29.62	752.4	93.6	34.2	19	1	2	19	1	.....	1	1	1	4	.....	.....	3	0.32	8.1
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.11	739.4	29.65	753.2	100.6	38.1	15	.....	16	6	6	.....	.....	.....	.....	2	.....	.....	1	0.06	1.5
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.64	727.4	29.64	752.7	101.6	38.7	14	1	3	7	3	1	1	.....	2	12	.....	.....	4	0	0
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.37	720.6	29.68	753.7	98.9	37.2	12	2	14	3	1	.....	.....	1	2	7	.....	.....	3	0	0
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.30	744.1	29.66	753.4	96.0	35.6	30	.....	10	12	2	.....	.....	.....	.....	6	.....	.....	0	0	0
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.34	745.2	29.64	752.8	98.2	36.8	21	.....	18	2	.....	.....	.....	.....	4	6	.....	.....	1	0	0
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.47	748.6	29.65	753.2	94.5	34.7	27	.....	15	3	1	.....	.....	6	4	1	.....	.....	1	0.16	4.1
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.70	703.4	29.65	753.0	91.1	32.8	19	6	18	1	.....	.....	1	2	2	.....	.....	.....	2	0	0
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.62	752.2	29.69	754.2	89.4	31.9	56	.....	1	1	6	18	2	2	.....	.....	.....	.....	4	0.09	2.3
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.67	753.5	29.69	754.0	86.1	30.1	74	.....	1	1	11	14	1	.....	2	.....	.....	.....	3	2.96	75.2
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.58	751.2	29.69	754.2	83.9	28.8	59	1	2	.....	2	2	3	5	6	9	.....	.....	3	5.68	144.3
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.69	754.2	29.78	756.4	81.1	27.3	79	.....	1	3	9	5	2	1	2	7	.....	.....	5	0.12	3.0
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.43	747.4	29.76	756.0	76.7	24.8	76	.....	.....	.....	2	.....	6	.....	22	.....	.....	.....	5	3.46	87.9
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.28	718.2	29.66	753.5	98.5	36.9	16	3	17	10	.....	.....	.....	.....	.....	.....	.....	.....	2	0	0
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for April, 1883. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
ITALIAN.	° ′	° ′																								
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.51	749.6	29.92	759.9	58.1	14.5	44	1	.....	.....	8	7	3	9	1	1	.....	.....	8	1.59	40.3
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.39	746.6	29.91	759.7	59.4	15.2	45	.....	2	6	6	1	8	2	5	.....	.....	.....	6	3.00	76.1
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.81	757.1	29.91	759.8	57.4	14.1	49	5	1	3	2	2	6	8	3	.....	.....	.....	6	2.23	56.6
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.00	736.6	29.91	759.6	56.7	13.7	53	1	8	.....	3	3	8	2	5	.....	.....	.....	6	4.72	120.0
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157	48	29.70	754.3	29.89	759.3	57.7	14.3	53	9	2	.....	13	1	2	1	2	.....	.....	.....	6	8.43	214.1
Mondovi	N. 44 23	E. 7 48	0.39 p.m.	1824	556	28.01	711.4	29.92	760.0	52.9	11.6	47	2	12	11	.....	1	.....	3	1	.....	.....	.....	4	0.16	4.0
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.86	758.5	29.91	759.7	54.1	12.3	75	4	.....	.....	.....	1	14	4	7	.....	.....	.....	7	0.77	19.6
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.63	752.5	29.88	758.9	58.6	14.8	48	2	4	6	3	1	1	1	12	.....	.....	.....	6	2.01	51.0
Leghorn	N. 43 33	E. 10 18	0.49 p.m	79	24	29.74	755.4	29.83	757.6	59.4	15.2	55	1	2	10	5	2	.....	5	5	.....	.....	.....	6	1.75	44.5
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.69	754.0	29.86	758.4	61.0	16.1	52	5	.....	11	8	2	2	.....	1	1	.....	.....	6	4.20	106.6
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.62	752.4	29.87	758.8	58.8	14.9	59	4	3	2	3	5	3	4	6	.....	.....	.....	5	4.42	112.4
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	28.99	736.3	29.87	758.8	60.3	15.7	75	.....	2	7	14	3	4	.....	.....	.....	.....	.....	7	8.01	203.4
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	29.65	753.2	29.85	758.1	61.3	16.3	56	1	8	1	8	.....	9	.....	.....	3	.....	.....	6	1.34	34.0
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.64	752.8	29.89	759.2	61.3	16.3	59	2	4	6	3	.....	.....	2	9	4	.....	.....	6	2.78	70.7
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.82	757.4	29.86	758.5	62.1	16.7	70	2	1	7	3	5	.....	2	10	.....	.....	.....	8	3.25	82.5
Sub-Series.																										
Naples	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.36	745.7	29.88	759.0	59.7	15.4	58.5	2	1	4	12	1	2	3	5	.....	.....	.....	6	2.12	53.8
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	21.99	558.6	.....	.....	28.9	−1.7	76.1	.....	.....	6	8	1	.....	2	13	.....	.....	.....	1	1.43	36.3
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	22.01	559.1	.....	.....	31.6	−0.2	63.7	2	.....	3	1	2	2	18	2	.....	.....	.....	1	8.31	211.0
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	29.98	761.6	30.01	762.2	43.2	6.2	80.5	.....	3	6	1	.....	.....	1	.....	19	.....	.....	7	5.23	132.9
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.93	760.3	29.97	761.2	39.5	4.2	76.9	4	4	6	8	3	1	2	1	1	7273	11704	5	3.41	87.3
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	26	8	29.96	761.6	30.01	762.3	54.1	12.3	79.7	.....	4	2	2	1	2	3	.....	16	.....	.....	0	6.97	177.0
Kagoshima	N. 31 35	E. 130 33	8.50 p.m.	14	4	30.02	762.6	30.04	762.9	59.1	15.0	62.8	7	1	.....	4	3	.....	0	2	7	.....	.....	7	16.29	413.5
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.87	758.7	30.05	763.2	51.5	10.8	77.6	15	5	3	1	2	.....	3	1	.....	3421	5506	6	4.78	121.3
Miasaka	N. 31 56	E. 131 26	8.54 p.m.	26	8	30.02	762.5	30.05	763.2	57.9	14.4	80.0	7	1	7	.....	3	1	3	3	5	.....	.....	7	15.69	398.5
Miyako	N. 39 39	E. 141 59	9.36 p.m.	98	30	29.88	759.0	29.98	761.6	41.9	5.5	77.8	5	1	16	3	1	.....	1	2	1	2502	4028	5	0.82	21.3
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.83	757.6	30.03	762.8	56.3	13.5	82.1	9	.....	1	1	3	1	4	5	6	3795	6107	5	8.25	209.4
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	29.99	761.9	30.03	762.8	47.5	8.6	79.8	6	1	6	3	1	7	2	4	.....	5482	8822	8	4.80	123.4
Nobiru	N. 38 23	E. 141 12	9.32 p.m.	15	5	29.99	761.7	30.00	762.1	48.4?	7.4?	80.1	7	9	.....	.....	6	3	2	1	2	6088	9798	6	1.49	37.7
Numazu	N. 35 06	E. 138 51	9.23 p.m.	32	10	29.97	761.2	30.00	762.1	54.7	12.6	78.5	.....	.....	5	1	2	1	7	2	12	.....	.....	8	6.87	174.4
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	30.02	762.6	30.04	763.0	52.9	11.6	79.1	10	1	4	3	.....	.....	.....	12	.....	6331	10189	6	4.83	122.5
Sakai	N. 35 01	E. 133 31	9.01 p.m.	10	3	30.03	762.7	30.04	763.0	52.7	11.5	77.2	6	1	6	1	1	1	4	6	4	.....	.....	5	5.55	140.9
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.93	760.3	30.01	762.2	52.9	11.6	76.4	6	2	1	.....	9	4	7	1	.....	7591	12216	7	5.33	135.4
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.98	761.4	30.03	762.8	54.5	12.5	77.3	3	2	1	1	3	1	3	11	5	4412	7100	6	4.57?	123.6?
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.80	756.9	29.98	761.4	78.9	26.1	75.0	1	.....	.....	3	.....	2	18	6	.....	.....	.....	6	12.22	310.4
MEXICAN.																										
Guanajuato	N. 21 01	W. 100 48	5.24 a.m.	6762	2061	23.65	600.9	29.87	758.9	57.7	14.3	64.9	1	2	2	2	4	1	2	1	15	.....	.....	2	0	0
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24.29	617.0	29.99	761.7	55.2	12.9	72.7	5	9	5	2	.....	2	2	.....	4	.....	.....	3	0	0
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.69	754.0	29.95	760.7	65.8	18.8	85.6	1	7	1	1	.....	1	15	4	.....	.....	.....	4	0	0
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.06	585.6	30.16	766.0	52.9	11.6	60	1	3	.....	.....	.....	.....	.....	.....	26	.....	.....	2	0.05	1.3
Morelia	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	24.24	615.8	30.19	766.8	57.4	14.1	70	.....	.....	4	2	1	14	7	2	.....	.....	.....	1	inap.	inap.
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.93	607.7	29.95	761.0	56.1	13.4	55	.....	1	3	6	.....	.....	.....	4	16	.....	.....	2	0	0
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.40	594.1	30.18	766.6	49.9	9.9	61	.....	1	.....	.....	.....	.....	.....	.....	29	.....	.....	1	0.47	12.0
Zacatecas	N. 22 44	W. 102 20	5.18 a.m.	8100	2469	22.50	571.5	30.14	765.5	53.2?	11.3?	58	1	.....	1	19	2	1	3	3	.....	.....	.....	3	0	0
Sub-Series.																										
Altata	N. 24 40	W. 107 55	4.56 a.m.	?	?	.....	.....	.....	.....	58.0	14.4	86.5	.....	8	.....	2	2	2	11	5	.....	.....	.....	1	0	0
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.02	762.4	30.02	762.4	52.2	11.2	.....	4	2	5	1	1	4	7	6	.....	.....	.....	.....	0.67	17.1
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.99	761.7	30.04	763.1	48.7	9.3	.....	4	4	1	2	2	4	8	5	.....	.....	.....	.....	0.21	5.3
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	30.03	762.8	30.03	762.8	47.3	8.5	.....	5	2	1	7	.....	4	6	5	.....	.....	.....	.....	0.01	0.2
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	30.02	762.4	30.02	762.4	53.2	11.8	57.2	4	1	4	2	1	1	10	6	1	.....	.....	.....	0.45	11.5
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.98	761.5	30.03	762.7	55.2	12.9	52.6	8	2	1	3	2	5	4	5	.....	.....	.....	4	0.11	2.9
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7 15 p.m.	?	?	29.84	757.9	.....	.....	78.8	26.0	85.4	9	1	3	2	3	3	3	6	.....	.....	.....	7	1.51	38.3
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.99	761.7	30.05	763.3	48.6	9.2	56.8	2	4	2	2	12	3	3	2	.....	.....	.....	5	3.61	91.8
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	30.01	762.3	30.05	763.3	46.4	8.0	62.7	3	1	2	8	6	3	3	3	3	.....	.....	6	2.43	61.7
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.95	760.7	30.10	764.5	48.2	9.0	51.5	2	1	1	12	3	1	7	3	.....	.....	.....	5	1.26	31.9
Gjesvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	30.01	762.2	30.03	762.7	38.8	3.8	.....	.....	.....	3	7	6	6	1	2	5	.....	.....	6	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.99	761.7	30.04	762.9	40.8	4.9	69.8	1	.....	1	8	3	2	1	5	9	.....	.....	6	3.87	98.4
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	30.02	762.5	30.18	766.5	60.4	15.8	79.4	2	3	8	2	1	5	6	2	1	.....	.....	5	1.32	33.4
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	28.95	735.4	29.95	760.6	61.5	16.4	52.9	3	.....	3	9	3	2	5	5	.....	.....	.....	6	1.45	36.8
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.01	762.2	30.10	764.4	64.2	17.9	63.3	.....	.....	.....	21	3	1	1	2	2	.....	.....	6	1.15	29.1
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.65	753.0	30.00	762.1	60.1	15.6	60.0	10	5	6	1	3	.....	1	4	.....	.....	.....	5	3.00	76.3
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.13	765.2	30.20	767.0	63.3	17.4	67.4	5	.....	6	4	2	4	1	5	3	.....	.....	4	1.13	28.7
St. Paulde Loanda	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.63	752.6	29.83	757.6	83.3	28.5	89.9	6	6	14	3	..	.....	.....	1	.....	.....	.....	8	10.39	263.8
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.18	639.5	29.96	761.0	41.5	5.3	76.9	.....	5	7	2	2	1	10	2	1	.....	.....	7	13.28	337.3
RUSSIAN																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	29.05	737.8	30.16	766.1	37.8	3.2	52.2	5	2	.....	1	1	2	11	8	.....	.....	.....	4	0.01	0.2
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	30.25	768.4	30.27	768.9	41.2	5.1	63.0	1	7	5	1	5	5	3	2	1	.....	.....	6	0.06	1.5
Ashuradа	N. 36 54	E. 53 55	3.44 p.m.	79	24	29.99	761.8	29.90	759.4	62.2	16.8	74.3	5	12	8	.....	.....	.....	1	3	1	.....	.....	7	1.02	25.8
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.04	763.1	29.96	761.0	52.2	11.2	53.9	2	2	1	1	2	4	13	5	.....	.....	.....	8	1.12	28.5
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	29.96	761.0	29.91	759.8	52.9	11.6	75.2	14	1	.....	1	12	1	.....	.....	1	.....	.....	5	0.68	17.2
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.70	754.3	30.22	767.5	33.3	0.7	58.0	9	8	5	1	.....	.....	1	6	.....	.....	.....	4	0.09	2.2
Bielosersk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.75	755.6	30.22	767.7	43.7	6.5	67.7	1	4	1	1	3	5	5	6	4	.....	.....	6	0.39	9.8
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.89	759.1	30.13	765.4	43.9	6.6	67.9	2	1	2	4	1	3	9	8	.....	.....	.....	7	0.73	18.5
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	29.37	746.0	30.37	771.4	37.2	2.9	52.8	1	1	.....	1	5	10	3	2	1	.....	.....	4	0.21	5.3
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.50	749.2	29.95	760.8	46.9	8.3	67.0	3	4	3	4	2	2	8	3	1	.....	.....	9	1.05	41.9
Irkutsk	N. 52 16	E. 104 16	7.05 p.m.	1536	468	28.45	722.7	30.15	765.9	33.6	0.9	58.5	2	5	.....	.....	.....	.....	.....	.....	23	.....	.....	4	0.01	0.3
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.97	761.2	30.26	768.6	45.3	7.4	45.4	2	.....	.....	2	2	7	8	6	3	.....	.....	6	0.01	0.3
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	30.18	766.7	30.24	768.0	41.5	5.3	63.3	1	.....	2	4	5	2	3	9	4	.....	.....	6	0.03	0.7
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	29.86	758.5	29.89	759.1	49.8	9.9	75.0	2	1	.....	.....	7	2	5	7	6	.....	.....	7	0.82	20.8
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.30	744.1	29.94	760.5	45.5	7.5	65.2	3	2	4	2	1	4	6	8	.....	.....	.....	9	2.89	73.5
Kos'ov	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.54	750.2	30.07	763.7	42.1	5.6	76.1	2	1	2	2	2	6	8	7	.....	.....	.....	8	1.57	39.9
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	30.06	763.6	30.09	764.2	43.0	6.1	70.1	1	10	4	2	.....	4	7	2	.....	.....	.....	7	0.82	20.8
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.72	755.0	29.91	759.7	51.4	10.8	50.8	2	1	3	4	1	2	12	5	.....	.....	.....	8	1.48	37.7
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.62	752.4	30.12	764.9	42.6	5.9	64.0	1	.....	1	5	9	5	5	.....	4	.....	.....	6	0.89	22.5
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.86	758.3	29.93	760.2	50.4	10.2	70.0	2	.....	1	4	6	2	7	6	2	.....	.....	7	1.33	33.7
Nikolaievsk *b*	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.79	756.6	29.88	758.8	23.7	−4.6	72.9	.....	.....	4	.....	.....	.....	3	1	20	.....	.....	5	1.84	46.6
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	29.83	757.6	29.97	761.2	55.8	13.2	50.4	.....	4	.....	8	2	8	.....	.....	8	.....	.....	4	0.16	4.0
Petro-Alexandrovsk	N. 41 48	E. 61 05	4.12 p.m.	328	100	29.58	751.4	29.92	760.1	67.5	19.7	35.9	2	3	3	3	2	3	5	8	1	.....	.....	8	0.91	23.2
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.99	761.7	30.19	766.8	41.7	5.4	66.0	.....	1	1	4	.....	13	6	5	.....	.....	.....	6	0.34	8.5
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.49	749.0	29.99	761.8	44.6	7.0	70.7	5	2	3	1	.....	0	5	6	2	.....	.....	7	2.25	57.2
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	29.88	759.0	29.91	759.8	59.5	15.3	82.4	.....	6	0	8	1	.....	9	.....	.....	.....	.....	6	3.30	83.8
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	30.13	765.4	30.15	765.8	43.0	6.1	50.1	.....	1	1	1	4	7	8	8	.....	.....	.....	6	0.98	24.9
Samarkand *a*	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.50	698.4	29.92	759.9	64.9	18.3	59.4	.....	2	2	1	3	.....	4	3	14	.....	.....	.....	3.88	98.5
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.53	750.1	30.21	767.3	39.6	4.2	48.6	13	5	3	.....	.....	.....	1	6	2	.....	.....	5	0.35	8.9
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	423?	42?	29.65	753.1	29.87	758.8	52.3	11.3	66.7	5	12	5	4	..	.....	1	2	1	.....	.....	6	2.40	61.0
Starol Bykhov	N. 53 31	E. 30 16	2.09 p.m.	423?	129?	29.60	751.8	30.06	763.6	44.8	7.1	63.0	2	2	.....	2	1	6	7	9	1	.....	.....	8	1.35	34.4
Tashkend	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.26	717.8	29.88	759.0	66.7	19.3	51.4	4	12	.....	2	.....	.....	.....	.....	12	.....	.....	8	3.25	82.6
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.49	723.6	29.89	759.2	59.7	15.4	46.0	3	8	2	.....	8	6	2	.....	1	.....	.....	6	2.98	75.7
Vernoe	N. 43 16	E. 76 53	5.10 p.m.	2401?	732?	27.44	697.0	29.93	760.2	53.4	11.9	53.4	2	6	3	3	2	.....	1	6	7	.....	.....	7	2.15	54.6
Viatka	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.64	752.8	30.28	769.2	44.2	6.8	51.7	2	1	.....	1	1	7	4	3	11	.....	.....	3	0	0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
RUSSIAN.—Cont'd	° ′	° ′																								
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.57	751.0	30.00	761.9	46.2	7.9	60.4	5	7	2	.....	2	4	4	6	.....	.....	.....	8	0.04	1.0
Wilna	N. 54 41	E. 25 18	1.49 p.m.	388	118	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.94	760.6	30.24	768.2	33.4	0.8	54.7	2	6	14	1	1	.....	.....	.....	6	.....	.....	5	inap.	inap.
SCOTTISH.																										
Monach Light H.	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.92	760.0	48.5	9.2	92.8	.....	2	5	5	8	3	5	2	.....	.....	.....	8	2.2	55.9
Norht Unst	N. 60 51	W. 0 53	0.04 p.m.	230	70	.....	.....	29.99	761.7	.....	.....	.....	.....	1	12	4	4	4	5	.....	.....	.....	.....	7	.....	.....
SPANISH.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.83	757.7	29.94	760.4	61.3	16.3	61	.....	.....	1	6	7	8	8	.....	.....	1996	3213	4	2.07	52.5
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	29.95	760.6	30.00	762.1	61.9	16.6	62	3	19	.....	.....	5	2	1	.....	.....	2031	3269	7	2.61	66.3
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.00	685.7	29.98	761.4	51.8	11.0	64	6	.....	3	10	2	.....	1	8	.....	6083	9789	5	2.46	62.5
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.72	704.1	29.93	760.2	57.9	14.4	52.3	2	1	4	7	1	2	9	4	.....	8076	12998	6	1.69	43.0
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.79	756.6	29.92	759.9	58.6	14.8	66.0	.....	5	1	1	2	10	6	5	.....	1810	2913	6	2.44	61.9
Oviedo	N. 43 23	W. 5 49	11.45 a.m.	800	244	29.12	739.6	29.99	761.8	50.0	10.0	77	11	5	.....	1	.....	1	11	1	.....	3525	5673	8	2.21	56.1
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.02	737.0	29.91	759.7	56.7	13.7	67.0	2	4	4	4	1	4	1	9	1	8603	13684	6	6.15	156.3
Sub-Series.																										
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.85	758.1	29.91	759.6	81.8	27.7	75.3	3	.....	.....	4	4	6	7	6	.....	2357	4366	4	2.95	75.3
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.90	759.4	30.00	761.8	62.4	16.9	69.4	1	3	11	4	2	1	8	.....	.....	.....	.....	5	4.27	108.5
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.94	760.4	30.03	762.7	77.4	25.2	91	.....	.....	.....	.....	.....	.....	3	4	23	.....	.....	5	2.06	52.2
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	30.15	765.7	30.19	766.7	39.2	4.0	70	3	.....	.....	3	12	.....	1	4	7	.....	.....	6	0.59	15.1
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	30.13	765.2	30.18	766.5	41.0	5.0	77	3	4	.....	13	3	.....	1	6	.....	.....	.....	6	0.76	19.2
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	30.09	764.3	30.14	765.6	41.9	5.5	67	2	4	.....	1	6	1	2	5	9	.....	.....	5	0.23	5.8
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.97	761.1	30.14	765.6	43.7	6.5	54	5	2	2	1	6	4	5	5	.....	.....	.....	6	0.29	7.4
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	30.04	763.1	30.10	764.6	41.4	5.2	72	5	4	4	4	1	4	3	5	.....	.....	.....	5	0.45	11.4
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	30.05	763.2	30.13	765.4	43.3	6.3	64.4	5	4	1	2	5	1	6	6	.....	.....	.....	4	0.54	13.8
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.48	723.4	29.95	760.6	52.3	11.3	51.0	22	.....	1	1	2	1	1	2	.....	.....	.....	6	1.89	48.1
TURKISH.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.90	759.4	57.2	14.0	59	11	3	.....	4	3	2	.....	7	.....	.....	.....	4	2.39	60.8
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	29.95	760.7	61.2	16.2	.....	.....	10	3	8	5	1	1	2	.....	.....	.....	5	4.02	102.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.90	759.4	68.7	20.4	59.8	3	7	7	12	1	.....	.....	.....	.....	.....	.....	5	0.90	22.9
Samakov *d*	N. 42 12	E. 23 45	1.42 p.m.	?	?	26.62	676.1	.....	.....	49.2	9.6	80.4	.....	1	2	1	.....	3	1	.....	18	.....	.....	8	1.50	38.1
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	29.97	761.2	30.05	763.3	42.4	5.8	63.2	11	4	4	2	6	.....	.....	3	.....	4618	7432	6	2.65	67.3
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.31	744.5	30.00	762.0	32.4	0.2	75.1	6	4	5	3	2	4	5	1	.....	6216	10004	6	1.72	43.7
Apache, Fort	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	24.93	633.2	29.85	758.2	32.8	0.4	67.1	.....	.....	.....	5	.....	.....	11	14	...	7105	11434	1	0.22	5.6
Assinnaboine, Ft.	N. 48 32	W. 109 42	4.49 a.m.	2710	826	27.07	687.6	29.97	761.2	32.9	0.5	70.7	.....	.....	1	16	1	1	2	7	2	7581	12200	3	0.43	10.9
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.86	733.0	30.06	763.5	55.6	13.1	80.0	.....	9	3	2	1	4	4	3	4	4406	7091	5	8.20	208.3
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	30.00	762.0	30.01	762.2	44.2	6.8	82.7	8	3	1	4	2	2	6	2	2	7366	11844	6	4.31	109.5
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	29.87	758.7	30.06	763.5	58.0	14.4	80.6	2	3	5	2	4	4	5	3	2	3082	4960	6	6.29	159.8
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.02	762.5	30.07	763.8	48.0	8.9	70.8	5	4	3	4	1	1	5	6	1	4583	7375	5	3.20	81.3
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	20	6	30.00	762.0	30.02	762.5	45.3	7.4	81.5	7	3	2	3	4	1	4	5	1	10490	16881	6	3.93	99.8
Behring Id	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.86	758.4	29.88	758.9	26.3	—3.2	.....	3	5	2	2	3	3	7	2	3	9649	15528	7	1.03	26.2
Bennett, Fort	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.33	719.6	29.97	761.2	37.2	2.9	82.8	4	2	.....	.....	1	4	.....	8	11	5720	9205	7	2.82	71.6
Benton, Fort	N. 47 50	W. 110 40	4.45 a.m.	2700	823	27.11	688.6	29.97	761.2	34.4	1.3	62.9	.....	.....	3	8	.....	.....	2	4	13	5288	8510	4	1.02	25.9
Billings	N. 45 49	W. 108 30	4.54 a.m.	3115?	949?	26.68	677.7	29.94	760.5	32.1	0.1	78.6	2	2	5	3	.....	.....	4	.....	14	4470	7194	7	1.48	37.6
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.11	714.0	29.99	761.7	33.8	1.0	83.3	2	6	2	.....	3	4	6	3	4	7314	11770	6	1.57	39.9
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	29.99	761.7	30.02	762.5	41.0	5.0	81.1	12	1	2	3	2	.....	1	8	.....	9625	15490	5	3.49	88.6
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.14	689.3	29.98	761.5	32.9	0.5	87.0	5	13	6	.....	.....	3	.....	3	.....	3973	6393	5	0.61	15.5
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.86	758.4	30.02	762.5	41.5	5.3	74.5	6	7	4	5	2	1	1	4	.....	6415	10324	4	2.83	71.9
Brownsville	N. 25 53	W. 97 26	5.38 a.m.	43	13	29.82	757.4	29.87	758.7	70.0	21.1	88.9	4	.....	1	1	9	2	7	3	3	7949	12792	7	0.38	9.7
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	696	212	29.25	742.9	30.02	762.5	37.6	3.1	76.5	1	1	1	2	10	4	.....	11	.....	6519	10491	6	2.34	59.4
Buford, Fort	N. 48 00	W. 103 56	5.12 a.m.	1900	579	27.96	710.2	30.03	762.7	32.7	0.4	78.0	2	5	5	2	2	3	7	4	.....	6608	10634	3	0.48	12.2
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.71	754.6	30.01	762.2	36.5	2.5	66.4	13	.....	1	1	11	1	2	.....	1	5500	8851	5	1.37	34.8
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.59	751.6	30.00	762.0	54.6	12.6	75.5	5	2	1	4	10	2	1	5	.....	7011	11283	5	5.64	143.3
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.01	762.2	30.03	762.7	51.2	10.7	86.0	2	4	2	4	8	1	1	8	.....	10069	16204	6	9.72	246.9
Cape May *f*	N. 38 56	W. 74 58	7.08 a.m.	27	8	29.99	761.7	30.02	762.5	46.2	7.9	80.5	2	4	.....	4	3	3	1	7	.....	8722	14036	5	4.69	119.1
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.32	744.7	30.01	762.2	44.9	7.2	86.6	2	13	.....	.....	1	10	.....	3	1	.....	.....	4	2.90	73.7
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.00	762.0	30.02	762.5	70.1	21.2	81.6	4	2	3	2	5	6	3	5	.....	7121	11460	4	4.12	104.6
Champaign	N. 40 08	W. 88 14	6.15 a.m.	767	234	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	29.98	761.5	30.04	763.0	61.1	16.2	84.6	2	1	2	10	.....	1	3	7	4	6628	10666	6	3.47	88.1
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.18	741.2	30.04	763.0	52.8	11.6	80.6	2	4	1	3	6	3	3	6	2	4091	6584	7	0.05	153.7
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.20	741.7	30.04	763.0	56.2	13.4	77.4	3	3	4	5	5	4	1	3	2	4877	7849	5	6.55	166.4
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6089	1856	23.86	606.0	29.88	758.9	30.3	—0.9	70.4	5	11	4	2	1	2	1	2	2	7304	11754	6	2.76	70.1
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.24	742.7	29.97	761.2	42.1	5.6	70.9	4	.....	4	9	3	1	3	5	1	7328	11793	6	3.72	94.5
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	18	5	30.00	762.0	30.02	762.5	47.2	8.4	83.1	6	3	.....	2	7	3	1	8	.....	8623	13877	5	2.77	70.4
Cincinnati	N. 39 06	W. 84 30	5.30 a.m.	620	189	29.34	745.2	30.01	762.2	49.9	9.9	76.0	4	.....	1	5	2	2	8	6	2	4101	6600	6	3.72	94.5
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.25	742.9	30.01	762.2	40.9	4.9	69.4	2	2	1	3	3	11	.....	8	.....	5574	8970	6	2.10	53.3
Coleman City *a*	N. 31 53	W. 99 18	5.31 a.m.	1709	521	28.13	714.5	29.95	760.7	52.6	11.4	74.3	6	3	2	8	1	5	.....	2	2	6984	11239	4	0.61	15.5
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.13	739.9	30.00	762.0	44.5	6.9	71.9	3	4	2	3	6	3	4	5	.....	6135	9873	5	2.85	72.4
Concho, Fort	N. 31 25	W. 100 24	5.26 a.m.	1900	579	27.99	710.9	29.93	760.2	52.5	11.4	69.6	2	4	7	.....	7	1	1	4	4	8597	13835	1	0.12	3.0
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.26	743.2	29.93	760.2	44.8	7.1	70.5	3	4	4	2	4	2	5	6	.....	8261	13294	6	3.33	84.6
Davis, Fort	N. 30 38	W. 103 56	5.12 a.m.	4940	1506	25.12	638.0	29.91	759.7	48.1	8.9	54.7	4	.....	2	9	.....	3	1	1	10	5280	8497	2	0.90	22.9
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1660	506	28.18	715.8	29.94	760.5	38.5	3.6	76.7	.....	.....	.....	22	5	.....	1	2	.....	5643	9081	6	1.64	41.7
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.22	640.6	29.91	759.7	32.8	0.4	85.7	.....	.....	.....	7	.....	.....	.....	7	16	2231	3590	5	5.69	144.5
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.01	762.2	30.03	762.7	45.7	7.6	85.4	5	4	.....	8	2	2	1	8	.....	11392	18333	5	3.23	82.0
Denison	N. 33 48	W. 96 32	5.42 a.m.	767	234	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.59	624.6	29.86	758.4	37.4	3.0	71.5	5	4	5	2	6	1	1	1	5	4624	7441	5	3.10	78.7
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.00	736.6	29.93	760.2	44.3	6.8	73.1	4	3	2	3	3	5	3	4	3	6757	10874	6	3.48	88.4
Detroit *a*	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.28	743.7	30.01	762.2	41.4	5.2	75.4	5	3	2	2	6	4	2	5	.....	7300	11748	5	1.53	38.9
Dodge City *a*	N. 37 45	W. 100 00	5.28 a.m.	2512	766	27.26	692.4	29.90	759.4	43.2	6.2	71.7	4	4	7	7	2	2	.....	2	1	10515	16922	3	2.40	61.0
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.22	742.2	29.95	760.7	42.3	5.7	64.4	2	1	3	4	2	4	3	5	6	4998	8043	6	1.93	49.0
Duluth	N. 46 48	W. 92 06	6.00 a.m.	644	184	29.21	741.9	29.98	761.5	36.7	2.6	72.5	4	7	3	4	2	.....	.....	6	4	7833	12600	5	1.20	30.5
Eagle Pass	N. 28 44	W. 100 29	5.26 a.m.	780	238	29.13	739.9	29.94	760.5	63.3	17.4	67.4	.....	5	2	3	.....	13	2	3	2	4328	6965	4	1.10	27.9
Eagle Rock	N. 43 32	W. 111 55	4.40 a.m.	4650	1415	25.17	639.3	29.89	759.2	30.1	—1.1	77.7	6	.....	.....	20	2	.....	.....	.....	2	9356	15057	4	0.76	19.3
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.90	759.4	29.97	761.2	35.3	1.8	73.3	6	7	2	1	7	.....	3	4	.....	6501	10462	5	2.25	57.1
Elliott, Fort	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.16	689.9	29.94	760.5	43.7	6.5	65.6	7	7	.....	5	5	4	.....	1	1	10742	17287	4	0.82	20.8
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3760	1146	26.22	666.0	29.96	761.0	49.7	9.8	42.0	2	8	4	2	.....	2	.....	2	10	5174	8327	2	0.10	2.5
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.26	743.2	30.01	762.2	41.9	5.5	74.7	1	2	1	4	10	2	.....	8	2	6147	9892	6	2.94	74.7
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	612	186	29.31	744.5	30.00	762.0	31.1	—0.5	74.5	12	4	2	1	4	.....	3	.....	4	5831	9384	5	1.69	42.9
Fredericksburg	N. 30 17	W. 98 52	5.32 a.m.	1700	518	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galveston	N. 29 18	W. 94 47	5.49 a.m.	48	15	29.90	759.4	29.94	760.5	67.8	19.9	80.3	1	.....	2	6	4	6	3	7	1	8233	13250	7	1.26	32.0
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.29	744.0	29.98	761.5	40.5	4.7	73.2	4	2	1	4	4	3	1	9	2	8371	13472	6	1.49	37.8
Grant, Fort	N. 32 39	W. 109 57	4.48 a.m.	4856	1481	25.16	639.1	29.89	759.2	44.9	7.2	43.1	4	8	2	2	.....	.....	10	3	1	6733	10836	1	0.03	0.8
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	19	6	30.01	762.2	30.03	762.7	54.6	12.6	85.2	2	2	3	4	4	1	1	12	1	13551	21808	6	6.74	171.2
Helena	N. 46 34	W. 112 04	4.40 a.m.	4100	1250	25.70	652.8	29.99	761.0	33.9	1.1	76.0	.....	2	.....	16	1	1	.....	1	9	4983	8019	6	0.53	13.5
Henrietta	N. 33 46	W. 98 12	5.35 a.m.	980	300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.51	724.1	29.96	761.0	36.5	2.5	75.2	6	9	1	.....	.....	9	2	3	.....	8343	13426	6	2.14	54.4
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.16	740.7	29.98	761.5	47.1	8.4	71.7	4	1	2	4	5	4	2	6	2	4941	7952	6	2.73	69.3
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	29.88	758.9	29.91	759.7	67.7	19.8	84.7	7	1	.....	1	11	5	.....	5	.....	11722	18864	6	1.99	50.5
Jacksboro	N. 33 12	W. 98 10	5.35 a.m.	1120	341	28.75	730.2	29.93	760.2	55.0	12.8	53.8	5	3	.....	6	4	9	.....	3	.....	7286	11720	3	1.71	43.4
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	29.99	761.7	30.03	762.7	66.8	19.3	83.6	1	3	.....	5	6	2	1	9	3	4387	7060	6	4.48	113.8
Keogh, Fort	N. 46 22	W. 105 56	5.04 a.m.	2372	723	27.40	695.9	29.94	760.5	36.9	2.7	75.9	1	4	.....	5	2	2	.....	5	11	5807	9345	6	1.37	34.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for April, 1883.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metrs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																										
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.25	742.9	29.92	760.0	47.8	8.8	70.9	1	2	4	4	2	6	5	6	.....	8313	13378	3	2.97	75.4
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	29.99	761.7	30.01	762.2	70.9	24.9	77.1	2	.....	.....	2	3	14	5	3	1	6740	10847	4	0.54	13.7
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.03	762.7	30.05	763.3	51.2	10.7	88.1	4	1	2	5	4	2	1	11	.....	12067	21385	5	8.78	223.0
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	28.99	736.3	30.03	762.7	52.3	11.3	82.9	4	1	2	5	.....	1	6	9	2	4722	7599	5	8.17	207.5
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.14	740.1	29.94	760.5	42.4	5.8	63.7	5	1	1	5	5	5	3	5	.....	6851	11025	6	1.49	37.8
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.00	736.6	29.91	759.7	48.0	8.9	69.4	3	3	1	.....	13	5	1	2	2	7146	11500	5	0.97	24.6
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.13	739.9	29.98	761.5	42.5	5.8	75.5	1	.....	1	.....	2	6	11	1	8	2440	3927	6	1.12	28.4
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.62	752.3	29.94	760.5	56.6	13.7	77.2	5	3	1	4	6	5	1	2	3	4731	7614	5	8.92	226.6
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	371	113	29.62	752.3	30.02	762.5	48.3	9.1	82.7	3	3	2	1	1	4	5	10	1	5136	8266	5	0.15	3.8
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.39	746.5	29.96	761.0	52.0	11.1	70.1	4	2	5	3	7	1	4	4	.....	6289	10121	6	6.03	108.4
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.33	745.0	30.04	763.0	49.6	9.8	74.9	3	3	4	2	4	2	7	3	2	2998	4825	6	4.84	122.9
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.32	744.7	30.00	762.0	32.9	0.5	74.8	2	3	5	4	1	3	8	3	1	6914	11175	6	0.09	17.5
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.02	762.5	30.03	762.7	55.1	12.8	89.6	10	1	2	5	5	.....	1	6	.....	9376	15089	6	4.42	112.3
Maginnis Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.45	646.4	29.86	758.4	32.8	0.4	52.4	1	4	13	7	.....	2	.....	3	.....	8428	13563	5	0.39	9.9
McKavett, Fort	N. 30 48	W. 100 07	5.28 a.m.	2240	683	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.22	742.2	29.98	761.5	33.2	0.7	73.3	1	10	6	1	4	3	2	3	.....	5664	9115	6	2.02	51.3
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.63	752.6	29.97	761.2	57.0	13.9	77.9	1	6	2	3	2	8	2	3	3	4717	7591	6	4.66	118.4
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.21	741.9	29.98	761.5	39.3	4.1	70.7	5	5	5	4	1	1	4	5	.....	10225	16455	6	0.86	21.8
Missoula, Fort	N. 46 50	W. 114 07	4.32 a.m.	3140	957	26.63	676.4	29.94	760.5	35.7	2.1	63.1	1	8	3	5	2	2	1	6	2	4029	6484	6	0.71	18.0
Mobile	N. 30 41	W. 88 02	6.16 a.m.	41	12	29.97	761.2	30.01	762.2	63.5	17.5	83.7	6	6	1	2	6	4	1	3	1	4801	7742	6	7.25	184.1
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.75	755.6	29.98	761.5	59.4	15.2	84.4	1	3	.....	.....	3	7	1	5	9	3506	5643	6	8.10	207.3
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	28.93	734.8	29.96	761.0	32.2	0.1	86.3	8	2	1	3	3	5	2	6	.....	8791	14148	4	2.05	67.3
Morgantown	N. 39 40	W. 79 50	6.49 a.m.	963	293	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.56	598.4	29.97	761.2	17.5	—8.1	90.6	.....	10	8	2	1	1	.....	1	1	23900	38463	3	6.29	159.8
Nashville	N. 36 10	W. 86 47	6.21 a.m.	507	154	29.40	746.7	29.98	761.5	54.2	12.3	78.5	1	9	4	.....	5	5	5	1	.....	4957	7977	6	9.10	231.1
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	29.92	760.0	30.04	763.0	40.8	4.9	74.7	11	2	1	4	3	3	.....	7	2	5236	8427	6	2.23	56.6
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	29.99	761.7	30.04	763.0	43.1	6.2	73.7	5	7	3	2	4	.....	3	3	3	4330	6968	7	3.61	91.7
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	29.91	759.7	29.97	761.2	67.9	19.9	80.9	2	4	.....	1	5	5	5	5	3	5742	9241	5	14.20	360.7
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.87	758.7	30.05	763.3	43.3	6.3	74.6	2	6	4	5	.....	.....	4	6	3	5000	8047	6	3.82	97.0
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.00	762.0	30.03	762.7	52.9	11.6	81.9	6	1	1	7	2	2	4	6	1	6080	9785	5	9.76	247.9
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	26.92	683.8	29.88	758.9	39.3	4.1	78.1	2	6	3	1	2	1	3	4	8	9250	14896	6	3.11	79.0
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	29.95	760.7	29.99	761.7	41.7	5.4	89.3	2	.....	1	1	10	1	.....	.....	15	2097	3375	7	10.78	273.8
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.69	728.7	29.90	759.4	46.6	8.1	70.8	5	1	2	4	6	5	1	3	3	8015	12899	5	3.20	81.3
Ooglaamie	N. 71 17	W. 156 40	1.41 a.m.	17	5	30.01	762.2	30.03	762.7	—8.8	-22.7	10.0	3	5	6	2	2	2	6	2	6131	9867	6	0.54	13.7
Oswego	N. 43 29	W. 76 35	7.02 a.m.	304	93	29.67	753.6	30.01	762.2	38.4	3.6	74.2	2	1	10	2	6	2	.....	6	1	5552	8935	6	1.39	35.3
Palestine	N. 31 45	W. 95 40	5.45 a.m.	523	162	29.41	747.0	29.97	761.2	58.8	14.9	81.4	4	1	2	4	9	1	3	6	.....	7898	12710	6	3.53	89.7
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	29.98	761.5	30.01	762.2	65.1	18.4	86.2	7	3	4	4	3	4	4	1	.....	6548	10538	6	6.74	171.2
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	92	28	29.95	760.7	30.05	763.3	46.0	7.8	83.5	5	6	1	5	2	1	1	9	.....	5701	9175	6	2.44	62.0
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.57	446.3	29.85	758.2	8.6	-13.0	86.1	2	7	5	12	.....	.....	.....	4	.....	.....	.....	4	1.08	42.7
Pioche	N. 37 56	W. 114 26	4.30 a.m.	6110	1862	23.89	606.8	29.88	758.9	33.9	1.1	65.6	6	7	4	2	10	1	.....	.....	.....	5983	9628	4	1.15	29.2
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	762	232	29.19	741.4	30.02	762.5	44.4	6.9	75.3	4	8	.....	1	5	2	2	5	3	3713	5975	6	3.09	93.7
Poplar River	N. 48 08	W. 105 10	5.07 a.m.	2030	619	27.80	706.1	30.00	762.0	.....	.....	.....	.....	4	7	10	1	5	.....	3	.....	.....	.....	2	0.62	15.7
Port Eads	N. 29 09	W. 89 15	6.11 a.m.	7	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Huron	N. 43 00	W. 82 26	6.38 a.m.	633	193	29.28	743.7	29.98	761.5	37.8	3.2	78.6	5	3	.....	6	6	2	...	8	.....	7400	12000	6	1.26	32.0
Portland, Maine	N. 43 39	W. 70 15	7.27 a.m.	45	14	29.94	760.5	29.99	761.7	40.5	4.7	62.1	2	10	6	1	2	2	1	6	.....	5820	9366	5	1.33	33.8
Portland, Oreg	N. 45 32	W. 122 43	3.57 a.m.	67	20	29.93	760.2	30.00	762.0	43.7	6.5	87.9	1	3	.....	1	12	1	.....	.....	12	4028	6483	7	7.88	200.2
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	55.7	13.2	82.0	3	3	1	5	4	1	.....	12	1	13525	21763	7	13.10	334.2
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5340	1628	24.65	620.1	29.87	758.7	30.1	2.3	65.1	.....	1	3	4	19	.....	.....	.....	3	7295	11740	2	0.86	21.8
Provincetown	N. 42 03	W. 70 11	7.27 a.m.	26	8	29.98	761.5	30.00	762.0	40.2	4.6	78.1	3	8	3	3	3	.....	3	7	.....	6547	10536	5	3.09	78.5
Punta Rassa	N. 26 29	W. 82 01	6.40 a.m.	13	4	30.00	762.0	30.01	762.2	71.8	22.1	82.7	2	1	.....	3	5	4	7	7	1	8183	13169	4	2.70	68.6
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	350	106	29.67	753.6	30.03	762.7	48.4	9.1	76.5	10	6	1	.....	9	.....	3	.....	1	6730	10840	4	1.96	49.8
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.33	745.0	30.02	762.5	37.2	2.9	76.9	1	4	6	8	3	2	4	2	.....	7803	12558	6	1.01	40.9
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.49	749.0	30.05	763.3	41.8	5.4	82.7	2	1	4	3	5	4	6	1	4	3202	5153	8	2.87	72.9
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	65	20	29.95	760.7	30.03	762.7	48.9	9.4	81.1	.....	4	2	2	5	13	2	.....	2	5933	9548	1	0.67	17.0
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	568	173	29.36	745.7	29.97	761.2	49.0	9.4	86.6	5	4	1	5	4	8	2	1	.....	8703	14005	5	3.31	84.1
Saint Michael, Ft	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.84	757.9	29.88	758.9	11.9	-11.2	99.5	11	5	1	1	2	3	.....	6	1	7445	11981	7	0.50	12.7
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	811	247	29.05	737.9	29.93	760.2	38.9	3.8	67.7	6	7	1	2	2	6	4	1	1	7588	12212	7	4.92	125.0
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.07	738.4	29.98	761.5	27.8	—2.3	85.9	3	7	.....	4	1	4	1	4	6	5338	9395	5	9.73	18.5
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.51	647.9	29.88	758.9	39.6	4.2	60.5	2	2	1	.....	1	4	3	2	15	4914	7908	7	2.92	74.2
San Antonio	N. 29 25	W. 98 25	5.34 a.m.	673	205	29.25	742.9	29.95	760.7	62.4	16.9	74.7	5	.....	.....	1	4	3	2	7	8	4117	6626	7	1.54	39.1
San Diego *b*	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.93	760.2	30.00	762.0	52.3	11.3	77.5	6	1	4	3	4	1	4	5	.....	5798	9330	5	0.31	7.9
Sandusky	N. 41 25	W. 82 40	6.37 a.m.	639	195	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	30.01	762.2	30.04	763.0	43.4	6.3	79.2	5	6	2	4	2	3	3	5	.....	9209	14820	6	5.79	147.1
Sanford	N. 43 05	W. 89 24	6.10 a.m.	949	289	29.97	761.2	.....	.....	67.4	19.7	87.7	.....	3	3	4	10	4	2	4	.....	4909	7900	5	8.44	214.4
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	30.00	762.0	30.06	763.5	49.2	9.6	83.5	.....	2	14	17	2	1	.....	.....	4	8208	13305	4	1.51	38.4
Santa Fé	N. 35 41	W. 105 57	5.04 a.m.	7106	2166	23.10	586.7	29.86	758.4	36.3	2.4	47.7	6	1	1	1	2	7	6	5	1	8710	14017	3	0.11	2.8
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	29.95	760.7	30.04	763.0	63.8	17.7	76.0	6	3	2	5	6	1	5	2	.....	6306	10148	5	3.92	99.6
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.26	667.0	29.93	760.2	30.2	—1.0	72.1	.....	2	4	7	2	.....	1	4	.....	7557	12162	5	0.56	14.2
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.71	754.6	29.95	760.7	59.2	15.1	86.2	3	4	4	2	8	5	1	1	2	4797	7720	5	4.45	113.0
Sill, Fort	N. 34 40	W. 98 23	5.34 a.m.	1200	366	28.67	728.2	29.91	759.7	50.6	10.3	73.4	4	5	1	7	5	3	1	3	1	10327	21454	3	1.55	39.4
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.65	753.1	29.72	754.9	40.7	4.8	74.6	.....	3	2	1	.....	3	16	4	1	6617	10649	7	4.78	121.4
Smith, Fort	N. 35 22	W. 94 24	5.50 a.m.	449	137	29.46	748.3	29.94	760.5	53.0	11.7	77.6	2	2	3	1	1	.....	13	.....	8	4637	7462	5	4.33	110.0
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.00	762.0	30.04	763.0	50.7	13.7	86.6	8	1	3	6	4	.....	2	6	.....	7646	12300	6	5.45	138.2
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	27.91	708.9	29.97	761.2	39.3	4.1	83.2	3	.....	.....	9	8	.....	3	2	5	5139	8275	4	1.93	49.0
Springfield, Ill	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.26	743.2	29.96	761.0	47.4	8.6	72.4	4	3	1	4	7	4	2	4	1	7491	12055	5	4.42	112.3
Springfield, Mo	N. 37 12	W. 93 18	5.55 a.m.	1351	412	28.49	723.6	29.95	760.7	50.0	10.0	74.1	2	1	1	2	10	9	.....	3	2	7799	12551	5	3.11	79.0
Starkville	N. 33 35	W. 88 49	6.13 a.m.	455	123	29.52	749.8	30.00	762.0	58.8	14.9	83.9	8	2	3	2	5	3	4	1	2	6577	10584	6	7.71	195.8
Stevenson, Fort *b*	N. 47 35	W. 101 28	5.22 a.m.	1750	534	28.06	712.7	29.96	761.0	30.8	—0.7	84.8	3	3	0	1	6	.....	3	5	1	6398	10295	7	1.44	36.6
Stockton, Fort	N. 30 53	W. 102 53	5.16 a.m.	3010	917	26.91	683.5	29.94	760.5	49.5	9.7	64.1	.....	5	.....	12	3	5	.....	1	4	7933	11157	3	0.89	22.6
Thatcher's Island	N. 42 38	W. 70 34	7.26 a.m.	48	15	29.97	761.2	30.02	762.5	38.6	3.7	84.0	6	9	.....	5	2	1	.....	7	.....	8796	10937	5	1.87	47.5
Thomas, Camp	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.19	690.6	29.92	760.0	43.0	6.1	60.3	.....	4	5	.....	.....	3	.....	.....	18	.....	.....	1	0.	0
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.28	743.7	29.99	761.7	42.9	6.1	64.7	3	3	3	3	7	1	6	4	.....	8254	13283	6	1.57	39.9
Tucson	N. 32 14	W. 110 53	4.45 a.m.	2369	722	27.48	698.0	29.88	758.9	48.4	9.1	51.4	.....	.....	2	1	8	13	2	.....	4	3408	5484	1	inap.	inap.
Unalaska *c*	N. 45 55	W. 119 20	4.11 a.m.	340	103	29.81	757.2	29.83	757.7	30.7	—0.7	82.5	1	7	1	11	2	3	.....	.....	.....	9337	15026	9	5.77	146.6
Verde, Fort	N. 34 33	W. 111 52	4.40 a.m.	?	?	.....	.....	.....	.....	42.2	5.7	52.0	1	12	1	6	2	3	.....	5	.....	.....	.....	1	0.12	3.0
Vicksburg *a*	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.75	755.0	30.01	762.2	59.2	15.1	81.0	5	1	1	.....	4	8	3	5	2	4751	7646	5	6.99	177.7
Visalia	N. 36 20	W. 119 17	4.11 a.m.	348	106	29.64	752.8	30.01	762.2	47.6	8.7	86.2	.....	20	1	.....	2	4	2	1	.....	3150	5069	3	1.79	45.5
Washakie, Fort	N. 42 59	W. 108 43	4.53 a.m.	5580	1702	24.35	618.5	29.91	759.7	29.9	—1.2	76.6	1	6	7	2	3	2	3	3	3	4747	7939	5	3.32	84.3
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	29.95	760.7	30.07	763.8	40.2	7.9	81.7	6	7	1	2	5	3	2	4	.....	3826	6157	6	4.09	103.9
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	25.89	657.6	29.84	757.9	35.8	2.1	64.1	4	4	12	1	1	3	1	2	2	8300	13357	6	0.93	23.6
Williamsport	N. 41 15	W. 77 03	7.00 a.m.	561	171	29.44	747.8	30.05	763.3	43.9	6.6	69.2	4	5	0	.....	2	2	4	2	5	3185	5126	8	2.15	54.6
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	29.98	761.5	30.04	763.0	58.0	14.4	84.2	2	2	3	7	3	.....	4	8	1	5842	9401	7	5.01	127.3
Winnemucca	N. 40 59	W. 117 43	4.17 a.m.	4327	1319	25.52	648.2	29.92	760.0	35.6	2.0	68.2	2	3	3	12	3	.....	2	5	.....	7311	11766	6	1.15	29.2
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.56	725.4	29.90	759.4	40.1	4.5	64.6	8	4	3	.....	2	3	3	4	3	7238	11648	5	5.71	145.0
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.72	754.9	29.88	758.9	54.7	12.6	69.7	5	4	4	6	2	3	1	2	3	4742	7031	1	inap.	inap.
Sub-Series.																												
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.02	559.3	.....	.....	51.8	11.0	84	3	7	.....	2	3	2	1	.....	12	1835	2953	8	8.21	208 5
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	29.92	760.0	29.98	761.5	72.5	22.5	81.8	1	.....	1	.....	1	17	9	1	.....	5120	8240	1	2.27	57.7
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	.....	.....	30.02	762.5	76.5	24.7	74.4	16	.....	.....	.....	.....	.....	1	.....	13	3226	5192	3	0.28	7.1
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.01	762.2	30.01	762 2	78.3	25.7	86	.....	.....	.....	.....	.....	7	18	5	.....	.....	.....	6	6.42	163.1
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.39	746.5	29.95	760.7	77.0	25.0	90.6	3	.....	.....	.....	2	.....	.....	.....	25	.....	.....	9	7.50	190.5
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	77.4	25.2	91.3	.....	1	.....	.....	.....	3	2	24	.....	.....	.....	3	0.04	1.0
St. Paul, Alaska	N. 57 47	W. 152 21	1.59 a.m.	54	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	131	40	29.94	760.5	30.07	763.8	78.0	25.6	76.6	.....	.....	.....	.....	.....	5	24	1	.....	2320	3734	4	4.04	117.9
Santiago de Cuba	N. 32 46	W. 108 14	4.55 a.m.	5890	1795	29.99	761.7	30.01	762.2	78.0	25.6	75.5	9	2	.....	.....	.....	.....	.....	2	17	.....	.....	2	1.54	39.1
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	30.22	767.0	30.30	769.6	—6.5	-21.4	83.5	3	10	6	7	1	.....	2	16	.....	8000	12874	4	1.02	25.9

OCEAN SQUARE DATA FOR APRIL, 1883.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W. 22.5°	30.00	762.0	75.9	24.4	...	...	...	...	...	...	1	27	...	2	2.7
12.5 27.5	30.06	763.5	76.5	24.7	...	...	...	...	...	...	1	26	...	3	2.9
12.5 32.5	30.02	762.5	76.7	24.8	...	...	...	...	...	...	5	22	...	3	3.0
12.5 37.5	30.04	763.0	77.0	25.0	...	...	...	...	...	1	7	18	...	4	2.9
12.5 42.5	30.05	763.3	77.5	25.3	...	...	...	...	...	...	8	16	...	6	3.2
12.5 47.5	30.05	763.3	77.8	25.4	...	...	...	...	...	1	7	16	...	6	2.7
12.5 52.5	30.05	763.3	78.0	25.6	...	...	...	...	...	1	11	16	...	2	2.7
17.5 22.5	30.04	763.0	73.1	22.8	2	...	...	...	...	...	...	26	...	2	2.9
17.5 27.5	30.06	763.5	73.8	23.2	...	...	...	...	...	...	2	26	...	2	3.0
17.5 32.5	30.06	763.5	74.5	23.6	...	...	...	...	...	...	6	21	...	3	2.9
17.5 37.5	30.07	763.8	74.6	23.7	1	...	...	...	...	1	8	16	...	4	3.0
17.5 42.5	30.08	764.0	75.2	24.0	...	...	...	...	...	3	9	12	...	6	3.1
17.5 47.5	30.08	764.0	75.6	24.2	...	...	...	...	...	2	10	12	...	6	3.0
17.5 52.5	30.07	763.8	76.5	24.7	...	...	...	...	...	2	16	10	...	...	2.7
17.5 57.5	30.06	763.5	78.3	25.7	...	...	...	...	...	4	12	13	...	1	2.7
22.5 22.5	30.09	764.3	70.8	21.6	2	...	...	...	...	...	...	28	...	...	3.0
22.5 27.5	30.12	765.0	71.7	22.1	1	...	...	...	...	...	4	25	...	...	2.7
22.5 32.5	30.14	765.5	72.4	22.4	...	...	...	1	...	3	12	14	...	...	2.9
22.5 37.5	30.14	765.5	72.8	22.7	...	...	...	...	1	6	11	12	...	...	3.0
22.5 42.5	30.14	765.5	73.3	22.9	...	...	...	...	2	6	13	7	...	2	2.8
22.5 47.5	30.13	765.3	73.4	23.0	...	...	...	...	3	14	4	8	...	1	2.6
22.5 52.5	30.09	764.3	77.9	26.1	1	...	...	...	3	8	7	10	...	1	2.6
22.5 57.5	30.08	764.0	75.7	24.3	1	...	...	...	4	4	13	7	...	1	2.8
22.5 62.5	30.07	763.8	75.8	24.3	1	...	...	...	1	8	10	10	...	...	2.4
22.5 67.5	30.08	764.0	76.0	24.4	2	1	...	...	4	5	7	11	...	...	2.5
22.5 72.5	30.02	762.5	75.8	24.3	2	1	...	2	1	6	6	11	1	...	2.3
27.5 22.5	30.14	765.5	68.0	20.0	8	...	...	...	...	...	1	21	...	...	2.9
27.5 27.5	30.17	766.3	69.1	20.6	4	1	...	...	...	1	6	18	...	...	2.7
27.5 32.5	30.19	766.8	70.0	21.1	3	2	...	...	2	3	8	12	...	...	2.9
27.5 37.5	30.19	766.8	70.5	21.4	3	...	...	1	4	7	7	8	...	...	2.8
27.5 42.5	30.17	766.3	70.7	21.5	...	1	...	2	7	8	8	4	...	...	2.7
27.5 47.5	30.13	765.3	71.0	21.7	1	1	1	3	10	5	5	4	...	...	2.7
27.5 52.5	30.10	764.5	71.6	22.0	3	...	1	4	7	6	5	3	...	1	2.7
27.5 57.5	30.04	763.0	71.5	21.9	1	2	1	3	9	4	5	4	...	1	2.9
27.5 62.5	30.08	764.0	72.4	22.4	3	1	...	2	7	8	2	7	...	...	2.5
27.5 67.5	30.09	764.3	72.7	22.6	4	2	...	...	10	5	1	8	...	...	2.7
27.5 72.5	30.07	763.8	72.7	22.6	5	...	...	2	9	4	4	6	...	...	2.4
27.5 77.5	30.06	763.5	72.0	22.2	4	2	...	3	7	6	3	5	...	...	2.0
32.5 12.5	30.05	763.3	64.0	17.8	6	5	2	2	1	...	2	12	...	...	2.6
32.5 17.5	30.10	764.5	64.4	18.0	5	3	3	4	...	1	2	12	...	...	2.1
32.5 22.5	30.21	767.3	65.4	18.6	7	6	...	...	...	...	2	15	...	...	3.0
32.5 27.5	30.22	767.6	66.2	19.0	2	6	...	...	...	2	8	11	...	1	2.5
32.5 32.5	30.21	767.3	67.1	19.5	3	1	4	5	4	6	2	4	...	1	3.0
32.5 37.5	30 18	766.6	67.7	19.8	2	3	3	7	5	4	3	4	...	...	3.0
32.5 42.5	30.16	766.1	67.4	19.7	2	1	1	8	11	4	2	1	...	...	2.9
32.5 47.5	30.11	764.8	66.8	19.3	2	1	2	7	11	...	3	3	...	1	2.9
32.5 52.5	30.07	763.8	66.8	19.3	1	3	4	2	11	6	1	2	...	...	2.8
32.5 57.5	30.04	763.0	66.9	19.4	6	2	1	5	9	3	1	2	...	1	3.3
32.5 62.5	30.05	763.3	67.5	19.7	6	2	...	7	11	1	1	2	...	...	3.0
32.5 67.5	30.05	763.3	68.0	20.0	5	1	2	7	6	1	2	6	...	...	2.9
32.5 72.5	30.05	763.3	66.4	19.1	9	1	...	5	9	1	...	5	...	...	3.1
32.5 77.5	30.05	763.3	62.4	16.9	5	3	1	8	3	1	2	7	...	...	2.7
37.5 12.5	30.04	763.0	60.2	15.6	6	8	3	3	...	...	3	7	...	...	3.0
37.5 17.5	30.09	764.3	60.9	16.1	3	8	7	1	...	...	3	8	...	...	2.9
37.5 22.5	30.16	766.1	62.2	16.8	6	9	...	3	2	1	2	7	...	...	2.7
37.5 27.5	30.19	766.8	62.2	16.8	2	9	2	2	3	4	3	5	...	...	2.5
37.5 32.5	30.18	766.6	63.0	17.2	2	6	4	6	5	2	2	3	...	...	3.1
37.5 37.5	30.15	765.8	63.6	17.6	...	5	4	9	6	2	1	2	...	1	3.2
37.5 42.5	30.11	764.8	62.7	17.1	5	1	2	10	6	3	3	...	...	...	3.2
37.5 47.5	30.06	763.5	60.6	15.9	5	2	3	6	6	4	2	2	...	...	3.5
37.5 52.5	30.02	762.5	59.9	15.5	2	4	3	3	7	8	2	1	...	...	3.1
37.5 57.5	30.01	762.2	59.9	15.5	7	4	...	6	8	3	2	...	...	...	3.3
37.5 62.5	30.00	762.0	58.7	14.8	9	1	...	4	6	6	2	2	...	...	3.7
37.5 67.5	29.97	761.2	56.3	13.5	8	2	...	4	9	1	2	4	...	...	3.7
37.5 72.5	30.01	762.2	53.3	11.8	8	1	3	5	3	2	1	7	...	...	3.5
42.5 12.5	30.01	762.2	57.2	14.0	6	8	2	2	1	...	1	10	...	...	3.1
42.5 17.5	30.05	763.3	57.5	14.2	5	6	4	5	2	1	2	5	...	...	3.4
42.5 22.5	30.12	765.0	58.0	14.4	3	7	5	3	3	2	3	4	...	...	3.8
42.5 27.5	30.12	765.0	58.0	14.4	5	5	3	7	2	4	1	3	...	...	3.9
42.5 32.5	30.11	764.8	58.5	14.7	2	8	2	5	7	1	4	1	...	...	3.0
42.5 37.5	30.07	763.8	58.3	14.6	1	6	2	5	8	3	3	2	...	...	3.5
42.5 42.5	30.02	762.5	57.0	13.9	2	5	4	6	6	1	3	2	...	...	3.9
42.5 47.5	29.97	761.2	51.1	10.6	5	6	4	3	7	2	1	2	...	...	3.6
42.5 52.5	29.95	760.7	48.2	9.0	3	8	...	2	7	5	3	2	...	...	3.0
42.5 57.5	29.97	761.2	48.2	9.0	6	4	2	2	7	5	2	2	...	...	3.5
42.5 62.5	29.97	761.2	44.0	6.7	7	2	2	2	5	5	4	2	1	...	3.2
42.5 67.5	29.98	761.5	40.8	4.9	8	5	2	3	3	...	5	4	...	...	2.7
47.5 12.5	29.96	761.0	53.7	12.1	6	3	4	4	4	1	4	4	...	...	3.9
47.5 17.5	30.01	762.2	53.4	11.9	5	9	2	...	6	3	3	2	...	...	4.1
47.5 22.5	30.01	762.2	52.9	11.6	8	4	4	5	6	2	...	1	...	...	4.4
47.5 27.5	30.02	762.5	52.5	11.4	4	7	5	5	4	2	1	2	...	...	4.1
47.5 32.5	30.00	762.0	51.5	10.8	5	7	3	5	7	1	1	1	...	...	4.3
47.5 37.5	29.97	761.2	51.1	10.6	4	7	5	5	7	...	2	...	...	...	3.6
47.5 42.5	29.93	760.2	48.1	8.9	3	5	2	9	5	3	1	2	...	...	3.6
47.5 47.5	29.91	759.7	41.5a	5.3a	4	4	3	4	3	5	2	5	...	...	3.1
52.5 12.5	29.92	760.0	50.8	10.4	3	3	4	4	4	4	4	4	...	...	3.8
52.5 17.5	29.90	759.4	50.1	10.1	2	6	5	3	8	2	...	4	...	...	4.0
52.5 22.5	29.86	758.4	48.8	9.3	2	7	5	4	8	1	...	3	...	...	4.5
52.5 27.5	29.88	758.9	47.9	8.8	3	7	5	5	7	1	...	2	...	...	4.1
52.5 32.5	29.87	758.7	45.9	7.7	1	8	6	5	7	2	...	1	...	...	3.7
52.5 37.5	29.84	757.9	43.2	6.2	2	9	5	6	3	3	1	1	...	...	3.7
52.5 42.5	29.83	757.7	39.7	4.3	1	11	2	3	1	6	2	2	...	2	3.2
52.5 47.5	29.80	756.9	38.4	3.6	2	8	3	2	1	3	3	2	...	6	3.1
57.5 12.5	29.86	758.4	47.2	8.4	...	...	5	6	10	2	4	3	...	...	3.8
57.5 17.5	29.76	755.9	45.9	7.7	1	3	2	6	10	2	1	5	...	...	3.9
57.5 22.5	29.71	754.6	44.1	6.7	2	3	5	9	3	3	1	4	...	...	4.1
57.5 27.5	29.72	754.9	42.3	5.7	6	5	4	9	2	2	...	2	...	...	4.3
57.5 32.5	29.75	755.6	40.2	4.6	8	4	3	6	5	2	1	...	...	1	3.6
57.5 37.5	29.73	755.1	...	...	4	6	4	4	4	2	2	...	...	4	3.5
57.5 42.5	29.74	755.4	...	...	6	8	1	2	4	3	2	2	...	2	3.5
57.5 47.5	29.71	754.6	...	...	8	6	2	1	1	2	1	3	...	6	3.6

SPITZBERGEN, SMITH'S OBSERVATORY, (N. 78° 28′.5 E. 15° 43′.)

DATE.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity Per cent.	Wind. Direction. From.	Wind. Velocity. Miles per hour	Wind. Velocity. Metrs pr sec.	Wind. Force 0-10	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0-10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Rainfall or melted snow in past 24 hours. Mill.	WEATHER.
1882.																		
August 15			29.78	756.4	40.8	4.9	71	se.			1		7		nw.	0	0	
16			29.85	758.3	34.5	1.4	71	nnw.			1		10			0	0	
17			29.84	757.9	41.9	5.5	64	wnw.			3		2		wnw.	0	0	
18			29.93	760.2	41.2	5.1	61	ssw.			2		1		nnw.	0	0	
19			30.03	762.8	40.6	4.8	84	sw.			2		10		wsw.	0	0	
20			29.90	759.4	41.9	5.5	83	sse.			1		5		nne.	0.006	0.15	
21			29.93	760.3	39.4	4.1	77	e.			4		9		s.	0	0	
22			29.91	759.8	38.3	3.5	78	e.			3		5		s.	0	0	
23			29.93	760.3	40.3	4.6	81	ese.			1		10		s.	0.033	0.86	
24			29.96	760.9	39.4	4.1	77	e.			3		10			0	0	
25			29.99	761.7	40.3	4.6	70	ese.			1		5		sw.	0	0	
26			29.92	759.9	41.0	5.0	83	ne.			0		7		e.	0	0	
27			29.86	758.4	39.4	4.1	72	e.			1		10		e.	0	0	
28			29.85	758.2	35.1	1.7	70	ene.			3		9			0	0	
29			29.63	752.6	34.7	1.5	62	ne.			2		10			0	0	
30			29.43	747.5	30.7	— 0.7	81	ne.			1		10			0.260	6.6	snowing.
31			29.26	743.1	27.0	— 2.8	81	nw.			0		10			0.195	4.95	1
Mean			29.82	757.5	38.1	3.4	74.5				1.9		7.6			0.494	12.56	
September 1			29.53	750.1	27.5	— 2.5	66	wnw.			2		6		w.	0	0	
2			29.03	752.5	32.9	0.5	80	sw.			3		10			0.016	0.4	light rain.
3			29.53	750.1	34.0	1.1	89	wsw.			4		10			0	0	
4			29.55	750.6	35.2	1.8	75	n.			0		10			0.059	1.5	
5			29.72	754.9	35.4	1.9	90	sw.			2		10			0	0	2
6			29.71	754.5	36.5	2.5	75	e.			1		10			0.006	0.15	3
7			29.36	745.8	37.9	3.3	93	w.			0		10			0.122	3.1	raining. 4
8			29.13	739.9	39.9	4.4	90	e.			0		10			0.075	1.9	light rain. 5
9			29.27	743.4	38.8	3.8	88	w.			0		10			0	0	6
10			29.78	756.3	33.4	0.8	70	sse.			0		0		nw.	0	0	
11			30.08	764.0	20.8	— 2.9	70	n.			0		2			0	0	
12			30.13	765.2	25.9	— 3.4	78	ne.			1		9			0	0	
13			29.51	749.6	32.5	0.3	92	wnw.			0		10			0.039	1.0	7
14			29.80	750.8	27.7	— 2.4	73	ne.			1		2			0	0	
15			29.86	758.5	28.6	— 1.9	84	wnw.			0		10			0.067	1.7	snowy.
16			29.94	760.4	31.6	— 0.2	76	wnw.			1		0			0	0	
17			30.15	765.8	25.5	— 3.6	87	wnw.			0		10			0	0	
18			30.05	763.3	28.8	— 1.8	82	ne.			3		10			0.004	0.1	snowing.
19			29.95	760.0	31.1	— 0.5	94	e.			1		10			0.071	1.8	snowing.
20			29.87	758.6	29.8	— 1.2	84	n.			1		10			0	0	
21			29.76	755.9	32.0	0.0	83	e.			3		10			0	0	
22			29.33	745.0	37.4	3.0	96	w.			2		10			0.362	9.2	raining.
23			29.20	741.7	33.8	1.0	90	ne.			1		10			0.228	5.8	rain and snow.
24			29.43	747.4	19.2	— 7.1	81	n.			1		2			0	0	
25			29.71	754.6	21.4	— 5.9	67	w.			1		1			0	0	
26			29.84	757.8	21.9	— 5.6	93	w.			0		10			0.043	1.1	snowy.
27			29.92	760.0	26.1	— 3.3	74	wnw.			3		7			0.165	4.2	
28			29.94	760.4	26.8	— 2.9	74	wnw.			1		3			0	0	
29			30.11	764.7	25.2	— 3.8	84	w.			0		10			0	0	
30			30.08	763.9	28.6	— 1.9	86	w.			0		10			0	0	
Mean			29.73	755.1	30.4	— 0.9	83.1				1.1		7.7			1.258	31.95	
October 1			29.82	757.3	27.5	— 2.5	89	w.	3.8	1.7	0		10			0	0	
2			29.58	751.2	35.1	1.7	93	nnw.	1.8	0.8	0		10			0.079	2.0	rain and fog.
3			29.79	756.7	43.0	6.1	83	nw.	7.4	3.3	1		10		sww.	0.004	0.1	8
4			29.52	749.7	34.9	1.6	96	nne.	3.6	1.6	0		10			0.309	7.85	rain and fog. (8)
5			29.37	745.9	31.1	— 0.5	79	nw.	5.8	2.6	0		8		nw.	0	0	8
6			29.83	757.7	16.3	— 8.7	71	w.	29.1	13.0	4		10			0	0	
7			30.23	767.9	19.9	— 6.7	89	wnw.	6.3	2.8	2		4		sse.	0	0	
8			30.22	767.6	24.3	— 4.3	86	e.	4.3	1.9	2		10			0	0	
9			29.89	759.1	26.6	— 3.0	83	wnw.	10.3	4.6	2		1			0.004	0.1	
10			30.02	762.6	29.7	— 1.3	88	e.	20.8	9.3	3		5	s.	e.	0	0	
11			29.98	761.5	32.0	0.0	96	wnw.	10.1	4.5	0		10			0.008	0.2	foggy.
12			30.05	763.2	21.6	— 5.8	95	e.	6.5	2.9	2		4			0	0	
13			29.89	759.3	35.2	1.8	79	wsw.	11.6	5.2	0		10			0.232	5.9	
14			29.67	753.7	34.3	1.3	96	sw.	33.1	14.8	8		10			0.012	0.3	
15			29.84	758.0	35.4	1.9	100	sw.	38.9	17.4	7		10		sw.	0.024	0.6	drizzling.
16			29.80	756.9	32.2	0.1	90	sw.	18.6	8.3	3		9		w.	0.039	0.9	
17			30.00	761.9	25.3	— 3.7	95	e.	10.5	4.7	2		10			0.079	2.0	snowing.
18			29.56	750.9	31.8	— 0.1	100	wsw.	23.7	10.6	4		10			0.071	1.8	
19			29.63	752.7	23.5	— 4.7	100	ne.	1.8	0.8	0		10			0.122	3.1	snowing. 9
20			30.33	770.4	6.6	—14.1	75	w.	1.8	0.8	0		1			0	0	
21			30.12	765.1	19.4	— 7.0	94	ene.	6.9	2.1	0		10			0.110	2.8	snowing.
22			30.04	763.1	29.3	— 1.5	100	ne.	0.0	0.0	0		10			0.122	3.1	
23			30.12	765.1	28.6	— 1.9	88	ne.	6.7	3.0	1		10		ssw.	0	0	
24			30.25	768.4	28.0	— 2.3	96	w.	1.8	0.8	0		10			0	0	
25			30.19	766.9	26.6	— 3.0	100	nw.	1.8	0.8	0		10			0	0	
26			30.08	764.0	23.9	— 4.5	95	sse.	1.8	0.8	0		10			0	0	
27			30.10	764.5	18.5	— 7.5	97	sse.	15.9	7.1	4		10					snowing.
28			30.21	767.2	15.1	— 9.4	97	sse.	5.6	2.5	1		10			0.004	0.1	
29			30.05	763.2	21.0	— 6.1	79	e.	15.0	6.7	2		10			0	0	
30			29.74	755.4	6.3	—14.3	83	wnw.	25.3	11.3	3		3			0	0	
31			29.82	757.4	18.1	— 7.7	62	nne.	1.8	0.8	0		0			0	0	
Mean			29.93	760.1	25.9	— 3.4	89.5		10.7	4.8	1.6		8.2			1.215	30.85	
November 1			29.94	760.5	15.3	— 9.3	87	ene.	5.3	2.4	0		10			0.031	0.8	
2			29.78	756.4	26.8	— 2.9	96	wsw.	17.2	7.7	2		10			0.008	0.2	snow and fog.
3			29.00	751.7	31.6	— 0.3	81	wsw.	0.7	3.0	2		10			0.400	10.3	
4			29.57	751.1	25.9	— 3.4	89	e.	15.0	6.7	2		10			0.067	1.7	
5			29.55	750.6	30.0	— 1.1	98	nne.	1.8	0.8	0		10			0.004	0.1	rain, snow, fog.
6			29.55	750.6	29.3	— 1.5	82	e.	35.1	15.7	5		4			0	0	
7			29.73	755.1	28.8	— 1.8	70	ene.	22.6	10.1	2		8			0	0	
8			29.74	755.4	28.6	— 1.9	72	ese.	21.7	9.7	3		10		ene.	0	0	
9			29.90	760.9	26.2	— 3.2	76	ene.	12.5	5.0	2		10			0	0	
10			29.95	760.7	22.1	— 5.5	80	nnw.	4.5	2.0	0		10		n.	0	0	
11			29.78	756.5	14.0	—10.0	77	nne.	9.2	4.1	2		10			0	0	
12			29.85	758.1	8.6	—13.0	88	nnw.	6.9	3.1	0		1			0	0	
13			29.80	756.9	24.1	— 4.4	88	s.	22.4	10.0	1		10			0.081	2.05	
14			29.56	750.7	25.2	— 3.8	95	sw.	28.9	12.9	6		10			0	0	
15			29.83	757.7	31.6	— 0.2	92	sw.	25.3	11.3	3		7		sw.	0.177	4.5	
16			29.78	756.5	27.3	— 2.6	87	w.	23.3	10.4	2-3		3			0	0	
17			29.80	756.9	31.8	— 0.1	100	sw.	27.7	12.4	7		10			0.004	0.1	snowing. 10
18			29.81	757.2	21.6	— 5.8	77	wsw.	15.9	7.1	3		10			0.031	0.8	

SPITZBERGEN—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity Per cent.	Wind. Direction. From.	Wind. Velocity. Miles perhour	Wind. Velocity. Metrs prsec.	Wind. Force 0–10	Clouds. Amount. Upper. 0–10	Clouds. Amount. Lower. 0–10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Rainfall or melted snow in past 24 hours. Mill.	WEATHER.
1882.																		
November 19			29.91	759.8	30.9	— 0.6	92	sw.	10.7	4.8	1		10			0.008	0.2	
20			29.65	753.2	29.8	— 1.2	90	se.	27.7	12.4	3		10			0.035	0.9	light snow.
21			29.82	757.3	17.6	— 8.0	83	e.	23.5	10.5	4		10			0	0	
22			30.02	762.6	3.2	—16.0	95?	e.	25.3	11.3	5		7			0	0	
23			30.20	767.0	0.7	—17.4		nne.	8.3	3.7	1		0			0	0	
24			30.18	766.5	1.2	—17.1		n.	0	0	0		0			0	0	
25			30.16	766.0	— 1.1	—18.4		e.	1.8	0.8	0		0			0	0	
26			30.19	766.7	— 4.9	—20.5		ene.	0	0	0		1			0	0	
27			30.19	766.7	— 2.9	—19.4		ese.	7.6	3.4	0		3			0	0	
28			30.08	763.9	— 6.9	—21.6		ene.	1.8	0.8	1		2			0	0	
29			30.24	768.1	—12.3	—24.6		ese.	17.0	7.6	3		0			0	0	
30			30.33	770.4	— 6.7	—21.5		ene.	0	0	0		0			0	0	
Mean			29.88	759.0	16.5	— 8.6	86.1 *h*		14.1	6.3	2.0		6.5			0.852	21.65	
December 1			30.43	773.0	— 5.6	—20.9		nnw.	0	0	0		0			0	0	
2			30.17	766.2	14.7	— 9.0	74	ssw.	1.8	0.8	0		10			0	0	
3			29.88	758.9	19.6	— 6.9	86	ne.	1.8	0.8	0		8			0.031	0.8	
4			29.88	758.9	12.9	—10.6	93	w.	1.8	0.8	0		10			0.004	0.1	
5			30.04	763.1	11.1	—11.6	93	e.	1.8	0.8	1		10			0.012	0.3	light snow.
6			29.82	757.5	9.1	—12.7	93	wnw.	8.9	4.0	1		10			0	0	
7			30.08	764.1	3.6	—15.8	95?	ene.	8.9	4.0	2		10			0.004	0.1	
8			30.36	771.2	4.8	—15.1	100?	n.	1.8	0.8	0		10			0.016	0.4	light snow.(11)
9			30.37	771.4	11.8	—11.2	93	w.	1.8	0.8	0		6			0.004	0.1	
10			30.19	766.8	12.2	—11.0	100	ese.	1.8	0.8	0		10			0.008	0.2	
11			30.22	767.7	2.8	—16.2	71	ne.	9.2	4.1	3		1			0	0	
12			30.42	772.6	— 7.2	—21.8		nnw.	1.8	0.8	1		0			0	0	
13			30.12	765.0	—10.3	—23.5		nw.	7.4	3.3	1		2			0	0	
14			30.11	764.9	—20.6	—29.2		nw.	1.8	0.8	1		2			0	0	
15			30.03	762.8	—11.7	—24.3		s.	0	0	0		7			0	0	
16			30.22	767.5	— 2.9	—19.4		w.	0	0	1		1			0	0	
17			30.27	768.8	— 6.5	—21.4		nw.	0	0	0		0			0	0	
18			30.38	771.6	—11.7	—24.3		sse.	0	0	0		0			0	0	
19			29.84	758.0	2.5	—16.4		nw.	1.8	0.8	0		8			0.012	0.3	
20			29.78	756.3	2.5	—16.4		ne.	0	0	0		8			0	0	misty.
21			29.96	760.9	2.8	—16.2	90?	e.	5.1	2.3	0		10			0	0	
22			29.37	746.1	26.6	— 3.0	91	ene.	9.4	4.2	1		10			0.224	5.7	light snow.
23			29.82	757.3	— 5.4	—20.8		nne.	0	0	0		0			0	0	
24			30.12	765.0	—11.7	—24.3		nnw.	1.8	0.8	2		1			0	0	
25			30.01	762.3	—10.8	—23.8		wnw.	1.8	0.8	1		0			0	0	
26			29.91	759.8	— 1.5	—18.6		nw.	0	0	0		10			0.008	0.2	
27			29.87	758.8	— 3.5	—19.7		w.	1.8	0.8	1		3			0	0	(12)
28			29.80	757.0	—13.4	—25.2		ene.	0	0	0		3			0	0	
29			29.72	754.9	—18.0	—27.8		ene.	1.8	0.8	0		4					snowy.
30			29.77	756.2	—18.0	—27.8		ene.	0	0	1		1			0	0	
31			29.88	758.9	—13.5	—25.3		nnw.	0	0	0		5			0	0	
Mean			30.12	765.0	— 1.1	—18.4			2.5	1.1	0.5		5.2			0.323	8.2	
1883.																		
January 1			29.75	755.6	—19.3	—28.5		wnw.	1.8	0.8	1		0			0	0	
2			29.50	749.3	—27.0	—32.8		w.	1.8	0.8	2		2			0	0	
3			29.45	747.9	—26.0	—32.2		n.	28.2	12.6	5		7			0	0	
4			29.93	760.3	—11.9	—24.4		s.	0	0	0		10			0.002	0.05	
5			29.80	756.9	— 4.0	—20.0		w.	17.2	7.7	4		3			0.002	0.05	(13)
6			29.36	745.8	2.7	—16.3		n.	8.1	3.6	2		0			0.043	1.1	
7			29.75	755.6	5.2	—14.9	100?	ese.	7.0	2.7	1		10			0.002	0.05	snowy.
8			29.72	754.9	0.3	—17.6		ene.	10.1	4.5	3		0			0	0	
9			29.89	759.1	14.5	— 9.7	91	w.	15.0	6.7	2		10			0.008	0.2	snowing.
10			29.77	756.2	10.6	—11.9	81	n.	8.1	3.6	0		10			0.004	0.1	
11			30.00	762.0	— 5.4	—20.8		wnw.	5.6	2.5	4		9			0	0	
12			30.13	765.2	— 2.7	—19.3		ne.	1.8	0.8	0		4			0	0	
13			29.87	758.8	14.0	—10.0	97	wsw.	3.8	1.7	0		10			0.087	2.2	light snow.
14			29.57	751.0	21.4	— 5.9	90	ese.	1.8	0.8	0		10			0.008	0.2	
15			29.73	755.1	9.0	—12.8	96	w.	10.1	4.5	0		10			0.016	0.4	
16			29.75	755.6	13.6	—10.2	100	sse.	1.8	0.8	0		10			0.059	1.6	
17			29.38	746.2	22.6	— 5.2	96	nnw.	6.9	3.1	0		10			0.039	1.0	snowy.
18			29.42	747.2	12.6	—10.8	100	ese.	38.7	17.3	6		10			0.028	0.7	
19			29.43	747.5	8.2	—13.2	100	se.	35.1	15.7	6		10			0.028	0.7	
20			29.69	754.0	1.6	—16.9		ese.	28.4	12.7	6		10			0.020	0.5	
21			30.23	767.8	— 5.1	—20.6		ne.	4.5	2.0	2		10			0	0	(14)
22			30.19	766.7	7.3	—13.7	92	ene.	1.8	0.8	0		10			0.031	0.8	
23			29.26	743.1	21.0	— 6.1	95	wsw.	24.6	11.0	6		3			0.016	0.4	
24			29.19	741.3	8.2	—13.2	96	ne.	0	0	0		10			0.002	0.05	
25			29.21	741.8	0.1	—17.7		ese.	31.8	14.2	8		10			0.004	0.1	snowing.
26			28.82	731.9	18.9	— 7.3	89	wsw.	27.3	12.2	7		8	calm	calm	0.012	0.3	
27			29.05	737.9	8.6	—13.0	84	nw.	12.1	5.4	2		10			0	0	
28			29.44	747.8	2.3	—16.5		nnw.	4.0	1.8	2		7			0	0	
29			29.47	748.6	— 0.4	—18.0		ene.	8.7	3.9	1		1			0	0	
30			29.40	746.8	3.7	—15.7	100?	ene.	9.6	4.3	3		1			0	0	
31			29.53	750.1	8.6	—13.0	76	e.	18.6	8.3	2		2			0	0	
Mean			29.60	751.9	3.6	—15.8			12.1	5.4	2.4		7.0			0.409	10.40	
February 1			29.84	757.9	0.5	—17.5		ene.	5.1	2.3	1		7			0	0	
2			29.94	760.5	4.1	—15.5	90?	ene.	0	0	0		10			0.012	0.3	(15)
3			29.70	754.4	11.8	—11.2	97	wnw.	15.0	6.7	3		10			0.008	0.2	snowing.
4			29.72	755.0	1.6	—16.9		wnw.	11.6	5.2	1		10			0	0	
5			29.83	757.6	5.5	—14.7	91?	nw.	13.9	6.2	2		10			0.004	0.1	
6			29.35	745.6	28.8	— 1.8	96	ese.	5.8	2.6	2		10			0.382	9.7	snowing.
7			29.67	753.7	19.0	— 7.2	87	wsw.	31.3	14.0	4		10			0.114	2.9	(16)
8			30.17	766.3	10.9	—11.7	82	w.	10.7	4.8	0		10		w.	0.004	0.1	
9			29.96	760.9	21.7	— 5.7	100	e.	1.8	0.8	0		10			0.004	0.1	
10			29.53	750.0	29.7	— 1.3	82	e.	19.9	8.9	2		10			0.004	0.1	(17)
11			29.47	748.5	28.9	— 1.7	84	e.	10.3	4.6	0		10			0	0	
12			29.16	740.7	29.3	— 1.5	96	wnw.	6.7	3.0	2		10			0.142	3.6	snowing.
13			29.66	753.4	17.1	— 8.3	100	sw.	7.4	3.3	0		10			0	0	foggy.
14			29.39	746.6	28.2	— 2.1	94	ese.	10.3	4.6	0		10			0.177	4.5	
15			29.63	752.7	27.7	— 2.4	98	wsw.	14.1	6.3	3		10			0.004	0.1	(18)
16			29.65	753.1	32.0	0.0	100	ssw.	20.4	9.1	4		10			0.425	10.8	snowing.
17			29.80	756.9	28.9	— 1.7	94	nw.	9.6	4.3	2		8			0.004	0.1	
18			29.46	748.2	31.8	— 0.1	97	sw.	43.2	19.3	6		10			0.020	0.5	
19			29.23	742.5	30.2	— 1.0	96	sw.	16.3	7.3	2		10		w.	0.035	0.9	snowing.
20			29.11	739.5	34.2	1.2	75	ese	15.9	7.1	1–2		10			0.037	0.95	
21			28.79	731.3	25.5	— 3.6	87	w.	17.9	8.0	3		3	s.		0.008	0.2	

SPITZBERGEN—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Reduced to sea-level. Mill.	Barometer. Reduced to sea-level. Inch.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity Per cent.	Wind. Direction. From.	Wind. Velocity. Miles perhour	Wind. Velocity. Metrs pr sec.	Wind. Force 0-10	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0-10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Rainfall or melted snow in past 24 hours. Mill.	WEATHER.
1883.																		
February 22			28.58	726.0	22.1	— 5.5	80	ssw.	1.8	0.8	0		9			0.047	1.2	
23			28.91	734.2	19.8	— 6.8	84	nw.	9.4	4.2	2		10			0.020	0.5	
24			29.19	741.5	— 2.6	—19.2		ene.	1.8	0.8	0		2			0	0	
25			29.61	752.0	1.0	—17.2		nne.	1.8	0.8	0		1			0	0	
26			29.85	758.1	— 8.1	—22.3	57*	nnw.	1.8	0.8	0		0			0	0	*19
27			29.47	748.4	0.5	—17.5		ese.	23.5	10.5	2		9			0	0	
28			29.81	757.1	— 1.3	—18.5		ene.	1.8	0.8	0		2			0	0	
Mean			29.52	749.7	17.1	— 8.3			16.6	5.2	1.5		8.2			1.451	36.85	
March 1			29.06	738.2	23.7	— 4.6	81	ese.	30.4	13.6	4		9	s.	s.	0.004	0.1	
2			28.61	726.6	16.3	— 8.7	97	se.	6.9	3.1	0		10			0	0	
3			29.40	746.8	7.9	—13.4	80	n.	10.3	4.6	0		4			0	0	
4			29.45	747.9	0.7	—17.4		e.	12.1	5.4	0		10			0	0	
5			29.55	750.6	— 2.4	—19.1		wsw.	1.8	0.8	1		6			0.004	0.1	
6			30.08	764.0	— 4.5	—20.3		nw.	13.0	5.8	2		10			0	0	
7			30.38	771.7	—10.1	—23.4		wnw.	6.5	2.9	1		2	wnw.		0	0	
8			30.12	765.0	— 5.6	—20.9		nnw.	0	0	0		8			0	0	
9			29.82	557.4	1.4	—17.0		nne.	19.0	8.5	1		10			0.008	0.2	snowy.
10			29.91	759.6	— 7.4	—21.9		e.	1.8	0.8	0		10			0.002	0.05	
11			30.04	763.0	— 1.3	—18.5		wnw.	1.8	0.8	0		0			0	0	
12			29.98	761.6	— 1.3	—18.5		ene.	0	0	0		0			0	0	
13			29.95	760.7	— 3.3	—19.6		wnw.	1.8	0.8	0		1			0	0	
14			29.90	759.4	3.4	—15.9	95?	ne.	4.5	2.0	0		9			0	0	
15			30.13	765.2	11.5	—11.4	93	wnw.	1.8	0.8	0		10			Inap.	Inap.	light snow.
16			30.39	771.9	9.7	—12.4	92	wnw.	1.8	0.8	0		10			0.004	0.1	light snow.
17			30.54	775.6	7.5	—13.6	100	ene.	0	0	0		8			0	0	
18			30.28	769.1	5.9	—14.5	91	ene.	1.8	0.8	0		10			Inap.	Inap.	light snow.
19			30.29	769.4	9.1	—12.7	88	ese.	31.1	13.9	3		1		se.	0	0	
20			30.58	776.7	8.1	—13.3	88	wnw.	5.1	2.3	0		10			Inap.	Inap.	light snow.
21			30.09	764.3	13.6	—10.2	100	sw.	4.9	2.2	0		10			0.079	2.0	light snow.
22			29.49	749.0	7.5	—13.6	92	wnw.	11.2	5.0	0		8			0	0	
23			29.45	747.9	6.8	—14.0	88	ene.	27.7	12.4	6		10					snowing.
24			30.03	762.7	1.2	—17.1		nne.	0	0	0		0			0	0	
25			30.02	762.5	0.7	—17.4		e.	5.6	2.5	1		0			0	0	
26			30.01	762.3	— 3.6	—19.8		w.	4.9	2.2	1		0			0	0	
27			29.82	757.3	5.7	—14.6	74	ne.	28.6	12.8	4		10			0	0	
28			29.58	751.3	— 1.5	—18.6		se.	1.8	0.8	2		2			0	0	
29			29.55	750.6	5.5	—14.7	87	ene.	1.8	0.8	1		3		ese.	0	0	
30			29.84	757.8	10.2	—12.1	85	ne.	8.3	3.7	2		2			0	0	
31			30.11	764.7	8.1	—13.3	96	e.	16.3	7.3	3		10			0.028	0.7	light snow.
Mean			29.89	759.1	3.9	—15.6			8.5	3.8	1.0		6.2			0.128	3.25	
April 1			29.95	760.7	18.0	— 7.8	86	e.	36.2	16.2	5		10			0	0	
2			29.92	759.9	24.8	— 4.0	87	ese.	11.0	4.9	2		10			0.012	0.3	light snow.
3			29.95	760.6	32.5	0.3	81	ne.	4.3	1.9	0		7			0	0	
4			29.93	760.1	34.2	1.2	82	wsw.	17.7	7.9	3		7			0.020	0.5	
5			29.90	759.4	34.9	1.6	78	ese.	27.7	12.4	4		10			0.047	1.2	snowing.
6			30.02	762.4	34.2	1.2	70	ese.	13.2	5.9	1		10		s.	0	0	
7			29.98	761.5	29.1	— 1.6	82	ene.	7.4	3.3	1		7		wsw.	0	0	
8			29.71	754.7	34.3	1.3	82	e.	13.0	5.8	2		10			0.012	0.3	light snow.
9			29.82	757.4	34.2	1.2	75	ese.	1.8	0.8	0		10			0	0	
10			29.63	752.7	26.6	— 3.0	89	e.	9.6	4.3	0		10			0	0	foggy.
11			29.42	747.3	28.2	— 2.1	87	wnw.	9.4	4.2	3		10		ssw.	0	0	
12			29.47	748.4	23.7	— 4.6	81	ene.	1.8	0.8	0		9		e.	0.004	0.1	
13			29.52	749.7	24.6	— 4.1	75	ene.	0	0	0		0			0	0	
14			29.08	738.5	25.7	— 3.5	67	ene.	26.4	11.8	4		10			0.008	0.2	
15			29.30	744.2	30.9	— 0.6	70	w.	1.8	0.8	0		3		nne.	0.039	1.0	
16			29.68	753.8	23.5	— 4.7	72	ne.	11.4	5.1	2		10			0	0	
17			29.78	756.3	21.9	— 5.6	72	ne.	22.6	10.1	3		7		s.	0	0	
18			29.83	757.7	25.9	— 3.4	67	ne.	1.8	0.8	0		1			Inap.	Inap.	Snowy
19			30.26	769.2	15.0	— 9.1	78	w.	15.4	6.9	3		0			0	0	
20			30.44	773.4	21.2	— 6.0	77	n.	4.5	2.0	2		10			0.028	0.7	
21			30.16	766.0	33.4	0.8	89	w.	20.4	9.1	4		10			0.020	0.5	sleeting.
22			30.34	770.6	25.9	— 3.4	80	wsw.	14.1	6.3	3		3			0	0	
23			30.07	763.7	22.6	— 5.2	80	ssw.	1.8	0.8	0		10			0.087	2.2	
24			30.10	766.1	10.8	—11.8	78	wnw.	8.5	3.8	1		0			0	0	
25			30.21	767.2	6.3	—14.3	83	w.	4.9	2.2	1		0			0	0	
26			30.31	769.8	5.0	—15.0	73	wsw.	3.8	1.7	0		8			0	0	
27			30.37	771.5	1.9	—16.7	80?	ese.	7.8	3.5	0		0			0	0	
28			30.49	774.4	4.3	—15.4	77	sw.	0	0	0		0			0	0	
29			30.52	775.1	9.0	—12.8	71	e.	0	0	0		0			0	0	
30			30.54	775.7	16.7	— 8.5	64	ene.	6.0	2.7	0		0			0	0	
Mean			29.95	760.6	22.6	— 5.2	77.9		10.1	4.5	1.5		6.1			0.276	7.0	
May 1			30.42	772.7	4.8	—15.1	83	nne.	1.8	0.8	0		0			0	0	
2			30.14	765.5	13.2	—10.5	79	ene.	1.8	0.8	0		10			0	0	
3			30.03	762.7	23.2	— 4.9	76	sw.	4.0	1.8	0		10			0	0	
4			29.92	760.0	32.0	0.1	71	e.	6.7	3.0	0		10			0.008	0.2	
5			29.95	760.6	25.0	— 3.9	76	e.	7.2	3.2	1		9			0	0	
6			30.01	762.2	20.7	— 6.3	80	ene.	1.8	0.8	1		10			Inap.	Inap.	l't snow & fog.
7			30.28	769.0	10.0	—12.2	85	ene.	6.7	3.0	1		0			0	0	
8			30.30	771.2	10.0	—12.2	74	ene.	0	0	0		9			0	0	
9			30.32	770.1	15.8	— 9.0	75	se.	1.8	0.8	1		0			0	0	
10			30.19	766.9	12.9	—10.6	80	ne.	0	0	0		0			0	0	
11			29.98	761.4	13.8	—10.1	89	sse.	0	0	0		9			0	0	
12			30.07	763.8	16.5	— 8.6	72	ene.	13.2	5.9	4		1			0	0	
13			30.10	764.6	13.5	—10.3	90	ese.	12.5	5.6	2		1			0	0	
14			30.16	766.0	16.0	— 8.9	80	e.	1.8	0.8	0		9		sw.	0	0	
15			30.25	768.4	24.4	— 4.2	61	ene.	11.2	5.0	3		2			0	0	
16			30.16	766.0	18.5	— 7.5	82	w.	1.8	0.8	0		0			0	0	
17			30.12	765.1	24.8	— 4.0	57	ene.	13.9	6.2	2		3			0	0	
18			30.20	767.1	26.1	— 3.3	73	ene.	1.8	0.8	0		10			0	0	
19			30.22	767.5	26.6	— 3.0	80	ese.	17.7	7.9	2		1			0	0	
20			30.26	768.5	25.2	— 3.8	79	w.	0	0	0		10			0	0	
21			30.11	764.7	27.5	— 2.5	75	e.	6.9	3.1	1		10			0.002	0.05	light snow.
22			29.93	760.1	28.2	— 2.1	83	ese.	1.8	0.8	0		2			0	0	
23			29.87	758.8	29.7	— 1.3	92	e.	17.7	7.9	3		10			0	0	
24			29.90	759.4	25.3	— 3.7	95	e.	22.8	10.2	5		4			0	0	
25			29.48	748.9	34.3	1.3	68	e.	19.0	8.5	3		10			0.087	2.2	
26			29.72	754.9	32.7	0.4	83	wsw.	26.2	11.7	4		9		sw.	0	0	
27			29.74	755.5	39.7	4.3	85	ese.	31.3	14.0	4		9		ssw.	0	0	
28			29.61	752.0	39.4	4.1	84	e.	26.6	11.9	3		10		sse.	0.142	3.6	

SPITZBERGEN—CONTINUED.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity. Per cent.	Wind. Direction. From.	Wind. Velocity. Miles per hour	Wind. Velocity. Metrs. pr sec.	Wind. Force 0–10	Clouds. Amount. Upper. 0–10	Clouds. Amount. Lower. 0–10	Clouds. Direction. Upper From	Clouds. Direction. Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Rainfall or melted snow in past 24 hours. Mill.	WEATHER
1883.																		
May 29			30.01	762.2	31.8	— 0.1	89	sw.	12.8	5.7	3		10			0.026	0.65	
30			29.88	759.0	36.1	2.3	75	e.	37.4	16.7	6		10			0.035	0.9	
31			29.82	757.5	39.7	4.3	82	ssw.	19.0	8.5	3		10			0.079	2.0	
Mean			30.04	763.0	23.9	— 4.5	79.1		10.5	4.7	1.7		6.4			0.378	9.6	
June 1			30.81	757.2	32.2	0.1	98	wsw.	17.2	7.7	3		10			0.039	1.0	snowing.
2			29.98	761.5	34.3	1.3	75	wsw.	13.9	6.2	2		10			0	0	
3			30.13	765.3	33.3	0.7	82	wnw.	13.2	5.9	2		8	nw.		0	0	
4			30.06	763.4	29.1	— 1.6	96	sw.	5.8	2.6	1		10		w.	0	0	
5			29.95	760.8	32.4	0.2	71	wnw.	14.5	6.5	0		10			0	0	20
6			29.90	759.5	36.1	2.3	89	wnw.	20.1	9.0	3		10			0	0	
7			29.98	761.6	32.5	0.3	100	wnw.	16.6	7.4	5		10			0.035	0.9	foggy.
8			30.05	763.3	34.9	1.6	77	wnw.	5.8	2.6	1		7			0	0	
9			29.93	761.4	33.0	0.9	90	wnw.	16.[illegible]	7.2	3		2		w.	0	0	
10			29.78	756.3	41.0	5.0	87	nw.	4.5	2.0	0		1	sw.		0	0	21
11			29.78	756.4	43.0	6.1	86	se.	1.8	0.8	0		5			0	0	
12			29.78	756.5	43.9	6.6	85	e.	1.8	0.8	0		10			0	0	
13			29.81	757.1	37.6	3.1	91	ene.	1.8	0.8	0		10			0	0	
14			29.82	757.5	40.5	4.7	86	se.	4.3	1.9	1		3			0.012	0.3	
15			29.74	755.4	37.9	3.3	70	e.	10.3	4.6	2		10			0	0	22
16			29.78	756.4	38.3	3.5	83	sse.	7.4	3.3	1		9		calm	0	0	
17			29.80	757.0	38.3	3.5	70	sse.	12.1	5.4	1		10		ne.	0	0	
18			29.80	756.8	37.6	3.1	71	se.	1.8	0.8	0		10			0	0	
19			29.69	754.1	38.1	3.4	82	s.	1.8	0.8	0		3		n.	0	0	23
20			29.80	756.8	33.1	0.6	98	e.	1.8	0.8	0		10			0	0	
21			29.90	759.4	31.8	— 0.1	100	ssw.	7.8	3.5	1		10			inap.	inap.	snow and fog.
22			30.07	763.7	37.0	2.8	69	w.	18.3	8.2	3		4		nw.	0	0	
23			30.32	770.1	34.0	1.1	81	wsw.	8.3	3.7	2		1	wnw.	w.	0	0	
24			30.17	766.2	36.3	2.4	79	ese.	6.3	2.8	0		10			0	0	
25			29.78	756.4	36.5	2.5	85	wnw.	14.8	6.6	2		10			0.063	1.6	
26			29.88	758.9	36.9	2.7	82	sw.	16.6	7.4	4		2			0	0	
27			30.00	762.1	38.3	3.5	72	w.	3.6	1.6	1		1			0	0	
28			30.05	763.2	45.0	7.2	63	ese.	10.3	4.6	2		10		s.	0	0	
29			30.04	763.0	39.2	4.0	97	wnw.	3.4	1.5	0		10			0	0	dense fog.
30			30.05	763.2	39.9	4.4	93	sse.	1.8	0.8	1		10			0	0	
Mean			29.92	759.9	36.7	2.6	83.7		8.7	3.9	1.4		7.5			0.150	3.8	
July 1			30.02	762.5	36.7	2.6	98	ssw.	0	0	0		10			0	0	dense fog.
2			30.07	763.7	41.2	5.1	78	wnw.	6.7	3.0	0		10			0	0	
3			30.07	763.7	38.7	3.7	83	w.	7.2	3.2	1		10			0	0	24
4			30.11	764.7	38.7	3.7	92	sse.	5.1	2.3	0		10		wsw.	0	0	
5			29.85	758.1	38.5	3.6	95	nnw.	1.8	0.8	1		10			0.020	0.5	light rain.
6			29.81	757.2	45.3	7.4	76	ene.	10.5	4.7	2		20		ese.	0	0	
7			29.99	761.7	41.9	5.5	86	ssw.	3.1	1.4	1		10		wnw.	0	0	
8			30.05	763.2	40.8	4.9	87	w.	8.5	3.8	1		10			0	0	
9			30.02	762.5	43.5	6.4	78	se.	8.1	3.6	0		2			0	0	
10			30.00	762.1	37.0	2.8	94	se.	1.8	0.8	0		10			0.004	0.1	
11			29.95	760.6	41.9	5.5	70	se.	9.2	4.1	1		10			0	0	
12			29.95	760.8	41.5	5.3	69	ne.	3.6	1.6	1–2		10		nne.	0	0	25
13			29.80	756.9	44.1	6.7	60	sw.	7.4	3.3	2		1		n.	0	0	
14			29.65	753.1	43.0	6.1	56	se.	8.5	3.8	1		0			0	0	
15			29.82	757.4	40.5	4.7	89	se.	4.9	2.2	3		0			0	0	26
16			30.01	762.3	42.8	6.0	90	w.	7.6	3.4	0		9		wsw.	0	0	
17			30.08	763.9	43.3	6.3	74	se.	8.5	3.8	0		2			0	0	
18			29.95	760.8	45.9	7.7	65	sse.	7.2	3.2	1		0			0	0	
19			29.84	757.9	37.6	3.1	87	sw.	19.5	8.7	4		10		wsw.	0	0	
20			29.71	754.7	38.3	3.5	67	wsw.	15.4	6.9	3		10		wsw.	0	0	
21			29.66	753.4	37.9	3.3	80	w.	19.7	8.8	3		10			0	0	
22			29.82	757.3	39.2	4.0	82	wsw.	24.6	11.0	0		10		wsw.	0	0	
23			29.76	755.8	38.1	3.4	90	w.	17.7	7.9	2		10		sw; w.	0.024	0.6	
24			29.92	760.0	43.2	6.2	66	sw.	15.4	6.9	3		0			0	0	
25			29.99	761.7	40.5	4.7	87	wsw.	21.5	9.6	4		10			0	0	
26			29.97	761.2	50.2	10.1	60	ese.	5.0	2.5	0		0			0	0	
27			29.98	761.5	48.0	8.9	78	sse.	4.3	1.9	3		0			0	0	
28			29.67	753.5	40.1	4.5	98	sw.	32.9	14.7	7		10			0.217	5.5	
29			29.84	757.9	36.3	2.4	68	w.	38.0	17.0	5		10		nw.	0.004	0.1	
30			30.13	765.4	41.0	5.0	87	sw.	9.8	4.4	3		2		sw.	0	0	
31			30.26	768.6	46.9	8.3	75	wnw.	5.8	2.6	2		7		nnw	0	0	27
Mean			30.00	761.9	41.4	5.2	79.5		11.0	4.9	2.0		6.8			0.268	6.8	
August 1			30.26	768.6	47.3	8.5	79	w.	3.6	1.6	3		4		nw.	0	0	
2			30.23	767.9	50.0	10.0	62	s.	1.8	0.8	0		0			0	0	
3			30.31	769.8	50.2	10.1	67	sse.	1.8	0.8	0		0			0	0	
4			30.22	767.7	56.5	13.6	41	wnw.	8.9	4.0	0		0			0	0	
5			30.15	765.9	55.0	13.1	43	ese.	20.1	9.0	2		0			0	0	
6			30.12	765.0	54.1	12.3	48	sse.	3.8	1.7	0		0			0	0	
7			30.00	762.1	48.4	9.1	73	s.	7.8	3.5	1		0			0	0	
8			29.97	761.2	41.5	5.3	83	ssw.	8.9	4.0	2		7		n.	0	0	
9			29.91	759.8	40.8	4.9	82	s.	6.7	3.0	1		10			0	0	
10			29.72	754.8	39.7	4.3	79	w.	8.7	3.9	1		10			0	0	
11			29.65	753.2	39.7	4.3	85	w.	8.3	3.7	1		10			0	0	
12			29.70	754.3	39.9	4.4	66	sw.	10.1	4.5	2		5		sw.	0	0	
13			29.85	758.2	36.1	2.3	72	wsw.	10.3	4.6	2		8		wsw.	0	0	
14			29.90	759.5	39.7	4.3	80	w.	17.0	7.6	4		5			0.051	1.3	
15			29.94	760.4	40.3	4.6	73	wnw.	1.8	0.8	1		8		wsw.	0.006	0.15	
16			29.93	760.2	41.2	5.1	73	sse.	9.6	4.3	0		0			0	0	
17			29.93	760.3	42.1	5.6	65	ese.	11.2	5.0	1		3			0	0	
18			29.96	760.9	41.0	5.0	69	se.	30.2	13.5	4		8		ssw.	0	0	
19			29.87	758.8	44.4	6.9	74	ese.	18.6	8.3	3		10			0	0	
20			29.84	758.0	43.5	6.4	81	ese.	10.3	4.6	3		10		sse.	0.047	1.2	light rain.
21			30.11	764.7	43.9	6.6	90	s.	5.1	2.3	1		10			0.004	0.1	
22			30.13	765.4	45.5	7.5	77	s.	5.4	2.4	0		3			0.043	1.1	
23			30.02	762.6	43.1	6.1	97	wnw.	19.0	8.5	1		10			0	0	foggy.
Mean			29.99	761.8	44.6	7.0	72.1		9.8	4.4	1.4		5.3			0.152	3.85	

NOTE.—The above observations, taken at 7 a. m., Washington time, were received too late for publication in the DAILY BULLETIN, and are given here in full from the opening to close of station. For explanation, see page 20.

REVIEW.

INTERNATIONAL METEOROLOGY.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0-10.]

The following description refers to chart ii. for the month of April, 1883, issued with this SUMMARY. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and prevailing wind-direction over the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich mean time.

For the month of April, 1883, the areas of barometric minima are two in number and are both indicated by the isobar for 29.7 (754.4). The first of these occupies Iceland and the ocean between N. 60° and 68° and W. 40° and 25°, the mean pressure for the month being 29.6 (751.8) at Stykkisholm, Iceland. The second area is shown in Asia, and occupies that part of Hindostan lying between N. 15° and 32° and E. 72° and 90°; in this region the mean pressure ranges from 29.62 (752.3) to 29.7 (754.4). In the North American continent the mean pressure is least in the central and southwestern parts of the United States, the means ranging from 29.85 (758.2) in Arizona, to 29.9 (759.4) in Kansas and Nebraska. In northern New England and the Canadian maritime provinces the mean pressure ranges from 29.95 (760.7) to 30.0 (762.0). On the Pacific coast the mean pressure is above 30.0 (762.0); in the rest of the country, excepting the districts mentioned above, it varies from 29.9 (760.7) to 30.05 (763.3), the means being highest in the south Atlantic states. Over the Atlantic ocean between N. 50° and 60° and W. 50° and 10°, the mean atmospheric pressure ranges from 29.7 (754.4) to 29.9 (759.4); between N. 40° and 50° and W. 60° and 40° it ranges from 29.9 (759.4) to 30.0 (762.0); elsewhere it is above 30.0 (762.0). Over the greater part of the British Isles, central Europe, and the southern peninsulas, the mean pressure ranges from about 29.88 (758.9) to 30.0 (762.0); in northeastern Europe it is above 30.0 (762.0).

The principal areas of barometric maxima are situated in northeastern Europe and Asia, and over the north Atlantic ocean. The first-mentioned extends from the Gulf of Bothnia southeastward to about the fiftieth parallel, and thence eastward over Asia to about E. 95°, the centre being in the Ural region where the mean pressure is 30.37 (771.4) at Ekaterinburg; the second high area, that of the Atlantic, extends from N. 20° to N. 45°, and from W. 20° southwestward to W. 52°, the centre, where the mean pressure is 30.2 (767.1), being to the southward of the Azores, in about N. 33° W. 25°.

Compared with the chart for the preceding month (March, 1883), it will be found that the areas of absolute barometric minima and maxima have both moved westward, or slightly south of west; in consequence of this movement there has been a general increase of pressure over Europe, especially in the eastern and northern districts, the increase in the Scandinavian peninsula and Russia, averaging .25 inch. On the other hand there has been a marked decrease in the pressure over the Färöe islands, Iceland and Greenland, the mean pressure at Stykkisholm, Iceland, being .49 inch below that for March, 1883. In the United States there has been a slight increase of pressure on the Pacific coast and in the Atlantic seaboard states; elsewhere the pressure has decreased, the means being from .15 to .30 below those of the preceding month. Over the Atlantic ocean south of N. 50° there has been a general increase of pressure.

Compared with the corresponding month of previous years the mean atmospheric pressure was slightly above the normal over that part of the United States lying east of the eightieth meridian, and also on the middle Pacific coast; in other parts of the country the pressure was below the normal. In Europe the mean pressure was above the normal, the departures being most marked in the northern districts.

The following table gives the mean pressure and mean temperature, with corresponding departures for April, 1883, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the last six years:

Countries.	Mean pressure.			Mean temperature.		
	Apr. mean of 6 (1877-'82) years.	Apr., 1883.	Departure.	Apr. mean of 6 (1877-'82) years.	Apr., 1883.	Departure.
				°	°	°
Algeria	29.98	29.96	— 0.02	67.4	64.7	— 2.7
Austria	29.82	29.90	+ 0.08	56.6	49.9	— 6.7
British Isles	29.82	29.99	+ 0.17	49.9	51.7	+ 1.8
Denmark	29.88	30.08	+ 0.20	45.6	45.8	+ 0.2
France	29.83	29.96	+ 0.13	57.1	56.1	— 1.0
Germany	29.88	30.01	+ 0.13	50.6	50.0	— 0.6
India*	29.72	29.69	— 0.03	89.8	91.5	+ 1.7
Italy	29.86	29.89	+ 0.03	61.6	58.5	— 3.1
Norway	29.90	30.05	+ 0.15	43.7	44.6	+ 0.9
Portugal	29.98	29.97	— 0.01	60.8	60.8	normal
Russia	29.92	30.08	+ 0.16	47.3	45.0	— 2.3
Spain	29.91	29.95	+ 0.04	61.2	56.9	— 4.3
Sweden	29.91	30.15	+ 0.24	39.4	41.8	+ 2.4

* Mean for five years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of April, 1883, as compared with the means for six years:

Stations.	Mean pressure.			Mean temperature.		
	Apr. mean of 6 (1877-'82) years.	Apr., 1883.	Departure.	Apr. mean of 6 (1877-'82) years.	Apr., 1883.	Departure.
				°	°	°
Gibraltar	30.01	29.97	— 0.04	66.3	62.4	— 3.9
Malta, Mediterranean Sea	29.88	29.90	+ 0.02	63.5	61.9	— 1.6
Sandwick Manse, Orkney Islands*	29.88	29.97	+ 0.09	44.5	46.8	+ 2.3
Bridgetown, Barbadoes	30.02	30.01	— 0.01	82.7	83.2	+ 0.5
Cape Town, Cape Good Hope	30.06	.....	.....	71.6	.....	.....
Fort Napier, Natal, South Africa*	29.91	29.88	— 0.03	75.6	74.7	— 0.9
Freetown, Sierra Leone	29.88	29.91	+ 0.03	87.4	85.7	— 1.7
Mauritius, Indian Ocean	30.00	29.98	— 0.02	79.1	78.9	— 0.2
Melbourne, New South Wales	30.12	30.13	+ 0.01	57.8	58.9	+ 1.1
Nassau, Bahamas	30.07	30.07	normal	76.2	78.6	+ 2.4
Godthaab, Greenland	29.82	29.75	— 0.07	28.7	22.6	— 6.1
Stykkisholm, Iceland	29.83	29.60	— 0.23	33.0	36.5	+ 2.6
Thorshavn, Färöe Islands	29.89	29.88	— 0.01	43.1	46.8	+ 3.7
Zi-Ka-Wei, China	30.04	30.02	— 0.02	54.5	54.9	+ 0.4
Athens, Greece	29.90	29.89	— 0.01	67.0	63.7	— 3.3
Cagliari, Sardinia, Italy	29.85	29.85	normal	64.1	61.3	— 2.8
Tokei, Japan	30.05	30.01	— 0.04	52.9	52.9	normal
Angra, Azores †	30.05	30.18	+ 0.13	60.9	60.4	— 0.5
Funchal, Madeira Islands	30.13	30.10	— 0.03	65.2	64.2	— 1.0
Ponta Delgado, Azores	30.09	30.20	+ 0.11	63.4	63.3	— 0.1
Archangel, Russia	29.90	30.27	+ 0.37	32.7	41.2	+ 8.5
Tiflis, Russia	29.89	29.89	normal	62.8	59.7	— 3.1
Astrakhan, Russia	29.96	29.96	normal	56.1	52.2	— 3.9
Ekaterinburg, Russia	29.94	30.37	+ 0.43	41.5	37.2	— 4.3
Tashkend, Toorkistan, Asia	29.98	29.88	— 0.10	65.7	66.7	+ 1.0
Barnaul, Siberia, Asia	30.07	30.22	+ 0.15	38.0	33.3	— 4.7
Yenisei sk, Siberia, Asia	30.02	30.24	+ 0.22	32.3	33.4	+ 1.1
Pekin, China	29.99	29.97	— 0.02	57.3	55.8	— 1.5
Nikolaevsk on the Amoor, Asia	.....	.....	.....	23.6	23.7	+ 0.1
San Juan de Puerto Rico, W. I.	30.04	30.03	— 0.01	77.4	77.4	normal
Beirut, Turkey in Asia	29.91	29.90	— 0.01	69.9	68.7	— 1.2
Mexico, Mexico	.....	30.16	.....	.....	52.9	.....
Havana, Cuba, W. I.	30.03	29.98	— 0.05	75.9	72.5	— 3.2
Paramaribo, D. Guiana, S. A	30.01	30.01	normal	80.4	78.3	— 2.1
York Factory, B. A	30.08	30.13	+ 0.05	10.8	— 6.5	—17.3

* Means for five years only. † Means for four years only.

The following are some of the extreme mean temperatures reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Africa	85.7	29.8	Ooglaamie, Alaska	— 8.8	—22.7
Saint Paul de Loando, W. Africa	83.3	28.5	York Factory, B. A	— 6.5	—21.2
Bridgetown, Barbadoes	83.2	28.4	Upernavik, Greenland	7.3	—13.7
Manila, Philippine Islands	81.8	27.3	Jacobshavn, Greenland	18.1	— 7.7
Mauritius, Indian Ocean	78.9	26.1	Godthaab, Greenland	22.6	— 5.2

The mean temperature of the air in the United States was slightly below the normal in the region west of the Rocky mountains, in the lower lake region, and in the middle and south Atlantic states; in all other districts it was slightly above the normal; in none of the districts were the departures very marked. In Canada the mean temperature was below the normal, except in Nova Scotia and Prince Edward island,

where it was slightly above. In Europe it was slightly below the normal, except in the northern districts. In British India it was about 1°.7 above the five years' mean. The highest mean temperature reported was 101°.7 Fahr. (38°.7 Cent.) at Deesa, and the lowest was 76°.7 Fahr. (24°.8 Cent.) at Sibsagar.

In the United States the prevailing winds were as follows: variable (from west to north predominating) over the region north of the fortieth parallel; easterly and northeasterly along the Atlantic coast, and mostly southerly in other districts. Over the north Atlantic the winds were mostly southerly from W. 75° eastward to W. 35°, and between N. 25° and 45°, except over the region between N. 35° and 45° and W. 70° and 60°, where northerly winds prevailed. From W. 35° eastward to the European coasts and between N. 35° and N. 60° the winds were northwesterly, except near the coasts of the British Isles, where they were southerly. South of N. 35° and east of W. 35° the winds were northeasterly; west of W. 35° and south of N. 25° they were easterly and northeasterly. In Europe the winds were mostly westerly, northerly, and northeasterly. On the coast of China they were easterly and in Japan they were northerly and northeasterly.

In the United States the rainfall during April, 1883, was below the average in the northern section of the country, in California, Florida, and the southwestern boundary of the country. In all other districts the rainfall was in excess of the average—the greatest departures occurring in Washington Territory, and Oregon, and in Mississippi and Alabama. In Canada the rainfall was in general below the average. In Europe it was also less than the average.

With this REVIEW is issued international chart iii. for the month of November, 1881. This chart continues the series of international charts begun in November, 1877, and exhibits the paths of the more important atmospheric depressions that have appeared in the northern hemisphere. The data are charted for each day of the month, on the maps accompanying each issue of the "International Bulletin," and from these charts, and additional miscellaneous data, are traced the movements of the centres of barometric minima.

The paths of thirty-six depressions which appeared during November, 1881, have thus been traced; in addition are also shown the paths of three typhoons which occurred in the China sea during the month. The tracks of these last are copied from "The typhoons of the China seas during 1881," published by the Reverend Marc Dechevrens, S. J., Director of the meteorological observatory at Zi-Ka-Wei, (Shanghai), China.

The following concerns the general distribution of the depressions charted: In the north American continent are traced fifteen depressions, of which number, nine appear to have first moved by a southeasterly course from the British Possessions, and then passed in an easterly direction over the northern part of the United States; three developed in the southwestern part of the United States and moved northeastward, and two depressions were first observed in the Gulf of Mexico. Eleven depressions are traced over the north Atlantic ocean; of these, seven were apparently continuations of disturbances which had passed over the United States, and four were first observed to the eastward of the fortieth meridian. The former moved eastward until reaching W. 30° when they apparently curved to the north-northeastward, and passed to the northwest of the British Isles; of the latter, number xxvii. was notable for the persistency with which it remained over the region to the north and northwest of the British Isles; number xix. appeared in the vicinity of the Azores, and with numbers xvi. and xviii. moved to the north-northeastward. One depression appeared in southern Greenland and moved eastward and northeastward to northern Scandinavia. Of the disturbances traced in Europe, four were continuations of storms which entered the continent from the ocean; three were first observed on the western coast of Norway; three appeared in the basin of the Mediterranean and one in eastern Russia. Two depressions are traced near the eastern coast of Japan.

A noteworthy feature of the month was the absence of any violent or extensive atmospheric disturbance in central and southern Europe, those districts being occupied by areas of barometric maxima during the greater part of the month. In the northern part of the British Isles, northern Scandinavia, and northern Russia, on the contrary, the atmospheric pressure was low, and those districts were traversed by numerous deep depressions, some of which developed considerable storm-energy. The storms traced in northern Europe pursued, in general, a southeasterly course, passing into Siberia where they apparently dissipated.

The following descriptions refer to the depressions traced in the United States and Canada:

I.—This was probably a continuation of low area xxix. of chart iii., for October 1881. At the close of that month the region of least pressure was in the northwest territories of British America, and by November 1st it had moved into Minnesota, with barometric pressure at the centre about 29.7 (754.4). During the day the disturbance became merged in low area ii., then moving from the southwest toward the lakes, the combined system forming a trough of low pressure which extended from Texas to the upper lake region.

II.—This disturbance appeared in Texas during the 1st; it moved northeastward and on the 2d it was central in Illinois, attended by cloudy, rainy weather. During the day the disturbance moved northeastward with diminishing pressure and on the morning of the 3d the centre was in Ontario, where the pressure ranged from 29.37 (746.0) to 29.6 (751.8); after the passage of the storm-centre the winds on the lakes changed to westerly and blew with the force of a moderate gale. The depression then passed eastward, causing rainy weather in the Saint Lawrence valley, and on the 4th it was central in the Canadian maritime provinces and the northern part of New England, the pressure at the centre remaining about 29.35 (745.5). Strong breezes to moderate northwesterly gales now prevailed to the westward and along the middle Atlantic coast, with moderate to strong southerly breezes to the eastward over the ocean. On the 5th the region of least pressure was over the northern part of the Gulf of Saint Lawrence, and appeared to be filling up; strong westerly gales prevailed at stations south of the centre.

III.—This depression appeared in Dakota on the 4th, the central pressure being about 29,6 (751.8). It moved slightly south of east until it reached Lake Michigan, where the course changed to northeast, and the disturbance passed into Canada, where it apparently filled up during the 6th. This disturbance caused light rain or snow during its passage, but its accompanying winds did not exceed the force of a strong breeze.

IV.—This depression probably originated in Alaska on the 2d, the barometer at Fort Saint Michael's on that date reading 29.08 (736.8), a fall of .52 inch during the preceding twenty-four hours. During the 3d the disturbance moved slowly southeastward, and by the 4th the barometer at Sitka, Alaska, read 28.98 (736.1), wind se., 22 miles, weather cloudy; on the 5th the barometer at the same station read 28.97 (735.8), the wind having shifted to ne., and decreased to 3 miles an hour. The disturbance then appears to have moved rapidly southeastward over British Columbia and the northwest territories during the 5th and 6th, and on the 7th it reached Dakota, the pressure at the centre being about 29.45 (748.0). On the 8th the centre of disturbance was over Lake Superior, the pressure near the centre remaining unchanged; southerly breezes with partly cloudy weather and occasional rains prevailed in the region to the eastward, the winds changing to the westward and increasing in force, with clearing weather, after the passage of the centre. On the 9th the disturbance was central in northern Quebec, whence it moved over the Gulf of Saint Lawrence and Newfoundland, and on the 10th it was central off the northeastern coast of the latter. The further movement of this disturbance is hereafter described under low-area xxii.

V.—This disturbance appeared in the western part of the Gulf

of Mexico on the 5th; it moved northeastward along the Texas coast, causing rainy weather and very high winds at coast stations. On the 6th the centre of depression was south of Louisiana, attended by heavy rains in the Gulf states and high winds at stations in western Florida; on the 7th the depression passed northeastward over Mississippi and probably became merged in low area iv. which, on the 8th, was shown as an extensive depression occupying the lake region.

VI.—This depression appeared near the Texas coast on the 10th; it moved northward during the 11th, causing heavy rains in the Mississippi and Ohio valleys, and cloudy, threatening weather in the lake region. By the morning of the 12th, the disturbance had reached the lake region, and was central near Escanaba, Michigan, where the barometer read 29.36 (745.7) wind se. 14 miles. Moderate gales with rainy weather prevailed over the lakes and western Canada as the depression moved northeastward. On the 13th the centre was in northern Quebec, while a small subsidiary disturbance existed over the maritime provinces. On the 14th the depression was over the gulf of Saint Lawrence, and clearing weather had now set in at stations to the westward. This disturbance passed over Newfoundland and is hereafter described as low area xxvi.

VII—This was a somewhat deep depression which appeared off the coast of Oregon on the 14th, the pressure near the centre being below 29.3 (744.2). During the 15th and 16th, it remained in the north Pacific coast region causing rainy and threatening weather at stations in California, Nevada, and Idaho; during the 16th the depression apparently filled up.

VIII.—This was probably an off-shoot from low area vii; it appeared on the northwestern boundary of the United States on the 15th, and moved by a southeasterly course to northern Nebraska, where it was central on the 16th. The course then changed to the northeastward, and as the depression advanced toward Lake Superior it displayed increased storm-energy. On the 17th the centre was over Lake Superior, attended by strong southerly to westerly gales throughout the lake region; the disturbance moved rapidly eastward from Lake Superior, and on the 18th the centre of disturbance was near the mouth of the Saint Lawrence, attended by strong southwesterly winds in the maritime provinces and along the middle Atlantic coast. On the 19th the depression passed eastward over the Gulf of Saint Lawrence, and is hereafter described as low area xxviii.

IX.—This disturbance developed in Texas during the 17th, and by the 18th it was shown as an elongated area of low pressures extending from the Texas coast northeastward to Ohio; heavy rain fell in the northeastern part of the area during the 18th. On the 19th the depression passed eastward over New York and the New England states, and by the 20th it was central east of Cape Breton Island. Its subsequent movements are described under low area xxx.

X.—This depression was first observed in Manitoba on the morning of the 20th, when the barometer near the centre of disturbance read 29.85 (758.2). It moved eastward over the northern part of the lake region, closely followed by an area of high pressures. On the 22d the centre of depression was over the Gulf of Saint Lawrence, attended by strong northwesterly winds in its rear and moderate southwesterly gales on the Banks. During the day it passed over Newfoundland into the Atlantic, and is hereafter described as low area xxxi.

XI.—This disturbance was shown in Manitoba on the 22d; it moved slightly south of east during the day, and on the 23d the centre was over Lake Superior, with pressure about 29.85 (758.2). Continuing its east-southeasterly movement, the disturbance moved over the lower Saint Lawrence valley and New England, and entered the Atlantic on the 24th, when it probably united with low-area xii., which had moved northeastward along the coast; the combined systems developed into a severe storm south of Nova Scotia, and are hereafter described as low-area xxxii.

XII.—This depression appeared in the eastern part of the Gulf of Mexico on the 23d; it passed northeastward over Florida to the Atlantic, and probably merged in low-area xi., above described. During its passage along the coast it caused strong gales at sea, the bark "Hedwig," in N. 38° 4′, W. 74° 4′, reporting a fierce easterly gale, and the brig "John Welsh," off Hatteras, a heavy northerly gale which lasted thirty hours.

XIII.—This depression appeared in Minnesota on the 25th, having moved southeastward from British America on the preceding day. On reaching Lake Superior the course changed to the northeastward and the depression moved over the northern part of the province of Quebec, attended by strong westerly winds over the lake region. On the 28th the disturbance was over Newfoundland; during the day it passed into the Atlantic and is hereafter described as low area xxxiv.

XIV.—This disturbance appeared over Manitoba, Dakota, and Minnesota on the 28th, its centre being then enclosed by the isobar for 29.8 (756.9). On the 29th it passed over the lake region, and apparently dissipated in the region north of Quebec on the 30th. The disturbance was not accompanied by any great storm-energy.

XV.—This depression developed in the southwestern part of the United States on the 29th, and on the 30th it was shown as a barometric trough, extending from the western shores of the Gulf of Mexico northeastward to Michigan. Generally cloudy, threatening weather with light rains prevailed from Texas to the lake region on the 30th.

The following descriptions refer to the storms which passed over the Atlantic ocean and Europe:

XVI.—This was probably a continuation of low-area xxvii. of the October chart. On October 31st the disturbance was probably central between W. 30° and 25°, and to the northward of the fiftieth parallel; the s. s. "Bavarian," in N. 51° 26′, W. 30° 46′, reported ssw. hurricane lasting nine hours, and the steamers, "Rhynland," "Westphalia," "Scythia," "Alaska," and "Plantyn," which were all to the eastward of W. 25°, reported fierce se. to sw. gales increasing to hurricane force, the lowest reported barometer reading about 29.15 (740.4). On November 1st the disturbance was central off the northwestern coast of Ireland; to the westward of the storm-centre the winds blew with the force of a moderate gale from nw. and wnw., while southerly gales and rainy weather prevailed over the western part of the British Isles. On the 2d the disturbance was apparently central between Iceland and the Färöe Islands; at the same time a rather deep depression appeared near N. 50° W. 20°, and by the 3d, depression xvi. could no longer be traced as a separate disturbance.

XVII.—This was a continuation of a disturbance described as low-area xxv. on the chart for October, 1881. At the close of that month the depression occupied the Adriatic sea; during the day the centre of disturbance had apparently moved southward, the barometer being lowest, 29.35 (745.5), over Sicily on November 1st. By the 2d, the disturbance having taken up a northeasterly course, was central in Austro-Hungary, the lowest reported pressure being 29.56 (750.8) at Hermannstadt. During its passage over southern Hungary it was attended by heavy rainfall which caused disastrous floods, especially in the provinces of Dalmatia and Croatia, where crops were damaged and houses inundated. During the 2d the depression moved northeastward over southern Russia, and by the 3d the centre was in the vicinity of Lugan, where the barometer read 29.50 (749.3); after the passage of the centre, strong northerly winds occurred on the northern shores of the Black Sea. By the 4th the disturbance had moved northeastward to the Government of Kasan; by the 5th it was central in the Ural region, whence it moved into central Siberia, where it filled up during the 6th.

XVIII.—This disturbance appeared in about N. 50°, W. 20°, on the 2d, when the pressure in its central region was about 29.0 (736.6). The depression remained in nearly the same region during the 3d and 4th, with but slight changes in pressure, and caused moderate southerly gales with rainy weather and higher temperatures over the British Isles and the ocean. During the 5th and 6th the depression moved

northeastward and by the 7th it was central off the northern coast of Scandinavia, where the barometer read about 29.55 (750.6). During the 7th it moved eastward over the extreme northern part of Scandinavia and on the 8th was central over the White sea; on the 9th the barometer at Archangel fell to 29.2 (741.7) and the wind shifted from ssw. to wsw. On the 10th the disturbance disappeared in northern Siberia.

XIX.—The atmospheric pressure, which had begun to increase over the Azores after low area xviii. had moved to the northward, again gave way on the 6th, and by the 7th the circulation of the winds in the vicinity of those islands indicated the existence of a storm-centre in that region. On the 7th, the barometer at Ponta Delgado read 29.64 (752.8) and the wind shifted to n. and attained a velocity of thirty miles an hour; on the same day the bark "Coppename," in N. 37° 50′ W., 20° 50′, had barometer 29.46 (748.3), wind sse., force 4, and vessels between W. 30° and 40°, had strong nw. gales, which lasted several days. The disturbance moved slowly north-northeastward, and on the 8th it was central near N. 42° W. 18°, the barometer remaining about 29.4 (746.7); the wind in the Azores, and with the "Coppename," (in N. 36° 10′, W. 20° 15′) had now changed to northwest and west-northwest respectively, while strong southerly and southeasterly winds, increasing to moderate gales, prevailed near the coasts of Spain and Portugal and over the Bay of Biscay. On the 9th, an elongated area of low pressure, enclosed by the isobar for 29.8 (756.9), extended from the Azores northeastward to southwestern Ireland; the disturbance apparently moved nearly due northward at some distance from the British coasts, its northeasterly movement over the British Isles being probably barred by an extensive area of high pressures which occupied the European continent south of N. 60°, the highest reading, 30.48 (774.2), being in Germany. On the 10th the disturbance was north of Scotland, while a large area of low barometer occupied the northern parts of Scandinavia, Russia, and Siberia. On the 11th the area above referred to became contracted and the region of least pressure was shown over the White sea and northern Finland where the barometric readings ranged from 29.06 (738.1) to 29.2 (741.7). From the White sea the depression moved in a southeasterly direction and on the 12th the centre of disturbance was shown near Kasan, barometer 29.1 (739.1), wind w. twenty-two miles. On the 13th the disturbance was in eastern Siberia, causing during its passage a strong sw. gale at Akmolinski and high westerly winds at Ekaterinburg; during the day the disturbance disappeared in Central Asia.

XX.—By the morning of the 7th the atmospheric pressure over central Russia had decreased about .45 inch, and a disturbance, the centre of which was enclosed by the isobar for 29.6 (751.8) appeared in the government of Kasan. The depression moved northeastward attended by cloudy weather and rising temperature in front of the area, and lower temperature at stations in its rear, and on the 8th it occupied the Ural region. By the 9th the depression had moved southeastward and was central near Akmolinski, where the barometer read 29.45 (748.0). By the 10th the depression had apparently merged in an extensive area of low pressures, which occupied northeastern Russia and Siberia.

XXI.—This was a slight depression which appeared over the Adriatic on the 8th; it moved southward and on the 9th was over southern Italy, where the pressure ranged from 29.82 (757.4) to 29.9 (759.4). This depression filled up on the 10th.

XXII.—This was a continuation of the disturbance traced on the chart as low area iv. On the 10th it was central near the northeastern coast of Newfoundland, the pressure at the centre being below 29.4 (746.7); it moved eastward with decreasing pressure, and on the 11th it was central near N. 50°, W. 37°. The s. s. "Illinois," J. W. Shackford, commanding, reported, in N. 50° 01′, W. 37° 59′, barometer 28.98 (736.1), wind nw., force 6, fair, and the s. s. "Celtic," B. Gleadell, commanding, in N. 47° 49′, W. 36° 23′, reported barometer 29.12 (739.6) wind sw., force 5. Vessels to the eastward had moderate to strong southerly gales; the s. s. "Vaderland," in N. 48° 38′, W. 33° 52′, reporting moderate sse. to w. gale, heavy rain and high cross sea; while vessels to the westward of W. 40° had moderate northwesterly gales with snow-squalls. On the 12th the disturbance was shown near N. 52° W. 32°, while another deep depression occupied Greenland; vessels near the thirtieth meridian had moderate southerly gales and rainy weather; to the westward of W. 30°, westerly and northwesterly gales, with snow, prevailed. During the 13th and 14th the disturbance moved slowly eastward, and as the barometric gradient in its front became steeper, the southerly and southwesterly gales increased to force 8. On the 15th this disturbance probably combined with low area xxxiii., then passing eastward north of the sixtieth parallel.

XXIII.—This was a depression which appeared in Greenland on the 10th, and remained stationary until the 12th, when the barometer at Godthaab read 28.99 (736.4), wind shifting from ene. to nne., force 6. During the 13th and 14th the disturbance was between Greenland and Iceland; on the 15th it was between Iceland and the Färöe Islands, the barometer at Thorshavn having fallen from 29.69 (754.2) to 29.02 (731.1), wind shifting to s., 16 miles, rainy weather. By the 16th, the disturbance having moved to the northeastward, was shown as a very deep depression, 28.5 (723.9), off northern Scandinavia; on the 17th this depression, to which low area xxvi. was now united, moved slowly southeastward, and was central over the northern part of the Gulf of Bothnia, the barometer at Haparanda, Sweden, reading 28.42 (721.9), wind sw., force 2, raining. On the 18th the centre of disturbance was over the White sea, the pressure having slightly increased; on the 19th it remained nearly stationary, but was evidently being dispersed, and by the 20th it had ceased to exist as an important disturbance. This depression, in connection with low area xxvi., caused strong southerly to southwesterly gales and rainy weather over the British Isles and northwestern Europe during the 16th and 17th; on the 18th the winds shifted to northwesterly, except in the western part of the British Isles, and cold, clearing weather set in.

XXIV.—This was a subsidiary disturbance which appeared off the southern coast of Norway on the 12th; it moved eastward, and on the 13th the centre was in the Gulf of Finland. On the 14th it was shown in the province of East Russia, and during the day it probably became merged in low area xxv.

XXV.—On the 13th and 14th there was an area of low barometer in the extreme northern part of Scandinavia, the pressure in that region being below 29.4 (746.7). On the 15th the region of least pressure was to the eastward of Archangel, whence it moved rapidly southeastward to the Ural region, barometer at Ekaterinburg 29.18 (741.2) on the 16th. On the 17th the disturbance was in the vicinity of Akmolinski, the pressure having increased to 29.5 (749.3); by the 18th the depression had disappeared from the chart.

XXVI.—This was a continuation of the disturbance described as low area vi. On the 14th the depression occupied the Gulf of Saint Lawrence; it passed rapidly eastward near the fiftieth parallel, causing strong southwesterly to westerly gales over the ocean between N. 40° and 50° and eastward to W. 30°. On the 15th the centre of the disturbance was near the fiftieth parallel and between W. 35° and 30°; the s. s. "Thames," Captain Luckhurst, commander, reported in N. 50° 05′, W. 28° 13′, barometer 29.18 (741.2), wind sse., force 7, raining; the s. s. "Braunschweig," C. Pohle, commanding, in N. 50° 35′, W. 27° 13′, reported barometer 29.28 (743.7), wind sw., force 6, rainy, while the s. s. "Germanic," C. W. Kennedy, commanding, in N. 48° 21′, W. 39° 14′, had wnw. wind of force 8, barometer 29.51 (749.5), showery. By the 16th the disturbance, having moved rapidly northeastward, was central near the Färöe Islands, where the pressure was below 29.0 (736.6); fresh southerly and southwesterly gales and rainy weather prevailed in the British Isles, and heavy westerly gales continued near N. 50° and between W. 35° and W. 10°. During the 16th the disturbance entered Scandinavia, where it apparently combined on the 17th with low area xxiii.

XXVII.—This depression, on account of its depth and storm-energy, its erratic course, and the persistency with which it lingered near the British coasts, was one of the most important of the month. It was first observed on the 17th in about N. 50°, W. 35°, on that date the s. s. "Braunschweig," C. Pohle, commanding, reported in N. 49° 47′, W. 35° 08′, barometer 28.42 (721.9) being a fall of one inch since the observation of the 16th (N. 50° 18′, W. 30° 32′) wind shifting from wnw. to ssw., force 8–9, weather cloudy; s. s. "Wyoming," Captain Rigby, commanding, in N. 49° 30′, W. 32° 55′, reported 0 h. 8 m. Greenwich time, barometer 28.6 (726.4), wind se. by s., force 10, cloudy; eight hours later, in N. 49° 30′, W. 33° 28′, the barometer read 28.44 (722.4), wind wsw., force 10, terrific squalls, gloomy. The s. s. "Gallia," W. H. P. Hains, commanding, reported in N. 48° 03′, W. 33° 29′, barometer 28.75 (730.2), wind ssw., force 10, violent squalls with rain and very high sea; at 1 p. m., ship's time, the barometer read 28.6 (726.4). During the twenty-four hours preceding the above observations the barometer in each case had fallen .8 inch to 1.0 inch; in the report furnished by the "Wyoming" the decrease amounted to 1.12 inches in sixteen hours. The steamers "Silesia," "State of Florida," and "Assyrian Monarch," on the 17th, were all between N. 51° 08′, W. 31° 50′, and N. 49° 04′, W. 37° 20′, and each reported gales of hurricane force from se. to sw. and nw., with very high seas (barometric observations not furnished).

On the 18th the disturbance was apparently near W. 30°, with its centre to the northward of the fiftieth parallel; the barometer had risen almost as rapidly as it had previously fallen, the pressure now ranging from 29.27 (743.7) to 29.41 (747.0). The exceedingly steep barometric gradient (about one inch in three hundred miles) which existed on the 17th had now become moderate, especially in the eastern quadrants of the depression, although the southerly winds still retained the force of a fresh gale; to the southwestward of the centre, however, the gradient remained steep and the northwesterly winds continued to blow with the force of 9 to 10.

On the 19th the region of least pressure was transferred to the vicinity of Iceland, and was indicated by the isobar for 28.5 (723.9); at the same time the area of high pressures which extended from the Azores to southwestern Europe began to spread northward and eastward with increasing pressure at the centre, the highest readings, 30.45 (773.4) to 30.55 (776.0), now being in central Europe (eastern France, northern Italy, Germany, and Austro-Hungary). Over the ocean the winds blew with the force of a gale, a small subsidiary disturbance being near W. 20° and another near W. 40°.

On the 20th, the region of least pressure remained near Iceland, the area of disturbance extending over the Atlantic from N. 60° southward to N. 45°, and from the Gulf of Saint Lawrence eastward to the British Isles and the Scandinavian coasts. Throughout this region, but particularly to the eastward of W. 30°, fierce sw. to nw. gales, with furious sea, prevailed.

On the 21st, the barometer at Stykkisholm, Iceland, read 28.06 (712.8), calm, raining; the isobars extended, in the form of an ellipse, from Iceland southwestward to N. 50°, W. 40°, where the pressure was 28.55 (725.2), and low area xxx. which reached the above region on the 21st, was apparently merged in the major depression. To the southward of N. 50° the barometric gradient became very steep, and very heavy n. and nw. gales prevailed over the region west of W. 40°; to the eastward of that meridian, furious w. and sw. gales continued, causing much damage to shipping property. On the 21st, the isobar for 29.0 (736.6) extended from the northern coast of Scotland southwestward to N. 48° W. 38° thence northwestward to N. 60° W. 50°.

On the 22d, the centre of disturbance was near the Färöe Islands, the barometer at Thorshavn falling to 27.9 (708.6), which was unusually low. Very steep gradients now existed over the British Isles and the North sea, and very heavy gales from sw. and w. prevailed over those districts and at stations on the Norwegian coast. Extensive floods occurred in many parts of England; houses were unroofed, and many vessels blown ashore; the gale, while very heavy over the greater part of the British Isles, was most severe in Scotland.

By the 23d, a rapid increase of pressure had occurred over the British Isles and Scandinavia, and the centre of disturbance was apparently forced to the westward again, the pressure at Stykkisholm being 28.72 (729.5), while at Thorshavn it was 28.96 (735.6). Low area xxxi. had by this time reached N. 51° W. 35°, so that, under the influence of both depressions violent sw. to nw. gales prevailed over the ocean, and strong sw. winds and rainy weather in the British Isles.

During the 24th and 25th, the disturbance remained, with slight changes of pressure, near Iceland, but by the 26th, it extended southward to N. 52°, probably uniting with the disturbances which existed near that latitude.

On the 26th the pressure at Stykkisholm was 28.6 (726.4), and on the fifty-second parallel it was 28.45 (722.6); the barometric gradient had now become steep over the Atlantic south of N. 50°, the southern part of England, western France, and the Bay of Biscay, and sw. to nw. gales of hurricane force prevailed from W. 40° eastward to the English Channel.

On the 27th the disturbance having moved northeastward near the British coasts, was central off the northern part of Scotland, the pressure near the centre being 28.0 (711.2), and is even reported to have fallen below 27.88 (708.1). Steep gradients now existed over southern England and western Europe, and southwesterly gales of forty to sixty-five miles an hour, accompanied by heavy rains, prevailed over those regions.

On the 28th the disturbance was shown as an elongated area of low pressures enclosed by the isobar for 28.8 (731.5), extending from northern Scotland along the Norwegian coast to northern Scandinavia. The winds in Ireland, and over the greater part of Great Britain, had veered to w. and nw., but over the North sea and in Denmark they were from the sw., blowing with the force of a strong gale in all districts.

On the 29th the disturbance was central in northern Scandinavia, barometer at Gjæsvar reading 28.97 (735.9), wind w., force 7. Strong w. to sw. winds prevailed over the Baltic and the Gulf of Bothnia; in the British Isles they decreased to moderate breezes, and changed to southerly in Ireland on the approach of low area xxxiv. At the close of the month the depression occupied the White sea region.

The almost unprecedented severity of the weather over the Atlantic during the prevalence of this disturbance can be best judged from the fact that all trans-Atlantic steamers were from four to seven days late; nearly all had decks swept or damaged, in some cases losing as many as eight boats. In several instances sailors were washed overboard and drowned, and others of the crews sustained serious injury from the heavy sea. The high, dangerous character of the sea during these gales is reported to have been unparalleled in the experience of many Atlantic navigators. The s. s. "Hurworth," and and several sailing vessels, were abandoned during these gales.

XXVIII.—This was a continuation of low area viii., which passed over the United States and Canada. On the 19th it was central over the Gulf of Saint Lawrence. By the 20th it had moved to about W. 32°, where it probably became merged in low-area xxvii., since it could no longer be traced as a separate depression.

XXIX.—This disturbance was subsidiary to low area xxvii., and appeared off the Norwegian coast on the 20th, when the pressure at Lodingen was 29.19 (741.5), wind ne., force 4. On the 21st the disturbance was in Finland, attended by moderate sw. winds over the Gulf and the northern part of the Baltic. It continued its southeasterly course with increasing pressure, and finally disappeared in central Russia on the 22d.

XXX.—This was a continuation of low area ix., which passed over the United States and reached the Atlantic during the 19th. On the 20th the disturbance was central off Cape Breton Island, causing strong northerly and northwesterly breezes in the Maritime Provinces and along the coast of the

United States. It moved eastward, attended by decreasing pressure and strong gales in all quadrants, and on the 21st it became merged in low area xxvii.

XXXI.—This was a continuation of the disturbance described as low area x. On the 22d it was central over the Gulf of Saint Lawrence, attended by strong sw. breezes on the Banks and moderate nw. gales in its rear. It moved rapidly eastward, closely followed by an area of high pressures, which caused steep gradients for northwesterly winds. On the 23d the centre was near N. 50°, W. 35°, with pressure about 28.8 (731.5); during the day it became subsidiary to low area xxvii.

XXXII.—This was a continuation of low area xi., and on the 24th it was central near the Maritime Provinces, and, like its predecessor, number xxxi., it moved northeastward and apparently became merged in the extensive disturbance which occupied the Atlantic ocean north of N. 50°.

XXXIII.—This was a shallow depression which appeared near the Gulf of Lyons on the 28th; it was attended by rainy weather in southern France, and filled up on the 29th.

XXXIV.—This was a continuation of low area xiii., above described. On the 38th the disturbance was near Newfoundland, whence it moved rapidly eastward, and on the 29th was central near N. 53°, W. 30°, pressure below 29.2 (741.7). Steep gradients were formed in the southern quadrants, so that strong westerly and northwesterly gales prevailed south of the fiftieth parallel, and moderate southerly breezes in Ireland. On the 30th the disturbance was central off the northwestern coast of Scotland, while another deep depression had appeared between Iceland and Greenland; strong southerly and southwesterly winds, increasing to gales, now prevailed over the British Isles and the Bay of Biscay.

The following depressions appeared in eastern Japan:

XXXV.—This disturbance appeared in southern Japan on the 19th, the pressure over that region decreasing to 29.6 (751.8); the disturbance moved northeastward along the eastern coast of Japan, and on the 20th it was central east of Nobiru, where the barometer read 29.21 (741.9), wind nnw., 17 miles. On the 21st it occupied northern Niphon and Yesso, the pressure remaining much the same as on the preceding day; strong westerly and northwesterly winds prevailed at stations in Niphon. The disturbance moved slowly northward, with gradually increasing pressure, and entered the Sea of Okhotsk, where it disappeared on the 25th.

XXXVI.—This was a slight disturbance which appeared off the eastern coast of Niphon on the 29th. By the 30th it had passed beyond the range of the observations.

The following notes referring to the typhoons of November, 1881, are taken from Rev. Marc Dechevrens' "Typhoons of 1881:"

I.—This typhoon was first observed to the northeast of Luzon, Philippine islands, on October 24th; from that date until the 28th the typhoon moved slowly northwestward, causing furious westerly winds and heavy rains in Luzon; the province of Ilocos was completely laid waste by the heavy floods which occurred. The typhoon did not pass through the Straits of Formosa, but, after displaying great violence for several days in that region, causing the loss of the ships "New Era" and "G. F. Müntz," it moved off northeastward, and passed along the eastern coast of Japan during November 4th, 5th, and 6th. After the 1st the typhoon appears to have lost much of its energy and to have passed over Japan as an ordinary atmospheric depression; during its passage cloudy, rainy weather prevailed, but the wind did not exceed the force of a moderate gale (force 7). During the 7th the course of the disturbance changed to the northwestward, and it moved into the Sea of Japan, where it united on the 8th with other segments of the typhoon which had traversed the continent. On October 26th the typhoon appears to have divided into two segments, the one passing northeastward as above described, while the other moved northward to the latitude of Zi-Ka-Wei, where it curved to the westward and entered the continent on the 30th. It then moved, as a slight depression, first southwestward, then northwestward through central China, and finally northeastward to the Sea of Okhotsk. During the 6th this segment again divided and another small depression formed; this moved eastward, parallel with the first segment, but at a somewhat lower latitude, and also reached the northern part of the Sea of Japan. During the 8th that portion of the typhoon which had passed over Japan became united to those which had passed over central and northern China, and finally disappeared in the Sea of Okhotsk on the 9th. During the passage of this typhoon the atmospheric pressure ranged from 29.35 (745.5) to 30.0 (762.0).

II.—The information in regard to this typhoon is extremely meagre. It apparently formed near the northern coast of Mindanao on the 6th, as indicated by the fall in the barometer at Manila; it moved westward at a low latitude (N. 10°) and apparently reached Cochin China, on the 12th.

III.—This typhoon formed in the vicinity of Mindanao on the 26th, causing strong winds and heavy rains in that region. The centre of disturbance moved northwestward over Cebu, the barometric minimum being 29.81 (757.2). On entering the China Sea the typhoon moved westward and developed great energy; it was encountered by the s. s. "Danube," on board of which the barometric minimum, 28.90 (734.0), occurred at 6 p. m. of the 28th, wind nnw., blowing with great fury and accompanied by heavy rain and hail; 6.30 p. m., wind veered to westward, then to sw. and moderated. The maximum strength of the typhoon occurred between 5.30 and 9.30 p. m.; the vessel sustained damage to boats and steering gear.

GENERAL REMARKS.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevation of stations is obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer cistern above sea-level; at least, this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the alphabet of the letter so used.

On February 1, 1883, the following change was made in publishing marine data in the "Daily International Bulletin":

All marine reports are classified as to districts, which are designated as follows: District No. 1, North Atlantic; District No. 2, South Atlantic, &c., under which headings the respective reports are printed.

BOUNDARIES OF DISTRICTS.

District No. 1 comprises the Atlantic ocean, its arms and tributaries, from the equator northward to the pole, and in the arctic from 100° E., westward to 100° W., of Greenwich.

District No. 2 comprises the Atlantic ocean, its arms and tributaries, from the equator southward to the pole, and in the antarctic from 20° E., westward to 70° W., of Greenwich.

District No. 3 comprises the Pacific ocean, its arms and tributaries, from the equator northward to the pole, and in the arctic from 100° W., westward to 100° E., of Greenwich.

District No. 4 comprises the Pacific ocean, its arms and tributaries, from the equator southward to the pole, and in the antarctic from 70° W., westward to 145° E., of Greenwich.

District No. 5 comprises the Indian ocean, its arms and tributaries, from the Asiatic continent southward to the pole, and in the antarctic from 20° E., eastward to 145° E., of Greenwich.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

Arrows show direction of, and fly with, the wind. Force is shown as follows:

SYMBOLS.	FORCE.	VELOCITY.	
		MILES PER HOUR.	METRES PER SECOND.
○	0	0	0
	1, 2	0 to 9	0 to 4
	3, 4	9.1 to 22.5	4.1 to 10.1
	5, 6	22.6 to 40.5	10.1 to 18.1
	7, 8	40.6 to 67.5	18.1 to 30.2
	9, 10	67.6 up.	30.2 and over.

The following remarks relate to the individual peculiarities in the *methods* of recording, and the *times* of taking, the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of General Maritz, Commandant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemberg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind-direction is given to 32 points and weather by the Beaufort notation. At Bradford, no observations are taken on Sunday, except the rainfall, and in the monthly summary the letter designating a certain number of days missing applies to all the data except rainfall.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10, and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation. At Tchang-Kia-Tchouang the original gives barometer in millimetres reduced to sea-level, temperature in Centigrade, velocity in kilometres for past 3 hours 53 minutes, clouds on scale of 0–10, no distinction between upper and lower.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted. At Jacobshavn and Upernavik, the observations are taken at 8 a. m., instead of 8.44 and 8.24 a. m., respectively.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Mont Louis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. At Besançon the observations are taken at at midday instead instead of 0.32 p. m.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only, and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10. When snow has fallen at Stelvio and Valdobbia, it is not certain whether the amount given refers to melted or unmelted.

JAPANESE SERIES (furnished by co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (by authority of the Secretary of Public Works—furnished by co-operation of Señor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico, and respective observers).—All conversions are published as given in the originals, but when an evident mistake has been made the data is queried at this office. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys-Ballot,

Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Astrakhan, Ashurada and Baku, the barometer-cistern is below sea-level. At Kasalinsk, the barometer appears to have a large error.

SCOTTISH SERIES (furnished by co-operation of Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society at Edinburg, and respective observers).—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rainfall, temperature, and humidity are not given at North Unst. The wind-direction is given to 32 points.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Professor E. Plantamour, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut).—irut originals give the barometer in millimetres reduced to sea-level. The The. perature is given in Centigrade. The movement of the air is indicatetemforce on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Bed by At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota and Navassa the barometer is corrected for temperature only; at Puerto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind-direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind-direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES (furnished by co-operation of E. Malmberg, Director of the Nautical Meteorological Bureau at Stockholm).—The originals give the barometer as read off. The movement of the air is indicated by force on a scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on a scale of 0 to 9 and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operation of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

NOTES (SPITZBERGEN).

Furnished by the co-operation of Niles Ekholm, chief of the Swedish expedition on behalf of the International Polar Commission.

Height of the barometer above mean level of the ice fiord, 251.3 feet or 76.7 meters.

Thermometer shelter constructed after the model of Professor Wild, and situated at a height of 272 feet or 83 meters above the ice fiord, and 6.6 feet or 2 meters above the ground.

Humidity is not given when the temperature of the air is below —15° or —16° Centigrade, as it was found by investigations that the ordinary formula of Regnault for the psychrometer gives humidity from 10 to 30 per cent. too great at so low a temperature.

Wind: the observatory was situated immediately below a hill, and it was difficult to obtain any good wind observations. The apparatus therefore was adapted to electric transmission and placed on the hill 882.6 feet, or 269 meters above the Icefiord. Observations began October 1, 1882. The column headed "force" is that observed at or near the observatory on Beaufort's scale.

Clouds: cirrus, cirro-stratus, and cirro-cumulus are recorded as upper, all other kinds as lower.

The ice-covered highlands of Spitzbergen ascend to a height of about 500 or 600 meters (1,640 to 1,968 feet), the apparent altitude of the nearest mountain in the north being 7° in a distance of about 1,000 meters (3,281 feet).

The following remarks apply to the corresponding numbers in the weather column of tabulated data:

1, ground covered with snow; 2, 0.7 of ground covered with snow; 3, 0.4 of ground covered with snow; 4, 0.2 of ground covered with snow; 5, 0.1 of ground covered with snow; 6, ground free from snow; 7, snow blown out of the pluviometer, ground covered with snow, 8, the ground half covered with snow; 9, ground covered with snow; 10, most of the snow blown out from the pluviometer; 11, the greater part of fiord covered with ice; 12, ice seen driving in the fiord; 13, 14, 15, fiord almost free from ice; 16, inner half of fiord covered with ice; 17, most of fiord covered with ice; 18, from the middle of February fiord completely covered with ice; 19, from condensation hygrometer.

From May 1st to 22d, 1883, with the exception of the 12th and 17th. The thermometer "fronde" was used, as it was found that the thermometer in the shelter gave a temperature of 2° to 3° too high, owing to the very strong reflection from the snow at this time of the year; from 23d, thermometer in shelter used: 20, snow on ground melted in several places; 21, 0.7 of ground covered with snow; 22, ground almost free from snow; 23, the outer part of fiord free from ice; 24, only about one-half of fiord covered, and that with loose drifting ice; 25, but few pieces of ice in fiord; 26, no ice in fiord; 72, temperature of surface water in fiord 7°.5 Cent. (45°.5 Fah).

ERRATA.

DAILY BULLETIN, April 8th, 1883, page 5, United States, West Las Animas, reduced barometer, 29.02 inches, should read 29.92.

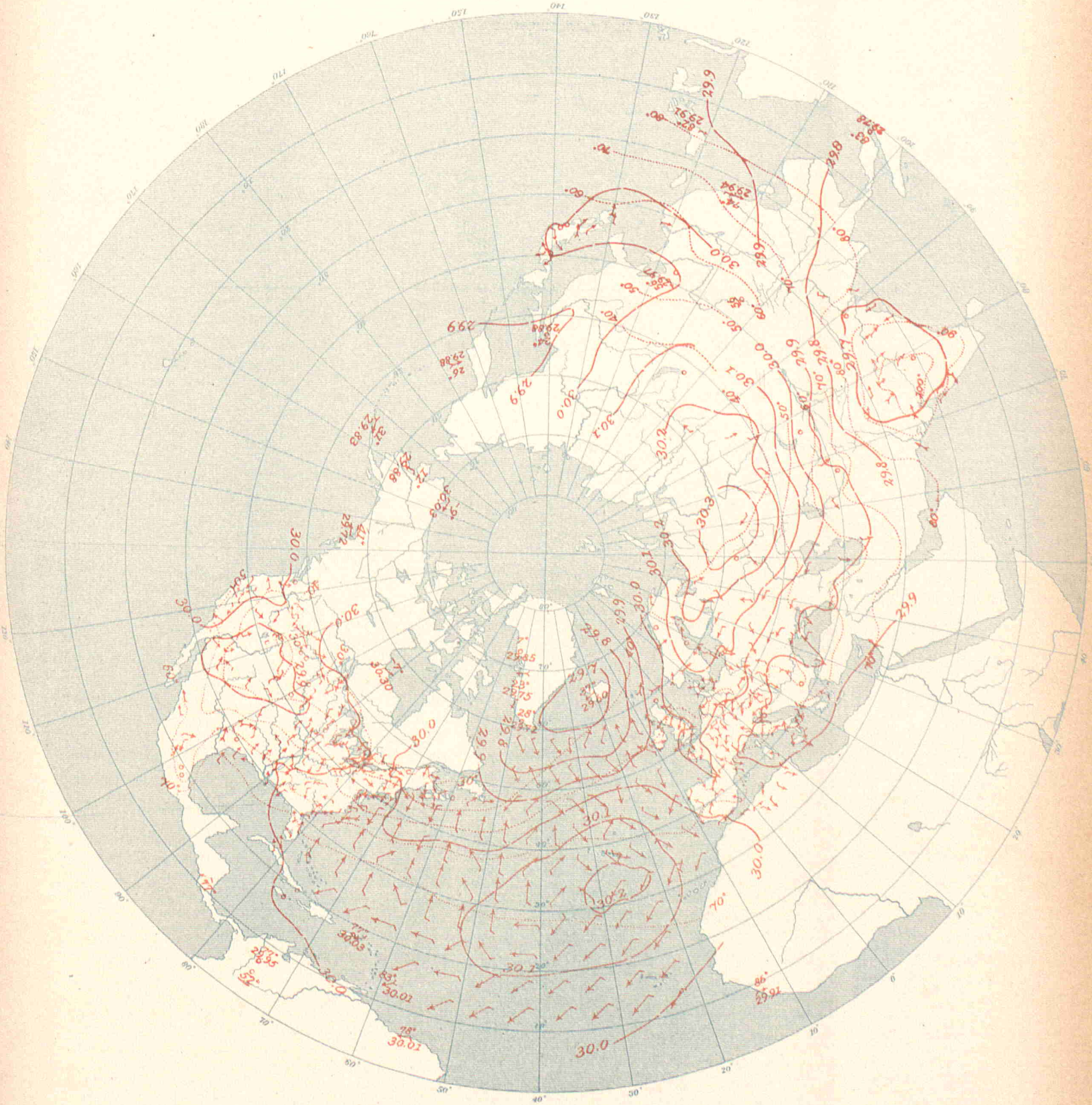
12th, Page 4, United States, Bennett, Fort, actual barometer 29.97 inches, should read 27.97.

14th, page 8, District No. 3, s. s. "Coptic," longitude W. 173° 40′, should read W. 174° 04′.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. April, 1883. Isobars, Isotherms, and Winds.

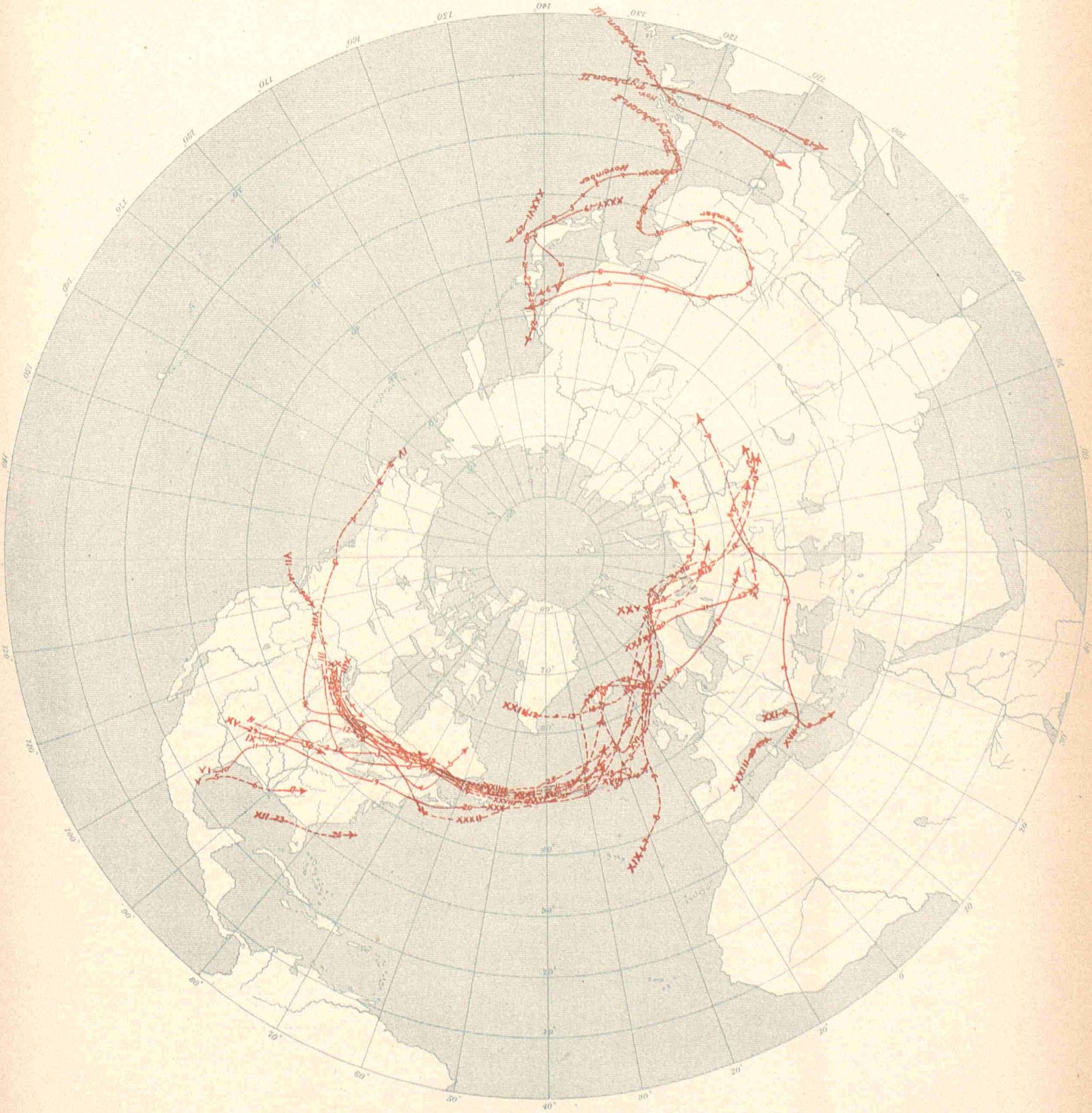


UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.

Signal Office Lith.

International Chart III. November, 1881. Storm-Tracks.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.
Signal Office 14th.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF MAY, 1883.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
JUNE, 1884.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

MAY, 1883.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for May, 1883. Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.02	762.4	65.5	18.6	79	6	1	1	1	9	4	9	.....	.....	.....	.....	1	1.25	31.8
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	29.98	761.6	65.5	18.6	71	4	10	4	2	2	.....	4	5	.....	.....	.....	7	1.26	32.1
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	29.98	761.4	64.8	18.2	71	5	10	4	2	2	.....	4	4	.....	.....	.....	6	1.16	29.5
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	29.98	761.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.04	763.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.00	762.1	66.7	19.3	46	8	8	4	1	2	4	2	2	.....	.....	.....	2	1.51	38.4
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	64.8	18.2	39.2	7	2	7	.....	11	.....	1	3	.....	.....	.....	2	8.98	228.0
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2549	777	.....	.....	29.99	761.8	71.1	21.7	39.5	6	3	.....	1	6	4	6	5	.....	.....	.....	1	0.99	25.2
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	29.98	761.5	76.3	24.6	42	2	10	2	.....	1	.....	.....	1	15	.....	.....	2	inap.	inap.
AUSTRALIAN.																										
Adelaide	S. 34 57	E. 138 30	9.22 p.m.	140	42	.....	.....	30.04	763.0	54.2	12.3	74.8	4	1	5	2	6	2	2	5	4	.....	.....	6	6.42	163.1
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.91	759.6	30.00	762.0	51.5	10.8	82	7	1	3	3	1	8	3	5	.....	.....	.....	5	1.99	50.5
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.35	745.4	29.88	758.9	68.2	20.0	47.4	.....	1	.....	10	5	5	3	7	.....	.....	.....	6	3.41	86.6
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.12	739.7	29.88	758.9	61.2	16.2	59.2	3	0	3	7	3	.....	3	0	.....	.....	.....	6	2.24	56.8
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	28.99	730.4	29.83	757.7	58.3	14.6	65.2	12	3	.....	.....	8	.....	.....	.....	8	.....	.....	7	0.74	18.9
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.66	728.0	29.88	759.0	64.2	17.9	61.0	1	0	5	9	.....	3	5	1	1	.....	.....	6	2.35	59.8
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.43	722.2	29.82	757.4	66.0	18.9	60.0	1	12	4	.....	7	4	1	2	.....	.....	.....	8	5.52	140.1
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.57	725.7	29.88	758.9	62.2	16.8	62.9	1	6	5	3	1	.....	2	12	1	.....	.....	6	3.29	83.6
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.87	733.4	29.84	757.9	61.9	16.6	55.6	2	5	4	4	2	2	2	10	.....	.....	.....	6	1.14	29.0
Neu Schmecks	N. 49 10	E. 20 14	1.29 p.m.	3297	1005	26.52	673.6	29.82	757.5	56.5	13.6	58.5	1	3	1	5	.....	2	3	1	15	.....	.....	6	3.29	83.5
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.78	756.5	29.87	758.8	66.6	19.2	63.1	.....	1	7	5	4	8	4	2	.....	.....	.....	4	1.95	49.5
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.36	745.8	29.82	757.3	67.6	19.8	52	9	2	4	9	3	1	1	2	.....	.....	.....	6	1.48	37.5
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.58b	751.2b	29.85b	758.1b	66.9	19.4	57.3a	5b	0	5	2	5	2	.....	2	2	.....	.....	7b	2.24	56.8
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.82	757.4	29.92	759.9	66.9	19.4	58.0	1	5	6	11	1	.....	1	3	3	.....	.....	5	2.84	72.2
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.21	741.8	29.90	759.5	64.6	18.1	52.2	3	4	10	.....	2	4	1	3	4	.....	.....	5	2.39	60.8
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.80	756.9	29.90	759.4	50.6	10.3	63.5	6	4	3	2	7	6	2	1	.....	.....	.....	7	0.93	23.6
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.72	754.9	29.95	760.7	53.9	12.2	66.3	9	3	4	0	7	.....	.....	2	.....	.....	.....	6	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.95	760.7	54.7	12.6	66.3	3	5	10	2	2	1	2	6	.....	.....	.....	6	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.40	746.7	29.94	760.5	54.7	12.6	66.5	1	4	3	8	5	2	1	7	.....	.....	.....	7	.....	.....
Bradford.d	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.53	750.0	29.93	760.2	54.9	12.7	62.9	.....	0	4	7	2	.....	.....	8	.....	.....	.....	7	0.58	14.7
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.98	761.5	30.01	762.2	83.2	28.4	73.5	.....	.....	.....	.....	.....	.....	.....	25	.....	.....	.....	4	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	29.87	758.7	29.97	761.2	60.5	15.8	62.8	5	5	3	0	1	2	1	8	.....	.....	.....	6	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.83	757.7	29.96	761.0	58.2	14.6	68.2	1	1	.....	9	.....	.....	4	7	9	.....	.....	6	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.76	755.9	29.99	761.7	54.7	12.6	71.0	5	3	2	4	3	8	3	3	.....	.....	.....	6	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2205	672	27.65	702.3	29.87	758.7	74.7	23.7	38.5	1	1	1	.....	4	1	18	5	.....	.....	.....	2	.....	.....
Freetown	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.65	753.1	29.88	758.9	83.6	28.7	71.9	7	1	5	4	8	3	2	1	.....	.....	.....	4	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.88	758.9	29.91	759.7	54.0	12.2	68.5	1	.....	13	7	1	.....	4	5	.....	.....	.....	5	2.11	53.6
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	29.96	761.0	30.01	762.2	67.3	19.6	91.0	.....	7	9	1	.....	2	11	1	.....	.....	.....	4	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.71	754.6	29.92	760.0	52.9	11.6	57.4	5	1	10	0	4	1	1	3	.....	.....	.....	8	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.78	756.4	29.96	761.0	59.6	15.4	63.7	6	2	.....	8	4	2	2	6	1	.....	.....	6	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.69	754.1	29.99	761.7	54.7	12.6	78.5	8	5	2	2	4	3	.....	7	.....	.....	.....	6	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.93	760.2	29.97	761.2	57.7	14.3	62.8	9	5	1	10	1	.....	2	3	.....	.....	.....	6	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.70	754.4	29.95	760.7	56.8	13.8	66.7	3	5	3	11	.....	.....	.....	9	.....	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	1.00 p.m.	70	21	29.89	759.2	29.97	761.2	67.4	19.7	80.7	2	10	.....	4	1	2	2	10	.....	.....	.....	1	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.01	762.2	30.06	763.5	78.9	26.1	68.7	1	5	.....	7	1	5	3	9	.....	.....	.....	6	.....	.....
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.44	747.8	29.96	761.0	55.4	13.0	70.1	5	5	3	3	9	.....	1	5	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.74	755.4	29.97	761.2	56.7	13.7	67.6	7	4	2	7	5	.....	.....	4	2	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.90	759.4	29.97	761.2	57.5	14.2	73.8	1	5	2	4	5	2	3	6	3	.....	.....	8	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.75	755.6	29.85	758.2	48.1	8.9	79.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Scutari Cemet'y	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.79	756.7	29.86	758.4	69.2	20.7	60.4	4	.....	2	11	6	2	.....	5	1	.....	.....	5	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.68	753.9	29.95	760.7	59.0	15.0	68.0	2	5	.....	5	8	.....	.....	10	1	.....	.....	7	1.13	28.7
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.91	759.7	29.94	760.5	54.4	12.4	68.9	3	3	6	10	2	.....	2	5	.....	.....	.....	5	1.20	30.5
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.90	761.0	54.3	12.4	64.6a	10	1	10	5	4	1	.....	8	.....	.....	.....	7	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.96	761.0	30.04	763.0	59.8	15.4	69.8	5	5	4	4	5	4	2	2	.....	.....	.....	7	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m	23	7	29.95	760.7	29.98	761.5	53.5	11.9	69.2	5	10	1	4	4	3	1	3	.....	.....	.....	7	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.60	751.8	29.99	761.7	69.2	20.7	54.4	.....	7	7	0	1	4	5	.....	1	.....	.....	3	0	0
CANADIAN.																										
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	35	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.94	760.5	29.99	761.7	45.4	7.4	74.2	4	1	4	3	7	5	1	2	4	6198	9975	7	4.05	102.9
Chatham*	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.94	760.5	30.00	762.0	45.2	7.3	73.3	4	4	0	9	2	2	1	3	.....	3518	5662	6	3.73	94.7
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.72	754.9	29.91	759.7	47.0	8.3	75.7	2	5	9	6	.....	1	0	2	.....	.....	.....	7	5.90	149.9
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	45	14	29.94	760.5	29.99	761.7	41.8	5.4	.....	.....	.....	10	.....	.....	.....	9	.....	0	.....	.....	.....	3.00	76.2
Father Point*	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.94	760.5	29.96	761.0	39.9	4.4	86.1	2	10	3	1	2	1	.....	10	2	.....	.....	5	0.81	20.6
Fort Garry*	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.17	740.9	29.99	761.7	37.7	3.2	84.3	10	1	2	2	3	4	2	7	.....	9308	14980	5	1.32	33.5
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	29.95	760.7	30.01	762.2	40.5	8.1	72.1	.....	9	4	1	2	1	8	5	1	.....	.....	6	2.73	69.3
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	28.85	732.8	29.93	760.2	44.7	7.1	98.8	5	4	3	4	4	1	7	1	2	.....	.....	6	4.09	103.9
Halifax*	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.90	759.4	30.03	762.7	46.9	8.3	79.9a	7	3	7	2	4	0	.....	1	1	.....	.....	5	7.18	182.4
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	338	103	29.51	749.5	29.90	759.4	46.5	8.1	85.9	.....	1	.....	17	.....	1	4	8	.....	.....	.....	6	3.15	80.0
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.61	752.1	29.94	760.5	46.1	7.8	73.7	5	2	2	5	8	.....	2	7	.....	7084	11400	7	4.92	125.0
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.93a	760.2a	29.97a	761.2a	59.3a	15.2a	77.9a	.....	1	3	13	2	4	2	3	3	.....	.....	7	9.05	229.9
London	N. 43 00	W. 81 15	6.43 a.m.	816	248	29.06	738.1	29.96	761.0	45.7	7.6	79.7	3	.....	3	3	7	0	4	1	4	.....	.....	7	5.79	147.1
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.74	755.4	29.94	760.5	47.3	8.5	71.0	0	3	10	1	0	1	2	2	.....	.....	.....	7	6.46	164.1
Ottawa	N. 45 26	W. 75 45	7.05 a.m.	223	68	29.68	753.9	29.93	760.2	45.7	7.6	77.8	0	5	4	0	2	3	2	3	.....	.....	.....	6	5.10	129.5
Parry Sound*	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.24	742.7	29.94	760.5	42.4	5.8	78.4	2	.....	7	2	9	4	4	3	.....	8078	13000	6	3.37	85.6
Peterboro	N. 44 17	W. 78 20	6.54 a.m.	675	206	29.20	741.7	29.94	760.5	48.0	9.2	71.0a	2	4	0	5	4	.....	4	3	3	.....	.....	6	1.72	45.7
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.29	741.0	29.96	761.0	45.7	7.6	85.3	.....	4	5	5	3	.....	1	0	4	6900	11104	7	5.30	136.1
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.32	744.7	29.96	761.0	45.4	7.4	83.0	2	3	0	3	.....	.....	10	4	.....	.....	.....	6	5.64	143.3
Quebec*	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.64	752.8	29.96	761.0	43.0	6.1	80.6	11	.....	6	.....	3	.....	1	5	5	.....	.....	6	3.56	90.4
Rockliffe*	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.46	748.3	29.92	760.0	42.4	5.8	75.6	3	12	1	.....	2	4	.....	9	.....	.....	.....	6	2.96	75.2
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.92	760.0	29.98	761.5	44.5	6.9	80.9	3	4	.....	3	3	8	.....	0	4	.....	.....	4	3.92	99.6
Saint John, N. B.	N. 45 17	W. 66 03	7.44 a.m.	150	46	29.83	757.7	29.99	761.7	48.7	9.3	83.2	3	2	2	12	.....	4	2	0	.....	.....	.....	5	3.81	96.8
Saint Johns, N.F.	N. 47 34	W. 52 54	8.30 a.m.	230?	70?	29.86	758.4	30.11	764.8	44.9	7.2	84.0b	.....	2	7	0	8	3	.....	5	.....	.....	.....	5	4.83	122.7
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	30.01	762.2	42.5	5.8	.....	3	7	3	10	1	2	2	2	1	.....	.....	.....	8.98	228.1
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.23	742.4	29.94	760.5	43.4	6.3	79.5	5	2	3	5	5	3	3	4	.....	8045	13012	7	3.29	83.6
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	29.07	753.6	29.95	760.7	45.4	7.4	78.3	1	3	4	7	3	3	3	4	3	.....	.....	6	4.55	115.6
Sydney*	N. 46 08	W. 60 10	8.07 a.m	37	11	29.97	761.2	30.02	762.5	45.5	7.5	80.9	2	3	0	10	3	.....	.....	3	4	6914	11127	8	9.52	241.8
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.59	751.6	29.97	761.2	45.7	7.6	76.9	6	4	4	5	.....	.....	5	1	0	7741	12458	7	4.31	109.5
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26	29.89	759.2	29.99	761.7	47.8	8.8	79.3	0	0	1	3	3	5	5	1	1	.....	.....	6	.....	.....
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	28.90	734.0	29.96	761.0	47.6	8.7	78.0	6	.....	5	5	5	3	1	5	1	.....	.....	6	4.17	105.9
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.93	760.2	30.00	762.0	47.1	8.4	83.6	3	6	1	3	3	5	7	.....	3	9293	14955	5	4.34	110.2

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs.	Result of Simultaneous Observations for May, 1883. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
CAPE COLONY	° ′	° ′																								
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	29.99	761.7	30.02	762.5	66.6	19.2	80.1	3	1	10	8	.....	.....	7	1	1	.....	.....	4	1.34	34.0
Springbok *e*	S. 29 45	E. 17 43	1.19 p.m	?	?	27 90	708.6	.....	.....	66.3	19.1	43.5	7	3	2	.....	1	4	.....	11	.....	.....	.....	.....	1.71	43.4
CHINESE. (*Sub*).																										
Sung-shu-chwang	N. 36 07	E. 103 56	7.04 p.m.	4987	1520	25.17	639.3	.....	.....	.....	.....	.....	.....	2	.....	7	1	5	3	7	6	.....	.....	.....	.....	.....
Tchang-kia-tchouang	N. 38 17	E. 116 14	7.53 p.m.	98	30	29.75	755.6	29.86	758.4	68.5	20.3	50	.....	3	2	1	3	6	10	1	1	.....	.....	4	0.51	12.9
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	29.89	759.1	29.91	759.8	62.2	16.8	86	4									.....	.....	8	6.89	174.9
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.84	758.0	29.89	759.2	56.1	13.4	60	5	6	2	2	4	5	4	.....	3	.....	.....	4	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.89	759.2	29.91	759.7	55.9	13.3	67	.....	6	4	13	3	1	2	2	.....	.....	.....	4	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.85	758.1	29.89	759.2	33.4*a*	0.8*a*	85*a*	6	.....	.....	2	8	4	.....	7	4	.....	.....	7	.....	.....
Jacobshavn	N. 69 13	W. 50 55	8.44 a.m.	42	13	29.85	758.3	29.90	759.5	32.9	0 5	.....	3	1	1	.....	6	2	7	...	11	.....	.....	5	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.84	758.0	29.89	759.1	36.7	2.6	84	1	2	1	1	2	2	3	15	4	.....	.....	5	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.76	756.0	29.79	756.6	46.4	8.0	77	5	2	6	7	4	2	1	3	1	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.80	757.0	29.89	759.3	53.6	12.0	69	2	11	3	8	2	1	3	1	.....	.....	.....	4	.....	.....
Egyptian.																										
Cairo *e*	N. 30 03	E. 31 21	2.14 p.m.	?	?	29.77	756.2	.....	.....	85.3	29.6	.....	10	9	3	.....	.....	.....	2	2	.....	.....	.....	2	0	0
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.39	746.5	30.03	762.7	66.0	18.9	72.1	.....	4	9	1	2	6	1	4	4	.....	.....	.....	3.25	82.5
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.45	748.1	30.00	762.1	59.7	15.4	72.1	.....	3	.....	12	2	4	.....	4	6	.....	.....	5	0.47	12.0
Arras *a*	N. 50 18	E. 2 46	0.19 p.m.	239	73	29.69	754.1	29.95	760.6	59.7	15.4	72.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.14?	3.5?
Avignon	N. 43 57	E. 4 48	0.27 p.m	65	20	29.87	758.6	29.95	760.6	70.0	21.1	55.5	2	10	3	9	2	4	.....	1	.....	.....	.....	4	1.78	45.3
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.39	746.6	29.94	760.4	64.6	18.1	48.9	1	2	.....	2	6	5	6	9	.....	.....	.....	6	1.07	27.2
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.71	754.5	29.97	761.1	63.5	17.5	59.4	2	4	4	2	6	2	4	7	.....	.....	.....	6	1.24	31.4
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.02	737.2	29.89	759.3	65.8	18.8	62.8	5	.....	1	2	13	1	1	8	.....	.....	.....	.....	3.44	87.3
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.69	754.0	29.95	760.6	65.5	18.6	57.3	3	9	2	8	1	3	3	2	.....	.....	.....	5	3.54	90.0
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.38	746.3	29.92	760.0	65.8	18.8	54.7	8	5	4	3	3	1	2	5	.....	.....	.....	.....	2.43	61.8
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.78	756.4	30.02	762.6	61.2	16.2	70.1	4	5	.....	10	3	.....	.....	7	2	.....	.....	6	5.81	147.5
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.89	759.1	29.96	761.0	59.9	15.5	71.9	4	8	3	7	3	2	.....	4	.....	.....	.....	6	1.92	48.8
Chalons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.60	751.7	29.91	759.6	66.2	19.0	66.8	4	3	7	1	8	3	2	2	1	.....	.....	4	1.11	28.3
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.42	747.3	29.92	760.0	64.2	17.9	54.1	5	3	4	1	5	4	3	6	.....	.....	.....	5	1.81	45.9
Clermont-Fd	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.59	726.2	29.91	759.7	66.2	19.0	50.9	9	.....	5	5	3	3	1	5	.....	.....	.....	5	2.28	57.8
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.11	739.4	29.95	760.7	66.2	19.0	52.0	4	4	4	4	3	2	3	5	2	.....	.....	5	2.09	53.0
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.10	739.1	29.95	760.6	62.8	17.1	50.5	.....	6	5	6	.....	2	7	5	.....	.....	.....	.....	0.91	23.2
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.42	696.5	29.90	759.4	63.7	17.6	50.0	.....	.....	5	1	4	.....	2	13	6	.....	.....	5	3.45	87.7
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.86	733.1	29.97	761.1	60.4	19.1	52.9	1	.....	.....	.....	1	10	12	7	.....	.....	.....	5	1.42	36.0
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.16	740.6	29.91	759.7	66.9	19.4	54.7	1	20	3	2	.....	1	4	.....	.....	.....	.....	.....	2.91	74.0
Gueret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.37	720.6	29.92	759.9	62.8	17.1	53.8	1	3	3	12	1	.....	1	10	.....	.....	.....	.....	2.54	64.4
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.83	757.7	30.08	764.1	61.0	16.1	65.5	8	7	5	2	3	2	1	3	.....	.....	.....	5	1.58	40.2
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.38	740.2	29.93	760.3	67.3	19.6	53.5	2	2	18	2	.....	3	2	2	.....	.....	.....	5	2.66	67.5
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.89	759.1	29.99	761.7	63.1	17.3	59.0	4	5	.....	8	9	.....	.....	5	.....	.....	.....	5	2.04	51.8
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	28.90	734.1	29.94	760.4	64.9	18.3	49.7	6	5	2	2	5	5	4	2	.....	.....	.....	3	1.60	40.5
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.65	753.1	29.95	760.8	62.4	16.9	64.8	5	2	4	5	4	1	6	4	.....	.....	.....	5	1.82	46.1
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.68	753.9	29.95	760.7	67.1	19.5	61.8	.....	3	9	10	6	2	1	.....	.....	.....	.....	4	1.24	31.4
Mont Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.80	630.0	29.65	753.0	53.2	11.8	53.8	3	3	6	8	1	3	5	2	.....	.....	.....	5	3.88	98.5
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.80	757.0	29.93	760.1	68.7	20.4	69.1	5	.....	...	.....	1	8	3	14	.....	.....	.....	2	3.42	86.8
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.18	741.2	29.95	760.6	63.9	17.7	55.9	5	5	7	2	4	3	1	4	.....	.....	.....	.....	1.58	40.2
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.83	757.6	29.99	761.7	65.3	18.5	54.4	6	3	2	2	4	2	6	6	.....	.....	.....	6	1.58	42.8
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.85	758.1	29.96	760.9	68.2	20.1	50.8	6	6	1	.....	1	3	10	4	.....	.....	.....	4	0.66	16.7
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.19	538.2	.....	.....	36.1	2.3	.....	.....	2	8	8	5	1	1	.....	6	.....	.....	.....	1.43	36.4
Privas ..... [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.91	734.4	29.93	760.1	66.6	19.2	57.9	9	2	.....	2	10	5	2	.....	1	.....	.....	3	3.07	78.0
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.11	637.7	.....	.....	44.6	7.0	78.7	.....	5	4	7	1	6	2	6	.....	.....	.....	5	3.00	76.3
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	29.91	759.7	29.94	760.5	67.8	19.9	57.7	1	1	4	6	2	2	.....	8	7	.....	.....	5	8.31	211.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.72	754.9	29.94	760.4	65.5	18.6	57.9	2	7	5	2	3	2	7	3	.....	.....	.....	4	2.89	73.5
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.98	710.6	29.95	760.7	63.5	17.5	58.6	2	4	4	3	.....	9	3	2	4	.....	.....	.....	1.92	48.8
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.91	759.8	29.96	761.0	63.0	17.2	57.7	5	3	7	5	1	5	1	4	.....	.....	.....	5	1.55	39.3
Saint Lo	N. 49 06	W. 1 05	0.04 p.m.	134	41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.80	756.9	29.96	761.0	64.9	18.3	49.7	7	5	1	5	1	3	.....	8	1	.....	.....	6	1.46	37.0
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.28	743.8	30.01	762.2	69.1	20.6	55.7	3	8	5	2	.....	10	2	1	.....	.....	.....	4	1.73	43.9
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	29.77	756.2	29.95	760.8	66.2	19.0	48.9	10	4	4	4	4	1	1	3	.....	.....	.....	.....	1.69	42.9
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.47	748.4	29.96	761.0	63.9	17.7	50.8	2	6	4	6	1	.....	2	10	.....	.....	.....	.....	1.50	38.0
Sub-Series.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	0.03 p.m.	131	40	29.84	757.8	29.99	761.7	66.9	19.4	56.4	4	5	12	3	.....	3	3	1	.....	.....	.....	5	4.61	117.2
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.51	724.1	29.93	760.1	63.5	17.5	47.7	1	5	5	2	3	3	.....	11	1	.....	.....	4	2.10	53.4
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.08	738.5	29.92	759.9	66.0	18.9	50.7	1	8	5	3	3	4	2	3	2	.....	.....	4	1.91	48.6
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.76	756.0	29.91	759.6	63.3	17.4	50.9	2	3	8	4	3	7	2	2	.....	.....	.....	6	1.82	46.1
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.42	747.2	29.95	760.6	60.4	15.8	52.6	1	7	10	1	.....	3	6	3	.....	.....	.....	6	1.34	33.9
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.49	749.1	29.94	760.4	66.0	18.9	50.1	1	2	2	9	1	3	.....	13	.....	.....	.....	6	1.84	40.7
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.20	741.7	29.91	759.8	64.4	18.0	50.3	2	11	4	5	5	2	2	.....	.....	.....	.....	6	1.93	49.0
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	.....	.....	29.92	760.0	66.6	19.2	46.6	1	6	3	5	4	5	1	6	.....	.....	.....	5	1.23	31.2
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.53	724.6	29.91	759.8	62.6	17.0	68.5	1	.....	7	16	3	.....	.....	4	.....	.....	.....	5	4.74	120.4
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.84	758.0	29.93	760.3	60.4	15.8	59.7	3	6	7	7	.....	4	3	1	.....	.....	.....	5	1.84	46.8
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.89	759.3	29.91	759.7	57.6	14.2	56.1	4	5	4	3	.....	2	3	4	6	.....	.....	6	0.92	23.5
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.51	749.5	29.92	760.0	64.2	17.9	49.9	.....	7	7	3	3	3	4	4	.....	.....	.....	6	1.81	45.9
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.72	755.0	29.91	759.7	64.0	17.8	53.3	1	3	10	3	1	4	4	4	1	.....	.....	5	1.80	45.8
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.87	758.6	29.91	759.8	52.9	11.6	70.5	3	11	9	1	3	1	1	2	.....	.....	.....	5	1.10	27.9
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28 11	714.1	29.97	761.3	62.4	16.9	52.6	2	11	1	2	.....	1	3	7	4	.....	.....	5	3.24	82.4
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.92	759.9	29.93	760.3	54.9	12.7	64.6	6	3	4	4	.....	2	4	8	.....	.....	.....	6	1.49	37.9
Neustadt. *b*	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.39	746.4	29.91	759.7	66.4	19.1	49.5	2	1	6	4	2	1	3	3	7	.....	.....	6	1.23	31.2
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	28.98	736.2	29.85	758.3	64.8	18.2	48.5	14	2	3	4	.....	1	4	3	.....	.....	.....	5	2.44	62.1
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.93	760.2	29.95	760.8	57.0	13.9	67.9	4	3	11	3	2	4	.....	4	.....	.....	.....	5	1.38	35.0
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.53	750.1	29.90	759.5	73.0	22.8	.....	2	.....	2	5	19	1	.....	2	.....	.....	.....	4	1.04	26.3
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.56	750.8	29.61	752.1	87.5	30.8	74	.....	3	13	13	2	.....	.....	.....	.....	.....	.....	3	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.12	739.7	29.57	751.2	102.4	39.1	22	1	.....	12	13	2	2	.....	1	.....	.....	.....	1	1.16	29.5
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.70	754.5	29.74	755.4	87.0	30.6	69	.....	11	11	9	.....	.....	.....	.....	.....	.....	.....	3	0.33	8.4
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.87	707.9	29.67	753.6	92.4	33.6	34	.....	13	6	11	.....	.....	.....	1	.....	.....	.....	4	1.90	48.3
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.45	747.9	29.72	754.8	95.3	35.2	46	.....	7	6	5	7	2	1	.....	3	.....	.....	6	3.95	100.3
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.21	691.1	29.71	754.6	82.6	28.1	57	.....	.....	.....	.....	3	6	16	6	.....	.....	.....	4	3.07	78.0
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.79	731.3	29.50	749.3	99.1	37.3	23	8	6	6	2	.....	.....	4	1	4	.....	.....	2	3.05	77.5
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.64	727.3	29.50	749.2	97.4	36.3	23	1	3	12	.....	3	1	2	.....	9	.....	.....	2	1.17	29.7
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	28.66	728.0	29.52	749.8	99.4	37.4	20	.....	13	4	8	1	1	1	3	.....	.....	.....	2	0.50	12.7
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.54	724.8	29.52	749.8	105.4	40.8	17	2	8	9	5	2	.....	.....	.....	5	.....	.....	4	0.27	6.9
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.25	717.6	29.54	750.4	102.1	38.9	17	1	17	7	3	2	.....	.....	1	.....	.....	.....	2	0.24	6.1
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.17	740.8	29.53	750.0	97.6	36.4	39	1	8	12	2	1	2	1	3	1	.....	.....	1	0.29	7.4
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.21	741.9	29.51	749.4	102.3	39.1	23	1	17	3	.....	.....	1	1	4	4	.....	.....	1	0.34	8.6
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.34	745.4	29.52	749.8	96.6	35.9	38	2	8	.....	.....	.....	.....	.....	8	12	1	.....	2	0.15	3.8
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.58	700.6	29.52	749.8	93.6	34.2	26	9	11	1	2	1	3	3	1	.....	.....	.....	4	1.54	39.1
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.51	749.5	29.59	751.5	89.3	31.8	63	.....	9	18	2	.....	2	.....	.....	.....	.....	.....	4	4.75	120.6
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.56	750.8	29.58	751.4	87.2	30.7	71	1	.....	1	11	14	3	1	.....	.....	.....	.....	5	1.10	29.5
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.49	749.0	29.61	752.0	89.0	26.7	80	1	.....	.....	.....	1	1	10	8	10	.....	.....	6	15.44	392.2
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.60	751.9	29.69	754.1	82.5	28.1	81	.....	1	3	5	12	5	1	2	2	.....	.....	6	0.42	10.7
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.34	745.2	29.68	753.8	79.3	26.3	83	.....	.....	.....	13	.....	2	.....	16	.....	.....	.....	8	9.46	240.3
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.16	715.3	29.54	750.4	98.6	37.0	29	1	12	10	3	.....	1	.....	3	1	.....	.....	2	2.05	52.1
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.20	716.3	.....	.....	99.0	37.2	26	.....	7	10	3	1	6	4	.....	.....	.....	.....	2	0.08	2.0
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	29.93	760.2	.....	.....	81.3	27.4	74	..*b*	.....	.....	7	14	8	.....	.....	.....	.....	.....	6	7.26	184.4

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for May, 1883. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
ITALIAN.	° ′	° ′																								
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.52	749.9	29.93	760.1	67.5	19.7	56	1	.....	1	11	9	3	4	1	1	.....	.....	7	5.56	141.3
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.41	747.1	29.92	760.0	68.0	20.0	51	1	5	2	10	2	5	2	4	.....	.....	.....	6	3.76	95.4
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.80	757.0	29.91	759.7	67.6	19.8	53	2	.....	3	4	3	10	6	2	1	.....	.....	6	4.11	104.3
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.01	736.8	29.90	759.4	67.6	19.8	58	6	8	1	1	2	3	6	4	.....	.....	.....	6	5.22	132.7
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157	48	29.76	755.8	29.95	760.6	63.5	17.5	66	4	.....	.....	13	4	9	1	.....	.....	.....	.....	6	3.78	95.9
Mondovi *a*	N. 44 23	E. 7 48	0.39 p.m.	1824	556	28.00	711.3	29.88	759.0	63.3	17.4	52	2	9	7	1	2	3	3	3	.....	.....	.....	4	2.07	52.5
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.88	759.0	29.93	760.2	65.3	18.5	76	6	.....	.....	3	1	15	1	5	.....	.....	.....	6	1.39	35.4
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.68	753.8	29.93	760.2	68.5	20.3	50	1	1	9	9	5	.....	1	5	.....	.....	.....	6	2.31	58.0
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.81	757.1	29.89	759.3	65.7	18.7	63	1	3	8	6	8	.....	.....	5	.....	.....	.....	6	2.41	62.0
Rome	N. 41 54	E. 12 29	0.58 p.m.	104	50	29.76	756.0	29.93	760.3	70.9	21.6	44	2	...	15	6	4	.....	.....	1	3	.....	.....	5	1.88	47.8
Lecce	N. 40 22	E. 18 12	1.21 p.m.	230	72	29.67	753.7	29.93	760.1	70.3	21.3	44	4	8	2	6	1	5	2	3	.....	.....	.....	3	0.21	5.3
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.06	738.2	29.93	760.2	72.0	22.2	72	.....	2	7	9	8	5	.....	.....	.....	.....	.....	4	2.78	70.6
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	29.74	755.4	29.93	760.3	68.7	20.4	53	.....	9	3	.....	3	14	.....	.....	2	.....	.....	4	1.08	27.4
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.74	755.3	29.98	761.6	68.5	20.3	47	3	.....	4	1	.....	.....	2	21	.....	.....	.....	4	0.69	17.5
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.89	759.3	29.94	760.4	69.6	20.9	61	6	.....	3	2	5	1	7	7	.....	.....	.....	6	0.12	3.0
Sub-Series.																										
Naples	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.44	747.7	29.95	760.7	68.2	20.1	62.7	2	1	3	15	3	2	2	3	.....	.....	.....	5	2.34	59.5
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	22.13	562.1	.....	.....	35.1	1.7	75.4	.....	1	6	9	1	3	5	6	.....	.....	.....	7	9.57	243.0
Valdobbia *a*	N. 45 47	E. 7 51	0.40 p.m.	8300	2548	22.13	562.1	.....	.....	41.6	5.3	65.0	5	3	1	2	1	8	8	2	.....	.....	.....	8	6.93	176.0
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	29.87	758.6	29.90	759.5	52.3	11.3	79.3	....	1	3	2	2	2	2	.....	19	.....	.....	6	3.96	100.5
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.84	758.0	29.88	758.9	48.8	9.3	80.7	7	3	2	4	5	2	6	2	.....	.....	.....	6	2.37	60.1
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	26	8	29.88	758.9	29.91	759.6	60.4	15.8	82.0	3	1	4	.....	1	.....	7	2	13	.....	.....	5	7.85	199.5
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	29.81	757.2	29.91	759.8	56.7	13.7	81.8	.....	5	2	6	1	8	7	2	.....	4497	7237	6	5.70	144.6
Kagoshima	N. 31 35	E. 130 33	8.50 p.m.	14	4	29.91	759.0	29.92	759.9	64.3	17.9	79.3	5	7	.....	3	.....	1	4	5	6	.....	.....	7	15.56	394.8
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.74	755.4	29.91	759.8	58.8	14.9	78.8	13	1	6	.....	2	....	3	0	.....	3150	5552	6	4.45	112.8
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	29.90	759.3	29.92	760.0	64.3	18.0	79.7	2	6	15	1	2	.....	2	3	.....	5510	8867	6	13.13	333.7
Miasaka	N. 31 56	E. 131 26	8.54 p.m.	26	8	29.90	759.4	29.92	760.1	64.2	17.9	83.9	6	2	7	.....	3	1	5	6	1	.....	.....	6	18.90	480.1
Miyako	N. 39 38	E. 141 59	9.36 p.m.	98	30	29.81	757.2	29.92	760.0	48.7	9.3	83.2	2	1	14	1	4	.....	4	2	3	2019	3298	6	3.51	89.1
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.70	754.4	29.90	759.5	62.9	17.2	80.4	4	1	3	3	.....	3	2	5	10	3121	5023	6	6.60	167.3
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	29.87	758.7	29.91	759.0	54.9	12.7	80.2	7	.....	3	3	1	9	1	7	.....	5917	9522	6	2.58	65.6
Nobiru	N. 38 23	E. 141 11	9.32 p.m.	15	5	29.90	759.4	29.91	759.8	52.5	11.4	84.7	14	2	1	.....	5	2	5	1	1	8205	13205	7	3.40	86.0
Numazu	N. 35 06	E. 138 51	9.23 p.m.	32	10	29.87	758.7	29.91	759.6	59.6	15.3	79.5	2	.....	2	.....	5	1	6	2	13	.....	.....	6	3.63	92.3
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	29.89	759.3	29.91	759.7	61.0	16.1	78.2	3	1	9	1	.....	...	8	8	.....	7385	11885	6	3.34	84.6
Sakai	N. 35 01	E. 133 31	9.01 p.m.	10	3	29.89	759.1	29.90	759.4	58.9	14.9	81	6	1	5	1	.....	.....	6	9	3	.....	.....	5	4.05	102.9
Shimonoseki	N. 33 58	E. 130 56	8.52 p.m.	13	4	29.77	755.9	29.91	759.7	60.6	15.9	81	.....	1	5	2	.....	.....	3	.....	20	.....	.....	6	7.08	179.9
Tokei	N. 35 41	E. 139 46	9.27 p.m.	09	21	29.84	757.8	29.91	759.7	58.3	14.6	81.2	10	3	.....	1	8	3	6	.....	.....	6550	10541	6	4.41	111.9
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.85	758.1	29.90	759.4	62.4	16.9	94.3	4	3	1	.....	4	1	3	5	10	5412	5490	6	3.73	94.6
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.87	758.7	30.06	763.4	75.8	24.3	72.3	1	.....	1	.....	.....	9	15	5	.....	.....	.....	5	6.25	158.8
MEXICAN.																										
Guanajuato	N. 21 01	W. 100 48	5.24 a.m.	6762	2061	23.09	601.7	29.91	759.7	61.3	16.3	74.7	2	.....	3	3	4	1	3	5	10	.....	.....	5	6.61	167.8
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	21.32	617.7	29.98	761.5	59.1	15.1	83.9	2	5	3	5	3	1	2	.....	10	.....	.....	7	6.40	162.6
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.68	754.0	29.94	760.6	69.8	21.0	86.2	2	7	3	.....	.....	....	13	6	.....	.....	.....	6	1.83	46.5
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Morelia	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Zacatecas	N. 22 44	W. 102 20	5.18 a.m.	8100	2469	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sub-Series.																										
Altata *d*	N. 24 40	W. 107 55	4.56 a.m.	?	?	.....	.....	.....	.....	66.7	19.3	86.8	4	4	.....	1	2	3	4	7	2	.....	.....	4	0.19	4.8
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.97	761.2	29.97	761.2	58.6	14.8	.....	9	5	7	3	2	2	2	1	.....	.....	.....	.....	2.65	67.2
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.88	758.9	29.93	760.3	57.2	14.0	.....	5	8	4	1	6	1	5	1	.....	.....	.....	.....	1.55	39.4
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.95	760.7	29.95	760.7	53.4	11.9	.....	3	8	3	9	1	.....	.....	7	.....	.....	.....	.....	1.03	26.1
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.96	760.9	29.96	760.9	60.3	15.7	58.1	5	5	8	4	1	....	1	3	4	.....	.....	.....	1.66	42.3
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.91	759.8	29.96	761.0	62.4	16.9	61.6	6	7	6	3	2	5	1	1	.....	.....	.....	5	1.45	36.8
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7 15 p.m.	?	?	29.84	758.0	.....	.....	79.9	26.6	86.0	16	1	.....	.....	1	.....	2	11	.....	.....	.....	5	4.36	110.8
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.77	756.2	29.84	757.8	51.3	10.7	60.5	2	8	3	2	13	3	.....	.....	.....	.....	.....	6	7.00	177.8
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.76	755.8	29.80	750.8	50.0	10.0	64.4	6	3	1	10	6	....	1	1	3	.....	.....	7	3.99	100.5
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.66	753.4	29.81	757.1	57.7	14.3	46.8	2	1	1	10	12	1	.....	4	.....	.....	.....	5	1.75	44.5
Gjaesvaer	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.84	757.8	29.86	758.4	44.2	6.8	.....	1	1	2	1	4	6	5	5	6	.....	.....	8	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.74	755.4	29.79	756.6	46.9	8.3	66.8	2	...	.....	10	2	1	2	6	8	.....	.....	6	4.00	101.5
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	29.97	761.1	30.12	765.1	60.8	16.0	77.8	12	4	6	.....	.....	1	2	6	.....	.....	.....	4	3.51	89.2
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	28.97	735.7	29.95	760.7	65.3	18.5	61.4	1	2	4	7	8	1	5	3	.....	.....	.....	6	5.55	140.9
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	29.98	761.5	30.07	763.8	64.9	18.3	66.4	.....	.....	5	19	3	3	.....	1	.....	.....	.....	7	3.95	92.0
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	312	95	29.66	753.3	29.99	761.8	62.1	16.7	67.9	5	3	.....	8	8	.....	2	5	.....	.....	.....	6	4.33	110.0
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.04	762.9	30.11	764.7	62.2	16.8	68.0	15	4	1	1	1	.....	3	6	.....	.....	.....	5	4.18	106.3
St. Paul de Loandao	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.71	754.7	29.91	759.8	78.8	26.0	89.3	1	5	3	6	.....	1	.....	.....	.....	.....	.....	4	0	0
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.22	640.0	29.97	761.1	46.0	7.8	83.1	.....	2	3	3	2	3	15	2	1	.....	.....	8	14.08	357.5
RUSSIAN.																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.80	731.5	29.84	758.0	64.0	17.8	33.5	1	.....	4	6	4	2	5	9	.....	.....	.....	4	1.18	30.1
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.87	758.8	29.89	759.3	52.7	11.5	58.5	1	8	4	2	1	5	6	1	3	.....	.....	7	1.29	32.8
Ashuruda	N. 36 54	E. 53 55	3.44 p.m.	79	24	29.98	761.5	29.89	759.1	74.8	23.8	72.7	4	10	12	1	1	.....	.....	1	2	.....	.....	6	0.78	19.8
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.00	762.0	29.92	759.9	76.8	24.9	38.6	3	2	4	4	1	10	5	1	1	.....	.....	5	0.99	25.2
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	29.95	760.8	29.91	759.6	71.2	21.8	64.0	7	1	.....	3	11	3	1	3	2	.....	.....	2	0.01	0.3
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.46	748.4	29.96	761.0	52.9	11.6	39.0	.....	11	5	4	1	3	1	5	1	.....	.....	6	1.01	25.6
Bieloserskk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.42	747.2	29.88	758.9	50.8	13.8	69.8	8	4	6	2	2	3	2	4	.....	.....	.....	8	2.75	69.9
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.62	752.3	29.86	758.4	56.1	13.4	65.0	2	4	5	5	3	3	4	5	.....	.....	.....	8	2.94	67.1
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.98	736.1	29.92	760.0	62.6	17.0	42.2	4	3	6	3	3	0	1	1	.....	.....	.....	7	0.50	12.8
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.39	746.6	29.83	757.6	70.7	21.5	45.9	2	4	4	6	1	3	8	3	.....	.....	.....	7	3.14	79.8
Irkutsk	N. 52 16	E. 104 16	7.05 p.m.	1536	468	28.29	718.6	29.93	760.2	48.4	9.1	54.1	6	9	.....	1	1	3	.....	1	10	.....	.....	7	0.50	12.8
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.03	752.6	29.89	759.2	69.3	20.7	44.1	4	3	8	3	3	3	4	2	1	.....	.....	5	1.07	42.5
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	29.83	757.7	29.88	759.0	46.9	8.3	65.7	2	1	3	4	.....	3	6	11	1	.....	.....	8	0.58	14.6
Kertch	N. 45 21	E. 36 29	2.34 p.m.	187	6?	29.81	758.0	29.87	758.6	65.8	18.8	68.5	2	1	1	3	6	1	1	.....	9	.....	.....	5	0.04	0.9
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.18	741.1	29.79	756.7	64.6	18.1	56.9	6	2	4	3	1	8	4	3	.....	.....	.....	6	3.30	83.9
Kos'oy	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.36	745.7	29.88	758.9	68.0	20.0	54.6	3	4	3	4	6	4	2	4	1	.....	.....	6	1.94	49.4
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	29.87	758.7	29.89	759.3	50.2	10.1	70.1	1	8	9	4	4	2	2	1	.....	.....	.....	4	1.93	49.0
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.62	752.3	29.80	756.8	73.0	22.8	45.3	.....	2	3	7	4	5	7	3	.....	.....	.....	7	3.30	83.7
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.40	746.8	29.86	758.4	69.0	18.9	49.5	4	2	1	9	7	3	.....	4	1	.....	.....	6	1.20	30.6
Nikolniev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.79	756.6	29.86	758.4	70.9	21.6	61.3	.....	1	3	4	7	1	2	2	11	.....	.....	4	1.60	40.5
Nikolnievsk *b*	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.80	757.0	29.89	759.2	37.0	2.8	79.9	.....	1	.....	.....	.....	3	9	3	13	.....	.....	7	0.78	19.8
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	29.67	753.5	29.81	757.1	67.5	19.7	50.7	.....	4	.....	5	5	3	.....	2	12	.....	.....	4	1.83	46.4
Petro-Alexandrovsk	N. 41 48	E. 61 05	4.12 p.m.	328	100	29.53	750.1	29.86	758.5	86.0	30.0	21.4	3	8	9	.....	.....	2	.....	5	4	.....	.....	5	0.24	6.2
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.65	751.0	29.84	758.0	52.5	11.4	68.0	1	3	4	3	.....	13	3	4	.....	.....	.....	7	3.65	92.7
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.36	745.7	29.85	758.1	60.8	16.0	62.4	4	6	4	4	4	2	4	3	.....	.....	.....	6	4.53	115.1
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	29.87	758.7	29.90	759.5	69.8	21.0	85.8	1	7	4	6	3	.....	8	.....	2	.....	.....	4	1.10	27.8
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	29.83	757.7	29.85	758.3	53.8	12.1	59.4	1	13	2	2	3	3	4	3	.....	.....	.....	7	2.14	54.4
Samarkand *b*	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.48	698.0	29.83	757.7	76.6	24.8	44.6	2	2	1	2	6	.....	1	....	15	.....	.....	3	0.08	2.1
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.34	745.1	29.98	761.4	63.9	17.7	33.4	5	7	7	3	1	3	.....	4	1	.....	.....	3	0.34	8.7
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	423?	42?	29.65	753.1	29.80	757.0	64.4	18.0	66.5	.....	11	5	9	4	1	.....	.....	1	.....	.....	6	1.40	35.5
Sturol Bykhov	N. 53 31	E. 30 16	2.09 p.m.	423?	129?	29.42	747.2	29.87	758.6	62.4	16.9	59.2	5	3	1	3	5	5	1	8	.....	.....	.....	9	4.10	105.0
Tashkend	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.22	716.8	29.79	756.7	80.6	27.0	32.0	4	4	.....	1	.....	.....	.....	1	21	.....	.....	5	0.20	5.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
RUSSIAN.—Cont'd	° ′	° ′																								
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1313	409	28.51	724.2	29.87	758.7	75.6	24.2	41.4	3	8	2	2	6	6	3	.....	1	.....	.....	5	1.65	41.8
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.36	695.0	29.76	756.0	69.4	20.8	43.7	1	3	5	3	3	1	4	5	6	.....	.....	5	0.63	16.1
Viatka *a*	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.24	742.7	29.86	758.3	61.7	16.5	53.4	1	5	5	4	4	2	3	2	4	.....	.....	4	1.58	40.0
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.47	748.5	29.89	759.2	59.5	15.3	53.2	8	6	6	4	1	1	2	3	.....	.....	.....	6	3.27	83.1
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.69	754.2	29.98	761.6	38.5	3.6	65.1	1	1	18	4	3	2	1	.....	1	.....	.....	7	1.58	40.3
SCOTTISH.																										
Monach Light H.	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.88	758.9	48.9	9.4	92.3	4	2	5	4	8	.....	.....	7	1	.....	.....	8	3.00	76.2
North Unst	N. 60 51	W. 0 53	0.04 p.m.	230	70	.....	.....	29.78	756.4	.....	.....	.....	9	1	4	9	6	1	.....	1	.....	.....	.....	6	.....	.....
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	98	30	29.89	759.3	30.00	762.0	68.0	20.0	55	.....	.....	3	10	6	6	6	.....	.....	2211	3558	3	0.78	19.9
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	29.93	760.1	29.98	761.6	68.9	20.5	57	.....	25	1	1	2	2	.....	.....	.....	2037	3278	6	2.27	57.7
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.03	686.6	29.96	760.9	60.6	15.9	51	3	1	4	7	4	.....	3	7	2	4596	7396	5	2.89	73.4
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.77	705.3	29.95	760.7	66.4	19.1	50.8	.....	2	2	14	3	6	1	3	.....	71726	11543	6	2.59	65.8
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.82	757.3	29.95	760.8	66.0	18.9	60.0	.....	2	1	1	8	6	6	7	.....	1960	3154	6	1.20	30.6
Oviedo	N. 43 23	W. 5 49	11.45 a.m.	800	244	29.15	740.5	30.01	762.2	54.0	12.2	76	15	4	2	.....	.....	1	9	.....	.....	2787	4485	8	4.37	110.9
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.04	737.5	29.92	760.0	62.1	16.7	65.5	6	3	1	8	3	2	.....	5	3	5987	9635	7	5.05	128.3
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.96	761.1	30.03	762.8	75.9	24.4	78.9	.....	1	.....	1	1	10	12	6	.....	.....	.....	3	1.82	46.3
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.81	757.2	29.87	758.7	82.4	28.0	79.5	2	.....	.....	4	3	13	5	4	.....	3635	6732	4	4.87	123.7
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.94	760.4	30.04	762.9	67.2	19.6	68	1	1	6	2	2	3	10	5	.....	.....	.....	4	0.89	22.6
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.93	760.1	30.02	762.4	80.1	26.7	87	.....	.....	.....	.....	2	11	2	1	15	.....	.....	3	5.02	127.5
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.82	757.5	29.86	758.5	49.5	9.7	63	4	.....	.....	5	10	4	2	6	.....	.....	.....	5	1.35	34.2
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.80	756.8	29.85	758.1	51.8	11.0	60	2	2	.....	14	4	2	2	5	.....	.....	.....	6	1.11	28.1
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.78	756.4	29.83	757.7	52.7	11.5	58	4	2	1	1	9	1	4	5	4	.....	.....	5	1.13	28.7
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.68	753.8	29.85	758.3	55.6	13.1	51	5	1	3	9	5	2	3	2	1	.....	.....	7	0.66	16.9
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.79	756.7	29.85	758.2	50.5	10.3	68	2	6	10	5	2	2	1	3	.....	.....	.....	4	1.41	35.7
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.72	755.0	29.81	757.2	55.6	13.1	55.3	5	3	3	9	5	1	1	4	.....	.....	.....	7	0.81	20.6
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.54	724.9	29.95	760.6	61.7	16.5	55.1	15	1	2	4	7	1	1	.....	.....	.....	.....	6	1.96	49.8
TURKISH.																										
Constantinople	N 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.89	759.3	70.0	21.1	58	9	2	.....	7	2	4	2	5	.....	.....	.....	5	1.00	25.3
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.03	762.8	71.6	22.0	.....	1	9	3	13	2	1	.....	2	.....	.....	.....	4	0.83	21.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.93	760.1	74.5	23.6	65.0	2	1	10	13	1	.....	.....	4	.....	.....	.....	3	0.35	8.9
Samakov *c*	N. 42 12	E. 23 45	1.42 p.m.	?	?	26.69	677.9	.....	.....	63.5	17.5	70.1	.....	.....	4	.....	.....	.....	.....	.....	24	.....	.....	7	3.70	94.0
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	29.90	759.4	29.98	761.5	56.2	13.4	61.6	6	4	3	2	13	1	.....	2	.....	5178	8333	7	3.20	81.3
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.29	744.0	29.95	760.7	42.5	5.8	73.1	2	4	11	1	2	3	3	1	4	7544	12141	6	4.56	115.8
Apache, Fort	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	25.01	635.2	29.83	757.7	39.5	4.2	64.2	.....	.....	.....	1	.....	1	19	10	.....	6610	10638	2	0.86	21.8
Assinnaboine, Ft.	N. 48 32	W. 109 42	4.49 a.m.	2710	826	27.16	689.9	30.00	762.0	40.3	4.6	70.6	.....	1	1	13	4	1	5	5	1	8092	13023	6	0.65	16.5
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.90	734.0	30.07	763.8	61.5	16.4	76.6	1	5	9	2	6	4	3	1	.....	5931	9545	4	2.00	50.8
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	29.97	761.2	29.98	761.5	54.8	12.7	81.1	4	3	3	3	4	2	4	8	.....	7777	12512	4	1.78	45.2
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	29.89	759.2	30.08	764.0	63.4	17.4	77.4	3	4	4	1	4	5	1	1	8	2801	4508	5	2.47	62.7
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	29.98	761.5	30.03	762.7	59.1	15.1	65.9	5	4	6	3	2	2	2	6	1	4993	8035	5	1.22	31.0
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	20	6	29.96	761.0	29.98	761.5	55.2	12.9	82.0	3	4	2	4	1	3	9	5	.....	10660	17155	4	1.97	50.0
Behring Id	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.79	756.7	29.81	757.2	33.7	0.9	.....	7	7	3	1	6	1	3	3	.....	10388	16718	10	0.38	9.7
Bennett, Fort	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.37	720.6	29.93	760.2	44.4	6.9	87.1	6	7	2	.....	.....	7	.....	4	5	6875	11064	7	2.35	59.7
Benton, Fort	N. 47 50	W. 110 40	4.45 a.m.	2700	823	27.19	690.6	29.98	761.5	41.8	5.4	69.0	.....	1	.....	4	2	1	1	3	19	4929	7932	4	3.31	84.1
Billings	N. 45 49	W. 108 30	4.54 a.m.	3115?	949?	26.72	678.7	29.90	759.4	40.8	4.9	80.3	4	1	1	3	1	.....	5	6	10	5535	8907	7	3.62	91.9
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.16	715.3	29.95	760.7	42.5	5.8	77.2	3	7	1	.....	1	2	8	6	3	7476	12031	5	1.15	29.2
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	29.96	761.0	29.99	761.7	51.6	10.9	82.8	4	5	2	8	3	1	1	7	.....	9725	14041	4	2.89	73.4
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.15	689.6	29.99	761.7	45.1	7.3	79.2	9	8	7	.....	.....	2	.....	3	2	3899	6275	4	2.12	53.8
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.83	757.7	29.99	761.7	53.9	12.2	76.1	4	5	7	5	1	3	1	5	.....	6581	10591	5	5.11	129.8
Brownsville	N. 25 53	W. 97 26	5.38 a.m	43	13	29.87	758.7	29.91	759.7	74.4	23.6	84.4	1	.....	1	1	13	6	4	2	3	7261	11685	5	0.83	21.1
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	696	212	29.21	741.9	29.95	760.7	47.7	8.7	76.4	4	3	2	7	7	2	1	5	.....	7934	12768	7	6.45	163.8
Buford, Fort *d*	N. 48 00	W. 103 56	5.12 a.m.	1900	579	28.04	712.2	30.02	762.5	40.9	4.9	77.0	2	2	4	.....	1	3	9	6	.....	7085	11402	4	0.59	15.0
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.67	753.6	29.96	761.0	49.8	9.9	70.5	11	.....	1	.....	13	.....	.....	.....	6	5976	9617	7	4.03	117.6
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.63	752.6	30.03	762.7	60.0	15.6	75.9	6	3	1	8	4	3	2	4	.....	7725	12432	4	3.85	97.8
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	29.99	761.7	30.01	762.2	69.5	15.8	78.7	6	2	3	8	4	.....	2	4	2	8759	14096	5	3.20	81.3
Cape May *d*	N. 38 56	W. 74 58	7.08 a.m.	27	8	29.95	760.7	29.98	761.5	57.5	14.2	78.7	1	1	3	2	5	2	7	0	.....	11320	18217	4	1.17	29.7
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.29	744.0	29.97	761.2	48.3	9.1	89.5	5	10	.....	1	.....	6	.....	1	8	.....	.....	3	1.67	42.4
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.03	762.7	30.05	763.3	72.4	22.4	73.2	6	4	1	1	5	5	4	4	.....	6996	11259	4	1.97	50.0
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	29.98	761.5	30.04	763.0	67.5	19.7	80.1	3	4	2	14	.....	.....	1	5	2	6434	10354	4	8.62	218.9
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.19	741.4	30.03	762.7	62.9	17.2	66.9	5	3	.....	9	4	1	1	5	3	3522	5668	5	1.39	35.3
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.25	742.9	30.06	763.5	59.7	15.4	77.8	5	5	7	4	3	1	3	2	1	4549	7321	4	2.45	62.2
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6089	1856	23.95	668.3	29.84	757.9	38.6	3.7	74.1	7	7	0	6	1	1	.....	3	.....	8103	13040	6	3.68	93.5
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.23	742.4	29.93	760.2	50.1	10.1	74.7	3	6	2	7	3	4	3	2	.....	6705	10790	7	7.32	185.9
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	18	5	29.97	761.2	29.99	761.7	57.5	14.2	81.1	3	6	.....	1	9	1	3	8	.....	8161	13134	6	1.90	48.3
Cincinnati	N. 39 06	W. 84 30	6.30 a.m.	620	189	29.35	745.5	30.00	762.0	57.6	14.2	71.9	1	8	2	3	4	8	2	3	.....	4692	7551	5	5.49	139.4
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.23	742.4	29.96	761.0	51.0	10.6	67.5	8	1	4	2	7	6	.....	2	1	6783	10916	6	6.50	165.1
Coleman City	N. 31 53	W. 99 18	5.31 a.m.	1709	521	28.10	715.3	29.95	760.7	60.9	16.1	83.0	3	2	1	1	9	9	1	4	1	6918	11133	5	5.74	145.8
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.12	739.6	29.96	761.0	53.7	12.1	70.6	4	3	9	1	7	3	3	.....	.....	6212	9997	6	6.38	162.1
Concho, Fort	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.03	711.9	29.93	760.2	61.3	16.3	82.1	2	1	1	1	10	2	2	4	8	8119	13066	6	5.35	135.9
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.27	743.4	29.91	759.7	52.5	11.4	76.6	3	6	5	4	3	2	5	3	.....	7708	12405	7	5.46	138.7
Davis, Fort	N. 30 38	W. 103 56	5.12 a.m.	4940	1506	25.18	639.6	29.90	759.4	58.2	14.6	59.8	5	2	.....	5	2	1	1	.....	15	4210	6775	2	1.00	25.4
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1660	506	28.24	717.3	30.00	762.0	48.2	9.0	70.8	1	1	.....	15	7	.....	4	3	.....	4574	7361	6	2.90	73.7
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.30	642.6	29.82	757.4	40.1	4.5	83.7	.....	2	1	2	3	.....	.....	9	14	2746	4419	6	10.33	262.4
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	29.98	761.5	30.00	762.0	56.4	13.6	84.3	5	3	3	5	3	2	2	8	.....	11980	19280	4	0.91	23.1
Denver *a*	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.66	626.4	29.82	757.4	46.4	8.0	73.3	5	.....	1	3	9	1	2	1	8	4883	7858	5	4.30	109.2
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.03	737.3	29.92	760.0	50.4	10.2	79.2	11	3	1	3	2	6	2	1	2	5732	9225	7	9.76	247.9
Detroit *a*	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.25	742.9	29.95	760.7	49.0	9.8	78.6	5	4	5	5	3	4	4	1	.....	8258	13290	6	5.11	129.8
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2512	766	27.32	693.9	29.87	758.7	50.7	10.4	75.9	4	4	5	5	2	2	1	5	3	9709	15625	3	5.41	137.4
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.22	742.2	29.92	760.0	49.8	9.9	74.0	4	0	3	2	1	2	6	.....	7	4023	6458	7	7.13	181.1
Duluth	N. 46 48	W. 92 06	6.00 a.m.	644	184	29.22	742.2	29.97	761.2	44.1	6.7	70.1	2	5	5	1	2	.....	.....	10	0	7523	12107	6	2.07	52.6
Eagle Pass	N. 28 44	W. 100 29	5.26 a.m.	780	238	29.16	740.7	29.96	761.0	71.1	21.7	71.9	.....	2	1	.....	1	20	2	1	4	5466	8797	4	0.98	24.9
Eagle Rock	N. 43 32	W. 111 55	4.40 a.m.	4650	1415	25.22	640.6	29.90	759.4	38.8	3.8	71.0	14	.....	2	9	2	.....	.....	.....	4	7252	11671	4	1.12	28.4
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.92	760.0	29.99	761.7	45.7	7.6	79.5	5	5	4	2	6	1	3	4	1	6211	9995	5	6.62	168.2
Elliott, Fort	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.20	690.9	29.90	759.4	51.2	10.7	65.7	5	2	1	2	8	5	.....	6	2	11728	18874	3	4.56	115.8
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3769	1146	26.25	666.7	29.89	759.2	60.1	15.6	41.0	2	2	5	4	.....	2	5	.....	11	4550	7322	1	0.02	0.5
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.24	742.7	29.96	761.0	50.9	10.5	72.5	2	4	2	9	3	4	.....	6	1	7305	11853	6	6.29	159.8
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	612	186	29.28	743.7	29.94	760.5	42.8	6.0	71.5	7	0	4	.....	4	2	2	1	5	7120	11468	6	1.96	49.8
Fredericksburg	N. 30 17	W. 98 52	5.32 a.m.	1700	518	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galveston	N. 29 18	W. 94 47	5.49 a.m.	48	15	29.95	760.7	29.99	761.7	72.8	22.7	81.5	1	2	.....	1	14	5	2	5	1	9198	14802	7	6.01	152.7
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.27	743.4	29.93	760.2	48.0	8.9	75.4	5	2	3	3	5	1	4	7	2	8559	13774	6	6.02	152.9
Grant, Fort	N. 32 39	W. 109 57	4.48 a.m.	4856	1481	25.22	640.6	29.82	757.4	54.1	12.3	38.9	6	4	.....	.....	1	5	0	2	3	5953	9578	1	1.16	29.5
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	19	6	29.99	761.7	30.01	762.2	63.1	17.3	83.5	6	3	2	8	2	2	1	7	.....	13978	22495	5	7.81	198.4
Helena	N. 46 34	W. 112 04	4.40 a.m.	4100	1250	25.77	654.5	29.94	760.5	42.5	5.8	68.6	.....	1	6	20	1	.....	1	.....	2	5258	8462	5	1.54	39.1
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.55	725.2	29.90	759.4	44.2	6.8	79.6	5	8	2	1	1	7	5	2	.....	8944	14394	6	4.45	113.0
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.16	740.7	29.95	760.7	55.8	13.2	70.3	1	9	1	9	3	5	1	1	1	4802	7824	6	4.02	102.1
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	29.93	760.2	29.96	761.0	72.9	22.7	84.4	2	.....	2	.....	14	7	1	4	1	10838	17441	5	3.59	91.2
Jacksboro	N. 33 12	W. 98 10	5.35 a.m.	1120	341	28.79	731.3	29.94	760.5	62.7	17.1	59.9	6	1	.....	4	4	14	1	1	.....	7570	12182	4	2.72	69.1
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.02	762.5	30.06	763.5	70.8	21.6	74.1	1	2	3	4	6	5	2	4	4	3944	6348	4	3.16	80.3
Keogh, Fort	N. 46 22	W. 105 56	5.04 a.m.	2372	723	27.46	697.5	29.91	759.7	43.1	6.2	76.5	4	3	3	1	.....	5	2	3	10	6804	10950	6	2.80	71.1
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.27	743.4	29.92	760.0	55.5	13.1	75.5	4	4	4	6	2	4	3	3	1	7754	12479	6	4.87	123.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for May, 1883. Mean Barometer. Actual.		Reduced.		Mean Temperature.		Mean Rel. Humidity.	Wind. Directions.									Total Movement.		Average Cloudiness.	Total Precipitation.	
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																								
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.00	762.0	30.02	762.5	78.7	25.9	72.3	2	1	1	2	.....	6	5	11	3	6245	10050	5	5.58	141.7
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.01	762.2	30.03	762.7	60.9	16.1	83.4	1	2	3	10	1	1	.....	13	.....	12926	20801	5	7.76	197.1
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.04	737.6	30.00	763.5	57.1	13.9	81.5	4	.....	.....	7	.....	1	1	12	6	4683	7537	5	3.31	84.1
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.14	740.1	29.90	759.4	49.5	9.7	67.8	9	3	5	1	7	3	1	2	.....	6811	10901	6	3.87	98.3
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.06	738.1	29.94	760.5	54.0	12.2	73.7	3	6	2	1	8	3	3	2	3	7066	11370	5	7.33	186.2
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.16	740.7	30.00	762.0	49.5	9.7	79.2	.....	2	3	.....	1	5	11	1	8	2481	3993	5	2.01	51.1
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.68	753.9	29.98	761.5	61.9	16.6	86.1	4	3	1	.....	6	.....	4	2	11	4325	6900	5	4.17	105.9
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	371	113	29.61	752.1	30.01	762.2	53.8	12.1	86.3	2	.....	7	.....	2	2	5	8	5	4871	7839	5	2.02	51.3
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.42	747.3	29.97	761.2	58.5	14.7	76.0	4	5	3	3	11	1	2	1	1	6818	10972	6	2.59	65.8
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.32	744.7	30.00	762.0	62.0	16.7	61.5	.....	4	2	9	3	2	2	3	6	3496	5625	3	1.19	30.2
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.29	744.0	29.94	760.5	42.1	5.6	69.6	3	8	6	1	1	4	6	1	1	7956	12802	6	4.49	114.0
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.01	762.2	30.02	762.5	63.7	17.6	83.5	7	7	2	8	4	1	.....	2	.....	10209	16526	6	6.67	169.4
Maginnis Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.55	649.0	29.96	761.0	40.7	4.8	57.4	.....	4	8	1	.....	8	5	5	.....	7803	12655	6	1.73	43.9
McKavett, Fort	N. 30 48	W. 100 07	5.28 a.m.	2240	683	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.22	742.2	29.94	760.5	43.1	6.2	64.9	6	11	4	2	3	1	1	2	1	6532	10511	6	2.65	67.3
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.67	753.6	30.00	762.0	62.9	17.2	77.6	2	5	2	2	5	7	1	4	3	4802	7824	5	6.55	166.4
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.19	741.4	29.93	760.2	47.5	8.6	74.6	4	6	4	3	1	6	1	6	.....	9653	15536	7	5.07	144.0
Missoula, Fort	N. 46 50	W. 114 07	4.32 a.m.	3140	957	26.70	678.2	30.00	762.0	47.1	8.4	65.9	5	9	.....	2	3	.....	2	6	4	4324	6943	6	0.73	18.5
Mobile	N. 30 41	W. 88 02	6.16 a.m.	41	12	30.02	762.5	30.06	763.5	66.8	19.3	81.1	7	6	3	3	4	4	1	2	1	4763	7666	4	8.51	216.2
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.80	756.9	30.03	762.7	63.9	17.7	78.6	1	6	2	4	1	4	.....	4	9	3591	5779	4	2.02	66.5
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	28.96	735.6	29.94	760.5	39.7	4.3	82.0	11	2	1	1	3	3	4	4	2	9227	14848	5	3.59	91.2
Morgantown	N. 39 40	W. 79 50	6.49 a.m.	963	293	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.71	602.2	29.89	759.2	31.4	—0.3	91.6	1	16	2	5	6	1	.....	.....	.....	25410	40893	4	9.10	231.1
Nashville	N. 36 10	W. 86 47	6.21 a.m.	507	154	29.45	748.0	30.02	762.5	59.9	15.5	77.3	1	5	2	2	5	7	3	5	1	5549	8930	4	4.79	121.7
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	29.87	758.7	29.99	761.7	53.4	11.9	76.8	7	3	.....	4	4	3	2	6	2	5202	8408	5	4.52	114.8
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	29.96	761.0	30.01	762.2	56.1	13.4	72.5	7	1	1	4	4	2	4	5	3	4527	7284	4	5.73	145.5
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	29.98	761.5	30.03	762.7	70.4	21.3	80.2	4	2	1	.....	8	9	5	2	.....	5519	8882	4	5.41	137.4
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New York	N. 40 43	W. 74 00	7.12 a.m.	104	50	29.83	757.7	30.01	762.2	55.5	13.1	73.5	4	1	5	2	4	1	5	4	5	5474	8810	4	3.03	77.0
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	29.98	761.5	30.01	762.2	63.0	17.2	75.3	6	1	4	10	.....	1	2	5	2	5910	9511	4	4.09	103.9
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	26.99	685.5	29.86	758.4	47.0	8.3	80.4	1	5	9	1	1	5	8	1	.....	9488	15269	6	4.07	103.4
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	30.03	762.7	30.07	763.8	44.1	6.7	87.4	4	.....	2	3	6	.....	.....	.....	16	1408	2266	6	2.55	64.8
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.76	730.5	29.92	760.0	52.0	11.1	80.0	6	5	2	3	3	6	1	2	3	6626	10662	7	11.29	286.8
Ogdaamie	N. 71 17	W. 156 40	1.41 a.m.	17	5	29.87	758.7	29.89	759.2	18.0	—7.8	99.3	6	1	1	6	1	2	7	7	.....	9199	14804	7	0.31	7.9
Oswego	N. 43 29	W. 76 35	7.02 a.m.	304	93	29.62	752.3	29.95	760.7	48.8	9.3	74.0	2	.....	9	.....	10	3	2	5	.....	7013	11287	6	7.03	178.6
Palestine	N. 31 45	W. 95 40	5.45 a.m.	523	162	29.46	748.3	30.01	762.2	66.4	19.1	85.8	3	3	.....	.....	16	2	3	4	.....	7831	12602	6	2.85	72.4
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.03	762.7	30.06	763.5	68.2	20.1	79.1	5	8	1	3	7	3	2	2	.....	6089	9799	5	7.47	189.7
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	92	28	29.91	759.7	30.01	762.2	57.4	14.1	86.0	6	3	4	7	2	1	3	5	.....	5798	9330	4	1.91	48.5
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.74	450.6	29.80	756.9	15.6	—9.1	87.8	1	9	6	10	.....	1	.....	4	.....	10762	20974	4	2.80	71.1
Pioche	N. 37 56	W. 114 26	4.30 a.m.	6110	1862	23.99	609.3	29.91	759.7	43.5	6.4	57.7	6	9	.....	2	11	3	.....	.....	.....	6412	10318	4	0.33	8.4
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	762	232	29.17	740.9	29.97	761.2	54.7	12.6	71.6	3	4	2	3	4	3	3	2	6	3968	6369	6	5.38	136.6
Poplar River	N. 48 08	W. 105 10	5.07 a.m.	2030	619	27.85	707.4	29.97	761.2	.....	.....	.....	1	1	1	12	.....	15	.....	1	.....	.....	.....	1	0.08	17.3
Port Eads	N. 29 09	W. 89 15	6.11 a.m.	7	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Huron	N. 43 00	W. 82 26	6.38 a.m.	633	193	29.26	743.2	29.94	760.5	46.1	7.8	81.4	8	.....	3	7	6	3	2	2	.....	8843	14232	6	5.69	144.5
Portland, Maine	N. 43 39	W. 70 15	7.27 a.m.	45	14	29.93	760.2	29.98	761.5	51.7	10.9	71.8	4	2	2	3	4	3	6	7	.....	6006	9664	6	2.91	73.9
Portland, Oreg	N. 45 32	W. 122 43	3.57 a.m.	67	20	29.96	761.0	30.03	762.7	49.8	9.9	81.9	6	5	2	1	10	.....	2	.....	5	4284	6895	6	1.67	42.4
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	61.7	16.2	81.7	2	2	3	9	2	1	1	11	.....	13540	21790	6	10.57	268.5
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5340	1628	24.72	627.9	29.82	757.4	43.1	6.2	54.6	.....	1	1	7	15	.....	1	.....	6	6608	10634	1	0.15	3.8
Provincetown	N. 42 03	W. 70 11	7.27 a.m.	26	8	29.96	761.0	29.99	761.7	52.7	11.5	76.7	5	5	3	8	2	3	3	2	.....	6975	11225	5	3.45	87.6
Punta Rassa	N. 26 29	W. 82 01	6.40 a.m.	13	4	30.03	762.7	30.04	763.0	72.2	22.3	75.5	3	2	1	2	.....	4	10	9	.....	7264	11691	4	2.62	66.5
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	350	106	29.62	752.3	29.97	761.2	55.2	12.9	76.0	13	5	.....	.....	9	.....	1	.....	3	5674	9132	4	2.96	75.2
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.30	744.2	29.96	761.0	47.6	8.7	76.5	2	4	6	11	3	.....	3	2	.....	9687	15588	6	6.53	165.9
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.49	749.0	30.04	763.0	46.7	8.2	83.7	1	2	.....	2	.....	.....	4	1	21	2395	3854	5	2.29	58.2
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	65	20	29.89	759.2	29.97	761.2	55.3	12.9	81.5	4	4	.....	3	6	12	.....	1	1	5204	8375	4	2.85	72.4
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	568	173	29.39	746.5	29.98	761.5	55.5	13.1	91.2	7	5	3	1	9	4	2	.....	.....	9362	15065	6	2.89	73.4
Saint Michael, Ft	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.73	755.1	29.76	755.9	33.4	0.8	92.4	5	3	1	2	1	5	1	10	3	5191	8354	7	0.63	16.0
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	811	247	29.06	738.1	29.90	759.4	45.7	7.6	77.9	4	3	3	.....	5	3	2	4	7	6753	10868	7	2.12	53.8
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.10	739.1	29.96	761.0	39.1	3.9	82.8	1	15	.....	3	4	3	.....	5	.....	6857	11034	6	2.13	54.1
Salt Lake City c.	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.59	650.0	29.91	759.7	50.4	10.2	45.9	.....	1	1	1	1	6	.....	1	17	3350	5391	3	0.98	24.9
San Antonio	N. 29 25	W. 98 25	5.34 a.m.	673	205	29.27	743.4	29.97	761.2	68.5	20.3	80.8	5	.....	.....	1	6	9	6	1	3	4557	7333	7	0.29	7.4
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.90	759.4	29.97	761.2	55.8	13.2	78.6	7	6	2	4	3	2	3	4	.....	5086	8183	5	1.14	29.0
Sandusky	N. 41 25	W. 82 40	6.37 a.m.	639	195	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	29.96	761.0	29.99	761.7	55.5	13.1	79.6	4	6	4	5	3	2	1	6	.....	10534	16953	4	4.66	118.4
Sanford	N. 43 05	W. 89 24	6.10 a.m.	949	289	30.00	762.0	.....	.....	70.8	21.6	81.8	4	2	1	7	3	4	1	7	2	4105	6600	5	2.41	61.2
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.92	760.0	29.99	761.7	52.6	11.4	84.9	1	3	13	7	3	1	.....	1	2	7173	11548	6	3.52	89.4
Santa Fé	N. 35 41	W. 105 57	5.04 a.m.	7106	2166	23.21	589.5	29.82	757.4	45.7	7.6	44.3	3	.....	1	3	3	8	9	3	1	9362	15067	3	0.87	22.1
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	29.97	761.2	30.06	763.5	69.3	20.7	71.0	4	3	6	6	7	4	1	.....	.....	5563	8952	3	5.22	132.6
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.34	669.0	29.94	760.5	39.5	4.2	78.8	1	3	9	13	.....	1	1	3	.....	6127	9860	6	2.30	58.4
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.76	755.9	30.00	762.0	66.1	18.9	82.7	2	4	2	.....	10	8	3	1	1	4728	7609	6	1.40	35.6
Sill, Fort	N. 34 40	W. 98 23	5.34 a.m.	1200	366	28.71	729.2	29.93	760.2	58.4	14.7	77.5	7	3	.....	1	11	4	.....	4	.....	11426	18388	3	1.46	37.1
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.84	757.9	29.90	759.4	44.7	7.1	77.5	.....	2	4	.....	2	1	13	6	3	6128	9846	7	3.70	94.0
Smith, Fort	N. 35 22	W. 94 24	5.50 a.m.	449	137	29.50	749.3	29.97	761.2	60.5	15.8	78.5	3	2	2	.....	3	1	15	.....	5	4495	7234	4	5.95	143.5
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	29.99	761.7	30.03	762.7	64.9	18.3	78.8	8	2	8	7	.....	.....	.....	6	.....	7849	12632	4	3.66	91.4
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	27.98	710.7	30.02	762.5	40.5	8.1	80.9	4	1	1	6	7	1	5	4	2	3854	6202	5	2.11	53.6
Springfield, Ill	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.28	743.7	29.95	760.7	54.6	12.6	74.0	5	3	5	4	8	1	3	.....	2	6949	11183	6	6.61	167.9
Springfield, Mo	N. 37 12	W. 93 18	5.55 a.m.	1351	412	28.54	724.9	29.96	761.0	50.4	13.6	80.6	3	8	1	2	8	7	1	1	.....	8007	13047	5	7.30	185.4
Starkville	N. 33 35	W. 88 49	6.13 a.m.	455	123	29.58	751.3	30.04	763.0	63.4	17.4	79.6	6	.....	3	3	10	3	2	3	1	6327	10182	4	4.83	122.7
Stevenson, Fort e	N. 47 35	W. 101 28	5.22 a.m.	1750	534	28.15	715.0	29.98	761.5	40.2	4.6	84.1	4	2	4	1	1	2	.....	10	2	6797	10938	6	0.53	13.5
Stockton, Fort	N. 30 53	W. 102 53	5.16 a.m.	3010	917	26.95	684.5	29.96	761.0	58.6	14.8	80.6	1	1	3	8	7	10	.....	.....	1	7571	12186	3	2.25	57.1
Thatcher's Island	N. 42 38	W. 70 34	7.26 a.m.	48	15	29.95	760.7	30.00	762.0	49.6	9.8	83.8	6	5	2	3	5	2	.....	8	.....	8215	13220	5	2.02	66.5
Thomas, Camp	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.19	690.6	29.86	758.4	51.8	11.0	50.3	1	2	5	4	3	2	4	1	9	.....	.....	2	0.79	20.1
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.26	743.2	29.94	760.5	52.1	11.2	70.3	5	4	5	5	5	1	4	2	.....	7618	12260	6	5.69	144.5
Tucson	N. 32 14	W. 110 53	4.45 a.m.	2309	722	27.50	698.5	29.84	757.9	55.3	12.9	47.2	.....	.....	.....	1	12	13	2	.....	3	3215	5174	2	0.35	8.9
Unalaska	N. 45 55	W. 119 20	4.11 a.m.	340	103	29.54	750.3	29.56	750.8	38.0	3.3	80.6	2	2	2	6	7	9	1	2	.....	7775	12512	9	10.85	275.6
Verde, Fort	N. 34 33	W. 111 52	4.40 a.m.	?	?	.....	.....	.....	.....	50.8	10.4	38.8	.....	6	2	5	1	14	1	2	.....	.....	.....	0	0.27	6.9
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.78	756.4	30.03	762.7	64.5	18.1	81.9	2	1	.....	1	3	15	3	4	2	4664	7506	4	2.16	54.9
Visalia	N. 36 20	W. 119 17	4.11 a.m.	348	106	29.57	751.1	29.94	760.5	54.7	12.6	78.6	2	16	1	.....	3	1	3	2	3	3102	4992	4	0.82	20.8
Washakie, Fort	N. 42 59	W. 108 43	4.53 a.m.	5580	1702	24.42	620.3	29.90	759.4	37.9	3.3	84.5	.....	8	8	6	2	4	.....	2	1	4615	7427	5	3.57	90.7
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	29.91	759.7	30.02	762.5	58.1	14.5	73.5	3	4	4	3	4	1	1	7	4	3987	6416	5	2.50	63.5
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	25.97	659.6	29.82	757.4	47.3	8.5	70.6	2	6	9	4	3	.....	3	3	1	9247	14881	5	1.50	38.1
Williamsport	N. 41 15	W. 77 03	7.00 a.m.	561	171	29.40	746.7	30.00	762.0	54.9	12.7	68.5	1	4	12	.....	1	3	6	1	3	4198	6756	6	4.13	104.9
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	29.98	761.5	30.04	763.0	64.9	18.3	77.2	6	3	8	7	.....	.....	1	5	1	5730	9221	5	4.79	121.7
Winnemucca	N. 40 59	W. 117 43	4.17 a.m.	4327	1319	25.58	649.7	29.93	760.2	40.7	4.8	67.7	.....	.....	2	11	1	.....	2	10	5	5712	9192	4	1.89	48.0
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.63	727.2	29.91	759.7	47.0	8.3	72.9	8	5	4	.....	4	4	1	3	2	7952	12797	5	8.76	222.5
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.70	754.4	29.84	757.9	60.6	15.9	62.3	4	12	.....	4	1	.....	1	4	5	4701	7505	1	0	0
Sub-Series.																										
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.04	559.8	.....	.....	54.4	12.4	78	2	1	.....	2	4	2	.....	3	17	2305	3782	8	4.53	115.1
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	.....	.....	30.00	762.0	79.6	26.4	74.7	9	3	.....	.....	.....	.....	2	.....	17	1882	3029	4	1.15	29.2
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.02	762.2	30.02	762.5	78.4	25.8	86	.....	.....	.....	.....	.....	20	10	1	.....	.....	.....	9	12.22	310.3
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.39	746.5	29.95	760.7	77.7	25.4	91	2	.....	.....	.....	1	.....	.....	.....	28	.....	.....	9	13.78	350.0
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	78.9	26.1	92.3	2	.....	.....	1	.....	2	2	24	.....	.....	.....	6	1.00	25.4
St. Paul, Alaska	N. 57 47	W. 152 21	1.59 a.m.	54	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	131	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Santiago de Cuba	N. 19 55	W. 75 50	70.4 a.m.	21	6	29.97	761.2	30.00	762.0	79.2	26.2	73.7	11	5	.....	1	.....	.....	.....	1	12	.....	.....	3	0.83	21.1
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	29.98	761.5	30.04	763.0	31.5	—0.3	94.5	4	10	8	5	1	.....	.....	1	1	8380	13486	3	0.30	7.6

OCEAN SQUARE DATA FOR MAY, 1883.

Location of Centre of each Square.		Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
		Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5°	W. 22.5°	30.02	762.5	78.2	25.7						1		17		13	2.9
12.5	27.5	30.07	763.8	78.9	26.1								19		12	3.0
12.5	32.5	30.09	764.3	77.9	25.5							2	18		11	3.3
12.5	37.5	30.09	764.3	77.9	25.5							1	19		11	3.0
12.5	42.5	30.08	764.0	78.3	25.7						1	5	11		14	3.6
12.5	47.5	30.08	764.0	78.6	25.9							9	9		13	3.1
12.5	52.5	30.08	764.0	78.3	25.7						4	15	6		6	2.9
17.5	22.5	30.05	763.3	75.2	24.0								18		13	2.9
17.5	27.5	30.07	763.8	75.1	23.9								20		11	3.2
17.5	32.5	30.14	765.5	75.5	24.2							1	22		8	3.4
17.5	37.5	30.16	766.1	75.9	24.4							5	18		8	3.8
17.5	42.5	30.15	765.8	76.3	24.6						1	12	9		9	3.5
17.5	47.5	30.15	765.8	76.4	24.7						3	11	7		10	3.1
17.5	52.5	30.12	765.0	77.5	25.3						9	13	4		5	2.9
17.5	57.5	30.08	764.0	79.5	26.4					1	15	12	3			2.9
22.5	22.5	30.08	764.0	72.0	22.2	4							18		9	2.9
22.5	27.5	30.15	765.8	72.7	22.6	2							22		7	2.9
22.5	32.5	30.20	767.1	73.3	22.9	2				1		3	21		4	2.9
22.5	37.5	30.26	768.6	73.9	23.3							6	22		3	3.0
22.5	42.5	30.23	767.8	74.3	23.5						2	12	15		2	3.3
22.5	47.5	30.21	767.3	74.7	23.7						7	17	5		2	3.1
22.5	52.5	30.17	766.3	76.5	24.7					2	13	16				3.0
22.5	57.5	30.13	765.3	77.8	25.4					7	13	9	2			2.9
22.5	62.5	30.08	764.0	78.6	25.9	2			3	4	14	2	6			2.9
22.5	67.5	30.05	763.3	78.9	26.1	2	1	1	2	5	8	4	8			2.4
22.5	72.5	30.04	763.0	79.1	26.2	5	3	1	2	4	5	6	5			2.7
27.5	22.5	30.14	765.5	68.8	20.4	8	1						15		7	2.9
27.5	27.5	30.19	766.8	69.9	21.1	7	1						17		6	3.0
27.5	32.5	30.23	767.8	71.2	21.8	6			1	1		1	19		3	2.9
27.5	37.5	30.27	768.8	72.1	22.3	3	1	1	1		1	4	17		3	3.0
27.5	42.5	30.30	769.6	72.7	22.6						5	11	14		1	2.9
27.5	47.5	30 28	769.1	73.1	22.8						13	10	7		1	3.1
27.5	52.5	30.23	767.8	75.5	24.7						10	10	11			3.0
27.5	57.5	30.23	767.8	75.1	23.9					15	11	4	1			2.9
27.5	62.5	30.10	764.5	75.6	24.2	2	1		4	6	10	4	4			3.0
27.5	67.5	30.08	764.0	76.0	24.4	3	2	4	2	9	5	2	4			3.0
27.5	72.5	30.05	763.3	75.1	23.9	4	5	1	4	4	6	2	5			2.9
27.5	77.5	30.05	763.3	75.2	24.0	7	5	2	2	3	8	1	3			2.7
32.5	12.5	30.03	762.7	66.1	18.9	5	3	4	2	6	1	1	9			2.4
32.5	17.5	30.07	763.8	65.3	18.5	5	2	5	7	3		1	8			1.9
32.5	22.5	30.12	765.0	65.6	18.7	8	2	4	5				10		2	2.9
32.5	27.5	30.16	766.1	66.2	19.0	8	6	2	1				13		1	2.9
32.5	32.5	30.22	767.6	68.1	20.1	10	4		3		1		12	1		3.0
32.5	37.5	30.29	769.4	69.3	20.7	5	2	1	4	1		3	15			3.1
32.5	42.5	30.32	770.1	70.2	21.2	3	3	1	2	3	5	4	9	1		3.0
32.5	47.5	30.31	799.9	71.0	21.7	1	1	2	2	9	9	5	2			2.8
32.5	52.5	30.25	768.3	71.9	22.2	1			4	11	6	6	2	1		2.9
32.5	57.5	30.18	766.6	72.2	22.3	1	2		2	12	7	3	4			3.1
32.5	62.5	30.09	764.3	72.5	22.5	2	2		5	8	10		4			3.6
32.5	67.5	30.05	763.3	71.9	22.2	7	1	1	5	10	4	1	2			3.3
32.5	72.5	30.02	762.5	70.1	21.2	8	4		4	7	5		3			3.3
32.5	77.5	30.03	762.7	67.8	19.9	8	3	2	7	5	1		5			3.1
37.5	12.5	30.02	762.5	62.7	17.1	9	6	1	4	7	1	1	2			2.7
37.5	17.5	30.06	763.5	61.5	16.4	11	6		2	5		2	5			3.0
37.5	22.5	30.08	764.0	61.7	16.5	11	3	1	1	5			10			2.9
37.5	27.5	30.13	765.3	62.0	16.7	14	4	2	2			1	8			2.9
37.5	32.5	30.22	767.0	63.5	17.5	16	4	1	4		1		5			3.1
37.5	37.5	30.28	769.1	65.3	18.5	10	3	3	5	4	1		5			3.3
37.5	42.5	30.30	769.6	66.0	18.9	7	4		6	9			5			3.3
37.5	47.5	30.28	769.1	66.1	18.9	2	3		5	12	4	2	3			3.5
37.5	52.5	30.22	767.6	66.6	19.2	6		2	5	10	6	1	1			3.3
37.5	57.5	30.16	766.1	67.0	19.4	3	2	1	4	10	6	2	3			3.5
37.5	62.5	30.10	764.5	66.1	18.9	3	2		5	12	6	1	2			3.8
37.5	67.5	30.02	762.5	63.4	17.4	5	1	2	4	12	3	2	2			3.8
37.5	72.5	30.00	762.0	61.5	16.4	8	2		3	11	1	2	4			3.3
42.5	12.5	29.99	761.7	60.0	15.6	8	5	3	6	1	2	2	4			2.7
42.5	17.5	30.03	762.7	58.8	14.9	6	7	2	4		3	2	7			3.1
42.5	22.5	30.06	763.5	58.5	14.7	5	8	2	3		3	2	8			3.1
42.5	27.5	30.14	765.5	59.2	15.1	5	7	2	4		2	1	10			3.6
42.5	32.5	30.17	766.3	59.8	15.4	2	8	4	6	1		2	8			3.4
42.5	37.5	30.20	767.1	60.2	15.7	6	6	3	5	6	1		4			3.6
42.5	42.5	30.25	768.3	59.7	15.4	4	8	2	8	6			3			4.0
42.5	47.5	30.22	767.6	56.5	13.6	4	5	3	4	12	1	1	1			3.9
42.5	52.5	30.15	765.8	54.9	12.7	5	2	1	5	12	3	1	2			3.8
42.5	57.5	30.08	764.0	55.8	13.2	5	2	2	4	10	4	1	3			3.7
42.5	62.5	30.04	763.0	52.6	11.4	2	3	2	11	3	6	2	2			3.5
42.5	67.5	29.99	761.7	50.9	10.5	5	4	2	5	4	6	4	1			3.0
47.5	12.5	29.99	761.7	56.3	13.5	3	3	2	8		2	2	11			3.6
47.5	17.5	30.00	762.0	55.5	13.1	7	1	5	7			3	8			3.9
47.5	22.5	30.04	763.0	54.7	12.6	5	4	3	4	3		2	10			4.0
47.5	27.5	30.08	764.0	55.2	12.9	5	3	5	4	2	3	3	6			3.8
47.5	32.5	30.10	764.5	55.3	12.9	7	2	3	7	1	5	3	3			3.8
47.5	37.5	30.09	764.3	55.0	12.8	7	6	4	8	4	1		1			3.8
47.5	42.5	30.09	764.3	52.2	11.2	5	5	3	9	8			1			3.7
47.5	47.5	30.07	763.8	45.3	7.4	3	3	5	10	7	2		1			3.1
52.5	12.5	29.95	760.7	54.4	12.4	5	6	2	6	2	3		7			3.9
52.5	17.5	29.97	761.2	51.4	10.8	7	2	5	8	1	1	1	6			3.6
52.5	22.5	29.97	761.2	50.6	10.3	8	4	3	9	1	1	1	4			3.9
52.5	27.5	30.00	762.0	50.1	10.1	2	4	8	7	2	2	3	3			3.6
52.5	32.5	29.99	761.7	49.7	9.8	2	5	3	10	4	5	1			1	3.5
52.5	37.5	29.99	761.7	48.1	8.9	4	4	3	8	6	1	4	1			3.6
52.5	42.5	29.95	761.5	45.3	7.4	5	3	3	9	5	1	2	2		1	3.3
52.5	47.5	29.98	761.5	41.2*g*	5.1*g*	5	5	1	8	3	2		4		3	3.4
57.5	12.5	29.86	758.4	48.0*a*	8.9*a*	5	3	5	6	5			7			3.6
57.5	17.5	29.87	758.7	45.9*b*	7.7*b*	4	4	4	5	3	1	1	8		1	3.7
57.5	22.5	29.89	759.2	46.5*c*	8.1*c*	1	5	6	5	2	1	2	7		2	3.8
57.5	27.5	29.90	759.4	44.1*e*	6.7*e*	3	9	4	3	1	2	3	4		2	3.6
57.5	32.5	29.91	759.7	43.1*e*	6.2*e*	1	7	2	6	3	2	3	3		4	3.7
57.5	37.5	29.91	759.7	41.6*f*	5.3*f*	4	6	2	4	3	2	4	1		5	3.5
57.5	42.5	29.92	760.0	39.3*h*	4.1*h*	4	3	2	3	5	3	2	4		5	3.5
57.5	47.5	29.91	759.7			7	2		6	3	2		4		7	3.2

FORT RAE, BRITISH AMERICA, (N. 62° 39′ W. 115° 44′.) Elevation, 700 feet, approximate.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Mill.	Temperature of the Air. Dry-bulb. Fah.	Dry-bulb. Cent.	Wet-bulb. Fah.	Wet-bulb. Cent.	Relative Humidity. Per cent.	Wind. Direction. From.	Velocity. Miles perhour	Velocity. Metrs prsec.	Force 0–10	Clouds. Amount. Upper. 0–10	Amount. Lower. 0–10	Direction. Up'er From	Direction. Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Rainfall. Mill.	Weather.
1882. September 1	29.18	741.2	47.9	8.8	46.8	8.2		wnw.			2		8 k		nw.			raining.
2	29.42	747.3	47.4	8.6	44.9	7.2		sw.			2		9					d. clouds.
3	29.52	749.8	37.5	3.1	34.5	1.4		nnw.			3		10					overcast.
4	29.64	752.8	35.0	1.7	33.5	0.8		nne.			0–1		1					blue sky.
5	29.53	750.0	39.0	3.9	34.9	1.6		nnw.			1–2		8					d. clouds.
6	29.48	748.8	43.5	6.4	40.0	4.4		nne.			1		9					d. clouds.
7	29.16	740.7	42.3	5.7	41.0	5.0		se.			1		7					d. clouds.
8	29.06	738.1	42.1	5.6	40.8	4.9		w.			0–1		6					d. clouds.
9	29.26	743.2	39.0	3.9	39.0	3.9		calm			0		0					blue sky.
10	29.17	740.9	49.0	9.4	47.5	8.6		ese.			1		1					blue sky.
11	28.92	734.6	51.8	11.0	50.5	10.3		ese.			1		8					d. clouds. 1
12	28.68	728.5	53.5	11.9	53.0	11.7		e.			1		10					raining.
13	28.56	725.4	44.8	7.1	43.6	6.4		s.			4		10					raining. 2
14	28.87	733.3	36.5	2.5	35.1	1.7		s.			1		1					blue sky.
15	29.29	744.0	38.0	3.3	38.0	3.3		calm			0		1					blue sky. 3
16	29.46	748.3	42.0	5.6	40.0	4.4		nw.			1		8					d. clouds.
17	29.22	742.2	37.0	2.8	37.0	2.8		nw.			1		1					blue sky.
18	29.18	741.2	45.7	7.6	45.0	7.2		sse.			5		9					d. clouds. 4
19	28.98	736.1	49.0	9.4	47.8	8.8		ese.			6		6	w.				d. clouds. 5
20	29.05	737.9	45.5	7.5	43.5	6.4		wnw.			4		0					blue sky. 6
21	29.50	749.3	41.0	5.0	38.5	3.6		nw.			6		4					d. clouds.
22	29.55	750.6	34.8	1.6	34.3	1.3		calm			0		0					blue sky. 7
23	29.34	745.2	42.8	6.0	42.5	5.8		se.			6		1	e.				blue sky.
24	29.30	744.2	43.1	6.2	41.2	5.1		se.			4		4					blue sky.
25	28.89	733.8	49.8	9.9	45.8	7.7		ssw.			6		4					blue sky.
26	29.03	737.3	44.0	6.7	41.1	5.1		nnw.			6		10					overcast.
27	29.46	748.3	33.4	0.8	31.5	— 0.3		n.			1		8					d. clouds.
28	29.69	754.1	27.8	— 2.3	26.3	— 3.2		ne.			2		8					d. clouds.
29	29.68	753.9	28.5	— 1.9	27.5	— 2.5		nnw.			3		7					d. clouds.
30	29.86	758.4	31.0	— 0.6	28.9	— 1.7		wnw.			0–1		10					overcast.
Mean	29.26	743.2	41.5	5.3	39.8	4.3							5.9					
October 1	29.99	761.7	27.7	— 2.4	29.5	— 1.4		wnw.			1		2					blue sky.
2	29.76	755.9	30.4	— 0.9	29.0	— 1.7		s.			5		0					blue sky.
3	29.65	753.1	31.0	— 0.6	30.1	— 1.1		calm			0		0					blue sky.
4	29.50	749.3	36.0	2.2	35.0	1.7		s.			2		0					blue sky.
5	29.10	739.1	36.0	2.2	35.1	1.7		calm			0		1					blue sky.
6	29.26	743.2	35.1	1.7	35.0	1.7		e.			4		10					drizzling.
7	29.17	740.9	39.1	3.9	38.0	3.3		ese.			2		10					overcast.
8	29.13	739.9	37.2	2.9	37.0	2.8		e.			1		7					d. clouds.
9	29.09	738.9	37.0	2.8	36.1	2.3		sse.			2		0					blue sky.
10	28.82	732.0	34.0	1.1	33.8	1.0		sse.			1		0					blue sky.
11	28.99	736.3	33.5	0.8	32.4	0.2		n.			3		9					d. clouds.
12	28.93	734.8	36.0	2.2	35.4	1.9		ene.			1		10					drizzling.
13	28.86	733.0	39.2	4.0	37.3	2.9		e.			2		10					overcast.
14	29.07	738.4	34.0	1.1	33.5	0.8		e.			1		10					snowing.
15	29.14	740.1	34.0	1.1	33.9	1.1		sse.			2		10					overcast.
16	29.06	738.1	30.8	— 0.7	29.9	— 1.2		calm			0		9					d. clouds.
17	29.27	743.4	23.2	— 4.9	23.0	— 5.0		wnw.			2		9					d. clouds.
18	29.02	737.1	30.0	— 1.1	29.9	— 1.2		e.			1		8					d. clouds.
19	28.97	735.8	33.8	1.0	33.0	0.6		nnw.			2		10					overcast.
20	29.15	740.4	28.1?	— 2.2?	29.2?	— 1.6?		calm			0		10					overcast.
21	29.06	738.1	28.9	— 1.7	28.3	— 2.1		e.			5		10					overcast.
22	28.87	733.3	32.0	0.0	32.0	0.0		e.			2		10					overcast.
23	29.01	736.8	31.0	— 0.6	31.0	— 0.6		calm			0		10					overcast.
24	29.16	740.7	27.7	— 2.4	27.4	— 2.6		nnw.			0–1		10					snowing.
25	29.20	741.7	24.5	— 4.2	24.0	— 4.4		ese.			1		10					overcast.
26	29.19	741.4	29.0	— 1.7	28.0	— 2.2		ese.			2		10					overcast.
27	29.19	741.4	30.1	— 1.1	29.0	— 1.7		ese.			5		10					overcast.
28	29.00	736.0	33.3	0.7	32.8	0.4		se.			4		10					overcast.
29	28.81	731.8	32.5	0.3	32.4	0.2		ese.			3–6		10					snowing.
30	29.24	742.7	19.0	— 7.2	18.8	— 7.3		nnw.			1		4					blue sky.
31	29.64	752.8	20.8	— 6.2	20.5	— 6.4		nnw.			5		8					d. clouds.
Mean	29.20	741.7	31.5	— 0.3	31.0	— 0.6							7.3					
November 1	29.72	754.9	3.5	—15.8	3.5	—15.8		s.			0–1		0					blue sky.
2	29.83	757.7	24.0	— 4.4	23.0	— 5.0		ssw.			6		10					overcast.
3	29.25	742.9	15.0	— 9.4	14.0	—10.0		nnw.			4		10					overcast.
4	29.27	743.4	23.3	— 4.8	23.0	— 5.0		calm			0		10					snowing.
5	29.28	743.7	9.0	—12.8	9.0	—12.8		nw.			5		10					overcast.
6	29.37	746.0	2.0	—16.7	1.5	—16.9		n.			0–1		1					blue sky.
7	29.53	750.0	— 4.5	—20.3	— 4.5	—20.3		nw.			1		2					blue sky.
8	29.68	753.9	—15.5	—26.4	—15.5	—26.4		calm			0		0					blue sky.
9	29.46	748.8	1.0	—17.2	1.0	—17.2		nne.			0–1		3					blue sky.
10	29.42	747.3	11.9	—11.2	11.6	—11.3		sse.			1		10					overcast.
11	29.13	739.9	22.0	— 5.6	21.5	— 5.8		calm			0		10					overcast.
12	28.86	733.0	4.5	—15.3	4.5	—15.3		calm			0		0					blue sky.
13	28.42	721.9	32.0	0.0	31.4	— 0.3		wsw.			3		4					squally.
14	29.13	739.9	6.4	—14.2	6.4	—14.2		e.			1		10					overcast.
15	29.34	745.2	18.0	— 7.8	18.0	— 7.8		se.			2		10					overcast.
16	29.70	754.4	28.0	— 2.2	26.5	— 3.1		ssw.			5		4					blue sky.
17	28.97	735.8	7.0	—13.9	7.0	—13.9		n.			0–1		2					blue sky.
18	28.90	734.0	18.8	— 7.3	18.8	— 7.3		calm			0		8					d. clouds.
19	28.73	729.7	20.6	— 6.3	20.6	— 6.3		ese.			0–1		9					d. clouds.
20	29.28	743.7	10.6	—11.9	10.6	—11.9		n.			3		7					d. clouds.
21	29.43	747.5	4.1	—15.5	4.1	—15.5		ese.			1		4					blue sky.
22	29.39	746.5	— 8.0	—22.2	— 8.0	—22.2		calm			0		0					foggy.
23	29.29	744.0	14.0	—10.0	14.0	—10.0		e.			0–1		10					overcast.
24	29.34	745.2	17.0	— 8.3	17.0	— 8.3		sse.			0–1		10					overcast.
25	29.45	748.0	18.0	— 7.8	17.5	— 8.1		se.			0–1		10					overcast.
26	29.43	747.5	11.9	—11.2	11.9	—11.2		nne.			2		10					overcast.
27	29.69	754.1	— 7.3	—21.8	7.3	—13.7		wnw.			4		6					d. clouds.
28	29.56	750.8	—10.4	—23.6	—10.4	—23.6		calm			0		10					snowing.
29	29.22	742.2	— 5.3	—20.7	— 5.3	—20.7		nnw.			5		0					blue sky.
30	29.81	757.2	—19.9	—28.8	—19.9	—28.8		nnw.			3		0					blue sky.
Mean	29.32	744.7	—8.4	—13.1	8.2	—13.2							6.0					

FORT RAE—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Mill.	Temperature of the air. Dry-bulb. Fah.	Dry-bulb. Cent.	Wet-bulb. Fah.	Wet-bulb. Cent.	Relative Humidity Per cent.	Wind. Direction. From.	Velocity. Miles perhour	Velocity. Metrs prsec.	Force 0-10	Clouds. Amount. Upper. 0-10	Amount. Lower. 0-10	Direction. Up'er From	Direction. Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Rainfall. Mill.	WEATHER.
1882.																		
December 1	29.86	758.4	—28.9	—33.8	—27.0	—32.8		n.			0-1		10					overcast.
2	29.85	758.2	—20.5	—29.2	—19.0	—28.3		calm			0		5	se.				d. clouds.
3	29.45	748.0	—12.0	—24.4	—10.5	—23.0		nne.			0-1		1					blue sky.
4	29.54	750.3	—26.6	—32.6	—24.4	—31.3		nnw.			0-1		1					blue sky.
5	29.86	758.4	—30.9	—34.9	—28.5	—33.0		nnw.			4-5		0					blue sky.
6	30.07	763.8	—32.6	—35.9	—30.2	—34.6		sse.			2		0					blue sky.
7	29.38	746.2	—16.9	—27.2	—15.3	—20.3		ese.			0-1		0					blue sky.
8	29.03	737.3	—10.0	—23.3	— 9.0	—22.8		calm			0		10					snowing.
9	29.28	743.7	—16.2	—20.8	—14.8	—26.0		nnw.			3		9					d clouds.
10	29.64	752.8	—25.1	—31.7	—23.1	—30.6		nnw.			3		0					blue sky.
11	29.82	757.4	—27.0	—32.8	—25.0	—31.7		n.			1-3		6					d. clouds.
12	29.92	760.0	—26.0	—32.2	—23.8	—31.0		calm			0		2					snowing.
13	29.81	757.2	—31.1	—35.1	—28.7	—33.7		n.			0-1		2					snowing.
14	29.64	752.8	—34.1	—36.7	—35.5	—37.5		calm			0		0					blue sky.
15	29.53	750.0	—20.8	—29.3	—23.0	—30.6		calm			0		6					d. clouds.
16	29.20	741.7	—18.5	—28.1	—20.3	—29.1		nnw.			0-1		2					blue sky.
17	28.65	727.7	— 7.9	—22.2	— 7.0	—21.7		calm			0							blue sky.
18	28.80	731.5	—16.3	—26.8	—14.8	—26.0		nnw.			0-1		1					blue sky.
19	29.16	740.7	—35.0	—37.2	—32.4	—35.8		nnw.			0-1		3					d. clouds.
20	29.07	738.4	—32.0	—35.6	—30.0	—34.4		calm			0		1					blue sky.
21	28.96	735.6	—13.0	—25.0	—12.0	—24.4		ese.			3		7					misty.
22	28.74	730.0	— 7.2	—21.8	— 6.3	—21.3		ese.			0-1		1					blue sky.
23	28.64	727.4	11.0	—11.7	11.0	—11.7		calm			0		10					overcast.
24	29.16	740.7	—19.0	—28.3	—16.5	—26.9		calm			0		2					blue sky.
25	29.22	742.2	7.9	—13.4	8.1	—13.3		calm			0		10					overcast.
26	29.15	740.4	— 1.2	—18.4	— 1.1	—18.4		se.			3		7					d. clouds.
27	29.06	738.1	14.0	—10.0	14.2	— 9.9		ssw.			4		2					blue sky.
28	29.65	753.1	— 3.9	—19.9	— 3.1	—19.5		nnw.			5		10					overcast.
29	30.06	763.5	—23.5	—30.8	—21.7	—29.8		calm			0		3					d. clouds.
30	29.73	755.1	—12.5	—24.7	—11.0	—23.9		nnw.			1		8					d. clouds.
31	30.13	765.3	—28.0	—33.7	—26.6	—32.6		nnw.			0-1		0					blue sky.
Mean	29.42	747.3	—17.5	—27.5	—16.4	—25.9							3.9					
1883.																		
January 1	29.83	757.7	—35.2	—37.3	—32.9	—36.1		nnw.			1		0					blue sky.
2	29.91	759.7	—37.2	—38.4	—39.5	—39.7		nnw.			1		0					blue sky. 8
3	29.93	760.2	—40.0	—40.0	—43.0	—41.7		calm			0		0					blue sky.
4	29.82	757.4	—42.0	—41.1	—45.0	—42.8		ene.			0-1		0					blue sky.
5	29.61	752.1	—34.6	—37.0	—37.4	—38.0		ese.			3		0					blue sky.
6	29.49	749.0	—35.0	—37.2	—37.2	—38.4		ese.			0-1		0					blue sky.
7	29.34	745.2	—27.8	—33.2	—30.0	—34.4		ese.			3		0					blue sky.
8	29.04	737.6	—17.0	—27.2	—19.1	—28.4		ese.			0-1		7					d. clouds.
9	29.08	738.6	—14.5	—25.8	—16.4	—26.9		nnw.			3		6					d. clouds.
10	29.59	751.6	—14.5	—25.8	—16.2	—26.8		calm			0		6					d. clouds.
11	29.52	749.8	—17.0	—27.2	—19.0	—28.3		calm			0		10					snowing.
12	29.58	751.3	—16.9	—27.2	—19.1	—28.4		calm			0		2					blue sky.
13	29.27	743.4	—11.9	—24.4	—13.9	—25.5		ese			1		4					d. clouds.
14	29.35	745.5	—22.5	—30.3	—24.7	—31.5		calm			0		0					blue sky.
15	29.47	748.5	—15.0	—26.1	—17.2	—27.3		nw.			2		9					d. clouds.
16	29.96	761.0	—22.9	—30.5	—25.0	—31.7		nnw.			1		0					blue sky.
17	29.85	758.2	—26.1	—32.3	—28.3	—33.5		wnw.			1		4					d. clouds.
18	30.20	767.1	—43.9	—42.2	—46.8	—43.8		calm			0		0					blue sky.
19	29.50	749.3	—20.5	—29.2	—22.5	—30.3		wnw.			0-1		9					d. clouds.
20	29.68	753.9	—21.8	—29.9	—23.9	—31.1		nnw.			3		0					blue sky.
21	29.77	756.1	—31.9	—35.5	—35.0	—37.2		nnw.			0-1		0					blue sky.
22	29.86	758.4	—38.9	—39.4	—41.5	—40.8		calm			0		1					blue sky.
23	29.90	759.4	—40.3	—40.2	—43.5	—41.9		nnw.			0-1		0					blue sky.
24	29.73	755.1	—34.9	—37.2	—37.5	—38.6		ese.			0-1		0					blue sky.
25	28.86	733.0	—30.0	—34.4	—28.0	—33.3		n.			0-1		0					blue sky.
26	29.08	738.6	— 6.9	—21.6	— 5.8	—21.0		calm			0		10					overcast.
27	29.12	739.6	— 9.0	—22.8	— 8.0	—22.2		ene.			0-1		9					d. clouds.
28	29.22	742.2	— 4.1	—20.1	— 3.8	—19.9		nnw.			3		10					overcast.
29	29.44	747.8	—22.5	—30.3	—20.4	—29.1		n.			1		4					d. clouds.
30	29.84	757.9	—37.8	—38.8	—34.8	—37.1		n.			0-1		0					blue sky. 9
31	30.08	764.0	—25.0	—31.7	—27.0	—32.8		nnw.			1		0					blue sky. 10
Mean	29.58	751.3	—22.5	—30.3	—27.2	—32.9							2.9					
February 1	30.32	770.1	—32.0	—35.6	—34.8	—37.1		nnw.			0-1		0					blue sky. 11
2	29.87	758.7	—24.3	—31.3	—26.5	—32.5		ese.			0-1		4					d. clouds.
3	29.63	752.6	— 0.1	—17.8	— 2.0	—18.9		nw.			5		4					d. clouds.
4	29.37	746.0	— 7.5	—21.9	— 9.3	—22.9		sse.			0-1		5					d. clouds.
5	29.37	746.0	5.8	—14.6	5.6	—14.7		nnw.			6-7		4					d. clouds.
6	29.54	750.3	—16.0	—26.7	—14.4	—25.8		nnw.			1		0					blue sky.
7	29.13	739.9	5.8	—14.6	6.0	—14.4		nnw.			5		5					d. clouds.
8	29.45	748.0	— 8.7	—22.6	— 7.7	—22.1		calm			0		10					snowing.
9	29.53	750.0	— 5.5	—20.8	— 4.9	—20.5		nnw.			2		0					blue sky.
10	29.19	741.4	—29.2	—34.0	—26.8	—32.7		calm			0		0					blue sky.
11	29.32	744.7	—14.2	—25.7	—13.3	—25.2		nnw.			4-6		6					d. clouds.
12	29.59	751.6	—23.0	—30.0	—21.0	—29.4		nnw.			3		0					blue sky.
13	29.69	754.1	—32.6	—35.9	—30.0	—34.4		calm			0		0					blue sky.
14	29.34	745.2	—33.8	—36.6	—31.2	—35.1		ese.			0-1		0					blue sky.
15	29.30	744.2	—34.2	—36.8	—31.7	—35.4		calm			0		2					blue sky.
16	29.71	754.6	—29.5	—34.2	—26.8	—32.7		nnw.			0-1		0					blue sky.
17	29.53	750.0	— 2.9	—19.4	— 2.9	—19.4		wnw.			3		3					d. clouds.
18	29.78	756.4	—19.9	—28.8	—18.0	—27.8		calm			0		8					d. clouds.
19	29.68	753.9	— 9.8	—23.2	— 8.2	—22.3		wnw.			2		1					blue sky.
20	29.57	751.1	3.0	—16.1	2.9	—16.2		wnw.			0-1		6					d. clouds.
21	29.43	747.5	— 4.1	—20.1	— 3.1	—19.5		ese.			0-1		4					d. clouds.
22	29.08	738.6	— 8.0	—22.2	— 6.8	—21.0		ne.			0-1		3					blue sky.
23	29.41	747.0	— 5.3	—20.7	— 4.9	—20.5		wnw.			2		10					overcast.
24	29.47	748.5	—24.9	—31.0	—22.9	—30.5		calm			0		2					blue sky.
25	29.69	754.1	—10.3	—23.5	— 9.0	—22.8		ene.			1		10					snowing.
26	29.54	750.3	— 0.9	—18.3	— 0.5	—18.1		ene.			0-1		10					snowing.
27	29.77	756.1	—12.1	—24.5	—11.1	—23.9		n.			0-1		10					overcast.
28	29.56	750.8	— 9.9	—23.3	— 8.8	—22.7		calm			0		10					snowing.
Mean	29.53	750.0	—12.9	—24.9	—12.8	—24.9							4.2					

FORT RAE.—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature.		Temperature of the air. Dry bulb.		Temperature of the air. Wet bulb.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount. Upper.	Clouds. Amount. Lower.	Clouds. Direction. Up'er	Clouds. Direction. Lo'er	Rainfall or melted snow in past 24 hours.		WEATHER.
	Mill.	Inch.	Fah.	Cent.	Fah.	Cent.	Per cent.	From.	Miles perhour	Metrs pr sec.	0-10	0-10	0-10	From	From	Inch.	Mill.	
1883.																		
March 1	29.70	754.4	—29.4	—34.1	—27.1	—32.8		calm.			0		1					blue sky.
2	29.78	756.4	—19.9	—28.8	—18.1	—27.8		nnw.			0-1		2					blue sky.
3	30.23	767.8	—25.3	—31.8	—23.2	—30.7		nnw.			0-1		0					blue sky.
4	30.05	763.3	—31.0	—35.0	—28.9	—33.8		ene.			0-1		0					blue sky.
5	29.81	757.2	—31.0	—35.0	—28.5	—33.6		calm.			0		0					blue sky.
6	29.65	753.1	—27.1	—32.8	—25.0	—31.7		ese.			4		0					blue sky.
7	29.15	740.4	—12.1	—24.5	—11.1	—23.9		ene.			0-1		2					blue sky.
8	28.86	733.0	— 1.0	—18.3	— 0.1	—17.8		nne.			2		10					overcast.
9	29.39	746.5	—12.2	—24.6	—11.0	—23.9		ese.			2		2					blue sky.
10	29.55	750.6	— 4.8	—20.4	— 4.1	—20.1		ese.			4		8					d. clouds.
11	29.35	745.5	1.0	—17.2	1.9	—16.7		nnw.			0-1		0					blue sky.
12	29.32	744.7	— 1.8	—18.7	— 1.0	—18.3		ese.			4		10					overcast.
13	29.14	740.1	6.0	—14.4	6.1	—14.4		nw.			6-7		6					squally.
14	29.84	757.9	—19.0	—28.3	—17.2	—27.3		wnw.			0-1		0					blue sky.
15	29.47	748.5	—19.9	—28.8	—18.2	—27.9		ene.			0-1		1					blue sky.
16	29.40	746.7	— 1.4	—18.6	— 1.3	—18.5		calm.			0		10					overcast.
17	29.61	752.1	—40.9	—40.5	—38.0	—38.9		n.			0-1		0					blue sky.
18	29.63	752.6	—24.4	—31.3	—22.6	—30.3		nnw.			0-1		0					blue sky.
19	29.25	742.9	—20.0	—28.9	—18.8	—28.2		ene.			3		4					d. clouds.
20	29.22	742.2	— 2.0	—18.9	— 1.7	—18.7		calm.			0		9					d. clouds.
21	29.44	747.8	—15.5	—26.4	—14.0	—25.6		nnw.			0-1		1					blue sky.
22	29.28	743.7	—11.1	—23.9	—10.1	—23.4		calm.			0		7					d. clouds.
23	29.67	753.6	—24.8	—31.6	—22.7	—30.4		nnw.			1		0					blue sky.
24	30.08	764.0	—27.5	—33.1	—25.3	—31.8		nne.			0-1		0					blue sky.
25	30.15	765.8	—26.3	—32.4	—24.5	—31.4		ese.			0-1		0					blue sky.
26	29.87	758.7	—17.1	—27.3	—16.0	—26.7		ese.			0-1		1					blue sky.
27	29.61	752.1	—13.0	—25.0	—11.8	—24.3		ese.			2		1					blue sky.
28	29.61	752.1	—15.9	—26.6	—14.0	—25.6		ese.			0-1		0					blue sky.
29	29.64	752.8	— 8.2	—22.3	— 7.2	—21.8		ene.			0-1		2					blue sky.
30	29.68	753.9	—16.0	—26.7	—14.8	—26.0		calm.			0		0					blue sky.
31	29.75	755.6	—16.6	—27.0	—14.9	—26.1		n.			0-1		1					blue sky.
Mean	29.59	751.6	—16.4	—26.9	—14.9	—26.1							2.5					
April 1	29.56	750.8	0.0	—17.8	1.0	—17.2		calm.			0		10					overcast.
2	29.36	745.7	— 2.0	—18.9	— 1.4	—18.6		ese.			0-1		8					d. clouds.
3	29.29	744.0	8.3	—13.2	8.3	—13.2		nnw.			3		10					overcast.
4	29.52	749.8	—10.0	—23.3	— 8.9	—22.7		calm.			0		0					blue sky.
5	29.28	743.7	—10.2	—23.4	— 8.8	—22.7		ese.			1		1					blue sky.
6	29.16	740.7	0.9	—17.3	1.1	—17.2		nne.			0-1		10					overcast.
7	29.11	739.4	— 7.2	—21.8	— 6.2	—21.2		calm.			0		4					d. clouds.
8	29.15	740.4	— 2.8	—19.3	— 2.0	—18.9		ene.			0-1		8					d. clouds.
9	29.04	737.6	3.4	—15.9	3.8	—15.7		se.			3		10					snowing.
10	29.02	737.1	5.0	—15.0	5.0	—15.0		e.			0-1		3					blue sky.
11	28.78	731.0	10.1	—12.2	9.8	—12.3		ese.			4		1					blue sky.
12	28.89	733.8	7.9	—13.4	8.1	—13.3		n.			0-1		10					overcast.
13	29.25	742.9	11.6	—11.3	11.1	—11.6		nne.			0-1		9					d. clouds.
14	29.56	750.8	0.6	—17.4	1.5	—16.9		ene.			1		5					d. clouds.
15	29.50	749.3	12.4	—10.9	12.0	—11.1		e.			0-1		10					overcast.
16	29.38	746.2	3.0	—16.1	3.9	—15.6		nne.			0-1		3					d. clouds.
17	29.40	746.7	4.7	—15.2	5.2	—14.9		nne.			0-1		3					blue sky.
18	29.45	748.0	10.0	—12.2	10.8	—11.8		e.			0-1		0					blue sky.
19	29.30	744.2	10.1	—12.1	10.1	—12.2		ese.			2		1					blue sky.
20	29.06	738.1	13.9	—10.1	13.9	—10.1		ese.			2		1					blue sky.
21	28.86	733.0	33.0	0.6	32.9	0.5		ese.			1		10					overcast.
22	29.00	736.6	33.2	0.7	33.2	0.7		nnw.			2		10					rain and snow.
23	29.92	760.0	18.0	— 7.8	17.7	— 7.9		nnw.			1		10					overcast.
24	29.84	757.9	19.0	— 7.2	19.0	— 7.2		ese.			3		4					d. clouds.
25	29.32	744.7	25.9	— 3.4	25.5	— 3.6		ese.			0-1		2					blue sky.
26	29.10	739.1	25.5	— 3.6	25.1	— 3.8		nne.			1		1					blue sky.
27	29.64	752.8	27.0	— 2.8	26.1	— 3.3		n.			0-1		9					d. clouds.
28	29.67	753.6	32.3	0.2	31.6	— 0.2		ese.			3-4		10					overcast.
29	29.66	753.4	35.7	2.1	34.5	1.4		ese.			2		7					d. clouds.
30	29.80	756.9	23.9	— 4.5	25.2	— 3.8		ese.			3		8					d. clouds.
Mean	29.33	745.0	—11.4	11.4	—11.1	—11.6							5.9					
May 1	29.62	752.3	20.8	— 6.2	20.1	— 6.6		ese.			1		6					d. clouds.
2	29.22	742.2	33.2	0.7	32.3	0.2		wnw.			1-3		9					d. clouds.
3	29.68	753.9	7.2	—13.8	7.1	—13.8		nnw.			3		5					d. clouds.
4	29.78	756.4	0.0	—17.8	0.2	—17.7		ne.			0-1		2					blue sky.
5	29.48	748.8	9.3	—12.6	9.2	—12.7		ese.			1		9					d. clouds.
6	29.49	749.0	14.0	—10.0	13.9	—10.1		calm.			0		5	nnw.				d. clouds.
7	29.48	748.8	11.3	—11.5	11.1	—11.6		ese.			1		2					blue sky.
8	29.54	750.3	16.3	— 8.7	15.1	— 9.4		ese.			1		8					d. clouds.
9	29.76	755.9	16.0	— 8.9	15.8	— 9.0		ese.			0-1		1					blue sky.
10	29.72	754.9	30.1	— 1.1	28.0	— 2.2		ese.			3		7					d. clouds.
11	29.74	755.4	28.0	— 2.2	27.4	— 2.6		ese.			1		1					misty.
12	29.63	752.6	26.3	— 3.2	25.5	— 3.6		ese.			0-1		0					blue sky.
13	29.59	751.6	31.0	— 0.6	29.1	— 1.6		ese.			2		1					blue sky.
14	29.58	751.3	29.6	— 1.3	27.8	— 2.3		calm.			0		0					misty.
15	29.31	744.5	30.7	— 0.7	28.7	— 1.8		ese.			2		1					blue sky.
16	29.06	738.1	34.0	1.1	32.0	0.0		ese.			2		3					blue sky.
17	29.03	737.3	35.0	1.7	34.6	1.4		nne.			0-1		3					d. clouds.
18	29.23	742.4	37.6	3.1	36.3	2.4		nne.			0-1		0					d. clouds.
19	29.19	741.4	36.0	2.2	35.0	1.7		e.			3		10					overcast.
20	29.22	742.2	44.2	6.8	40.3	4.6		sse.			1		8					d. clouds.
21	29.16	740.7	36.1	2.3	35.5	1.9		nne.			0-1		3					blue sky.
22	29.13	739.9	36.0	2.2	35.4	1.9		nnw.			0-1		9					d. clouds.
23	29.22	742.2	31.8	— 0.1	30.8	— 0.7		nnw.			1		5					d. clouds.
24	29.36	745.7	30.5	— 0.8	29.9	— 1.2		n.			0-1		2					blue sky.
25	29.42	747.3	36.0	2.2	35.0	1.7		ese.			1		9					d. clouds.
26	29.39	746.5	37.7	3.2	36.1	2.3		calm.			0		6					d. clouds.
27	29.41	747.0	36.5	2.5	34.8	1.6		ese.			0-1		8					d. clouds.
28	29.66	753.4	36.2	2.3	35.3	1.8		ene.			0-1		8					d. clouds.
29	29.58	751.3	36.9	2.7	35.0	1.7		wnw.			0-1		2					blue sky.
30	29.90	759.4	45.1	7.3	41.0	5.0		nnw.			0-1		6		nw.			d. clouds.
31	29.36	745.7	31.9	— 0.1	28.3	— 2.1		n.			1		10					overcast.
Mean	29.45	748.0	28.7	— 1.8	27.3	— 2.6							5.0					

FORT RAE—CONTINUED.

DATE.	Barometer. Corrected for instrumental error and temperature.		Temperature of the air. Dry-bulb.		Temperature of the air. Wet-bulb.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount.		Clouds. Direction.		Rainfall or melted snow in past 24 hours.		WEATHER
	Inch.	Mill.	Fah.	Cent.	Fah.	Cent.	Per cent.	From.	Miles perhour	Metrs pr sec.	0-10	Upper. 0-10	Lower. 0-10	Upper From	Lo'er From	Inch.	Mill.	
1883.																		
June 1	29.16	740.7	29.0	— 1.7	28.0	— 2.2		e.			1		0					blue sky.
2	28.96	735.6	46.1	7.8	42.0	5.6		ene.			0-1		2					blue sky.
3	29.05	737.9	43.0	6.1	41.2	5.1		nnw.			0-1		6					d. clouds.
4	29.01	736.8	43.0	6.1	41.0	5.0		ene.			0-1		3					d. clouds.
5	29.20	741.7	39.0	3.9	37.7	3.2		nnw.			0-1		3					d. clouds.
6	29.48	748.8	38.0	3.3	35.5	1.9		n.			4		8					d. clouds.
7	29.72	754.9	43.0	6.1	39.6	4.2		ene.			0-1		10					overcast
8	29.34	745.2	38.1	3.4	36.1	2.3		e.			2		10					overcast.
9	29.26	743.2	42.6	5.9	41.3	5.2		nnw.			0-1		2					blue sky.
10	29.19	741.4	47.1	8.4	43.8	6.6		nnw.			0-1		6	nw.				d. clouds.
11	29.50	749.3	40.2	4.6	37.1	2.8		nnw.			2		0					blue sky.
12	29.22	742.2	40.0	4.4	36.0	2.2		ene.			1		4					blue sky.
13	29.18	741.2	42.3	5.7	38.0	3.3		ssw.			3		8	nw.				d. clouds.
14	29.10	739.1	43.3	6.3	40.5	4.7		e.			3		9					d. clouds.
15	29.04	737.6	47.9	8.8	43.0	6.1		e.			0-1		9					d. clouds.
16	29.18	741.2	47.2	8.4	41.0	5.0		ese.			3		9					d. clouds.
17	29.20	741.7	47.0	8.3	45.2	7.3		ssw.			2		6	nw.				d. clouds.
18	29.19	741.4	46.9	8.3	45.4	7.4		calm.			0		8					d. clouds.
19	29.30	744.2	45.0	7.2	46.8	4.9		nne.			1		7	wnw.				d. clouds.
20	29.39	746.5	43.9	6.6	40.0	4.4		ne.			0-1		10					overcast.
21	29.38	746.2	47.5	8.6	42.0	5.6		ese.			5		10					overcast.
22	29.18	741.2	52.8	11.6	46.9	8.3		sse.			7		9					d. clouds.
23	29.09	738.9	50.7	10.4	49.2	9.6		ese.			1		1	nnw				blue sky.
24	28.98	736.1	54.9	12.7	52.7	11.5		e.			2		9	w.				d. clouds.
25	28.98	736.1	55.6	13.1	54.0	12.2		e.			2		5	sw.				d. clouds.
26	29.00	736.6	59.0	15.0	56.3	13.5		ese.			0-1		4	nnw.				d. clouds.
27	29.21	741.9	52.9	11.6	50.0	10.0		ne.			2		10					overcast.
28	29.56	750.8	44.3	6.8	41.0	5.0		ene.			2		0					blue sky.
29	29.42	747.3	52.6	11.4	47.5	8.6		ese.			3		8					d. clouds.
30	29.18	741.2	51.0	10.6	49.0	9.4		nw.			0-1		3					blue sky.
Mean	29.22	742.2	45.8	7.7	42.9	6.1							6.0					
July 1	29.18	741.2	56.7	13.7	51.0	10.6		ene.			2		8					d. clouds.
2	29.32	744.7	58.3	14.6	49.3	9.6		sw.			3		1					blue sky.
3	29.16	740.7	60.0	15.6	57.0	13.9		nnw.			2		7					d. clouds.
4	29.19	741.4	49.2	9.6	45.7	7.6		wnw.			4-6		8					d. clouds.
5	29.43	747.5	52.2	11.2	46.2	7.9		se.			2		9					d. clouds.
6	29.48	748.8	52.1	11.7	48.9	9.4		sse.			2		5					d. clouds.
7	29.26	743.2	59.0	15.0	57.4	14.1		nnw.			0-1		3					blue sky.
8	29.24	742.7	59.0	15.0	54.3	12.4		nnw.			1		6	n.				d. clouds.
9	29.30	744.2	62.7	17.1	58.0	14.4		wnw.			0-1		9					d. clouds.
10	29.21	741.9	58.0	14.4	53.0	11.7		ese.			4		3					blue sky.
11	29.20	741.7	49.1	9.5	47.3	8.5		e.			5		10					raining.
12	29.09	738.9	49.0	9.4	45.1	7.3		ene.			2		4					d. clouds.
13	29.06	738.1	53.7	12.1	48.1	8.9		nne.			1		2					blue sky.
14	29.16	740.7	54.2	12.3	50.2	10.1		e.			2		6					d. clouds.
15	29.27	743.4	53.0	11.7	50.2	10.1		calm.			0		4	ene.				d. clouds.
16	29.35	745.5	53.5	11.9	50.0	10.0		wsw.			0-1		2					blue sky.
17	29.32	744.7	57.1	13.9	53.1	11.7		ese.			1		1					blue sky.
18	29.28	743.7	55.0	12.8	52.2	11.2		e.			0-1		0					misty.
19	29.17	740.9	58.0	14.4	53.4	11.9		ene.			1		7	nw.				d. clouds.
20	29.13	739.9	59.0	15.0	55.3	12.9		ene.			0-1		2					misty.
21	29.06	738.1	61.0	16.1	55.0	12.8		sse.			0-1		10					overcast.
22	29.00	736.6	58.4	14.7	53.5	11.9		s.			1		7					d. clouds.
23	28.96	735.6	57.9	14.4	52.9	11.6		sse.			2		9	sw.				d. clouds.
24	29.09	738.9	53.9	12.2	52.1	11.2		wnw.			2		9					raining.
25	29.24	742.7	54.7	12.6	53.0	11.7		n.			3		9					d. clouds.
26	29.55	750.0	51.0	10.6	48.0	8.9		n.			1		2					blue sky.
27	29.48	748.8	52.9	11.6	50.0	10.0		calm.			0		9	nw.				showery.
28	29.29	744.0	48.8	9.3	48.0	8.9		wnw.			1		9					foggy.
29	29.28	743.7	51.6	10.9	51.0	10.6		calm.			0		1					blue sky.
30	29.31	744.5	59.8	15.4	56.1	13.4		ese.			2		6					d. clouds.
31	29.42	747.3	61.7	16.5	56.8	13.8		ese.			3-5		9					misty.
Mean	29.24	742.7	55.5	13.1	51.7	10.9							5.7					
August 1	29.45	748.0	59.6	15.3	57.0	13.9		ese.			2		5					misty.
2	29.36	745.7	62.0	16.7	59.7	15.4		ese.			1		9					misty.
3	29.18	741.2	62.7	17.1	61.1	16.2		e.			2		10					showery.
4	29.17	740.9	56.3	13.5	54.4	12.4		wnw.			3		4					d. clouds.
5	29.35	745.5	52.0	11.1	50.6	10.3		nne.			0-1		8					d. clouds.
6	29.12	739.6	60.0	15.6	56.6	13.7		sse.			3		10					misty.
7	29.21	741.9	58.4	14.7	55.7	13.2		n.			4		9					d. clouds.
8	29.57	751.1	53.9	12.2	50.6	10.3		sse.			0-1		10					showery.
9	29.65	753.1	52.7	11.5	49.8	9.9		ssw.			0-1		8					d. clouds.
10	29.47	748.5	55.0	12.8	51.1	10.6		sse.			3		3	nw.				d. clouds.
11	29.32	744.7	59.0	15.0	56.8	13.8		ese.			4		9	nw.				misty.
12	29.16	740.7	60.0	15.6	58.0	14.4		ese.			3		9					misty.
13	28.98	736.1	61.2	16.2	58.8	14.9		se.			2		9					misty.
14	28.96	735.6	57.4	14.1	55.6	13.1		wnw.			2		9					d. clouds.
15	29.18	741.2	54.0	12.2	52.3	11.3		wnw.			3		9					d. clouds.
16	29.18	741.2	47.5	8.6	45.3	7.4		nne.			0-1		9					d. clouds.
17	29.04	737.6	52.0	11.1	49.8	9.9		n.			1		10					raining.
18	29.06	738.1	49.9	9.9	47.8	8.8		ssw.			1		2					blue sky.
19	28.78	731.3	53.5	11.9	50.9	10.5		sse.			2		8					d. clouds.
20	28.99	736.3	46.0	7.8	42.0	5.6		nnw.			4-6		9					d. clouds.
21	29.22	742.2	38.7	3.7	37.4	3.0		wnw.			0-1		1					blue sky.
22	29.15	740.4	46.6	8.1	43.5	6.4		ssw.			2		10					overcast.
23	29.20	741.7	45.1	7.3	44.8	6.9		nnw.			0-1		4					d. clouds.
24	29.36	745.7	43.0	6.1	42.0	5.6		nne.			0-1		6					d. clouds.
25	29.25	742.9	50.0	10.0	48.1	8.9		s.			2		7					d. clouds.
26	29.45	748.0	43.4	6.3	42.0	5.6		ne.			0-1		4					d. clouds.
27	29.52	749.8	47.2	8.4	45.1	7.3		ese.			0-1		8					d. clouds.
28	29.41	747.0	50.4	10.2	48.5	9.2		nnw.			0-1		1					blue sky.
29	29.44	747.8	41.2	5.1	38.9	3.8		ene.			1		1					blue sky.
30	29.25	742.9	45.0	7.2	41.8	5.4		ene.			2		9					d. clouds.
31	29.31	744.5	41.3	5.2	40.0	4.4		ne.			1		2					blue sky.
Mean	29.25	742.9	51.8	11.0	49.6	9.8							6.8					

NOTE.—The above observations, taken at 7 a. m., Washington time, were received too late for publication in the DAILY BULLETIN, and are given here in full from the opening to close of station. For explanation, see page 20.

REVIEW.

INTERNATIONAL METEOROLOGY.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following description refers to chart ii. for the month of May, 1883, issued with this SUMMARY. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and prevailing wind-direction over the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich mean time.

In May, 1883, the area of absolute barometric minima was indicated by the isobar for 29.6 (751.8), and occupied that part of British India lying between N. 20° and 35° and E. 70° and 90°; in this region the mean atmospheric pressure ranged from 29.5 (749.3) to 29.59 (751.6). In southern India the mean pressure ranged from 29.61 (752.1) to 29.74 (755.4). Two areas of low mean pressure, each indicated by the isobar for 29.8 (756.9), are shown on the chart. The first of these extends from the Norwegian coast north of N. 65°, southwestward to the Färöe and Shetland islands, the lowest mean reported being 29.78 (756.4); the second area occupies the region north of the Black sea, and comprises the Crimea and the provinces of South and Little Russia. Over the British Isles, the southern peninsulas, and central and western Europe, the mean atmospheric pressure ranges from 29.9 (759.4) to 30.0 (762.0); in Scandinavia, Austria and Russia, it varies from 29.8 (756.9) to 29.88 (758.9). In the North American continent the mean pressure is least over the country lying between W. 97° and 115°, from Dakota and Montana southwestward to the Gulf of California; within this region the means range from 29.8 (756.9) to 29.9 (759.4). In Mississippi, Alabama and Tennessee, and in the states bordering on the Atlantic south of the fortieth parallel, the mean pressure varied from 30.0 (762.0) to 30.05 (763.3). In the Canadian maritime provinces the mean pressure was not below 30.0 (762.0), and in the north Pacific coast region, it was from 30.0 (762.0) to 30.05 (763.2). In all other parts of the United States and Canada the mean pressure was below 30.0 (762.0). In Greenland and Iceland the mean pressure averaged 29.89 (759.2). In Japan and on the eastern coast of China, it ranged from 29.85 (758.2) to 29.90 (759.4).

The only area of barometric maxima shown on the chart is that of the north Atlantic ocean; this area is very extensive and occupies the Atlantic ocean south of N. 50°, and from W. 15° westward to the American coasts. The centre of this area, where the mean pressure is 30.3 (769.6), is situated between N. 30° and 35°, and W. 40° and 45°. From this region the mean pressure gradually decreases, but nowhere over the Atlantic ocean south of N. 50°, or west of W. 15°, does it fall below 30.0 (762.0).

Compared with the chart for the preceding month (April, 1883,), there has been a slight increase of pressure in the north Pacific coast region and in the extreme northwestern part of the United States, also in Florida and the Gulf States; in other parts of the United States there has been a slight decrease of pressure. In the maritime provinces there has been an increase of pressure, but in other parts of Canada the mean pressure is below that of the preceding month. Over the north Atlantic ocean there has been a general increase of pressure. In Europe there has been a slight increase in the southern peninsulas, but in other districts the mean pressure was less than that for April, the decrease being most marked in Denmark, Scandinavia, and Russia, where it averaged .2 inch. In Hindostan there has been a decrease of about .1 inch. In Siberia, eastern China, and Japan the pressure has decreased.

Compared with the corresponding month of previous years the mean atmospheric pressure in May, 1883, was slightly below the normal in the United States, east of the Mississippi river, except in Florida; it was also below the normal in the north Pacific coast region, Colorado, Kansas, and northern Texas. In other districts of the United States the pressure was in general slightly above the normal. In Canada it was generally below the normal, except in the maritime provinces where there was a slight excess. In Europe the mean atmospheric pressure was normal or slightly below.

The following table gives the mean pressure and mean temperature, with corresponding departures for May, 1883, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the last six years:

Countries.	Mean pressure.			Mean temperature.		
	May mean of 6 (1877–'82) years.	May, 1883.	Departure.	May mean of 6 (1877–'82) years.	May, 1883.	Departure.
				°	°	°
Algeria	30.04	30.00	— 0.04	72.8	67.8	— 5.0
Austria	29.90	29.86	— 0.04	64.9	63.9	— 1.0
British Isles	30.01	29.96	— 0.05	55.7	52.6	— 3.1
Denmark	29.95	29.90	— 0.05	54.0	55.2	+ 1.2
France	29.97	29.96	— 0.01	62.7	64.9	+ 2.2
Germany	29.97	29.92	— 0.05	59.5	62.1	+ 2.6
India[a]	29.63	29.59	— 0.04	91.3	93.5	+ 2.2
Italy	29.94	29.94	normal	67.8	67.8	normal
Norway	29.89	29.81	— 0.08	51.3	51.5	+ 0.2
Portugal	30.01	29.97	— 0.04	67.0	63.7	— 3.9
Russia	29.90	29.85	— 0.05	62.0	62.6	+ 0.6
Spain	29.98	29.98	normal	68.5	64.1	— 4.4
Sweden	29.92	29.84	— 0.08	50.2	52.6	+ 2.4

[a] Mean for five years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of May, 1883, as compared with the means for six years:

Stations.	Mean pressure.			Mean temperature.		
	May mean of 6 (1877–'82) years.	May, 1883.	Departure.	May mean of 6 (1877–'82) years.	May, 1883.	Departure.
				°	°	°
Gibraltar	30.03	30.01	— 0.02	69.5	67.3	— 2.2
Malta, Mediterranean Sea	29.94	29.97	+ 0.03	69.5	67.4	— 2.1
Sandwick Manse, Orkney Islands	29.93	29.85	— 0.08	49.2	48.1	— 1.1
Bridgetown, Barbadoes	30.00	30.01	+ 0.01	83.1	83.2	+ 0.1
Cape Town, Cape Good Hope	30.07	.....	.....	65.6	.....	.....
Fort Napier, Natal, South Africa	29.94	29.87	— 0.07	71.3	74.7	+ 3.4
Freetown, Sierra Leone	29.91	29.88	— 0.03	86.4	83.6	+ 2.8
Mauritius, Indian Ocean	30.06	30.06	normal	75.6	75.8	+ 0.2
Melbourne, New South Wales	30.04	30.00	— 0.04	53.8	51.5	— 2.3
Nassau, Bahamas	30.02	30.06	+ 0.04	77.3	78.9	+ 1.6
Godthaab, Greenland	29.86	29.89	+ 0.03	35.0	33.4	— 1.6
Stykkisholm, Iceland	29.89	29.89	normal	41.4	36.7	— 4.7
Thorshavn, Färöe Islands	29.91	29.79	— 0.12	46.4	46.4	normal
Zi-Ka-Wei, China	29.90	29.91	+ 0.01	63.0	62.2	— 0.8
Athens, Greece[a]	29.93	29.90	— 0.03	73.9	73.0	— 0.9
Cagliari, Sardinia, Italy	29.92	29.93	+ 0.01	69.5	68.7	— 0.8
Tokei, Japan	29.93	29.91	— 0.02	61.3	58.3	— 3.0
Angra, Azores*	30.16	30.12	— 0.04	62.5	60.8	— 1.7
Funchal, Madeira Islands	30.11	30.07	— 0.04	67.9	64.9	— 3.0
Ponta Delgada, Azores	30.16	30.11	— 0.05	65.1	62.2	— 2.9
Archangel, Russia	29.90	29.89	— 0.01	46.1	52.7	+ 6.6
Tiflis, Russia	29.87	29.87	normal	70.7	75.6	+ 4.9
Astrakhan, Russia	29.90	29.92	+ 0.02	72.3	76.8	+ 4.5
Ekaterinburg, Russia	29.87	29.92	+ 0.05	57.9	62.6	+ 4.7
Tashkend, Toorkistan, Asia	29.86	29.79	— 0.07	78.1	80.6	+ 2.5
Barnaul, Siberia, Asia	29.90	29.96	+ 0.06	58.1	52.9	— 5.2
Yeniseisk, Siberia, Asia*	29.93	29.98	+ 0.05	47.2	38.5	— 8.7
Pekin, China	29.83	29.81	— 0.02	68.4	67.5	— 0.9
Nikolaevsk on the Amoor, Asia	.....	.....	.....	36.4	37.0	+ 0.6
San Juan de Puerto Rico, W. I[a]	30.01	30.02	+ 0.01	79.9	80.1	+ 0.2
Beirut, Turkey in Asia	29.93	29.93	normal	75.6	74.5	— 1.1
Mexico, Mexico	.....	.....	.....	.....	.....	.....
Havana, Cuba, W. I	30.02	30.03	+ 0.01	78.4	75.9	— 2.5
Paramaribo, D. Guiana, S. A	30.05	30.02	— 0.03	80.4	78.4	— 2.0
York Factory, B. A	30.05	30.04	— 0.01	28.2	31.5	+ 3.3

* Means for five years only.

In the United States the mean temperature of the air was below the normal in all districts, the departures being greatest in the lake region and in the northwestern sections of the country. In Canada the temperature was below the normal, except in the maritime provinces where it was about normal. In Europe the mean temperature of the air was below the normal in the Iberian peninsula; in the other districts it was normal or slightly above. In British India the highest mean temperature reported was 105°.4 Fahr. (40°.8 Cent.), at Nagpur, and the lowest was 79°.3 Fahr. (26°.3 Cent.), at Sibsagar.

The following are some of the extreme mean temperatures reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Petro-Alexandrovsk, Turkestan, Asia	86.0	30.0	York Factory, B. A	31.5	— 0.5
Cairo, Egypt	85.3	29.6	Jacobshavn, Greenland	32.9	0.5
Freetown, Africa	83.6	28.7	Godthaab, Greenland	33.4	0.8
Bridgetown, Barbadoes	83.2	28.4	Behring's Island (N. 55° 10′, E. 166° 30′)	33.7	0.9
Manila, Philippine Islands	82.4	28.0	Stykkisholm, Iceland	36.7	2.6

In the United States the winds were mostly from south through west to northwest; in Canada they were generally from southwest to northwest. Over the Atlantic ocean the winds were southerly and southeasterly, from the coasts of America eastward to about W. 45°; from that meridian eastward to the European coasts they were mostly northeasterly. In Europe the winds were mostly westerly, northwesterly and northerly; in the northern peninsulas they were southwesterly.

The rainfall during the month of May, 1883, was below the average in Florida, the Gulf states, the middle Atlantic states and in the extreme northwest, but in other districts it greatly exceeded the average, the excess being greatest in the lake region, California, and the Missouri valley; in these districts nearly double the average amount of rain fell during May, 1883. In Canada the rainfall was in excess of the average. In Europe it was normal or slightly below the normal.

With this REVIEW is issued international chart iii. for the month of December, 1881. This chart continues the series of international charts begun in November, 1877, and exhibits the paths of the principal atmospheric depressions that have appeared in the northern hemisphere. The data are charted for each day of the month on the maps accompanying each issue of the "International Bulletin," and from these charts and additional miscellaneous data are traced the movements of the centres of barometric minima.

The paths of thirty depressions have been traced for the month of December, 1881. The following concerns the general distribution of these disturbances: Ten are traced over the North American continent, of this number, five appear to have originated in the northwestern part of the continent, and have moved southeastward over the British Possessions to about the Lake Superior region, passing thence eastward over the northern part of the United States and Canada. One depression is traced from the north Pacific coast region eastward to the lake region and then northeastward to the mouth of the Saint Lawrence river; two depressions are shown in the lake region, one being a continuation of low area xv. of the November chart. Two depressions developed in the Gulf of Mexico and moved northeastward over the United States to the Atlantic. Twelve depressions are charted in the north Atlantic ocean, of this number, four are continuations of storms which passed over the United States and Canada; five developed in the region north of the sixtieth parallel; two appeared near N. 50°, and between the thirty-fifth and fortieth meridians, and one, number xxii., was first observed near N. 30°, W. 75°. Four depressions are shown in southern Europe; one is a continuation of number xxii., above referred to, and the others are traced over the Mediterranean and near the coast of Algeria. Three depressions appeared in the British Isles; one of them moved southeastward from Greenland and passed over northern Scotland; one, number xxiii., passed over England, the North Sea, northern Germany, and the Baltic, and disappeared in central Russia; and one developed in the neighborhood of the English channel and dissipated in the same region. One disturbance, number xii., is shown in the Ural region, and is a continuation of the depression charted as number xxvii. on the chart for last month. Two depressions appeared in northeastern Asia. A special feature of the month was the prevalence of barometric maxima over Europe, especially in the central and eastern parts of the continent.

The following descriptions refer to the depressions traced in North America:

I.—This was a continuation of low area xv., of the chart for November, 1881. At the close of that month the area of disturbance extended from Texas to the lake region; on December 1st it occupied the lower lake region, New England, and the provinces of Ontario and Quebec, the centre being near Rockliffe, Ontario, where the barometer read 29.61 (752.1), calm, heavy rain. During the day the disturbance moved towards the Gulf of Saint Lawrence, attended by rainy weather in the lower lake region and the Saint Lawrence valley, and by the 2d it had reached the Gulf, where it displayed increased energy, and was attended by moderate to strong gales, and stormy weather in the maritime provinces. It passed over Newfoundland into the Atlantic, and is hereafter described as low area xiii.

II.—This disturbance appeared on the northwestern boundary of the United States on the 5th; it moved eastward, and on the 6th the centre was over Lake Superior. The course then changed to the southeastward and the disturbance moved into Ontario, the pressure of the centre having now fallen below 29.4 (746.7); during the 7th and 8th it moved eastward over northern New England and the maritime provinces, its passage being marked by moderate to strong gales, accompanied by rain or snow. During the 8th the disturbance moved rapidly northeastward over Newfoundland and entered the Atlantic. This depression is hereafter referred to as low area xvi.

III.—This was a slight depression which approached the United States from the northwest territories and was shown in the upper lake region on the 8th; on the 9th it was in northern Ontario, whence it passed eastward over the Gulf of Saint Lawrence to Newfoundland, where it was apparently central on the 10th. This disturbance is hereafter described as low area xx.

IV.—This depression appeared in the north Pacific coast region on the 10th, on which date the barometer at Olympia, Washington Territory, read 29.55 (750.6), being a fall of .64 inch, or 16.2 mm. since the simultaneous observation of the 9th; light snows occurred in Washington Territory and Oregon, and light rains in California. By the 11th the disturbance had extended eastward to Dakota, but the pressure was still least in Washington Territory; by the 12th the region of least pressure occupied Minnesota and Manitoba, where the barometer ranged from 29.47 (748.5) to 29.57 (751.1). During the day the low area moved southward from Minnesota over Iowa and then eastward to Lake Michigan, where it was central on the 13th. The disturbance then moved northeastward over Ontario and Quebec, and on the 14th it was central near the mouth of the Saint Lawrence river, and by the 15th it had apparently filled up. This depression, during its progress over the lakes, was attended by very heavy rains and high winds in the region east of the ninetieth meridian and north of the thirty-fifth parallel.

V.—This disturbance apparently originated in Alaska. On the 13th the barometer at Sitka read 29.32 (744.7), being a fall of .45 inch, or 11.4 mm. during the preceding twenty-four hours. The low area retained its position until the 14th, when it apparently began to move southeastward, and by the 15th it had reached the northern boundary of the United States; it then passed eastward, with its centre to the north of the lake region, and apparently filled up in northern Quebec on the 18th; it displayed no storm energy during its transit.

VI.—This depression, like the preceding, developed in Alaska prior to the 18th; it remained in that region until the 20th, the barometer ranging from 28.93 (734.8) to 29.38 (746.2). On the 20th the disturbance disappeared beyond the limits of observation.

VII—Decreasing pressure and the circulation of the winds indicated the development of a depression near the Texas coast on the 19th, and by the 20th a disturbance, attended by heavy rain, had moved into Arkansas. It moved slowly northeastward, and on the 21st it was shown in Missouri, the pressure near the centre being about 29.95 (760.7), while heavy rains

occurred in all districts east of the Mississippi river. On the 22d the storm-centre was in Indiana, where the pressure had now fallen below 29.8 (756.9), and moderately high winds and rainy weather prevailed in the southern and eastern districts. Moving east-northeastward, with gradually decreasing pressure during the day, the disturbance reached the Atlantic coast on the 23d, on which date the centre was in Connecticut, where the pressure was 29.44 (747.8). As the storm-centre neared the coast line, vessels to the northward of Cape Hatteras and west of the sixty-fifth meridian, encountered heavy sw. gales, shifting to nne. This disturbance moved over the Atlantic in a northeasterly course, and is hereafter described as low area xxvii.

VIII.—By the morning of the 22d the barometer at Sitka, Alaska, had fallen to 28.93 (734.8); during the day it began to rise and on the following day it read 29.2 (741.7). The disturbance appears to have been rapidly transferred southeastward, and by the morning of the 24th the pressure, although increased to 29.65 (753.1), was least in Manitoba; on the 25th, the position of the centre of depression remained unchanged, but by the following day it had passed northeastward beyond the range of observations.

IX.—This disturbance developed in the Gulf of Mexico on the 25th; on that date, the schooner "Gersh Banker," reporting a hurricane in about N. 28°, W. 87°, in which she lost spars and sails. By the morning of the 26th the disturbance had reached Alabama, the pressure near the centre being about 29.85 (758.3); it moved northeastward accompanied by heavy rains and moderate gales along the coast, and on the 27th it was shown in West Virginia; during the day it passed into the Atlantic, causing strong sw. gales at sea. This depression is hereafter described as low area xxviii.

X.—This depression appeared in Alaska on the 25th, and remained in that region until the 27th, when it began to move southeastward, and by the 28th it had reached Manitoba, the pressure at the centre of disturbance falling below 29.4 (746.7) It moved southeastward to the lower lake region and thence along the Saint Lawrence valley, and at the close of the month it was central near Father Point, Quebec, where the barometer read 29.2 (741.7). This area, during its passage, caused rainy weather and high winds to moderate gales in the lake region, New England, and the Maritime Provinces.

The following descriptions refer to the depressions traced over the Atlantic, and in Europe:

XI.—From the 1st to the 6th, the atmospheric pressure over the region north of the sixtieth parallel and between W. 10° and 50°, ranged from 28.95 (735.3), to 29.4 (746.7), and caused during that period, a continuation of southwesterly to southerly winds and rainy weather over the British Isles and Scandinavian peninsula. By the 7th the disturbance had moved east-southeastward and was central near the Färöe Islands, the barometer at Thorshaven reading 28.67 (728.2), wind w. 18 miles an hour. As the barometric gradient became steeper over the British Isles, the winds increased in force, and moderate to strong sw. to w. gales and rainy weather prevailed over the northern and western portions of the United Kingdom, with moderate southerly gales in Denmark and Scandinavia. The disturbance passed northeastward, after being joined by a depression which had moved up from the Atlantic, and during the 8th and 9th it existed off the Norwegian coast as an extensive depression with no well-defined centre, but with several subsidiary disturbances within its area. By the 10th, it had passed northeastward and disappeared in the Arctic regions.

XII.—This depression appeared in the Ural region on the 1st, and was probably a continuation of low area xxvii. of the November chart. It moved southeastward during the 2d and 3d, and filled up in Central Asia on the last-mentioned date.

XIII.—This is a continuation of low area i. above described. After passing over Newfoundland the disturbance moved rapidly eastward and on the 3d was central near N. 51,° W. 37°; on reaching the ocean the disturbance appears to have increased in energy, causing some disasters to shipping. On the 2d, the schooner "Water Lily" encountered the gale when sixty-three miles from Saint Pierre, Newfoundland, and was abandoned, after losing rudder, spars, &c. The s. s. "Bath City," which had suffered greatly during the November gales, was also abandoned, in N. 46° 20′, W. 45° 00′, on the 3d. On the 3d, the s. s. "Gellert,' W. Kuhlewein, commanding, reported, in N. 50° 18′, W. 33° 53′, barometer 29.3 (744.2), wind w. by s., force 9–10; the s. s. "Amsterdam," T. M. Lucas, commanding, in N. 49° 08′, W. 28° 21′, had barometer 29.51 (749.5), wind shifting from n. to s., squally weather, with hail and rain. Captain Beynon, commanding the s. s. "Vaderland," reported as follows: "2d, in N. 46° 24′, W. 42° 17′, at 3.15 a. m., Greenwich time, wind northerly, light, weather cloudy, very long swell from n. by e.; 2.36 p. m., hazy weather, with drizzling rain, strong breeze with hard squalls, 6.30 p. m., same weather, wind blowing a gale from ssw., confused sea. On the 3d, in N. 48° 15′, 35° 33′, strong wsw. gale, heavy hail squalls, very high sea; 2.8 p. m. (N. 48° 42′, W. 32° 12′), gale at its height, frequent hail squalls; 8 p. m., weather moderating." Vessels to the eastward of W. 35°, encountered strong sw. gales, with furious seas, and those to the westward of that meridian had equally strong nw. gales. On the 4th, the disturbance moved northeastward without any diminution of energy, and during the day it probably united with a large and deep depression (number xi.) which occupied the ocean north of 55°.

XIV.—This was a slight disturbance which formed over the western part of the Mediterranean and southern Spain on the 4th, moved eastward over Algeria during the 5th, and on the 6th was central off the eastern coast of Tunis. H. M. S. "Beacon," in N. 35° 19′, E. 12° 53′, reported barometer 30.06 (763.5), wind e., force 4, and the bark "Peppina," in N. 36° 19′, E. 14° 19′, barometer 30.11 (764.8), wind se., force 4. By the 7th the pressure had decreased to 29.7 (754.4), and the disturbance was central near Malta; on board the above-mentioned vessels the barometer read 29.72 (754.9) and 29.79 (756.7), respectively, with ene. wind of force 6 at the former, and se. wind of force 7 at the latter, with heavy rain; at Malta the barometer read 29.73 (755.1), wind s., force 3. During the 7th, 8th, and 9th, the disturbance moved slowly eastward, causing stormy, unsettled weather over the eastern part of the Mediterranean, and finally disappeared on the last-mentioned date.

XV.—This disturbance appeared immediately after the passage of low area xiii., and was probably a secondary development of that depression. On the 5th the s. s. "Switzerland," in N. 48° 48′, W. 31° 04′, reported, 4 p. m., barometer 28.79 (731.3), vessel struck by a hurricane from e. to se., sw. and n., with rain and blinding spray; this lasted two hours and then settled into a heavy nw., gale; in N. 47° 17′, W. 32° 52′, the s. s. "Canada," had a heavy sw. gale; Captain Bonjer, commanding the s. s. "Maas," reported as follows: "5th, 4 p. m., barometer 29.4 (746.7), wind shifting from sw. to s., e. and n.; barometer falling rapidly to 28.37 (720.6); at 7.50 p. m. a dead calm set in which lasted about ten minutes, when suddenly the wind came out from nnw. with hurricane force, causing a very high sea; at 10 p. m. the wind began to decrease, but it continued to blow a heavy gale until 7 a. m. of the 6th. The ship's position during the gale was N. 50° 28′, W. 29° 20′." The disturbance moved northeastward, and on the 6th it was central off the western coast of Ireland, causing moderate s. gales and rainy weather over that country. During the day the depression probably moved north-northeastward and merged in low area xi., then central near the Färöe islands.

XVI.—This is a continuation of low area ii. of this chart. As the disturbance moved over Newfoundland during the 8th it was attended by moderate to strong gales on the coasts of New England and the maritime provinces. At Saint Johns, Newfoundland, several vessels dragged anchor and sustained damage. On the 9th the disturbance was central near N. 53°, W. 37°; moderate southerly gales were reported to the eastward of W. 35°, while strong w. and nw. gales prevailed to

the south and westward; on the 10th the disturbance moved slowly eastward, and by the 11th it was shown off the southwestern coast of Ireland, the pressure near the centre of disturbance being about 29.75 (755.6). During the day this disturbance probably became merged in a large area of relatively low pressures which extended from England southeastward over central Europe to the Mediterranean, and which contained several distinct storm-centres.

XVII.—This was a secondary disturbance which appeared in southern England on the 9th; during the 10th, 11th and 12th it occupied the English channel and the North Sea, the pressure in its central region ranging from 29.5 (749.3) to 29.7 (754.4). It caused unsettled, rainy weather over the British Isles during its passage, and finally filled up on the 12th.

XVIII.—This disturbance occupied the southern part of the Iberian peninsula on the 9th, and had probably moved in from the ocean. Referring to the unsettled weather which prevailed near the western coasts of Spain and Portugal, Captain Fry, commanding the bark "Pawashick," near N. 41° 37′, W. 11° 27′ on the 9th, reports as follows: "9th, 10 p. m., very sudden and violent storm lasting four hours, wind sse. to se. by e. force 8–9 for two hours, with much rain, barometer 29.51 (749.5). The barometer had fallen one tenth of an inch per hour for five hours and had been very unsteady for three days, oscillating .3 to .4 inch per day." During the 9th the disturbance moved over southern Spain and entered the Mediterranean, and on the 10th it was central near the Balearic Isles, its central region being inclosed by the isobar for 29.7 (754.4). By the 11th it had moved northeastward to Sardinia, its passage being marked by moderate gales and stormy weather in Algeria and over the Mediterranean. On the 12th the disturbance was central in Italy where it apparently dissipated during the day.

XIX.—From the 10th to 13th, the atmospheric pressure over southern Greenland ranged from 28.93 (734.8), to 29.19 (741.4). By the 14th the region of least pressure was shown over Iceland where the barometer read 28.91 (734.3), wind sw. force 6. snowing. During the 13th an area of high pressure occupied the British Isles and the greater part of Europe, its centre being over the Gulfs of Bothnia and Finland; as the depression moved southeastward, the barometric gradient became steeper and high winds to moderate gales prevailed in Scandinavia and in Scotland. During the 15th and 16th the disturbance moved slowly southeastward, causing a general decrease of of pressure, with rainy, unsettled weather in the regions to the eastward and southeastward. During the 16th a great decrease of pressure occurred and by the morning of the 17th, the isobar for 28.8 (731.5) included Scotland and stretched northwestward to Iceland; at the centre of disturbance, which was near the Hebrides, the barometer read 28.58 (725.9). Strong westerly breezes to moderate gales prevailed over Ireland, the Channel and the bay of Biscay, while southerly winds were reported at stations on the shores of the North Sea. On the 18th the disturbance moved northeastward to the western coast of Norway, the pressure at the centre having fallen to 28.4 (721.3). Exceedingly steep gradients now existed over the British Isles, northern and central Europe, so that the winds increased to the force of a strong gale in nearly all districts north of the fiftieth parallel and west of 20° east longitude. The depression passed northeastward with slight change in pressure and on the 19th it was central off the Norwegian coast, north of N. 65°. The winds retained their force over the Baltic and the northern part of the North Sea, but moderated somewhat in the other districts, while the rainy weather continued over northwestern Europe. On the 20th this disturbance passed northeastward and disappeared in the Arctic regions.

XX.—This is a continuation of the disturbance traced as low area iii. on the chart. After passing over Newfoundland on the 10th, it was probably joined by a disturbance which had moved over the Atlantic from the vicinity of Bermuda. During the passage of this last, strong ne. gales prevailed off the coast of the United States. Captain G. D. Spicer, commanding the ship "E. J. Spicer," reported on the 10th, near N. 39° 40′, W. 58° 40′, as follows: "7.30 p. m., a very heavy gale from s. veering to ssw., sw., w., and nw., in eight hours time; part of this time the wind blew with hurricane force, attended by heavy rain, lightning, and very high sea." Low area xx., after uniting with the disturbance just referred to, became central on the 11th, near N. 50°, W. 42°, and during the day it apparently moved northeastward and merged in low area xix., which then occupied the region north of the sixtieth parallel.

XXI.—This disturbance developed in Algeria on the 13th; it moved eastward and by the 14th the region of low barometer occupied Tunis; the storm-centre then moved northeastward with decreasing pressure, and passed over Sicily and the southern part of the Italian peninsula on the 15th and 16th, disappearing over the Adriatic on the latter date.

XXII.—The data relating to the development and earlier movement of this disturbance are very meagre; the reports, however, are sufficient to indicate the presence of an atmospheric disturbance over the region as charted. On the 15th the pressure over the eastern part of the United States varied from 30.2 (767.1) to 30.5 (774.7), except on the south Atlantic coast and in Florida, where it was below 30.1 (764.5). The area of high barometer extended east-southeastward from the Virginia coast to Bermuda, where the barometer read 30.2 (767.1), but from Hatteras southward the pressure was about 30.05 (763.3), with high winds and rainy weather; it also decreased to the southeastward of the Bermudas. No barometrical observations have been received by which the disturbance can be definitely located; the following reports, however, from the logs of vessels serve to indicate its presence on the 15th: The s. s. "New York," off Cape Carnaveral, had a violent nne. gale lasting thirty-six hours; brig "Scotia," in N. 32°, W. 73°, heavy n. by e. gale, which lasted forty-eight hours; the s. s. "Edith Godden," about one hundred and forty miles southeast of Hatteras, had a severe n. by e. gale, with blinding snow storm; in N. 36° 00′, W. 74° 30′, the brig "O. B. Stillman" had a heavy ene. gale lasting forty-eight hours; split sails and started water tanks; off Hatteras the brig "Thetis," reported a heavy ne. gale, in which she had sails split; the brig "Tula," fifty miles north of Hatteras had a hurricane from ene., lasting eighteen hours; vessel lost deckload and several sails; off Cape Lookout the s. s, "Delaware," encountered a heavy nne. gale increasing to hurricane, during which the ship was hove to for fifteen hours; the ship "David Crockett," fifty miles sse. of Cape Hatteras, had a violent ssw. gale shifting suddenly to nne. By the morning of the 16th the pressure at Bermuda had decreased from 30.20 (767.1) to 29.87 (758.7); over the United States and eastward to the sixty-eighth meridian the pressure was above 30.20 (767.1), and from the Azores westward to the fiftieth meridian it was also above 30.20 (767.1), while a trough of low pressures existed over the ocean between those limits. Strong n. and nne. gales occurred along the coast of the United States, and moderate to strong s. winds prevailed near W. 50°.

On the 17th the isobar for 30.0 (762.0) enclosed an extensive region between N. 25° and 35° and W. 65° and 48°; within this region the lowest reported pressure was 29.78 (756.4); at Bermuda the barometer had risen to 29.97 (761.2), wind nnw.; near N. 30°, W. 55°, it was easterly, and on the twenty-fifth parallel it was westerly. During the 18th and 19th, the disturbance appears to have moved slowly northeastward, the high area which existed to the eastward being gradually forced southeastward; on the 20th the depression was well defined by the reports as central near N. 45°, W. 45°, where the pressure was 29.8 (756.9); a moderately steep gradient existed west of the fiftieth meridian, so that moderate to strong n. and nw. gales prevailed over that region; north of the storm-centre moderate e. gales were reported, and to the eastward between W. 35° and 25°, moderate s. winds were reported; east of W. 25°, however, moderate to strong w. and nw. gales prevailed, that region being under the influence of low area xxiii. On the 21st the disturbance was probably near N. 50° and between W. 20° and 25°, but its position was not well-defined; on the

22d the storm-centre, having moved slightly south of east, reached Brittany where the pressure was 29.55 (750.6). By the 23d a great change had taken place in the distribution of pressure; over the British Isles, western Europe, and the Bay of Biscay, it had increased to 30.4 (772.1), and the area of low barometer was forced to the southeastward and passed rapidly over France to the Mediterranean, its centre on the 23d being near the western coast of Italy. During the 24th and 25th the disturbance lingered over southern Italy and Greece, and finally disappeared on the last-mentioned date. On that date the pressure at the centre of the high area above referred to, increased to 30.7 (779.8), and the region of high pressures included the whole of Europe, except Scandinavia and northwestern Russia.

XXIII.—After the passage of low area xix., on the 17th and 18th, the pressure over the British Isles increased to 29.5 (749.3), but a sudden decrease occurred and by the 20th a deep depression, indicated by the isobar for 28.8 (731.5) occupied the British Isles. Furious westerly gales prevailed over the Atlantic from W. 20° eastward to the English Channel; in the southern parts of England the winds were sw. and nw., and blew with the force of a strong gale; at stations on the French coast the westerly and southwesterly winds attained the force of a strong gale. Much damage was done to shipping near the coasts and to property on shore, the gale being especially severe in the Channel islands. The centre of disturbance moved rapidly eastward, and by the 21st it was shown in northern Germany, the pressure at the centre having increased to 29.1 (739.1); the winds to the westward of the centre decreased somewhat in force, but in many places they continued to blow with the force of a moderate gale; moderate winds prevailed to the northward of the storm-centre, where the gradient was slight. The depression continued its easterly movement and passed into Russia, and on the 22d it occupied the government of Moscow, the pressure having increased to 29.55 (750.6). On the 23d the disturbance moved northeastward and filled up during the day; this depression was attended by heavy rains during its passage over western Europe, and by snow in Russia.

XXIV.—This depression appeared to the northward of Scotland on the 21st, the lowest reported pressure being 29.19 (741.4), wind nw., at Thorshavn, Färöe islands. On the 22d it moved northeastward along the Norwegian coast, attended by generally higher temperature and light snow, and on the 23d it disappeared to the northward of Scandinavia, causing moderate w. gales at the northern stations.

XXV.—The pressure over southern Greenland decreased about .5 inch from the 20th to 21st; the barometer on the latter date, reading about 29.08 (738.6) The disturbance appears to have moved south-southeastward, the region of least pressure being shown near N. 53°, W. 38° on the 23d; moderate to strong northwesterly gales prevailed over the region between N. 40° and 50° and west of W. 40°, while moderate to strong southerly and southwesterly gales were reported from N. 45° to 55°, and between W. 35° and 25°. As the depression moved eastward the barometric gradient in its front became much steeper, and the southerly winds attained the force of a whole gale; the s. s. "Prussian," J. G. Stevens commanding, reported in N. 54° 50′, W. 16° 45′, barometer 29.64 (751.8), wind s., force 9, raining; at Monach lighthouse, Hebrides, the barometer read 30.18 (766.6), wind ssw., force 7. To the westward the winds were w. and nw., ranging from force 4 to 7. The eastward movement of the depression was barred by the area of barometric maxima which existed over Europe, and this depression probably moved northward and united with low area xxvi.

XXVI.—This disturbance appeared in southern Greenland on the 23d, on which date the barometer at Godthaab read 28.71 (729.2); on the 24th the centre was near Iceland, the barometer at Stykkisholm having fallen to 28.29 (718.6), wind s., force 8, raining. The disturbance passed east-northeastward over Iceland during the 25th, and on the 26th it was central off the extreme northwestern coast of Norway; on the 27th the centre was near Finmark, barometer at Gjæsvaer 28.47 (723.1), wind w., force 4. By the 28th the storm-centre had passed to the northeastward of Archangel, Russia, and during the 29th and 30th it moved into northern Siberia, the pressure having increased to 29.5 (749.3).

XXVI.—This is a continuation of the disturbance described as low area vii. The depression passed off the New England coast as a somewhat severe storm on the 23d, and by the 24th the centre was in N. 45°, W. 55°, with the pressure below 29.2 (741.7), while strong gales prevailed in all quadrants of the depression. The s. s. "Rhodora," in N. 43° 10′, W. 57° 6′, reported a strong sw. gale after which the wind came from nne. with great violence, causing a very high cross sea in which the ship rolled heavily and shifted cargo; the s. s. "City of Paris," in N. 43° 40′, W. 57° 4′, had strong gales from sw. to wsw. and ne. with very heavy rain and snow. The bark "New York," in N. 38° 7′, W. 65° 55′, had barometer 29.5 (749.3), wind nw. force 10°. The disturbance moved northeastward and on the 25th it was central near N. 49°, W. 42°, the lowest reported pressure being 29.44 (746.8); fierce southwesterly gales continued over the region from W. 40° to 30°, and n. and nw. winds of moderate force were reported from the region west of W. 45°. During the 26th, 27th, and 28th, the disturbance moved slowly northeastward and on the 29th it was central south of Iceland, the pressure at Stykkisholm being 28.93 (738.8), wind e. force 8, snowing. During the 30th and 31st, it moved slowly northeastward to the Norwegian coast, causing cloudy, rainy weather, and sw. winds at the northern stations in the British Isles.

XXVIII.—This is a continuation of low area ix. described above. After passing into the Atlantic it moved northeastward, and on the 28th, was central south of Nova Scotia. It continued its northeasterly movement over the Atlantic during the 29th and 30th, but does not appear to have exhibited much storm-energy, as the barometric gradient had become greatly reduced after the 29th. On the 31st this disturbance was off the southwest coast of the British Isles.

The following refers to the two depressions traced in eastern Asia:

XXIX.—This disturbance appeared over the sea of Okhotsk on the 4th. At Nikolaevsk on the Amoor the pressure ranged from 29.73 (755.1) to 29.30 (744.2), the wind remaining westerly and moderate in force. By the 8th the disturbance had passed beyond the limit of observation.

XXX.—This appeared in the same region as the preceding depression, and remained from the 26th to the 29th, during which time the barometer at Nikolaevsk ranged from 29.3 (744.2), to 29.79 (756.7). At the close of the month the disturbance had disappeared from the chart.

The following information respecting the twentieth and last typhoon of the season of 1881, is taken from "The typhoons of the China seas," published by the Rev. Marc Dechevrens, S. J., director of the Observatory at Zi-Ka-Wei, China.

The details of this typhoon are too indefinite to admit of a tracing of its path, it however passed over the Philippine Archipelago in a course very nearly the same as that pursued by the "Elgin" typhoon, the first of the season. On the morning of December 10th, the weather at Albay, a harbor of southeastern Luzon, (N. 13° 13′, E. 123° 40′), became threatening, wind nnw. and nw. with rain, barometer falling to 29.8 (756.9). This continued during the night of 10–11th, and at 8 a. m. the wind was blowing violently from wnw. barometer 29.82 (757.4), 10 a. m., violent w. wind, heavy rain, barometer 29.69 (754.1); noon, hard squalls from w. and sw. barometer 29.61 (752.1), rain continuing. No change occurred until 2. p. m., when the wind shifted to s, without abating, barometer 29.53 (750.0); 5 p. m. barometer at its minimum reading, 29.45 (748.0); 6 p. m., rising again; 7 p. m., wind and rain abating rapidly; 9 p. m., fresh s. wind, sky clearing, barometer rising. 12th, at daybreak fine weather; 10 a. m., barometer 29.92 (760.0). During the storm the s. s. "Francisco" dragged her anchors and drove ashore but did not sustain serious

damage; at Marinac a ship was reported wrecked; at Sorgoson two lorchas engaged in unloading the steamer "Gravina," foundered with part of the cargo valued at $10,000. The centre of the typhoon appears to have passed from se. to nw., skirting the eastern coast of the Archipelago between N. 10° and 14°; at Albay the winds were strongly convergent (nnw., nw.), whilst the centre was approaching. On the 11th the centre lay to the eastward of Albay; at noon the violence of the w. and sw. winds, accompanied by heavy rains, showed that the centre had turned to the left and was about to cross the island, as several of the preceding typhoons had done, but more to the southward near Albay. There are no observations to indicate the course of this typhoon over the China sea.

GENERAL REMARKS.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevation of stations is obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least, this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the alphabet of the letter so used.

On February 1, 1883, the following change was made in publishing marine data in the "Daily International Bulletin":

All marine reports are classified as to districts, which are designated as follows: District No. 1, North Atlantic; District No. 2, South Atlantic, &c. under which headings the respective reports are printed.

BOUNDARIES OF DISTRICTS.

District No. 1 comprises the Atlantic ocean, its arms and tributaries, from the equator northward to the pole, and in the arctic from 100° E., westward to 100° W., of Greenwich.

District No. 2 comprises the Atlantic ocean, its arms and tributaries, from the equator southward to the pole, and in the antarctic from 20° E., westward to 70° W., of Greenwich.

District No. 3 comprises the Pacific ocean, its arms and tributaries, from the equator northward to the pole, and in the arctic from 100° W., westward to 100° E., of Greenwich.

District No. 4 comprises the Pacific ocean, its arms and tributaries, from the equator southward to the pole, and in the antarctic from 70° W., westward to 145° E., of Greenwich.

District No. 5 comprises the Indian ocean, its arms and tributaries, from the Asiatic continent southward to the pole, and in the antarctic from 20° E., eastward to 145° E., of Greenwich.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

Arrows show direction of, and fly with, the wind. Force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

The following remarks relate to the individual peculiarities in the *methods* of recording, and the *times* of taking, the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of General Maritz, Commandant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. Adelaide, furnished by co-operation of Charles Todd, C. M. G., F. R. A. S. The observations are taken at 9 p. m., local time.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemberg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind-direction is given to 32 points and weather by the Beaufort notation. At Bradford, no observations are taken on Sunday, except the rainfall, and in the monthly summary the letter designating a certain number of days missing applies to all the data except rainfall.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Saint Francis Lighthouse, the original gives barometer reduced to freezing, but not to sea-level. The kind of clouds is given, but no distinction is made between upper and lower. Weather in general terms.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation. At Tchang-Kia-Tchouang the original gives barometer in millimetres reduced to sea-level, temperature in Centigrade, velocity in kilometres for past 3 hours 53 minutes, clouds on scale of 0–10, no distinction between upper and lower.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The

originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted. At Jacobshavn the observations are taken at 8 a. m. instead of 8.44.

EGYPTIAN SERIES (Furnished by the co-operation of Albert Ismalun, Director of the Laboratoire Khédivial du Caire).—Original gives barometer reduced to zero, but not to sea-level, temperature in Centigrade. The velocity is the mean for past 24 hours. Rainfall in millimetres.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Mont Louis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms. The elevation of barometer cistern at Friedrichshafen, changes from 413 to 408 metres.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only, and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10. When snow has fallen at Stelvio and Valdobbia, it is not certain whether the amount given refers to melted or unmelted.

JAPANESE SERIES (furnished by co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (by authority of the Secretary of Public Works—furnished by co-operation of Señor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico, and respective observers).—All conversions are published as given in the originals, but when an evident mistake has been made the data is queried at this office. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys-Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day. On May 1st, elevation of barometer cistern at Lisbon changes from 102 to 95 metres.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Astrakhan, Ashurada and Baku, the barometer-cistern is below sea-level. At Kasalinsk, the barometer appears to have a large error.

SCOTTISH SERIES (furnished by co-operation of Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society at Edinburg, and respective observers).—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rainfall, temperature, and humidity are not given at North Unst. The wind-direction is given to 32 points.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Professor E. Plantamour, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of F. Nimr, B. A., Director of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms. At Samakov, the barometer is reduced to freezing, but not to sea-level; temperature in Fahrenheit. The kind of clouds is given, also the distinction between upper and lower.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Puerto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind-direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind-direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito

Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES (furnished by co-operation of E. Malmberg, Director of the Nautical Meteorological Bureau at Stockholm).—The originals give the barometer as read off. The movement of the air is indicated by force on a scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on a scale of 0 to 9 and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operation of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

NOTES (FORT RAE, B. A.).

Furnished by the co-operation of Captain H. P. Dawson, R. A., chief of the British expedition on behalf of the International Polar Commission.

All barometric observations have been corrected for temperature and instrumental error, but have not been reduced to sea-level as the elevation is uncertain.

The spirit thermometer has a correction at 32° Fah., of —0°.3, and at —38° of —3°.9. The mercurial thermometer at 52°, Fah., has a correction of —0°.9. These corrections have not been applied, as it is not stated whether they apply to the dry or wet-bulb thermometer.

The following remarks apply to the corresponding numbers in the weather column of tabulated data:

1, 3 a. m., faint aurora, ese., wnw.; 2, 2.45 a. m., faint patch of auroral light in e.; 3, 3.9 a. m., auroral band, w. to e.; 4, 2.10 a. m., faint patch aurora in zenith, nw., se.; 5, 3 a. m., faint patch of aurora, se.; 6, patch of aurora, w., e.; 7, 3 a. m., auroral arch from e. to nw.; December, 1882, spirit thermometers used on 14th, 15th, and 16th; 8, spirit thermometers used from 2d to 24th, inclusive; 9, terrestrial radiation, 3 a. m., —45°.2, 5 a. m., —40°.0; 10, terrestrial radiation, —40°.0; 11, spirit thermometers used from 1st to 4th, inclusive. During the month of February, 1883, the terrestrial radiation was as follows:

On 1st, —46°.8 Fah.; 12th, —29°7; 13th, —50°.1; 14th, —46.5; 15th, —52°.5; 16th, —47°.0; 19th, —21°.0; 20th, —2°.4 (at 3 a. m.); 21st, —11°.0; 22d, —18°,0; 24th, —44°.5.

ERRATA.

MONTHLY SUMMARY, April, 1883, page 7, United States Sub., Santiago de Cuba, in place of latitude, longitude, and elevation as given, read N. 19° 55′, W. 75° 50′, 7.04 a. m., 21 feet, 6 metres.

DAILY BULLETIN, May 3, 1883, page 4, United States, Block Island, R. I., reduced barometer 30.66 inches, should read 30.16; page 6, U. S. Navy yard, Pensacola, Fla., velocity 2 miles, .9 metres, should read 21 miles, 9.4 metres.

4th, Page 1, Austro-Hungarian, Trieste, temperature, 17°.5 Cent., should read 17°2; Canadian, Quebec, actual barometer 729.2 mm., should read 759.2.

7th, Page 2, Danish, Godthaab, actual barometer 761.8 mm., should read 771.8.

11th, Page 1, Canadian, Granton, reduced barometer, 29.12 inches, 739.6 mm., should read 30.12, 765.0.

18th, Page 5, United States, Thomas Camp, Arizona, actual barometer 17.18 inches, should read 27.18.

21st, Page 5, United States, Kitty Hawk, N. C., reduced barometer, 751.5 mm., should read 751.1.

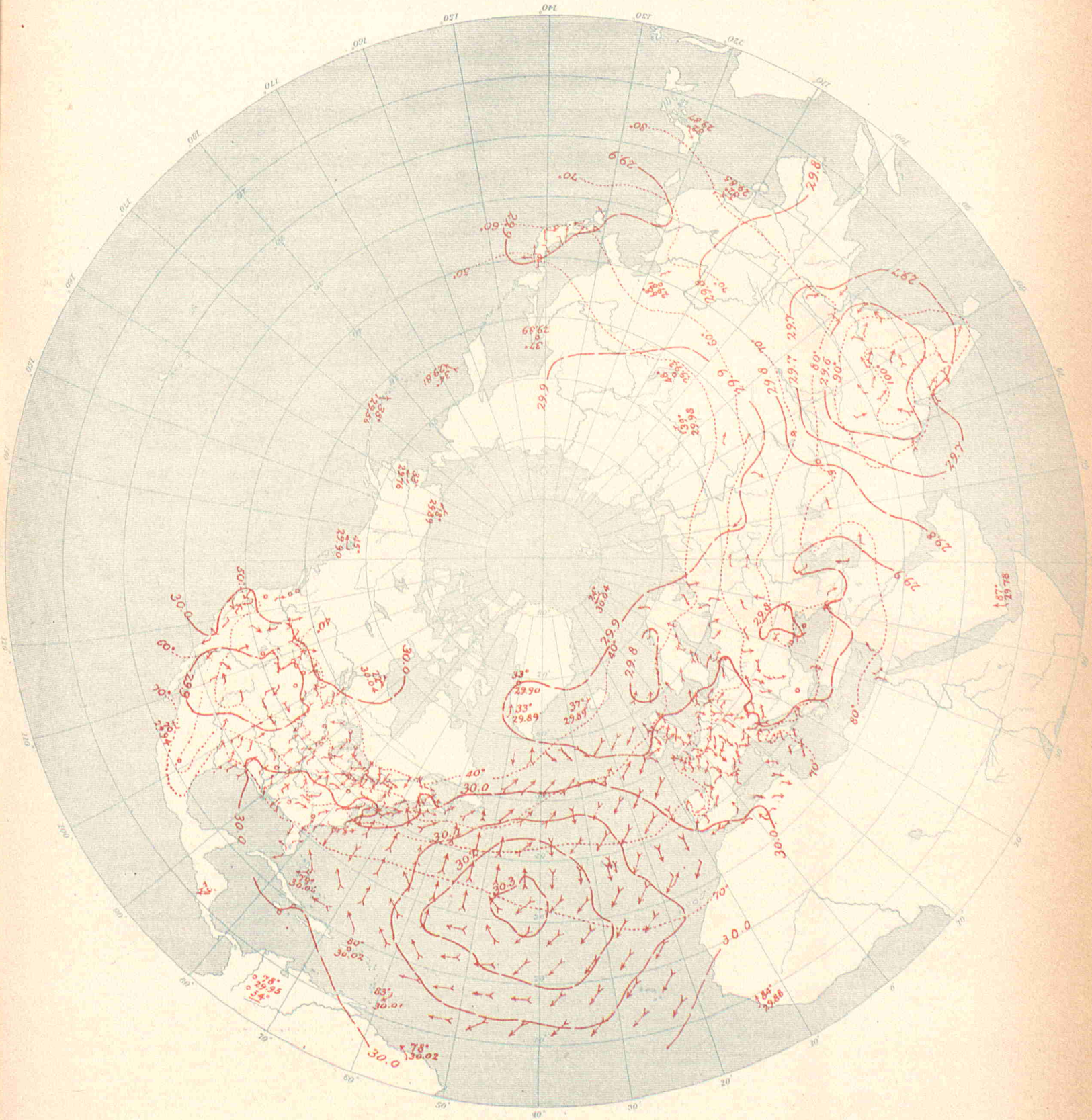
23d, Page 4, United States, Huron, Dakota, reduced barometer 28.76 inches, should read 29.76.

30th, Page 8, District No. 3, H. M. S. "Flying Fish," latitude N. 37° 00′, should read N. 37° 09′.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. May, 1883. Isobars, Isotherms, and Winds.

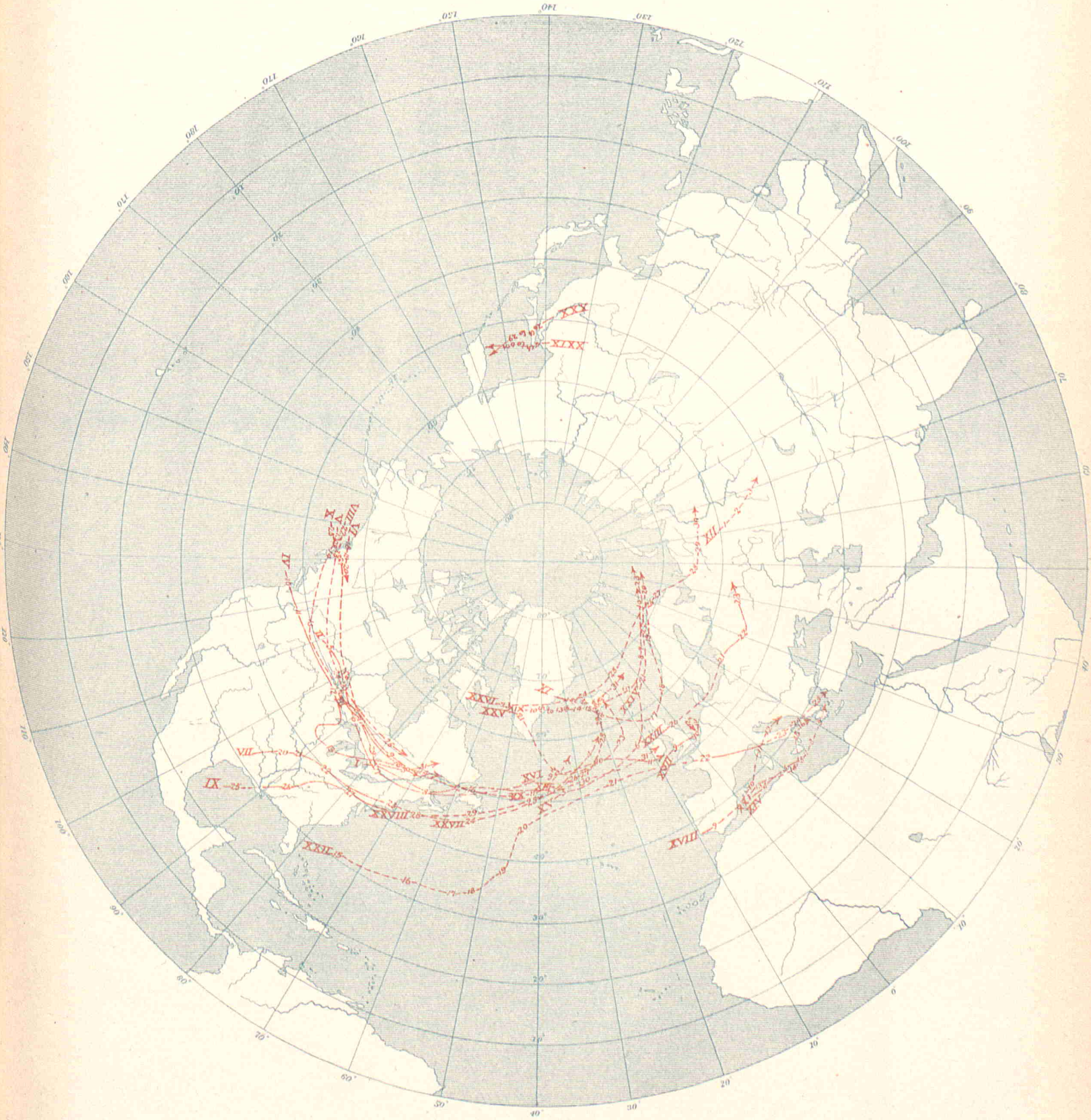


UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W.B.Hazen. Chief Signal Officer.

Signal Office Lith.

International Chart III. December, 1881. Storm-Tracks.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF JUNE, 1883.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
JULY, 1884.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

JUNE, 1883.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for June, 1883. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.03	762.7	69.1	20.6	81	10	.....	.....	.....	7	4	8	1	.....	.....	.....	0	0	0
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	30.02	762.4	70.3	21.3	71.8	14	1	6	.....	.....	2	3	4	.....	.....	.....	2	0.52	13.3
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	29.98	761.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	29.99	761.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.04	763.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.02	762.4	75.2	24.0	43	11	5	5	2	2	4	1	.....	.....	.....	.....	2	0	0
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	77.5	25.3	24.6	4	7	1	11	.....	1	1	5	.....	.....	.....	1	0.08	2.0
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2549	777	.....	.....	29.98	761.4	81.5	27.5	30.6	...	2	.....	1	6	9	5	.....	.....	.....	.....	1	inap.	inap.
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	29.97	761.2	85.5	30.3	32	.....	5	3	4	2	6	6	.....	4	.....	.....	2	0	0
AUSTRALIAN.																										
Adelaide	S. 34 57	E. 138 30	9.22 p.m.	140	42	30.15	765.8	.....	.....	53.7	12.1	78.3	11	2	2	.....	2	.....	.....	9	4	.....	.....	6	2.75	69.8
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.97	761.3	30.06	763.6	52.6	11.4	81	16	7	.....	4	1	1	.....	1	.....	.....	.....	8	1.96	49.8
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.34	745.2	29.91	759.6	73.0	22.8	57.5	1	1	5	9	3	5	2	4	.....	.....	.....	5	5.41	137.3
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.13	739.8	29.88	758.8	68.5	20.3	66.1	10	....	4	.....	1	1	3	5	.....	.....	.....	7	5.41	137.3
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.01	736.8	29.84	757.8	66.4	19.1	72.5	8	3	1	.....	4	1	.....	....	13	.....	.....	6	4.79	121.7
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.69	728.7	29.89	759.3	71.4	21.9	72.1	1	6	1	3	6	7	4	2	.....	.....	.....	6	5.92	150.3
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.48	723.3	29.84	757.9	70.3	24.6	48	2	9	3	.....	4	9	2	1	.....	.....	.....	6	0.93	23.6
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1200	384	28.60	726.5	29.91	759.8	67.6	19.8	68	2	4	7	3	.....	.....	2	12	.....	.....	.....	6	6.07	154.2
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.90	734.1	29.80	756.8	70.2	21.2	60.6	1	2	6	4	1	6	1	9	.....	.....	.....	6	4.29	108.9
Neu Schmecks	...	...	...	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.82	757.5	29.93	760.2	74.8	23.8	69.8	.....	6	6	7	4	5	.....	2	.....	.....	.....	4	3.00	76.3
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	439	134	29.39	740.4	29.84	757.8	76.8	24.9	58	4	2	6	4	7	.....	5	2	.....	.....	.....	6	1.08	27.4
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.00	751.7	29.86	758.5	73.8	23.2	59.9	2	3	5	6	7	4	1	.....	2	.....	.....	6	2.82	71.6
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.83	757.6	29.93	760.1	75.4	24.1	57.2	.....	5	7	11	.....	1	2	3	1	.....	.....	6	3.75	95.3
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.26	743.1	29.96	760.9	66.6	19.2	59.4	2	7	8	.....	.....	5	1	6	1	.....	.....	6	2.20	55.9
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.86	758.4	29.96	761.0	54.7	12.6	69.6	1	3	1	.....	5	11	6	3	.....	.....	.....	6	1.28	32.5
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.73	755.1	29.96	761.0	58.1	14.5	72.3	5	4	2	3	6	5	2	3	.....	.....	.....	7	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.96	761.0	60.0	15.6	68.9	.....	5	10	1	1	5	7	1	.....	.....	.....	7	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.42	747.3	29.95	760.7	60.5	15.8	69.0	2	3	5	2	8	1	6	3	.....	.....	.....	7	.....	.....
Bradford *d*	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.55	750.6	29.95	760.7	60.8	16.0	61.9	.....	5	1	6	1	5	3	5	.....	.....	.....	7	3.50	88.9
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	30.03	762.7	30.06	763.5	82.3	27.9	75.2	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	.....	4	.....	.....
Cardington	N. 52 08	W. 0 27	0.00 p.m.	109	33	29.87	758.7	29.97	761.2	67.0	19.4	64.0	4	4	4	9	2	.....	2	5	.....	.....	.....	4	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.85	758.2	29.97	761.2	63.4	17.4	71.0	1	2	2	8	1	.....	2	10	4	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.76	755.9	29.99	761.7	60.0	15.6	74.4	1	8	2	3	8	2	5	1	.....	.....	.....	7	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2205	672	27.79	705.9	30.01	762.2	71.1	21.7	44.6	2	1	3	.....	.....	6	14	2	2	.....	.....	2	.....	.....
Freetown	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.63	752.6	29.86	758.4	82.7	28.2	81.6	6	3	4	3	6	2	3	3	.....	.....	.....	5	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.89	759.2	29.92	760.0	59.8	15.4	75.0	.....	6	7	6	3	1	3	4	.....	.....	.....	4	1.41	35.8
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	29.95	760.7	30.05	763.3	71.9	22.2	85.3	.....	8	7	3	.....	.....	12	.....	.....	.....	.....	3	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.73	755.1	29.94	760.5	58.0	14.4	64.0	1	3	5	5	7	.....	.....	9	..	.....	.....	8	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.80	756.9	29.97	761.2	65.8	18.8	64.6	4	5	1	6	4	3	2	5	.....	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.70	754.4	30.00	762.0	60.0	15.6	83.3	5	5	4	5	5	.....	1	5	.....	.....	.....	6	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.94	760.5	29.98	761.5	64.0	17.8	61.8	2	6	4	3	6	1	2	6	.....	.....	.....	6	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.70	754.4	29.95	760.7	62.5	16.9	67.5	.....	5	3	10	1	.....	1	8	2	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.89	759.2	29.97	761.2	75.3	24.1	90.9	.....	8	3	2	.....	7	3	7	.....	.....	.....	1	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.08	764.0	30.13	765.3	84.4	29.1	68.8	.....	1	.....	4	4	15	6	.....	.....	.....	.....	6	.....	.....
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.47	748.5	30.60	762.0	63.1	17.3	68.8	4	5	5	2	9	.....	1	4	.....	.....	.....	8	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.74	755.4	29.97	761.2	67.0	19.4	67.4	2	5	4	3	7	.....	1	7	1	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.89	759.2	29.97	761.2	61.8	16.6	70.7	.....	4	3	6	9	1	5	1	1	.....	.....	7	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.85	758.2	29.95	760.7	53.0	11.7	75.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Scutari Cemet'y	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.78	756.4	29.84	757.9	79.5	26.4	58.4	.....	.....	1	9	3	1	.....	16	.....	.....	.....	3	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.69	754.1	29.97	761.2	64.2	17.9	73.8	.....	5	4	1	9	.....	2	8	1	.....	.....	6	2.03	66.8
Stilloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.92	760.0	29.95	760.7	61.2	16.2	67.7	.....	5	6	10	.....	.....	8	1	.....	.....	.....	6	2.61	66.3
Stonyhurst *n*	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	30.11	764.8	60.7	15.9	58.7	1	1	5	1	1	.....	3	4	.....	.....	.....	7	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.95	760.7	30.04	763.0	65.7	18.7	69.1	.....	12	2	6	4	1	5	.....	.....	.....	.....	6	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.96	761.0	29.99	761.7	58.8	14.9	74.6	1	8	6	3	2	6	3	1	.....	.....	.....	6	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.61	752.1	30.01	762.2	77.2	25.1	54	.....	5	7	2	7	5	4	.....	.....	.....	.....	1	0	0
CANADIAN.																										
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	35	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.93	760.2	29.97	761.2	59.5	15.3	83.2	2	3	1	11	6	5	.....	1	1	5526	8893	8	2.20	55.9
Chatham*	N. 47 03	W. 65 29	7.45 a.m.	50	17	29.91	759.7	29.97	761.2	59.0	15.0	81.0	2	4	6	8	2	3	3	2	.....	3314	5333	8	6.00	152.4
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.71	754.6	29.90	759.4	61.2	16.2	85.0	.....	3	12	9	.....	1	4	1	.....	.....	.....	8	3.09	78.5
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	45	14	29.90	759.4	29.95	760.7	56.4	13.6	.....	.....	1	14	.....	.....	.....	10	...	2	.....	.....	7	2.93	74.4
Father Point*	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.87	758.7	29.89	759.2	51.4	10.8	88.2	.....	8	4	3	1	.....	.....	8	0	.....	.....	5	0.80	21.8
Fort Garry*	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.05	737.9	29.85	758.2	52.6	11.4	88.7	6	4	1	4	8	2	2	2	1	7554	12137	6	3.21	81.5
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	29.93	760.2	29.99	761.7	60.3	15.7	78.0	2	5	4	4	1	8	4	2	.....	.....	.....	6	3.27	83.1
Granton	N. 43 12	W. 81 21	6.43 a.m.	1018	309	28.84	732.5	29.91	759.7	56.1	13.4	94.2	.....	3	3	5	6	2	2	1	8	.....	.....	6	7.02	178.3
Halifax*	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.90	759.4	30.03	762.7	57.4	14.1	80.6	.....	6	3	3	2	10	2	2	2	.....	.....	5	4.70	119.4
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	338	103	29.49	749.0	29.88	758.9	61.7	16.5	82.2 *g*	..	.....	.....	.....	20	.....	3	7	.....	.....	.....	4	4.45	113.0
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.00	751.8	29.93	760.2	59.3	15.2	83.6	1	.....	2	15	8	2	.....	2	.....	5224	8407	6	3.01	76.5
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.97 *b*	761.2 *b*	30.01 *b*	762.2 *b*	63.4 *b*	17.4 *b*	77.3 *b*	.....	1	1	16	10	1	1	.....	.....	.....	.....	6	3.82	97.0
London	N. 43 00	W. 81 15	6.43 a.m.	816	248	29.05	737.9	29.92	760.0	60.1	15.6	87.1	.....	.....	4	5	5	3	.....	.....	13	.....	.....	6	5.66	143.8
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.72	754.9	29.91	759.7	62.7	17.1	78.5	10	.....	5	9	6	5	.....	2	1	.....	.....	6	3.47	88.1
Ottawa	N. 45 26	W. 75 45	7.05 a.m.	223	68	29.66	753.4	29.90	759.4	61.4	16.3	78.8 *g*	1	2	2	10	6	1	4	4	.....	.....	.....	7	2.21	56.1
Parry Sound*	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.20	741.7	29.88	758.9	58.5	14.7	86.8	2	.....	2	7	7	8	1	3	.....	.....	.....	6	3.64	92.5
Peterboro	N. 44 17	W. 78 20	6.54 a.m.	675	206	29.19	741.4	29.91	759.7	63.7	17.6	86.6 *b*	1	1	10	6	2	2	1	2	5	.....	.....	5	1.79	45.5
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.24	742.7	29.92	760.0	61.8	16.6	90.6	2	1	2	6	3	2	.....	3	11	4245	6836	6	4.78	121.4
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.29	744.0	29.92	760.0	59.7	15.4	88.1	2	2	7	7	.....	3	9	.....	.....	.....	.....	5	2.77	70.4
Quebec*	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.61	752.1	29.92	760.0	58.5	14.7	92.3	8	...	2	7	2	.....	1	3	7	.....	.....	8	3.93	99.8
Rockliffe*	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.43	747.5	29.88	758.9	57.0	13.9	87.00	.....	5	4	.....	.....	2	4	1	14	.....	.....	7	0.97	154.2
Saint Andrews	N. 45 04	W. 81 00	6.34 a.m.	47	14	29.92	760.0	29.97	761.2	55.1	12.8	88.5	1	3	.....	3	6	10	2	3	2	.....	.....	4	3.87	98.3
Saint John, N. B.	N. 45 17	W. 66 03	7.44 a.m.	150	46	29.83	757.7	29.99	761.7	56.7	13.7	87.8	5	.....	.....	17	1	4	1	2	.....	.....	.....	4	5.52	140.2
Saint Johns, N.F.	N. 47 34	W. 52 54	8.30 a.m.	230?	70?	29.90	759.4	30.15	765.8	52.1	11.2	85.3	.....	1	3	9	4	10	.....	3	..	.....	.....	7	2.69	68.3
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	30.01	762.2	52.4	11.3	... .	2	4	1	6	1	7	1	3	5	.....	.....	.....	1.87	47.5
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.18	741.2	29.88	758.9	57.4	14.1	85.2	4	3	5	6	5	2	3	2	.....	6449	10328	6	4.54	115.3
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	28.66	728.0	29.92	760.0	59.1	15.1	80.6	.....	3	7	5	4	3	2	1	5	.....	.....	6	7.84	199.1
Sydney*	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.97	761.2	30.02	762.5	58.1	14.5	82.9	2	2	.....	17	4	1	.....	.....	4	5139	8753	7	3.80	96.5
Toronto	N. 43 39	W. 79 23	6.50 a.m.	359	107	29.56	750.8	29.93	760.2	59.9	15.5	84.7	1	3	3	7	3	.....	5	3	5	5310	8546	6	4.97	126.2
Windsor *b*	N. 44 59	W. 63 58	7.53 a.m.	87	26	29.89	759.2	29.98	761.5	60.9	16.1	84.1	3	3	5	4	2	7	3	1	.....	.....	.....	6	.....	.....
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	28.88	733.5	29.91	759.7	61.7	16.5	86.7	1	.....	3	7	8	6	2	3	.....	.....	.....	6	5.76	146.3
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.95	760.7	30.02	762.5	55.2	12.9	91.6	.....	3	4	6	3	8	2	.....	4	2718	4374	4	2.01	51.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for June, 1883. Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
CAPE COLONY	° ′	° ′																								
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.10	764.5	30.13	765.3	65.9	18.8	70.0	1	5	12	7	.....	.....	1	3	1	.....	.....	3	1.64	41.7
Springbok	S. 29 45	E. 17 43	1.19 p.m.	?	?	27.92	709.2	.....	.....	62.2	16.8	43.4	5	1	.....	3	.....	3	9	9	.....	.....	.....	.....	.....	.....
CHINESE. (*Sub*).																										
Sung-shu-chwang	N. 36 07	E. 103 56	7.04 p.m.	4987	1520	.....	.....	.....	.....	.....	.....	.....										.....	.....	.....	.....	.....
Tchang-kia-tchouang	N. 38 17	E. 116 14	7.53 p.m.	98	30	29.67	753.7	29.78	756.5	79.7	26.5	46	.....	1	1	5	.....	2	5	7	9	.....	.....	7	0.13	3.3
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	29.79	756.7	29.82	757.3	72.9	22.7	88	2	.....	1	1	1	10	8	4	3	.....	.....	7	4.82	122.3
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.88	759.0	29.95	760.6	65.1	18.4	61	9	5	1	2	3	6	2	2	.....	.....	.....	4	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.95	760.8	29.97	761.3	62.1	16.7	67	.....	8	11	3	3	2	2	1	.....	.....	.....	4	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.79	756.6	29.83	757.7	37.9	3.3	86	4	.....	.....	3	18	.....	.....	5	.....	.....	.....	9	.....	.....
Jacobshavn	N. 69 13	W. 50 55	8.44 a.m.	42	13	29.77	756.2	29.82	757.4	40.8	4.9	.....	4	2	1	3	5	5	2	.....	8	.....	.....	5	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.85	758.3	29.90	759.4	47.3	8.5	84	.....	5	5	2	4	2	8	2	2	.....	.....	7	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.91	759.8	29.94	760.4	51.3	10.7	85	3	.....	7	2	1	4	6	2	5	.....	.....	7	.....	.....
Upernavik	N. 72 47	W. 56 00	8.24 a.m.	39	12	29.74	755.5	29.79	756.7	36.9	2.7	80	3	.....	.....	8	.....	3	3	2	11	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.87	758.7	29.96	761.0	59.2	15.1	72	1	9	5	5	4	.....	2	1	3	.....	.....	4	.....	.....
Egyptian.																										
Cairo	N. 30 03	E. 31 21	2.14 p.m.	?	?	29.73	755.2	.....	.....	92.1	33.4	.....	12	3	2	.....	.....	.....	4	9	.....	.....	.....	0	0	0
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.46	748.3	30.10	764.4	67.8	19.9	80.3	.....	10	4	5	1	2	2	3	3	.....	.....	.....	5.28	134.1
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.47	748.4	30.02	762.4	66.2	19.0	73.6	1	4	1	8	8	1	1	6	.....	.....	.....	.....	2.77	70.4
Arras	N. 50 18	E. 2 40	0.19 p.m.	239	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Avignon	N. 43 57	E. 4 48	0.27 p.m	65	20	29.89	759.3	29.97	761.3	76.5	24.7	53.3	2	16	4	1	3	2	1	1	.....	.....	.....	7	1.20	30.5
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.44	747.8	29.98	761.4	67.3	19.6	60	3	3	5	3	4	6	2	4	.....	.....	.....	7	2.52	64.1
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.73	755.2	29.99	761.8	68.2	20.1	57.2	3	1	7	3	5	2	4	5	.....	.....	.....	7	1.78	45.2
Besançon	N. 47 14	E. 6 02	0.32 p.m.	843	257	29.07	738.3	29.95	760.6	69.1	20.6	72.1	1	1	.....	17	3	1	1	6	.....	.....	.....	5	3.34	84.7
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.75	755.6	30.00	762.1	68.2	20.1	59.7	3	7	2	8	.....	3	4	3	.....	.....	.....	6	4.65	118.1
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.44	747.8	29.97	761.3	68.9	20.5	56.5	4	6	6	2	5	2	1	4	.....	.....	.....	.....	2.34	59.4
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.80	757.0	30.05	763.2	64.4	18.0	77.8	5	6	1	9	.....	3	.....	3	3	.....	.....	7	11.34	288.0
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.88	758.9	29.95	760.7	66.6	19.2	68.5	2	8	8	2	7	2	1	.....	.....	.....	.....	5	7.23	183.6
Chalons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.63	752.6	29.95	760.8	69.6	20.9	70.5	2	2	2	9	10	1	2	1	1	.....	.....	6	4.57	116.1
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.47	748.4	29.96	761.0	70.0	21.1	59.9	4	3	2	2	5	5	3	6	.....	.....	.....	6	2.83	72.0
Clermont-Fd	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.65	727.8	29.97	761.1	69.3	20.7	52.3	9	2	5	3	1	2	2	6	.....	.....	.....	6	2.54	64.6
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.15	740.4	29.98	761.6	69.8	21.0	56.4	7	8	3	.....	1	1	4	4	2	.....	.....	5	3.12	79.3
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.14	740.2	29.98	761.6	65.8	18.8	60.9	2	2	12	3	2	3	4	2	.....	.....	.....	.....	2.96	75.2
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.47	697.7	29.92	760.0	69.1	20.6	58.6	6	1	.....	3	4	4	1	2	9	.....	.....	4	3.09	78.5
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.86	733.1	29.95	760.7	73.6	23.1	46.4	.....	.....	.....	.....	3	12	14	1	.....	.....	.....	4	0.99	25.2
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.21	741.9	29.96	760.9	69.6	20.9	63.4	1	16	4	.....	1	1	5	2	.....	.....	.....	.....	7.89	200.4
Gueret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.45	722.6	30.01	762.2	66.0	18.9	66.8	2	5	2	17	1	.....	1	2	.....	.....	.....	.....	3.86	98.1
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.87	758.7	30.13	765.4	64.9	18.3	74.9	5	10	1	5	5	1	1	1	1	.....	.....	.....	2.12	53.8
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.46	748.2	30.01	762.2	68.0	20.0	65.1	2	2	14	5	.....	2	4	1	.....	.....	.....	6	7.22	183.3
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.92	760.0	30.02	762.6	66.6	19.2	67.6	2	1	8	6	9	2	.....	2	.....	.....	.....	7	3.10	78.6
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	28.95	735.3	29.98	761.5	67.8	19.9	56.6	11	5	1	.....	3	3	4	3	.....	.....	.....	6	3.87	98.3
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.70	754.3	29.99	761.8	66.0	18.9	73.5	5	7	3	5	1	4	2	3	.....	.....	.....	3	3.55	90.2
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.71	754.5	29.97	761.3	72.1	22.3	59.1	.....	1	14	10	1	3	1	.....	.....	.....	.....	.....	0.70	17.9
Mont Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.86	631.4	29.70	754.4	56.7	13.7	42.5	1	5	7	8	.....	2	5	2	.....	.....	.....	5	3.00	91.5
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.84	757.9	29.95	760.8	75.0	23.9	69.1	2	.....	.....	.....	.....	12	12	4	.....	.....	.....	3	1.58	40.1
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.21	741.9	29.97	761.3	66.6	19.2	70.6	3	6	4	7	7	1	2	.....	.....	.....	.....	.....	2.92	74.3
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.87	758.8	30.04	762.9	69.1	20.6	61.1	2	5	5	11	2	1	3	1	.....	.....	.....	8	2.83	71.8
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.89	759.3	30.00	762.1	71.8	22.1	53.6	4	8	2	.....	1	1	5	8	1	.....	.....	6	1.02	26.0
Pic du Midi (Sum-Privas [mit.)	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.28	540.5	.....	.....	38.7	3.7	.....	.....	5	7	12	1	2	.....	2	1	.....	.....	5	10.78	273.7
	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.93	734.8	29.96	760.9	71.1	21.7	54.7	13	1	.....	.....	10	1	1	4	.....	.....	.....	5	3.42	86.9
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.19	639.7	.....	.....	47.8	8.8	86.3	2	3	7	7	1	5	1	4	.....	.....	.....	7	5.33	135.3
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	29.96	761.0	29.99	761.7	72.5	22.5	57.6	2	1	6	10	1	1	2	1	6	.....	.....	4	7.40	188.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.76	755.9	29.97	761.2	69.1	20.6	65.9	2	3	8	9	3	3	2	.....	.....	.....	.....	4	3.31	84.1
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.90	708.7	29.99	761.8	66.4	19.1	.....	.....	20	.....	.....	.....	2	4	.....	4	.....	.....	.....	3.37	85.7
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.93	760.3	29.98	761.5	67.6	19.6	62.1	4	1	9	5	6	2	2	1	.....	.....	.....	5	2.84	72.2
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.83	757.7	29.99	761.8	68.0	20.0	57.4	6	.....	3	11	3	2	1	2	2	.....	.....	6	2.02	51.3
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.35	745.6	30.08	764.0	70.0	21.1	65.2	4	7	5	3	1	7	.....	3	.....	.....	.....	5	4.97	126.3
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	29.83	757.7	29.99	761.8	70.0	21.1	55.8	3	3	3	9	5	2	2	3	.....	.....	.....	.....	2.89	73.4
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.50	749.4	30.00	761.9	67.1	19.5	57.2	3	5	7	7	2	2	1	3	.....	.....	.....	.....	2.70	68.6
Sub-Series.																										
St. Martin du Hinx	N. 43 35	W. 1 16	0.03 p.m.	131	40	29.91	759.7	30.06	763.4	68.9	20.5	66.7	1	10	13	.....	.....	.....	5	1	.....	.....	.....	6	7.99	202.9
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.55	725.1	29.95	760.6	69.8	21.0	51.9	1	2	6	1	.....	.....	7	8	5	.....	.....	5	2.35	59.6
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.10	739.2	29.95	760.6	70.7	21.5	51.7	.....	4	6	4	3	5	1	7	.....	.....	.....	5	0.94	23.9
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.80	757.0	29.95	760.6	72.1	22.3	46.8	3	12	2	2	.....	3	1	3	4	.....	.....	6	0.20	5.1
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.43	747.6	29.97	761.1	68.2	20.1	52.7	5	5	5	1	1	1	8	4	.....	.....	.....	6	3.69	93.7
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.51	749.6	29.96	760.9	72.7	22.6	48.4	6	1	2	11	2	.....	5	3	.....	.....	.....	7	2.06	52.3
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.24	742.8	29.96	761.0	72.0	22.2	47.6	6	6	3	4	7	1	1	2	.....	.....	.....	6	1.16	29.5
Frankfort on M	N. 50 08	E. 8 41	0.43 p.m.	338	103	.....	.....	29.93	760.1	73.6	23.1	45.3	5	2	2	6	5	2	5	3	.....	.....	.....	5	1.07	27.2
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.58	725.8	29.95	760.7	67.6	19.8	69.8	.....	.....	2	18	3	.....	.....	7	.....	.....	.....	6	5.69	144.5
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.89	759.2	29.98	761.4	68.2	20.1	63.6	2	12	1	3	2	4	2	3	1	.....	.....	4	0.38	9.7
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.96	760.9	29.97	761.3	64.8	18.2	56.1	4	6	3	2	2	3	.....	9	1	.....	.....	5	0.70	17.8
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.55	750.6	29.96	760.9	71.4	21.9	45.5	2	9	3	3	1	3	2	7	.....	.....	.....	6	1.19	30.2
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.76	756.0	29.95	760.7	71.6	22.0	50.7	4	3	11	3	1	4	2	1	1	.....	.....	5	1.42	36.0
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.92	759.9	29.97	761.1	65.3	18.5	66.1	3	4	9	6	1	1	3	3	.....	.....	.....	5	1.91	48.5
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.17	715.4	30.02	762.6	66.4	19.1	59.7	4	6	1	1	.....	.....	6	9	3	.....	.....	6	6.76	171.6
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.94	760.5	29.96	760.9	66.2	19.0	65.0	8	4	2	.....	.....	2	8	6	.....	.....	.....	6	1.78	45.2
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.41	747.1	29.94	760.4	72.3	22.4	50.0	2	.....	13	.....	1	1	5	3	5	.....	.....	6	0.68	17.4
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.01	736.9	29.88	758.9	70.3	21.3	52.8	8	4	6	1	4	1	3	3	.....	.....	.....	6	3.26	82.7
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.97	761.3	30.00	762.0	64.8	18.2	64.3	9	2	7	4	.....	3	3	2	.....	.....	.....	6	0.32	8.2
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.52	749.9	29.89	759.1	81.9	27.7	.....	3	2	1	8	11	1	1	3	.....	.....	.....	3	0.45	11.4
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.45	748.1	29.50	749.4	86.7	30.4	69	.....	1	16	10	3	.....	.....	.....	.....	.....	.....	5	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.02	737.2	29.48	748.6	99.5	37.5	34	.....	1	3	17	6	3	.....	.....	.....	.....	.....	3	1.87	47.5
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.62	752.2	29.65	753.2	83.8	28.8	82	.....	1	10	11	7	1	.....	.....	.....	.....	.....	9	13.65	346.7
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.82	706.7	29.67	753.5	78.7	25.9	40	.....	5	11	14	.....	.....	.....	.....	.....	.....	.....	10	10.10	256.5
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.42	747.4	29.70	754.3	92.9	33.8	46	.....	5	15	6	2	.....	.....	.....	2	.....	.....	3	2.63	66.8
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.19	690.6	29.74	755.3	72.2	22.3	85	.....	2	15	8	1	1	3	.....	.....	.....	.....	9	10.04	255.0
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.66	727.9	29.35	745.6	105.5	40.8	25	2	2	8	1	.....	1	7	2	7	.....	.....	3	0.58	14.7
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.54	725.0	29.40	746.8	95.0	35.0	45	2	3	5	1	.....	2	7	.....	10	.....	.....	2	9.53	242.1
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	28.88	733.6	29.42	747.2	100.3	37.9	33	1	7	8	2	6	1	.....	5	.....	.....	.....	5	1.15	29.2
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.50	724.0	29.52	749.9	86.5	30.3	62	3	6	4	8	1	2	1	.....	5	.....	.....	9	11.37	288.8
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.18	715.8	29.50	749.3	89.0	31.7	54	1	9	4	2	3	3	3	.....	5	.....	.....	8	9.25	235.0
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.08	738.5	29.44	747.7	97.4	36.3	45	2	4	3	1	.....	2	9	7	2	.....	.....	3	3.60	91.4
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.13	739.9	29.43	747.4	95.7	35.4	48	.....	3	.....	1	.....	2	4	11	9	.....	.....	5	3.87	98.3
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.30	744.2	29.48	748.8	89.0	31.7	63	5	3	2	1	.....	5	11	3	.....	.....	.....	7	14.83	376.7
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.52	699.0	29.49	749.0	82.8	28.2	67	6	3	2	2	5	4	4	2	2	.....	.....	9	7.05	179.1
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.44	747.8	29.52	749.8	85.1	29.5	75	.....	5	15	1	.....	1	1	1	6	.....	.....	8	16.84	427.7
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.48	748.8	29.50	749.3	84.3	29.1	80	.....	1	1	8	13	5	2	.....	.....	.....	.....	8	10.22	259.6
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.43	747.4	29.54	750.4	82.8	28.2	81	.....	.....	.....	3	1	1	6	3	16	.....	.....	7	12.92	328.1
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.52	749.8	29.61	752.1	80.4	26.9	88	.....	.....	4	3	9	10	2	.....	2	.....	.....	8	2.10	53.3
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.25	742.8	29.58	751.2	84.4	29.1	81	.....	.....	.....	11	.....	4	.....	14	1	.....	.....	9	7.67	194.8
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.07	712.9	29.46	748.2	95.0	35.0	46	3	12	4	3	2	2	2	2	.....	.....	.....	5	3.15	80.0
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.20	716.3	.....	.....	88.1	31.2	26	1	1	18	9	.....	.....	1	.....	.....	.....	.....	9	0	0
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	30.02	762.5	30.04	763.0	83.1	28.4	58	.....	.....	1	8	12	9	.....	.....	.....	.....	.....	4	0	0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for June, 1883. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
ITALIAN.	° ′	° ′																								
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.54	750.2	29.93	760.3	73.9	23.3	62	.....	.....	1	11	6	5	6	1	.....	.....	.....	7	10.46	265.7
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.44	747.7	29.94	760.5	73.6	23.1	53	1	3	.....	9	3	9	.....	5	.....	.....	.....	6	4.44	112.9
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.81	757.2	29.92	759.9	74.5	23.6	50	2	2	9	5	1	4	2	4	1	.....	.....	6	3.70	95.5
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.04	737.6	29.92	760.0	70.2	21.2	64	6	10	2	.....	2	.....	3	7	.....	.....	.....	6	7.74	196.7
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157	48	29.77	756.2	29.90	761.0	70.2	21.2	66	2	.....	.....	11	5	9	1	2	.....	.....	.....	6	2.80	72.6
Mondovi	N. 44 23	E. 7 48	0.39 p.m.	1824	556	28.06	712.7	29.93	760.1	67.5	19.7	61	5	8	5	.....	2	3	6	1	.....	.....	.....	4	4.61	117.2
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.87	758.6	29.91	759.8	72.1	22.3	67	2	2	2	4	.....	11	3	6	.....	.....	.....	7	1.65	42.0
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.70	754.3	29.95	760.7	74.8	23.8	54	.....	3	8	12	1	1	2	3	.....	.....	.....	6	3.37	85.5
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.83	757.7	29.91	759.8	72.1	22.3	65	.....	4	13	6	7	.....	.....	.....	.....	.....	.....	5	1.59	40.4
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.78	756.4	29.95	760.7	77.0	25.0	47	1	2	11	7	4	1	1	1	2	.....	.....	5	3.53	89.6
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.69	754.1	29.93	760.3	79.5	26.4	39	3	1	1	4	2	2	6	11	.....	.....	.....	2	1.32	33.4
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.08	738.7	29.93	760.3	82.0	28.1	68	.....	2	12	10	3	3	.....	.....	.....	.....	.....	3	0.27	6.8
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	29.76	755.8	29.95	760.6	74.1	23.4	54	.....	10	2	1	5	12	.....	.....	.....	.....	.....	3	1.19	30.3
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.75	755.7	30.00	761.9	74.1	23.4	55	.....	4	2	.....	.....	.....	6	18	.....	.....	.....	4	0.15	3.7
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.89	759.2	29.93	760.3	79.0	26.1	61	6	.....	1	1	7	.....	7	7	1	.....	.....	4	0.04	1.0
Sub-Series.																										
Naples	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.46	748.3	29.97	761.3	74.3	23.5	64.6	.....	2	5	12	5	3	1	2	.....	.....	.....	5	1.61	41.0
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	22.21	564.2	.....	.....	43.4	6.3	70.6	.....	.....	2	8	1	4	6	9	.....	.....	.....	8	6.62	168.2
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	22.22	564.3	.....	.....	44.1	6.7	71.4	10	3	.....	.....	..	1	12	4	.....	.....	.....	9	2.74	69.5
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	29.86	758.5	29.89	759.4	61.5	16.4	88.9	.....	1	2	2	.....	3	2	.....	20	.....	.....	6	4.22	107.1
Awômori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.84	757.9	29.87	758.8	59.7	15.4	81.0	7	4	7	3	2	1	3	3	.....	.....	.....	5	2.52	63.9
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	26	8	29.88	759.1	29.91	759.8	67.8	19.9	85.1	2	.....	3	1	5	1	6	.....	12	.....	.....	6	4.59	116.5
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	29.79	756.7	29.89	759.2	65.6	18.7	85.8	1	5	5	1	1	1	14	2	.....	3329	5357	7	2.43	61.7
Kagoshima	N. 31 35	E. 130 33	8.50 p.m.	14	4	29.88	759.0	29.89	759.2	72.1	22.2	82.7	4	8	3	2	.....	.....	3	3	7	.....	.....	7	10.79	273.8
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.72	754.9	29.89	759.3	68.0	20.0	79.5	11	.....	2	.....	9	2	1	5	.....	.....	.....	6	6.04	153.1
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	29.88	758.9	29.90	759.4	70.6	21.5	87.6	5	3	8	4	3	3	3	1	.....	4364	7023	8	10.82	274.8
Miasaka	N. 31 56	E. 131 26	8.54 p.m.	26	8	29.87	758.7	29.90	759.4	71.0	21.7	88.7	4	3	6	1	2	2	6	6	.....	.....	.....	8	11.57	294.0
Miyako	N. 39 38	E. 141 59	9.30 p.m.	98	30	29.80	757.0	29.91	759.8	56.8	13.8	89.1	2	1	11	3	4	.....	3	2	4	922	1484	7	1.75	44.4
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.67	753.6	29.87	758.7	70.3	21.3	86.7	5	1	5	6	.....	2	3	2	6	2926	4709	6	16.30	414.0
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	29.86	758.4	29.89	759.3	64.7	18.2	82.4	5	2	1	4	....	5	3	9	1	4166	6704	6	2.41	61.2
Nobiru	N. 38 23	E. 141 11	9.32 p.m	15	5	29.89	759.3	29.91	759.7	61.4	16.3	88.7	2	1	.....	.....	12	4	5	2	4	6206	10084	7	4.06	103.1
Numazu	N. 35 06	E. 138 51	9.23 p.m.	32	10	29.88	758.9	29.91	759.8	67.4	19.6	83.1	2	3	5	3	7	3	4	1	2	.....	.....	7	3.89	98.9
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	29.87	758.7	29.89	759.1	68.9	20.5	80.1	4	6	6	3	.....	.....	.....	11	.....	6296	10133	7	4.25	107.9
Sakai	N. 35 01	E. 133 31	9.01 p.m.	10	3	29.87	758.7	29.88	758.9	67.0	19.4	83.0	7	.....	3	1	.....	1	3	10	5	.....	.....	6	1.79	45.4
Shimonoseki	N. 33 58	E. 130 56	8.52 p.m.	13	4	29.73	755.2	29.88	758.9	67.9	19.9	87	.....	.....	1	1	.....	.....	6	1	21	.....	.....	5	10.23	259.8
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.83	757.8	29.91	759.7	66.0	18.9	84.4	1	.....	1	1	15	1	10	1	.....	5800	9334	6	3.58	90.8
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.83	757.6	29.88	758.9	69.9	21.1	78.3	4	2	.....	6	5	.....	.....	.....	13	3266	5250	7	3.96	100.5
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.90	759.4	30.09	764.4	73.9	23.3	67.1	1	2	.....	1	.....	11	15	.....	.....	.....	.....	4	1.97	50.0
MEXICAN.																										
Guanajuato	N. 21 01	W. 100 48	5.24 a.m.	6762	2061	23.69	601.8	29.91	759.8	60.8	16.0	79.7	2	2	1	1	1	2	9	6	6	.....	.....	5	11.10	281.8
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24.33	618.0	29.95	760.7	61.1	16.2	83.6	5	6	4	5	4	1	3	1	1	.....	.....	8	4.84	122.9
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.66	753.5	29.92	760.0	76.1	24.5	86.7	5	3	1	.....	.....	2	16	3	.....	.....	.....	6	0.06	1.5
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Morelia	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Puebla	N. 19 02	W. 98 03	5.30 a.m.	7113	2168	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sub-Series.																										
Altata	N. 24 40	W. 107 55	4.56 a.m.	?	?	.....	.....	.....	.....	75.1	23.9	87.0	3	.....	.....	.....	9	9	8	1	.....	.....	.....	4	0.43	10.9
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.98	761.6	29.98	761.6	66.6	19.2	.....	9	.....	4	4	4	2	5	2	.....	.....	.....	.....	1.46	37.2
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.93	760.2	29.98	761.6	63.3	17.4	.....	10	5	1	4	3	1	3	3	.....	.....	.....	.....	0.49	12.4
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.98	761.5	29.98	761.5	60.1	15.6	.....	1	5	2	9	.....	.....	6	7	.....	.....	.....	.....	0.68	17.2
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.98	761.5	29.98	761.5	67.5	19.7	62.2	4	3	3	5	2	.....	6	3	4	.....	.....	.....	1.65	41.8
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.95	760.6	29.99	761.8	68.7	20.4	57.9	9	3	2	4	4	5	1	2	.....	.....	.....	.....	1.20	30.4
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7 15 p.m.	?	?	29.88	759.0	.....	.....	80.6	27.0	78.7	5	2	.....	.....	.....	.....	2	21	.....	.....	.....	4	0.04	1.0
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.87	758.7	29.93	760.3	57.9	14.4	63.9	.....	10	5	1	11	1	1	1	.....	.....	.....	7	4.47	113.5
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.92	759.9	29.96	760.9	58.1	14.5	65.8	11	2	2	9	.....	2	.....	1	3	.....	.....	5	2.17	55.0
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.77	756.2	29.91	759.8	65.8	18.8	50.8	4	1	.....	6	11	.....	3	5	.....	.....	.....	6	3.41	86.6
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.96	760.9	29.98	761.5	51.8	11.0	.....	1	.....	10	5	1	.....	.....	4	9	.....	.....	7	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.91	759.8	29.96	761.0	58.1	14.5	61.9	.....	.....	.....	12	4	.....	1	7	6	.....	.....	4	1.41	35.7
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	29.96	761.0	30.12	765.0	64.4	18.0	86.9	3	5	3	1	2	12	4	.....	.....	.....	.....	6	7.76	197.0
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.01	737.9	30.02	762.6	73.2	22.9	46.1	5	5	9	4	3	3	.....	1	.....	.....	.....	5	1.82	46.3
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.10	764.6	30.19	766.8	68.7	20.4	63.9	1	.....	.....	21	1	4	2	.....	1	.....	.....	7	0.70	17.9
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	312	95	29.74	755.5	30.08	763.9	67.6	19.8	57.9	7	8	.....	7	4	1	.....	3	.....	.....	.....	4	0.48	12.3
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.08	764.1	30.15	765.9	67.8	19.9	76.2	2	1	4	5	.....	11	1	2	4	.....	.....	6	3.75	95.3
St. Paul de Loandao	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.80	756.9	30.00	762.1	74.7	23.7	88.2	1	6	15	6	2	.....	.....	.....	.....	.....	.....	4	0	0
San Salvador	S. 6 17	E. 14 53	12.33 p.m.	559	1834	28.14	714.7	29.98	761.4	76.6	24.8	61.2	.....	2	.....	9	11	2	4	.....	2	.....	.....	5	0	0
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.35	643.8	30.04	763.1	52.9	11.6	65.9	3	4	5	1	2	2	11	1	1	.....	.....	5	8.52	216.4
RUSSIAN																										
Akmolinskia	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.63	727.3	29.66	753.3	71.6	22.0	38.4	3	3	2	3	2	1	6	7	2	.....	.....	4	0.60	15.3
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.96	761.0	29.98	761.6	68.5	20.3	46.0	7	9	4	1	2	3	.....	3	1	.....	.....	5	0.91	23.0
Astrakhan	N. 36 54	E. 53 55	3.44 p.m.	79	24	29.88	758.9	29.78	756.5	81.1	27.3	72.4	2	13	13	2	.....	.....	.....	.....	.....	.....	.....	4	0.25	6.4
Baku	N. 46 21	E. 48 02	3.20 p.m.	68	21	29.88	759.0	29.80	756.9	79.7	26.5	43.4	3	5	5	8	4	2	.....	2	1	.....	.....	6	1.09	27.8
Barnaul	N. 40 21	E. 49 51	3.28 p.m.	39	12	29.82	757.4	29.86	758.5	77.9	25.5	59.1	14	4	.....	.....	7	5	.....	.....	.....	.....	.....	2	0.45	11.5
Bielosersk	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.23	742.4	29.71	754.6	63.9	17.7	50.7	5	7	1	4	4	2	.....	3	4	.....	.....	7	2.70	70.0
Dorpat	N. 66 02	E. 37 47	2.39 p.m.	430?	131?	29.50	749.4	29.98	760.8	69.1	20.6	59.4	7	10	2	2	4	1	1	3	.....	.....	.....	5	3.48	88.5
Ekaterinburg	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.70	754.5	29.94	760.4	69.8	21.0	57.9	3	.....	6	5	1	3	6	5	1	.....	.....	6	4.39	111.4
Elisawetgrad	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.91	734.3	29.84	758.0	65.7	18.7	51.2	5	5	6	2	2	2	2	3	3	.....	.....	7	2.47	62.8
Irkutsk	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.46	748.2	29.89	759.1	75.9	24.4	46.7	3	6	6	3	1	4	5	2	.....	.....	.....	7	3.10	78.8
Kasan	N. 52 16	E. 104 16	7.05 p.m.	1536	468	28.15	714.9	29.73	755.2	61.7	16.5	63.2	4	2	1	.....	2	3	.....	.....	18	.....	.....	7	5.18	131.5
Kem	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.56	750.8	29.82	757.3	71.6	22.0	49.4	1	3	4	3	2	3	5	9	.....	.....	.....	8	1.27	32.2
Kertch	N. 64 57	E. 34 39	2.26 p.m.	43	13	29.94	760.4	29.99	761.7	66.4	19.1	53.1	.....	2	4	5	...	1	10	8	.....	.....	.....	4	0.47	11.9
Kieff	N. 45 21	E. 36 29	2.34 p.m.	187	67	29.84	758.0	29.87	758.6	74.8	23.8	56.1	5	.....	.....	.....	1	2	2	6	12	.....	.....	4	3.08	78.3
Kostov	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.23	742.5	29.84	757.9	73.2	22.9	51.3	6	2	3	2	2	4	3	6	2	.....	.....	5	2.70	68.6
Libau	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.31	744.5	29.83	757.7	68.2	20.1	78.1	6	3	4	3	2	1	2	8	1	.....	.....	7	5.98	152.0
Lugan	N. 56 31	E. 21 01	1.32 p.m.	20	6	29.91	759.7	29.93	760.3	62.2	16.8	68.0	1	5	4	12	.....	2	3	3	.....	.....	.....	5	1.87	47.4
Moscow	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.58	751.4	29.76	755.9	76.6	24.8	43.4	4	8	4	6	1	2	1	4	.....	.....	.....	6	1.20	30.6
Nikolaiev	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.40	746.7	29.85	758.2	70.3	21.3	52.3	4	4	1	1	2	5	3	8	2	.....	.....	7	2.95	74.9
Nikolaievsk *a*	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.83	757.6	29.90	759.5	79.2	26.2	54.8	3	3	1	4	3	2	3	4	7	.....	.....	4	0.76	19.3
Pekin	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.67	753.5	29.75	755.7	52.0	11.1	79.6	2	1	1	.....	.....	6	9	2	8	.....	.....	8	1.28	32.4
Petro-Alexandrovsk	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	29.59	751.6	29.73	755.2	79.7	26.5	45.2	.....	2	.....	3	3	9	.....	1	12	.....	.....	3	0.22	5.6
Petrozavodsk	N. 41 28	E. 61 05	4.12 p.m.	328	100	29.41	747.1	29.74	755.4	91.4	33.0	20.4	10	7	3	1	.....	1	1	2	5	.....	.....	2	0.58	14.6
Pinsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.76	755.9	29.95	760.7	69.0	20.9	49.7	3	2	2	1	2	10	3	7	.....	.....	.....	4	1.00	25.3
Poti	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.39	740.4	29.87	758.6	72.3	22.4	59.8	3	3	2	1	3	7	7	1	3	.....	.....	6	5.47	139.0
St. Petersburg	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	29.83	757.7	29.86	758.5	75.4	24.1	86.0	3	9	5	6	4	.....	2	.....	1	.....	.....	4	9.73	247.2
Samarkand	N. 59 56	E. 30 16	2.09 p.m.	20	6	29.94	760.4	29.96	761.0	68.4	20.2	50.2	2	9	3	.....	4	3	5	4	.....	.....	.....	5	0.06	16.7
Semipalatinsk	N. 39 39	E. 66 57	4.30 p.m.	2379?	725?	27.38	695.4	29.67	753.7	85.6	29.8	36.6	.....	1	1	.....	2	3	2	5	16	.....	.....	1	0.32	8.2
Sevastopol	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.13	739.8	29.75	755.7	72.1	22.3	38.5	5	10	1	3	.....	.....	2	2	7	.....	.....	5	1.50	38.0
Staroi Bykhov	N. 44 37	E. 33 31	2.22 p.m.	423?	42?	29.65	753.2	29.87	758.7	75.9	24.4	52.9	1	7	8	10	4	.....	.....	.....	.....	.....	.....	4	4.25	107.9
Tashkend	N. 53 31	E. 30 16	2.09 p.m.	423?	129?	29.49	749.0	29.92	760.1	74.1	23.4	51.8	2	.....	.....	2	2	6	8	10	.....	.....	.....	8	1.59	40.4
	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.10	713.7	29.63	752.7	89.8	32.1	30.8	2	2	.....	1	.....	.....	.....	1	24	.....	.....	3	0.55	14.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer, Actual. Inch.	Mean Barometer, Actual. Mill.	Mean Barometer, Reduced. Inch.	Mean Barometer, Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
RUSSIAN.—Cont'd.	° ′	° ′																								
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1313	409	28.44	722.5	29.79	756.6	79.3	26.3	42.3	2	10	2	.....	6	5	2	.....	3	.....	.....	6	2.68	68.2
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.26	692.4	29.62	752.3	77.0	25.0	47.6	.....	.....	2	5	.....	1	2	5	15	.....	.....	4	3.32	84.2
Viatka *b*	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.25	743.0	29.86	758.4	70.0	21.1	48.4	4	4	.....	1	1	1	2	3	12	.....	.....	4	1.50	38.0
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.48	748.7	29.88	759.0	70.2	21.2	56.6	7	5	2	2	4	4	3	2	1	.....	.....	6	4.62	117.4
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.50	749.2	29.78	756.4	54.7	12.6	60.9	.....	6	14	3	1	2	2	1	1	.....	.....	6	2.56	65.0
SCOTTISH.																										
Monach Light H.	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.93	760.2	55.1	12.8	93.0	5	3	2	4	5	4	3	3	1	.....	.....	6	2 80	71.1
North Unst	N. 60 51	W. 0 53	0.04 p.m.	230	70	.....	.....	29.93	760.2	.....	.....	.....	6	1	9	1	2	5	3	3	.....	.....	.....	6	.....	.....
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	98	30	29.93	760.3	30.04	762.9	72.5	22.5	64.3	.....	.....	1	9	10	3	6	1	.....	1793	2885	2	1.59	40.4
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.01	762.3	30.07	763.8	72.5	22.5	61	.....	23	.....	1	1	5	.....	.....	.....	1952	3142	6	3.65	92.7
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.11	688.7	30.02	762.4	64.8	18.2	56	7	.....	.....	12	3	.....	1	7	.....	4023	6475	4	1.44	36.6
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.81	706.4	29.97	761.3	73.6	23.1	39.3	1	1	4	13	2	2	2	5	.....	7819	12583	4	1.26	32.1
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.86	758.4	30.00	761.9	71.8	22.1	55	.....	1	1	.....	7	7	8	6	.....	1663	2677	4	0.73	18.6
Oviedo	N. 43 23	W. 5 49	11.45 a.m.	800	244	29.30	744.2	30.06	763.5	60.8	16.0	70	14	.....	.....	.....	1	4	9	2	.....	.....	.....	8	4.63	117.7
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.14	740.2	30.02	762.6	64.6	18.1	67.2	9	1	2	11	1	.....	.....	4	2	6677	10745	6	5.72	145.2
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.98	761.5	30.04	763.2	79.1	26.2	80.9	.....	.....	.....	.....	.....	8	20	2	.....	.....	.....	7	7.40	188.3
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.82	757.4	29.88	758.8	80.1	26 7	82.2	3	2	2	9	1	5	4	4	.....	.....	.....	7	10.17	258.4
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.98	761.6	30.08	764.0	73.0	22.7	60	.....	3	16	3	3	.....	5	.....	.....	.....	.....	3	1.03	26.2
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.99	761.7	30.08	764.0	80.1	26.7	91	.....	.....	.....	.....	6	10	.....	.....	14	.....	.....	3	5.54	140.8
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.94	760.4	29.98	761.4	65.3	18.5	61	1	2	2	6	14	1	2	2	.....	.....	.....	4	1.26	32.0
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.93	760.1	29.98	761.4	67.1	19.5	50	1	3	.....	13	3	4	4	2	.....	.....	.....	4	0.89	22.7
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.91	759.8	29.97	761.1	64.8	18.2	57	2	.....	1	4	9	3	1	8	2	.....	.....	5	1.15	29.1
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.78	756.3	29.95	760.8	65.7	18.7	56	7	1	3	3	7	2	2	4	.....	.....	.....	7	1.40	35.5
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.85	758.2	29.91	759.7	60.6	15.9	72	3	3	8	3	1	3	5	4	.....	.....	.....	5	2.30	58.5
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.85	758.2	29.94	760.4	65.5	18.6	56.7	9	1	1	7	2	3	2	5	.....	.....	.....	6	1.70	43.2
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.59	726.1	29.97	761.3	66.2	19.0	59.9	15	1	1	3	8	.....	.....	2	.....	.....	.....	6	2.55	64.8
TURKISH.																										
Constantinople	N 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.90	759.4	76.5	24.7	58	11	2	1	2	3	2	2	7	.....	.....	.....	5	2.64	67.0
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.10	764.4	79.2	26.2	.....	.....	9	7	12	2	.....	.....	.....	.....	.....	.....	2	0.63	16.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.85	758.2	82.6	28.1	61.0	1	2	5	22	.....	.....	.....	.....	.....	.....	.....	2	0	0
Samakov *d*	N. 42 12	E. 23 45	1.42 p.m.	?	?	26.73*e*	678.9*e*	.....	.....	67.2	19.6	73.4	.....	1	5	.....	.....	.....	2	.....	18	.....	.....	.....	6.37	161.8
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	29.92	760.0	30.00	762.0	69.0	20.6	69.6	3	.....	5	3	15	3	.....	.....	1	4357	7012	6	6.30	160.0
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.24	742.7	29.90	759.4	57.4	14.1	79.0	2	4	6	4	2	5	2	1	4	6065	9760	6	5.47	138.9
Apache, Fort	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	25.04	636.0	29.80	756.9	49.2	9.6	57.3	.....	.....	.....	1	.....	.....	24	5	.....	5941	9561	1	0.02	0.5
Assinnaboine, Ft.	N. 48 32	W. 109 42	4.49 a.m.	2710	826	27.14	689.3	29.93	760.2	52.2	11.2	65.8	1	5	4	13	3	.....	2	1	1	7821	12586	4	0.77	19.6
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.91	734.3	30.06	763.5	71.5	21.9	82.7	1	5	1	6	4	1	6	.....	6	4899	7880	6	2.31	58.7
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	29.99	761.7	30.00	762.0	65.9	18.8	87.3	4	1	2	6	6	9	1	1	.....	5767	9281	4	3.53	89.7
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	29.89	759.2	30.08	764.0	73.7	23.2	83.1	2	2	4	3	6	4	2	3	4	2547	4099	6	5.85	148.6
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	29.97	761.2	30.02	762.5	71.0	21.7	74.8	4	6	3	3	8	1	4	1	.....	4072	6553	4	8.08	205.2
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	20	6	29.99	761.7	30.01	762.2	67.9	19.9	84.7	4	1	4	8	5	3	2	2	1	8938	14384	4	4.09	103.9
Behring Id	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.75	755.6	29.77	756.1	39.4	4.1	92.2	4	1	1	4	11	3	5	1	.....	8390	13502	9	2.72	769.1
Bennett, Fort	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.36	720.3	29.90	759.4	58.6	14.8	83.1	1	7	1	1	1	10	.....	2	7	5705	9278	4	3.99	101.3
Benton, Fort *f*	N. 47 50	W. 110 40	4.45 a.m.	2700	823	27.17	690.1	29.94	760.5	56.8	13.8	62.9	.....	.....	2	5	.....	.....	.....	2	21	4499	7240	3	1.93	49.0
Billings	N. 45 49	W. 108 30	4.54 a.m.	3115?	949?	26.73	678.9	29.87	758.7	48.3	9.1	72.0	2	2	5	3	1	.....	4	3	6	3905	6284	5	2.83	71.9
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.11	714.0	29.87	758.7	57.3	14.1	81.0	2	6	4	3	2	4	4	4	1	6094	9807	4	3.84	97.5
Block Id *a*	N. 41 10	W. 71 36	7.22 a.m.	27	8	29.99	761.7	30.02	762.5	63.4	17.4	91.7	2	1	4	9	3	6	3	1	.....	8850	14242	4	1.54	39.1
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.18	690.4	29.96	761.0	54.0	12.2	71.8*m*	5	8	6	2	.....	4	2	1	2	3817	6143	2	0.20	5.1
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.84	757.9	29.99	761.7	67.3	19.6	75.9	.....	4	6	9	6	3	1	1	.....	5831	9384	5	2.07	52.6
Brownsville	N. 25 53	W. 97 26	5.38 a.m	43	13	29.89	759.2	29.93	760.2	79.1	26.2	86.3	1	.....	.....	.....	16	6	5	.....	2	5711	9191	4	5.66	143.8
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	696	212	29.20	741.7	29.94	760.5	61.1	16.2	80.8	.....	.....	2	10	7	8	.....	3	.....	6654	10708	6	5.46	138.7
Buford, Fort *c*	N. 48 00	W. 103 56	5.12 a.m.	1900	579	27.96	710.2	29.92	760 0	55.3	12.9	82.7	.....	2	6	5	2	2	4	4	2	5777	9297	4	0.97	24.6
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.69	754.1	29.98	761.5	62.0	16.7	76.4	3	.....	.....	12	8	.....	1	.....	1	2601	4186	6	3.29	83.6
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.62	752.3	30.01	762.2	71.5	21.9	81.8	3	4	4	8	5	3	1	2	.....	5289	8512	5	6.11	155.2
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.01	762.2	30.03	762.7	72.2	22.3	83.2	2	.....	1	8	5	6	1	6	1	7114	11449	5	6.14	156.0
Cape May *a*	N. 38 56	W. 74 58	7.08 a.m.	27	8	29.98	761.5	30.02	762.5	67.2	19.6	85.5	2	2	2	2	8	8	3	2	.....	8714	14022	5	5.59	142.0
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.31	744.5	29.99	761.7	52.0	11.1	84.6	6	20	.....	.....	.....	2	.....	.....	2	.....	.....	1	0.02	0.5
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.05	763.3	30.07	763.8	79.9	26.6	81.0	1	2	8	3	6	1	2	7	.....	7010	11281	5	4.05	102.9
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	29.99	761.7	30.04	763.0	78.3	25.7	80.6	2	1	5	11	2	.....	1	5	3	5729	9220	5	2.88	73.2
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.21	741.9	30.04	763.0	73.0	22.8	73.6	2	4	2	12	5	.....	1	4	.....	3901	6278	5	5.45	138.4
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.25	742.9	30.06	763.5	70.8	21.6	82.8	2	5	3	7	4	1	1	4	3	3784	6090	4	2.25	57.4
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6089	1856	24.08	611.6	29.84	757.9	48.0	8.9	74.4	8	11	4	4	1	.....	.....	1	1	5440	8755	4	3.67	93.2
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.22	742.2	29.92	760.0	61.7	16.5	77.5	8	3	2	9	2	6	.....	.....	.....	5972	9611	5	5.01	142.5
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	18	5	30.00	762.0	30.02	762.5	69.7	20.9	88.4	3	1	2	.....	13	6	4	1	.....	5765	9278	4	1.26	32.0
Cincinnati	N. 39 06	W. 84 30	6.30 a.m.	620	189	29.34	745.2	29.99	761.7	64.2	17.9	75.5	1	1	7	2	5	7	2	3	2	3737	6014	6	3.61	91.7
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.22	742.2	29.95	760.7	64.1	17.8	74.4	1	.....	7	4	8	9	.....	1	.....	5537	8911	6	3.77	95.8
Coleman City	N. 31 53	W. 99 18	5.31 a.m.	1709	521	28.18	715.8	29.93	760.2	69.9	21.1	81.8	.....	.....	.....	1	10	9	3	2	5	4656	7493	4	1.88	47.8
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.13	739.9	29.97	761.2	64.8	18.2	78.2	2	2	3	5	13	3	1	1	.....	4833	7778	5	4.25	107.9
Concho, Fort	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.04	712.2	29.91	759.7	71.3	21.8	81.5	.....	.....	2	.....	16	2	.....	5	5	7202	11590	5	1.52	38.6
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.27	743.4	29.91	759.7	63.4	17.4	82.2	2	5	8	3	5	2	2	1	.....	5984	9630	6	4.38	111.2
Davis, Fort	N. 30 38	W. 103 56	5.12 a.m.	4940	1506	25.20	640.1	29.81	757.2	66.2	19.0	59.6	1	.....	.....	8	2	3	.....	3	13	3878	6241	1	1.71	43.4
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1660	506	28.23	718.3	30.02	762.5	53.1	11.7	66.5	1	.....	.....	18	4	1	.....	5	1	4646	7477	3	0.08	2.0
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.38	644.6	29.82	757.4	52.4	11.3	70.3	.....	.....	.....	1	5	3	....	13	8	2619	4215	2	5.26	133.6
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.00	762.0	30.02	762.5	67.2	19.6	89.8	4	2	2	7	4	5	4	2	.....	9617	15477	5	4.09	103.9
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.78	629.4	29.82	757.4	56.4	13.6	67.0	3	1	1	.....	15	.....	.....	1	9	3804	6216	2	0.85	21.6
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.06	738.1	29.94	760.5	61.2	16.2	84.1	8	5	2	2	3	1	3	5	1	4198	6756	6	7.75	222.2
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.22	742.2	29.92	760.0	63.8	17.7	82.1	2	3	3	8	3	3	2	.....	6	5273	8486	6	4.32	109.7
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2512	766	27.37	695.2	29.88	758.9	62.4	16.9	86.2	4	2	3	8	4	3	4	.....	2	9530	15347	4	4.31	109.5
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.22	742.2	29.91	759.7	61.8	16.6	76.1	3	4	6	6	3	4	1	3	.....	3833	6168	6	5.34	135.6
Duluth	N. 46 48	W. 92 06	6.00 a.m.	644	184	29.16	740.7	29.90	759 4	57.2	14.0	75.6	1	3	1	2	2	.....	.....	7	14	4083	6571	6	4.14	105.2
Eagle Pass	N. 28 44	W. 100 29	5.26 a.m.	780	238	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eagle Rock	N. 43 32	W. 111 55	4.40 a.m.	4650	1415	25.26	641.6	29.85	758.2	44.7	7.1	70.0	6	.....	1	1	7	.....	.....	.....	.....	3968	6386	5	0.14	3.6
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.92	760.0	29.99	761.7	55.7	13.2	82.5	3	2	.....	3	12	.....	2	3	5	4243	6828	4	5.28	134.1
Elliott, Fort	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.22	691.4	29.89	759.2	60.5	15.8	65.5	4	1	.....	1	10	4	.....	4	6	8638	13901	3	1.66	42.2
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3760	1146	26.24	666.5	29.83	757 7	71.1	21.7	43.1	.....	4	3	.....	.....	3	6	1	13	3760	6051	1	0.04	1.0
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.23	742.4	29.95	760.7	65.2	18.4	75.7	.....	2	3	10	7	6	.....	1	1	4855	7813	6	3.73	94.7
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	612	186	29.23	742.4	29.88	758.9	56.7	13.7	79.0	11	2	5	.....	7	3	....	.....	2	6503	10465	4	5.43	137.9
Fredericksburg	N. 30 17	W. 98 52	5.32 a.m.	1700	518	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galveston	N. 29 18	W. 94 47	5.49 a.m.	48	15	29.96	761.0	30.00	762.0	80.5	26.9	79.8	2	.....	1	5	16	4	....	.....	2	5999	9654	7	1.04	26.4
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.25	742.9	29.90	759.4	60.4	15.8	80.9	4	3	5	4	6	3	2	2	1	6915	11128	7	9.24	134.7
Grant, Fort	N. 32 39	W. 109 57	4.48 a.m.	4856	1481	25.23*k*	740.8*k*	29.77*k*	756.1*k*	66.5	19.2	38.3	6	5	.....	.....	5	1	10	2	1	5295	8521	1	1.26	31.7
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	19	6	30.02	762.5	30.04	763.0	74.4	23.6	87.1	1	1	4	11	1	5	2	5	.....	11323	16613	5	6.76	171.4
Helena	N. 46 34	W. 112 04	4.40 a.m.	4100	1250	25.78	654.8	29.90	759.4	54.1	12.3	67.0	.....	.....	3	22	.....	.....	1	1	3	4387	7060	3	1.74	44.2
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.55	725.2	29.89	759.2	57.5	14.2	77.5	3	5	3	1	5	9	2	2	.....	6739	10845	4	4.33	110.0
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.16	740.7	29.94	760.5	67.0	19.4	73.7	5	2	4	5	6	5	.....	2	1	3973	6394	6	4.59	116.6
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	29.93	760.2	29.96	761.0	78.9	26.1	89.6	.....	.....	.....	1	20	6	.....	1	2	7853	12638	4	1.72	43.7
Jacksboro	N. 33 12	W. 98 10	5.35 a.m.	1120	341	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.02	762.5	30.06	763.5	79.5	26.4	79.9	.....	2	1	11	7	1	5	2	1	5316	8555	4	7.05	179.1
Keogh, Fort *o*	N. 46 22	W. 105 56	5.04 a.m.	2372	723	27.44	697.0	29.87	758.7	48.8	9.3	74.3	1	4	5	.....	.....	1	.....	1	3	3582	5765	6	0.83	21.1
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.28	743.7	29.92	760.0	65.7	18.7	79.4	3	3	6	4	3	6	2	1	2	5879	9461	5	5.88	149.4

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for June, 1883.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																									
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.02	762.5	30.04	763.0	83.3	28.5	74.5	.....	.....	.....	2	1	12	8	2	5	4597	7398	5	3.29	83.6
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.04	763.0	30.06	763.5	72.9	22.7	85.3	2	.....	4	12	.....	5	.....	7	.....	9748	15688	5	6.57	166.9
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.04	737.6	30.05	763.3	67.9	19.9	86.6	5	2	1	10	1	1	5	4	1	3927	6320	5	2.99	75.9
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.12	739.6	29.88	758.9	63.5	17.5	68.2	5	3	2	5	10	5	....	.....	.....	5727	9217	5	3.92	99.6
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.08	738.6	29.95	760.7	65.4	18.6	81.1	11	7	.....	.....	6	6	.....	.....	.....	5001	8048	4	10.84	275.3
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.17	740.9	29.99	761.7	56.3	13.5	64.7	.....	1	1	1	1	3	7	2	14	1952	3141	3	0.01	0.3
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.66	753.4	29.98	761.5	71.9	22.2	87.1	3	1	3	3	3	1	1	.....	15	2477	3986	4	3.01	76.5
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	371	113	29.56	750.8	29.95	760.7	59.7	15.4	88.0	.....	.....	7	.....	2	2	2	13	4	3897	6272	4	0.03	0.8
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.41	747.0	29.96	761.0	69.6	20.9	80.2	3	.....	5	5	8	1	3	4	1	5289	8512	6	1.98	50.3
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.34	745.2	30.01	762.2	72.3	22.4	69.3	.....	3	2	9	5	1	.....	8	2	2283	3674	4	4.04	102.6
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.24	742.7	29.88	758.9	57.2	14.0	76.3	4	5	5	3	5	2	3	2	1	6252	10061	7	3.58	90.9
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.03	762.7	30.04	763.0	74.0	23.3	89.2	4	2	6	9	4	1	2	2	.....	8648	13917	6	10.89	276.6
Maginnis Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.58	649.7	29.91	759.7	53.7	12.1	46.1	.....	4	11	3	2	4	1	5	.....	8170	13148	4	0.94	23.9
McKavett, Fort	N. 30 48	W. 100 07	5.28 a.m.	2240	683	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.17	740.9	29.89	759.2	56.1	13.4	71.3	6	9	8	4	.....	2	.....	.....	1	6608	10634	5	4.56	115.8
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.66	753.4	29.99	761.7	73.5	23.1	83.9	1	1	2	2	5	7	.....	2	10	2967	4775	4	4.92	125.0
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.17	740.9	29.91	759.7	59.9	15.5	79.1	6	3	9	3	3	1	2	3	.....	7851	12935	6	2.84	72.1
Missoula, Fort *o*	N. 46 50	W. 114 07	4.32 a.m.	3140	957	26.79	680.5	30.05	763.3	50.7	10.4	67.0	2	2	4	3	.....	2	.....	2	.....	1920	3090	7	0.75	19.0
Mobile	N. 30 41	W. 88 02	6.16 a.m.	41	12	30.00	762.0	30.04	763.0	76.9	24.9	87.0	8	.....	4	7	3	2	4	2	.....	3598	5790	5	9.43	239.5
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.81	757.2	30.04	763.0	74.5	23.6	84.3	.....	4	5	4	2	7	2	.....	6	3356	5404	5	5.02	127.5
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	28.91	734.3	29.88	758.9	53.1	11.7	77.5	6	4	4	2	11	2	.....	1	.....	6586	10599	4	2.32	58.9
Morgantown	N. 39 40	W. 79 50	6.49 a.m.	963	293	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.86	606.0	29.98	761.5	45.0	7.2	89.8	.....	11	4	5	5	2	2	1	.....	24570	39541	4	11.30	287.0
Nashville	N. 36 10	W. 86 47	6.21 a.m.	507	154	29.44	747.8	30.00	762.0	71.0	21.7	83.9	2	1	8	5	1	7	5	1	.....	4317	6947	5	3.79	96.3
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	29.89	759.2	30.00	762.0	65.7	18.7	79.3	3	2	1	11	5	2	3	2	1	4007	7414	4	1.83	46.5
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	29.98	761.5	30.04	763.0	67.0	19.4	77.9	4	.....	2	5	6	4	2	3	4	4081	6568	6	3.30	83.8
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	29.97	761.2	30.02	762.5	78.2	25.7	84.8	.....	2	5	3	7	4	6	1	2	4186	6737	5	12.05	306.1
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.85	758.2	30.02	762.5	67.3	19.6	80.4	3	2	1	5	5	3	3	3	5	4641	7469	4	4.00	101.6
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	29.99	761.7	30.02	762.5	75.1	23.9	76.4	1	2	1	12	1	4	4	3	2	5224	8407	4	6.52	165.6
North Platte *b*	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.06	687.3	29.86	758.4	59.6	15.3	83.5	1	4	6	.....	.....	5	5	1	6	7316	11774	4	7.49	190.2
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	30.10	764.5	30.14	765.5	47.2	8.4	74.7	8	1	2	6	4	.....	.....	.....	9	2016	3245	5	0.21	5.3
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.81	731.8	29.95	760.7	63.2	17.3	80.9	7	5	2	1	2	3	.....	2	8	2255	3629	6	12.70	322.6
Ooglaamie	N. 71 17	W. 156 40	1.41 a.m.	17	5	29.93	760.2	29.94	760.5	29.2	−1.6	98.7	6	1	1	1	1	3	4	12	1	8631	13890	9	0.31	7.9
Oswego	N. 43 29	W. 76 35	7.02 a.m.	304	93	29.62	752.3	29.91	760.5	63.3	17.4	78.8	1	1	6	5	11	5	..	1	.....	5258	8462	6	4.58	116.3
Palestine	N. 31 45	W. 95 40	5.45 a.m.	523	162	29.48	748.8	30.02	762.5	74.0	23.3	87.7	.....	1	.....	2	12	3	3	1	8	4267	6867	5	6.33	160.8
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.01	762.2	30.04	763.0	77.8	25.4	86.2	3	2	4	8	4	5	2	2	.....	5755	9262	5	9.36	237.7
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	92	28	29.93	760.2	30.03	762.7	69.7	20.9	91.4	3	2	5	4	6	4	3	3	.....	4917	7913	4	5.91	150.1
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.98	456.7	29.80	756.9	28.0	−2.2	80.6	7	5	1	13	.....	1	.....	3	.....	14915	24003	2	1.76	44.7
Pioche *o*	N. 37 56	W. 114 26	4.30 a.m.	6110	1862	24.05	610.9	29.85	758.2	54.8	12.7	43.1	6	5	.....	1	3	.....	.....	.....	.....	3210	5170	3	0.48	12.2
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	762	232	29.19	741.4	29.98	761.5	64.9	18.3	81.5	2	2	5	4	8	1	...	2	6	3815	6140	5	4.73	120.1
Poplar River *e*	N. 48 08	W. 105 10	5.07 a.m.	2030	619	27.79	705.9	29.89	759.2	.....	.....	.....	1	3	1	15	1	2	.....	2	.....	.....	.....	1	0.43	10.9
Port Eads	N. 29 09	W. 89 15	6.11 a.m.	7	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Huron	N. 43 00	W. 82 26	6.38 a.m.	633	193	29.21	741.9	29.88	758.9	60.1	15.6	83.3	4	1	4	6	9	4	1	1	.....	6284	10113	4	5.71	145.0
Portland, Maine	N. 43 39	W. 70 15	7.27 a.m.	45	14	29.93	760.2	29.98	761.5	63.6	17.6	74.0	6	.....	5	5	6	4	2	1	1	5103	8212	4	2.94	74.7
Portland, Oreg	N. 45 32	W. 122 43	3.57 a.m	67	20	30.02	762.5	30.09	764.3	54.1	12.3	79.5	6	5	1	2	3	.....	.....	1	12	3806	6125	5	0.08	2.0
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	74.9	23.8	84.3	.....	2	3	15	3	1	.....	6	.....	9582	15420	6	11.09	281.7
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5340	1628	24.78	629.4	29.80	756.9	52.4	11.3	44.1	...	.....	3	14	11	.....	.....	.....	2	5503	8856	0	0.09	2.3
Provincetown	N. 42 03	W. 70 11	7.27 a.m.	26	8	29.98	761.5	30.01	762.2	65.5	18.6	79.4	.....	2	8	8	6	3	2	1	.....	6299	10138	3	1.39	35.3
Punta Rassa *o*	N. 26 29	W. 82 01	6.40 a.m.	13	4	30.03	762.7	30.04	763.0	76.7	24.8	85.9	.....	.....	.....	.....	1	3	8	3	.....	3213	5171	4	7.45	184.2
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	350	106	29.59	751.6	29.94	760.5	67.1	19.5	55.8	9	4	.....	.....	9	2	4	.....	2	5478	8816	1	inap.	inap.
Rochester *o*	N. 43 08	W. 77 42	6 57 a.m.	621	189	29.34	745.2	29.99	761.7	60.9	16.1	80.6	.....	3	3	7	2	.....	.....	.....	.....	4388	7062	6	1.04	26.4
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.55	750.6	30.10	764.5	51.5	10.8	78.6	6	2	1	.....	.....	.....	2	4	15	2990	4812	4	0.01	0.3
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	65	20	29.85	758.2	29.92	760.0	61.5	16.4	75.5	3	3	.....	2	11	11	.....	.....	.....	5928	9540	1	0	0
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	568	173	29.39	746.5	29.98	761.5	66.7	19.3	87.5	2	5	8	2	5	6	2	.....	.....	7222	11623	6	5.04	128.0
Saint Michael, Ft	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.86	758.4	29.89	759.2	43.8	6.6	87.4	5	6	1	6	4	.....	2	5	1	7266	11693	8	1.84	46.7
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	811	247	29.04	737.6	29.88	758.9	59.4	15.2	81.1	6	3	3	2	3	.....	3	2	8	4065	7597	6	7.04	178.8
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.00	736.6	29.85	758.2	52.8	11.6	88.0	3	6	1	5	7	7	.....	1	.....	5424	8725	4	1.03	26.2
Salt Lake City	N. 40 46	W. 111 54	4.49 a.m.	4348	1325	25.62	650.7	29.84	757.9	62.7	17.1	39.6	2	8	2	1	3	5	.....	1	8	4168	6708	3	0.33	8.4
San Antonio *o*	N. 29 25	W. 98 25	5.34 a.m.	673	205	29.24	742.7	29.92	760.0	75.0	23.9	84.4	.....	.....	.....	.....	3	5	5	1	1	2397	3857	4	0.36	8.9
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.84	757.9	29.91	759.7	62.2	16.8	85.3	9	6	3	3	4	2	.....	3	.....	4792	7712	5	0.08	2.0
Sandusky	N. 41 25	W. 82 40	6.37 a.m.	639	195	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	29.98	761.5	30.01	762.2	67.2	19.6	83.1	.....	4	4	10	4	4	3	1	.....	9342	15031	4	4.94	125.5
Sanford	N. 43 05	W. 89 24	6.10 a.m.	949	289	30.00	762.0	.....	.....	80.0	26.7	82.9	.....	.....	3	8	6	5	2	4	2	3485	5608	6	8.57	217.7
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.91	759.7	29.98	761.5	56.4	13.6	84.5	2	2	9	15	1	.....	.....	.....	1	9158	14738	7	0.01	0.3
Santa Fé *o*	N. 35 41	W. 105 57	5.04 a.m.	7106	2166	23.25	590.5	29.70	755.9	54.0	12.2	43.7	.....	.....	.....	2	4	1	4	3	1	3571	5747	1	inap.	inap.
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	29.97	761.2	30.06	763.5	78.3	25.7	78.0	3	1	10	8	1	4	1	2	.....	4967	7993	4	5.93	150.6
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3559	1082	26.36	669.5	29.93	760.2	49.3	9.6	71.2	1	5	15	8	.....	.....	.....	1	.....	5469	8801	4	2.38	60.5
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.75	755.6	29.98	761.5	74.0	23.3	86.2	1	2	4	4	9	3	4	.....	3	2869	4617	5	5.70	144.8
Sill, Fort *a*	N. 34 40	W. 98 23	5.34 a.m.	1200	366	28.74	730.0	29.94	760.5	68.8	20.4	84.7	8	.....	2	3	11	2	2	1	1	8011	12892	5	5.55	141.0
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.87	758.7	29.93	760.2	47.0	8.3	76.7	...	4	8	3	.....	.....	11	3	1	5552	8935	8	4.13	104.9
Smith, Fort	N. 35 22	W. 94 24	5.50 a.m.	449	137	29.52	749.8	29.98	761.5	69.8	21.0	87.7	2	1	1	.....	2	1	10	1	12	2919	4698	5	4.12	104.6
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.00	762.0	30.04	763.0	75.5	24.2	82.3	1	3	8	9	1	4	1	3	.....	7815	12577	6	0.95	170.5
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	19107	5827	28.01	711.4	30.05	763.3	52.9	11.6	75.5	4	1	2	10	4	.....	.....	2	7	4144	6669	2	0.60	15.2
Springfield, Ill	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.28	743.7	29.95	760.7	64.9	18.3	81.9	3	4	5	5	5	2	3	2	1	5355	8618	5	8.40	213.4
Springfield, Mo	N. 37 12	W. 93 18	5.55 a.m.	1351	412	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Starkville *o*	N. 33 35	W. 88 49	6.13 a.m.	455	123	29.57	751.1	30.04	763.0	72.1	22.3	81.4	2	.....	.....	1	4	2	2	2	2	2170	3492	6	3.75	95.2
Stevenson, Fort	N. 47 35	W. 101 28	5.22 a.m.	1750	534	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stockton, Fort	N. 30 53	W. 102 53	5.16 a.m.	3010	917	26.96	684.8	29.88	758.9	68.8	20.4	82.4	1	1	.....	8	7	6	1	.....	6	7043	12300	3	1.11	28.2
Thatcher's Island	N. 42 38	W. 70 34	7.26 a.m.	48	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thomas, Camp	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.16*k*	689.9*k*	29.79*k*	759.7*k*	63.8	17.7	47.3	1	1	.....	.....	.....	1	2	.....	25	.....	.....	1	0	0
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.23	742.4	29.91	759.7	66.6	19.2	74.2	2	1	6	6	9	2	2	2	.....	6034	9711	6	2.99	75.9
Tucson *o*	N. 32 14	W. 110 53	4.45 a.m.	2369	722	27.47	697.7	29.77	756.1	64.2	17.9	42.5	.....	.....	.....	.....	6	4	3	.....	2	1399	2251	0	0	0
Unalaska	N. 53 53	W. 166 32	1.02 a.m.	13	4	29.93	760.2	29.95	760.7	43.5	6.4	80.4	2	7	3	11	3	3	.....	.....	1	7270	11700	9	1.48	37.6
Verde, Fort	N. 34 33	W. 111 52	4.40 a.m.	?	?	.....	.....	.....	.....	62.2	16.8	33.0	1	11	1	3	1	11	1	1	.....	.....	.....	0	0.04	1.0
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.78	756.4	30.03	762.7	74.0	23.3	87.1	3	.....	1	2	5	9	3	4	3	3662	5893	5	4.90	120.0
Visalia *o*	N. 36 20	W. 119 17	4.11 a.m.	348	106	29.52	749.8	29.89	759.2	63.7	17.6	68.1	.....	3	3	1	1	4	.....	.....	3	1367	2200	1	0	0
Washakie, Fort *o*	N. 42 59	W. 108 43	4.53 a.m.	5580	1702	24.48	621.8	29.86	758.4	43.4	5.8	85.1	.....	1	1	5	.....	.....	4	2	2	2191	3526	6	1.07	27.2
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	100	32	29.02	760.0	30.02	762.5	70.3	21.3	78.6	1	4	1	7	5	2	2	3	5	2914	4689	4	8.55	217.2
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.05	661.7	29.82	757.4	58.2	14.6	72.4	2	1	10	3	3	3	6	1	1	6432	10351	3	2.63	66.8
Williamsport *o*	N. 41 15	W. 77 03	7.00 a.m.	561	171	29.46	748.3	30.06	763.5	64.3	17.9	76.0	1	3	1	.....	1	2	1	6	1	1540	2488	4	1.76	44.7
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	29.99	761.7	30.04	763.0	74.9	23.8	84.1	.....	2	7	9	2	1	2	4	3	5043	8115	5	10.84	275.3
Winnemucca *o*	N. 40 59	W. 117 43	4.17 a.m.	4327	1319	25.04	651.2	29.90	759.4	48.5	9.2	59.7	.....	1	.....	5	.....	.....	.....	8	1	2780	4485	1	inap.	inap.
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.65	727.7	29.93	760.2	60.9	16.1	77.1	4	6	3	3	3	3	2	3	3	6465	10404	4	4.40	111.8
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.61	752.1	29.75	755.6	73.2	22.9	72.4	1	2	4	.....	1	8	1	2	11	3783	6088	0	0	0
Sub-Series.																											
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	.....	.....	30.04	763.0	80.8	27.1	72.3	10	2	.....	.....	.....	2	4	1	11	3800	6115	6	2.26	57.4
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.06	763.5	30.06	763.5	77.5	25.3	87	.....	.....	.....	.....	.....	1	21	8	.....	.....	.....	6	12.80	325.1
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.40	746.7	29.96	761.0	77.3	25.2	91.9	1	.....	.....	.....	.....	2	1	.....	1	25	.....	9	9.96	253.0
Rivas *c*	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	77.1	25.1	91.6	1	2	.....	.....	3	.....	2	19	.....	.....	.....	5	8.07	205.0
St. Paul, Alaska	N. 57 47	W. 152 21	1.59 a.m.	54	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	131	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Santiago de Cuba	N. 19 55	W. 75 50	70.4 a.m.	21	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	30.04	763.0	30.10	764.5	46.4	8.0	94.9	2	4	7	10	5	.....	.....	2	.....	7910	12730	3	3.02	76.7

OCEAN SQUARE DATA FOR JUNE, 1883.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W. 22.5°	30.04	763.0	78.7	25.9	1							26		3	2.6
12.5 27.5	30.06	763.5	78.9	26.1	1					1		25		3	2.6
12.5 32.5	30.08	764.0	78.8	26.0							1	18		11	3.0
12.5 37.5	30.10	764.5	78.0	25.6	2						1	12		15	3.0
12.5 52.5	30.10	764.5	78.6	25.9						5	14	2		9	2.7
17.5 22.5	30.08	764.0	76.7	24.8	1							26		3	3.1
17.5 27.5	30.11	764.8	76.6	24.8	1				2		1	23		3	3.0
17.5 32.5	30.14	765.5	77.0	25.0				1			2	19		8	2.9
17.5 37.5	30.16	766.1	77.1	25.1	3	1				1	4	16		5	3.1
17.5 42.5	30.17	766.3	77.2	25.1	1					1	4	12		12	3.1
17.5 47.5	30.18	766.6	77.3	25.2							10	7		13	3.1
17.5 52.5	30.16	766.1	77.9	25.5	1				3	3	12	4		7	2.8
17.5 57.5	30.12	765.0	79.3	26.3				2		3	11	12		2	2.7
22.5 22.5	30.14	765.5	74.2	23.4	1				2		2	22		3	2.8
22.5 27.5	30.16	766.1	74.4	23.6				2	1	1		22		4	2.5
22.5 32.5	30.18	766.6	74.9	23.8		3		3	1		3	18		2	2.8
22.5 37.5	30.20	767.1	75.2	24.0	2	5				2	7	12		2	2.2
22.5 42.5	30.22	767.6	75.5	24.2	1	4			1	3	5	12		4	2.9
22.5 47.5	30.22	767.6	76.1	24.5	1	4			3	2	5	11		4	2.9
22.5 52.5	30.22	767.6	77.1	25.1	1					4	10	6		6	2.8
22.5 57.5	30.15	765.8	78.3	25.7				2	3	8	11	6		2	2.8
22.5 62.5	30.15	765.8	78.9	26.1		1		2	1	16	8	2			2.5
22.5 67.5	30.12	765.0	80.2	26.8		2			6	13	8	1			2.3
22.5 72.5	30.10	764.5	81.6	27.6	2	2			3	14	8	1			2.6
27.5 22.5	30.17	766.3	72.0	22.2	3				2	2	1	18		4	2.4
27.5 27.5	30.17	766.3	72.6	22.6	4			2	3	3	1	14		3	2.5
27.5 32.5	30.15	765.8	73.2	22.9	2	1	2	8			3	13		1	2.8
27.5 37.5	30.21	767.3	73.6	23.1	2	5	4	1		1	7	9		1	2.5
27.5 42.5	30.23	767.8	73.9	23.3	2	5	3		3	1	3	11		2	2.7
27.5 47.5	30.24	768.1	74.3	23.5	1	4	2	1	3	3	4	9		3	2.0
27.5 52.5	30.24	768.1	75.3	24.1	2	5	1	1	3	5	9	1		3	2.7
27.5 57.5	30.22	767.6	76.1	24.5	5	2		1	4	6	10	1		1	2.0
27.5 62.5	30.18	766.6	77.3	25.2		1		1	11	8	5	3	1		2.4
27.5 67.5	30.16	766.1	78.3	25.7	1	1		1	12	12	1	2			2.5
27.5 72.5	30.13	765.3	80.1	26.7	1	2		2	10	10	5				2.6
27.5 77.5	30.10	764.5	81.1	27.3		3		5	7	10	5				1.7
32.5 12.5	30.13	765.3	69.9	21.1	6	3		5	1		1	13		1	2.1
32.5 17.5	30.19	766.8	69.0	20.6	3	2	1	5	1	4	2	12			1.3
32.5 22.5	30.19	766.8	69.5	20.8	2	6		1	5	5		8		3	2.0
32.5 27.5	30.16	766.1	70.5	21.4	2	6		1	7	2	2	7		3	2.4
32.5 32.5	30.15	765.8	71.4	21.9	6	4		8	4	2	1	4		1	2.7
32.5 37.5	30.16	766.1	74.4	23.6	4	7	6	1	1	3	2	5		1	2.5
32.5 42.5	30.20	767.1	72.4	22.4	4	12	2	1	2	2		6		1	2.7
32.5 47.5	30.20	767.1	72.5	22.5	6	11	1	2	4	4		2			2.5
32.5 52.5	30.22	767.6	73.3	22.9	2	10		2	5	4	5	2			2.7
32.5 57.5	30.22	767.6	73.8	23.2	2	5	4	2	7	6	2	2			2.3
32.5 62.5	30.18	766.6	74.8	23.8	1	3	1	3	15	4	1	2			2.4
32.5 67.5	30.15	765.8	76.0	24.4	1	2	1	10	10	3	2	1			2.8
32.5 72.5	30.11	764.8	77.4	25.2	3		1	9	8	7		2			2.8
32.5 77.5	30.06	763.5	77.7	25.4	4	3	1	9	5	4		4			2.1
37.5 12.5	30.12	765.0	67.3	19.6	12	7		6				5			2.6
37.5 17.5	30.16	766.1	66.4	19.1	3	9	3	4	1	6	1	3			2.7
37.5 22.5	30.17	766.3	67.1	19.5	4	7		4	3	8	2	2			2.7
37.5 27.5	30.13	765.3	67.6	19.8	4	6	1	2	7	7	2	1			2.2
37.5 32.5	30.09	764.3	68.4	20.2	7	4		4	6	7		2			3.0
37.5 37.5	30.09	764.3	69.7	20.9	9	6	4	3	2	2	3	1			2.8
37.5 42.5	30.13	765.3	69.9	21.1	8	7	4	2	6	1		2			2.8
37.5 47.5	30.16	766.1	69.7	20.9	9	5	5	3	6	2					2.9
37.5 52.5	30.18	766.6	70.0	21.1	6	5	2	4	7	1		5			3.1
37.5 57.5	30.17	766.3	70.7	21.5	4	2	4	7	8	1		4			3.3
37.5 62.5	30.13	765.3	71.1	21.7		1	2	10	9	1	3	4			3.5
37.5 67.5	30.10	764.5	70.4	21.3	3	1	1	8	10	2	2	3			3.2
37.5 72.5	30.05	763.3	70.1	21.2	3			7	8	7	1	4			2.7
42.5 12.5	30.08	764.0	64.6	18.1	9	7	2	5	1		1	5			2.9
42.5 17.5	30.10	764.5	63.8	17.7	5	9	2	5		4	1	4			3.0
42.5 22.5	30.11	764.8	63.8	17.7	5	10	2	3	2	5	2	1			3.1
42.5 27.5	30.10	764.5	63.7	17.6	4	7	3	2	3	10	1				3.2
42.5 32.5	30.07	763.8	64.2	17.9	3	8	1	2	5	8	3				3.9
42.5 37.5	30.06	763.5	65.4	18.6	3	6	2	3	5	6	3	2			3.7
42.5 42.5	30.07	763.8	64.7	18.2	6	8	2	5	3	3	1	2			3.5
42.5 47.5	30.09	764.3	60.7	15.9	6	3	3	7	5	1	1	4			3.3
42.5 52.5	30.08	764.0	59.6	15.3	6	1	2	9	4	2	1	4	1		3.3
42.5 57.5	30.09	764.3	61.4	16.3	2	4	2	11	6	1		4			3.2
42.5 62.5	30.06	763.5	61.6	16.4	1	3	3	10	5	4	1	3			2.8
42.5 67.5	30.02	762.5	61.1	16.2	1	3	4	7	9	6					2.4
47.5 12.5	30.01	762.2	61.3	16.3	6	4	5	5	2		3	5			3.3
47.5 17.5	30.04	763.0	60.8	16.0	5	6	4	3	3	2	3	4			3.2
47.5 22.5	30.05	763.3	59.7	15.4	7	4	4	2	3	5	1	4			3.5
47.5 27.5	30.07	763.8	58.9	14.9	6	5	4	2	4	6	3				3.7
47.5 32.5	30.06	763.5	59.1	15.1	4	5	3	4	5	7	2				3.9
47.5 37.5	30.04	763.0	58.5	14.7	3	4	3	3	9	1	5	2			3.4
47.5 42.5	30.03	762.7	55.7	13.2	4	3	3	5	6	3	4	2			3.1
47.5 47.5	30.04	763.0	50.1	10.1	4	3	3	6	2	5	5	2			2.7
52.5 12.5	29.98	761.5	58.4	14.7	9	2	6	1	5	3	3	1			3.3
52.5 17.5	30.01	762.2	56.9	13.8	6	10	3	3	2	4	2				3.3
52.5 22.5	30.03	762.7	55.7	13.2	6	8	2	2	8	1		3			3.3
52.5 27.5	30.03	762.7	53.8	12.1	7	7	2	2	6	5		1			3.1
52.5 32.5	30.01	762.2	53.2	11.8	3	6	2	6	6	3	1	3			3.2
52.5 37.5	30 03	762.7	51.5	10.8	5	5	2	7	7	3			1		2.5
52.5 42.5	29.99	761.7	49.3	9.6	1	8	3	6	5	4		3			2.7
52.5 47.5	29.97	761.2			3	4	5	6	6	4	1		1		2.5
57.5 12.5	29.94	760.5	53.8	12.1	7	6	2	2	3	3	3	4			3.0
57.5 17.5	29.96	761.0	52.5	11.4	8	7	4	1	1	6	2	1			3.0
57.5 22.5	29.97	761.2	51.1	10.6	5	4	6	4	1	4	1	5			3.0
57.5 27.5	29.93	760.2	49.9	9.9	9	1	5	7	2	1	3	2			2.9
57.5 32.5	29.94	760.5	48.7j	9.3j	2	3	2	10	5	2		3		3	2.8
57.5 37.5	29.95e	760.7e			2	4	1	6	9	2	1	1		4	2.9
57.5 42.5	29.94	760.5			4	3		5	10	3	1	1		3	2.5
57.5 47.5	29.91	759.7			3	3	1	6	7	2	1	1		6	2.4

UPERNAVIK, GREENLAND, N. 72° 47′, W. 56° 00′.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity Per cent.	Wind. Direction. From.	Wind. Velocity. Miles perhour	Wind. Velocity. Metrs pr sec.	Wind. Force 0–10	Clouds. Amount. Upper. 0–10	Clouds. Amount. Lower. 0–10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Rainfall or melted snow in past 24 hours. Mill.	WEATHER.
1883.																		
May 1	30.02	762.4	30.06	763.6	27.7	— 2.4	87	calm.			0		6					
2	29.74	755.4	29.79	756.6	29.8	— 1.2	88	se.			6		8					snowing.
3	29.85	758.1	29.89	759.3	28.4	— 2.0	92	e.			4		10					snowing.
4	30.03	762.7	30.08	763.9	27.7	— 2.4	87	se.			2		6					
5	30.20	767.1	30.25	768.3	27.0	— 2.8	96	se.			2		7					
6	30.40	772.1	30.45	773.3	25.5	— 3.6	69	e.			2		8					
7	30.48	774.1	30.52	775.3	29.8	— 1.2	80	calm.			0		8					
8	30.39	771.8	30.43	773.0	39.2	4.0	97	e.			4		0					
9	30.07	763.7	30.11	764.9	34.5	1.4	64	calm.			0		0					
10	29.98	761.4	30.02	762.6	22.6	— 5.2	100	sw.			2		10					
11	30.06	763.4	30.10	764.6	20.5	— 6.4	100	calm.			0		10					foggy.
12	30.09	764.2	30.13	765.4	21.9	— 5.6	98	sw.			2		10					foggy.
13	30.11	764.8	30.16	766.0	23.5	— 4.7	88	calm.			0		10					
14	30.00	761.9	30.04	763.1	24.4	— 4.2	91	calm.			0		10					foggy.
15	29.39	746.6	29.44	747.8	25.9	— 3.4	91	ne.			2		0					
16	29.56	750.9	29.61	752.1	31.6	— 0.2	92	calm.			0		10					
17	29.90	759.5	29.95	760.7	31.3	— 0.4	100	sw.			2		10					snowing.
18	30.13	765.3	30.18	766.5	28.9	— 1.7	90	calm.			0		10					snowing.
19	29.93	760.1	29.97	761.3	29.8	— 1.2	100	ne.			2		8					
20	29.82	757.5	29.87	758.7	28.8	— 1.8	78	ne.			2		0					
21	29.67	753.5	29.71	754.7	25.2	— 3.8	87	n.			2		10					
22	29.15	740.4	29.20	741.6	28.0	— 2.2	75	ne.			2		0					
23	29.59	751.6	29.64	752.8	29.8	— 1.2	73	sw.			6		8					
24	29.77	756.2	29.82	757.4	31.6	— 0.2	66	sw.			4		10					
25	29.71	754.7	29.76	755.9	31.3	— 0.4	85	calm.			0		8					
26	29.63	752.5	29.67	753.7	30.6	— 0.8	92	calm.			0		10					snowing.
27	29.62	752.3	29.67	753.5	25.3	— 3.7	89	ne.			2		10					
28	29.59	751.6	29.64	752.8	29.1	— 1.6	80	sw.			4		6					
29	29.62	752.3	29.67	753.5	30.7	— 0.7	83	sw.			2		9					
30	29.61	752.2	29.66	753.4	32.7	0.4	89	calm.			0		10					snowing.
31	29.94	760.5	29.99	761.7	33.4	0.8	90	sw.			2		9					snowing.
Mean	29.87	758.7	29.92	759.9	28.6	— 1.9	87				1.8		7.5					
June 1	29.89	759.1	29.93	760.3	32.0	0.0	92	sw.			4		10					
2	29.76	755.8	29.80	757.0	41.0	5.0	84	se.			6		6					
3	29.60	751.9	29.65	753.1	34.5	1.4	80	sw.			4		10					snowing.
4	29.57	751.0	29.61	752.2	33.4	0.8	92	calm.			0		10					snowing.
5	29.57	751.0	29.61	752.2	33.1	0.6	85	calm.			0		8					snowing.
6	29.76	755.9	29.81	757.1	30.6	— 0.8	88	n.			2		8					
7	29.83	757.6	29.87	758.8	32.4	0.2	78	calm.			0		10					
8	29.58	751.2	29.62	752.4	36.0	2.2	66	calm.			0		6					
9	29.25	742.9	29.30	744.1	39.6	4.2	100	ne.			2		10					
10	29.50	749.4	29.55	750.6	30.2	— 1.0	96	sw.			7		10					
11	29.66	753.3	29.71	754.5	33.4	0.8	82	sw.			4		10					
12	29.73	755.2	29.78	756.4	34.3	1.3	82	calm.			0		6					
13	30.27	768.8	30.32	770.0	35.2	1.8	75	calm.			0		0					
14	29.72	754.8	29.76	756.0	45.1	7.3	65	e.			4		0					
15	29.86	758.4	29.91	759.6	41.0	5.0	84	calm.			0		4					
16	29.64	752.8	29.69	754.0	38.8	3.8	58	sse.			7		9					
17	29.87	758.7	29.92	759.9	41.5	5.3	69	e.			2		3					
18	29.84	757.8	29.88	759.0	38.8	3.8	80	calm.			0		8					
19	29.92	759.9	29.97	761.1	34.3	1.3	83	calm.			0		9					
20	29.95	760.6	29.99	761.8	35.2	1.8	90	sw.			2		6					
21	29.82	757.4	29.87	758.6	40.3	4.6	74	se.			4		9					
22	30.02	762.5	30.07	763.7	36.3	2.4	80	sw.			2		10					raining.
23	29.91	759.6	29.95	760.8	41.5	5.3	53	ne.			2		9					misty.
24	29.43	747.5	29.48	748.7	34.9	1.6	89	sw.			7		9					snowing.
25	29.71	754.5	29.75	755.7	35.2	1.8	75	sw.			6		8					
26	29.80	757.0	29.85	758.2	33.4	0.8	90	calm.			0		10					foggy.
27	29.86	758.4	29.91	759.6	29.1	— 1.6	88	calm.			0		8					misty.
28	29.77	756.2	29.82	757.4	37.4	3.0	79	n.			2		4					
29	29.54	750.4	29.59	751.6	41.5	5.3	74	n.			2		0					
30	29.69	754.1	29.74	755.3	54.1	12.3	73	e.			2		0					
Mean	29.74	755.5	29.79	756.7	36.9	2.7	80				2.4		7.0					

NOTE.—The above observations, taken at 7 a. m., Washington time, were received too late for publication in the DAILY BULLETIN, and are given here in full.

REVIEW.

INTERNATIONAL METEOROLOGY.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following description refers to chart ii. for the month of June, 1883, issued with this SUMMARY. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and prevailing wind-direction over the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich, mean time.

For the month of June, 1883, the area of least pressure is indicated by the isobar for 29.4 (746.7), which occupies the Punjab, in British India; the lowest barometric mean reported was 29.35 (745.5), at Lahore. Over that part of Hindostan lying between N. 22° and 30° the mean atmospheric pressure ranged from 29.4 (746.7) to 29.5 (749.3); in southern India it varied from 29.52 (749.8) to 29.7 (754.4). Over the rest of Asia the mean pressure ranged from 29.7 (754.4) to 29.85 (758.2). In the North American continent the mean pressure was least in the southwestern part of the United States, where it ranged from 29.75 (755.6) to 29.8 (756.9). From the Rocky mountain regions northeastward to the mouth of the Saint Lawrence river the mean atmospheric pressure ranged from 29.85 (758.2) to 29.9 (759.4); from western Texas northeastward to the province of Quebec, Canada, it varied from 29.9 (759.4) to 30.0 (762.0), and from eastern Texas northeastward along the Atlantic coast to the New England states and Nova Scotia it was above 30.0 (762.0). In Europe the mean pressure was greatest in western France and the Iberian peninsula, where it exceeded 30.0 (762.0); in northern and central Europe it ranged from 29.95 (660.7) to 30.0 (762.0), and in Russia it was below 29.9 (759.4).

The areas of barometric maxima are indicated by the isobaric lines for 30.2 (767.1) and 30.1 (764.5), respectively. The first of these occupies that part of the Atlantic ocean between N. 20° and 35° and W. 35° and 60°; at the centre of this area the pressure is about 30.25 (768.3). South of latitude 40° North, and from the West Indies eastward to W. 10°, the pressure is above 30.1 (764.5). The second area of high pressure, above referred to, is shown over Oregon, Washington Territory, and the southern part of Vancouver Island, the means in those districts being above 30.1 (764.5).

Compared with the chart for the preceding month (May) there has been a slight increase of pressure on the north Pacific coast and on the Atlantic coast, while a very slight decrease has occurred in other parts of the United States. In Canada the changes have been slight and unimportant. Over the north Atlantic ocean the following changes have occurred: between N. 40° and 20° and from W. 30° westward to W. 55° there has a slight decrease, while an increase is shown over the regions east of the thirtieth and west of the fifty-fifth meridians. Between N. 40° and 50° the pressure has decreased; north of the last-mentioned parallel it has increased slightly. In Europe there has been a slight increase of pressure, the changes being most marked in the Scandinavian peninsula, where it amounted to about .1 inch. Throughout Asia there has been a general decrease of pressure.

Compared with the corresponding month in previous years the mean atmospheric pressure in the United States was slightly below the normal in the lake region. On the Atlantic coast and in the western part of the country it was slightly above normal, and in other districts it was about normal. In northern Europe the mean pressure was above the normal, while in the southern and central districts it was normal or slightly below. In British India it was .02 inch less than the six years' mean.

The following table gives the mean pressure and mean temperature, with corresponding departures for June, 1883, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the last six years:

Countries.	Mean pressure.			Mean temperature.		
	June mean of 6 (1877–'82) years.	June, 1883.	Departure.	June mean of 6 (1877–'82) years.	June, 1883.	Departure.
				°	°	°
Algeria	30.06	30.01	− 0.05	82.5	76.7	− 5.8
Austria	29.92	29.88	− 0.04	71.2	71.7	+ 0.5
British Isles	29.90	29.92	+ 0.02	60.4	61.7	+ 1.3
Denmark	29.88	29.96	+ 0.08	61.2	62.1	+ 0.9
France	30.00	29.99	− 0.01	69.9	68.8	− 1.1
Germany	29.96	29.96	normal	67.8	69.3	+ 1.5
India	29.54	29.52	− 0.02	88.6	88.9	+ 0.3
Italy	29.98	29.94	− 0.04	76.4	74.4	− 2.0
Norway	29.81	29.94	+ 0.13	59.8	60.0	+ 0.2
Portugal	30.07	30.05	− 0.02	72.7	70.4	− 2.3
Russia	29.85	29.88	+ 0.03	70.0	71.7	+ 1.7
Spain	30.02	30.03	+ 0.01	75.0	69.2	− 5.8
Sweden	29.84	29.96	+ 0.12	59.6	64.8	+ 5.2

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of June, 1883, as compared with the means for six years:

Stations.	Mean pressure.			Mean temperature.		
	June mean of 6 (1877–'82) years.	June, 1883.	Departure.	June mean of 6 (1877–'82) years.	June, 1883.	Departure.
				°	°	°
Gibraltar	30.04	30.05	+ 0.01	74.7	71.9	− 2.8
Malta, Mediterranean Sea	30.00	29.97	− 0.03	77.6	75.3	− 2.3
Sandwick Manse, Orkney Islands	29.89	29.95	+ 0.06	53.7	53.0	− 0.7
Bridgetown, Barbadoes	30.02	30.06	+ 0.04	82.5	82.3	− 0.2
Cape Town, Cape Good Hope	30.16	.....	.....	60.6	.....	.....
Fort Napier, Natal, South Africa	30.04	30.01	− 0.03	68.7	71.1	+ 2.4
Freetown, Sierra Leone	29.93	29.86	− 0.07	84.7	82.7	− 2.0
Mauritius, Indian Ocean	30.15	30.09	− 0.06	73.1	73.9	+ 0.8
Melbourne, New South Wales	30.11	30.06	− 0.05	47.6	52.6	+ 5.0
Nassau, Bahamas	30.06	30.13	+ 0.07	82.8	84.4	+ 1.6
Godthaab, Greenland	29.82	29.85	+ 0.03	41.1	37.9	− 3.2
Stykkisholm, Iceland	29.81	29.90	+ 0.09	47.9	47.3	− 0.6
Thorshavn, Färöe Islands	29.86	29.94	+ 0.08	50.7	51.3	+ 0.6
Zi-Ka-Wei, China	29.80	29.82	+ 0.02	71.0	72.9	+ 1.9
Athens, Greece*	29.93	29.89	− 0.04	83.2	81.9	− 1.3
Cagliari, Sardinia, Italy	29.98	29.95	− 0.03	78.5	74.1	− 4.4
Tokei, Japan	29.86	29.91	+ 0.05	67.7	66.0	− 1.7
Angra, Azores*	30.18	30.12	− 0.06	66.9	64.4	− 2.5
Funchal, Madeira Islands	30.19	30.19	normal	70.8	68.7	− 2.1
Ponta Delgado, Azores	30.23	30.15	− 0.08	70.0	67.8	− 2.2
Archangel, Russia	29.78	29.98	+ 0.20	56.5	68.5	+12.0
Tiflis, Russia	29.84	29.79	− 0.05	78.8	79.3	+ 0.5
Astrakhan, Russia	29.84	29.80	− 0.04	80.3	79.7	− 0.6
Ekaterinburg, Russia	29.70	29.84	+ 0.14	64.1	65.7	+ 1.6
Tashkend, Toorkistan, Asia	29.75	29.63	− 0.12	84.6	89.8	+ 5.2
Barnaul, Siberia, Asia	29.71	29.71	normal	68.6	63.9	− 4.7
Yeniseisk, Siberia, Asia	.....	29.78	.....	.....	54.7	.....
Pekin, China	29.68	29.73	+ 0.05	77.1	79.7	+ 2.6
Nikolaevsk on the Amoor, Asia	.....	.....	.....	51.6	52.0	+ 0.4
San Juan de Puerto Rico, W. I.	30.05	30.08	+ 0.03	82.1	80.1	− 2.0
Beirut, Turkey in Asia	29.83	29.85	+ 0.02	82.6	82.6	normal
Mexico, Mexico	30.06	.....	.....	57.5	.....	.....
Havana, Cuba, W. I.	30.04	30.04	normal	81.8	79.1	− 2.7
Paramaribo, D. Guiana, S. A	30.06	30.06	normal	79.9	77.5	− 2.4
York Factory, B. A	29.97	30.10	+ 0.13	46.9	46.4	− 0.5

* Means for five years only.

In the United States the mean temperature of the air was above the normal in the Atlantic coast districts and in the region west of the Rocky mountains; elsewhere it was below the normal. The departures were slight in all districts. In Europe the mean temperature was below the normal in the southern peninsulas, and was somewhat above the normal in the northern districts. In Hindostan the highest mean, 105°.5 Fahr. (40°.8 Cent.), was reported from Lahore, and the lowest, 72°.2 Fahr. (22°.3 Cent.), from Belgaum.

The following are some of the extreme mean temperatures reported from isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Cairo, Egypt	92.1	33.4	Ooglaamie, Alaska	29.2	− 1.6
Petro-Alexandrovsk, Turkestan, Asia	91.4	33.0	Upernavik, Greenland	36.9	2.7
Tashkend, Turkestan, Asia	89.8	32.1	Godthaab, Greenland	37.9	3.3
Sarmarkand, Turkestan, Asia	85.6	29.8	Behring's Island (N. 55° 10′, E. 166° 30′)	39.4	4.1
Nassau, West Indies	84.4	29.1	Jacobshavn, Greenland	40.8	4.9

In the United States east of the hundredth meridian the

winds were southerly, southwesterly, and westerly; west of the above-mentioned meridian they were westerly and northwesterly. Over the north Atlantic ocean between N. 20° and 40° and west of 50° west longitude the winds were southerly and southeasterly; east of W. 50° they were mostly northeasterly. North of the fortieth parallel the winds were southwesterly, southerly, and southeasterly, except near the European coast, where they were northerly. In Europe the winds were northerly and northeasterly in the northern districts, and westerly and southwesterly in the southern portions.

The rainfall during June, 1883, was below the average in the western part of the United States and in New England, Florida, and Tennessee. In all other districts of the United States it was above the average, the excess being greatest in Missouri and Nebraska. In northwestern Europe the rainfall was less than the average, but in the southern and eastern districts it exceeded the average; heavy floods occurred in the provinces of Silesia, Bohemia, and Moravia.

GENERAL REMARKS.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevation of stations is obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least, this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the alphabet of the letter so used.

On February 1, 1883, the following change was made in publishing marine data in the "Daily International Bulletin":

All marine reports are classified as to districts, which are designated as follows: District No. 1, North Atlantic; District No. 2, South Atlantic, &c. under which headings the respective reports are printed.

BOUNDARIES OF DISTRICTS.

District No. 1 comprises the Atlantic ocean, its arms and tributaries, from the equator northward to the pole, and in the arctic from 100° E., westward to 100° W., of Greenwich.

District No. 2 comprises the Atlantic ocean, its arms and tributaries, from the equator southward to the pole, and in the antarctic from 20° E., westward to 70° W., of Greenwich.

District No. 3 comprises the Pacific ocean, its arms and tributaries, from the equator northward to the pole, and in the arctic from 100° W., westward to 100° E., of Greenwich.

District No. 4 comprises the Pacific ocean, its arms and tributaries, from the equator southward to the pole, and in the antarctic from 70° W., westward to 145° E., of Greenwich.

District No. 5 comprises the Indian ocean, its arms and tributaries, from the Asiatic continent southward to the pole, and in the antarctic from 20° E., eastward to 145° E., of Greenwich.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

Arrows show direction of, and fly with, the wind. Force is shown as follows:

SYMBOLS.	FORCE.	VELOCITY.	
		MILES PER HOUR.	METRES PER SECOND.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

The following remarks relate to the individual peculiarities in the *methods* of recording, and the *times* of taking, the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of General Maritz, Commandant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. Adelaide, furnished by co-operation of Charles Todd, C. M. G., F. R. A. S. The observations are taken at 9 p. m., local time.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemberg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind-direction is given to 32 points and weather by the Beaufort notation. At Bradford, no observations are taken on Sunday, except the rainfall, and in the monthly summary the letter designating a certain number of days missing applies to all the data except rainfall.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army. At St. John's, N. F., the barometer appears read about .10 inch too high.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Saint Francis Lighthouse, the original gives barometer reduced to freezing, but not to sea-level. The kind of clouds is given, but no distinction is made between upper and lower. Weather in general terms.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and meas-

ured at the moment of simultaneous observation. At Tchang-Kia-Tchouang the original gives barometer in millimetres reduced to sea-level, temperature in Centigrade, clouds on scale of 0–10, no distinction between upper and lower.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted. At Jacobshavn and Upernavik the observations are taken at 8 a. m. instead of 8.44.

EGYPTIAN SERIES (Furnished by the co-operation of Albert Ismalun, Director of the Laboratoire Khédivial du Caire).—Original gives barometer reduced to zero, but not to sea-level, temperature in Centigrade. The velocity is the mean for past 24 hours. Rainfall in millimetres.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Mont Louis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. At Besançon the elevation of barometer cistern changes to 843 feet 257 metres.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only, and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10. When snow has fallen at Stelvio and Valdobbia, it is not certain whether the amount given refers to melted or unmelted.

JAPANESE SERIES (furnished by co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (by authority of the Secretary of Public Works—furnished by co-operation of Señor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico, and respective observers).—All conversions are published as given in the originals, but when an evident mistake has been made the data is queried at this office. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys-Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Bronø the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Astrakhan, Ashurada and Baku, the barometer-cistern is below sea-level. At Kasalinsk, the barometer appears to have a large error.

SCOTTISH SERIES (furnished by co-operation of Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society at Edinburg, and respective observers).—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rainfall, temperature, and humidity are not given at North Unst. The wind-direction is given to 32 points.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Professor E. Plantamour, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of F. Nimr, B. A., Director of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms. At Samakov, the barometer is reduced to freezing, but not to sea-level; temperature in Fahrenheit. The kind of clouds is given, also the distinction between upper and lower.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Puerto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind-direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind-direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement

of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES (furnished by co-operation of E. Malmberg, Director of the Nautical Meteorological Bureau at Stockholm).—The originals give the barometer as read off. The movement of the air is indicated by force on a scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on a scale of 0 to 9 and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operation of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

ERRATA.

MONTHLY SUMMARY, April and May, 1883, page 7, Unalaska, in place of latitude, longitude and elevation as given, read N. 53° 53′, W. 166° 32′, 1.02 a. m., 13 feet 4 metres.

DAILY BULLETIN, June 11th, 1883, page 8, District No. 3, s. s. "Zealandia," latitude N. 37° 48′, should read N. 36° 48′.

15th, page 5, Palestine, Texas, reduced barometer 760.0 mm., should read 763.0.

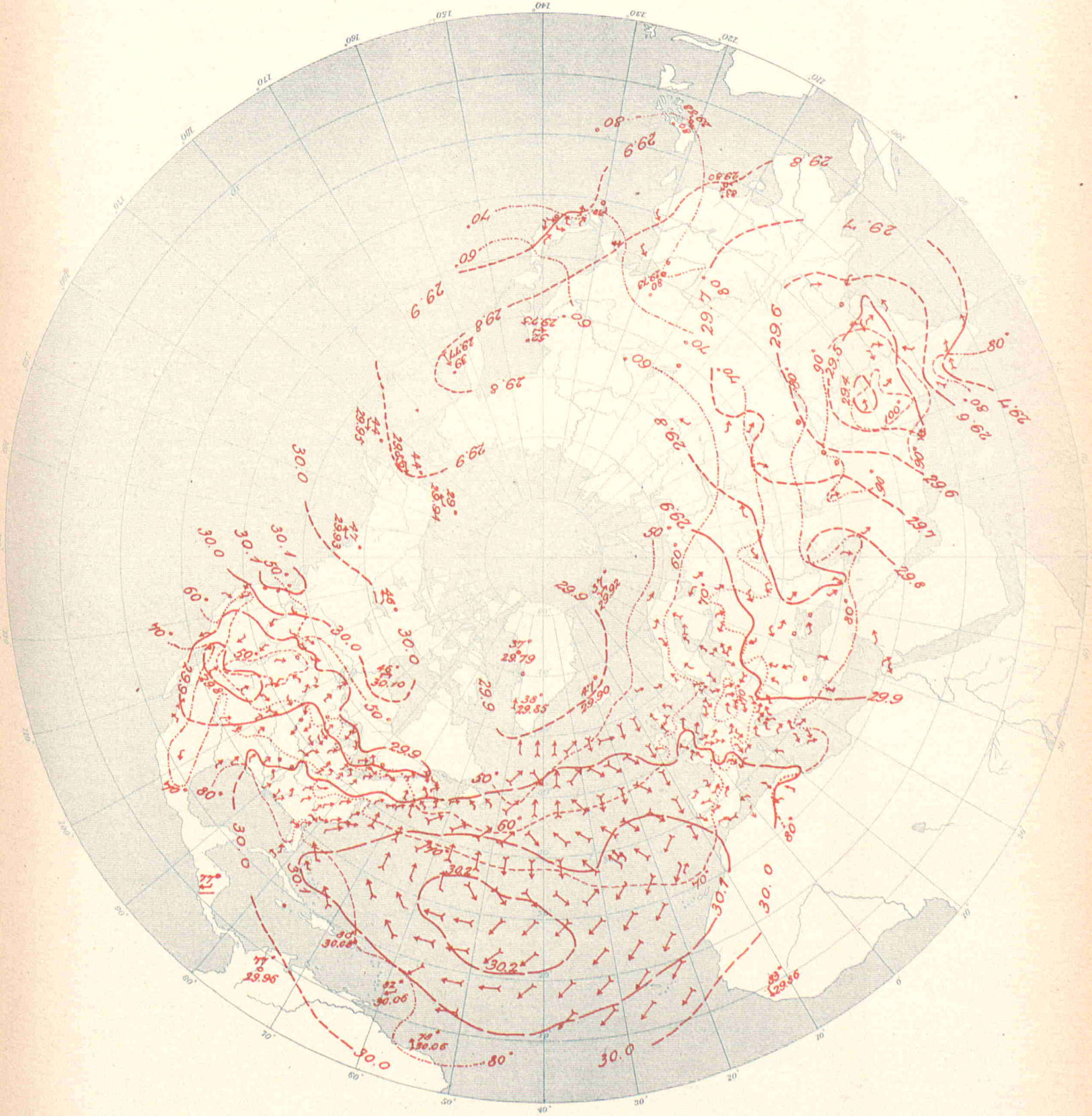
17th, page 8, District No. 3, s. s. "Granada," latitude N. 34° 35′, should read N. 24° 35′.

18th, page 6, District No. 1, the barometric readings of the following vessels on this date are evidently wrong, and should be omitted, s. s. "Lord Clive," "British Princess,', "Bohemia," "Mentmore," "Belgenland," "Naderland," "State of Nevada" and "Oregon."

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. June, 1883. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.
Signal Office Lith.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF JULY, 1883.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
AUGUST, 1884.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

JULY, 1883.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for July, 1883. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.03	762.7	80.1	26.7	72	9	.....	.....	1	6	4	9	2	.....	.....	.....	1	inap.	inap.
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	30.00	762.1	82.0	27.8	72	7	.....	9	.....	.....	1	3	9	2	.....	.....	2	0.04	0.9
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	29.99	761.8	77.4	25.2	65	12	1	2	.....	.....	.....	7	9	.....	.....	.....	2	0.28	7.0
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.02	762.5	80.8	27.1	51.6	10	1	.....	.....	3	4	11	1	1	.....	.....	1	0	0
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.02	762.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.03	762.7	81.1	27.3	36	7	4	7	6	1	4	2	.....	.....	.....	.....	2	0.29	7.4
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	85.1	29.5	22	7	9	.....	3	1	5	3	3	.....	.....	.....	2	inap.	inap.
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2549	777	.....	.....	29.97	761.3	88.9	31.6	35.3	3	4	1	2	2	4	11	4	.....	.....	.....	2	0.26	6.6
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.00	762.0	90.5	32.5	35	.....	.....	.....	5	.....	25	1	.....	.....	.....	.....	2	inap.	inap.
AUSTRALIAN.																										
Adelaide	S. 34 57	E. 138 30	9.22 p.m.	140	42	30.23	767.8	.....	.....	49.2	9.6	79.3	7	2	4	4	2	1	1	4	6	.....	.....	5	4.15	105.4
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	30.02	762.4	30.10	764.6	46.8	8.2	86	12	4	3	7	3	1	.....	1	.....	.....	.....	5	2.54	64.5
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.38	746.2	29.90	759.5	76.5	24.7	50.6	1	2	3	11	5	.....	4	5	.....	.....	.....	3	2.21	56.1
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.13	739.8	29.86	758.5	72.9	22.7	57.7	1p	2	3	2	4	1	.....	2	.....	.....	.....	7	2.20	55.8
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.00	736.7	29.83	757.6	68.5	20.3	69.8	5	.....	.....	.....	10	.....	.....	.....	16	.....	.....	6	2.61	66.4
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.71	729.2	29.91	759.8	71.6	22.0	70.8	1	5	6	4	7	5	1	2	.....	.....	.....	5	4.18	106.1
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.50	723.9	29.85	758.2	78.4	25.8	55	3	8	5	2	3	8	2	.....	.....	.....	.....	6	4.93	125.2
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1200	384	28.61	726.7	29.90	759.5	70.0	21.1	65.2	1	4	7	6	.....	1	2	8	2	.....	.....	6	2.85	72.5
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.91	734.2	29.85	758.1	73.4	23.0	60.6	.....	4	6	2	7	3	4	5	.....	.....	.....	6	2.74	69.6
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.83	757.6	29.93	760.3	81.0	27.2	61.1	1	3	9	6	6	6	.....	.....	.....	.....	.....	3	1.37	34.7
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.41	746.9	29.85	758.3	78.6	25.9	53	3	4	5	7	2	5	4	1	.....	.....	.....	5	3.11	79.1
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.61	752.1	29.87	758.8	78.8	26.0	52.1e	3	.....	2	2	4	.....	1	1	18	.....	.....	4	2.38	60.4
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.87	758.7	29.97	761.2	79.2	26.2	54.6	1	7	7	10	.....	2	.....	4	.....	.....	.....	4	5.42	137.7
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.23	742.4	29.92	759.9	72.5	22.5	56.3	.....	1	13	2	.....	3	6	2	4	.....	.....	5	1.54	39.0
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.67	753.6	29.77	756.1	57.8	14.3	73.5	2	6	1	2	5	7	3	5	.....	.....	.....	7	4.28	108.7
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.58	751.3	29.81	757.2	59.0	15.0	72.5	4	4	8	2	4	6	1	2	.....	.....	.....	7	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.82	757.4	60.4	15.8	74.0	.....	6	13	3	4	4	1	.....	.....	.....	.....	7	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.27	743.4	29.80	756.9	60.2	15.7	74.6	1	7	9	3	9	1	1	.....	.....	.....	.....	8	.....	.....
Bradforde	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.40	746.7	29.79	756.7	61.6	16.4	64.6	.....	7	5	8	.....	3	.....	3	.....	.....	.....	7	3.86	98.0
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	29.75	755.6	29.85	758.2	66.6	19.2	67.6	3	9	6	9	3	1	.....	.....	.....	.....	.....	7	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.73	755.1	29.86	758.4	64.4	18.0	70.6	3	4	4	15	3	1	.....	.....	1	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.69	754.1	29.91	759.7	61.1	16.2	76.0	.....	8	9	4	7	3	.....	.....	.....	.....	.....	7	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2205	672	27.78	705.6	30.00	762.0	71.2	21.8	22.8	2	2	4	1	.....	2	9	11	.....	.....	.....	2	.....	.....
Freetown	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.63	752.6	29.86	758.4	82.3	27.9	83.4	8	4	.....	4	10	4	.....	1	.....	.....	.....	6	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.75	755.6	29.78	756.4	59.4	15.2	75.3	7	6	8	7	2	1	.....	.....	.....	.....	.....	7	4.27	108.5
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	29.94	760.5	30.00	762.0	76.7	24.8	83.9	.....	1	11	4	.....	.....	10	5	.....	.....	.....	3	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.56	750.8	29.76	755.9	60.4	15.8	65.4	1	2	12	5	3	2	2	4	.....	.....	.....	7	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.69	754.1	29.86	758.4	65.7	18.7	68.8	.....	4	4	9	9	3	1	1	.....	.....	.....	8	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.64	752.8	29.94	760.5	62.4	16.9	83.2	1	2	11	10	7	.....	.....	.....	.....	.....	.....	6	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.83	757.7	29.86	758.4	64.9	18.3	61.2	.....	5	7	11	8	.....	.....	.....	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.56	750.8	29.81	757.2	62.8	17.1	68.7	.....	2	10	13	2	1	2	1	.....	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.89	759.2	29.96	761.0	81.5	27.5	66.8	.....	17	.....	1	.....	4	2	7	.....	.....	.....	1	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.10	764.5	30.14	765.5	85.0	29.4	69.5	1	.....	.....	2	4	11	8	5	.....	.....	.....	5	.....	.....
Oscott c	N. 52 28	W. 1 55	0.00 m.	483	147	29.32	744.7	29.84	757.9	62.0	16.7	72.9	1d	5	4	5	10	.....	1	1	.....	.....	.....	8	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.63	752.6	29.86	758.4	62.4	16.9	69.2	1	6	4	11	7	1	.....	.....	1	.....	.....	8	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.82	757.4	29.89	759.2	63.7	17.6	76.0	1	6	6	6	8	3	.....	.....	1	.....	.....	9	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.66	753.4	29.76	755.9	57.3	14.1	80.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Scutari Cemetery	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.77	756.1	29.83	757.7	85.1	29.5	53.1	4	.....	1	6	2	.....	.....	18	.....	.....	.....	3	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.53	750.0	29.81	757.2	65.8	18.8	70.9	2	5	2	13	4	2	.....	1	2	.....	.....	6	2.44	62.0
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.75	755.6	29.78	756.4	63.5	17.5	72.1	.....	.....	14	10	1	1	3	1	1	.....	.....	5	2.81	71.4
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.82	757.4	60.1	15.6	70.8a	3	2	14	5	6	.....	.....	1	.....	.....	.....	9	.....	.....
Stratfield	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	65.4	18.6	70.8	1	7	4	16	2	1	.....	.....	.....	.....	.....	7	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.87	758.7	29.97	761.2	65.1	18.4	73.2	1	14	3	5	6	2	.....	.....	.....	.....	.....	7	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.84	757.9	29.86	758.4	58.9	14.9	80.3	2	10	7	4	6	2	.....	.....	.....	.....	.....	8	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.63	752.6	30.03	762.7	81.8	27.7	52.9	.....	12	4	7	2	1	1	2	2	.....	.....	1	0	0
CANADIAN.																										
Bathurste	N. 47 39	W. 65 43	7.45 a.m.	35	11	.....	.....	.....	.....	61.8	16.6	.....	.....	.....	1	3	6	.....	.....	2	14	.....	.....	5	1.40	35.6
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.86	758.4	29.91	759.7	62.0	16.7	84.6	3	3	3	6	10	4	.....	1	1	6094	9807	7	4.16	105.7
Chatham*	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.85	758.2	29.91	759.7	59.9	15.5	83.3	5	3	6	10	2	2	1	2	.....	3353	5396	5	3.00	76.2
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.70	754.4	29.89	759.2	61.1	16.2	89.5	2	2	17	5	.....	3	.....	2	.....	.....	.....	5	3.54	89.9
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	45	14	29.84a	757.9a	29.89a	759.2a	59.6	15.3	.....	.....	3	17	.....	.....	1	8	1	1	.....	.....	3	1.03	26.2
Edmonton	N. 53 14	W. 113 38	4.33 a.m.	2380?	725?	27.68	703.1	.....	.....	46.9	8.3	64.6	.....	3	11	2	.....	.....	.....	.....	15	3681	5924	3	2.88	73.2
Father Point*	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.80	756.9	29.82	757.4	56.4	13.6	88.2	1	16	5	2	1	.....	.....	.....	6	.....	.....	4	0.84	21.3
Fort Gurry*	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.09	738.9	29.88	758.9	53.8	12.1	92.3	1	7	4	4	3	1	1	3	7	7488	12051	6	1.77	45.0
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	29.87	758.7	29.94	760.5	61.8	16.6	79.3	.....	12	2	2	8	2	2	1	.....	.....	.....	5	3.06	77.7
Grand Manan g	N. 44 46	W. 66 45	7.41 a.m.	49	15	29.89	759.2	29.94	760.5	57.9	14.4	90.8h	3k	3	2	1	6	1	.....	1	3	.....	.....	4	4.18	106.2
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	28.90	734.0	29.98	761.5	60.5	15.8	95.5	2	3	4	4	3	2	1	2	10	.....	.....	4	5.77	146.6
Halifax*	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.82	757.4	29.95	760.7	60.1	15.6	87.9	2	9	2	3	2	6	1	3	3	.....	.....	5	3.74	95.0
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	350	107	29.54	750.3	29.92	760.0	64.6	18.1	83.5	.....	2	2	26	.....	.....	.....	1	.....	.....	.....	4	1.62	41.1
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.61	752.1	29.93	760.2	62.6	17.0	82.6	1	3	8	7	7	.....	.....	5	.....	5299	8528	6	4.70	119.4
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.89	759.2	29.92	760.0	63.3	17.4	77.0	2	1	2	12	7	3	1	2	1	.....	.....	7	5.24	133.1
London	N. 43 00	W. 81 15	6.43 a.m.	832	254	29.11	739.4	29.99	761.7	62.5	16.9	90.8	.....	1	2	4	3	.....	1	1	19	.....	.....	6	8.72	221.5
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.71	754.6	29.90	759.4	64.5	18.1	77.1	4	1	9	9	3	2	.....	1	2	.....	.....	5	4.66	118.4
Ottawa	N. 45 26	W. 75 45	7.05 a.m.	223	68	29.67	753.6	29.91	759.7	61.6g	16.4g	86.6	2	11	2	8	3	1	2	2	.....	.....	.....	5	1.95	49.5
Parry Sound*	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.26	743.2	29.93	760.2	60.5	15.8	86.6	4	4	4	1	10	2	2	3	1	5506d	8861d	6	3.87	98.3
Peterboro	N. 44 17	W. 78 20	6.54 a.m.	675	206	29.21	741.9	29.93	760.2	64.5	18.1	80.9	.....	4	3	8	1	.....	.....	3	12	.....	.....	5	1.39	35.3
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.31	744.5	29.97	761.2	62.9	17.2	90.9	4	1	4	7	1	1	.....	4	9	4515	7266	6	5.46	138.7
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.34	745.2	29.97	761.2	62.3	16.8	91.9	7	1	14	1	.....	3	2	2	1	.....	.....	6	5.83	148.1
Que Appelle	N. 50 44	W. 103 42	5.13 a.m.	2115	646	27.67e	702.8e	29.89e	759.2e	52.1	11.2	87.2	1	3	3	7	5	4	1	.....	7	7294	11738	4	2.29	58.2
Quebec*	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.58	751.3	29.89	759.2	61.8	16.6	91.2	3	.....	8	3	6	.....	.....	1	10	.....	.....	7	3.38	85.9
Rockliffe*	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.47	748.5	29.91	759.7	56.8	13.8	91.5	1	12	4	.....	.....	.....	3	1	10	.....	.....	6	2.05	52.1
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.86	758.4	29.91	759.7	58.0	14.4	87.4	.....	9	.....	5	.....	8	2	4	3	.....	.....	4	6.38	162.1
Saint John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	130	40	29.79	756.7	29.93	760.2	59.2	15.1	88.6	1	1	5	.....	4	.....	5	1	4	.....	.....	6	0.46	11.7
Saint Johns, N.F.	N. 47 34	W. 52 54	8.36 a.m.	230?	70?	29.85	758.2	30.10	764.5	56.3	13.5	85.3	.....	1	5	2	12	7	.....	4	.....	.....	.....	5	6.23	158.2
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.92	760.0	56.5	13.6	.....	3	1	5	4	1	6	5	2	4	.....	.....	.....	2.46	62.5
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.24	742.7	29.93	760.2	61.1	16.2	88.8	2	4	7	7	5	1	1	2	2	5772	9289	6	3.38	85.8
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	28.74	730.0	29.96	761.0	61.5	16.4	89.7	2	5	8	3	2	4	3	.....	4	.....	.....	6	4.59	116.6
S.W. Pt, Anticosti	N. 49 24	W. 63 36	7.54 a.m.	30	9	29.79	756.7	29.82	757.4	57.1	13.9	85.2	4	4	.....	.....	1	17	.....	1	4	.....	.....	5	1.76	44.7
Sydney*	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.87	758.7	29.92	760.0	60.9	16.1	80.1	5	1	.....	11	5	2	1	2	4	5207	8380	7	6.73	170.9
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.60	751.8	29.97	761.2	63.4	17.4	80.8	4	8	7	7	.....	.....	1	2	2	6179	9944	5	5.63	143.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for July, 1883. Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
CANADIAN.—Con.	° ′	° ′																								
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	28.94	735.1	29.98	761.5	64.6	18.1	86.6	2h	4	5	6	4	2	2	3	1	.....	.....	6	5.59	142.0
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.87	758.7	29.94	760.5	58.6	14.8	89.1	6	2	1	2	8	3	3	1	5	.....	.....	3	3.05	77.5
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.07	763.8	30.10	764.5	63.8	17.7	74.1	1	2	8	12	.....	.....	3	1	4	.....	.....	4	2.70	68.6
Springbok	S. 29 45	E. 17 43	1.19 p.m.	?	?	27.90	708.6	.....	.....	65.1	18.4	38.8	.....	4	2	2	.....	3	1	19	.....	.....	.....	.....	1.72	43.7
CHINESE. (*Sub*).																										
Sung-shu-chwang	N. 36 07	E. 103 56	7.04 p.m.	4987	1520	25.04	636.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	29.69	754.0	29.71	754.6	79.0	26.1	90	2	1	1	3	3	10	9	.....	2	.....	.....	6	6.59	167.4
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.71	754.6	29.76	755.8	67.5	19.7	66	2	6	4	5	4	5	2	2	1	.....	.....	6	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.74	755.3	29.76	755.8	66.2	19.0	71	1	5	12	8	2	2	1	.....	.....	.....	.....	6	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.81	757.2	29.85	758.3	44.6	7.0	87	8	.....	.....	.....	18	.....	1	2	2	.....	.....	8	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.54	757.9	29.88	759.0	52.3	11.3	79	.....	2	.....	.....	4	4	11	4	6	.....	.....	6	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.82	757.5	29.85	758.1	53.1	11.7	84	7	.....	.....	.....	.....	1	1	15	7	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.65	753.0	29.74	755.3	64.9	18.3	72	3	1	8	11	.....	2	2	1	3	.....	.....	6	.....	.....
Egyptian.																										
Cairo	N. 30 03	E. 31 21	2.14 p.m.	?	?	29.68	753.9	.....	.....	92.7	33.7	.....	19	3	.....	.....	.....	.....	.....	9	.....	.....	.....	1	0	0
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.45	748.1	30.08	764.1	70.3	21.3	76.6	2	9	6	2	5	2	.....	.....	5	.....	.....	.....	4.20	106.6
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.44	747.7	29.97	761.2	66.4	19.1	85.4	.....	1	1	15	11	.....	.....	2	1	.....	.....	.....	2.94	74.6
Avignon	N. 43 57	E. 4 48	0.27 p.m	65	20	29.92	760.0	30.00	762.0	79.0	26.1	54	5	13	.....	3	3	4	2	1	.....	.....	.....	.....	4.20	106.8
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.43	747.4	29.97	761.2	68.9	20.5	60	1	.....	6	9	9	3	.....	3	.....	.....	.....	8	3.35	85.0
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.69	754.0	29.94	760.5	68.7	20.4	58.7	.....	7	5	12	5	.....	1	1	.....	.....	.....	8	3.14	79.8
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.08	738.5	29.93	760.2	71.2	21.8	60.0	1	3	3	9	11	3	.....	1	.....	.....	.....	.....	4.31	109.5
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.77	756.2	30.03	762.7	70.3	21.3	61.4	2	5	8	8	2	3	.....	3	.....	.....	.....	7	2.85	72.5
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.45	747.9	29.98	761.6	67.5	19.7	63.9	2	1	4	17	4	.....	1	2	.....	.....	.....	.....	5.53	140.4
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.77	756.1	30.01	762.3	65.7	18.7	76.9	4	3	9	15	.....	.....	.....	.....	.....	.....	.....	8	2.79	70.8
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.82	757.4	29.89	759.1	66.6	19.2	69.4	4	8	9	2	7	1	.....	.....	.....	.....	.....	6	2.63	66.7
Chalons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.63	752.5	29.94	760.4	67.5	19.7	75.0	.....	.....	5	14	10	1	1	.....	.....	.....	.....	6	3.21	81.5
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.43	747.6	29.95	760.8	66.4	19.1	66.5	2	5	3	6	9	2	2	2	.....	.....	.....	7	4.13	105.0
Clermont-Fd	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.67	728.2	29.97	761.3	71.4	21.9	56.7	9	2	6	5	2	2	1	4	.....	.....	.....	7	2.15	54.7
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.18	741.2	30.01	762.2	71.1	21.7	59.5	1	2	12	6	3	3	2	2	.....	.....	.....	7	7.12	180.9
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.13	739.9	29.96	761.0	68.2	20.1	65.9	.....	8	12	3	2	4	2	.....	.....	.....	.....	7	5.18	131.6
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.52	699.1	29.97	761.1	72.1	22.3	49.4	4	3	2	1	5	.....	.....	6	10	.....	.....	4	4.00	101.7
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.90	734.1	29.98	761.4	78.1	25.6	36.4	2	13	1	5	9	1	.....	.....	.....	.....	.....	3	0.65	16.4
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.24	742.8	29.99	761.7	72.9	22.7	60.4	1	15	7	3	1	1	2	1	.....	.....	.....	.....	4.30	109.1
Gueret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.47	723.0	30.02	762.4	64.6	18.1	68.3	3	2	3	16	1	3	2	1	.....	.....	.....	.....	4.68	118.9
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.68	753.9	29.99	761.7	65.3	18.5	73	.....	5	12	4	9	1	.....	.....	.....	.....	.....	.....	2.20	55.8
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.47	748.5	30.02	762.4	71.6	22.0	62.3	.....	3	18	4	2	1	.....	3	.....	.....	.....	4	2.71	68.9
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.90	759.4	30.00	762.0	65.8	18.8	69.3	1	3	12	7	7	1	.....	.....	.....	.....	.....	8	1.40	35.5
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	28.97	735.8	30.00	761.9	71.1	21.7	51.5	4	6	2	1	9	6	2	1	.....	.....	.....	6	5.04	128.1
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.67	753.5	29.98	761.5	65.7	18.7	78.2	1	9	7	10	3	1	.....	.....	.....	.....	.....	6	3.33	84.5
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.73	755.2	30.00	761.9	76.8	24.9	50.1	.....	5	12	7	5	2	.....	.....	.....	.....	.....	4	0.48	12.2
Mont louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.91	632.6	29.75	755.6	63.3	17.4	39.8	4	2	3	10	.....	1	9	2	.....	.....	.....	4	1.68	42.7
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.87	758.6	29.98	761.6	78.8	26.0	63.3	1	11	5	1	2	8	3	.....	.....	.....	.....	2	1.02	25.9
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.19	741.5	29.96	760.9	65.5	18.6	79.1	.....	3	6	5	12	5	.....	.....	.....	.....	.....	.....	5.56	141.3
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.87	758.6	30.03	762.7	69.1	20.6	60.4	2	1	13	12	3	.....	.....	.....	.....	.....	.....	9	1.46	37.0
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.91	759.8	30.02	762.5	75.6	24.2	53.3	8	7	2	2	.....	.....	4	8	.....	.....	.....	6	0.68	17.3
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.36	542.6	.....	.....	45.7	7.6	.....	.....	2	12	16	1	.....	.....	.....	.....	.....	.....	.....	1.28	32.4
Privas..... [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.96	735.6	29.99	761.7	74.7	23.7	50.0	3	3	3	3	9	2	.....	3	5	.....	.....	.....	3.08	78.2
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.21	640.4	.....	.....	50.4	10.2	85.7	.....	3	12	11	.....	4	1	.....	.....	.....	.....	7	5.82	147.8
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	29.98	761.6	30.02	762.4	72.0	22.2	61.1	.....	2	7	13	2	.....	.....	.....	7	.....	.....	4	7.64	194.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.78	756.4	29.99	761.8	68.9	20.5	65.7	2	3	7	9	4	4	2	.....	.....	.....	.....	6	2.68	68.0
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.95	709.8	30.02	762.6	70.7	21.5	59.2	.....	9	2	1	1	1	3	1	13	.....	.....	.....	2.79	70.8
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.90	759.5	29.95	760.7	66.2	19.0	68.2	.....	7	8	8	4	4	.....	.....	.....	.....	.....	7	3.63	92.2
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.80	756.8	29.96	761.0	67.6	19.8	61.4	1	3	3	15	3	3	.....	1	2	.....	.....	8	2.39	60.8
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.37	746.1	30.10	764.5	75.9	24.4	55.8	5	10	4	1	.....	5	4	2	.....	.....	.....	5	0.79	20.1
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	29.81	757.1	29.99	761.7	69.8	21.0	60.3	1	1	8	8	10	.	1	2	.....	.....	.....	6	3.00	76.2
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.47	748.5	29.96	761.0	66.4	19.1	61.1	2	5	13	8	2	1	.....	.....	.....	.....	.....	.....	3.04	77.3
Sub-Series.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	0.03 p.m.	131	40	29.93	760.1	30.08	763.9	71.8	22.1	65.3	4	7	9	5	.....	1	4	1	.....	.....	.....	6	3.55	90.1
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.52	724.4	29.92	760.0	68.7	20.4	58.1	.....	3	8	14	2	.....	2	1	1	.....	.....	6	3.72	94.6
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.06	738.2	29.91	759.6	68.5	20.3	64.4	.....	3	7	9	8	3	.....	1	.....	.....	.....	6	3.11	78.9
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.70	754.4	29.84	757.9	71.4	21.9	61.1	.....	5	13	3	3	4	1	1	1	.....	.....	6	3.41	86.6
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.38	746.3	29.91	759.7	71.6	22.0	52.0	1	3	11	7	2	2	3	1	1	.....	.....	7	5.59	141.9
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.51	749.6	29.96	760.9	69.1	20.6	65.3	.....	.....	1	20	3	4	2	.....	1	.....	.....	8	10.21	259.3
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.17	740.9	29.88	759.0	69.8	21.0	61.3	.....	3	1	16	9	1	.....	1	.....	.....	.....	7	4.00	101.7
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.55	750.5	29.90	759.5	70.7	21.5	59.5	.....	.....	7	16	6	.....	1	1	.....	.....	.....	7	3.80	96.5
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.59	726.2	29.95	760.8	69.3	20.7	67.9	.....	1	6	21	1	.....	1	1	.....	.....	.....	5	6.22	157.9
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.72	754.9	29.81	757.2	68.9	20.5	75.3	.....	2	5	13	3	2	4	.....	2	.....	.....	7	3.27	83.0
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.77	756.2	29.79	756.6	67.1	19.5	64.0	.....	2	7	8	3	.....	2	3	6	.....	.....	7	3.45	87.7
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.47	748.5	29.87	758.7	72.1	22.3	53.4	.....	3	10	10	2	4	1	1	.....	.....	.....	7	4.54	115.2
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.65	753.1	29.83	757.6	71.8	22.1	55.5	.....	2	11	8	4	5	.....	1	.....	.....	.....	7	3.39	86.2
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.77	756.2	29.82	757.4	67.3	19.6	71.3	2	9	10	5	1	1	1	2	.....	.....	.....	7	4.54	115.3
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.16	715.3	30.02	762.6	68.2	20.1	57.4	1	.....	18	2	1	1	3	5	.....	.....	.....	6	5.26	133.5
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.80	756.9	29.82	757.3	70.5	21.4	60.1	1	4	6	6	2	1	6	5	.....	.....	.....	7	4.19	106.5
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.39	746.6	29.92	760.0	69.3	20.7	65.0	.....	.....	15	3	7	1	1	.....	4	.....	.....	8	3.79	96.2
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.01	736.8	29.87	758.7	70.0	21.1	57.4	5	1	12	8	3	.....	1	1	.....	.....	.....	6	6.39	162.4
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.80	757.0	29.83	757.6	68.4	20.2	67.4	3	2	7	13	.....	3	2	1	.....	.....	.....	8	4.01	101.9
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.50	749.2	29.86	758.4	86.2	30.1	.....	4	.....	1	2	12	.....	.....	12	.....	.....	.....	1	1.81	46.0
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.45	748.1	29.50	749.3	85.2	29.6	76	.....	3	12	14	1	1	.....	.....	.....	.....	.....	8	4.75	120.6
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.04	737.6	29.50	749.4	86.2	30.1	62	.....	2	3	20	3	1	.....	2	.....	.....	.....	7	8.40	213.4
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.65	753.1	29.69	754.1	81.3	27.4	86	.....	1	21	7	1	.....	1	.....	.....	.....	.....	9	39.87	1012.7
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.85	707.4	29.71	754.5	75.7	24.3	79	.....	2	14	15	.. ..	.....	.....	.....	.....	.....	.....	8	5.23	132.8
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.48	748.9	29.76	755.8	90.5	32.5	51	.....	9	19	2	.....	.....	.....	.....	1	.....	.....	8	1.16	29.5
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.22	691.3	29.77	756.2	70.4	21.3	90	.....	.....	27	4	.. ..	.....	. ..	.....	.....	.....	.....	9	17.08	433.6
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.69	728.6	29.40	746.6	97.5	36.4	45	1	1	13	.....	.....	.....	6	4	6	.....	.....	4	2.27	57.7
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.56	725.5	29.44	747.7	88.4	31.3	70	1	.....	5	2	1	6	4	1	11	.....	.....	7	10.59	269.0
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	28.90	734.2	29.45	748.1	89.7	32.1	68	1	.....	3	8	3	6	6	2	2	.....	.....	7	11.71	297.4
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.51	724.2	29.54	750.3	82.7	28.2	73	2	7	12	5	1	.....	.....	.....	4	.....	.....	8	15.21	386.3
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.20	716.3	29.54	750.2	81.8	27.7	77	.....	12	6	.....	2	3	1	2	5	.....	.....	9	18.10	459.7
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.09	739.0	29.46	748.2	88.1	31.2	71	1	2	5	3	1	3	6	3	7	.....	.....	7	19.14	486.2
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.15	740.3	29.45	748.1	87.3	30.7	75	.....	3	1	4	1	2	5	4	11	.....	.....	8	13.48	342.4
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.29	744.0	29.48	748.7	85.9	29.9	79	.....	2	3	2	2	2	14	5	1	.....	.....	8	9.20	233.7
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.51	698.8	29.50	749.3	78.0	25.6	86	2	5	7	4	3	6	4	.....	.....	.....	.....	10	19.61	498.1
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.44	747.7	29.52	749.7	83.6	28.7	81	2	5	9	6	3	3	.....	.....	3	.....	.....	9	12.68	322.1
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.47	748.5	29.49	749.1	82.9	28.3	87	.....	2	3	10	7	6	2	1	.....	.....	.....	9	16.11	409.2
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.40	746.7	29.51	749.6	84.9	29.4	82	3	1	.....	3	3	3	1	3	14	.....	.....	5	4.12	104.6
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.49	749.0	29.58	751.3	80.5	26.9	90	.....	.....	.....	2	7	20	.....	.....	2	.....	.....	9	1.11	28.2
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.20	741.7	29.53	750.0	87.1	30.6	77	.....	3	.....	14	.....	5	.....	8	1	.....	.....	4	23.34	592.8
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.08	713.2	29.48	748.9	87.3	30.7	62	.....	7	10	4	2	2	5	1	.....	.....	.....	7	7.00	177.8
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	30.06	763.5	.....	.....	80.2	26.8	66	.....	1	.....	4	5	12	9	.....	.....	.....	.....	6	2.14	54.4
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.23	717.0	.....	.....	84.3	29.1	56	.....	2	25	4	.....	.....	.....	.....	.....	.....	.....	9	0.07	1.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for July, 1883.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Met'rs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
ITALIAN.	° ′	° ′																								
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.54	750.4	29.94	760.4	78.4	25.8	49	2	...	...	10	4	3	6	2	4	...	...	5	8.50	215.8
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.44	747.8	29.94	760.4	79.0	26.1	45	...	4	3	14	3	4	...	3	...	...	...	4	3.60	91.3
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.80	757.0	29.91	759.7	78.8	26.0	49	5	2	4	2	7	6	4	1	...	...	...	3	2.56	65.0
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.05	737.8	29.92	760.0	76.8	24.9	52	4	9	2	...	1	1	8	6	...	...	...	5	2.58	65.6
Genoa	N. 44 24	E. 8 55	0.44 p.m.	· 157	48	29.78	756.5	29.97	761.2	75.2	24.0	60	...	...	...	15	2	13	...	1	...	...	...	3	0.53	13.4
Mondovi	N. 44 23	E. 7 48	0.39 p.m.	1824	556	28.07	713.0	29.91	759.8	73.2	22.9	52	9	3	4	...	1	2	8	4	...	...	...	3	2.63	66.7
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.90	759.5	29.95	760.7	77.5	25.3	70	1	1	1	1	...	12	6	6	3	...	...	4	0	0
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.71	754 5	29.95	760.8	81.0	27.2	41	...	1	12	11	2	1	1	3	...	...	...	4	0.17	4.3
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.84	757.9	29.92	760.0	77.9	25.5	59	...	1	13	12	4	...	...	1	...	...	...	3	1.41	35.9
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.78	756.5	29.95	760.8	83.5	28.6	38	1	1	10	12	6	1	...	...	...	...	...	3	0.04	1.1
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.69	754.2	29.93	760.3	83.5	28.6	38	9	1	2	1	2	2	5	9	...	...	...	1	0.70	17.8
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.10	739.0	29.94	760.4	87.4	30.8	64	...	1	4	8	9	8	1	...	...	...	...	1	0.02	0.4
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.77	756.1	30.01	762.2	79.7	26.5	54	2	1	...	...	...	...	..	28	...	...	...	1	0.06	1.4
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.89	759.3	29.94	760.4	83.3	28.5	53	5	...	1	5	8	...	6	3	3	...	...	1	0	0
Sub-Series.																										
Naples	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.48*a*	748.7*a*	29.98*a*	761.6*a*	80.2*a*	26.8*a*	59.3*a*	...	2	2	15	4	5	3	...	...	...	...	3	Inap.	Inap.
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
JAPANESE.																										
Akita	N. 39 42	E.140 07	9.28 p.m.	32	10	29.80	757.0	29.83	757.9	72.8	22.6	82.8	2	3	...	3	1	2	3	...	17	...	...	5	0.82	20.8
Awomori	N. 40 51	E.140 45	9.31 p.m.	32	10	29.80	756.8	29.83	757.7	69.6	20.9	84.5	14	4	1	2	1	1	4	3	1	4137	6658	6	1.33	33.8
Hamamatsu	N. 34 43	E.137 43	9.19 p.m.	26	8	29.82	757.4	29.85	758.1	75.5	24.2	86.0	1	...	...	2	2	1	3	1	21	...	...	6	2.89	73.4
Kagoshima	N. 31 35	E.130 33	8.50 p.m.	14	4	29.81	757 2	29.82	757.5	77.9	25.5	82.0	4	2	2	...	...	2	2	8	11	...	...	4	8.58	217.8
Kanazawa	N. 36 33	E.136 40	9.14 p.m.	95	29	29.73	755.0	29.82	757.5	74.7	23.7	84.7	2	7	2	...	1	2	9	3	5	2677	4308	5	2.88	73.1
Kioto	N. 35 01	E.135 46	9.11 p.m.	162	49	29.65	753.0	29.82	757.4	76.7	24.8	77.1	15	1	2	1	9	1	1	1	...	2432	3914	5	2.25	56.9
Kochi	N. 33 33	E.133 34	9.02 p.m.	20	6	29.82	757.4	29.84	758.0	77.1	25.0	90.4	1	7	7	4	2	3	5	2	...	4507	7254	8	2.49	63.2
Miasaka	N. 31 56	E.131 26	8.54 p.m.	26	8	29.81	757.2	29.84	757.9	76.4	24.6	89.8	3	...	4	2	4	6	8	4	...	...	...	4	2.76	69.9
Miyako	N. 39 38	E.141 59	9.36 p.m.	98	30	29.77	756.1	29.88	758.9	66.9	19.4	92.4	1	1	2	3	6	...	2	1	15	590	949	6	2.56	65.0
Nagasaki	N. 32 44	E.129 52	8.47 p.m.	189	58	29.61	752.2	29.81	757.1	77.4	25.2	84.5	6	...	1	6	3	...	3	1	11	2757	4438	4	3.62	92.1
Niigata	N. 37 55	E.139 03	9.24 p.m.	32	10	29.79	756.7	29.82	757.5	74.2	23.4	82.5	5	1	2	1	...	8	...	12	2	3867	6223	6	1.44	36.4
Nobiru	N. 38 23	E.141 11	9.32 p.m.	15	5	29.84	757.9	29.86	758.3	70.7	21.5	89.5	...	1	...	1	13	1	8	6	1	6044	9726	6	1.67	42.4
Numazu	N. 35 06	E.138 51	9.23 p.m.	32	10	29.82	757.3	29.85	758.2	74.5	23.6	83.6	3	1	14	2	1	...	6	1	3	...	...	9	5.96	151.3
Osaka	N. 34 42	E.135 30	9.10 p.m.	13	4	29.80	757.0	29.82	757.4	78.1	25.6	78.7	2	1	22	1	...	...	...	5	...	5630	9060	5	0.25	6.4
Sakai	N. 35 01	E.133 31	9.01 p.m.	10	3	29.81	757.2	29.82	757.4	75.4	24.1	82	11	1	3	1	...	...	3	6	6	...	...	4	0.85	21.6
Shimonoseki	N. 33 58	E.130 56	8.52 p.m.	13	4	29.68	753.9	29.83	757.6	75.0	23.9	87	...	...	1	1	2	...	4	...	23	...	...	3	1.45	36.9
Tokei	N. 35 41	E.139 46	9.27 p.m.	69	21	29.78	756.4	29.85	758.2	72.9	22.7	88.1	2	...	...	...	16	2	10	1	...	5636	9070	7	7.84	199.0
Wakayama	N. 34 14	E.135 09	9.09 p.m.	48	15	29.76	755.9	29.81	757.2	78.0	25.6	77.3	1	1	...	8	16	1	1	2	1	3717	5983	3	0.08	2.0
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.99	761.7	30.18	766.6	71.7	22.1	64.8	1	...	...	1	1	10	17	1	...	...	...	4	0.72	18.3
MEXICAN.																										
Guanajuato	N. 21 01	W.100 48	5.24 a.m.	6762	2061	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Leon	N. 21 07	W.101 35	5.22 a.m.	5901	1799	24.37	619 0	30.04	763.0	59.1	15.1	90.8	4	7	2	8	2	1	2	...	5	...	...	7	9.92	252.0
Mazatlan	N. 23 11	W.106 17	5.03 a.m.	249	76	29.71	754.6	29.97	761.2	77.7	25.4	86.7	3	6	2	...	1	...	10	9	...	...	...	7	4.85	123.1
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Morelia	N. 19 42	W.101 06	5.22 a.m.	6247	1940	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pabellon	N. 22 04	W.102 04	5.20 a.m.	6312	1924	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sub-Series.																										
Altata *d*	N. 24 40	W.107 55	4.56 a.m.	?	?	...	...	...	...	79.4	26.3	84.0	...	...	...	...	3	16	4	4	...	...	...	6	2.25	57.1
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.88	758.9	29.88	758.9	66.4	19.1	...	1	3	13	9	3	1	1	...	...	...	...	...	5.04	128.1
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.75	755.6	29.80	757.0	64.6	18.1	...	1	9	6	6	8	...	1	...	...	...	...	...	4.05	102.8
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.82	757.4	29.82	757.4	62.6	17.0	...	1	4	7	10	1	...	1	1	...	...	...	...	3.20	81.4
Hellevoetsluis *b*	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.86	758.5	29.86	758.5	65.8	18.8	68.5	...	3	13	10	2	1	...	...	...	...	...	...	4.41	112.1
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.82	757.4	29.87	758.6	67.3	19.6	67.1	1	4	10	9	4	3	...	...	...	...	...	7	4.51	114.5
Sub-Series.																										
Batavia	S. 6 11	E.106 48	7 15 p.m.	?	?	29.89	759.1	...	...	80.1	26.7	75.6	12	1	...	...	..	...	...	18	...	...	...	5	0.01	0.3
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.63	752.7	29.70	754.3	64.9	18.3	63.4	1	12	7	1	8	...	...	1	1	...	...	5	4.17	106.0
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.72	754.9	29.76	755 9	60.6	15.9	68.9	18	1	2	2	...	1	3	2	2	...	...	5	1.33	33.7
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.53	750.0	29.67	753.5	69.3	20.7	59.9	4	1	...	6	9	3	4	4	...	...	...	6	4.08	103.6
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.85	758.2	29.87	758.8	51.8	11.0	...	5	1	4	1	...	1	...	14	5	...	...	6	...	...
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.72	755.0	29.77	756.2	62.8	17.1	62.0	1	...	2	3	2	...	2	8	13	...	...	5	0.89	22.5
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	30.05	763.5	30.21	767.3	70.2	21.2	86.0	3	2	6	5	2	9	3	1	...	...	...	5	2.89	73.5
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.04	737.5	29.99	761.7	82.5	28.2	35.3	1	3	15	7	1	1	1	1	1	...	...	2	0	0
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.09	764.2	30.17	766.4	73.8	23.2	66.6	...	...	...	26	2	3	...	...	...	...	...	6	0	0
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	312	95	29.75	755.7	30.05	764.0	72.0	22.2	52.5	13	6	2	5	3	...	1	1	...	...	...	2	0.06	1.5
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.17	766.3	30.24	768.1	72.7	22.6	76.0	1	...	6	2	1	5	3	3	10	...	...	5	1.86	47.3
St. Paul de Loanda	S. 8 49	E. 13 07	1.00 p.m.	193	59	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
San Salvador	S. 6 17	E. 14 53	1.07 p.m.	1834	559	28.15	715.1	30.00	762.0	75.6	24.2	58.9	...	...	1	11	11	6	1	...	1	...	...	4	0	0
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.40	645.1	30.00	762.0	62.6	17.0	46.5	4	8	4	1	1	2	9	2	...	...	...	3	2.24	56.8
RUSSIAN																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.56	725.5	29.57	751.1	77.9	25.5	34.9	3	6	5	4	1	1	1	9	1	...	...	5	0.82	20.9
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.71	754.6	29.73	755.1	62.6	17.0	64.6	1	7	7	2	2	5	3	4	...	...	...	7	3.37	85.7
Ashurada	N. 36 54	E. 53 55	3.44 p.m.	79	24	29.87	758.8	29.78	756.4	85.8	29.9	70.7	...	15	16	...	...	...	...	...	...	...	...	3	...	...
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	29.91	759.6	29.82	757.5	88.5	31.4	42.5	2	1	3	3	6	10	3	2	1	...	...	5	0.97	24.6
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	29.86	758.3	29.81	757.1	86.5	30.3	54.2	11	1	...	1	11	3	...	2	2	...	...	1	0	0
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.18	741.2	29.65	753.2	68.9	20.5	60.4	4	3	2	5	2	4	...	8	3	...	...	6	3.42	86.9
Bielosersk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.30	744.1	29.74	755.4	68.7	20.4	64.0	4	7	2	4	5	1	3	2	3	...	...	7	7.02	178.4
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.51	749.5	29.74	755.4	68.7	20.4	64.5	2	3	7	9	3	3	2	...	2	...	...	8	4.90	124.4
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.80	731.6	29.73	755.1	68 9	20.5	51.4	2	7	6	6	1	1	1	4	3	...	...	7	1.33	33.8
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.43	747.6	29.86	758.3	84.9	29.4	35.1	4	8	5	5	2	2	3	2	...	...	...	6	2.08	52.8
Irkutsk	N. 52 16	E.104 16	7.05 p.m.	1536	468	28.10	713.7	29.64	752.9	67.3	19.6	74.4	4	3	...	1	1	3	6	2	11	...	...	7	3.93	99.8
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.52	749.7	29.77	756.2	75.4	24.1	46.9	1	3	8	7	4	3	1	3	1	...	...	7	0.29	7.4
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	29.69	754.0	29.74	755.3	59.0	15.0	75.8	2	3	...	1	2	4	4	13	2	...	...	8	3.66	93.1
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	29.80	756.9	29.82	757.5	81.5	27.5	57.1	2	...	...	...	2	3	1	5	18	...	...	3	1.51	38.3
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.22	742.2	29.82	757.4	77.0	25.0	49.6	3	5	4	5	6	4	1	2	1	...	...	6	1.60	40.5
Koslov	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.31	744.4	29.82	757.4	78.8	26.0	48.9	3	3	8	7	1	2	3	2	2	...	...	6	1.45	36.8
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	29.74	755.5	29.77	756.1	65.5	18.6	72.9	...	4	9	10	4	1	1	2	...	...	...	6	2.90	73.6
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.58	751.4	29.76	755.8	87.4	30.8	34.1	2	6	6	4	4	2	3	4	...	...	...	5	1.49	37.9
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.33	744.9	29.77	756.2	73.8	23.2	52.8	4	4	7	4	7	5	...	...	...	...	...	6	5.67	144.1
Nikolajev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.80	757.0	29.88	758.9	89.1	31.7	44.0	5	4	1	3	2	3	2	5	6	...	...	2	0.50	12.8
Nikolaievsk *c*	N. 53 08	E.140 45	9.31 p.m.	59	18	...	...	...	...	63.7	17.6	86.6	1	...	...	...	3	8	5	1	10	...	...	6	...	...
Pekin	N. 39 57	E.116 28	7.54 p.m.	123?	38?	29.50	749.2	29.64	752.8	78.3	25.7	74.6	...	2	...	3	...	3	...	3	20	...	...	6	24.42	620.3
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.12 p.m.	328	100	29.37	745.9	29.59	754.1	94.3	34.6	18.6	14	3	6	...	...	...	2	3	3	...	...	3	0	0
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.52	749.7	29.70	754.5	63.3	17.4	72.2	4	3	2	9	...	7	3	3	...	...	...	8	6.28	159.4
Pinsk	N. 52 07	E. 26 00	1.52 p.m.	459?	140?	29.36	745.8	29.84	757.8	73.8	23.2	60.5	4	4	6	6	8	1	1	...	1	...	...	6	3.12	79.3
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	29.81	757.2	29.84	758.0	81.1	27.3	80.8	1	4	1	21	3	...	...	...	1	...	...	6	2.06	52.3
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	29.68	754.0	29.70	754.4	68.2	20.1	61.7	3	6	4	6	4	4	2	2	...	...	...	8	5.20	132.1
Samarkand	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.32	693.9	29.61	752.0	87.3	30.7	37.3	...	1	1	...	3	...	5	3	18	...	...	1	0.14	3.6
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.01	736.9	29.63	752.6	76.8	24.9	44.6	7	9	...	3	1	2	2	3	4	...	...	6	2.78	70.5
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	423?	42?	29.64	752.8	29.85	758.2	84.0	28.9	50.3	2	7	10	9	1	1	1	...	...	...	...	3	0.10	2.6
Starol Bykhov	N. 53 31	E. 30 16	2.09 p.m.	423?	129?	29.43	747.5	29.87	758.6	74.3	23.5	60.6	...	8	4	4	5	5	...	2	3	...	...	9	3.09	78.6
Tashkend	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.03	712.0	29.56	750.9	91.0	32.8	33.3	2	5	2	1	...	...	...	1	20	...	...	3	0	0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
	Result of Simultaneous Observations for July, 1883.																									
RUSSIAN.—Cont'd	° ′	° ′																								
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.43	722.2	29.75	755.7	90.3	32.4	29.3	4	4	1	1	7	13	.....	.....	1	.....	.....	3	0.25	6.4
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.20	690.9	29.54	750.3	80.4	26.9	48.5	1	1	4	5	1	.....	1	4	14	.....	.....	5	1.03	26.2
Viatka	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.15	740.4	29.75	755.7	70.3	21.3	55.5	2	5	7	4	2	2	2	2	5	.....	.....	6	1.51	38.3
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.44	747.7	29.84	758.0	71.8	22.1	59.9	2	3	3	9	7	3	1	2	1	.....	.....	7	3.22	81.9
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.50	749.4	29.78	756.4	67.8	19.9	69.9	1	1	13	6	1	3	1	3	2	.....	.....	5	3.46	87.8
SCOTTISH.																										
Monach Light H.	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.79	756.7	56.5	13.6	93.6	8	8	.....	1	3	4	1	4	2	.....	.....	8	2.40	61.0
North Unst	N. 60 51	W. 0 53	0.04 p.m.	230	70	.....	.....	29.76	755.9	.....	.....	.....	8	.....	1	1	3	1	10	7	.....	.....	.....	7	.....	.....
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	98	30	29.92	759.9	30.02	762.4	78.1	25.6	63	.....	.....	.....	6	10	5	8	1	1	1817	2924	3	0.67	17.1
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.02	762.5	30.08	764.0	75.0	23.9	62	.....	25	1	2	.....	3	.....	.....	.....	1700	2736	5	1.72	43.8
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.14	689.3	30.00	762.0	72.0	22.2	53	5	.....	.....	9	3	.....	1	13	.....	4411	7099	2	0.42	10.7
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.82	706.7	29.93	760.2	83.7	28 7	30.5	3	1	5	15	3	3	1	.....	.....	6829	11990	1	inap.	inap.
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.85	758.1	29.99	761.8	78.6	25.9	52.0	.....	1	.....	.....	6	6	13	5	.....	1789	2879	4	0	0
Oviedo	N. 43 23	W. 5 49	11.45 a.m.	800	244	29.31	744.4	30.07	763.7	60.8	16.0	76	18	1	.....	1	.....	.....	9	2	.....	2689	4327	8	1.06	26.9
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.16	740.7	30.04	763.0	66.6	19.2	72.4	5	5	3	6	3	.....	.....	5	4	6562	11570	7	3.61	91.0
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	30.03	762.8	30.10	764.5	78.5	25.8	81.2	.....	.....	.....	.....	.....	4	24	3	.....	.....	.....	3	5.13	130.4
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.77	756.0	29.82	757.5	79.5	26.4	87.0	1	3	2	13	1	5	3	3	.....	6900	12779	7	29.98	761.0
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.96	760.9	30.05	763.4	77.9	25.5	89	.....	2	14	6	1	1	7	.....	.....	.....	.....	2	0	0
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	30.01	762.3	30.10	764.6	81.5	27.5	87	.....	.....	.....	.....	.....	14	5	.....	12	.....	.....	3	10.16	258.0
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.75	755.7	29.79	756.7	64.8	18.2	55	6	1	.....	.....	5	3	3	12	1	.....	.....	6	0.58	14.6
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.70	754.4	29.75	755.7	63.7	17.6	65	3	.....	.....	6	2	5	6	9	.....	.....	.....	8	1.87	47.4
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.07	753.6	29.72	754.9	64.8	18.2	71	2	1	.....	2	6	3	5	7	5	.....	.....	6	4.70	119.3
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.53	750.0	29.71	754.5	68.7	20.4	61	2	1	4	6	7	1	5	3	2	.....	.....	8	4.11	104.5
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.65	753.2	29.71	754.7	65.8	18.8	71	4	.....	13	7	.....	3	2	2	.....	.....	.....	5	3.88	98.6
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.60	751.9	29.69	754.1	67.5	19.7	64.8	8	5	.....	4	5	3	4	2	.....	.....	.....	7	6.24	158.5
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.62	726.9	29.98	761.6	70.7	21.5	55.1	6	3	4	6	8	1	2	1	.....	.....	.....	6	5.06	128.5
TURKISH.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.89	759.1	81.3	27.4	56	10	1	.....	2	3	1	.....	14	.....	.....	.....	3	0.29	7.4
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.10?	764.6?	83.8	28.8	.....	.....	4	9	17	1	.....	.....	.....	.....	.....	.....	1	0.08	2.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.78	756.4	85.8	29.9	59.9	.....	.....	4	27	.....	.....	.....	.....	.....	.....	.....	2	0	0
Samakov *g*	N. 42 12	E. 23 45	1.42 p.m.	?	?	26.49	672.8	.....	.....	74.1*h*	23.4*h*	65*h*	.....	1	2	.....	1	.....	1	1	18	.....	.....	4	0	0
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	29.91	759.7	29.99	761.7	70.2	21.2	66.9	5	7	6	1	11	1	.....	.....	.....	3785	6091	5	5.96	151.4
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.29	744.0	29.93	760.2	60.7	15.9	78.4	2	5	9	6	4	2	2	1	.....	6227	10021	6	5.85	148.6
Apache, Fort	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	25.11	637.8	29.85	758.2	59.5	15.3	77.6	.....	.....	.....	2	.....	4	24	1	.....	4709	7578	4	5.46	138.7
Assinnaboine, Ft.	N. 48 32	W. 109 42	4.49 a.m.	2710	826	27.21	691.1	29.94	760.5	53.7	12.1	60.9	.....	.....	2	15	4	1	6	3	.....	8011	12892	2	0.24	6.1
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.97	735.8	30.12	765.0	74.4	23.6	73.3	5	3	10	.....	1	4	2	1	5	4925	7926	2	1.06	26.9
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	29.99	761.7	30.00	762.0	70.8	21.6	81.5	9	4	3	7	5	1	1	1	.....	5969	9606	4	2.83	71.9
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	29.93	760.2	30.12	765.0	77.5	25.3	76.7	3	2	5	4	3	3	3	3	5	2583	4157	3	2.21	56.1
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	29.99	761.7	30.04	763.0	73.5	23.1	73.0	6	5	7	4	7	.....	.....	2	.....	4184	6733	2	3.10	78.7
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	20	6	29.98	761.5	30.00	762.0	72.9	22.7	80.5	9	2	8	7	.....	1	1	3	.....	9645	15522	5	2.43	61.7
Behring Id	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.84	757.9	29.86	758.4	43.5	6.4	94.5	.....	.....	.....	7	14	2	5	2	1	7611	12248	9	2.09	53.1
Bennett, Fort	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.41	721.6	29.95	760.7	62.2	16.8	80.6	1	9	2	1	2	9	3	4	.....	5995	9648	6	1.79	45.5
Benton, Fort	N. 47 50	W. 110 40	4.45 a.m.	2700	823	27.26	692.4	29.97	761.2	63.9	17.7	52.5	.....	.....	3	4	1	.....	.....	1	22	3901	6374	2	0.16	4.1
Billings	N. 45 49	W. 108 30	4.54 a.m.	3115?	949?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.17	715.5	29.90	759.4	58.8	14.9	77.8	4	5	3	2	1	2	7	3	4	6135	9873	4	1.32	33.5
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	29.95	760.7	29.98	761.5	68.4	20.2	84.9	2	9	4	8	3	.....	.....	5	.....	9500	15288	4	3.53	89.7
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.23*n*	691.6*n*	29.95*n*	760.7*n*	56.4*n*	13.6*n*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3122	5024	.....	.....	.....
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.81	757.2	29.96	761.0	68.4	20.2	76.8	2	8	6	9	2	.....	2	2	.....	6217	10005	4	2.73	69.3
Brownsville	N. 25 53	W. 97 26	5.38 a.m	43	13	29.98	761.5	30.04	763.0	78.0	25.6	90.0	.....	.....	.....	2	15	11	1	.....	2	5585	8988	4	4.02	102.1
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	696	212	29.25	742.9	29.98	761.5	64.8	18.2	82.9	4	.....	3	12	7	1	.....	4	.....	7207	11598	6	3.35	85.1
Buford, Fort	N. 48 00	W. 103 56	5.12 a.m.	1900	579	27.96	710.2	29.96	761.0	56.5	13.6	78.0	2	6	5	1	7	2	5	1	2	6808	10956	2	1.69	42.9
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.71	754.6	30.10	764.5	73.9	23.3	82.7	3	.....	1	14	4	4	.....	4	1	4619	7433	4	7.95	201.9
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.04	763.0	30.06	763.5	75.1	23.9	79.5	4	4	2	7	8	2	.....	4	.....	6750	10863	5	5.24	133.1
Cape May *h*	N. 38 56	W. 74 58	7.08 a.m.	27	8	29.98	761.5	30.02	762.5	71.0	21.7	83.4	6	3	2	5	9	1	1	2	.....	9393	15116	3	2.39	60.7
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.28	743.7	29.96	761.0	49.1	9.5	98.2	.....	19	.....	.....	.....	2	.....	.....	10	.....	.....	0	0	0
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.11	764.8	30.13	765.3	81.7	27.6	79.6	1	.....	11	5	1	4	5	3	1	6524	10499	3	5.09	129.3
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	30.02	762.5	30.07	763.8	81.0	27.2	84.0	3	4	8	8	.....	.....	2	5	1	5944	9083	5	8.93	226.8
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.26	743.2	30.09	764.3	75.7	24.3	71.5	3	4	.....	12	5	1	2	4	.....	3200	5150	4	5.23	132.8
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.32	744.7	30.12	765.0	73.2	22.9	76.5	4	2	6	10	1	1	1	5	1	3767	6062	4	2.06	52.3
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6089	1856	24.14	613.1	29.85	758.2	53.3	11.8	65.5	3	13	8	2	2	2	1	.....	.....	5413	8711	3	1.45	36.8
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.29	744.0	29.98	761.5	66.9	19.4	76.0	3	4	4	12	4	2	1	.....	1	5901	9497	5	5.53	140.5
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	18	5	30.01	762.2	30.03	762.7	73.3	22.9	85.1	6	6	2	2	10	.....	2	2	1	5993	9645	4	5.82	147.8
Cincinnati	N. 39 06	W. 84 30	5.30 a.m.	620	189	29.42	747.3	30.00	763.5	71.8	22.1	74.4	1	4	5	7	3	6	1	3	1	3824	6154	4	2.21	56.1
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.28	743.7	30.00	762.0	67.3	19.6	74.5	1	1	2	13	6	4	2	2	.....	5806	9344	5	3.75	95.2
Coleman City *h*	N. 31 53	W. 99 18	5.31 a.m.	1709	521	28.26	717.8	30.02	762.5	70.1	21.2	83.2	.....	.....	.....	2	13	3	1	2	2	4254	6846	5	1.54	39.1
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.20	741.7	30.03	762.7	67.3	19.6	77.5	4	7	3	4	10	2	.....	1	.....	4876	7847	4	3.75	95.2
Concho, Fort	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.13	714.5	30.01	762.2	71.7	22.1	80.2	.....	.....	1	1	12	2	.....	4	11	6949	11151	4	3.74	95.0
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.34	745.2	29.97	761.2	68.5	20.3	79.1	4	5	1	12	3	2	3	1	.....	6263	10079	5	3.66	93.0
Davis, Fort	N. 30 38	W. 103 56	5.12 a.m.	4940	1506	25.27	641.8	29.91	759.7	65.6	18.7	70.3	1	.....	.....	5	.....	4	2	.....	19	3174	5108	2	3.62	91.9
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1660	506	28.30	718.8	30.02	762.5	56.1	13.4	60.0	2	.....	.....	14	7	.....	.....	8	.....	4537	7302	2	0	0
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.44	646.2	29.87	758.7	56.0	13.3	77.7	2	2	1	2	9	1	.....	1	13	2749	4424	3	1.82	46.2
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.01	762.2	30.03	762.7	71.6	22.0	84.4	6	2	3	10	5	1	.....	4	.....	9630	15498	4	1.98	50.3
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.84	630.9	29.85	758.2	61.7	16.5	63.9	7	2	1	2	15	2	.....	.....	2	4604	7506	3	2.27	57.7
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.12	739.6	30.00	762.0	66.9	19.4	82.6	4	2	5	6	2	3	2	4	3	4524	7280	5	2.37	60.2
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.30	744.2	29.98	761.5	66.5	19.2	81.7	2	2	7	8	4	1	2	2	3	6107	9828	4	5.29	134.4
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2512	766	27.44	697.0	29.94	760.5	68.3	20.2	71.8	2	1	7	8	6	1	1	3	2	12080	19440	4	2.61	66.3
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.29	744.0	29.98	761.5	66.2	19.0	77.9	4	5	5	5	9	.....	1	1	1	3962	6376	4	7.90	200.7
Duluth	N. 46 48	W. 92 06	6.00 p.m.	644	184	29.20	741.7	29.92	760.0	63.1	17.3	72.2	2	5	5	3	1	1	.....	6	8	6163	9918	4	2.48	63.0
Eagle Pass	N. 28 44	W. 100 29	5.26 a.m.	780	238	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eagle Rock	N. 43 32	W. 111 55	4.40 a.m.	4650	1415	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.86	758.4	29.92	760.0	59.0	15.0	80.9	6	5	1	3	10	.....	.....	2	1	4895	7877	3	9.07	230.4
Elliott, Fort	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.29	693.2	29.93	760.2	65.2	18.4	66.1	.....	.....	.....	2	8	10	1	2	8	8431	13568	4	2.87	72.9
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3760	1146	26.32	668.5	29.92	760.0	71.7	22.1	56.6	1	7	2	.....	.....	2	5	1	13	3356	5401	2	2.84	72.1
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.28	743.7	30.00	762.0	68.0	20.0	78.5	1	2	.....	13	7	2	.....	2	4	5071	8161	6	3.94	100.1
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	612	186	29.28	743.7	29.92	760.0	60.7	15.9	82.1	5	3	7	1	7	2	.....	2	4	5354	8616	6	4.74	120.4
Fredericksburg	N. 30 17	W. 98 52	5.32 a.m.	1700	518	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galveston	N. 29 18	W. 94 47	5.49 a.m.	48	15	30.05	763.3	30.09	764.3	80.9	27.2	79.4	.....	2	2	14	10	.....	.....	1	2	6099	9815	6	1.38	35.1
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.31	744.5	29.96	761.0	64.8	18.2	81.9	2	2	4	5	6	4	3	4	1	6602	10625	6	7.96	202.2
Grant, Fort	N. 32 39	W. 109 57	4.48 a.m.	4856	1481	.....	.....	.....	.....	66.8	19.3	63.2	5	1	1	.....	.....	4	13	3	4	4756	7654	4	2.90	73.7
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	19	6	30.04	763.0	30.06	763.5	78.6	25.9	79.2	.....	2	5	8	3	3	3	7	.....	11055	17791	5	6.20	157.5
Helena	N. 46 34	W. 112 04	4.40 a.m.	4100	1250	25.87	657.1	29.93	760.2	64.5	18.1	65.0	1	2	3	23	2	.....	.....	.....	.....	4473	7198	1	0.32	8.1
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.60	726.4	29.92	760.0	60.9	16.1	86.3	2	7	2	.....	5	5	6	4	.....	6259	10073	5	5.20	132.1
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.25	742.9	30.02	762.5	70.7	21.5	73.2	1	3	3	8	7	1	.....	4	4	3294	5301	4	6.12	15.5
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	30.03	762.7	30.06	763.5	79.3	26.3	88.2	.....	1	.....	3	19	5	.....	1	2	7908	12776	3	0.61	1.55
Jacksboro	N. 33 12	W. 98 10	5.35 a.m.	1120	341	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.08	764.0	30.12	765.0	81.6	27.6	78.7	.....	2	.....	18	2	4	3	1	1	5688	9154	3	6.88	174.8
Keogh, Fort	N. 46 22	W. 105 56	5.04 a.m.	2372	723	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.36	745.7	29.99	761.7	71.2	21.8	76.5	2	1	2	8	7	3	4	2	2	5888	9476	4	3.15	80.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Metr's	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
U. S.—Continued.	° ′	° ′																								
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.07	763.8	30.09	764.3	83.5	28.6	72.9	1	.....	.....	.....	2	7	16	.....	5	5190	8352	5	1.51	38.4
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.06	763.5	30.08	764 0	76.8	24.9	78.0	3	2	5	8	3	2	2	6	.....	9238	14867	4	3.98	101.1
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.10	739.1	30.10	764.5	70.7	21.5	81.0	3	.....	7	4	.....	1	2	10	4	3803	6120	3	3.59	91.2
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.20	741.7	29.94	760.5	67.1	19.5	75.5	5	3	4	5	12	1	1	.....	.....	5455	8779	6	11.03	280.2
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.14	740.1	30.00	762.0	71.1	21.7	76.7	3	2	1	.....	10	4	.....	2	3	5467	8798	3	3.58	90.9
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.19	741.4	30.00	762.0	62.5	16.9	48.4	.....	.....	3	.....	.....	3	5	1	19	2067	3326	2	inap.	inap.
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.75	755.6	30.06	763.5	74.2	23.4	85.6	1	3	2	3	5	4	3	2	8	3467	5580	4	4.83	122.7
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	371	113	29.60	751.8	29.99	761.7	61.2	16.2	88.7	1	.....	17	1	.....	1	.....	1	10	4062	6537	6	inap.	inap.
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.49	749.0	30.04	763.0	72.1	22.3	79.1	4	3	2	9	9	.....	2	2	.....	5131	8257	4	4.74	120.4
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.38	746.2	30.05	763.3	75.2	24.0	67.5	4	3	9	7	2	1	.....	2	3	1977	3182	2	0.19	4.8
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.29	744.0	29.93	760.2	60.2	15.7	79.4	3	6	6	4	4	2	3	1	2	6152	9900	6	4.35	110.5
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.06	763.5	30.07	763.8	77.9	25.5	83.2	1	4	11	5	3	3	3	1	.....	7865	12657	5	6.71	170.4
Maginnis Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.66	651.8	29.97	761.2	57.4	14.1	41.5	.....	7	10	6	1	3	.....	4	.....	7510	12086	3	0.28	7.1
McKavett, Fort	N. 30 48	W. 100 07	5.28 a.m.	2240	683	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.21	741.9	29.92	760.0	60.3	15.7	73.4	1	10	12	2	4	2	.....	.....	.....	5318	8558	7	4.04	102.6
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.74	755.4	30.07	763.8	75.6	24.2	78.9	1	1	4	4	5	3	1	5	7	3813	6136	4	1.78	45.2
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.23	742.4	29.96	761.0	63.8	17.7	78.0	1	8	10	4	2	3	.....	3	.....	8007	12886	6	7.13	181.1
Missoula, Fort	N. 46 50	W. 114 07	4.32 a.m.	3140	957	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mobile	N. 30 41	W. 88 02	6.16 a.m.	41	12	30.08	764.0	30.12	765.0	78.2	25.7	82.6	3	5	9	2	1	1	2	6	2	3659	5888	3	3.31	84.1
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.88	758.9	30.10	764.5	77.1	25.1	78.0	1	3	2	7	4	5	2	1	6	3347	5386	2	0.87	22.1
Moorhead *a*	N. 46 52	W. 96 44	5.41 a.m.	923	281	28.97	735.8	29.93	760.2	58.2	14.6	80.4	6	5	.....	4	7	5	...	2	1	5648	9089	5	4.57	116.1
Morgantown	N. 39 40	W. 79 50	6.49 a.m.	963	293	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.84	605.5	29.92	760 0	44.5	6.9	91.5	3	14	8	2	.....	1	3	.....	.....	22380	36016	2	11.14	283.0
Nashville	N. 36 10	W. 86 47	6.21 a.m.	507	154	29.52	749.8	30.08	764.0	71.4	21.9	86.2	2	3	4	5	1	4	7	5	.....	3850	6196	5	4.84	122.9
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	29.57	758.7	29.98	761.5	68.2	20.1	77.4	9	4	5	8	1	1	1	1	1	4809	7836	4	5.67	144.0
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	29.96	761.0	30.01	762.2	70.5	21.4	76.1	3	8	4	4	2	1	.....	2	7	3900	6276	4	7.84	199.1
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	30.05	763.3	30.10	764.5	80.3	26.8	80.3	2	4	8	4	2	5	1	3	2	3982	6408	3	3.33	84.6
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.84	757.9	30.01	762.2	70.1	21.2	75.7	2	3	6	12	3	.....	.....	3	2	4525	7282	4	3.37	85.6
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.02	762.5	30.05	763.3	77.4	25.2	76.1	5	1	6	11	1	.....	1	6	.....	4845	7797	4	3.87	98.3
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.10	688.3	29.90	759.4	65.3	18.5	79.4	1	4	6	1	.....	8	6	.....	5	7139	11489	5	1.38	35.1
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	30.05	763.3	30.09	764.3	50.1	10.1	69.7	4	.....	1	.....	1	.....	.....	.....	25	726	1168	2	inap.	inap.
Omaha	N. 41 10	W. 95 56	5.44 a.m.	1113	339	28.85	732.8	29.98	761.5	70.2	21.2	80.5	3	2	2	2	8	2	.....	1	11	2448	3940	5	4.79	121.7
Ogalamie	N. 71 17	W. 156 40	1.41 a.m.	17	5	29.86	758.4	29.88	758.9	33.0	0.6	97.2	7	.....	1	4	1	.....	5	13	.....	8961	14421	6	1.04	26.4
Oswego	N. 43 29	W. 76 35	7.02 a.m.	304	93	29.64	752.8	29.96	761.0	65.6	18.7	78.2	3	3	7	5	9	3	.....	1	.....	4980	8014	6	3.21	81.5
Palestine	N. 31 45	W. 95 40	5.45 a.m.	523	162	29.56	750.8	30.10	764.5	75.2	24.0	87.8	.....	.....	.....	6	18	2	2	.....	3	5743	9242	4	1.28	32.5
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.08	764.0	30.11	764.8	79.3	26.3	83.2	4	2	7	9	3	.....	3	3	.....	5336	8587	3	3.29	83.6
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	92	28	29.93	760.2	30.03	762.7	72.0	22.2	84.6	5	4	2	11	6	.....	.....	3	.....	5017	8074	3	1.78	45.2
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	18.11	460.0	29.89	759.2	35.5	1.9	75.2	3	7	7	8	1	.....	.....	5	.....	10376	16698	1	5.37	136.4
Ploche	N. 37 56	W. 114 26	4.30 a.m.	6110	1862	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	762	232	29.25	742.9	30.04	763.0	67.1	19.5	83.2	3	6	5	3	8	.....	1	4	1	3793	6104	4	5.52	140.2
Poplar River	N. 48 08	W. 105 10	5.07 a.m.	2030	619	27.87	707.9	29.93	760.2	.....	.....	.....	7	9	3	10	.....	2	.....	.....	.....	.....	.....	2	0.16	4.1
Port Eads	N. 29 09	W. 89 15	6.11 a.m.	7	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Huron	N. 43 00	W. 82 26	6.38 a.m.	633	193	29.26	743.2	29.93	760.2	63.2	17.3	85.3	4	2	5	6	7	1	2	4	.....	6434	10354	4	5.63	143.0
Portland, Maine	N. 43 39	W. 70 15	7.27 a.m.	45	14	29.88	758.9	29.93	760.2	66.2	19.0	75.1	2	5	7	2	7	1	3	3	1	5310	8546	4	5.05	128.3
Portland, Oreg	N. 45 32	W. 122 43	3.57 a.m.	67	20	30.01	762.2	30.08	764.0	57.5	14.2	78.3	7	6	2	.....	2	.....	.....	.....	14	3847	6191	1	0	0
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	79.0	26.1	78.4	2	4	7	7	4	.....	2	5	.....	9977	16056	6	6.41	162.8
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5340	1628	24.86	631.4	29.85	758.2	60.9	16.1	74.5	.....	.....	4	11	7	1	.....	1	7	4085	6574	4	3.20	81.3
Provincetown	N. 42 03	W. 70 11	7.27 a.m.	26	8	29.94	760.5	29.97	761.2	67.4	19.7	80.1	5	5	4	7	6	1	1	2	.....	6075	9776	4	4.33	110.0
Punta Rassa	N. 26 29	W. 82 01	6.40 a.m.	13	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	350	106	29.56	750.8	29.90	759.4	70.5	21.4	51.7	9	2	.....	.....	14	1	.....	.....	5	3902	6280	0	0	0
Rochester	N. 43 08	W. 77 42	6 57 a.m.	621	189	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.52	749.8	30.06	763.5	53.7	12.1	78.2	2	1	.....	.....	.....	1	5	5	17	2654	4271	0	0.01	0.3
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	65	20	29.82	757.4	29.89	759.2	61.9	16.6	73.1	.....	.....	2	.....	11	18	.....	.....	.....	5084	8182	0	0	0
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	568	173	29.48	748.8	30.06	763.5	70.6	21.4	84.8	3	1	3	4	12	2	1	3	2	6831	10993	4	4.31	109.5
Saint Michael, Ft	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.82	757.4	29.85	758.2	48.9	9.4	92.1	2	4	1	6	9	2	3	1	3	7476	12031	8	3.13	79.5
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	811	247	29.08	738.6	29.91	759.7	63.8	17.7	81.7	1	5	4	5	4	3	3	2	4	5206	8378	5	4.33	110.0
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.04	737.6	29.88	758.9	54.2	12.3	89.4	1	9	.....	8	3	3	.....	3	4	4343	6989	4	2.16	54.9
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.67	652.0	29.85	758.2	68.1	20.1	38.6	7	.....	.....	.....	1	3	2	1	17	3224	5188	2	0.10	2.5
San Antonio	N. 29 25	W. 98 25	5.34 a.m.	673	205	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.88	758.9	29.95	760.7	65.2	18.4	82.8	8	9	2	5	2	.....	.....	5	.....	4973	8003	7	0	0
Sandusky	N. 41 25	W. 82 40	6.37 a.m.	639	195	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	29.97	761.2	30.00	762.0	71.3	21.8	77.3	1	8	5	9	2	3	.....	3	.....	9901	15934	4	2.30	58.4
Sanford	N. 43 05	W. 89 24	6.10 a.m.	949	289	30.05	763.3	30.10	764.5	81.0	27.2	82.7	.....	1	1	6	7	2	2	4	8	3483	5605	3	3.14	79.8
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.91	759.7	29.98	761.5	55.9	13.3	86.7	.....	.....	10	21	.....	.....	.....	.....	.....	9158	14735	7	0	0
Santa Fé	N. 35 41	W. 105 57	5.04 a.m.	7106	2166	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	30.01	762.2	30.10	764.5	81.1	27.3	74.5	5	2	8	9	3	.....	2	2	.....	4916	7911	4	4.56	115.8
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.42	671.1	29.94	760.5	48.7	9.3	66.8	.....	5	21	.....	.....	.....	.....	5	.....	4901	7887	3	0.15	3.8
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.84	757.9	30.07	763.8	76.7	24.8	82.9	1	.....	3	6	15	2	2	1	1	3141	5055	5	0.22	5.6
Sill, Fort	N. 34 40	W. 98 23	5.34 a.m.	1200	366	28.81	731.8	30.01	762.2	71.2	21.8	84.9	4	1	.....	4	13	2	1	2	4	7388	11890	5	2.30	58.4
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	30.00	762.0	30.06	763.5	49.7	9.8	83.1	.....	3	5	2	2	.....	18	.....	1	5803	9339	9	6.38	162.1
Smith, Fort	N. 35 22	W. 94 24	5.50 a.m.	449	137	29.59	751.6	30.05	763.3	73.0	22.8	87.4	1	1	2	.....	2	1	18	.....	6	2040	4249	4	4.24	107.7
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.04	763.0	30.07	763.8	79.3	26.3	78.9	4	1	12	3	4	2	2	3	.....	7397	11904	4	2.20	55.9
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	28.04	712.2	30.02	762.5	57.7	14.3	66.2	4	.....	.....	11	1	2	.....	1	12	3318*b*	5340*b*	2	0	0
Springfield, Ill	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.37	746.0	30.03	762.7	69.8	21.0	77.8	3	1	3	7	11	2	1	3	.....	6017	9683	4	3.77	95.8
Springfield, Mo	N. 37 12	W. 93 18	5.55 a.m.	1351	412	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Starkville	N. 33 35	W. 88 49	6.13 a.m.	455	123	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stevenson, Fort	N. 47 35	W. 101 28	5.22 a.m.	1750	534	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stockton, Fort	N. 30 53	W. 102 53	5.16 a.m.	3010	917	27.03	686.5	29.97	761.2	69.5	20.8	81.0	.....	1	.....	3	10	15	.....	1	1	8352	13441	3	2.64	67.1
Thatcher's Island	N. 42 38	W. 70 34	7.26 a.m.	48	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thomas, Camp	N. 33 04	W. 110 02	4.48 a.m.	2710	826	.....	.....	.....	.....	70.5	21.4	64.2	1	8	2	1	2	8	2	.....	7	...	.....	4	1.85	47.0
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.30	744.2	29.98	761.5	69.9	21.1	73.4	4	1	5	15	3	2	.....	1	.....	6323	10176	4	4.26	108.2
Tucson	N. 32 14	W. 110 53	4.45 a.m.	2369	722	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Unalashka	N. 53 53	W. 166 32	1.02 a.m.	13	4	29.99	761.7	30.01	762.2	48.1	8.9	76.1	3	1	2	21	1	2	1	.....	.....	6613	10642	9	1.70	43.2
Verde, Fort	N. 34 33	W. 111 52	4.40 a.m.	?	?	.....	.....	.....	.....	69.9	21.1	55.4	.....	6	1	8	6	9	.....	1	.....	.....	.....	4	3.35	85.1
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.86	758.4	30.10	764.5	75.9	24.4	84.5	2	.....	.....	5	9	5	6	1	3	4074	6556	3	3.61	91.7
Visalia	N. 36 20	W. 119 17	4.11 a.m.	348	106	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Washakie, Fort	N. 42 59	W. 108 43	4.53 a.m.	5580	1702	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	29.94	760.5	30.05	763 3	73.0	22.8	75.9	4	5	3	6	4	.....	.....	3	6	2750	4435	4	4.73	120.1
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.08	662.4	29.83	757.7	63.8	17.7	61.5	4	3	12	2	3	.....	4	3	.....	6599	10620	4	0.07	17.0
Williamsport	N. 41 15	W. 77 03	7.00 a.m.	561	171	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	30.03	762.7	30.08	764.0	78.5	25.8	82.6	1	2	10	3	3	3	3	6	.....	4186	6737	5	4.71	119.6
Winnemucca	N. 40 59	W. 117 43	4.17 a.m.	4327	1319	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.70	729.0	29.97	761.2	65.9	18.8	78.3	5	3	7	2	3	2	3	4	2	4971	8000	5	3.33	84.6
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.66	753.4	29.80	756.9	81.5	27.5	70.3	3	.....	1	2	2	15	1	2	5	5028	8092	2	0.31	7.9
Sub-Series.																										
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.03	559.6	.....	.....	53.4	11.9	72.1	2	3	3	1	7	2	.....	5	8	.....	.....	8	2.78	70.6
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	.....	.....	30.07	763.8	80.5	26.9	72.4	5	.....	1	.....	.....	.....	3	.....	22	4533	7295	6	1.25	31.7
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.05	763.3	30.05	763.3	78.2	25.7	84	.....	.....	.....	.....	2	24	5	.....	.....	.....	.....	5	10.73	272.5
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.40	746.7	29.96	761.0	77.3	25.2	90.9	3	.....	.....	.....	4	.....	.....	.....	24	.....	.....	9	4.02	102.1
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	77.1	25.1	92.0	1	1	.....	.....	.....	.....	1	28	.....	.....	.....	7	4.33	110 0
St. Paul, Alaska	N. 57 47	W. 152 21	1.59 a.m.	54	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	131	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Santiago de Cuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	30.04	763.0	30.07	763.8	80.6	27.0	77.8	10	3	.....	.....	.....	.....	.....	5	13	.....	.....	5	1.20	30.5
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	29.95	760.7	30.01	762.2	46.6	8.1	90.9	3	7	5	8	5	.....	.....	3	.....	7510	12086	4	5.03	127.8

OCEAN SQUARE DATA FOR JULY, 1883.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W. 22.5°	30.00	762.0	78.8	26.0	1							28		2	2.1
12.5 27.5	30.05	763.3	79.1	26.2								28		3	2.2
12.5 32.5	30.06	763.5	79.7	26.5								20		11	2.3
12.5 37.5	30.06	763.5	80.4	26.9							5	12		14	2.5
12.5 52.5	30.08	764.0	81.5	27.5						1	10	10		10	2.5
17.5 22.5	30.05	763.3	77.8	25.4								29		2	2.3
17.5 27.5	30.08	764.0	78.3	25.7	1							27		3	2.4
17.5 32.5	30.11	764.8	78.5	25.8							3	17		11	2.3
17.5 37.5	30.11	764.8	79.3	26.3							10	11		10	2.6
17.5 52.5	30.13	765.3	81.4	27.4						3	15	6		7	2.8
17.5 57.5	30.11	764.8	82.1	27.8						2	17	6	1	5	2.7
22.5 22.5	30.10	764.5	76.3	24.6							1	28		2	2.9
22.5 27.5	30.13	765.3	77.1	25.1							3	25		3	3.0
22.5 32.5	30.16	766.1	77.9	25.5							7	18		6	2.5
22.5 37.5	30.17	766.3	78.5	25.8						4	6	15		6	2.4
22.5 42.5	30.18	766.6	78.9	26.1						4	10	9		8	2.7
22.5 47.5	30.19	766.8	79.5	26.4						6	9	7		9	2.3
22.5 52.5	30.19	766.8	80.7	27.1					1	4	15	6		5	2.5
22.5 57.5	30.18	766.6	81.7	27.6					3	3	16	5		4	2.6
22.5 62.5	30.17	766.3	82.5	28.1					1	15	10	3		2	2.6
22.5 67.5	30.15	765.8	82.9	28.3					5	14	8	2		2	2.5
22.5 72.5	30.12	765.0	83.4	28.6	1				8	11	9	2			2.2
27.5 22.5	30.15	765.8	74.7	23.7	2						4	23		2	2.6
27.5 27.5	30.18	766.6	75.8	24.3	3					2	2	22		2	2.7
27.5 32.5	30.22	767.6	76.7	24.8						2	7	10		6	2.6
27.5 37.5	30.24	768.1	77.3	25.2						6	5	13		7	2.5
27.5 42.5	30.24	768.1	78.1	25.6				1	3	4	7	9		7	2.5
27.5 47.5	30.23	767.8	79.0	26.1	1		1	2	5	7	5	5		5	2.5
27.5 52.5	30.22	767.6	79.6	26.4	1		2	4	7	5	7	2		3	2.6
27.5 57.5	30.20	767.1	80.6	27.0	1	1	2	3	8	7	4	3		2	2.0
27.5 62.5	30.19	766.8	81.3	27.4	1	1		4	10	9	4			2	2.5
27.5 67.5	30.17	766.3	81.6	27.6		1		1	17	7	2	1		2	2.5
27.5 72.5	30.14	765.5	82.3	27.9		1		2	18	5	3	2			2.2
27.5 77.5	30.13	765.3	82.2	27.9	2	1		1	9	10	7	1			1.5
32.5 12.5	30.12	765.0	72.6	22.6	10	7	2			1		11			2.3
32.5 17.5	30.17	766.3	72.9	22.7	1	5	2	3		1		19			1.4
32.5 22.5	30.21	767.3	73.4	23.0	3	3	2	1		2	2	16		2	2.7
32.5 27.5	30.22	767.6	74.6	23.7	5	2	4			4	7	7		2	2.4
32.5 32.5	30.25	768.3	75.6	24.2	1	2	5	1	3	6	3	7		3	2.4
32.5 37.5	30.24	768.1	75.9	24.4	3	1	5	2	6	4	1	5		4	2.4
32.5 42.5	30.20	767.1	76.2	24.6	2	2	4	6	8	1	1	4		3	2.6
32.5 47.5	30.19	766.8	76.5	24.7	1	2	4	7	8	2	1	4		2	2.6
32.5 52.5	30.18	766.6	77.5	25.3		1	4	11	7	3	1	3		1	2.4
32.5 57.5	30.15	765.8	78.6	25.9		3	2	12	7	3	1	2		1	2.3
32.5 62.5	30.13	765.3	78.5	25.8	2	2	3	8	13	1	2				2.2
32.5 67.5	30.12	765.0	79.5	26.4	2	2	3	10	13	1					2.1
32.5 72.5	30.11	764.8	80.5	26.9	3	3		6	12	4	2	1			2.3
32.5 77.5	30.09	764.3	79.9	26.6	5	3	5	7	5	3	1	2			1.8
37.5 12.5	30.13	765.3	70.1	21.2	15	4	4			2		6			2.7
37.5 17.5	30.17	766.3	69.8	21.0	9	3	6	2		1		9		1	2.4
37.5 22.5	30.21	767.3	71.0	21.7	8	8	2	2		3	7	1			2.6
37.5 27.5	30.22	767.6	71.5	21.9	5	5	7	1	2	10		1			2.2
37.5 32.5	30.19	766.8	72.3	22.4	3	6	5	2	8	3	1	3			2.5
37.5 37.5	30.17	766.3	73.0	22.8	1	5	7	3	7	7		1			2.9
37.5 42.5	30.14	765.5	73.2	22.9	1	5	6	8	9	1		1			3.1
37.5 47.5	30.10	764.5	73.0	22.8		3	9	7	10	1		1			2.9
37.5 52.5	30.08	764.0	73.3	22.9	1	3	6	13	8						3.0
37.5 57.5	30.07	763.8	73.7	23.2	4	4	4	9	9	1					3.3
37.5 62.5	30.04	763.0	73.6	23.1	4	4	3	9	9			2			2.9
37.5 67.5	30.03	762.7	73.5	23.1	7	6	3	5	9		1				2.8
37.5 72.5	30.02	762.5	74.6	23.7	8	3	2	7	8			3			2.7
42.5 12.5	30.08	764.0	67.0	19.4	10	8	3	5			1	4			2.7
42.5 17.5	30.13	765.3	66.3	19.1	8	9	3	4	2	1	1	3			3.2
42.5 22.5	30.15	765.8	66.9	19.4	5	12	2	2	4	4	1		1		3.0
42.5 27.5	30.15	765.8	66.7	19.3	4	7	4	4	6	4	1	1			2.8
42.5 32.5	30.12	765.0	68.1	20.1	3	8	1	6	7	3		3			3.2
42.5 37.5	30.10	764.5	68.8	20.4	3	7	4	3	6	4	2	2			3.0
42.5 42.5	30.06	763.5	68.1	20.1	1	3	6	8	5	3		4	1		3.0
42.5 47.5	30.02	762.5	66.0	18.9	4	2	2	8	11	2		2			3.1
42.5 52.5	29.98	761.5	64.9	18.3	4	4	2	8	6	3	2	2			3.5
42.5 57.5	29.99	761.7	66.5	19.2	3	4	2	10	3	4	2	3			3.4
42.5 62.5	29.96	761.0	66.5	19.2	3	5	1	7	7	4		4			3.3
42.5 67.5	29.96	761.0	64.4	18.0	6	6	1	5	10	2		1			2.5
47.5 12.5	29.99	761.7	62.4	16.9	7	9	4	6	1			4			3.4
47.5 17.5	30.03	762.7	61.3	16.3	6	12	4	4	3	1	1				3.5
47.5 22.5	30.05	763.3	61.1	16.2	4	17	2	3	5						3.5
47.5 27.5	30.06	763.5	61.3	16.3	6	8	3	2	9	2		1			3.3
47.5 32.5	30.05	763.3	61.9	16.6	1	10	3	2	6	5		4			3.5
47.5 37.5	30.03	762.7	62.0	16.7	3	8	3	1	8	2	2	4			3.0
47.5 42.5	30.00	762.0	59.5	15.3	2	5	1	9	7	2	2	3			3.0
47.5 47.5	29.98	761.5	55.9	13.3	4	3	1	6	9	4		4			2.6
52.5 12.5	29.85	758.2	58.8	14.9	6	13		5	4	2		1			3.8
52.5 17.5	29.88	758.9	58.0	14.4	6	14	5	1	4	1					3.4
52.5 22.5	29.92	760.0	57.5	14.2	6	13	4	3	3	1		1			3.4
52.5 27.5	29.97	761.2	56.8	13.8	5	12	4	3	5		1	1			3.0
52.5 32.5	29.98	761.5	56.2	13.4	6	5	2	4	7	3	1	3			2.7
52.5 37.5	29.97	761.2	55.3	12.9	5	5	1	5	8	3	1	2		1	2.6
52.5 42.5	29.94	760.5	53.4	11.9	1	6		4	11	2	1	3		3	2.8
52.5 47.5	29.91	759.7	51.1	10.6	1	3	1	4	11	4		4		3	2.1
57.5 12.5	29.80	756.9	56.0	13.3	10	5		1	6	2	3	4			3.2
57.5 17.5	29.83	757.7	54.8	12.7	11	7		1	3	3	3	3			3.2
57.5 22.5	29.85	758.2	53.8	12.1	5	10	2	1	3	2	1	7			3.1
57.5 27.5	29.88	758.9	52.5	11.4	8	8	5	1	3	1	2	3			2.9
57.5 32.5	29.85	758.2	51.3	10.7	8	4	2	7	3	3		3		1	2.8
57.5 37.5	29.92	760.0	49.7	9.8	7	3	1	6	7	2	1	1		3	2.6
57.5 42.5	29.91	759.7	48.8	9.3	1	3		2	12	2	1	2		8	2.7
57.5 47.5	29.85	758.2	48.1	8.9	3		1	3	8	6	1	1		8	2.7

REVIEW.

INTERNATIONAL METEOROLOGY.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following description refers to chart ii. for the month of July, 1883, issued with this SUMMARY. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and prevailing wind-direction over the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich, mean time.

For the month of July, 1883, the most marked area of low pressures shown on the chart is that enclosed by the isobar for 29.5 (749.3) which occupies Hindostan from N. 25° to N. 40° and from E. 67° to E. 90°. In southern India the mean pressure varies from 29.55 (750.6) to 29.75 (755.6); in all other parts of Asia it does not exceed 29.7 (754.4), except in Japan, where it ranges from 29.8 (756.9) to 29.88 (758.9).

Another area of barometric minima covers the southern part of the Scandinavian peninsula and extends eastward over the Baltic and the Gulf of Finland to Lake Ladoga; within this region the mean pressure ranges from 29.67 (753.6) to 29.7 (754.4). In other parts of the continent of Europe (from the Ural mountains westward and southwestward) the mean pressure varies from 29.75 (755.6) to 30.08 (764.0), the means being highest in the western part of the Iberian peninsula and in southern and western France; the lowest means were reported from northeastern Russia.

In the North American continent the pressure was least in southern California, Arizona, New Mexico, Nevada, Utah, Colorado, and southern Dakota; in these regions the means ranged from 29.8 (756.9) to 29.89 (759.2). In Manitoba, the Saskatchewan valley, and along the valley of the Saint Lawrence the mean pressure was also below 29.9 (759.4). On the north Pacific coast region the pressure ranged from 30.0 (762.0) to 30.09 (764.3); and over the country east of the hundredth meridian, including the Canadian maritime provinces, it ranged from 29.92 (760.0) to 30.12 (765.0), the means being greatest in Mississippi, Alabama, and Georgia, and along the Atlantic coast.

The area of barometric maxima is shown over the Atlantic ocean and extends from about N. 25°, W. 55°, northeastward to the Azores; within this region the mean pressure averages 30.23 (767.8). Over the Atlantic ocean north of the fortieth parallel the mean pressure ranges from 29.85 (758.2), near N. 60°, to 30.0 (762.0), near N. 45°, and to 30.15 (765.8) between N. 45° and 40° and W. 40° and 20°. In Greenland and Iceland the means were 29.85 (758.2) and 29.88 (758.9), respectively.

Compared with the chart for the preceding month (June, 1883) there has been a slight decrease of pressure in the New England states, north Pacific coast region, and in the Canadian maritime provinces. Elsewhere in the North American continent there has been an increase of pressure, varying from .02 to .08 inch. Over the north Atlantic ocean the area of high pressure has extended northeastward to the Azores, causing a slight increase over those islands. South of N. 40° and west of W. 50° there has been a very slight decrease of pressure. Over the region north of 40° north latitude the pressure was, in general, below that for the preceding month. In Austria, France, and Italy the pressure has remained unchanged, but in all other parts of Europe there has been a decrease of pressure; in the Iberian peninsula the decrease was about .01 inch; in the British Isles, Germany, and Russia it was about .08 inch, and over the Scandinavian peninsula and Denmark it was .2 inch. In Hindostan the mean pressure is slightly above that for June, but in other parts of Asia there has been a slight decrease.

Compared with the corresponding month of previous years the mean atmospheric pressure over the United States was above the normal in the Rocky mountain regions and over the country east of W. 95° and south of N. 40°. In other districts of the United States it was below the normal, the departures in both cases being slight. In Canada it was slightly below the normal. In Europe the mean atmospheric pressure for July, 1883, was normal or slightly below the normal. In British India it was .03 inch below the six years' mean.

The following table gives the mean pressure and mean temperature, with corresponding departures for July, 1883, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the last six years:

Countries.	Mean pressure.			Mean temperature.		
	July mean of 6 (1877–'82) years.	July, 1883.	Departure.	July mean of 6 (1877–'82) years.	July, 1883.	Departure.
				°	°	°
Algeria	30.03	30.03	normal	89.6	83.6	— 6.0
Austria	29.91	29.89	— 0.02	74.4	75.1	+ 0.7
British Isles	29.90	29.84	— 0.06	63.5	62.3	— 1.2
Denmark	29.82	29.75	— 0.07	63.7	66.2	+ 2.5
France	30.02	29.99	— 0.03	73.6	70.1	— 3.5
Germany	29.92	29.88	— 0.04	70.0	69.6	— 0.4
India	29.57	29.54	— 0.03	84.0	84.5	+ 0.5
Italy	29.96	29.94	— 0.02	81.7	79.7	— 2.0
Norway	29.75	29.71	— 0.04	62.8	64.9	+ 2.1
Portugal *	30.05	30.04	— 0.01	80.0	77.4	— 2.6
Russia	29.79	29.80	+ 0.01	74.5	75.5	+ 1.0
Spain *	30.02	30.02	normal	80.1	75.3	— 4.8
Sweden	29.77	29.73	— 0.04	64.3	65.9	+ 1.6

* Means for five years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of July, 1883, as compared with the means for six years:

Stations.	Mean pressure.			Mean temperature.		
	July mean of 6 (1877–'82) years.	July, 1883.	Departure.	July mean of 6 (1877–'82) years.	July, 1883.	Departure.
				°	°	°
Gibraltar	30.02	30.00	— 0.02	78.2	76.7	— 1.5
Malta, Mediterranean Sea	29.97	29.96	— 0.01	83.8	81.5	— 2.3
Sandwick Manse, Orkney Islands	29.77	29.76	— 0.01	56.3	57.3	+ 1.0
Bridgetown, Barbadoes	.....	.....	.....	.....	.....	.....
Cape Town, Cape Good Hope	30.18	.....	.....	62.1	.....	.....
Fort Napier, Natal, South Africa	30.03	30.00	— 0.03	68.1	71.2	+ 3.1
Freetown, Sierra Leone	29.98	29.86	— 0.12	82.4	82.3	— 0.1
Mauritius, Indian Ocean	30.21	30.18	— 0.03	71.6	71.7	+ 0.1
Melbourne, New South Wales	30.15	30.10	— 0.05	47.9	46.8	— 1.1
Nassau, Bahamas	30.05	30.14	+ 0.09	84.4	85.0	+ 0.6
Godthaab, Greenland*	29.78	29.85	+ 0.07	44.4	44.6	+ 0.2
Stykkisholm, Iceland	29.76	29.88	+ 0.12	51.4	52.3	+ 0.9
Thorshavn, Färöe Islands	29.76	29.85	+ 0.09	54.1	53.1	— 1.0
Zi-Ka-Wei, China	29.73	29.71	— 0.02	77.6	79.0	+ 1.4
Athens, Greece	29.88	29.86	— 0.02	88.0	86.2	— 1.8
Cagliari, Sardinia, Italy	29.97	.....	.....	82.3	.....	.....
Tokei, Japan	29.86	29.85	— 0.01	75.2	72.9	— 2.3
Angra, Azores*	30.30	30.21	— 0.09	72.4	70.2	— 2.2
Funchal, Madeira Islands	30.16	30.17	+ 0.01	72.3	73.8	+ 1.5
Ponta Delgado, Azores	30.31	30.24	— 0.07	75.2	72.7	— 2.5
Archangel, Russia	29.74	29.73	— 0.01	65.2	62.6	— 2.6
Tiflis, Russia	29.76	29.75	— 0.01	88.3	90.3	+ 2.0
Astrakhan, Russia	29.79	29.82	+ 0.03	85.2	88.5	+ 3.3
Ekaterinburg, Russia	29.68	29.73	+ 0.05	70.6	68.9	— 1.7
Tashkend, Toorkistan, Asia	29.67	29.56	— 0.11	87.6	91.0	+ 3.4
Barnaul, Siberia, Asia	29.64	29.65	+ 0.01	73.7	68.9	— 4.8
Yeniseisk, Siberia, Asia	29.68	29.78	+ 0.10	69.6	67.8	— 1.8
Pekin, China	29.66	29.64	+ 0.02	80.3	78.3	— 2.0
Nikolaevsk on the Amoor, Asia*	.....	.....	.....	58.6	63.7	+ 5.1
San Juan de Puerto Rico, W. I.	30.04	30.10	+ 0.06	82.4	81.5	— 0.9
Beirut, Turkey in Asia	29.76	29.78	+ 0.02	87.9	85.8	— 2.1
Mexico, Mexico	30.11	.....	.....	55.7	.....	.....
Havana, Cuba, W. I *	30.05	30.10	+ 0.05	81.9	78.5	— 3.4
Paramaribo, D. Guiana, S. A	30.04	30.05	+ 0.01	81.3	78.2	— 3.1
York Factory, B. A	29.85	30.01	+ 0.16	54.6	46.6	— 8.0

* Means for five years only.

In the United States the mean temperature of the air was slightly below the normal in all sections of the country except the Pacific coast, the south Atlantic states, Florida, and the eastern Gulf states. In Canada the temperature was everywhere below the normal. In Europe it was slightly below the normal in the central and southwestern portions, and above the normal in the northern peninsulas and in Russia. In Hindostan the highest mean temperature reported was 97°.5 Fahr.

(36°.4 Cent.) at Lahore, and the lowest was 70°.4 Fahr. (21°.3 Cent.) at Belgaum.

The following are some of the extreme mean temperatures reported from isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Petro-Alexandrovsk, Turkestan, Asia	94.3	34.6	Ooglaamie, Alaska	33.0	0.6
			Behring's Island (N. 55° 10′, E. 166° 30′)	43.5	6.4
Cairo, Egypt	92.7	33.7			
Tashkend, Turkestan, Asia	91.0	32.8	Godthaab, Greenland	44.6	7.0
Tiflis, Russia	90.3	32.4	York Factory, B. A	46.6	8.1
Astrakhan, Russia	88.5	31.4	Edmonton, B. A. (N. 53° 14′, W. 113° 38′.	46.9	8.3

In the United States, east of the Rocky mountains, the winds were mostly from south and southwest; on the Pacific coast they were generally westerly. In Canada they were mostly southerly and southwesterly. Over the north Atlantic ocean the prevailing winds were southerly and southwesterly, over the region north of 25°, north latitude and from W. 40° to the American coast. West of the fortieth meridian they were from northwest to northeast. In Europe the winds were southerly and westerly, veering to northerly in the northern districts

The rainfall during the month of July, 1884, was considerably less than the average in that part of the United States lying east of the Rocky mountains and south of the fortieth parallel; on the Pacific coast, except in the southern district it was also below the average. In New England, the lake region, and the Ohio and Mississippi valleys, it was in excess of the average. In Canada the rainfall exceeded the average. In Europe it was also above the average.

With this REVIEW is issued international chart iii. for the month of January, 1882. This chart continues the series of international charts begun in November, 1877, and exhibits the paths of the principal atmospheric depressions that have appeared in the northern hemisphere. The data are charted for each day of the month on the maps accompanying each issue of the "International Bulletin," and from these charts and additional miscellaneous data are traced the movements of the centres of barometric minima.

The paths of thirty-one depressions have been traced for the month of January, 1882, and are distributed as follows: Eleven are traced in the North American continent; of these depressions, one, number vi., developed in Alaska and moved to Hudson's Bay; two are traced from the Pacific coast eastward to the Atlantic; three approached the United States from British America, and the remaining five originated in the southwestern part of the country and moved northeastward to the Canadian maritime provinces. Nine depressions are traced across the Atlantic; of this number, seven are continuations of storms which first passed over the United and Canada; the general course of these disturbances was to the north-northeastward, passing beyond the sixtieth parallel before reaching W. 30°. Only two of the storms traced on the Atlantic appear to have reached Europe, and these entered the continent at a high latitude (north of N. 60°). The presence of an extensive area of barometric maxima over Europe probably tended to check the eastward movement of these depressions; the high area referred to was, for duration and the amount of atmospheric pressure, almost unprecedented (see SUMMARY AND REVIEW, page 8, September, 1882). Seven depressions are traced in Europe; of this number, two appear in the Mediterranean, while the remaining five have moved in a southeasterly direction over the extreme northern part of the continent. Four slight depressions are charted in or near Japan.

The following descriptions refer to the storms which passed over the United States and Canada:

I.—This was a disturbance of slight energy which appeared in Indian Territory on the 4th, having moved from Texas during the 3d. It moved northeastward, accompanied by rain in the Gulf states and light snow in the Ohio valley, and disappeared in the latter district on the 5th.

II.—This disturbance appeared in the north Pacific coast region on the 4th, the barometer at Olympia, Washington Territory, reading 29.58 (751.3), wind n., light rain. The depression moved to the eastward and on the 5th it was shown in Manitoba; during that day and the 6th it moved eastward over the lake region, attended by cloudy weather, with rain or snow in the districts to the east of the centre, and by the 7th it was central south of Nova Scotia, causing light to heavy snowfalls over the maritime provinces and the Gulf of Saint Lawrence. This disturbance in its passage eastward over the Atlantic is hereafter described as low area xvi.

III.—This depression appeared in Kansas and Missouri on the 7th, the centre being enclosed by the isobar for 29.8 (756.9). It moved northeastward and on the following day it occupied the lake region, where the pressure ranged from 29.65 (753.1) to 29.8 (756.9). During the 7th the disturbance passed over northern Canada, attended by rain and snow, and by the 9th it was central near the mouth of the Saint Lawrence river. It passed eastward over the Gulf, causing strong southwesterly winds in the southern portion, and reached the Atlantic on the 10th. This depression is hereafter described as low area xvii.

IV.—This disturbance appeared in Texas on the morning of the 10th, the pressure in the region of the storm-centre being about 29.95 (760.7). The depression moved northeastward with steadily decreasing pressure and accompanied by rainy weather in nearly all districts between Texas and the lake region. By the morning of the 11th the storm-centre had reached the Lake Ontario region and the pressure had decreased to 29.7 (754.4); the depression moved eastward, attended by strong winds to moderate gales on the coast and rain or snow in Canada, and by the 12th it had passed to the eastward of Nova Scotia. This disturbance is hereafter referred to as low area xix.

V.—This area apparently developed in southern California and Nevada on the 12th, and moved rapidly northeastward to the lake region, where it was central on the 13th. Rain or snow fell in nearly all districts east of the Mississippi river as the disturbance moved eastward. During the 13th the storm-centre passed over Canada, accompanied by moderate to heavy snowfall, steadily decreasing pressure, and with strong northerly winds in its rear; by the 14th it had reached the Gulf of Saint Lawrence, the pressure having now fallen below 29.0 (736.6). This disturbance is hereafter described as low area xxi.

VI.—This disturbance probably originated in Behring Sea prior to the 11th; on that date the barometer, at Fort Saint Michael's, Alaska, read 28.99 (736.3), being a fall of about .7 inch in twenty-four hours, while the wind shifted to s. and blew at the rate of 53 miles an hour, with light snow. On the 12th, the centre of disturbance was near Ooglaamie, Alaska, the barometer at that station reading 28.51 (724.4), wind e., 24 miles, light snow; at Fort Saint Michael's the barometer had risen to 29.10 (739.1), with wind sw., 42 miles an hour. During the 13th, the disturbance probably moved southeastward, as, on the 14th, the barometer at York Factory, Hudson's Bay, read 28.68 (728.5), showing a fall of 1.65 inches during the previous twenty-four hours; on the 13th, the barometer read 30.33 (770.4), and the wind backed to s. and sse. and attained a velocity of 42 miles an hour and during the 14th, it veered to sw., w., and nw., and blew with a velocity ranging from 38 to 50 miles an hour. During the 15th, the disturbance probably passed over Hudson's Bay towards Greenland, where, on the 16th, the barometer, at Godthaab, fell from 29.13 (739.9) to 28.77 (730.7).

VII.—This disturbance appeared in the Saskatchewan valley on the 17th; it moved eastward, north of the United States, and on the 18th it was central over Lake Superior. It passed thence over northern Canada as a very feeble disturbance and apparently filled up on the 19th.

VIII.—This depression was observed in Manitoba on the morning of the 20th, the central pressure being about 29.65 (753.1). The disturbance moved east-southeastward and was central in Michigan on the 21st, during which day light rain or snow fell at stations in the lake region and in Canada. By the 22d the disturbance occupied the northern part of New England and the Canadian maritime provinces, its centre being now enclosed by the isobar for 29.4 (746.7). An area of high pressure, 30.6 (777.2) to 30.8 (782.3), now existed over Manitoba and the United States west of the ninetieth meridian, so that a rather steep barometric gradient was formed to the westward of the centre of depression, causing strong w. and nw. winds over the lakes and on the Atlantic coast. On the 23d the centre of disturbance lay over the Gulf of Saint Lawrence and was moving eastward over Newfoundland. This storm is hereafter described as low area xxv.

IX.—On the 24th the pressure began to decrease on the Alaskan coast, and by the 25th the decrease had extended to the north Pacific coast region, where the barometer, at Olympia, Washington Territory, read 29.36 (745.7), with light snow at that station, and cloudy or rainy weather at stations in Oregon. On the 26th the low area continued to occupy the north Pacific coast region and the rain area extended southward and eastward to California and Montana. On the 27th the depression appeared in Dakota, whence it moved, with decreasing pressure, to the lake region, and on the 28th was central in Michigan; it then passed east-northeastward over Canada, closely followed by an area of high pressure which produced strong nw. winds in the lake region. On the 29th the region of least pressure was near the mouth of the Saint Lawrence river, causing rain or snow in eastern Quebec and in the maritime provinces. The disturbance passed eastward over the Gulf, and is hereafter described as low area xxvii.

X. This disturbance developed in Manitoba on the 25th, when the preceding low area (ix.) was shown near the north Pacific coast. It moved eastward during the day and on the 26th was central in Ontario, while another depression had developed in Iowa; by the morning of the 27th the two depressions had apparently united and formed a low area, the centre of which occupied the Maritime Provinces and New England, and was enclosed by the isobar for 29.2 (741.7). During the 27th the disturbance passed into the Atlantic, followed by moderate to strong w. and nw. winds in Canada; this storm is hereafter referred to as low area xxvi.

XI.—This depression appeared over the western part of the Gulf of Mexico on the 30th, causing cloudy, rainy, weather in Texas and Indian Territory. During the day it moved northeastward, attended during its passage by heavy and general rains over that part of the country lying east of the ninetieth meridian and south of N. 40°. On the 31st the storm-centre was in Tennessee; snow fell during the day in the middle Atlantic states and moderate sw. and s. gales occurred at coast stations from Cape Henry southward.

The following descriptions refer to the depressions that are charted over the north Atlantic ocean and in Europe:

XII.—On the morning of January 1st, this depression, which originated in Texas at the close of December, 1881, was central off the coast of North Carolina. As the disturbance moved northeastward along the Atlantic coast, very heavy e. and ne. gales were experienced by vessels near the middle Atlantic and New England coasts and numerous disasters were reported; after the centre passed Cape Hatteras the winds at stations south of that latitude shifted to nw. and blew with a velocity of from 30 to 50 miles an hour. On the morning of the 2d, the storm centre was near Nova Scotia, the pressure having decreased to 29.2 (741.7); strong s. and sw. gales were reported by vessels between N. 40° and 43°, and snow storms occurred over the Maritime Provinces. Moving northeastward over Nova Scotia, the Gulf of Saint Lawrence, and Newfoundland, the region of least pressure was shown on the 3d near N. 52°, W. 52°; moderate to strong w. and nw. gales prevailed over the Maritime Provinces and between N. 40° and 50°, while, to the eastward of W. 50° the winds were southwesterly, blowing with the force of a moderate gale. On the morning of the 4th, the pressure was least in southern Greenland, the barometer, at Godthaab, reading 28.99 (736.3), wind ne. By the morning of the 5th, the barometer at Godthaab had risen to 29.15 (740.4), wind nnw., force 5, snowing, while at Stykkisholm, Iceland, it had fallen to 28.82 (731.9), wind e. force 8, snowing, and at Thorshavn, Färöe Islands, it read 28.65 (727.7), wind ne., 13 miles an hour; on this date strong w. breezes to moderate gales prevailed over the Atlantic ocean from the Banks eastward to the European coasts. By the morning of the 6th, the depression had moved slowly south of east and was central off the northern coast of Scotland, the pressure having decreased to 28.18 (715.8), at Sandwick Manse, Orkney Islands; steep gradients were now formed over the British Isles, and heavy w. and sw. gales and rainy weather prevailed in nearly all sections. On the morning of the 7th, the storm-centre was near Upsala, Sweden, barometer 28.76 (730.4), wind w., while the isobar for 29.0 (736.6), enclosed the greater part of the Scandinavian peninsula, and extended from Iceland eastward to Lake Ladoga; moderate to strong w. gales and rainy weather prevailed over the Baltic, while clearing weather with moderating winds set in over the British Isles. On the 8th, the storm-centre was over Lake Ladoga, the barometer at Saint Petersburg reading 29.36 (745.7), wind wnw., light snow. During the day the disturbance passed eastward to the Ural region and finally disappeared in Siberia.

XIII.—This was probably a continuation of the disturbance traced as low area xxvii. on the chart for December, 1881. At the close of that month the depression was central between Iceland and northern Scotland, the pressure at the centre being below 29.0 (736.6). The chart for January 1st, showed the storm-centre to be to the northeast of the Färöe Islands, where the pressure was 29.09 (738.9), wind wnw.; moderate s. to w. winds and rainy weather prevailed over the British Isles during the day. On the 2d the centre of disturbance was off the Norwegian coast, the lowest barometer being 28.82 (732.0) at Bergen, wind s., raining; over the whole of Norway, the extreme northern part of Scotland and westward to Iceland, the pressure was below 29.0 (736.6), and strong winds to moderate gales and rainy weather prevailed over the British Isles and northwestern Europe. On the 3d the storm-centre was off the northern coast of Norway, where the barometer read 28.61 (726.7) to 28.64 (727.4); on the 4th it was in Finmark, after which it disappeared in the Arctic.

XIV.—This was a slight depression which appeared over the Mediterranean on the 4th, with its centre probably near the Balearic Isles. It moved eastward with increasing pressure and filled up in the Adriatic on the 5th.

XV.—This depression appeared in the southern portion of the Italian peninsula on the 8th, the centre of disturbance, where the pressure was 29.85 (758.2), being in Sicily. On the 9th it was in Greece, whence it moved southeastward and disappeared in Asia Minor.

XVI.—This is a continuation of the depression which crossed the United States prior to the 7th, and which is above described as low area ii. On the 8th the storm-centre, where the pressure was below 29.4 (746.7), was near N. 46°, W. 53°; light winds occurred in the immediate vicinity of the centre, but moderate to strong nw. gales were reported by vessels to the westward, and moderate s. gales to the eastward. On the 9th the centre of disturbance was near N. 48°, W. 40°; on the 10th it was indicated near the thirtieth meridian, but after that date it could not be traced as a separate depression and probably became merged in low area xvii., which was advancing eastward at a somewhat higher latitude.

XVII.—This was a continuation of the depression traced over the United States as low area iii. It passed over the Gulf of Saint Lawrence during the 9th, and on the 10th it was central in Newfoundland; moving east-northeastward the storm-centre reached N. 53°, W. 42° on the 11th; the barometric gradient over the Atlantic being of moderate inclination, the

winds on that date did not exceed the force of a moderate gale. During the 11th the course of the depression appears to have changed to the southeast, the region of least pressure being shown on the 12th, near N. 49°, W. 32°; the barometric gradient had now become steep over the region to the eastward of the storm-centre, where the pressure was below 29.0 (736.6), so that strong s. gales prevailed to the eastward of the thirtieth meridian. On the 13th the centre of this disturbance was near N. 48°, W. 30°, while another storm-centre of great intensity was moving eastward near the forty-fifth parallel, and at the same time another was near Iceland. Under the combined influence of those three depressions, a trough of extremely low pressures extended over the Atlantic from Iceland southward to the thirtieth parallel, and a period of very stormy weather was experienced by all vessels within these limits. During the 13th, low area xvii. lost its identity and apparently merged in the major depression.

XVIII.—After the passage of low area xii. to the eastward over northern Scotland and the Scandinavian peninsula, the barometer rose slowly until the 10th, on which date a decrease set in and the barometer at Thorshavn, Färöe Islands, fell to 28.60 (726.4), wind sw., 34 miles, raining. Rainy weather and moderate to strong s. to sw. winds prevailed over the British Isles and snow fell in the Scandinavian peninsula. By the 11th the centre of disturbance, having moved east-southeastward over Scandinavia, was shown in the Gulf of Finland; the barometers at Dorpat and at Saint Petersburg read 28.96 (735.6) and 28.95 (735.4), respectively, with wind sw. at the former, and s. at the latter station. Strong w. winds and rainy weather prevailed at stations on the southern shores of the Baltic. The disturbance continued its southeasterly movement and on the 12th its centre was near Moscow, where the barometer read 29.08 (738.5), wind sw., light; it subsequently moved eastward, with increasing pressure, and disappeared in the Ural region on the 13th.

XIX.—This is a continuation of low area iv., described above. During the 11th the disturbance passed off the New England coast, and on the 12th it was central as a slight disturbance to the southward of Nova Scotia, but appears to have rapidly increased in energy during the day. On the 13th the centre of depression was enclosed by the isobar for 28.8 (731.5), and the isobar for 29.0 (736.6) extended from N. 38°, W. 45°, northeastward to N. 48°, W. 30°. The following reports indicate the severity of the weather: 12th, off Hatteras, the brig "Metz" had a hurricane from wsw. to nw., lasting forty-eight hours, during which she lost and split several sails. On the 13th the s. s. "Thornholme," in N. 41°, W. 56°, had a hurricane beginning at se. and going around the compass; vessel had boats, rail, and chart-house stove, and everything movable swept from her deck; the s. s. "City of Montreal," in N. 43° 06′, W. 56° 01′, had a strong nnw. gale, with heavy snow squalls and high beam sea. Captain Anderson, of the ship "Festina Lente," reported as follows: "12th, weather fine and pleasant, barometer began to fall soon after mid-day, and by 6 p. m. it had fallen .15 inch; after that time it fell about .1 inch per hour until 7 a. m. of the 13th (near N. 41° 14′, W. 40° 12′,) when it stopped at 28.33 (719.6). After 6 p. m. of the 12th, clouds began to gather in the south, and, the glass going down so fast, the vessel was put under storm-sails; at 9 a. m. the wind increased to a gale from s., and, hauling to the sw., blew furiously, accompanied by heavy rain, lightning, and a few peals of thunder; the lightning continued without intermission from 8 p. m., 12th, to 8 a. m., 13th. At 7 a. m. of the 13th it fell calm, but soon afterwards a furious gale from nw. began and continued for about twelve hours, after which it moderated, the barometer rising." Captain Hesse, commanding the s. s. "Mosel," reported as follows: "13th, at 3.15 p. m. (Greenwich mean time), in N. 47° 23′, W. 36° 56′, wind n. by e., still increasing and sea running to a fearful height; laid the ship head to sea; thick with rain and spray, unable to see above one-quarter mile. At 7.15 p. m., barometer 28.45 (722.6), full hurricane from n. until 9 p. m.; at that hour barometer read 28.53 (724.6), sky beginning to clear, wind blowing without abatement from same direction until 10 p. m., barometer then rising and wind drawing to nnw. and nw. and moderating." The s. s. "Persian Monarch," in N. 51° 35′, W. 30° 46′, had a fierce s. to w. gale, with very heavy squalls and high sea. During the 13th and 14th the disturbance, while moving northward, appears to have been slowly forced to the westward, and during these dates very stormy weather prevailed over the whole of the Atlantic north of the fortieth parallel. On the 14th low area xix. was central near W. 30°; low area xx. was near Iceland, and low area xxi. had appeared over the maritime provinces; at the centre of each of these disturbances the pressure was below 29.0 (736.6). On the 14th the s. s. "Illyrian," in N. 43°, W. 24°, encountered a terrific storm and had two men washed overboard, boat stove and vessel listed; the s. s. "Wm. Burkitt," in N. 57° 25′, W. 16° 52′, had a severe wsw. hurricane, backing to se., in which she stove three boats and had decks swept. By the 15th this disturbance had apparently become merged in low area xxi.

XX.—This depression appeared between Greenland and Iceland on the 13th, the pressure at Stykkisholm, on that date, having decreased to 28.71 (728.2), wind s., force 8, raining. On the morning of the 14th, this storm-centre was near the coast of Iceland, the pressure remaining unchanged, and by the 15th the disturbance had passed beyond the range of observation.

XXI.—This was a continuation of the depression which passed over the United States as low area v. above referred to. On the morning of the 14th the storm-centre was in Cape Breton Island, the lowest reported pressure being 28.86 (723.0); it moved northeastward and caused a furious south gale at Saint John's, Newfoundland; very heavy weather also prevailed at sea, as indicated by the following reports: s. s. "Merlin," twelve miles from Saint John's, Newfoundland, had a furious gale, sails blown away and decks swept. In N. 37° 12′, W. 64° 57′, the bark "Camiola" had a heavy gale in which she lost maintopsail and sustained other damage. The s. s. "Edam," in N. 43° 35′, W. 58° 47′ lost propeller in a heavy w. gale, and the steamers "Britannic," "City of Montreal," "Helvetia," "Parthia," and "Gellert," between N. 45°, W. 45° and N. 41°, W. 63° had strong southwest to west gales with very heavy sea, and snow and hail squalls. On the 15th, the region of least pressure was near N. 50°, W. 40°; the s. s. "Main," in N. 49° 24′, W. 36° 26′, reported barometer 28.78 (731.0), wind s., force 10, rain and hail. Furious south and southwest gales were reported by all vessels between W. 40° and 20° and equally strong west and northwest gales prevailed to the westward of the fortieth meridian. The area of high pressures, which had occupied central Europe since the first decade of the month, now began to push westward, while the pressure at the centre of the area increased to 31.0 (787.4). On the 16th the the isobar for 30.0 (762.0), extended from the Banks of Newfoundland northeastward to northern Scandinavia, and the area of low pressure was transferred to Greenland, where the barometer read 28.77 (730.7), and remained relatively low in that region for several days.

XXII.—This depression appeared in northern Scandinavia on the 17th; it moved southeastward and on the 18th it was central near Archangel, where the barometer read 28.95 (735.3), wind nw.; stong nw. winds prevailed over the Scandinavian peninsula and the Gulf of Bothnia. By the 19th the depression was in the Ural region, the barometer at Ekaterinburg reading 29.0 (736.5). During the day the disturbance passed into Siberia.

XXIII.—This depression appeared in Finmark on the 21st, the pressure at the centre being below 28.9 (734.0); snow fell at stations in Norway, but the wind did not exceed thirty-five miles an hour. On the 22d the disturbance occupied the White Sea region and was moving eastward beyond the limits of observation.

XXIV.—On the 22d a depression appeared off the northern coast of Norway, and was attended by strong breezes and rain

or snow at stations along the coast, and in the extreme northern part of Scotland. On the 23d the area of low pressure, 29.0 (736.6), was in Finmark; the course then changed to the southeastward and on the 24th the centre occupied the White Sea; during this date moderate nw. and w. gales prevailed over the Gulf of Bothnia and the Baltic. The disturbance continued its southeasterly movement and occupied the province of East Russia during the 25th and 26th, disappearing to the southeastward on the last-mentioned date.

XXV.—This disturbance is a continuation of that traced over the United States and Canada as low area viii. On the 23d the centre of depression was over the Gulf of Saint Lawrence, whence it moved across Newfoundland and reached the Atlantic on the 24th. On the 25th the depression was shown near N. 52°, W. 35°, the pressure ranging from 29.45 (748.0) to 29.6 (751.8); moderate to strong s. gales prevailed to the eastward of W. 35°, with moderate nw. gales to the westward of that meridian. Moving north-northeastward during the day the storm-centre reached the vicinity of Iceland on the 26th; the storm-centre reached the vicinity of Iceland on the 26th; at Stykkisholm the barometer read 28.88 (733.5). Strong sw. winds with light rains prevailed at western stations in the British Isles; and on the Norwegian coast the wind attained the force of a moderate gale, with rainy weather; over the Atlantic ocean from N. 60° to N. 45°, and west of W. 25°, moderate to strong w. and nw. gales were reported. On the 27th the disturbance was central northeast of Iceland, and by the 28th it appeared off the extreme northern coast of Scandinavia; at Lodingen the barometer read 28.95 (735.2), wind sw., force 8, rain and snow; and at Gjæsvær, Finmark, it read 28.88 (733.5), wind ssw., force 4. On the 29th the centre was over the White Sea; it moved thence southeastward and at the close of the month it was near Ekaterinburg, where the barometer read 29.4 (746.7).

XXVI.—This is a continuation of low area x. above-described. During the 27th, the disturbance passed off the coast of Nova Scotia and moved northeastward over the Atlantic, causing furious gales and some damage to shipping during its passage. On the 28th, the storm-centre was near N. 48°, W. 48°; the s. s. "Maas," in N. 47° 23′, W. 44° 00′, reported barometer 28.59 (726.2), wind wsw., force 1, rain and hail and very high sea; s. s. "Ohio," in N. 46° 32′, W. 48° 50′, barometer 28.69 (728.7), wind w., force 9, snowing; s. s. "Saint Laurent," in N. 46° 18′, W. 49° 57′, barometer 28.82 (732.0), wind nw., force 9, snow and hail; s. s. "Rhynland," in N. 47° 14′, W. 42° 00′, barometer 28.95 (735.4), wind sw., force 6, threatening. All vessels to the westward of W. 50° reported northwest winds of hurricane force, those to the east of the storm-centre had stormy weather but the wind did not exceed force 8. On the 29th the depression was central near N. 50°, W. 38°, the s. s. "Republic," in N. 49° 34′, W. 37° 56′, reporting barometer 28.92 (734.6), wind s., force 6; between W. 45° and 55°, the nw. winds decreased somewhat in force, although they still blew with the force of a whole gale, and over the region west of W. 55° they changed to s. in advance of low area xxvii. During the 30th and 31st the disturbance moved north-northwestward, the heavy nw. and sw. gales still continuing over the ocean between N. 40° and 50°, and W. 40° and 60°. During the 29th, 30th, and 31st, an area of high pressures, 30.4 (772.1) to 30.8 (782.3), occupied the northern part of the British Isles and Scandinavian peninsula.

XXVII.—This is continuation of low area ix., which passed over the North American continent from the Pacific coast and reached the Gulf of Saint Lawrence on the 29th. After reaching the ocean the depression appears to have increased in energy, causing strong gales off the New England and Nova Scotian coasts; on the 30th it was central near N. 47°, W. 47°, in which region the pressure was about 29.05 (737.9). During the day this, like the preceding depression, appears to have moved toward Greenland, where, at the close of the month, the barometer read 28.68 (728.5), and very heavy w. gales prevailed over the ocean between N. 40° and 50°. The following are brief descriptions of depressions traced in Japan:

XXVIII.—This depression appeared near the eastern coast of Niphon on the 8th, the pressure at coast stations ranging from 29.55 (750.6) to 29.8 (756.9), with cloudy, rainy weather. During the day the depression disappeared and the pressure over Niphon increased to 30.15 (765.8), with clear weather.

XXIX.—This disturbance appeared over the island of Yesso on the 13th, and by the 14th the pressure had decreased to 29.6 (751.8) over that island. By the following day the pressure exceeded 30.0 (762.0).

XXX.—This disturbance appeared off the coast of Niphon on the 20th, the pressure at the centre of disturbance being below 29.6 (751.8). The depression apparently passed northeastward and disappeared in the Pacific on the 21st.

XXXI.—This was a disturbance which appeared in southern Japan on the 25th, when the pressure decreased to 29.97 (761.2) and light rain prevailed. The depression moved northeastward over Niphon and on the 26th the lowest barometric readings were reported in Yesso, 29.5 (749.3) to 29.6 (751.8). At Hakodate and at Aomori the wind reached a velocity of sw. 33 and wsw. 32 miles an hour, respectively. By the 27th the disturbance had passed into the Pacific and beyond the range of observations. On the 27th the s. s. "Gaelic," in N. 42° 28′, E. 156° 4′, reported barometer 28.67? (728.2?), wind wsw., force 7.

GENERAL REMARKS.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevation of stations is obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least, this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the alphabet of the letter so used.

On February 1, 1883, the following change was made in publishing marine data in the "Daily International Bulletin":

All marine reports are classified as to districts, which are designated as follows: District No. 1, North Atlantic; District No. 2, South Atlantic, &c., under which headings the respective reports are printed.

BOUNDARIES OF DISTRICTS.

District No. 1 comprises the Atlantic ocean, its arms and tributaries, from the equator northward to the pole, and in the arctic from 100° E., westward to 100° W., of Greenwich.

District No. 2 comprises the Atlantic ocean, its arms and tributaries, from the equator southward to the pole, and in the antarctic from 20° E., westward to 70° W., of Greenwich.

District No. 3 comprises the Pacific ocean, its arms and tributaries, from the equator northward to the pole, and in the arctic from 100° W., westward to 100° E., of Greenwich.

District No. 4 comprises the Pacific ocean, its arms and tributaries, from the equator southward to the pole, and in the antarctic from 70° W., westward to 145° E., of Greenwich.

District No. 5 comprises the Indian ocean, its arms and tributaries, from the Asiatic continent southward to the pole, and in the antarctic from 20° E., eastward to 145° E., of Greenwich.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

Arrows show direction of, and fly with, the wind. Force is shown as follows:

SYMBOLS.	FORCE.	VELOCITY.	
		MILES PER HOUR.	METRES PER SECOND.
○	0	0	0
	1, 2	0 to 9	0 to 4
	3, 4	9.1 to 22.5	4.1 to 10.1
	5, 6	22.6 to 40.5	10.1 to 18.1
	7, 8	40.6 to 67.5	18.1 to 30.2
	9, 10	67.6 up.	30.2 and over.

The following remarks relate to the individual peculiarities in the *methods* of recording, and the *times* of taking, the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of General Maritz, Commandant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. Adelaide, furnished by co-operation of Charles Todd, C. M. G., F. R. A. S. The observations are taken at 9 p. m., local time.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemberg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind-direction is given to 32 points and weather by the Beaufort notation. At Bradford, no observations are taken on Sunday, except the rainfall, and in the monthly summary the letter designating a certain number of days missing applies to all the data except rainfall.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army. At St. John's, N. F., the barometer appears read about .10 inch too high.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Saint Francis Lighthouse, the original gives barometer reduced to freezing, but not to sea-level. The kind of clouds is given, but no distinction is made between upper and lower. Weather in general terms.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteoroiogical Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation. At Tchang-Kia-Tchouang the original gives barometer in millimetres reduced to sea-level, temperature in Centigrade, clouds on scale of 0–10, no distinction between upper and lower.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted. At Jacobshavn and Upernavik the observations are taken at 8 a. m. instead of 8.44.

EGYPTIAN SERIES (Furnished by the co-operation of Albert Ismalun, Director of the Laboratoire Khédivial du Caire).—Original gives barometer reduced to zero, but not to sea-level, temperature in Centigrade. The velocity is the mean for past 24 hours. Rainfall in millimetres.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Mont Louis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only, and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10. When snow has fallen at Stelvio and Valdobbia, it is not certain whether the amount given refers to melted or unmelted.

JAPANESE SERIES (furnished by co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (by authority of the Secretary of Public Works—furnished by co-operation of Señor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico, and respective observers).—All conversions are published as given in the originals, but when an evident mistake has been made the data is queried at this office. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys-Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Astrakhan, Ashurada and Baku, the barometer-cistern is below sea-level. At Kasalinsk, the barometer appears to have a large error.

SCOTTISH SERIES (furnished by co-operation of Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society at Edinburg, and respective observers).—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rainfall, temperature, and humidity are not given at North Unst. The wind-direction is given to 32 points.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Professor E. Plantamour, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of F. Nimr, B. A., Director of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms. At Samakov, the barometer is reduced to freezing, but not to sea-level; temperature in Fahrenheit. The kind of clouds is given, also the distinction between upper and lower.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Puerto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind-direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind-direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luis at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a slace of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES (furnished by co-operation of E. Malmberg, Director of the Nautical Meteorological Bureau at Stockholm).—The originals give the barometer as read off. The movement of the air is indicated by force on a scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on a scale of 0 to 9 and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operations of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

ERRATA.

DAILY BULLETIN, July 3, 1883, page 1, Australian, Melbourne, temperature 17°.2 Cent., should read 7°.2.

9th, page 8, District No. 2—South Atlantic, should read District No. 4—South Pacific; same correction on 10th and 11th.

10th, page 4, United States, Cape Henry, actual barometer 76.17 mm., should read 761.7; Helena, Montana, velocity 5 miles, 2.2 metres, should read 2 miles, 0.9 metres.

17th, page 5, Omaha, Nebraska, reduced barometer 765.5 mm., should read 763.3.

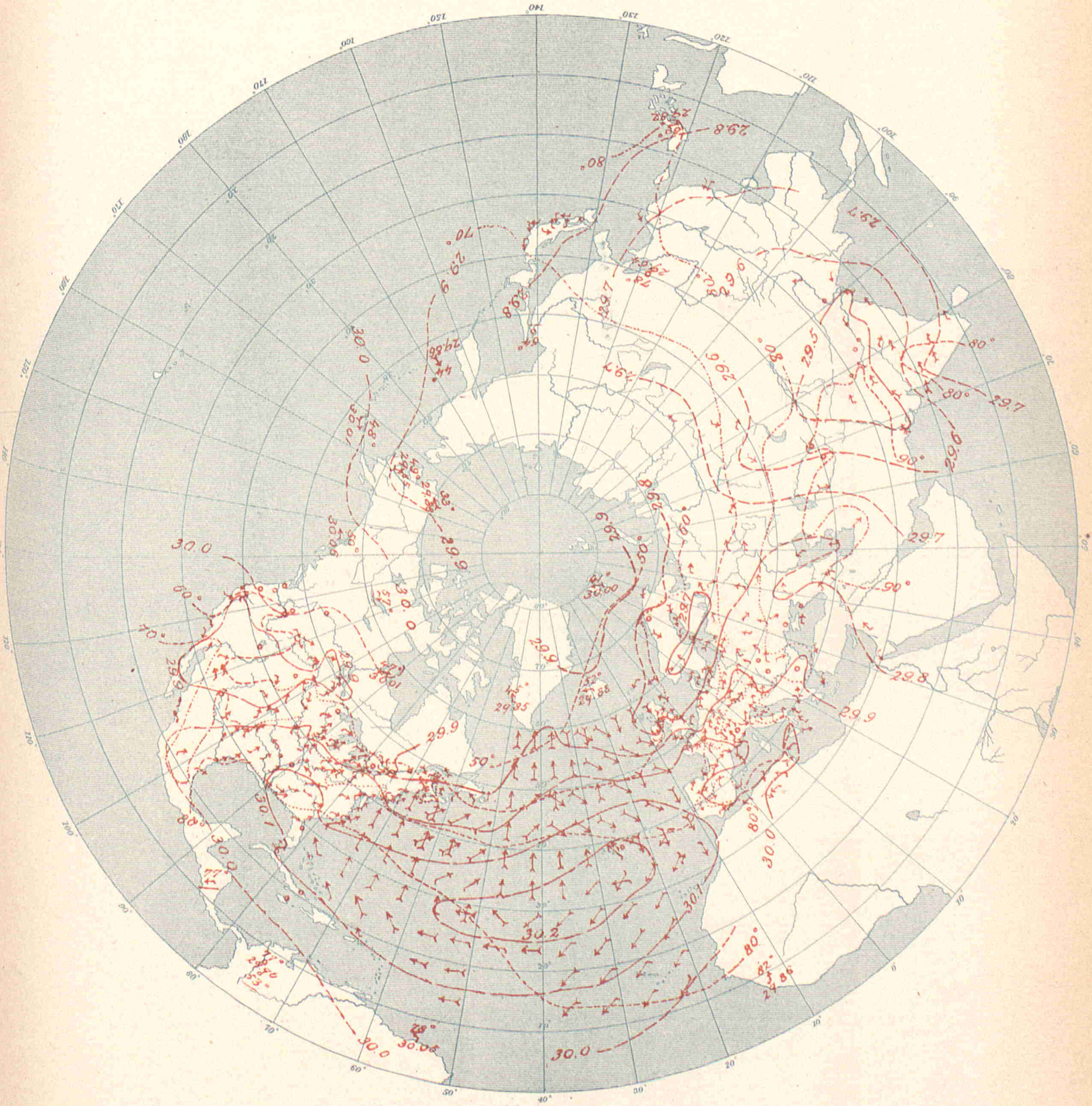
18th, page 1, Algerian, Algiers, barometer 766.9 mm., should read 766.4.

MONTHLY SUMMARY for June, 1883, Portuguese, San Salvador, local time should be 1.07 p. m. instead of 12.33 p. m.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. July, 1883. Isobars, Isotherms, and Winds.

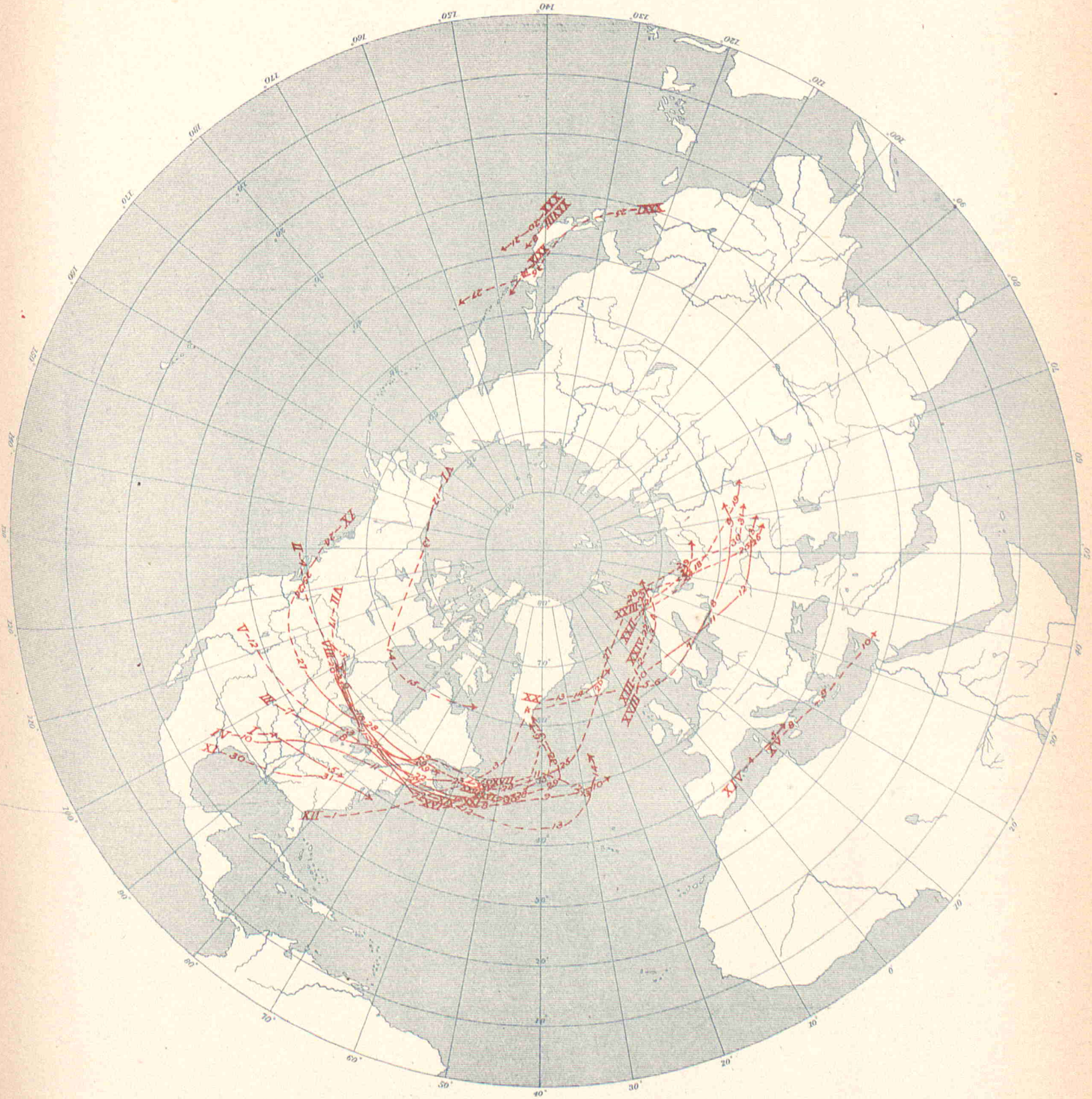


UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W. B. Hazen, Chief Signal Officer.

Signal Office Lith.

International Chart III. January, 1882. Storm-Tracks.



UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W. B. Hazen, Chief Signal Officer.
Signal Office Lith.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF AUGUST, 1883.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
SEPTEMBER, 1884.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

AUGUST, 1883.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for August, 1883. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.02	762.5	81.0	27.2	72.9	5	.....	1	.....	4	6	15	.....	.....	.....	.....	0	inap.	inap.
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	30.06	763.5	80.4	26.9	62.5	12	2	1	.....	.....	.....	.....	14	2	.....	.....	1	inap	inap.
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.04	762.9	80.8	27.1	67.6	7	8	.....	.....	.....	1	.....	15	.....	.....	.....	2	0.35	9.0
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.06	763.4	84.9	29.4	40.3	7	3	.....	.....	.....	1	13	7	.....	.....	.....	2	0.20	5.1
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.05	763.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	87.3	30.7	17.0	10	4	.....	3	.....	8	1	4	1	.....	.....	2	0.31	8.0
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2549	777	.....	.....	30.02	762.4	90.7	32.6	27.0	2	5	.....	5	2	4	9	4	.....	.....	.....	2	0.28	7.2
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.02	762.5	94.5	34.7	31.9	.....	.....	7	7	1	11	4	1	.....	.....	.....	1	0.16	4.2
AUSTRALIAN.																										
Adelaide	S. 34 57	E. 138 30	9.22 p.m.	140	42	.....	.....	30.13	765.3	49.2	9.6	80.3	8	4	4	3	2	.....	.....	3	7	.....	.....	4	3.05	77.5
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.92	759.8	30.01	762.1	49.6	9.8	79	9	9	3	2	1	2	3	2	.....	.....	.....	6	0.86	21.8
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.48	748.7	30.00	762.1	74.7	23.7	53.1	.....	.....	.....	7	2	3	4	15	.....	.....	.....	4	1.69	43.0
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.23	742.4	29.97	761.3	68.7	20.4	68.8	1	4	11	8	.....	2	3	2	.....	.....	.....	6	2.46	62.5
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.12	739.7	29.96	760.9	64.6	18.1	71.1	11	2	.....	.....	5	2	.....	.....	11	.....	.....	5	3.11	79.1
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.80	731.6	30.01	762.3	70.7	21.5	70.8	3	5	.....	9	7	3	1	3	.....	.....	.....	4	3.15	80.0
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.50	725.4	29.93	760.3	75.9	24.4	53	1	8	9	.....	.....	6	7	.....	.....	.....	.....	4	1.87	47.4
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.73	729.7	30.02	762.6	68.5	20.3	66.0	1	2	10	6	.....	.....	3	4	5	.....	.....	5	3.88	98.6
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	29.00	736.5	29.95	760.7	69.6	20.9	63.1	.....	3	8	5	1	7	2	5	.....	.....	.....	6	2.07	52.6
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.89	759.1	29.99	761.8	79.7	26.5	57.1	.....	4	7	2	4	4	6	4	.....	.....	.....	3	0.99	25.1
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.48	748.8	30.01	762.3	71.4	21.9	51	.....	8	9	7	2	1	4	.....	.....	.....	.....	4	1.43	36.3
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	250	78	29.69	754.2	29.97	761.1	75.0	23.9	55.8*a*	2	1	5	2	2	.....	.....	.....	19	.....	.....	4	1.38	35.0
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.94	760.5	30.04	763.0	78.8	26.0	49.7	2	2	7	6	.....	.....	1	12	1	.....	.....	4	0.38	9.7
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.34	745.3	30.04	762.9	71.8	22.1	54.4	7	6	6	6	.....	.....	4	2	.....	.....	.....	4	2.01	51.1
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.73	755.1	29.83	757.7	58.9	14.9	71.7	1	5	4	4	8	6	2	1	.....	.....	.....	7	3.63	92.2
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.71	754.6	29.93	760.2	60.8	16.0	74.2	.....	2	5	16	7	1	.....	.....	.....	.....	.....	7	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.96	761.0	62.4	16.9	73.4	.....	3	15	7	2	2	1	1	.....	.....	.....	7	.....	.....
Bolton *p*	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.28	743.7	29.80	756.9	59.7	15.4	76.5	.....	2	4	6	3	.....	.....	.....	.....	.....	.....	8	.....	.....
Bradford *d*	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.52	749.8	29.91	759.7	62.8	17.1	69.6	1	6	8	9	2	1	.....	.....	.....	.....	.....	6	2.09	53.1
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.98	761.5	30.01	762.2	83.8	28.8	77.5	.....	.....	.....	.....	.....	7	1	23	.....	.....	.....	4	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	29.91	759.7	30.02	762.5	68.6	20.3	64.5	2	9	10	7	1	2	.....	.....	.....	.....	.....	6	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	160	49	29.85	758.2	30.02	762.5	67.8	19.9	64.5	1	4	6	10	1	.....	3	2	4	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.85	758.2	30.08	764.0	63.0	17.2	74.2	.....	4	6	8	2	10	1	.....	.....	.....	.....	6	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2205	672	27.71	703.8	29.93	760.2	63.1	17.3	47.5	2	5	6	1	.....	3	8	6	.....	.....	.....	6	.....	.....
Freetown	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.65	753.1	29.88	758.9	84.8	29.3	88.4	6	1	5	4	7	1	5	2	.....	.....	.....	4	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.89	759.2	29.92	760.0	60.4	15.8	84.2	1	2	5	18	.....	3	.....	2	.....	.....	.....	6	3.91	99.3
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.01	762.2	30.06	763.5	79.2	26.2	88.5	.....	1	2	.....	.....	1	25	2	.....	.....	.....	4	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.66	753.4	29.86	758.4	60.0	15.6	71.2	.....	.....	11	15	4	.....	.....	1	.....	.....	.....	7	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.85	758.2	30.01	762.2	68.8	20.4	64.6	1	5	5	11	6	1	1	1	.....	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.80	756.9	30.09	764.3	64.7	18.2	73.6	1	6	11	6	4	1	.....	2	.....	.....	.....	6	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.99	761.7	30.03	762.7	67.2	19.6	57.8	3	1	12	8	3	1	1	2	.....	.....	.....	6	.....	.....
Leicester *p*	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.04	752.8	29.89	759.2	63.7	17.6	66.6	.....	2	5	8	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.91	759.7	29.98	761.5	79.6	26.4	68.2	2	12	.....	2	.....	4	1	10	.....	.....	.....	2	0.08	2.0
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.02	762.5	30.07	763.8	84.6	29.2	73.0	.....	1	1	5	3	12	5	4	.....	.....	.....	5	.....	.....
Oscott *k*	N. 52 28	W. 1 55	0.00 m.	483	147	29.48	748.8	29.99	761.7	64.5	18.1	80.0	...*m*	2	6	5	5	.....	.....	.....	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.80	756.9	30.03	762.7	65.5	18.6	67.7	2	3	12	6	5	1	.....	2	.....	.....	.....	6	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.99	761.7	30.00	763.5	64.9	18.3	77.5	.....	3	3	15	6	1	1	.....	2	.....	.....	7	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.67	753.6	29.77	756.1	55.6	13.1	83.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	.....	.....
Scutari Cemet'y *a*	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.80	756.9	29.86	758.4	85.4	29.7	44.4	7	.....	.....	1	1	.....	1	20	.....	.....	.....	3	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	200	79	29.69	754.1	29.96	761.0	66.6	19.2	66.4	.....	3	3	15	7	1	.....	1	1	.....	.....	6	1.39	35.3
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.88	758.9	29.91	759.7	62.3	16.8	76.8	.....	4	11	13	1	.....	.....	.....	2	.....	.....	7	4.10	104.1
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.97	761.2	60.5	15.8	72.8*a*	.....	1	17	8	4	.....	.....	1	.....	.....	.....	9	.....	.....
Stratfield	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	68.7	20.4	61.5	1	5	5	15	.....	2	.....	3	.....	.....	.....	6	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	30.04	763.0	30.14	765.5	68.3	20.2	68.9	.....	10	6	9	4	.....	2	.....	.....	.....	.....	7	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.99	761.7	30.01	762.2	60.8	16.0	83.7	.....	3	7	14	3	4	.....	.....	.....	.....	.....	8	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.63	752.6	30.03	762.7	79.5	26.4	60	10	6	6	2	2	5	.....	.....	.....	.....	.....	2	0.25	6.3
CANADIAN.																										
Bathurst *b*	N. 47 39	W. 65 43	7.45 a.m.	35	11	.....	.....	.....	.....	60.3	15.7	89.9	.....	2	4	5	2	.....	.....	.....	16	.....	.....	5	3.10	78.7
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.89	759.2	29.93	760.2	62.8	17.1	83.3	1	1	8	10	3	1	6	.....	1	5579	8978	6	3.04	77.2
Chatham*	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.88	758.9	29.94	760.5	58.6	14.8	86.0	.....	4	7	15	1	.....	2	1	1	2910	4683	4	2.05	52.1
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.77	756.1	29.90	761.0	58.5	14.7	89.0	3	2	15	5	.....	2	3	1	.....	.....	.....	5	2.63	66.8
Dalhousie *b*	N. 48 04	W. 66 21	7.32 a.m.	45	14	29.83	757.7	29.88	758.9	59.2	15.1	.....	1	2	21	.....	.....	.....	2	.....	3	.....	.....	3	1.14	29.0
Edmonton	N. 53 14	W. 113 38	4.33 a.m.	2380?	725?	27.70	703.6	.....	.....	49.1	9.5	62.2	.....	1	7	2	2	5	.....	1	13	3781	6086	2	0.17	4.3
Father Point*	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.87	758.7	29.89	759.2	54.5	12.5	86.3*a*	1	5	15	2	.....	.....	1	.....	7	.....	.....	5	1.14	29.0
Fort Garry*	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.17	740.9	29.97	761.2	52.8	11.6	93.1	7	5	1	3	8	1	2	3	1	7418	11938	5	2.66	67.6
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	29.92	760.0	29.99	761.7	59.9	15.5	78.5	.....	17	4	3	.....	4	1	1	1	.....	.....	2	2.78	70.6
Grand Manan	N. 44 46	W. 66 45	7.41 a.m.	49	15	29.92	760.0	29.98	761.5	60.8	16.0	78.7	8*b*	.....	10	2	2	1	.....	.....	6	7855	12641	4	0.33	8.4
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	28.98	736.1	30.08	764.0	55.3	12.9	94.1	2	3	1	2	1	1	1	2	18	.....	.....	3	1.72	43.7
Halifax*	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.86	758.4	29.99	761.7	61.3	16.3	89.6	3	4	4	7	2	2	1	2	6	.....	.....	5	5.35	135.9
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	350	107	29.63	752.6	30.01	762.2	61.3	16.3	86.7	.....	1	1	19	.....	.....	.....	10	.....	.....	.....	3	1.60	40.6
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.70	754.4	30.02	762.5	61.4	16.3	81.0	6	3	4	8	4	1	1	4	.....	4544	7313	6	1.97	50.0
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.93	760.2	29.97	761.2	65.5	18.6	78.3	.....	.....	2	21	7	1	.....	.....	.....	.....	.....	6	1.74	44.2
London	N. 43 00	W. 81 15	6.43 a.m.	832	254	29.19	741.4	30.08	764.0	56.0	13.7	90.1	2	2	.....	3	1	.....	1	1	21	.....	.....	3	0.04	16.3
Medicine Hat *i*	N. 50 01	W. 110 37	4.46 a.m.	2136	651	27.05	702.3	29.90	759.4	52.8	11.6	76.4	.....	2	2	4	3	3	1	1	6	4524	7280	2	0.50	12.7
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.79	756.7	29.98	761.5	62.6	17.0	77.5	2	2	6	13	4	2	2	.....	.....	.....	.....	5	1.66	42.2
Ottawa	N. 45 26	W. 75 45	7.05 a.m.	223	68	29.75	755.6	29.99	761.7	55.6	13.1	90.6	1	6	3	7	8	3	1	2	.....	.....	.....	5	1.36	34.5
Parry Sound*	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.34	745.2	30.02	762.5	57.3	14.1	90.7	2	3	3	3	8	5	4	2	1	5978	9021	5	2.62	66.5
Peterboro *a*	N. 44 17	W. 78 20	6.54 a.m.	675	206	29.30	744.2	30.02	762.5	59.8	15.4	85.7	1	9	2	5	.....	.....	.....	4	9	.....	.....	4	1.33	33.8
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.39	746.5	30.05	763.3	59.3	15.2	90.4	7	4	4	2	1	1	.....	5	7	4870	7837	5	1.99	50.5
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.42	747.3	30.06	763.5	57.4	14.1	93.6	2	9	10	2	1	1	3	3	.....	.....	.....	3	1.47	37.3
Qu Appelle	N. 50 44	W. 103 42	5.13 a.m.	2115	646	27.74	704.6	29.97	761.2	50.5	10.3	86.3	2	2	4	3	10	1	.....	1	8	7176	11540	5	1.28	32.5
Quebec*	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.64	752.8	29.95	760.7	59.6	15.3	90.8	1	.....	9	3	7	.....	.....	1	10	.....	.....	6	2.77	70.4
Rockliffe*	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.47	748.5	30.01	762.2	53.1	11.7	91.1*c*	.....	10	4	1	1	1	1	.....	13	.....	.....	4	4.11	104.4
Saint Andrews	N. 45 04	W. 81 06	6.34 a.m.	47	14	29.91	759.7	29.96	761.0	58.0	14.4	85.7	2	9	4	1	1	4	3	2	5	.....	.....	2	0.41	10.4
Saint John, N.B	N. 45 17	W. 66 03	7.44 a.m.	130	40	29.84	757.9	29.98	761.5	57.9	14.4	92.1	1	3	4	.....	13	1	3	2	4	.....	.....	5	3.81	96.8
Saint Johns, N.F	N. 47 34	W. 52 54	8.30 a.m.	230?	70?	29.72	754.9	29.97	761.2	59.6	15.3	87.1*n*	...*n*	.....	.....	4	5	3	2	.....	3	.....	.....	4*n*	1.88*n*	47.8*n*
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.95	760.7	61.2	16.2	.....	1	8	10	7	2	2	.....	1	.....	.....	.....	.....	1.99	50.5
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.34	745.2	30.03	762.7	58.5	14.7	89.1*c*	3	3	6	5	1	4	2	2	5	5818	9363	4	1.66	42.2
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	28.81*h*	731.8*h*	30.08*h*	764.0*h*	55.9	13.3	91.6	2	.....	7	5	1	4	2	3	7	.....	.....	3	0.70	17.8
S.W. Pt, Anticosti	N. 49 24	W. 63 36	7.54 a.m.	30	9	29.82	757.4	29.85	758.2	58.9	14.9	86.0	2	7	2	.....	.....	18	.....	1	1	.....	.....	5	2.72	69.1
Sydney*	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.90	759.4	29.95	760.7	62.0	16.7	85.2	.....	1	4	14	2	2	.....	3	5	6686	9795	6	5.99	152.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
	° ′	° ′																								
CANADIAN —Con.																										
Toronto.	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.68	753.9	30.05	763.3	59.8	15.4	78.1	5	3	7	1	3	.....	.....	6	6	6076	9778	5	1.81	46.0
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	29.03	737.3	30.07	763 8	59.5	15.3	82.5	4	1	13	3	2	1	4	1	2	.....	.....	4	0.73	18.5
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.92	760.0	29.99	761.7	58.1	14.5	90.5	3	2	5	5	1	2	6	.....	7	.....	.....	4	3.44	87.4
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.09	764.3	30.12	765.0	60.4	15.8	78.1	1	1	8	9	.....	4	2	3	3	.....	.....	5	7.08	179.8
Springbok *a*	S. 29 45	E. 17 43	1.19 p.m.	?	?	27 90	708.6	.....	.....	55.4	13.0	50.4*e*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.20	30.5
CHINESE. (*Sub*).																										
Sung-shu-chwang	N. 36 07	E. 103 56	7.04 p.m.	4987	1520	25.12	638.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	29.75	755.6	29.77	756.2	75.7	24.3	91.3	6	.....	1	.....	1	7	11	5	.....	.....	.....	5	7.25	184.2
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.82	757.5	29.87	758.7	63.9	17.7	69	1	7	4	7	8	2	.....	2	.....	.....	.....	7	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.68	759.0	29.90	759 4	63.3	17.4	76	1	2	15	7	5	.....	1	.....	.....	.....	.....	6	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.75	755.7	29.80	756.8	42.1	5.6	86	9	.....	.....	5	8	.....	.....	6	3	.....	.....	6	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.63	752.5	29.67	753.6	48.9	9.4	79	3	1	2	1	1	4	7	6	6	.....	.....	6	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.69	754.1	29.71	754.7	53.1	11.7	84	5	1	4	12	2	1	1	4	1	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.76	755.9	29.85	758.2	61.9	16.7	77	.....	6	12	7	2	1	2	.....	1	.....	.....	5	.....	.....
Egyptian.																										
Cairo	N. 30 03	E. 31 21	2.14 p.m.	?	?	29.67	753.5	.....	.....	92.1	33.4	.....	13	2	.....	.....	.....	.....	1	15	.....	.....	.....	1	0	0
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.54	750.3	30.17	766.4	76.6	24.8	51.9	3	5	8	2	2	3	3	.....	5	.....	.....	.....	0.13	3.3
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.70	754.4	30.25	768.3	68.4	20.2	80.3	3	6	1	6	3	.....	1	11	.....	.....	.....	.....	0.38	9.7
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	29.97	761.3	30.05	763.3	81.3	27.4	47.5	18	4	3	1	1	.....	2	2	.....	.....	.....	1	0	0
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.55	750.5	30.09	764.2	72.5	22.5	52	1	1	2	6	4	7	7	3	.....	.....	.....	6	0.81	20.5
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.83	757.6	30.08	764.1	70.9	21.6	54.9	2	2	10	8	.....	3	4	2	.....	.....	.....	6	1.59	40.4
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.17	740.8	30.03	762.7	73.0	22.8	68.1	.....	.....	.....	9	6	3	3	10	.....	.....	.....	.....	1.45	36.9
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.85	758.1	30.10	764.4	77.4	25.2	49.5	.....	6	11	5	1	.....	1	7	.....	.....	.....	3	0.29	7.3
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.54	750.4	30.08	763.9	73.8	23.2	62.6	4	2	1	11	1	3	3	6	.....	.....	.....	.....	0.28	7.0
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.90	759.5	30.15	765.7	70.9	21.6	72.8	1	3	6	9	2	1	1	8	.....	.....	.....	6	1.08	27.5
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	30.00	761.9	30.06	763.5	70.5	21.4	66.2	.....	9	10	8	2	1	.....	1	.....	.....	.....	5	1.67	42.5
Chalons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.74	755.4	30.06	763.4	72.0	22.2	72.9	3	1	5	9	4	2	.....	3	4	.....	.....	3	1.83	46.5
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.56	750.8	30.08	764.0	71.8	22.1	61.8	1	3	4	7	6	3	3	4	.....	.....	.....	4	2.20	56.0
Clermont-Fd	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.75	730.3	30.05	763.3	75.9	24.4	44.1	14	5	5	2	.....	1	1	3	.....	.....	.....	5	0.69	17.6
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.28	743.6	30.11	764.7	74.3	23.5	49.3	4	4	6	1	4	1	2	9	.....	.....	.....	.....	0.58	14.7
Commercy	N. 48 46	E. 5 35	0.30 p.m.	820	250	29.24	742.7	30.07	763.7	72.1	22.3	60.3	2	3	15	1	.....	1	5	4	.....	.....	.....	3	1.71	43.4
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.56	700.1	29.99	761 8	75.4	24.1	49.9	8	.....	.....	.....	23	.....	.....	.....	.....	.....	.....	2	0.28	7.0
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.94	735.0	30.01	762.2	83.1	28.4	32	2	10	3	10	6	.....	.....	.....	.....	.....	.....	1	0.06	1.5
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.33	744.9	30.08	764.0	76.6	24.8	60.2	2	15	4	.....	1	2	6	1	.....	.....	.....	.....	0.40	10.1
Gueret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.55	725.1	30.10	764.4	71.6	22.0	51.9	1	3	6	10	.....	2	5	4	.....	.....	.....	.....	0.47	12.0
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.85	758.2	30.13	765.2	69.8	21.0	70.2	2	8	8	7	5	.....	1	.....	.....	.....	.....	5	0.61	15.4
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.52	749.9	30.07	763.7	77.4	25.2	56.7	.....	2	13	6	2	2	3	3	.....	.....	.....	4	0.38	9.6
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	30.03	762.8	30.13	765.4	71.8	22.1	65.7	4	2	6	6	7	1	1	3	1	.....	.....	6	0.65	16.6
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	29.06	738.1	30.08	764.1	73.8	23.2	45.0	13	7	.....	.....	4	1	5	1	.....	.....	.....	2	0.65	16.4
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.82	757.4	30.12	765.1	69.3	20.7	72.5	1	3	10	5	2	4	3	3	.....	.....	.....	4	0.49	12.4
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.78	756.3	30.04	763.0	77.9	25.5	51.6	.....	4	11	13	2	1	.....	.....	.....	.....	.....	2	0.37	9.4
Montlouis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	25.02	635.5	29.86	758.5	65.7	18.7	32.5	2	3	7	7	1	1	8	2	.....	.....	.....	3	1.11	28.1
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.90	759.5	30.01	762.3	82.8	28.2	57	5	5	4	2	2	6	6	1	.....	.....	.....	1	2.12	53.8
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.99	761.7	30.15	765.8	75.2	24.0	51.7	2	2	11	4	.....	4	5	3	.....	.....	.....	5	0.67	17.0
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.97	761.2	30.07	763.8	79.3	26.3	46.1	1	7	1	.....	3	5	5	9	.....	.....	.....	2	0.02	0.5
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.47	545.4	.....	.....	51.1	10.6	.....	.....	1	10	16	.....	.....	.....	2	2	.....	.....	2	1.32	33.6
Privas..... [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	29.00	736.5	30.02	762.6	78.3	25.7	50.5	12	.....	4	.....	8	.....	.....	.....	5	.....	.....	.....	0	0
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.32	643.2	.....	.....	55.0	12.8	73.4	1	4	6	4	2	4	3	7	.....	.....	.....	6	1.91	48.4
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.07	763.8	30.10	764.6	77.5	25.3	54.4	.....	2	1	6	.....	.....	1	9	12	.....	.....	2	4.13	105.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.82	759.3	30.10	764.5	75.7	24.3	73.4	1	1	9	6	1	2	3	8	.....	.....	.....	3	0.48	12.2
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	28.00	711.3	30.07	763.7	75.7	24.3	46.3	1	19	1	1	1	1	1	1	5	.....	.....	2	0.85	21.7
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	30.06	763.4	30.10	764.6	70.3	21.3	73.9	2	4	10	7	1	3	1	3	.....	.....	.....	6	1.52	38.7
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.93	760.2	30.10	764.4	72.3	22.4	52.4	6	5	6	7	1	3	1	2	.....	.....	.....	4	1.20	30.4
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.44	747.8	30.17	766.2	81.3	27.4	45.2	5	9	2	3	.....	6	4	2	.....	.....	.....	2	0.37	9.4
Tours	N. 47 24	E. 0 41	0.11 p.m.	107	51	29.90*h*	759.4*h*	30.08*h*	764.0*h*	71.4*h*	21.9*h*	57.5*h*	6	2	7	6	1	.....	1	8	.....	.....	.....	2	0.15	3.7
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.61	752.0	30.10	764.5	70.7	21.5	53.9	3	5	11	3	1	1	4	3	.....	.....	.....	3	0.30	7.7
Sub-Series.																									1.63	41.5
St. Martin du Hinx.	N. 43 35	W. 1 16	0.03 p.m.	131	40	29.97	761.3	30.13	765.4	76.5	24.7	61.7	1	1	13	3	2	.....	6	5	.....	.....	.....	4	0.59	15.0
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.64	727.5	30.04	763.0	68.5	20.3	56.7	.....	4	10	7	1	1	1	6	1	.....	.....	4	0.74	18.7
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.22	742.2	30.06	763.6	69.4	20.8	58.7	1	2	14	4	1	.....	2	3	4	.....	.....	5	1.54	39.0
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.85	758.1	29.98	761.6	68.9	20.5	60.1	.....	9	13	2	1	.....	.....	1	5	.....	.....	6	2.10	53.2
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.50	749.3	30.03	762.7	67.6	19.8	55.6	2	7	12	4	4	.....	.....	2	.....	.....	.....	7	3.63	92.3
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.63	752.7	30.08	764.0	71.1	21.7	56.4	1	1	1	17	2	.....	1	8	.....	.....	.....	5	1.80	45.8
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.32	744.6	30.03	762.7	69.3	20.7	59.8	.....	6	4	8	8	2	2	1	.....	.....	.....	6	0.98	24.8
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.65	753.2	30.01	762.3	72.3	22.4	51.2	.....	1	15	4	2	1	6	2	.....	.....	.....	4	1.94	49.4
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.69	728.6	30.06	763.5	68.4	20.2	68.5	.....	.....	7	15	7	.....	.....	2	.....	.....	.....	4	3.52	89.5
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.85	758.5	29.95	760.8	65.8	18.8	73.7	.....	5	5	11	2	2	2	4	.....	.....	.....	7	3.07	78.0
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.90	759.4	29.91	759.8	63.7	17.6	71.4	2	3	10	11	.....	.....	.....	2	3	.....	.....	8	5.10	129.4
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.61	752.1	30.01	762.3	64.9	18.3	53.3	1	7	5	10	2	1	.....	5	.....	.....	.....	6	2.36	59.9
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.80	756.9	29.98	761.6	70.2	21.2	54.7	.....	6	10	7	1	2	2	3	.....	.....	.....	6	1.82	46.1
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.85	758.3	29.90	759.5	66.0	18.9	72.9	.....	5	13	7	.....	2	1	3	.....	.....	.....	7	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.26	717.9	30.13	765.4	68.9	20.5	52.2	7	8	3	2	.....	.....	3	6	2	.....	.....	4	2.61	66.3
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.91	759.7	29.93	760.1	66.4	19.1	65.5	3	1	9	7	3	1	1	6	.....	.....	.....	7	3.53	89.7
Neustadt *a*	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.52	749.8	30.05	763.2	72.3	22.4	55	.....	.....	8	7	5	2	1	4	3	.....	.....	5	1.12	28.4
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.12	739.6	29.98	761.5	70.9	21.6	53.5	7	4	6	8	1	2	2	1	.....	.....	.....	5	1.54	39.2
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.94	760.5	29.97	761.2	63.9	17.7	76.2	1	3	9	12	2	.....	.....	4	.....	.....	.....	8	3.84	97.5
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.53	750.0	29.89	759.3	84.9	29.4	.....	4	.....	.....	3	9	.....	.....	15	.....	.....	.....	2	2.07	52.5
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.55	750.6	29.60	751.9	82.9	28.3	72	.....	.....	13	18	.....	.....	.....	.....	.....	.....	.....	6	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.22	742.2	29.68	753.9	92.1	33.4	44	.....	.....	10	20	1	.....	.....	.....	.....	.....	.....	5	0.27	6.9
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.70	754.3	29.74	755.3	81.7	27.6	81	.....	10	17	3	.....	1	.....	.....	.....	.....	.....	7	11.73	297.9
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.88	708.2	29.74	755.3	76.7	24.8	73	.....	11	14	6	.....	.....	.....	.....	.....	.....	.....	7	3.01	76.4
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.21	691.2	29.75	755 7	73.0	22.8	82	.....	.....	19	12	.....	.....	.....	.....	.....	.....	.....	9	5.35	135.9
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.75	730.2	29.46	748.2	98.1	36.7	41	.....	1	10	1	.....	.....	8	4	7	.....	.....	4	0.70	17.8
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.62	726.9	29.49	749.1	89.9	32.2	61	1	3	6	1	1	3	7	1	8	.....	.....	5	6.07	154.2
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	28.96	735.7	29.51	749.5	95.0	35.0	44	.....	1	5	12	1	4	6	2	.....	.....	.....	5	0.12	3.0
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.55	725.1	29.57	751.1	86.7	30.4	61	2	6	10	5	1	2	1	1	3	.....	.....	8	12.17	309.1
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.23	717.0	29.56	750.8	85.0	29.4	66	.....	11	5	1	.....	2	.....	4	8	.....	.....	7	5.98	151.9
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.20	741.8	29.57	751.1	89.3	31.8	65	5	7	4	3	.....	1	4	2	5	.....	.....	6	3.31	84.1
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.22	742.1	29.52	749.8	88.5	31.4	69	1	6	.....	6	1	1	2	4	10	.....	.....	7	2.10	53.3
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.37	746.0	29.55	750.7	85.4	29.7	79	.	5	1	3	.....	4	10	6	2	.....	.....	8	7.53	191.3
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.58	700.6	29.57	751.2	78.4	25.8	83	1	7	2	1	4	8	2	1	5	.....	.....	10	6.53	165.9
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.52	749.7	29.60	751.8	83.9	28.8	78	.....	.....	.....	7	5	2	1	3	13	.....	.....	8	9.14	232.2
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.56	750.7	29.58	751.2	82.3	27.9	87	.....	2	2	10	10	6	.....	.....	1	.....	.....	9	8.20	208.3
Dhubri *a*	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.47	748.4	29.58	751.4	81.8	27.7	87	1	.....	.....	5	1	3	3	4	13	.....	.....	8	16.07	423.4
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.56	750.9	29.65	753.2	80.1	26.7	89	.....	.....	.....	4	15	6	.....	1	5	.....	.....	8	0.43	10.9
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.27	743.5	29.60	751.9	85.2	29.6	81	.....	.....	.....	15	.....	2	4	10	.....	.....	.....	7	16.45	417.8
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.13	714.6	29.53	750.1	92.0	33.3	45	2	8	11	4	1	3	1	1	.....	.....	.....	5	0.95	24.1
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	30.02	762.5	.....	.....	82.0	27.8	54.6	.....	.....	.....	1	3	20	4	2	1	.....	.....	5	0	0
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.46	748.3	.....	.....	89.9	32.2	51	1	4	11	5	3	1	6	.....	.....	.....	.....	7	4.37	111.0
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.21	716.5	.....	.....	85.2	29.6	56	1	7	18	4	1	.....	.....	.....	.....	.....	.....	8	0.05	1.3

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for August, 1883. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
ITALIAN.	° ′	° ′																								
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.62	752.4	30.02	762.4	79.3	26.3	43	.....	.....	...	4	1	2	9	2	13	.....	.....	4	2.76	70.2
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.53	750.0	30.03	762.7	78.4	25.8	47	4	1	3	4	4	2	8	5	.....	.....	.....	4	1.28	32.6
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.89	759.3	30.00	762.0	78.8	26.0	45	3	3	2	2	4	6	8	3	.....	.....	.....	2	1.38	35.1
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.13	740.0	30.00	762.1	77.2	25.1	49	9	12	1	.....	.....	1	4	4	.....	.....	.....	4	1.15	29.3
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157	48	29.84	757.8	30.02	762.5	77.4	25.2	55	4	3	.....	16	2	5	1	.....	.....	.....	.....	2	1.28	32.4
Mondovi	N. 44 23	E. 7 48	0.39 p.m.	1824	556	28.16	715.2	30.00	762.1	73.9	23.3	55	7	8	4	.....	.....	3	4	5	.....	.....	.....	2	1.35	34.2
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.96	761.0	30.01	762.2	76.3	24.6	61	4	.	1	2	.....	1	14	9	.....	.....	.....	2	0.79	20.0
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.75	755.6	29.99	761.8	81.3	27.4	39	2	2	9	4	2	....	3	9	.....	.....	.....	3	0.99	25.2
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.87	758.7	29.95	760.8	78.1	25.6	62	1	5	12	8	1	.....	.....	4	.....	.....	.....	2	0.02	0.5
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.80	757.0	29.97	761.3	84.2	29.0	36	4	.....	8	16	2	.....	.....	.....	1	.....	.....	3	0.20	5.0
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.70	754.3	29.91	760.4	80.1	26.7	50	8	7	1	1	.....	1	2	11	.....	.....	.....	2	3.84	97.5
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.10	739.0	29.95	760.7	81.9	27.7	65	.....	.....	7	8	8	6	2	.....	.....	.....	.....	3	4.04	102.6
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.77	756.2	30.02	762.4	79.0	26.1	53	1	5	3	..	.....	.....	5	17	.....	.....	.....	2	3.21	81.5
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.89	759.3	29.94	760.4	81.7	27.6	55	3	.....	1	6	6	1	7	6	1	.....	.....	3	0.11	2.9
Sub-Series.																										
Naples *a*	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.48	748.9	29.98	761.5	80.1	26.7	57.2	1	1	6	9	2	3	5	3	.....	.....	.....	3	1.13	28.7
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	29.86	758.6	29.90	759.6	72.6	22.6	88.0	3	1	.....	.....	.....	2	4	3	18	.....	.....	4	5.58	141.7
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.86	758.4	29.90	759.3	70.4	21.3	85.9	4	3	3	2	8	.....	6	3	2	2901	4668	4	3.48	88.5
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	26	8	29.90	759.4	29.93	760.1	76.6	24.8	86.3	...	.....	.....	1	3	2	6	.....	19	.....	.....	5	1.39	35.3
Kagoshima	N. 31 35	E. 130 33	8.50 p.m.	14	4	29.83	757.6	29.84	757.9	78.8	26.0	81.6	1	1	2	.....	2	....	12	3	10	.....	.....	5	6.51	165.2
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	29.79	750.8	29.89	759.3	76.5	24.7	80.8	2	.....	1	2	..	9	15	1	1	3316	5336	4	2.20	57.4
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.72	755.0	29.90	759.4	77.7	25.4	72.6	12	1	2	.....	6	4	2	3	1	2517*a*	4051*a*	5	0.72	18.5
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	29.89	759.1	29.91	759.6	77.9	25.5	87.2	1	8	7	1	.....	2	7	5	.....	5194	8358	6	10.00	255.5
Minaaka	N. 31 56	E. 131 26	8.54 p.m.	26	8	29.85	758.2	29.88	758.9	77.3	25.2	88.8	4	3	1	1	2	1	18	1	.....	.....	.....	6	6.35	161.3
Miyako	N. 39 38	E. 141 59	9.36 p.m.	98	30	29.83	757.6	29.94	760.4	67.8	19.9	91.3	2	2	16	3	2	.....	1	....	5	1050	1690	6	4.43	112.6
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.63	752.6	29.82	757.5	79.5	26.4	78.4	4	.....	.....	1	4	.....	1	10	11	3650	5874	4	11.56	293.4
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	29.86	758.3	29.89	759.2	76.6	24.8	80.3	7	2	2	1	.....	6	2	10	1	3802	6116	5	4.85	123.1
Nobiru	N. 38 23	E. 141 11	9.32 p.m.	15	5	29.90	759.5	29.92	759.9	72.5	22.5	87.2	9	.....	.....	3	7	3	5	4	.....	5690	9158	6	1.28	32.7
Numazu	N. 35 06	E. 138 51	9.23 p.m.	32	10	29.89	759.1	29.92	760.0	75.8	24.3	82.6	2	1	2	7	1	.....	8	8	2	.....	.....	9	2.83	71.9
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	29.88	758.9	29.89	759.3	78.7	26.0	77.6	5	2	13	2	.....	.....	2	7	... ..	5724	9211	5	0.70	17.7
Sakai	N. 35 01	E. 133 31	9.01 p.m.	10	3	29.86	758.5	29.87	758.7	78.7	25.9	81.4	7	.....	1	.....	.....	1	1	12	9	.....	.....	4	1.37	34.8
Shimonoseki	N. 33 58	E. 130 56	8.52 p.m.	13	4	29.71	754.7	29.86	758.4	78.2	25.7	88	.....	.....	.....	.....	.....	4	8	2	17	.....	.....	4	7.95	201.9
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.85	758.1	29.92	760.0	75.0	23.9	84.5	.....	.....	.....	1	12	3	14	1	.....	5452	8774	4	3.04	92.4
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.83	757.7	29.88	759.0	78.8	26.0	74.9	1	.....	.....	4	10	1	1	5	9	3894	6266	4	0.36	9.0
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.93	760.2	30.12	765.0	72.0	22.2	66.8	1	1	1	1	1	8	17	1	.....	.....	.....	6	1.33	33.8
MEXICAN.																										
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24.37	619.0	30.04	763.0	59.0	15.0	87.8	4	12	2	4	1	1	.....	2	5	.....	.....	7	4.29	109.0
Muzatlan *f*	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.70	754.4	29.96	760.9	78.4	25.8	89.1	5	1	.....	1	.....	.....	5	13	.....	.....	.....	6	7.82	198.5
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Morelia	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.. .	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sub-Series.																										
Altata	N. 24 40	W. 107 55	4.56 a.m.	?	?	.....	.....	.....	.....	79.7	26.4	86.0	1	4	.....	....	.	17	4	3	2	.....	.....	5	4.19	106.4
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.05	763.2	30.05	763.2	67.1	19.5	.....	2	4	6	12	2	1	1	3	.....	.....	.....	.....	1.02	25.9
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.92	760.0	29.98	761.4	63.3	17.4	.....	3	8	6	6	4	1	.....	3	.....	.....	.....	.....	2.10	53.3
Helder *b*	N. 52 58	E. 4 45	0.27 p.m.	0	0	30.00	762.1	30.00	762.1	62.6	17.0	.....	1	5	8	7	3	1	1	3	.....	.....	.....	.....	1.33	33.7
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	30.02	762.6	30.02	762.6	66.7	19.3	68.2	2	4	13	7	1	.....	2	2	.....	.....	.....	.....	0.79	20.0
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	.....	.....	30.02	762.4	68.5	20.3	65.5	1	3	6	10	4	4	1	2	.....	.....	.....	5	1.82	46.3
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7.15 p.m.	?	?	29.88	758.9	.....	.....	79.5	26.5	75.4	12	2	.....	1	.....	.....	1	15	.....	.....	.....	5	0.04	1.0
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.71	754.6	29.77	756.2	59.7	15.4	70.2	.....	9	7	2	10	3	.....	.....	.....	.....	.....	8	7.60	192.9
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.67	753.6	29.71	754.6	58.1	14.5	72.3	9	1	3	8	2	1	1	1	5	.....	.....	7	5.17	131.3
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.59	751.6	29.73	755.2	65.3	18.5	60.0	1	3	4	16	1	2	2	2	.....	.....	.....	6	2.60	66.1
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.73	756.5	29.81	757.1	55.8	13.2	.....	2	.....	1	1	3	5	2	12	5	.....	.....	5	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.67	753.5	29.71	754.7	60.3	15.7	67.1	3	.....	1	10	1	2	2	4	8	.....	.....	6	3.25	82.5
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	30.10	764.5	30.25	768.3	72.3	22.4	84.6	.....	2	11	1	1	8	6	1	1	.....	.....	3	4.00	101.5
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.06	738.0	30.00	761.9	89.6	32.0	34.1	2	1	8	.....	10	2	4	2	2	.....	.....	2	0	0
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.06	763.5	30.15	765.7	74.1	23.4	65.3	. ....	.....	.. ..	29	.....	1	.....	.....	1	.....	.....	3	0	0
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	312	95	29.75	755.7	30.08	763.9	76.8	24.9	48.4	6	4	.....	4	5	5	3	4	.....	.....	.....	1	0	0
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.21	767.4	30.28	769.2	76.5	24.7	68.1	.....	1	4	4	.....	.....	2	1	19	.....	.....	4	1.46	37.1
St. Paul de Loanda	S. 8 49	E. 13 07	1.00 p.m.	193	59	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Salvador	S. 6 17	E. 14 53	1.07 p.m.	1834	559	28.13	714.6	29.98	761.5	75.2	24.0	56.9	.....	9	16	4	2	.....	.....	.....	.....	.....	.....	7	.....	.....
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.47	646.8	30.02	762.4	69.1	20.6	41.4	1	5	8	1	1	4	10	1	.....	.....	.....	2	0.24	6.1
RUSSIAN																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.67	728.2	29.69	754.0	76.6	24.8	31.0	1	8	6	2	1	3	2	7	1	.....	.....	3	0.35	8.9
Archangel	N. 64 33	E. 40 32	2.50 p.m.	10	5	29.73	755.1	29.75	755.6	57.0	13.9	78.5	3	6	7	1	1	2	6	3	2	.....	.....	8	2.22	56.3
Ashurada	N. 36 54	E. 53 55	3.44 p.m.	79	24	29.90	759.4	29.80	757.0	80.0	30.0	68.3	2	13	14	2	.....	.....	.....	.....	.....	.....	.....	3	0.56	14.1
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	29.93	760.2	29.85	758.1	83.8	28.8	36.4	3	1	1	4	4	6	6	2	4	.....	.....	5	0.54	13.0
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	29.89	759.1	29.84	757.9	82.8	28.2	58.1	13	3	....	1	8	.....	.....	4	2	.....	.....	2	1.21	30.8
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.33	745.0	29.82	757.3	65.1	18.4	60.0	3	3	3	2	2	2	2	8	6	.....	.....	5	2.23	56.4
Bielosersk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.30	744.3	29.76	755.8	60.4	15.8	74.1	2	10	5	4	2	4	2	.....	2	.....	.....	7	2.44	62.1
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.55	750.5	29.78	756.4	64.2	17.9	67.6	2	3	6	9	3	2	2	2	2	.....	.....	8	3.34	84.8
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.84	732.4	29.77	756.2	63.1	17.3	63.8	4	5	8	4	2	4	2	1	1	.....	.....	8	1.00	40.6
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.50	749.4	29.93	760.3	79.5	26.4	35.4	3	8	8	2	.....	3	6	1	.....	.....	.....	4	0.54	13.6
Irkutsk	N. 52 16	E. 104 16	7.05 p.m.	1536	468	28.29	718.5	29.89	759.2	59.9	15.5	79.0	1	4	.....	1	.....	1	.....	1	23	.....	.....	5	1.85	47.1
Kusaliusk	N. 45 46	E. 62 07	4.16 p.m.	147	45	.....	.....	.....	.....	90.1	32.3	24.9	6	7	7	2	1	2	6	.....	.....	.....	.....	2	.....	.....
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.51	749.6	29.77	756.1	67.5	19.7	54.8	4	3	8	8	2	4	.....	2	.....	.....	.....	7	0.03	16.1
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	29.73	755.1	29.78	756.4	55.2	12.9	74.4	6	2	2	.....	1	2	8	10	.....	.....	.....	8	1.03	41.5
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	29.85	758.2	29.87	758.8	77.5	25.3	53.4	6	1	1	.....	.....	.....	2	8	13	.....	.....	3	2.02	66.5
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.28	743.6	29.88	759.0	72.0	22.2	54.9	2	2	11	6	4	4	.....	2	.....	.....	.....	6	1.56	39.7
Kostov	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.32	744.8	29.84	757.8	73.4	23.0	52.4	3	3	8	7	2	1	1	3	3	.....	.....	6	0.64	16.2
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	29.84	757.8	29.86	758.4	63.9	17.7	73.0	1	3	12	9	3	.....	1	2	.....	.....	.....	6	1.24	31.4
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.64	752.8	29.82	757.3	82.2	27.9	29.9	1	4	5	7	3	2	2	7	.....	.....	.....	6	0.13	3.2
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.33	745.0	29.78	756.5	66.2	19.0	59.7	5	8	6	2	2	1	1	4	2	.....	.....	6	1.78	45.1
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.87	758.8	29.95	760.7	83.5	28.6	41.1	6	4	2	5	2	1	1	7	3	.....	.....	1	0.41	10.3
Nikolaievsk *a*	N. 53 08	E. 140 45	9.31 p.m.	59	18	.....	.....	.....	.....	63.3	17.4	85.0	1	3	3	.....	5	3	8	1	7	.....	.....	5	.....	.....
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	29.67	753.5	29.81	757.1	76.1	25.6	73.5	.....	1	.....	2	.....	.....	.....	1	27	.....	.....	4	7.84	199.2
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.12 p.m.	328	100	29.42	747.2	29.74	755.4	93.4	34.1	22.6	7	5	5	1	1	3	.....	4	5	.....	.....	1	0	0
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.53	750.1	29.72	754.9	59.4	15.2	74.2	5	3	3	5	2	7	.....	5	1	.....	.....	8	3.66	93.1
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.43	747.5	29.91	759.8	69.3	20.7	65.0	5	6	8	5	4	1	...	1	1	.....	.....	6	3.85	97.8
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	29.84	757.8	29.87	758.6	81.1	27.3	73.6	1	6	1	20	2	.....	.....	.....	1	.....	.....	5	12.21	310.2
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	29.80	756.9	29.82	757.5	62.6	17.0	66.3	4	7	8	3	3	2	3	1	.....	.....	.....	7	5.11	129.9
Samarkand *a*	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.37	695.1	29.67	753.5	85.8	29.9	37.8	.....	.. ..	.....	.....	.....	2	3	2	23	.....	.....	1	0.01	0.3
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.18	741.2	29.81	757.1	73.0	22.8	42.1	5	8	5	3	1	.....	.....	4	5	.....	.....	4	0.46	11.8
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	138?	42?	29.69	754.0	29.89	759.2	80.1	26.7	48.5	5	10	4	6	2	.....	1	3	.....	.....	.....	3	0.09	17.5
Starol Bykhov	N. 53 31	E. 30 16	2.09 p.m.	423?	129?	29.31	744.5	29.84	758.0	71.6	22.0	59.9	1	2	11	5	2	6	2	2	.....	.....	.....	7	2.30	58.5
Tashkend	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.09	713.4	29.62	752.2	91.8	33.2	33.2	2	2	.....	.....	.....	.....	.....	1	26	.....	.....	1	0.11	2.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
	Result of Simultaneous Observations for August, 1883.																									
RUSSIAN.—Cont'd.	° ′	° ′																								
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.44	722.5	29.77	756.2	87.4	30.8	28.9	1	6	1	1	4	11	3	1	3	.....	.....	3	0.20	5.2
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.25	692.2	29.60	751.8	80.1	26.7	41.1	1	1	.....	2	.....	.....	.....	5	22	.....	.....	3	0.14	3.5
Viatka	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.12	739.7	29.73	755.2	61.5	16.4	67.0	3	5	8	5	3	4	1	.....	2	.....	.....	7	3.96	100.6
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.54	750.2	29.94	760.6	67.6	19.8	62.1	2	4	11	6	4	.....	1	3	.....	.....	.....	7	3.65	92.7
Yenjeisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.65	753.2	29.93	760.3	57.2	14.0	79.5	2	4	15	5	.....	1	1	1	2	.....	.....	5	2.78	70.5
SCOTTISH.																										
Monach Light H.	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
North Unst	N. 60 51	W. 0 53	0.04 p.m.	230	70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	98	30	29.96	761.0	30.07	763.7	80.2	26.8	67	.....	.....	.....	5	15	10	1	.....	.....	1721	2770	2	0	0
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.08	764.1	30.14	765.6	81.1	27.3	57	2	21	.....	.....	.....	3	1	2	2	2128	3425	4	0.24	6.2
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.19	690.7	30.03	762.7	77.5	25.3	39	3	.....	1	6	3	.....	1	15	2	4191	6744	1	0.26	6.7
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.89	708.3	29.97	761.3	88.5	31.4	30.6	1	1	1	9	9	5	2	3	.....	6547	10536	1	0.13	3.3
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.95	760.8	30.08	763.9	77.9	25.5	54.0	.....	.....	.....	.....	.....	14	12	5	.....	1669	2686	2	0.01	0.2
Oviedo	N. 43 23	W. 5 49	11.45 a.m.	800	244	29.35	745.6	30.14	765.6	64.9	18.3	78	8	4	1	1	8	2	3	4	.....	2929	4713	7	0.23	5.9
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.19	741.3	30.04	763.1	76.5	24.7	56	7	1	6	4	.....	.....	.....	11	2	674	1084	3	0.40	10.1
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.97	761.3	30.04	763.0	78.2	25.7	83.5	.....	.....	.....	1	6	11	13	.....	.....	.....	.....	3	3.54	89.9
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.79	756.7	29.85	758.2	80.8	27.1	87.1	.....	1	11	15	1	1	2	.....	.....	8264	15305	6	10.09	256.5
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.96	760.9	30.05	763.3	83.5	28.7	49	.....	.....	8	1	1	3	5	.....	3	.....	.....	2	0 02	0.6
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.95	760.8	30.04	763.1	80.6	27.0	86	1	.....	2	1	2	11	5	.....	9	.....	.....	3	9.96	253.0
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.72	755 0	29.76	756.0	59.5	15.3	71	3	.....	.....	4	4	5	5	10	.....	.....	.....	6	2.06	52.4
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.69	754.0	29.74	755.3	62.2	16.8	68	3	2	2	10	4	4	3	3	.....	.....	.....	7	3.85	97.8
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.67	753.7	29.72	755.0	62.8	17.1	69	.....	5	1	6	7	3	1	4	4	.....	.....	6	4.06	103.1
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.59	751.6	29.77	756.1	65.1	18.4	61	.....	4	7	7	8	1	2	1	1	.....	.....	7	3.74	94.9
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.74	755.5	29.80	757.0	62.8	17.1	74	2	4	14	6	.....	1	1	3	.....	.....	.....	4	2 44	61.9
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.65	773.0	29.73	755.2	63.5	17.5	70.8	3	7	3	8	7	1	.....	2	.....	.....	.....	6	3.98	101.2
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.95	735.2	30.09	764.3	69.6	20.9	59.2	21	2	.....	1	7	.....	.....	.....	.....	.....	.....	4	2.32	58.9
TURKISH.																										
Constantinople	N 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.92	760.0	79.3	26.3	56	16	1	.....	1	.....	.....	.....	13	.....	.....	.....	4	0.80	20.4
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.11?	764.8?	81.3	27.4	.....	.....	12	9	8	2	.....	.....	.....	.....	.....	.....	2	0.98	25.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.80	756 8	86.9	30.5	55.8	6	9	3	13	.....	.....	.....	.....	.....	.....	.....	2	0.29	7.4
Samakov	N. 42 12	E. 23 45	1.42 p.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	29.98	761.5	30.06	763.5	65.4	18.6	70.3	4	5	5	2	10	.....	2	1	2	3256	5238	4	3.69	93.7
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.39	746.5	30.03	762.7	57.0	13.9	79.2	.....	7	17	1	1	.....	2	.....	3	5904	9598	2	1.36	34.5
Apache, Fort	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	25.14	638.5	29.86	758.4	57.8	14.3	85.3	.....	.....	.....	.....	.....	4	23	4	.....	4138	6650	2	4.26	108.2
Assinnaboine, Ft.	N. 48 32	W. 109 42	4.49 a.m.	2710	826	27.21	691.1	29.96	761.0	56.1	13.4	66.1	.....	2	3	11	4	.....	5	5	1	7642	12298	4	2.59	65.8
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.93	734.8	30.08	764 0	69.7	20.9	84.2	4	8	2	.....	.....	1	5	4	7	.....	.....	3	2.73	69.3
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	30.03	762.7	30.04	763 0	68.0	20.0	79.2	9	4	4	3	2	.....	1	8	.....	6273	10095	4	3.21	81.5
Augusta *a*	N. 33 28	W. 81 54	6.40 a.m.	183	56	29.89	759.2	30.08	764.0	74.1	23.4	78.9	2	2	3	2	1	1	.....	9	10	2329	3748	6	2.16	54.9
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.03	762.7	30.08	764.0	68.4	20.2	70.2	11	5	.....	3	3	.....	2	5	2	3861	6214	4	2.72	69.1
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	20	6	30.03	762.7	30.05	763.3	69.2	20.7	77.6	9	3	3	4	1	.....	7	4	.....	10046	16167	4	2.13	54.1
Behring Id	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.82	757.4	29.84	757.9	50.4	10.2	96.5	2	2	1	3	21	1	.....	1	.....	8324	13396	8	3.43	87.1
Bennett, Fort	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.45	722.6	29.99	761.7	59.1	15.1	86.4	1	16	1	2	....	7	.....	3	1	5736	9231	5	1.88	47.8
Benton, Fort *a*	N. 47 50	W. 110 40	4.45 a.m.	2700	823	27.28	692.9	30.08	764.0	62.0	16.7	56.0	.....	1	2	.....	2	.....	.....	1	24	3360*b*	5407*b*	2	1.01	25.7
Billings	N. 45 49	W. 108 30	4.54 a.m.	3115?	949?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.23	717.0	29.99	761.7	56.2	13.4	83.3	4	3	2	1	1	3	8	7	2	6331	10189	5	0.98	24.9
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	30.01	762.2	30.04	763.0	65.1	18.4	82.9	7	8	1	4	.....	.....	.....	10	1	9452	15211	4	1.74	44.2
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.19	690.6	29.94	760.5	58.9	14.9	.....	6	8	7	4	3	1	.....	2	.....	2179	3507	0	inap.	inap.
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.88	758.9	30.03	762.7	63.8	17.7	73.0	3	7	13	3	1	.....	.....	3	1	6611	10639	3	0.39	9.9
Brownsville	N. 25 53	W. 97 26	5.38 a.m	43	13	29.95	760.7	30.01	762.2	76.8	24.9	92.1	4	.....	.....	4	8	10	.....	.....	5	4399	7079	4	1.97	50.0
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	696	212	29.31	744.5	30.04	763.0	62.3	16.8	76.8	2	1	5	5	6	3	3	6	.....	6867	11051	5	2.30	58.4
Buford, Fort	N. 48 00	W. 103 56	5.12 a.m.	1900	579	28.00	711.2	30.00	762.0	54.6	12.6	85.7	3	3	6	1	.....	2	9	5	2	6696	10776	3	1.96	49.8
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.72	754.9	30.10	764.5	69.6	20.9	83.8	8	.....	.....	5	3	1	2	10	2	4085	6574	4	1.73	43.9
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.03	762.7	30.05	763.3	73.0	22.8	80.7	9	....	1	8	4	.....	3	6	.....	8942	14390	5	3.48	88.4
Cape May *a*	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.01	762.2	30.04	763.0	69.0	20.6	78.5	5	5	2	3	4	.....	2	9	.....	8465	13623	4	3.03	77.0
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.31	744.5	29.99	761.7	51.3	10.7	95.2	1	25	.....	.....	.....	1	.....	.....	4	.....	.....	1	0	0
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.03	762.7	30.05	763.3	80.9	27.2	84.1	5	1	4	2	2	3	7	7	.....	5492	8838	4	3.37	85.6
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	29.99	761.7	30.04	763.0	76.4	24.7	87.6	8	2	7	5	.....	.....	1	4	4	5182	8340	4	10.05	255.3
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.24	742.7	30.07	763.8	71.3	21.8	74.2	6	3	2	2	3	1	2	11	1	3212	5169	4	2.00	50.8
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.28	743.7	30.08	764.0	69.0	20.6	87.8	4	5	3	5	.....	1	4	5	4	3087	4968	3	5.31	134.9
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6089	1856	24.18	614.2	29.90	759.4	52.4	11.3	68.9	4	13	6	2	1	1	1	.....	3	4844	7796	2	2.18	55.4
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.38	746.2	30.07	763.8	64.6	18.1	73.8	3	2	3	11	.....	4	3	3	2	4508	7255	3	1.21	30.7
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	18	5	30.02	762.7	30.04	763.0	70.8	21.6	82.8	7	3	2	4	3	1	2	9	.....	6620	10654	4	7.43	188.7
Cincinnati	N. 39 06	W. 84 30	6.30 a.m.	620	189	29.46	748.3	30.10	764.5	66.7	19.3	68.5	5	7	.....	4	1	5	1	8	.....	3202	5153	4	2.10	53.3
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.35	745.5	30.07	763.8	62.6	17.0	73.4	1	1	5	1	10	9	3	1	.....	4985	8022	4	2.72	69.1
Coleman City *a*	N. 31 53	W. 99 18	5.31 a.m.	1709	521	28.26	717.8	30.00	762.0	70.4	21.3	79.3	2	3	.....	1	14	5	2	2	1	4056	6527	2	1.95	49.5
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.24	742.7	30.08	764.0	62.1	16.7	75.6	5	7	6	3	3	2	1	4	.....	4009	6452	4	2.54	64.5
Concho, Fort	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.14	714.7	30.00	762.0	70.9	21.6	78.3	.....	1	.....	1	9	.....	.....	6	14	4966	7992	3	3.05	77.5
Custer, Fort	N. 45 42	W. 107 34	4.58 a.m.	3040	927	26.92	683.8	29.98	761 5	60.5	15.8	54.2	2	3	3	3	4	8	5	3	.....	5031	8096	2	1.01	25.7
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.42	747.3	30.05	763.3	63.6	17.6	79.6	1	5	2	5	1	4	6	7	.....	5109	8319	5	1.02	25.9
Davis, Fort	N. 39 38	W. 103 56	5.12 a.m.	4940	1506	25.30	642.6	29.95	760 7	64.0	17.8	70.9	2	.....	.....	1	1	2	.....	.....	25	2654	4271	1	3.07	78.0
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1660	506	28.29	718.6	30.01	762.2	55.6	13.1	64.5	1	.....	1	9	7	1	8	3	1	3771	6069	2	0.30	7.6
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.48	647.2	29.92	760.0	55.6	13.1	78.0	.....	4	.....	1	9	3	2	1	11	2533	4076	2	1.37	34.8
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.03	762.7	30.05	763.3	69.2	20.7	84.4	3	5	3	3	5	.....	2	10	.....	9835	15828	4	1.89	48.0
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.87	631.7	29.80	759.2	61.2	16.2	65.5	1	3	1	2	16	1	.....	1	6	4409	7096	2	0.75	19.0
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.20	741.7	30.08	764.0	62.4	16.9	84.1	7	1	1	7	5	3	1	3	3	3697	5950	6	2.83	71.9
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.38	746.2	30.07	763.8	61.1	16.2	79.3	3	6	8	3	5	.....	.....	5	1	6150	9897	3	0.90	22.9
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2512	766	27.49	698.2	29.97	761.2	64.5	18.1	91.4	2	.....	.....	2	5	15	2	5	.....	8846	14236	5	5.66	143.8
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.38	746.2	30.07	763.8	61.4	16.3	79.1	5	5	2	4	4	4	1	2	3237	5209	4	2.70	68.6
Duluth	N. 46 48	W. 92 06	6.00 a.m.	644	184	29.29	744.0	30.01	762.2	59.4	15.2	80.4	2	4	3	7	1	.....	1	5	8	4239	6822	5	0.98	24.9
Eagle Pass	N. 28 44	W. 100 29	5.26 a.m.	780	238	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eagle Rock	N. 43 32	W. 111 55	4.40 a.m.	4650	1415	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.91	759.7	29.98	761.5	59.8	15.4	77.8	4	4	5	5	4	1	1	3	4	3647	5869	3	0.49	12.4
Elliott, Fort	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.33	694.2	29.97	761.2	64.6	18.1	67.5	.....	.....	.....	1	7	6	1	3	13	4843	7794	5	6.56	166.6
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3760	1146	26.36	669.5	29.96	761.0	69.8	21.0	64.0	.....	6	1	.....	.....	1	6	5	12	2694	4336	2	1.34	34.0
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.35	745.5	30.06	763.5	64.5	18.1	73.4	.....	3	2	9	9	3	2	3	.....	5548	8928	5	2.44	62.0
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	612	186	29.38	746.2	30.02	762.5	56.9	13.8	83.7	8	6	1	4	5	.....	.....	.....	7	5486	8829	3	1.17	29.7
Fredericksburg	N. 30 17	W. 98 52	5.32 a.m.	1700	518	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galveston	N. 29 18	W. 94 47	5.49 a.m.	48	15	30.01	762.2	30.05	763.3	81.1	27.3	78.0	1	4	3	8	7	1	1	6	.....	5442	8758	5	1.09	27.7
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.41	747.0	30.06	763.5	60.2	15.7	86.3	2	2	2	3	5	1	4	11	1	6869	10240	3	0.46	11.7
Grant, Fort	N. 32 39	W. 109 57	4.48 a.m.	4856	1481	.....	.....	.....	.....	66.1	18.9	74.8	3	4	1	1	1	2	8	10	1	3725	5995	4	3.07	78.0
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	19	6	30.00	762.0	30.02	762.5	75.9	24.4	83.8	4	2	.....	6	1	1	5	12	.....	11301	18187	6	3.13	79.5
Helena	N. 46 34	W. 112 04	4.40 a.m.	4100	1250	25.88	657.3	29.97	761.2	63.9	17.7	56.1	2	2	1	15	.....	.....	5	6	.....	3209	5165	2	.....	.....
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.65	727.7	29.99	761.7	58.6	14.8	88.3	3	5	1	2	2	12	6	.....	.....	6420	10332	5	1.77	45.0
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.29	744.0	30.06	763.5	64.0	17.8	75.5	4	2	2	3	2	.....	3	8	7	2545	4096	4	2 48	63.0
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	30.01	762.2	30.04	763.0	79.2	26.2	86.8	5	1	1	5	15	.....	.....	2	2	6710	10798	3	0.32	8.1
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.02	762.5	30.06	763.5	77.3	25.2	85.5	2	3	3	9	3	5	.....	5	1	4044	6508	3	7.63	193.8
Keogh, Fort	N. 46 22	W. 105 56	5.04 a.m.	2372	723	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.43	747.5	30.06	763.5	65.0	18.3	81.4	5	6	.....	2	4	3	7	2	2	4587	7382	4	1.32	33.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for August, 1883.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles.	Kil.	0–10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																									
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.00	762.0	30.02	762.5	82.8	28.2	75.7	.....	.....	1	5	3	3	14	3	2	4854	7812	4	6.08	154.4
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.04	763.0	30.06	763.5	74.2	23.4	80.7	3	.....	2	5	3	1	4	13	.....	11137	17923	5	12.39	314.7
Knoxville	N. 35 56	W. 83 58	6.32 a.m	980	299	29.08	738.6	30.09	764.3	66.5	19.2	88.3	3	.....	2	5	...	.....	2	15	4	3372	5427	3	2.48	63.0
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.29	744.0	30.04	763.0	61.8	16.6	75.2	5	1	1	3	15	3	.....	1	2	5053	8051	4	1.71	43.4
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.21	741.9	30.07	763.8	65.8	18.8	85.4	6	2	1	1	7	4	1	.....	9	3343	5541	4	1.95	49.5
Lewiston *a*	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.18	741.2	29.99	761.7	62.1	16.7	55.1	.....	.....	.....	3	.....	10	3	5	9	1760	2832	2	inap.	inap.
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.75	755.6	30.06	763.5	71.1	21.7	87.7	3	6	....	2	3	1	1	6	9	2782	4477	3	2.30	58.4
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	371	113	29.59	751.6	29.98	761.5	59.6	15.3	85.6	.....	1	11	.....	1	2	.....	4	12	3924	6315	3	0	0
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.51	749.5	30.06	763.5	66.1	18.9	79.5	11	4	2	....	4	2	3	3	2	4000	7490	4	0.86	21.8
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	952	199	29.40	746.7	30.07	763.8	69.3	20.7	73.0	2	2	4	2	1	2	.....	6	12	2240	3605	4	1.87	47.5
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.39	746.5	30.03	762.7	59.3	15.2	78.2	2	4	4	6	2	3	5	1	4	6326	10181	3	1.95	49.5
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.02	762.5	30.04	763.0	74.8	23.8	86.1	7	5	5	3	1	...	.....	9	1	8379	13484	5	3.30	83.8
Maginnis Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.66	651.8	29.97	761.2	53.7	12.1	45.2	3	6	6	7	.....	5	1	3	.....	7207	11695	3	0.37	9.4
McKavett, Fort	N. 30 48	W. 100 07	5.28 a.m.	2240	683	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.31	744.5	30.02	762.5	58.9	14.9	73.4	2	8	10	4	1	1	1	1	3	5970	9608	3	2.11	53.6
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.73	755.1	30.06	763.5	70.9	21.6	83.2	1	4	2	2	3	1	.....	12	6	3712	5974	3	1.85	47.0
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.33	745.0	30.05	763.5	61.6	16.4	79.2	6	7	5	7	....	3	.....	3	.....	7003	11367	4	0.38	9.7
Missoula, Fort	N. 46 50	W. 114 07	4.32 a.m.	3140	957	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mobile	N. 30 41	W. 88 02	6.16 a.m.	41	12	30.01	762.2	30.05	763.3	75.9	24.4	86.5	19	1	3	3	.....	.....	.....	4	1	3503	5637	4	5.88	149.4
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.83	757.7	30.06	763.5	73.7	23.2	86.0	5	1	.....	2	2	2	2	5	12	2619	4215	3	2.08	52.8
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	29.02	737.1	30.00	762.0	54.7	12.6	80.2	4	2	3	.....	8	8	2	4	.....	6915	11135	5	3.16	80.3
Morgantown	N. 39 40	W. 79 50	6.49 a.m.	963	293	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.88	606.5	29.96	761.0	41.8	5.4	92.3	1	20	1	1	.....	.....	2	6	.....	24550	39509	3	6.06	153.9
Nashville	N. 36 10	W. 86 47	6.21 a.m.	507	154	29.50	749.3	30.06	763.5	68.1	20.1	89.5	6	4	2	2	3	5	5	4	.....	3357	5402	4	4.47	113.5
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	29.93	760.2	30.04	763.0	62.5	16.9	80.1	12	5	2	4	.....	.....	.....	7	1	4849	7820	3	1.20	32.0
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	30.02	762.5	30.07	763.8	65.8	18.8	75.4	3	7	6	2	1	.....	.....	6	6	3233	5203	4	2.76	70.1
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	29.98	761.5	30.03	762.7	79.7	26.5	79.2	1	1	4	2	....	1	5	5	12	2275	3661	3	4.12	104.6
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.90	759.4	30.07	763.8	66.8	19.3	70.0	1	.....	9	7	.....	1	.....	8	5	4502	7245	4	2.29	58.2
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.01	762.2	30.04	763.0	74.4	23.6	79.3	7	2	1	4	4	2	3	8	.....	4945	7958	5	2.91	73.9
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.17	690.1	29.97	761.2	62.4	16.9	83.6	1	2	1	1	1	9	6	....	10	6000	9656	4	4.51	114.0
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	30.08	764.0	30.12	765.0	56.4	13.6	77.4	3	1	1	3	2	.....	....	.....	21	1371	2206	4	0.01	0.3
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.93	734.8	30.07	763.8	65.0	18.3	89.0	4	....	.....	2	5	3	1	.....	16	1621	2609	5	3.39	86.1
Ogglaamie	N. 71 17	W. 159 40	1.41 a.m.	17	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oswego	N. 43 29	W. 76 35	7.02 a.m.	304	93	29.71	754.6	30.03	762.7	62.9	17.2	78.4	1	2	6	7	6	5	2	2	.....	5151	8290	5	2.16	54.9
Palestine	N. 31 45	W. 95 40	5.45 a.m.	523	162	29.54	750.3	30.08	764.0	73.0	22.8	83.4	8	.....	.....	3	11	2	1	6	.....	4714	7585	3	0.30	7.6
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.02	762.5	30.05	763.3	77.2	25.1	85.8	5	4	4	3	5	2	3	4	1	4631	7453	4	8.75	222.2
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	92	28	29.98	761.5	30.08	764.0	67.3	19.6	86.7	7	6	1	6	2	.....	.....	8	1	4680	7532	3	3.40	86.4
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	18.15	461.0	29.94	760.5	34.9	1.6	77.7	4	4	5	8	3	2	.....	5	.....	9208	14915	2	2.22	56.4
Pioche	N. 37 56	W. 114 26	4.30 a.m.	6110	1862	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	762	232	29.29	744.0	30.08	764.0	62.0	16.7	85.3	2	8	3	..	2	.....	4	9	3	3091	4974	4	3.40	86.4
Poplar River	N. 48 08	W. 105 10	5.07 a.m.	2030	619	.....	.....	.....	.....	.....	.....	.....	3	4	6	1	.....	7	6	3	1	.....	.....	3	1.44	36.0
Port Eads	N. 29 09	W. 89 15	6.11 a.m.	7	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Huron	N. 43 00	W. 82 26	6.38 a.m.	633	193	29.36	745.7	30.02	762.5	59.9	15.5	83.6	5	2	5	7	3	.....	1	7	1	5081	9142	2	0.59	15.0
Portland, Maine	N. 43 39	W. 70 15	7.27 a.m.	45	14	29.95	760.7	30.00	762.0	64.2	17.9	73.0	8	5	8	5	1	.....	1	3	...	4246	6833	2	0.36	9.1
Portland, Oreg	N. 45 32	W. 122 43	3.57 a.m	67	20	30.02	762.5	30.09	764.3	55.7	13.2	86.5	4	3	3	....	2	....	.....	.....	19	2289	3684	2	0.19	4.8
Portsmouth *a*	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	76.3	24.6	82.0	.....	1	.....	2	3	.....	.....	10	1	6802	10945	7	3.03	77.0
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5340	1628	21.88	631.9	29.86	758.4	60.1	15.6	77.7	1	2	3	13	7	1	1	1	2	3551	5715	3	3.26	82.8
Provincetown	N. 42 03	W. 70 11	7.27 a.m.	26	8	30.00	762.0	30.03	762.7	66.0	18.9	75.6	3	6	7	5	.....	.....	5	4	1	5534	8906	4	0.71	18.0
Punta Rassa	N. 26 29	W. 82 01	6.40 a.m.	13	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	350	106	29.59	751.6	29.94	760.5	65.9	18.8	52.2	13	5	.....	.....	7	.....	.....	1	5	3695	5946	0	inap.	inap.
Rochester	N. 43 08	W. 77 42	6 57 a.m.	621	189	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.54	750.3	30.08	764.0	53.9	12.2	79.2	5	7	.....	.....	.....	2	3	8	6	2248	3618	2	0.03	0.8
Sacramento *a*	N. 38 35	W. 121 30	4.02 a.m.	65	20	29.85	758.2	29.92	760.0	60.6	15.9	71.9	3	.....	.....	.....	7	20	.....	.....	.....	4597	7398	0	0	0
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	568	173	29.51	749.5	30.09	764.3	66.5	19.2	88.1	11	1	2	.....	6	2	4	1	4	5304	8632	4	3.34	84.8
Saint Michael, Ft	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.80	756.9	29.84	757.9	47.2	8.4	92.0	1	2	.....	7	11	7	3	.....	.....	9439	15190	9	3.80	96.5
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	811	247	29.18	741.2	30.01	762.2	59.5	15.3	84.1	2	3	3	3	9	2	3	3	3	5124	8246	5	1.22	31.0
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.12	739.6	29.97	761.2	52.2	11.2	92.9	3	10	.....	1	3	8	1	1	4	4296	6914	4	5.16	131.1
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.69	652.5	29.88	758.9	68.8	20.4	43.1	2	.....	1	1	.....	5	2	2	18	3312	5330	3	0.62	15.7
San Antonio	N. 29 25	W. 98 25	5.34 a.m.	673	205	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.88	758.9	29.95	760.7	65.0	18.3	85.8	9	3	6	8	3	1	.....	1	.....	4168	6611	2	0	0
Sandusky	N. 41 25	W. 82 40	6.37 a.m.	639	195	29.41	747.0	30.07	763.8	65.4	18.6	74.6	5	1	7	8	.....	5	1	3	1	7597	12226	5	4.74	120.4
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	30.04	763.0	30.07	763.8	67.8	19.9	76.3	2	5	8	4	1	.....	1	10	.....	9574	15408	4	3.44	87.4
Sanford	N. 43 05	W. 89 24	6.10 a.m.	949	289	29.98	761.5	30.03	762.7	78.2	25.7	89.7	1	3	.....	5	5	8	1	3	5	3641	5860	3	6.74	171.2
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.92	760.0	30.00	762.0	54.7	12.6	91.3	.....	.....	10	17	3	.....	.....	.....	1	9029	14530	7	0	0
Santa Fé	N. 35 41	W. 105 57	5.04 a.m.	7106	2166	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	29.97	761.2	30.06	763.5	77.0	25.0	81.6	9	3	5	8	4	.....	.....	2	.....	4180	6727	4	9.28	235.7
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.44	671.6	29.97	761.2	50.3	10.2	68.9	.....	1	21	5	.....	1	1	1	1	4689	7546	2	0.97	24.6
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.81	757.2	30.04	763.0	73.1	22.8	84.2	6	.....	.....	2	8	2	2	7	4	3057	4920	4	0.72	18.3
Sill, Fort	N. 34 40	W. 98 23	5.34 a.m.	1200	366	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.95	760.7	30.01	762.2	50.4	10.2	83.9	.....	2	11	3	1	2	5	.....	7	3999	6436	7	9.16	232.7
Smith, Fort	N. 35 22	W. 94 24	5.50 a.m.	449	137	29.60	751.8	30.06	763.5	69.5	20.8	88.5	1	.....	.....	.....	.....	1	15	.....	14	2401	3864	4	1.32	33.5
Smithville	N. 33 55	W. 78 01	6.50 a.m.	34	10	30.00	762.0	30.04	763.0	75.0	23.9	81.7	8	1	7	4	2	2	1	6	.....	6704	10789	4	2.58	65.5
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	28.02	711.7	30.02	762.5	50.2	13.4	59.2	4	.....	.....	3	5	3	.....	.....	1	2557	4115	1	0.15	3.8
Springfield, Ill	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.42	747.3	30.08	764.0	64.0	17.8	79.0	3	5	3	2	5	2	6	4	1	4938	7947	3	0.95	24.1
Springfield, Mo	N. 37 12	W. 93 18	5.55 a.m.	1351	412	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Starkville	N. 33 35	W. 88 49	6.13 a.m.	455	123	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stevenson, Fort	N. 47 35	W. 101 28	5.22 a.m.	1750	534	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stockton, Fort	N. 30 53	W. 102 53	5.16 a.m.	3010	917	27.06	687.3	30.00	762.0	68.5	20.3	68.1	1	1	.....	9	13	4	.....	1	2	5976	9617	3	0.85	21.6
Thatcher's Island	N. 42 38	W. 70 34	7.26 a.m.	48	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thomas, Camp	N. 33 04	W. 110 02	4.48 a.m.	2710	826	.....	.....	.....	.....	70.4	21.3	67.9	.....	6	3	3	3	12	1	.....	3	.....	.....	3	2.52	64.0
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.38	746.2	30.04	763.0	64.2	17.9	74.5	7	5	6	5	3	1	1	2	1	5449	8769	4	1.51	38.4
Tucson	N. 32 14	W. 110 53	4.45 a.m.	2309	722	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Unalaska	N. 53 53	W. 166 32	1.02 a.m.	13	4	29.98	761.5	30.01	762.2	47.8	8.8	83.3	4	4	2	12	2	3	.....	3	1	6800	10943	8	4.74	120.4
Verde, Fort	N. 34 33	W. 111 52	4.40 a.m.	?	?	.....	.....	.....	.....	70.0	21.1	44.2	.....	5	1	9	3	9	1	3	.....	.....	.....	1	1.14	29.0
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.82	757.4	30.06	763.5	72.6	22.6	83.9	7	1	.....	3	2	8	3	4	3	3611	5811	2	1.86	47.2
Visalia	N. 36 20	W. 119 17	4.11 a.m.	348	106	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Washakie, Fort	N. 42 59	W. 108 43	4.53 a.m.	5880	1702	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	29.98	761.5	30.09	764.3	67.3	19.6	76.8	11	1	1	4	2	.....	1	3	8	2528	4068	3	3.30	83.8
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.14	663.9	29.88	758.9	61.6	16.4	79.2	2	3	6	2	1	.....	7	4	6	5583	8985	4	0.05	10.5
Williamsport	N. 41 15	W. 77 03	7.00 a.m.	561	171	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	30.00	762.0	30.05	763.3	74.4	23.6	85.2	5	.....	3	0	.....	2	.....	13	2	4012	6457	5	5.19	131.8
Winnemucca	N. 40 59	W. 117 43	4.17 a.m.	4327	1319	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.75	730.5	30.03	762.7	63.6	17.6	77.8	2	3	8	3	3	5	2	1	4	6026	9698	3	2.85	72.4
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.68	753.9	29.82	757.4	80.9	27.2	69.3	2	1	1	1	5	8	1	2	10	3524	5671	2	0.22	5.6
Sub-Series.																											
Bluefields	N. 12 00	W. 83 43	6.31 a.m.	.....	.....	.....	.....	.....	.....	78.8	26.0	.....	7	15	.....	1	.....	.....	.....	7	.....	.....	.....	.....	.....	.....
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.07	560.6	.....	.....	53.0	11.7	74.1	5	1	1	6	6	2	.....	3	7	.....	.....	8	1.89	48.1
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	.....	.....	30.02	762.5	79.1	26.2	81.5	13	2	.....	.....	.....	.....	2	.....	14	3164	5092	4	6.02	108.1
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.04	763.0	30.04	763.0	79.1	26.2	82	.....	.....	.....	.....	.....	21	10	.....	.....	.....	.....	4	2.76	70.1
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.40	746.7	29.87	758.7	78.1	25.6	88	1	.....	.....	.....	9	.....	.....	1	20	.....	.....	9	5.10	129.5
Rivas *a*	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	77.4	25.2	90.6	.....	1	.....	.....	.....	.....	1	28	.....	.....	.....	3	4.34	110.2
St. Paul, Alaska	N. 57 47	W. 152 21	1.59 a.m.	54	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Santiago de Cuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	29.98	761.5	30.04	763.0	46.1	7.8	93.7	7	5	4	4	3	4	1	3	.....	8730	14049	4	6.35	161.3

OCEAN SQUARE DATA FOR AUGUST, 1883.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W. 22.5°	29.99	761.7	80.4	26.9								27		4	1.3
12.5 27.5	30.02	762.5	80.5	26.9								25		5	1.5
12.5 32.5	30.02	762.5	80.5	26.9							2	19	1	9	2.0
12.5 37.5	30.03	762.7	81.2	27.3	2						7	12		10	2.7
12.5 42.5	30.03	762.8	82.3	27.9						1	8	11		11	2.4
12.5 47.5	30.04	763.0	83.2	28.4						3	11	5		12	2.3
12.5 52.5	30.06	763.5	83.8	28.8					2	8	8	5		8	2.2
17.5 22.5	30.04	763.0	79.3	26.3								27		4	1.7
17.5 27.5	30.06	763.5	79.4	26.3								25		6	1.6
17.5 32.5	30.07	763.8	79.8	26.6							2	19		10	2.2
17.5 37.5	30.08	764.0	81.0	27.2							4	17		10	2.7
17.5 42.5	30.05	764.0	81.8	27.7						1	12	9		9	2.7
17.5 47.5	30.09	764.3	82.7	28.2					1	3	10	7		10	2.9
17.5 52.5	30.09	764.3	83.4	28.6					2	7	7	7		8	3.0
17.5 57.5	30.02	762.5	83.8	28.8			1		2	8	9	9		2	3.0
22.5 22.5	30.09	764.3	78.1	25.6								26		5	2.2
22.5 27.5	30.12	765.0	78.6	25.9							3	22		6	2.0
22.5 32.5	30.14	765.5	79.7	26.5							8	13		10	2.2
22.5 37.5	30.14	765.5	79.8	26.6						1	11	11		8	2.3
22.5 42.5	30.14	765.5	81.3	27.4	1					2	15	6		7	2.0
22.5 47.5	30.14	765.5	82.2	27.9		1				9	11	5		5	2.7
22.5 52.5	30.14	765.5	83.0	28.3						10	11	2		8	3.0
22.5 57.5	30.10	764.5	82.9	28.3					3	11	13	2		2	2.7
22.5 62.5	30.09	764.3	83.1	28.4	1			1	7	10	10	2			2.6
22.5 67.5	30.07	763.8	83.1	28.4				2	6	11	9	3			2.4
22.5 72.5	30.07	763.8	83.2	28.4	1	1		2	6	9	8	4			1.9
27.5 22.5	30.15	765.8	76.8	24.9	2							27		2	2.1
27.5 27.5	30.17	766.3	77.6	25.3							4	24		3	1.8
27.5 32.5	30.20	767.1	79.0	26.1						1	13	13		4	2.3
27.5 37.5	30.21	767.3	80.1	26.7						2	16	9		4	2.3
27.5 42.5	30.21	767.3	80.6	27.0						9	14	6		2	2.6
27.5 47.5	30.21	767.3	81.5	27.5	1				3	11	12	2		2	2.7
27.5 52.5	30.20	767.1	82.1	27.8					3	12	10	2		4	2.7
27.5 57.5	30.16	766.1	82.0	27.8	1				6	14	5	2		3	2.8
27.5 62.5	30.11	764.8	82.0	27.8				2	14	10	1	3		1	2.7
27.5 67.5	30.08	764.0	82.0	27.8				5	11	6	6	3			2.5
27.5 72.5	30.05	763.3	82.0	27.8	1	5	2	4	7	6	1	5			2.2
27.5 77.5	30.05	763.3	81.3	27.4	4	4		2	6	10	3	2			1.5
32.5 12.5	30.10	764.5	74.2	23.4	7			1				22		1	1.5
32.5 17.5	30.15	765.8	74.3	23.5				3				28			1.3
32.5 22.5	30.20	767.1	75.6	24.2	1			1				27		2	2.1
32.5 27.5	30.24	768.1	76.3	24.6	3						6	19		3	2.0
32.5 32.5	30.26	768.6	78.0	25.6	1	1				3	6	17			2.3
32.5 37.5	30.27	768.8	79.1	26.2	1			1	2	5	10	10		2	2.0
32.5 42.5	30.27	768.8	79.8	26.6	1	2		1	5	6	8	7		1	2.2
32.5 47.5	30.24	768.1	80.3	26.8	1	2	1	3	10	7	2	4		1	2.0
32.5 52.5	30.20	767.1	80.9	27.2				7	14	9				1	2.7
32.5 57.5	30.15	765.8	80.7	27.1		1		4	17	8				1	2.5
32.5 62.5	30.09	764.3	80.2	26.8	1		1	3	17	8	1				2.6
32.5 67.5	30.04	763.0	80.3	26.8	1	2	1	8	11	2	2	4			2.8
32.5 72.5	30.04	763.0	80.6	27.0	4	3	1	7	9	2	1	3	1		2.0
32.5 77.5	30.01	762.2	78.2	25.7	8	1	4	5	2	1		10			1.8
37.5 12.5	30.12	765.0	72.3	22.4	19	1		1	2			8			2.1
37.5 17.5	30.18	766.6	72.7	22.6	12	2		1	2		1	13			1.9
37.5 22.5	30.25	768.3	73.6	23.1	11	3	1	1	1		1	12		1	1.9
37.5 27.5	30.27	768.8	73.9	23.3	4	5	3	3	1	1	5	8		1	2.0
37.5 32.5	30.27	768.8	75.0	23.9	3	5	1	8	4	1	4	3		2	2.4
37.5 37.5	30.25	768.3	75.8	24.3	4	3	5	9	4	1	3	1		1	2.6
37.5 42.5	30.24	768.1	76.2	24.6	3	6	2	5	11	1	1	1		1	2.8
37.5 47.5	30.21	767.3	76.6	24.8	2	2	3	6	13	2	1	1		1	2.6
37.5 52.5	30.17	766.3	77.5	25.3				12	14	1	1	2		1	3.2
37.5 57.5	30.11	764.8	77.6	25.3		2	1	7	16	3	1			1	2.8
37.5 62.5	30.06	763.5	75.9	24.4	2	2	1	11	10	4	1				2.9
37.5 67.5	30.02	762.5	74.5	23.6	1	3	3	9	5	2	4	4			3.1
37.5 72.5	30.02	762.5	73.3	22.9	9	2	1	3	5		1	10			2.7
42.5 12.5	30.13	765.3	70.5	21.4	11	7		1	2			10			2.1
42.5 17.5	30.17	766.3	70.3	21.3	6	7	1	3	3	1	1	9			2.2
42.5 22.5	30.19	766.8	70.7	21.5	5	8	2	9	1	1		5			2.4
42.5 27.5	30.18	766.6	70.1	21.2	2	5	6	9	7		2				2.9
42.5 32.5	30.16	766.1	70.8	21.6	1	8	3	11	3		2	2		1	3.5
42.5 37.5	30.17	766.3	71.3	21.8	1	6	7	12	3		1	1			2.7
42.5 42.5	30.10	766.1	70.3	21.3	1	7	5	10	7	1					3.3
42.5 47.5	30.12	765.0	65.0	18.3	6	1	2	9	10	1		2			3.0
42.5 52.5	30.09	764.3	68.6	20.3	1	1	3	12	9	3		2			3.2
42.5 57.5	30.06	763.5	69.9	21.1		4	6	10	5	2	3	1			3.1
42.5 62.5	30.03	762.7	67.5	19.7	2	5	4	11	5	2	1	1			3.0
42.5 67.5	30.01	762.2	65.0	18.3	2	3	5	8	4		2	7			2.6
47.5 12.5	30.12	765.0	66.3	19.1	4	8	4	4	1	3	2	5			2.9
47.5 17.5	30.11	764.8	65.3	18.5	4	5	7	6	6	1	1	1			2.7
47.5 22.5	30.07	763.8	65.0	18.3	3	7	4	10	7						3.5
47.5 27.5	30.07	763.8	65.1	18.4	2	7	4	11	6		1				3.8
47.5 32.5	30.03	762.7	65.2	18.4	4	7	5	10	3			2			3.6
47.5 37.5	30.04	763.0	64.7	18.2	2	6	10	8	2			3			4.0
47.5 42.5	30.03	762.7	61.9	16.6	2	5	3	14	6	1					3.4
47.5 47.5	30.00	762.0	58.7	14.8	2	3	4	14	6	1		1			2.9
52.5 12.5	29.97	761.2	60.1	15.6		8	6	13	3	1					3.3
52.5 17.5	29.96	761.0	60.1	15.6	1	8	7	11	2	1	1				3.5
52.5 22.5	29.93	760.2	59.2	15.1	2	7	2	14	3	2	1				3.7
52.5 27.5	29.92	760.0	58.8	14.9	1	8	5	8	5	2	1	1			3.8
52.5 32.5	29.90	759.4	58.5	14.7	3	8	2	13	1	1	1	2			3.6
52.5 37.5	29.92	760.0	57.7	14.3	4	5	7	8	6			1			3.4
52.5 42.5	29.83	758.9	55.5	13.1	4	7	2	9	8	1					3.3
52.5 47.5	29.86	758.4	52.9	11.6	4	11	1	8	5	2					3.3
57.5 12.5	29.78	756.4	56.2	13.4	3	5	4	14	1	1	1	2			3.6
57.5 17.5	29.79	756.7	55.4	13.0	3	5	3	12	2	2	2	2			3.6
57.5 22.5	29.79	756.7	54.1	12.3	3	4	9	6	4	1	1	3			3.7
57.5 27.5	29.73	756.4	53.2	11.8	2	5	10	4	3	2	1	4			3.4
57.5 32.5	29.78	756.4	51.8	11.0	2	9	2	8	2	2		6			3.3
57.5 37.5	29.78	756.4	50.5	10.3	6	6	6	5	3	2	2	1			3.3
57.5 42.5	29.77	756.1	49.6	9.8	4	6	4	5	5	4		1		2	3.1
57.5 47.5	29.73	756.4	48.6	9.2	5	9		3	5	4	1	1		3	3.0

CAPE HORN (S. 53° 31′, W. 70° 25′).

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount. Upper.	Clouds. Amount. Lower.	Clouds. Direction. Upper	Clouds. Direction. Lo'er	Rainfall or melted snow in past 24 hours.		WEATHER
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles perhour	Metrs pr sec.	0–10	0–10	0–10	From	From	Inch.	Mill.	
1882.																		
October 1	29.21	741.8	29.25	743.0	42.4	5.8	99	wsw.			1					0.102	2.6	R. M. G.
2	29.31	744.4	29.35	745.6	39.2	4.0	85	w.			2			w.		0.122	3.1	Sleet.
3	29.51	749.5	29.56	750.7	39.2	4.0	98	sw.			1.5					0.047	1.2	R. a.m.; B. p.m.
4	29.06	738.2	29.11	739.4	45.5	7.5	68	n.			2			nw.		0.035	0.9	
5	29.02	737.2	29.07	738.4	39.2	4.0	98	w.			1.5					0.197	5.0	H. P.
6	29.23	742.5	29.28	743.7	38.7	3.7	76	w.			0.5					0.327	8.3	H. S.
7	29.46	748.3	29.51	749.5	42.1	5.6	100	calm.			0					0.122	3.1	G. R.
8	29.21	742.0	29.26	743.2	49.8	9.9	93	calm.			0					0.012	0.3	G.
9	29.45	748.0	29.50	749.2	52.2	11.8	63	nnw.			1.5					0.043	1.1	O.
10	29.99	761.8	30.04	763.0	46.6	8.1	68	wnw.			1.5					0	0	B.
11	29.53	750.0	29.58	751.2	46.8	8.2	66	n.			1.5					0	0	B.
12	29.84	757.9	29.89	759.1	50.4	10.2	59	n.			0.5					0	0	B.
13	29.83	757.6	29.87	758.8	55.0	12.8	96	wsw.			0.5					0	0	B.
14	29.73	755.2	29.78	756.4	53.6	12.0	68	nnw.			1.0			nnw		0	0	Grey sky.
15	29.58	751.4	29.63	752.6	50.0	10.0	76	calm.			0					0.024	0.6	Grey sky.
16	29.15	740.3	29.19	741.5	41.7	5.4	96	w.			1.5			w.		0.532	13.5	R. C.
17	29.43	747.5	29.48	748.7	40.6	4.8	95	w.			0			sw.		0.484	12.3	R. H.
18	29.33	745.0	29.38	746.2	46.0	7.8	75	n.			1.5			n.		0.016	0.4	O.
19	29.30	744.2	29.35	745.4	38.3	3.5	96	w.			5			w.		0.547	13.9	R.
20	29.51	749.5	29.56	750.7	43.9	6.6	98	calm.			0					0.150	3.8	R.
21	29.10	739.1	29.15	740.3	45.0	7.2	96	e.			1					0.055	1.4	B.
22	29.27	743.4	29.32	744.6	41.7	5.4	92	wsw.			2	k.		wsw.		0.008	0.2	B.
23	28.97	735.8	29.02	737.0	45.3	7.4	87	ene.			1					0.039	1.0	B.
24	28.68	728.4	28.72	729.6	34.0	1.1	95	wnw.			1.5					0.232	5.9	S. H.
25	28.91	734.2	28.95	735.4	30.9	— 0.6	92	w.			2.5					0.020	0.5	S.
26	28.80	731.6	28.85	732.8	36.0	2.2	88	wsw.			1					0.091	2.3	S.
27	29.00	736.5	29.04	737.7	32.0	0.0	84	ssw.			2					0.063	1.6	S. H.
28	29.33	745.0	29.38	746.2	45.3	7.4	40	nw.			1					0.122	3.1	S. H.
29	28.87	733.2	28.91	734.4	45.9	7.7	61	n.			1.5					0.004	0.1	B.
30	28.76	730.4	28.80	731.6	52.2	11.2	42	w.			1.5					0.055	1.4	B.
31	28.85	732.9	28.90	734.1	36.9	2.7	86	w.			1			w.		0.024	0.6	B.
Mean	29.26	743.3	29.31	744.5	43.5	6.4	80.8				1.5					3.473	88.2	
November 1	29.14	740.2	29.19	741.4	45.1	7.3	65	n.			1					0	0	B.
2	28.88	733.5	28.93	734.7	50.2	10.1	70	wsw.			2			w.		0.051	1.3	B. a.m.; R. p.m.
3	29.07	738.4	29.12	739.6	48.7	9.3	51	nw.			2			nw.		0.079	2.0	B. a.m.; R. p.m.
4	29.18	741.2	29.23	742.4	45.0	7.2	61	wsw.			2.5			wsw.		0.205	5.2	H. R. S.
5	29.15	740.5	29.20	741.7	45.0	7.2	95	calm.			0					0.134	3.4	G. R.
6	29.06	738.0	29.10	739.2	44.6	7.0	94	w.			2			w.		0.252	6.4	M. Q.
7	29.54	750.3	29.59	751.5	44.2	6.8	94	w.			2.5			w.		0.142	3.6	P.
8	29.46	748.2	29.50	749.4	48.0	8.9	89	w.			1.5			w.		0.126	3.2	R. M.
9	29.11	739.4	29.16	740.6	51.6	10.9	90	ssw.			1.5			ssw.		0.106	2.7	R.
10	29.08	738.7	29.13	739.9	45.0	7.2	89	w.			2			w.		0.016	0.4	B.
11	29.33	745.0	29.38	746.2	47.8	8.8	56	sw.			2			sw.		0.004	0.1	B.
12	29.38	746.3	29.43	747.5	42.3	5.7	94	wnw.			2			wnw.		0.173	4.4	R. H.
13	29.83	757.7	29.88	758.9	42.4	5.8	88	wsw.			1			wsw.		0.012	0.3	B.
14	29.69	754.2	29.74	755.4	50.2	10.1	70	w.			1.5			w.		0.035	0.9	R.
15	29.56	750.9	29.61	752.1	42.1	5.6	97	w.			5			w.		0.173	4.4	Q.
16	29.29	743.9	29.34	745.1	46.2	7.9	94	nw.			1			nw.		0.020	0.5	G. P.
17	28.89	733.7	28.93	734.9	44.2	6.8	98	ene.			1			ene.		0.319	8.1	R.
18	29.15	740.3	29.19	741.5	44.2	6.8	96	wsw.			3			wsw.		0.339	8.6	R.
19	29.00	736.6	29.05	737.8	47.5	8.6	73	n.			1.5			n.		0.142	3.6	R.
20	29.08	738.6	29.13	739.8	42.8	6.0	89	w.			1.5			w.		0.165	4.2	G. Q.
21	29.26	743.2	29.31	744.4	47.8	8.8	87	nw.			2			nw.		0.402	10.2	M. R.
22	28.95	735.3	29.00	736.5	52.2	11.2	86	n.			1			n.		0.039	1.0	R.
23	28.87	733.3	28.92	734.5	50.7	10.4	53	wnw.			1			wnw.		0.035	0.9	Cloudy.
24	28.88	733.5	28.93	734.7	47.1	8.4	72	wnw.			1.5			wnw.		0.110	2.8	Grey sky.
25	29.14	740.2	29.19	741.4	42.4	5.8	96	sw.			2			sw.		0.594	15.1	R. M. H.
26	29.74	755.4	29.79	756.6	39.6	4.2	92	ssw.			5			ssw.		0.016	0.4	Q. S. H.
27	29.47	748.6	29.52	749.8	47.5	8.6	79	wnw.			0.5					0.276	7.0	G. R.
28	28.91	734.2	28.95	735.4	40.1	4.5	75	w.			7			w.		0.563	14.3	Q. S. H.
29	29.10	739.2	29.15	740.4	40.1	4.5	80	wsw.			5			wsw.		0.177	4.5	Q. a.m.; B. p.m.
30	29.20	741.7	29.25	742.9	43.3	6.3	90	w.			7			w.		0.248	6.3	Q. L.
Mean	29.21	741.9	29.26	743.1	45.7	7.6	82.1				2.0					4.953	125.8	
December 1	29.63	752.5	29.67	753.7	47.7	8.7	94	w.			2			w.		0.059	1.5	B.
2	29.77	756.1	29.82	757.3	58.3	14.6	51	nne.			1			nw.		0.004	0.1	B.
3	29.72	755.0	29.77	756.2	59.0	15.0	65	w.			1.5			w.		0.102	2.6	B.
4	29.67	753.7	29.72	754.9	54.7	12.6	67	sw.			2.5			sw.		0	0	B.
5	29.81	757.1	29.85	758.3	52.7	11.5	62	ne.			0.5							R. Q.
6	29.75	755.6	29.80	756.8	48.7	9.3	81	wnw.			1.5			wnw		0.417	10.0	R. Q.
7	29.47	748.6	29.13	739.8	42.8	6.0	97	ene.			1.5			ene.		0.142	3.6	O. G.
8	29.19	741.3	29.23	742.5	47.1	8.4	67	n.			1					0.039	1.0	G. R.
9	28.96	735.5	29.00	736.7	49.3	9.6	78	ne.			0.5					0.291	7.4	G. R.
10	28.70	728.9	28.74	730.1	47.7	8.7	75	w.			1.5			w.		0.268	6.8	R. H.
11	28.79	731.2	28.84	732.4	47.5	8.6	81	wsw.			3			wsw.		0.193	4.9	Q. H.
12	28.82	732.1	28.87	733.3	39.2	4.0	97	sw.			1.5					0.524	13.3	O. Q. H.
13	29.26	743.1	29.30	744.3	38.7	3.7	91	s.			2			s.		0.031	0.8	B.
14	29.79	756.6	29.84	757.8	36.7	2.6	65	nw.			1.5					0.146	3.7	R. G.
15	29.65	753.0	29.69	754.2	55.0	12.8	75	wsw.			5			wsw.		0.004	0.1	B.
16	29.37	745.9	29.41	747.1	51.1	10.6	99	w.			1.5					0.114	2.9	G.
17	29.54	750.4	29.59	751.6	51.1	10.6	64	w.			1.5					0.063	1.6	G. R.
18	29.17	740.9	29.22	742.1	50.9	10.5	81	n.			1					0.283	7.2	T. L. R.
19	29.24	742.7	29.29	743.9	43.7	6.5	71	wsw.			2.5			wsw.		0.220	5.6	S. H.
20	29.34	745.3	29.39	746.5	40.6	4.8	97	w			2.5			w.		0.366	9.3	O. S. H.
21	29.03	737.4	29.08	738.6	53.4	11.9	48	nw.			1					0.067	1.7	B. a.m.; R. p.m.
22	29.32	744.6	29.36	745.8	46.4	8.0	78	ssw.			1					0.118	3.0	R.
23	29.65	753.1	29.70	754.3	42.4	5.8	88	wsw.			2			wsw.		0.224	5.7	G. R.
24	29.20	741.7	29.25	742.9	48.2	9.0	99	w.			2.5			w.		0.618	15.7	R.
25	29.33	745.0	29.38	746.2	42.1	5.6	85	w.			5			w.		0.083	2.1	B. Q.
26	29.34	745.1	29.38	746.3	42.1	5.6	93	se.			0.5					0.079	2.0	Cloudy.
27	29.73	755.1	29.78	756.3	47.3	8.5	81	w.			2			w.		0.169	4.3	G.
28	29.41	747.0	29.46	748.2	54.3	12.4	83	wsw.			5			wsw.		0.047	1.2	Q.
29	29.42	747.3	29.47	748.5	51.1	10.6	99	calm.			0					0.524	13.3	O. P.
30	29.34	745.3	29.39	746.5	51.4	10.8	71	wsw.			5			wsw.		0.425	10.8	B.
31	29.59	751.6	29.64	752.8	42.1	5.6	90	wsw.			4			sw.		0.319	8.1	O. R.
Mean	29.39	746.4	29.43	747.6	47.8	8.8	79.8				1.8					5.941	150.9	

CAPE HORN—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount. Upper.	Clouds. Amount. Lower.	Clouds. Direction. Up'er	Clouds. Direction. Lo'er	Rainfall in past 24 hours.		WEATHER.
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles perhour	Metrs prsec.	0-10	0-10	0-10	From	From	Inch.	Mill.	
1883.																		
January 1	29.53	750.1	29.58	751.3	52.0	11.1	82	calm			0					0.004	0.1	
2	29.14	740.1	29.19	741.3	48.2	9.0	91	wsw.			2.5			sw.		0.353	9.0	Q.
3	29.28	743.6	29.32	744.8	43.7	6.5	71	wsw.			5			wsw.		0.071	1.8	R. H.
4	29.06	738.1	29.11	739.3	47.1	8.4	96	se.			1					0.122	3.1	O. R.
5	29.33	744.9	29.37	746.1	47.1	8.4	87	w.			4			w.		0.150	3.8	R.
6	29.60	751.9	29.65	753.1	45.9	7.7	96	sw.			1.5			sw.		0.020	0.5	B.a.m.;S.H.p.m.
7	29.41	746.9	29.45	748.1	53.8	12.1	62	nw.			1			w.		0.126	3.2	O. R.
8	28 90	734.0	28.95	735.2	50.4	10.2	66	w.			1.5			w.		0.417	10.6	B.a.m.;R.H.p.m
9	28.94	735.1	28.99	736.3	41.2	5.1	94	w.			5			w.		0.661	16.8	Q. H. S.
10	29.35	745.6	29.40	746.8	43.7	6.5	78	wsw.			5			sw.		0.469	11.9	Q.
11	29.65	753.0	29.69	754.2	43.9	6.6	97	sw.			3			sw.		0.173	4.4	Q.
12	29.63	752.6	29.68	753.8	46.4	8.0	65	sw.			5			sw.		1.039	26.4	R. S. H.
13	29.60	751.9	29.65	753.1	47.5	8.6	98	wsw.			2.5			sw.		0.354	9.0	R.
14	29.74	755.5	29.79	756.7	49.8	9.9	85	wsw.			2			wsw.		0.035	0.9	O. P.
15	29.76	755.9	29.81	757.1	46.6	8.1	92	w.			2			w.		0.043	1.1	O.
16	29.60	751.7	29.64	752.9	52.9	11.6	79	w.			1.5			nw.		0	0	B.
17	29.55	750.5	29.60	751.7	52.7	11.5	67	w.			1.5			nw;w.		0.071	1.8	B.
18	29.47	748.4	29.51	749.6	49.6	9.8	70	wsw.			1.5			wsw.		0	0	fair.
19	28.98	736.1	29.07	738.3	54.0	12.3	66	wnw.			1.5			wnw.		0.134	3.4	O. R.
20	28 97	735.8	29.02	737.0	45.3	7.4	98	w.			2.5			w.		0.346	8.8	O. R.
21	28.74	730.2	28.80	731.4	39.9	4.4	81	wsw.			5			wsw.		0.272	6.9	Q. H. R.
22	28.61	726.6	28.65	727.8	42.6	5.9	87	sw.			4			sw.		0.740	18.8	Q. H. S.
23	28.95	735.6	29.01	736.8	45.1	7.3	79	ssw.			1			ssw.		0.114	2.9	B.
24	29.27	743.5	29.32	744.7	41.4	5.2	92	wnw.			1.5			wnw.		0.091	2.3	H. S.
25	29.81	757.1	29.85	758.3	40.1	4.5	73	sw.			2.5			sw.		0.051	1.3	H. S.
26	29.99	761.8	30.04	763.0	50.5	10.3	57	nne.			0.5			nw.		0	0	
27	29.62	752.3	29.67	753.5	56.5	13.6	94	wsw.			2			wsw.		0.165	4.2	O. M.
28	29.46	748.3	29.51	749.5	46.0	7.8	95	wsw.			2			wsw.		0.020	0.5	O.
29	29.56	750.9	29.61	752.1	41.7	5.4	95	sw.			1			sw.		0.177	4.5	R.
30	29.47	748.6	29.50	749.3	51.4	10.8	89	w.			2			w.		0.012	0.3	cloudy.
31	29.48	748.8	29.55	750.5	43.7	6.5	92	wsw.			2.5			wsw.		0.157	4.0	O. R.
Mean	29.37	746.0	29.42	747.2	47.1	8.4	83.0				2.1					6.390	162.3	
February 1	29.75	755.6	29.80	756.8	43.2	6.2	94	wsw.			2.5			wsw.		0.343	8.7	O.
2	29.67	753.5	29.71	754.7	47.7	8.7	95	sw.			6			sw.		0.400	10.3	R.
3	29.75	755.6	29.80	756.8	50.2	10.1	99	wsw.			2.5			wsw.		0.016	0.4	G.
4	29.73	755.1	29.78	766.3	59.2	15.1	70	wsw.			1.5			wsw.		0	0	B.
5	29.56	750.7	29.60	751.9	54.0	12.2	73	ene.			0.5					0.110	2.8	G. R.
6	29.57	751.1	29.62	752.3	50.7	10.4	82	wsw.			2.5			wsw.		0.012	0.3	O. P.
7	29.78	756.5	29.83	757.7	55.9	13.3	69	calm			0					0.020	0.5	O.
8	29.55	750.6	29.60	751.8	54.9	12.7	92	wsw.			1.5			wsw.		0.079	2.0	R.a.m.; B.p.m
9	29.49	749.0	29.54	750.2	57.6	14.2	83	se.			0-5			n.		0.004	0.1	
10	29.08	738.7	29.13	739.9	52.9	11.6	90	wsw.			1			wsw.		0.098	2.5	R.
11	29.43	747.6	29.48	748.8	44.6	7.0	70	n.			1					0.028	0.7	O.
12	29.39	746.5	29.44	747.7	50.7	10.4	76	w.			2.5			w.		0.154	3.9	Q.
13	29.84	757.9	29.89	759.1	47.5	8.6	65	wsw.			1.5			sw.		0.039	1.0	Q.
14	29.68	753.8	29.72	755.0	47.3	8.5	89	w.			2			w.		0.028	0.7	G. R.
15	29.89	759.1	29.93	760.3	46.6	8.1	96	calm			0					0.071	1.8	M. R.
16	29.98	761.6	30.03	762.8	52.7	11.5	78	wsw.			1.5					0	0	B.
17	29.84	757.8	29.88	759.0	54.7	12.6	76	calm			0					0.016	0.4	B.
18	29.89	759.1	29.93	760.3	58.6	14.8	50	w.			1.5			w.		0	0	B.
19	29.75	755.6	29.80	756.8	54.7	12.6	94	wsw.			1.5					0	0	B.
20	29.41	747.1	29.46	748.3	63.0	17.2	59	calm			0					0.161	4.1	B.a.m.; R.p.m
21	29.43	747.4	29.47	748.6	44.2	6.8	93	wsw.			2.5			wsw.		0.047	1.2	Q. L.
22	29.30	744.2	29.35	745.4	44.6	7.0	92	wnw.			2			wnw.		0.173	4.4	Q. L.
23	28.97	735.8	29.02	737 0	49.3	9.6	93	w.			2.5			w.		0.335	8.5	G.
24	28.89	733.7	28.93	734.9	43.5	6.4	83	n.			1.5			w.		0.244	7.2	G. P.
25	29.02	737.2	29.07	738.4	41.2	5.1	88	nw.			0.5					0.094	2.4	O. R.
26	28.48	723.3	28.52	724.5	37.9	3.3	92	sw.			3			sw.		0.250	6.5	H. S. P.
27	28.97	735.7	29.00	736.7	36.7	2.6	94	sw.			2.5			sw.		0.154	3.9	P. H. S.
28	29.54	750.2	29.58	751.4	42.1	5.6	90	wnw.			4			wnw.		0.492	12.5	H. S. R. Q.
Mean	29.48	748.9	29.53	750.1	49.5	9.7	83.0				1.7					3.378	85.8	
March 1	28.99	736.4	29.04	737.6	48.2	9.0	95	w.			2.5			w.		0.626	15.9	O. R.
2	29.34	745.3	29.39	746.5	41.4	5.2	94	ssw.			5			ssw.		0.217	5.5	M. R.
3	29.10	739.0	29.14	740.2	46.8	8.2	96	w.			1			w.		0.551	14.9	O. R.
4	29.02	737.2	29.07	738.4	41.0	5.6	94	w.			5			w.		0.382	9.7	G.
5	28.65	728.0	28.71	729.2	46.8	8.2	86	n.			2			w.		0.146	3.7	G. Q. R.
6	28 58	726.0	28.63	727.2	37.4	3.0	79	wnw.			8			nnw.		0.587	14.9	H. S.
7	29.28	743.6	29.32	744.8	38.8	3.8	74	wsw.			2			wsw.		0.157	4.0	R.
8	28.55	725.2	28.60	726.4	43.5	6.4	94	calm			0					0.378	9.6	R.
9	29.17	741.0	29.22	742.2	43.2	6.2	94	calm			0			w.		0.138	3.4	R.; P. H. S.
10	29.85	758.3	29.90	759.5	41.2	5.1	75	n.			1			nw.		0.008	0.2	B.
11	29.52	749.8	29.57	751.0	48.9	9.4	61	wnw.			1			wnw.		0.177	4.5	O. R.
12	29.63	752.6	29.68	753.8	49.3	9.6	72	wsw.			3			wsw.		0.122	3.1	O. Q.
13	29.62	752.3	29.67	753.5	49.1	9.5	56	wsw.			1.5			wsw.		0.031	0.8	O. P.
14	29.27	743.5	29.32	744.7	52.5	11.4	63	se.			0.5			nw.		0.047	1.2	grey sky.
15	29.17	740.9	29.22	742.1	45.7	7.6	74	calm			0					0	0	
16	29.21	741.9	29.26	743.1	44.1	6.7	89	wsw.			1.5			wsw.		0.055	1.4	G.
17	29.29	743.9	29.34	745.1	39.2	4.0	89	calm			0			wnw.		0.295	7.5	sleet; H. R.
18	28.85	732.7	28.89	733.9	46.4	8.0	74	n.			1.5			n.		0.169	4.3	O. Q.
19	29.05	737.8	29.10	739.0	42.8	6.0	72	nne.			0.5					0.047	2.2	O. R.
20	28.92	734.5	28.97	735.7	43.0	6.1	63	nne.			1.5			nw.		0	0	O.
21	29.15	740.3	29.19	741.5	41.0	5.0	85	nw.			1			nw.		0.106	2.7	O. R.
22	29.04	737.7	29.09	738.9	46.0	7.8	73	ne.			1			nw.		0	0	G.
23	28.87	733.2	28.91	734.4	43.9	6.6	85	calm			0			wnw.		0	0	B.
24	28.89	733.8	28.94	735.0	46.0	7.8	68	ene.			2					0	0	grey sky.
25	28.93	734.8	28.98	736.0	41.0	5.0	92	sw.			2.5			sw.		0.732	18.6	M. R. S.
26	29.02	737.0	29.06	738.2	39.0	3.9	93	wsw.			1.5			wsw.		0.047	16.4	M. R.
27	29.22	742.3	29.27	743.5	37.0	2.8	77	calm			0					0.004	0.1	O.
28	29.29	743.9	29.34	745.1	38.1	3.4	70	ne.			0.5			e.				O. R. S.
29	29.28	743.7	29.33	744.9	35.4	1.9	90	sw.			1			sw.		0.071	1.8	sleet; S.
30	29.41	747.0	29.46	748.2	33.8	1.0	76	sse.			1.5			sse.		0.043	1.1	O. S; sleet.
31	29.68	753.8	29.72	755.0	38.8	3.8	91	nnw.			1					0.228	5.8	R.
Mean	29.16	740.6	29.21	741.8	43.0	6.1	80.5				1.4					6.000	153.4	

CAPE HORN—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Mill.	Reduced to sea-level. Inch.	Mill.	Temperature of the air. Fah.	Cent.	Relative Humidity Per cent.	Wind. Direction. From.	Velocity. Miles perhour	Metrs prsec.	Force 0-10	Clouds. Amount. Upper. 0-10	Lower. 0-10	Direction. Up'er From	Lo'er From	Rainfall in past 24 hours. Inch.	Mill.	WEATHER.
1883. April 1	29.40	746.8	29.45	748.0	41.7	5.4	86	w.			1.5			w.		0.055	1.4	B.
2	29.50	749.3	29.55	750.5	42.4	5.8	94	wsw.			2			w.		0.362	9.2	G. R.
3	29.57	751.0	29.61	752.2	45.3	7.4	95	wnw.			0.5			wnw.		0.236	6.0	M. R.
4	29.38	746.3	29.43	747.5	46.0	7.8	94	w.			2			w.		0.071	1.8	B.
5	29.28	743.8	29.33	745.0	45.7	7.6	72	wnw.			1			wnw.		0.016	0.4	G. R.
6	29.41	746.9	29.45	748.1	44.4	6.9	85	n.			1.5			n.		0	0	B.
7	29.36	745.8	29.41	747.0	39.7	4.3	93	wsw.			5			wsw.		0.154	3.9	Heavy gale.
8	29.29	744.0	29.34	745.2	43.7	6.5	72	ne.			1.5					0.039	1.0	O. H.; sleet.
9	29.28	743.6	29.32	744.8	38.8	3.8	90	nnw.			1.5			wnw.		0.039	1.0	Sleet.
10	29.15	740.5	29.20	741.7	41.7	5.4	94	calm			0					0.028	0.7	B.
11	29.21	741.8	29.25	743.0	42.8	6.0	90	wsw.			1			wsw.		0.181	4.6	O. P.
12	29.39	746.4	29.43	747.6	41.5	5.3	95	wnw.			1			wnw.		0.598	15.2	M. R.
13	29.42	747.2	29.47	748.4	37.8	3.2	96	calm			0			ne.		0.193	4.9	O.
14	28.87	733.2	28.91	734.4	38.5	3.6	94	w.			1.5			w.		0.039	1.0	Cloudy.
15	29.06	738.2	29.11	739.4	37.6	3.1	73	wsw.			1.5			wsw.		0.461	11.7	Sleet.
16	29.32	744.6	29.36	745.8	34.5	1.4	94	ssw.			0.5			ssw.		1.032	26.2	R. S.
17	29.39	746.5	29.44	747.7	33.8	1.0	95	sw.			1			w.		0	0	B.
18	29.51	749.6	29.56	750.8	38.5	3.6	90	wsw.			3			wsw.		0.114	2.9	H. P.
19	29.54	750.2	29.58	751.4	36.9	2.7	95	calm			0					0.272	6.9	M. R.
20	28.96	735.5	29.00	736.7	45.0	7.2	94	w.			2			w.		0.197	5.0	M. R.
21	29.04	737.7	29.09	738.9	37.8	3.2	96	ene.			0.5					0.134	3.4	O.
22	28.83	732.2	28.87	733.4	33.8	1.0	95	ssw.			3			ssw.		0.130	3.3	S.; sleet.
23	29.46	748.2	29.50	749.4	36.7	2.6	97	wnw.			2			wnw.		1.378	35.0	G. M. R.
24	29.40	746.7	29.45	747.9	43.2	6.2	96	w.			2			w.		0.909	23.1	R. H.
25	29.72	754.9	29.77	756.1	39.2	4.0	74	wsw.			3			wsw.		0.161	4.1	O. R.
26	29.50	749.3	29.55	750.5	39.2	4.0	80	ssw.			2					0.079	2.0	O. P. R. H.
27	30.05	763.3	30.10	764.5	38.8	3.8	94	w.			1			w.		0.039	1.0	B.
28	29.95	760.7	30.00	761.9	36.7	2.6	94	calm			0					0	0	O.
29	29.55	750.5	29.60	751.7	41.0	5.0	68	calm			0					0	0	B.
30	29.56	750.9	29.57	751.1	44.4	6.9	95	wsw.			1.5			wsw.		0.083	2.1	M. R.
Mean	29.38	746.2	29.43	747.4	40.3	4.6	89.3				1.4					7.000	177.8	
May 1	30.12	765.1	30.17	766.3	39.2	4.0	66	wsw.			1			wsw.		0	0	O.
2	30.17	766.3	30.22	767.5	37.8	3.2	89	calm			0					0	0	B.
3	30.04	763.0	30.09	764.2	41.0	5.0	64	ne.			1					0	0	
4	29.85	758.3	29.90	759.5	45.3	7.4	72	n.			2					0	0	B.
5	29.69	754.1	29.74	755.3	38.7	3.7	92	wsw.			0.5					0.012	0.3	R. M.
6	29.71	754.5	29.75	755.7	44.6	7.0	93	wsw.			0.5			wsw.		0.020	0.5	R. M.
7	29.45	747.9	29.49	749.1	38.8	3.8	89	w.			4			w.		0.020	0.5	Cloudy.
8	29.42	747.2	29.47	748.4	37.8	3.2	89	wnw.			2			wnw.		0.138	3.5	M. P. H. S.
9	29.43	747.6	29.48	748.8	36.5	2.5	90	wnw.			1.5			wnw.		0.287	7.3	R.
10	29.68	753.8	29.72	755.0	38.7	3.7	95	wsw.			4			wsw.		0.161	4.1	M. R.
11	29.28	743.8	29.33	745.0	34.9	1.6	92	n.			0.5					0.071	1.8	H.; sleet.
12	29.30	744.3	29.35	745.5	29.3	—1.5	80	w.			2			w.		0.039	1.0	P. S.
13	29.03	737.3	29.08	738.5	36.5	2.5	96	calm			0					0.177	4.5	M. R.
14	28.87	733.2	28.91	734.4	35.1	1.7	92	calm			0			w.		0.327	8.3	M. R.
15	29.29	744.0	29.34	745.2	36.7	2.6	96	e.			1.5			e.		0.146	3.7	M. R.
16	28.87	733.3	28.92	734.5	40.5	4.7	92	e.			2					0.579	14.7	G. R.
17	29.23	742.5	29.28	743.7	38.8	3.8	95	w.			1.5			w.		0.161	4.1	M. R.
18	29.50	749.2	29.54	750.4	40.6	4.8	90	w.			1.5			w.		0.083	2.1	G.
19	29.64	752.9	29.69	754.1	39.2	4.0	52	wsw.			5			wsw.		0.012	0.3	P. H. S.
20	29.63	752.5	29.67	753.7	37.8	3.2	89	nw.			2			nw.		0.209	5.3	Q.
21	29.08	738.7	29.13	739.9	46.4	8.0	73	n.			5			nnw.		0.087	2.2	R. p. m.
22	29.45	748.0	29.50	749.2	40.1	4.5	49	n.			2			nw.		0.043	1.1	B. a.m.; R. p.m.
23	29.17	740.9	29.26	743.1	37.4	3.0	70	w.			4			nw.		0.197	5.0	H. S.
24	29.47	748.4	29.52	749.6	33.8	1.0	65	sw.			4			wsw.		0.496	12.6	G. P.; sleet.
25	29.61	752.1	29.66	753.3	38.3	3.5	95	w.			2.5					0.720	18.3	M. R.
26	29.65	753.1	29.70	754.3	43.3	6.3	88	e.			1					0.268	6.8	M.
27	29.59	751.5	29.63	752.7	41.5	5.3	95	sw.			0.5			nw.		0.043	1.1	O.
28	30.03	762.8	30.08	764.0	37.8	3.2	95	e.			0.5					0.004	0.1	B.
29	29.62	752.4	29.67	753.6	47.1	8.4	76	ne.			2.5			nnw.		0.091	2.3	O.
30	29.53	750.0	29.58	751.2	41.4	5.2	95	w.			1					0.150	3.8	R. M.
31	29.63	752.5	29.67	753.7	32.4	0.2	95	sw.			0.5					0	0	
Mean	29.52	749.7	29.56	750.9	39.0	3.9	84.4				1.6					4.539	115.3	
June 1	29.44	747.7	29.48	748.9	42.4	5.8	66	nne.			2			n.		0	0	Cloudy.
2	29.21	741.8	29.25	743.0	42.8	6.0	83	nne.			1					0	0	B.
3	29.50	749.4	29.55	750.6	36.1	2.3	70	w.			1					0	0	B.
4	29.29	744.0	29.34	745.2	42.4	5.8	71	ene.			4					0.020	0.5	
5	28.67	728.3	28.72	729.5	37.6	3.1	96	wsw.			1.5					0.748	19.0	M.
6	28.76	730.4	28.80	731.6	34.3	1.3	96	wnw.			4					1.280	32.5	R. S. H.
7	29.27	743.4	29.32	744.6	37.0	2.8	96	wsw.			1					0.130	3.3	M.
8	29.40	746.8	29.45	748.0	35.6	2.0	93	se.			0.5					0	0	O. M.
9	29.13	739.9	29.18	741.1	33.1	0.6	83	nnw.			1.5					0.280	7.1	M. S.
10	29.17	740.9	29.22	742.1	31.3	—0.4	83	w.			2					0.173	4.4	S.; sleet.
11	29.01	736.9	29.06	738.1	33.4	0.8	92	n.			1.5					0.138	3.5	S.; sleet.
12	28.91	734.2	28.95	735.4	26.2	—3.2	70	sw.			2.5					0.193	4.9	S.
13	29.21	741.9	29.26	743.1	25.5	—3.6	71	ssw.			2.5					0.780	19.8	P. S.; sleet.
14	29.93	760.2	29.98	761.4	28.0	—2.2	94	sw.			1.5					0.024	0.6	P. S.; sleet.
15	29.58	751.3	29.63	752.5	37.4	3.0	93	w.			4.5					0.224	5.7	R. H.
16	29.62	752.4	29.67	753.6	33.1	0.6	81	wsw.			2.5					0.075	1.9	Q. H. S.
17	29.72	754.8	29.76	756.0	36.3	2.4	96	w.			2.5					0.402	10.2	R.; sleet.
18	29.82	757.3	29.86	758.5	35.1	1.7	94	s.			0.5			s.		0.008	0.2	M. R.
19	30.05	763.3	30.10	764.5	31.3	—0.4	89	calm			0					0	0	G.
20	29.72	754.8	29.76	756.0	39.2	4.0	90	w.			2					0.102	2.6	M. R.
21	29.77	756.2	29.82	757.4	39.7	4.3	98	wsw.			4					0.047	1.2	O. Q.
22	29.77	756.2	29.82	757.4	37.4	3.0	96	calm			0					0.016	0.4	G. O. R.
23	29.60	751.7	29.64	752.9	39.2	4.0	94	wsw.			0.5			w.		0	0	
24	29.38	746.2	29.43	747.4	31.6	—0.2	96	w.			0.5					0	0	B.
25	29.41	747.1	29.46	748.3	32.9	0.5	97	ssw.			0.5					0	0	B.
26	29.69	754.2	29.74	755.4	37.4	3.0	97	calm			0			sse.		0.031	0.8	M.
27	29.65	753.1	29.70	754.3	34.0	1.1	95	calm			0					0.008	0.2	R.
28	29.58	751.2	29.62	752.4	40.6	4.8	96	ese.			2					0.114	2.9	R.
29	29.71	754.5	29.75	755.7	39.2	4.0	96	e.			0.5			se.		0.043	1.1	M.
30	29.60	751.9	29.65	753.1	28.0	—2.2	95	calm			0					0	0	B.
Mean	29.45	748.1	29.50	749.3	35.2	1.8	88.9				1.4					4.835	122.8	

CAPE HORN—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity Per cent.	Wind. Direction. From.	Wind. Velocity. Miles perhour	Wind. Velocity. Metrs pr sec.	Wind. Force 0-10	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0-10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Rainfall or melted snow in past 24 hours. Mill.	WEATHER.
1883.																		
July 1	29.05	737.9	29.10	739.1	35.2	1.8	96	calm.			0			ene.		0.087	2.2	M. R.
2	29.12	739.7	29.17	740.9	38.1	3.4	93	ene.			1.5			ene.		0	0	C.
3	29.09	738.9	29.14	740.1	34.5	1.4	90	calm.			0					0	0	H. a.m.; B. p.m.
4	29.09	738.9	29.14	740.1	33.4	0.8	69	ssw.			0.5					0.209	5.3	Q.
5	29.51	749.5	29.50	750.7	30.5	2.5	89	ssw.			2.5			sw.		0.106	2.7	M.; sleet.
6	29.93	760.3	29.98	761.5	34.3	1.3	94	w.			1.5			wsw.		0.134	3.4	B.
7	30.12	765.0	30.17	766.2	37.0	2.8	83	wnw.			1.5					0	0	B.
8	30.09	764.2	30.13	765.4	41.0	5.0	81	nw.			2			nw.		0	0	O.
9	29.95	760.6	29.99	761.8	45.7	7.6	94	w.			1.5					0.012	0.3	Grey sky.
10	29.84	757.8	29.88	759.0	46.0	8.1	88	wsw.			4					0	0	O.
11	29.56	750.9	29.61	752.1	39.4	4.1	90	wsw.			1			nnw.		0	0	B.
12	29.33	745.0	29.38	746.2	39.0	4.2	76	wsw.			1			nw.		0	0	O.
13	29.99	736.3	29.04	737.5	38.1	3.4	74	ssw.			1					0	0	B.
14	29.34	745.1	29.38	746.3	30.9	— 0.6	87	nnw.			1.5			w.		0.008	0.2	H. a. m.
15	28.63	727.1	28.67	728.3	45.5	7.5	73	n.			2.5			nnw.		0.059	1.5	G.
16	28.75	730.2	28.80	731.4	33.6	0.9	94	calm.			0			w.		0.102	2.6	O. H.
17	29.04	737.7	29.09	738.9	32.4	0.2	96	wsw.			1.5			w.		0.008	0.2	B.; P. S.
18	29.48	748.9	29.53	750.1	33.4	0.8	86	wnw.			2.5					0.118	3.0	P. S.; sleet.
19	29.27	743.4	29.32	744.6	35.4	1.9	73	wnw.			1.5					0.091	2.3	S.; sleet.
20	29.62	752.3	29.67	753.5	35.2	1.8	95	w.			6			w.		0.189	4.8	Sleet.
21	29.76	755.9	29.81	757.1	32.4	0.2	67	wsw.			4					0.008	0.2	S; sleet.
22	29.80	756.9	29.85	758.1	31.6	— 0.2	92	sw.			4					0.004	0.1	S.
23	30.06	763.4	30.10	764.6	36.5	2.5	92	wsw.			4					0.098	2.5	R.; sleet.
24	29.91	759.6	29.95	760.8	34.7	1.5	80	ene.			1.5					0.012	0.3	O.
25	29.52	749.9	29.57	751.1	32.4	0.2	87	calm.			0					0	0	
26	29.59	751.5	29.63	752.7	37.0	2.8	86	ne.			0.5			n.		0.004	0.1	O. M.
27	29.09	754.1	29.74	755.3	36.0	2.2	90	ene.			0.5					0.047	1.2	M. R.
28	29.87	758.8	29.92	760.0	33.8	1.0	96	sw.			1					0.110	2.8	M. R. S.
29	29.53	750.0	29.58	751.2	36.3	2.4	73	sse.			0.5					0.118	3.0	R.
30	29.51	749.5	29.56	750.7	40.6	4.8	62	n.			2					0	0	Grey sky.
31	29.24	742.8	29.29	744.0	42.8	6.0	76	nw.			1.5					0.020	0.5	O. G.
Mean	29.49	749.1	29.54	750.3	36.9	2.7	84.6				1.5					1.543	39.2	
August 1	29.13	739.8	29.17	741.0	41.9	5.5	73	nne.			1			nw.		0	0	B.
2	29.17	740.9	29.22	742.1	29.8	— 1.2	93	w.			1					0	0	B.
3	29.30	744.3	29.35	745.5	39.2	4.0	71	n.			1.5					0	0	B.
4	29.16	740.7	29.21	741.9	43.9	6.6	64	nne.			1.5					0	0	O.
5	28.85	732.9	28.90	734.1	34.5	1.4	88	wsw.			1.5					0.024	0.6	S.
6	29.19	741.3	29.23	742.5	33.3	0.7	90	wsw.			4					1.287	32.7	S.
7	29.37	746.0	29.42	747.2	22.0	— 5.2	62	wsw.			5					1.654	42.0	H.
8	29.67	753.6	29.72	754.8	28.0	— 2.2	90	w.			2					0.394	10.0	S.; sleet.
9	29.77	756.1	29.82	757.3	29.1	— 1.6	86	nne.			1			ene.		0.020	0.5	B. R.
10	29.19	741.5	29.24	742.7	35.6	2.0	90	calm.			0			nnw.		0.134	3.4	Grey sky.
11	29.36	745.7	29.41	746.9	36.9	2.7	61	wsw.			1					0.020	0.5	B. a.m.; R. p.m.
12	29.06	738.0	29.10	739.2	44.1	6.7	66	ne.			1			n.		0.008	0.2	O.
13	28.92	734.5	28.97	735.7	39.2	4.0	85	wnw.			2					0.209	5.3	R. S. M.
14	29.84	757.9	29.89	759.1	32.0	0.0	74	ssw.			1.5					0.010	0.4	O. M. S.
15	29.89	759.3	29.94	760.5	33.1	0.6	69	calm.			0					0	0	G.
16	30.12	765.0	30.17	766.2	36.3	2.4	87	w.			0.5					0.024	0.6	M. P.
17	29.84	757.8	29.88	759.0	42.3	5.7	60	nne.			2					0.004	0.1	Q.
18	30.07	763.8	30.12	765.0	38.3	3.5	91	w.			1			n.		0.012	0.3	B.
19	29.63	752.6	29.68	753.8	44.2	6.8	59	n.			2					0	0	M.
20	29.15	740.4	29.20	741.6	42.6	5.9	63	calm.			0					0.134	3.4	G. R.
21	29.21	742.0	29.26	743.2	36.1	2.3	94	sw.			2					0.102	2.6	Grey sky.
22	29.45	747.9	29.49	749.1	34.9	1.6	89	w.			2					0.059	1.4	Q.
23	29.19	741.4	29.24	742.6	35.2	1.8	93	w.			2					0.181	4.6	M. S.; sleet.
24	28.87	733.4	28.92	734.6	41.2	5.1	47	nw.			5					0.150	3.8	Q. P. S.
25	28.97	735.7	29.01	730.9	29.8	— 1.2	93	nw.			2.5					0.760	19.3	
26	29.10	739.0	29.14	740.2	39.6	4.2	63	ne.			5					0	0	O.
27	29.04	737.6	29.09	738.8	45.1	7.3	59	nne.			1.5					0.008	0.2	O. a.m.; B. p.m.
28	29.38	746.2	29.43	747.4	38.5	3.0	88	wsw.			1.5			nw.		0.079	2.0	Q.
29	28.99	736.4	29.04	737.6	47.1	8.4	76	se.			0.5					0.004	0.1	Grey sky.
30	29.41	747.1	29.46	748.3	39.9	4.4	75	w.			1.5					0.028	0.7	B.
31	29.60	751.8	29.65	753.0	32.7	0.4	94	se.			1.5					0.165	4.2	M. S.
Mean	29.35	745.5	29.40	746.7	37.0	2.8	77.2				1.6					5.469	138.9	

NOTE.—The above observations, taken at 7 a. m., Washington time, were received too late for publication in the DAILY BULLETIN, and are given here in full from the opening to close of station. For explanation, see page 20.

REVIEW.

INTERNATIONAL METEOROLOGY.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following description refers to chart ii. for the month of August, 1883, issued with this SUMMARY. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and prevailing wind-direction over the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich, mean time.

For the month of August, 1883, two areas of marked barometric minima are exhibited on the chart; the first of these, which is enclosed by the isobar for 29.5 (749.3), occupies the Punjab, British India; in other parts of British India the means ranged from 29.55 (750.6) to 29.8 (756.9). The second area of low mean pressure is indicated by the isobar for 29.7 (754.4) and occupies that part of the ocean lying between N. 63° and 70° and the coasts of Greenland and Scandinavia, including Iceland, where the mean pressure for the month was 29.67 (753.6). To the south and southwestward the barometric gradient gradually increases, the isobar for 30.0 (762.0) crossing the Atlantic near the fiftieth parallel, and including within its limits the southern counties of England and the greater part of central Europe. In eastern Europe the means are below 29.9 (759.4). In the North American continent the area of barometric minima covers the southwestern part of the United States, the means in that region ranging from 29.82 (757.4) to 29.9 (759.4); in all other districts of the United States the mean pressure is above 30.0 (762.0), the barometric means being highest in the north Pacific coast region, where they slightly exceed 30.1 (764.5).

The area of barometric maxima is shown over the Atlantic ocean; at the centre of this area the mean pressure is 30.25 (768.3), and over the region bounded by N. 27° and 40° and W. 50° and 20°, the pressure is 30.2 (767.1). At stations on the shores of the Bay of Biscay the mean pressure is 30.1 (764.5).

A comparison with the chart for the preceding month (July) shows a slight decrease of pressure to have occurred in Tennessee, the south Atlantic, and Gulf states; in all other sections of the United States there has been a slight increase, but in neither case have the departures exceeded .1 inch. Over the Atlantic ocean south of N. 50°, the changes were unimportant, the most marked decrease being near the southeastern coasts of the United States, while there has been an increase over the Bay of Biscay. Over the region north of the fiftieth parallel, there has been a general decrease, the departures increasing with the latitude. Over the European continent, the following changes have occurred: the area of barometric minima, which in July occupied the Scandinavian peninsula, has moved to the westward over the ocean, causing the decrease of pressure referred to above, while a slight increase of pressure has occurred over the Scandinavian peninsula. In central Europe and the British Isles there has been an increase of pressure averaging .1 inch; in Russia the increase is about .04 inch, and in the southern peninsulas it was about .05 inch. Throughout Asia the increase of pressure ranges from .1 to .2 inch.

Compared with the corresponding month of previous years, the mean atmospheric pressure for August, 1883, in the United States, was slightly below the normal in New England and on the Atlantic seaboard; in other parts of the country it was normal or slightly above normal. In Europe the mean pressure was above the normal in all districts except the Scandinavian peninsula, where it was about .02 inch below; the regions of greatest excess were the British Isles, France and Germany. In Hindostan the pressure was about .02 inch below the six years' mean.

The following table gives the mean pressure and mean temperature, with corresponding departures for August, 1883, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the last six years:

Countries.	Mean pressure.			Mean temperature.		
	Aug. mean of 6 (1877–'82) years.	Aug., 1883.	Departure.	Aug. mean of 6 (1877–'82) years.	Aug., 1883.	Departure.
				°	°	°
Algeria	30.02	30.04	+ 0.02	89.6	85.8	— 3.8
Austria	29.89	29.99	+ 0.10	73.8	72.4	— 1.4
British Isles	29.85	29.99	+ 0.14	62.7	64.1	+ 1.4
Denmark	29.80	29.88	+ 0.08	64.3	63.0	— 1.3
France	29.96	30.09	+ 0.13	73.6	74.3	+ 0.7
Germany	29.91	30.01	+ 0.10	69.2	68.2	— 1.0
India	29.61	29.59	— 0.02	82.7	85.6	+ 2.9
Italy	29.94	29.99	+ 0.05	81.6	79.2	— 2.4
Norway	29.76	29.74	— 0.02	63.4	61.0	— 2.4
Portugal	30.01	30.04	+ 0.03	81.2	83.4	+ 2.2
Russia	29.83	29.84	+ 0.01	71.9	69.6	— 2.3
Spain *	29.97	30.07	+ 0.10	81.0	79.0	— 2.0
Sweden	29.78	29.75	— 0.03	64.0	62.0	— 2.0

* Mean for five years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of August, 1883, as compared with the means for six years:

Stations.	Mean pressure.			Mean temperature.		
	Aug. mean of 6 (1877–'82) years.	Aug., 1883.	Departure.	Aug. mean of 6 (1877–'82) years.	Aug., 1883.	Departure.
				°	°	°
Gibraltar	29.98	30.06	+ 0.08	80.1	79.2	— 0.9
Malta, Mediterranean Sea*	29.95	29.98	+ 0.03	83.6	79.6	— 4.0
Sandwick Manse, Orkney Islands	29.80	29.77	— 0.03	56.9	55.6	— 1.3
Bridgetown, Barbadoes	29.99	30.01	+ 0.02	83.6	83.8	+ 0.2
Cape Town, Cape Good Hope	30.18	.....	.....	62.1	.....	.....
Fort Napier, Natal, South Africa	29.99	29.93	— 0.05	68.6	63.1	— 5.5
Freetown, Sierra Leone	29.97	29.88	— 0.09	81.1	84.8	+ 3.7
Mauritius, Indian Ocean	30.18	30.12	— 0.06	71.7	72.0	+ 0.3
Melbourne, New South Wales	30.08	30.01	— 0.07	49.8	49.6	— 0.2
Nassau, Bahamas	30.03	30.07	+ 0.04	84.0	84.6	+ 0.6
Godthaab, Greenland	29.80	29.80	normal	*44.0	42.1	— 1.9
Stykkisholm, Iceland	29.81	29.67	— 0.14	50.9	48.9	— 2.0
Thorshavn, Färöe Islands	29.80	29.71	— 0.09	53.4	53.1	— 0.3
Zi-Ka-Wei, China	29.78	29.77	— 0.01	76.7	75.7	— 1.0
Athens, Greece	29.88	29.89	+ 0.01	87.8	84.9	— 2.9
Cagliari, Sardinia, Italy	29.94	.....	.....	84.0	.....	.....
Tokei, Japan	29.87	29.92	+ 0.05	76.0	75.0	— 1.0
Angra, Azores*	30.15	30.25	+ 0.10	73.1	72.3	— 0.8
Funchal, Madeira Islands	30.11	30.15	+ 0.04	75.8	74.1	— 1.7
Ponta Delgado, Azores	30.18	30.28	+ 0.10	75.5	76.5	+ 1.0
Archangel, Russia	29.74	29.75	+ 0.01	62.5	57.0	— 5.5
Tiflis, Russia	29.78	29.77	— 0.01	86.3	87.4	+ 1.1
Astrakhan, Russia	29.86	29.85	— 0.01	82.0	83.8	+ 1.8
Ekaterinburg, Russia	29.75	29.77	+ 0.02	66.7	63.1	— 3.6
Tashkend, Toorkistan, Asia	29.74	29.62	— 0.12	83.0	91.8	+ 8.8
Barnaul, Siberia, Asia	29.74	29.82	+ 0.08	68.2	65.1	— 3.1
Yeniseisk, Siberia, Asia	29.80	29.93	+ 0.13	64.1	57.2	— 6.9
Pekin, China	29.77	29.81	— 0.04	76.2	78.1	+ 1.9
Nikolaevsk on the Amoor, Asia	.....	.....	.....	.....	63.3	.....
San Juan de Puerto Rico, W. I.	30.02	30.04	+ 0.02	81.7	80.6	— 1.1
Beirut, Turkey in Asia	29.78	29.80	+ 0.02	88.6	86.9	— 1.7
Mexico, Mexico*	30.10	.....	.....	56.2	.....	.....
Havana, Cuba, W. I.	30.01	30.04	+ 0.03	81.0	78.2	— 2.8
Paramaribo, D. Guiana, S. A.	30.03	30.04	+ 0.01	80.4	79.1	— 1.3
York Factory, B. A.	29.90	30.04	+ 0.14	47.0	46.1	— 0.9

* Means for five years only.

The following are some of the extreme mean temperatures reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Petro-Alexandrovsk, Turkestan, Asia	93.4	34.1	Godthaab, Greenland	42.1	5.6
Cairo, Egypt	92.1	33.4	York Factory, B. A	46.1	7.8
Kasalinsk, Turkestan, Asia	90.1	32.3	Fort Saint Michael's, Alaska	47.2	4.8
Tiflis, Russia	87.4	30.8	Unalashka, Alaska	47.8	8.8
Beirut, Turkey in Asia	86.9	30.5	Stykkisholm, Iceland	48.9	9.4

In the United States the mean temperature of the air was slightly above the normal in Florida, southern Texas, and in the middle and southern slopes of the Rocky mountains. In all other parts of the United States it was below the normal, notably so in the Mississippi and Missouri valleys, where the departures exceeded 4°. In Canada the temperature was, generally, below the normal. In Europe it was normal or below the normal. In British India the highest mean temperature

reported was 98°.1 Fahr. (36°.7 Cent.) at Lahore, and the lowest was 73°.0 Fahr. (22°.8 Cent.) at Belgaum.

In the United States the winds were mostly northerly and northeasterly over the region east of the ninetieth meridian, except in the lake region where they were from southwest to west. Between W. 90° and 110° the winds were mostly southerly and easterly; on the Pacific coast they were northerly and westerly. In Canada they were generally from southwest to northwest. Over the Atlantic ocean the prevailing winds were as follows: off the coast of the United States they were northeasterly; from W. 75° eastward to W. 40° and between N. 10° and 40° they were easterly, southeasterly, and southerly; from W. 40° eastward to the European coasts, they were northerly and northeasterly. North of the fortieth parallel the prevailing winds were westerly and southwesterly. In Europe they were mostly from southwest to west and northwest.

The rainfall during the month of August, 1883, was less than the average over the whole of the United States, except on the eastern slope of the Rocky mountains and in the extreme northwestern sections of the country; the greatest deficiencies occurred in the Atlantic coast and Gulf states, and in the lake region, New England and the Mississippi valley. In Canada the rainfall was below the average amount; in Europe it was, in general, less than the average.

With this REVIEW is issued international chart iii. for the month of February, 1882. This chart continues the series of international charts begun in November, 1877, and exhibits the paths of the principal atmospheric depressions that have appeared in the northern hemisphere. The data are charted for each day of the month on the maps accompanying each issue of the "International Bulletin," and from these charts and additional miscellaneous data are traced the movements of the centres of barometric minima.

The paths of forty depressions have been traced for the month of February, 1882. These are distributed as follows: fifteen are traced in the North American continent; of these three are shown in Alaska; two are traced from the Pacific coast eastward and southeastward to about W. 95°, and thence northeastward over the lake region and Canada to the ocean. Six disturbances approached the United States from the northwest, passing southeastward to the lake region and then northeastward to the Atlantic; the remaining depressions, iv., viii., xii., and xiv., originated in the southwestern part of the United States and moved northeastward. Of the depressions traced over the Atlantic, seven are continuations of storms which crossed the American continent and passed off the Canadian maritime provinces into the Atlantic, while one, number xvi., is a continuation of a depression which developed over the Gulf of Mexico, and passed northeastward over the south Atlantic states to the ocean during the closing days of January, 1882. Fourteen depressions are traced in Europe; of this number, three appear in the Mediterranean districts and one near the Black sea, while the remainder entered the continent north of the sixtieth parallel, the general direction of movement being toward the southeast. Three disturbances are traced near the coast of Japan. The month of February, 1882, like its predecessor, was remarkable for the prevalence of barometric maxima over central and western Europe, and the consequent absence of depressions in those regions. The general distribution of the low areas and the direction of their paths, closely corresponded to those of the preceding month.

The following descriptions refer to the depressions which appeared in the north American continent:

I.—This disturbance appeared in the Lake Superior region on the morning of the 1st, its centre being enclosed by the isobar for 29.8 (756.9). It moved northeastward and by the morning of the 2d, the centre was near the mouth of the Saint Lawrence river, where it disappeared during the day.

II.—This depression was central north of Lake Superior on the 2d; it moved eastward causing unsettled weather in the lake region, New England, and along the Saint Lawrence valley, and by the morning of the 3d, the storm-centre was near Quebec, where the barometer read 29.55 (750.6), calm, light hail. During the 3d, the disturbance moved over the Maritime Provinces and passed into the Atlantic as a storm of decided energy. This depression is hereafter described as low area xvii.

III.—This depression appeared in Manitoba on the 3d; it moved southeastward and by the following day the centre was over Lake Huron, whence it passed east-southeastward over New England and merged in low area iv. which had moved northeastward from the the Gulf of Mexico, and by the 5th, was central off the Massachusetts coast.

IV.—This area appeared over the western part of the Gulf of Mexico on the 3d, attended by cloudy, rainy weather in Texas, and in the districts to the northeastward of the centre. On the morning of the 4th, the disturbance was central in Alabama and Georgia, where the pressure was below 29.55 (750.6). Rainy weather prevailed in Georgia and Alabama during the 3d, with very heavy rains in North Carolina and snow storms in the more northern districts during that and the following day. During the 4th, the disturbance continued its northeasterly movement and passed into the Atlantic near the latitude of Cape Hatteras, followed by clearing weather and strong nw. winds in the districts to the southwest of the centre. On reaching the ocean the depression moved rapidly northeastward along the coast and greatly increased in intensity; on the 5th, the centre was south of Nova Scotia, the pressure having fallen below 29.0 (736.6). Moderate to strong nw. gales prevailed along the coasts of the United States, and northeasterly gales with heavy snow occurred in the Maritime Provinces During the 5th the disturbance moved northeastward over the Atlantic as an important storm and is hereafter referred to as low area xviii.

V.—From the 1st to the 5th the atmospheric pressure over Alaska ranged from 29.2 (741.7) to 29.6 (751.8); on the last-mentioned date the disturbance began to spread southward, and was probably closely connected with low area vi., which appeared near Sitka on the 6th.

VI.—On the 6th the barometer at Sitka, Alaska, fell to 29.03 (737.3), wind se., 32 miles, sleeting; during the 7th and 8th the lowest pressure was reported from Sitka, but the chart of the 9th showed that the disturbance had begun to move southeastward. During the 10th the depression moved eastward over British America, and by the 11th it had entered the United States, and was central in Minnesota. On the 12th the isobar for 29.8 (756.9) enclosed the states of Minnesota, Wisconsin, Iowa, Nebraska, and part of Dakota, and southerly winds and cloudy or rainy weather prevailed generally in the districts east of the ninetieth meridian. On the 13th the low area occupied the lake region, the lowest barometric readings being in Ontario; clearing weather now set in over the western districts, but the rainy weather continued in the districts to the southward and eastward of the centre. The disturbance continued its northeasterly course along the Saint Lawrence and disappeared to the northward of Anticosti Island on the 14th.

VII.—This disturbance appeared in Minnesota and Dakota on the 6th, the barometer at Huron, Dakota, reading 29.69 (754.1) on the morning of that date. By the 7th the depression was central over the northern part of Lake Michigan; during the day it passed east-northeastward attended by rain or snow in the lake region and the Saint Lawrence valley, and, by the morning of the 8th, the centre of disturbance was near Quebec. It then moved eastward over the northern part of the Maritime Provinces and the Gulf of Saint Lawrence, passing to the southward of Newfoundland. This disturbance is hereafter described as low-area xix.

VIII.—This depression developed in Texas during the 7th and, by the morning of the 8th, the region of least pressure was near the eastern boundary of that state. General rain fell throughout Texas during the night of the 7th, extending, on the 8th, over the south Atlantic states, Tennessee, and the

Ohio valley. The disturbance moved northeastward with slowly decreasing pressure and, by the 9th, the centre was in Tennessse, where the pressure ranged from 29.6 (751.8) to 29.7 (754.4); during the 9th the rain-area extended to the middle Atlantic states and southern New England. The disturbance passed northeastward over Virginia and Delaware, and moved thence northeastward along the coast line, attended by moderate gales at coast stations and increasing energy at sea. By the morning of the 10th the storm-centre, where the pressure had now fallen below 29.3 (744.2), was to the southwestward of Nova Scotia, causing strong northeasterly gales and snow storms in the Maritime Provinces; during the day the depression passed northeastward and is hereafter described as low-area xx.

IX.—This disturbance appeared near the Alaskan coast on the 12th, the atmospheric pressure in that region ranging from 29.2 (741.7) to 29.6 (751.8). It remained in the vicinity of Sitka until the 14th, when it apparently dissipated, the pressure at that station increasing to 30.14 (765.5) on the 15th.

X.—This depression appeared in Manitoba on the 14th, on which date the barometer at Fort Garry read 29.59 (751.6). The disturbance moved southeastward during the 15th, and by the 16th, it was central in Wisconsin; it then passed eastward over the lake region and New England, and entered the Atlantic, the centre being off the coast of Maine on the 17th. General and heavy rains accompanied this disturbance during its passage over the lakes and New England, and high winds occurred in its western quadrants, owing to the barometric gradient formed by the advance of an area of high pressure immediately in rear of the depression. This disturbance moved over the Atlantic, and is hereafter referred to as low area xxi.

XI.—On the 17th, an area of low barometer appeared in California, and extended eastward to Utah. On the 18th, the region of least pressure was transferred to Colorado; it then moved in a northeasterly direction to the lake region, where it was central on the 19th; rainy weather prevailed in the districts to the south and east of the centre. During the 19th, the depression moved over the provinces of Ontario and Quebec, and on the 20th, was central near the Bay of Fundy, whence it moved eastward over the Atlantic; its subsequent movements are described under low area xxii.

XII.—This disturbance was central in Indian Territory on the 20th, causing heavy rains and strong nw. winds at stations in northern Texas. By the morning of the 21st the depression had moved, with greatly decreased pressure, northeastward to the lower lake region, which was now enclosed by the isobar for 29.4 (746.7). Rain fell in the middle Atlantic states and Tennessee, and in the lake region and new England there were heavy snow storms; strong w. gales occurred at stations in the Ohio valley, with nw. gales in the upper Mississippi valley and moderate to strong s. and e. gales in the lower lake region. During the 21st the storm-centre moved by a course slightly south of east over the northern part of the middle Atlantic states and passed into the Atlantic; it then moved northeastward, and on the 22d it was shown near Nova Scotia, attended by strong n. and ne. gales with heavy snow over the Maritime Provinces and along the Saint Lawrence. This storm is elsewhere described as low area xxiii.

XIII.—This disturbance developed in the Saskatchewan valley on the 27th; it moved southeastward, and at the close of the month it occupied northern Wisconsin.

XIV.—This depression appeared in the southwestern part of the country on the 27th, causing cloudy, rainy weather in the districts to the eastward and northeastward. On the 28th the disturbance was central in Missouri, and the rain area now extended over the south and middle Atlantic states and the lower lake region. At the close of the month this disturbance, in conjunction with low area xiii, formed a trough of low pressures which extended from Lake Superior southward to Mississippi and Louisiana.

XV.—This is traced to indicate the presence of an area of low barometer which remained near the Alaskan coast from the 21st to the close of the month. During this period the barometer at Sitka, Alaska, ranged from 28.8 (731.5) to 29.4 (746.7).

The following descriptions refer to the depressions traced over the Atlantic and in Europe:

XVI.—This is a continuation of the depression traced as low area xi. on the chart for January, 1882. It passed into the Atlantic from the Carolina coast during the last day of January, and moved in a direction parallel to the coast-line; owing to the numerous shipping disasters which occurred during its passage along the coast, this storm ranks as one of the severest on record. Eight vessels were wrecked along the shores of Massachusetts bay, and many coasting vessels were driven ashore or abandoned. By the morning of February 1st, the centre of disturbance had reached about N. 43°, W. 64°, where the s. s. "Ohio," H. Morrison, commanding, reported barometer 29.04 (737.6), wind sw., force 6, (ship's position at the time of observation N. 42° 48′, W. 63° 39′). Strong ne. gales and heavy snow prevailed over the Canadian maritime provinces, while, from the coast of the United states eastward to W. 65°, strong nw. gales were reported; between W. 60° and 50° strong s. and se. gales occurred. To the southward of N. 40° and between W. 60° and 70°, the winds were mostly w., blowing with force of a heavy gale; the bark "Oskar I," in N. 38°, W. 60°, reported having encountered a w. gale, which attained hurricane force; vessel lost deckload and steering gear. The disturbance moved northeastward, and on the 2d, it was shown near N. 49°, W. 40°, the lowest reported barometric readings ranging from 29.06 (738.1) to 29.12 (739.6). Strong nw. gales continued over the ocean from the Banks of Newfoundland eastward to W. 45°; from that meridian eastward to W. 20°, the winds were s. and sw. of the force of a moderate to strong gale; the s. s. "Egyptian Monarch," in N. 48° 3′, W. 39° 5′, reported a sw. gale increasing to hurricane, lasting 18 hours, and the s. s. "General Werder," in N. 44° 9′, W. 45° 56′, had sse. to w. storm with heavy rain and furious sea. By the morning of the 3d the disturbance had moved rapidly north-northeastward, and combined with a depression in the vicinity of Iceland; on the 3d, the barometer at Stykkisholm, Iceland, read 28.84 (732.5), wind sw., force 7, snowing. Steep gradients were formed between Iceland and the northwestern part of the British Isles, so that moderate to strong sw. gales prevailed at the Färöe Islands and the Hebrides. On the morning of the 4th the disturbance was shown in Finmark; at Gjæsvær the barometer read 28.98 (733.5), wind wnw., force 8, and rain or snow was falling at the stations on the Norwegian coast. During the 4th the course of the disturbance changed slightly, and the centre passed east-southeastward over the White sea; on the 5th it was apparently to the northeastward of Archangel, when it passed beyond the range of the observations.

XVII.—Is a continuation of the depression traced over Canada and described above as low-area ii. During the 3d, it passed off Cape Breton Island and by the 4th it had reached the southeastern edge of the Banks of Newfoundland, being accompanied by moderate nw. gales to the westward, and moderate to strong s. and sw. gales to the eastward of the storm-centre. On the 5th the disturbance was near N. 50°, W. 35°, its centre being enclosed by the isobar for 29.6 (751.8), but it appeared to be losing energy, and by the following day, its presence could not be determined within the isobars drawn for every .2 inch.

XVIII.—This is a continuation of the depression traced on the chart as low-areas iii. and iv.; the last-mentioned depression displayed great energy, not only during its passage along the coast but also on land, several disasters to shipping having occurred in the harbors of New Orleans, Louisiana, and Wilmington, North Carolina. The following reports indicate the severity of the gale during the 4th. In the Gulf Stream the schooner "San Quentin" had a heavy sw. gale, in which she lost deckload and had one man washed overboard; schooner

"Lady Frances," 100 miles south of Block Island had a severe ne. to nw. gale lasting 24 hours; had boats damaged; in N. 32°, W. 77° 30′; the schooner "J. H. Crandon" had a gale of hurricane force, from se., shifting to nw., in which she lost and split several sails; off the Maryland coast, the schooner "F. E. Halleck" had a ne. gale. with thick snow storm, lasting twelve hours, when the wind suddenly shifted to nw., and blew with hurricane force for thirty-six hours; the vessel lost spars and several sails and was blown off to N. 34°, W. 72°. Many vessels sustained damage on the New England coast. Very heavy snow storms occurred in New England and parts of the middle Atlantic states during the passage of this depression, in many instances, railroads were blocked and travel was greatly impeded. In the Maritime Provinces and along the Saint Lawrence valley, the snow storms were the heaviest recorded in the last four or five years.

By the morning of the 5th, the two depressions, as shown in the chart, had united when off the New England coast, and now formed a deep depression, at the centre of which the barometer was below 29.0 (736.6). Moving slowly northeastward with undiminished energy the storm-centre reached N. 45°, W. 55° on the 6th; in that region the lowest reported pressure was 28.9 (734.0) wind wsw. force 6, observed on board the s. s. "Devonia," H. Young, commanding, in N. 44° 20′, W. 54° 50′. To the westward of the "Devonia" strong w. and nw. gales with high seas occurred, and to the eastward equally strong s. to sw. gales and rainy weather were reported. During the 7th and 8th, the depression moved in a north-northeasterly direction towards the sixtieth parallel, and during those dates moderate to strong w. and nw. gales and generally stormy weather prevailed over the Atlantic. On the morning of the 9th, the region of least pressure was situated between Greenland and Iceland; the winds over the Atlantic were now under the influence of low area xix, which was passing eastward between N. 45° and 50°. During the 10th, 11th and 12th, low area xviii. remained in the neighborhood of Iceland, the barometer fluctuating between 28.75 (730.2) and 28.9 (734.0). On the 13th the disturbance was shown as an elongated area of low pressure enclosed by the isobar for 28.8 (731.5), and stretching from ne. to sw., near the Norwegian coast; under the influence of this disturbance moderate sw. winds and rainy weather prevailed over the British Isles and North Sea, and at stations in Denmark and southern Scandinavia. On the 14th the barometer at Gjæsvær, Finmark, 28.34 (719.8) wind nw. force 3. Over the continent south of the fiftieth parallel, the pressure was above 30.4 (772.1); steep barometric gradients were thus formed over northern Europe and strong sw. and w. gales prevailed over the Baltic, along the French and German coasts, and in the Gulf of Bothnia and Scandinavia; general rains prevailed over those regions, the precipitation being in the form of snow in the more northern districts. During the 14th, this disturbance disappeared in northern Siberia, but was succeeded on the 15th by low area xxviii.

XIX.—This is a continuation of low area vii., described above. During the 8th the disturbance moved rapidly over the Gulf of Saint Lawrence, and on the 9th it was central near N. 48°, W. 44°, where the pressure ranged from 29.25 (742.9) to 29.4 (746.7). Strong w. and nw. gales were reported by vessels south of N. 45° and between W. 60° and 50°, with fresh to strong sw. gales to the eastward of W. 45°. On the 10th the depression was central near N. 51°, W. 27°, the pressure remaining about the same as on the preceding day; the winds over the ocean between W. 45° and 30° had now changed to nw. and blew with the force of a strong gale, while those to the westward of W. 45° had shifted to southerly in advance of low area xx. A rather steep gradient existed near W. 30° and between N. 40° and 45°, and the vessels in that neighborhood reported w. and nw. winds of hurricane force, during which they sustained serious damage to boats, bulwarks, etc., and had several seamen injured. By the morning of the 11th the disturbance, having moved northeastward, was central near the northwestern coast of Ireland, causing rainy weather over the western and northern districts of the British Isles. On the 12th the depression was central near the Norwegian coast and north of the Shetland Isles, and during the day it probably merged in low area xviii, which was then approaching the Scandinavian coast.

XX.—This is a continuation of the track of the disturbance charted in the United States as low area viii. As previously stated, the storm centre passed off the Delaware coast during the 9th, developing in energy as it moved along the coast line. On the morning of the 10th, the centre of disturbance was near N. 42°, W. 68°, the lowest reported barometric readings being 29.22 (742.2) and 29.26 (743.2); in the immediate vicinity of the centre, the winds were reported as light or moderate, but in the southwestern quadrant of the disturbance, they blew with almost hurricane force from nw. In the Canadian maritime provinces and New England, the winds were ne. and n., fresh to strong, and in the former district, heavy snow storms prevailed. The s. s. "Bermuda" was in the southwest quadrant of this depression when she sprung a leak and foundered, having encountered a nw. to w. gale of hurricane force. On the 11th, the storm centre was on the banks of Newfoundland, where the pressure ranged from 29.14 (740.1) to 29.3 (744.2). An area of barometric maxima now occupied the United States east of the eighty-fifth meridian, and stretched eastward over the Atlantic to about W. 68° In consequence of this distribution of pressure, steep barometric gradients were formed over the region between W. 65° and the banks of Newfoundland, where the storm centre was located, so that vessels in that vicinity encountered furious nw. gales; near the coast of the United States, however, the wind had greatly moderated. To the eastward of the storm centre, strong s. and sw. breezes to moderate gales, and squally weather were reported. On the 12th, the disturbance was near N. 55°, W. 31°, with pressure about 29.08 (738.6); strong w. and nw. gales continued over the Atlantic south of N. 50°, and west of W. 30°, with moderate to strong sw. gales to the eastward of that meridian. By the following day, this disturbance had probably become subsidiary to a large depression (xviii), which occupied the region north of the sixtieth parallel, and from Iceland to the Scandinavian peninsula.

XXI.—After the passage of low area xx. two areas of high pressures, one of which occupied the United States and the other central and western Europe, now began to spread out over the Atlantic, and a period of moderate weather prevailed over the ocean south of N. 50° from the 14th to the 17th. These conditions were, however, disturbed by the advance from the New England coast, of the disturbance charted first as low area x. and subsequently as xxi. On the 17th the depression was off the New England coast, whence it moved eastward followed by moderate nw. and n. gales to about N. 44°, W. 53°, where it was central on the 18th, pressure at the centre, 29.6 (751.8). It moved slowly northeastward, its progress being probably retarded by an area of high and increasing pressure which existed over the ocean to the eastward of W. 35°; by the 20th this depression had apparently filled in, while the barometer at the centre of the high area above referred to had risen to 31.0 (787.4).

XXII.—This is a continuation of a slight depression which passed over the Canadian maritime provinces on the 20th; on the 21st it was central near N. 42°, W. 50°, the region of least pressure being enclosed by the isobar for 29.8 (756.9). During the 21st the disturbance moved east-northeastward with slightly decreasing pressure and moderate gales in all quadrants; on the 22d the centre was near N. 44°, W. 40°, and bounded by the isobar for 29.6 (751.8). On the 23d this disturbance, which had apparently moved off to the westward, became merged in low area xxiii, which was advancing eastward as a storm of considerable energy.

XXIII.—This is a continuation of the disturbance which passed over the United States as low area xii. From its first appearance it exhibited decided storm-energy, and when it reached the Atlantic on the 22d, the pressure at the centre had

decreased to 29.2 (741.7), and moderate to strong gales were reported along the coast and in the maritime provinces, with heavy snow in the last mentioned district. On the 23d the disturbance was shown as an elongated area of low pressure enclosed by the isobar for 29.4 (746.9), occupying the region between N. 40° and 47° and extending from the coast of Nova Scotia eastward to the fortieth meridian. Moderate nw. gales prevailed over the maritime provinces and over the ocean as far as W. 50°, and moderate to strong se. to sw. gales were reported to the eastward of that limit. By the morning of the 24th the pressure had fallen below 29.0 (736.6); the region of least pressure was indicated by the isobar for 29.0 (736.6), which retained its elongated form, and stretched from N. 40°, W. 50°, northeastward to about N. 46°, W. 34°. Moderate gradients existed over the ocean, except to the westward of the sixty-fifth meridian, where the nw. winds attained the force of a strong gale, but elsewhere moderate to fresh breezes only were reported, with light winds near the centre of depression. By the 25th the storm-centre was between N. 47° and 50°, and W. 38° and 32°, within this region the barometric readings ranged from 28.78 (731.0) to 28.96 (735.6), with moderate to fresh breezes. On the 26th the storm-centre was off the northwestern coast of Ireland, pressure at the centre below 28.8 (731.5). During the 26th the disturbance passed over Scotland and the North sea, attended by moderate to strong gales and rainy weather over the British Isles and on the eastern shores of the North sea. On the 27th the storm-centre was over the Danish peninsula, causing strong sw. gales over the English Channel and at stations on the eastern shore of the North sea, from Brest northeastward to Denmark; rainy weather continued over the northwestern districts.

At the close of the month, the disturbance was over the eastern part of the Baltic, the area of lowest barometer being indicated by the isobar for 29.4 (746.7); the weather began to moderate in western Europe, but continued unsettled over the British Isles owing to the advance of low area xxxvii.

Under the influence of low area xxiii. and that charted as number xxxv., the area of barometric maxima which had persistently remained over central and western Europe during the greater part of the month, was gradually forced to the south and eastward, the pressure decreasing rapidly, until, at the close of the month, the high area had ceased to exist as a marked meteorological element.

XXIV.—This disturbance appeared in northwestern Russia on the 6th, causing moderate to strong n. gales over the Gulf of Bothnia. The depression moved southeastward and, on the 7th, it was central in the government of Novgorod, where the pressure was 29.2 (741.7). Moving northeastward with slightly decreased pressure during the day, the storm-centre was shown in the province of East Russia, the barometer at Kasan reading 28.83 (732.3), wind w., snowing. On the 9th the disturbance moved into northeastern Siberia and beyond the range of the observations.

XXV.—This depression appeared in northern Scandinavia on the 11th, when the barometer at Gjæsvær, Finmark, read 28.89 (733.8), being a fall of about .35 inch during the 24 hours preceding the observation. By the morning of the 12th the disturbance had passed to the eastward of the Ural region.

XXVI.—This was a shallow depression which appeared in the Mediterranean on the 12th, its centre being to the westward of Sardinia. It moved southeastward and dissipated on the following day.

XXVII.—This disturbance, which was probably subsidiary to low area xviii, appeared over northern Scotland on the 14th, and caused moderate sw. gales and rainy weather in that region. It moved eastward during the 14th and on the following day the centre was shown in southern Scandinavia, barometer at Christiania reading 29.08 (738.6); moderate to strong w. and sw. gales, and rain occurred at stations in northern Germany and in Denmark, with snow at Scandinavian stations. By the morning of the 16th, the storm-centre was in Finland where the pressure was below 28.8 (731.5): strong n. and nw. gales prevailed at stations in Scandinavia, the Baltic provinces of Russia, and over the Gulf of Bothnia. On the 17th, the depression had passed to the eastward of Archangel, where the barometer read 28.7 (729.0), wind nnw. 4 miles; during the day, the disturbance passed into the Arctic regions.

XXVIII.—This appeared in northern Scandinavia on the 15th; it moved southeastward over Finland and became merged in the preceding depression, number xxvii.

XXIX.—On the morning of the 15th the barometer at Godthaab, Greenland, read 28.9 (734.0), being a fall of .73 inch since the observation of the 14th. By the 16th the barometer had risen to 29.65 (753.1), and the wind had shifted from e. to w., while at Stykkisholm, Iceland, the pressure had decreased about .35 inch, and at Thorshavn, Färöe Islands, it had fallen from 29.99 (761.7) on the 15th to 29.10 (739.1) on the 16th. Strong w. winds with cloudy or rainy weather prevailed over the British Isles and at stations on the Norwegian coast. The disturbance moved by a course slightly south of east over Scandinavia, and by the 17th it was central near Riga, Russia. On the 18th it was near Moscow, where the barometer read 29.33 (745.0); it then moved southeastward and disappeared near the shores of the Caspian sea.

XXX.—This was a deep depression which appeared near the Orkney islands on the 18th; on that date the barometer at Sandwick Manse, read 29.02 (737.1), wind w. 64 miles an hour. Heavy w. and wsw. gales with rainy, squally weather prevailed over the British Isles, except in the extreme southeastern counties, and snow was reported at the Scandinavian stations. On the 19th, the depression was central over the Baltic, the pressure at the centre being below 29.1 (739.1); in the meantime, an area of high pressure, at the centre of which the barometer was above 30.8 (782.3), had spread over the British Isles from the southwestward. In all parts of those islands, and over western Europe, the atmospheric pressure exceeded 30.4 (772.1), so that extremely steep gradients existed over the North sea, Denmark, and northern Germany, in which districts very heavy nw. gales occurred; at stations on the southern shore of the Baltic, the winds were w., and blew with the force of a heavy gale. On the 20th, the disturbance was near Moscow; after this date, its movements could not be determined from the daily charts.

XXXI.—This depression appeared in northern Scandinavia on the 20th, when the barometer in that region fell to 28.6 (726.4). On the 21st the storm-centre was over the White sea, the pressure remaining unchanged; strong nw. gales and showery weather prevailed over the northern peninsula, northern Germany, and the Baltic. By the 22d the disturbance had moved southeastward to the province of East Russia, passing thence into the Ural region, where it disappeared.

XXXII.—This was a slight depression that appeared southeast of Sicily on the 20th. It moved eastward, attended by light rains and moderate winds, and disappeared on the 21st.

XXXIII.—This disturbance appeared off the coast of Norway on the 22d; at Lodingen the barometer fell to 28.55 (725.1), calm, snowing; at Gjæsvær, lying northeast of Lodingen, the barometer read 28.76 (730.5), wind ese., force 7; and stations to the south and east had strong nw., w., and sw. winds to moderate gales. During the 22d the depression moved southeastward, and on the 23d the area of low pressures occupied Finland, the White sea, Gulf of Finland, and extended southeastward to Moscow. On the 24th, the barometer rose to 29.0 (736.6), near the centre of disturbance, which was now in the government of Kasan; on the 25th the centre was south of Ekaterinburg, and passed thence into Asia.

XXXIV.—This disturbance appeared in the province of South Russia on the 22d, causing moderate nw. and w. gales in that region. On the 23d the depression approached the Caspian sea, and passed beyond the range of observation.

XXXV.—This was a deep depression which appeared near Iceland on the 24th, the pressure at the centre being below 29.0 (736.6). The disturbance moved eastward with decreasing pressure, and on the 25th it was shown near the Norwegian

coast, where the pressure was now below 28.8 (731.5); this disturbance in connection with low area xxiii, caused moderate to strong gales and rain or snow over the British Isles and at most stations in northern and western Europe. On the 26th, the storm-centre was over the Gulf of Bothnia, where the pressure was 28.7 (729.0), whilst a barometric trough extended southwestward over Scandinavia to the northeast coast of Scotland; strong gales and rainy weather continued over the greater part of northern and western Europe. On the 27th the disturbance was near Lake Ladoga, and by the 28th, it had probably become merged in low area xxiii.

XXXVI.—This depression appeared near the head of the Adriatic on the 27th, and caused rainy weather and moderate gales over that sea. During the day it passed northeastward, and on the 28th it was apparently central in Austro-Hungary.

XXXVII.—This was a deep depression which appeared south of Ireland on the last day of the month. Near the centre of disturbance the pressure was below 29.0 (736.0); the following vessel reports were received: s. s. "Belgenland," J. Stokes, commanding, reported, in N. 49° 35′, W. 9° 11′, barometer 28.73 (729.7), wind sse., force 6, rainy; s. s. "W. A. Scholten," G. J. Vis, commanding, in N. 49° 35′, W. 8° 00′, barometer 28.9 (734.0), wind s., force 4, rainy; s. s. "Galatia," J. D. Allison, commanding, in N. 48° 46′, W. 11° 30′, barometer 29.05 (737.9), wind ssw., 6.

The following are brief descriptions of the depressions traced in Japan:

XXXVIII.—During the 7th and 8th decreasing pressure and unsettled weather at stations in Japan, indicated the presence of a disturbance off the eastern coast of Niphon; on the last-mentioned date the barometer at Tokei read 29.65 (753.1), wind nw., 19 miles, and at Nobiru, on the northeastern coast of Niphon, it read 29.58 (751.3) wind nw., 32 miles, stormy weather. On the 9th the disturbance disappeared in the Pacific.

XXXIX.—This disturbance appeared over the region between the Chinese coast and Kiusiu, southern Japan, on the 15th; on that date the barometer at Nagasaki, read 29.87 (758.7), which showed a decrease of about .38 inch, weather changing from clear to rainy. On the morning of the 16th a well-defined depression occupied Kiusiu, Niphon, and the Sea of Japan; within this region the pressure ranged from 29.62 (752.3) to 29.83 (757.7) and cloudy, rainy weather was general throughout the land areas. On the 17th the pressure began to increase and the disturbance probably moved into the Pacific.

XL.—This depression appeared in eastern Japan on the 21st, the lowest barometric readings being in the Island of Yesso, and the northeastern coast of Niphon, where they ranged from 29.52 (749.8) to 29.57 (751.1). By the 22d, the pressure had increased about .2 inch, and the disturbance disappeared beyond the field of observation.

ERRATUM.

On chart i. for February 11th, 1882, the isobaric line exhibiting the atmospheric pressure over central and southern Europe, and the Mediterranean, should be marked 30.2 (767.1), and not 29.2 (741.7), as shown on the chart.

GENERAL REMARKS.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevation of stations is obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least, this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the alphabet of the letter so used.

On February 1, 1883, the following change was made in publishing marine data in the "Daily International Bulletin":

All marine reports are classified as to districts, which are designated as follows: District No. 1, North Atlantic; District No. 2, South Atlantic, &c., under which headings the respective reports are printed.

BOUNDARIES OF DISTRICTS.

District No. 1 comprises the Atlantic ocean, its arms and tributaries, from the equator northward to the pole, and in the arctic from 100° E., westward to 100° W., of Greenwich.

District No. 2 comprises the Atlantic ocean, its arms and tributaries, from the equator southward to the pole, and in the antarctic from 20° E., westward to 70° W., of Greenwich.

District No. 3 comprises the Pacific ocean, its arms and tributaries, from the equator northward to the pole, and in the arctic from 100° W., westward to 100° E., of Greenwich.

District No. 4 comprises the Pacific ocean, its arms and tributaries, from the equator southward to the pole, and in the antarctic from 70° W., westward to 145° E., of Greenwich.

District No. 5 comprises the Indian ocean, its arms and tributaries, from the Asiatic continent southward to the pole, and in the antarctic from 20° E., eastward to 145° E., of Greenwich.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

Arrows show direction of, and fly with, the wind. Force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

The following remarks relate to the individual peculiarities in the *methods* of recording, and the *times* of taking, the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of Brig. General Béziat, Commandant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The move-

ment of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. Adelaide, furnished by co-operation of Charles Todd, C. M. G., F. R. A. S. The observations are taken at 9 p. m., local time.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemberg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind-direction is given to 32 points and weather by the Beaufort notation. At Bradford, no observations are taken on Sunday, except the rainfall, and in the monthly summary the letter designating a certain number of days missing, applies to all the data except rainfall.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army. At St. John's, N. F., the barometer appears read about .10 inch too high.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Saint Francis Lighthouse, the original gives barometer reduced to freezing, but not to sea-level. The kind of clouds is given, but no distinction is made between upper and lower. Weather in general terms.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted.

EGYPTIAN SERIES (Furnished by the co-operation of Albert Ismalun, Director of the Laboratoire Khédivial du Caire).—Original gives barometer reduced to zero, but not to sea-level, temperature in Centigrade. The velocity is the mean for past 24 hours. Rainfall in millimetres.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Mont Louis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only, and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (furnished by co-operation of the respective observers).—The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys-Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred. At Batavia the elevation is stated to be "a few meters."

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Bronø the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Astrakhan, Ashurada and Baku, the barometer-cistern is below sea-level. At Kasalinsk, the barometer appears to have a large error.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Professor E. Plantamour, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi,

Director of the Central Observatory at Constantinople, and of F. Nimr, B. A., Director of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms. At Samakov, the barometer is reduced to freezing, but not to sea-level; temperature in Fahrenheit. The kind of clouds is given, also the distinction between upper and lower.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Puerto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind-direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind-direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luis at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a slace of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES (furnished by co-operation of E. Malmberg, Director of the Nautical Meteorological Bureau at Stockholm).—The originals give the barometer as read off. The movement of the air is indicated by force on a scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on a scale of 0 to 9 and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operations of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

CAPE HORN, PATAGONIA, S. A. (furnished by the co-operation of M. Lephay, Chief of the French expedition on behalf of the International Polar Commission).—The amount or kind of clouds is not given on the original. The weather is the average for the day and is expressed by Beaufort's notation, except in a few instances in general terms. Elevation of the barometer cistern above the level of the sea 39 feet (12 meters).

ERRATA.

DAILY BULLETIN, August 2, 1883, page 1, Canadian, Saugeen, actual barometer 762.2 mm., should read 736.8

10th, page 4, Russian, Viatka, reduced barometer 29.76 inches, should read 29.79; Spanish, Santiago, actual barometer 27.15 inches, should read 29.15; United States, Cape Henry, actual barometer 752.0 mm., should read 752.3, Cape Mendocino, actual barometer 30.01 inches, should read 30.02, Custer, Fort, actual barometer 713.5 mm., should read 714.5.

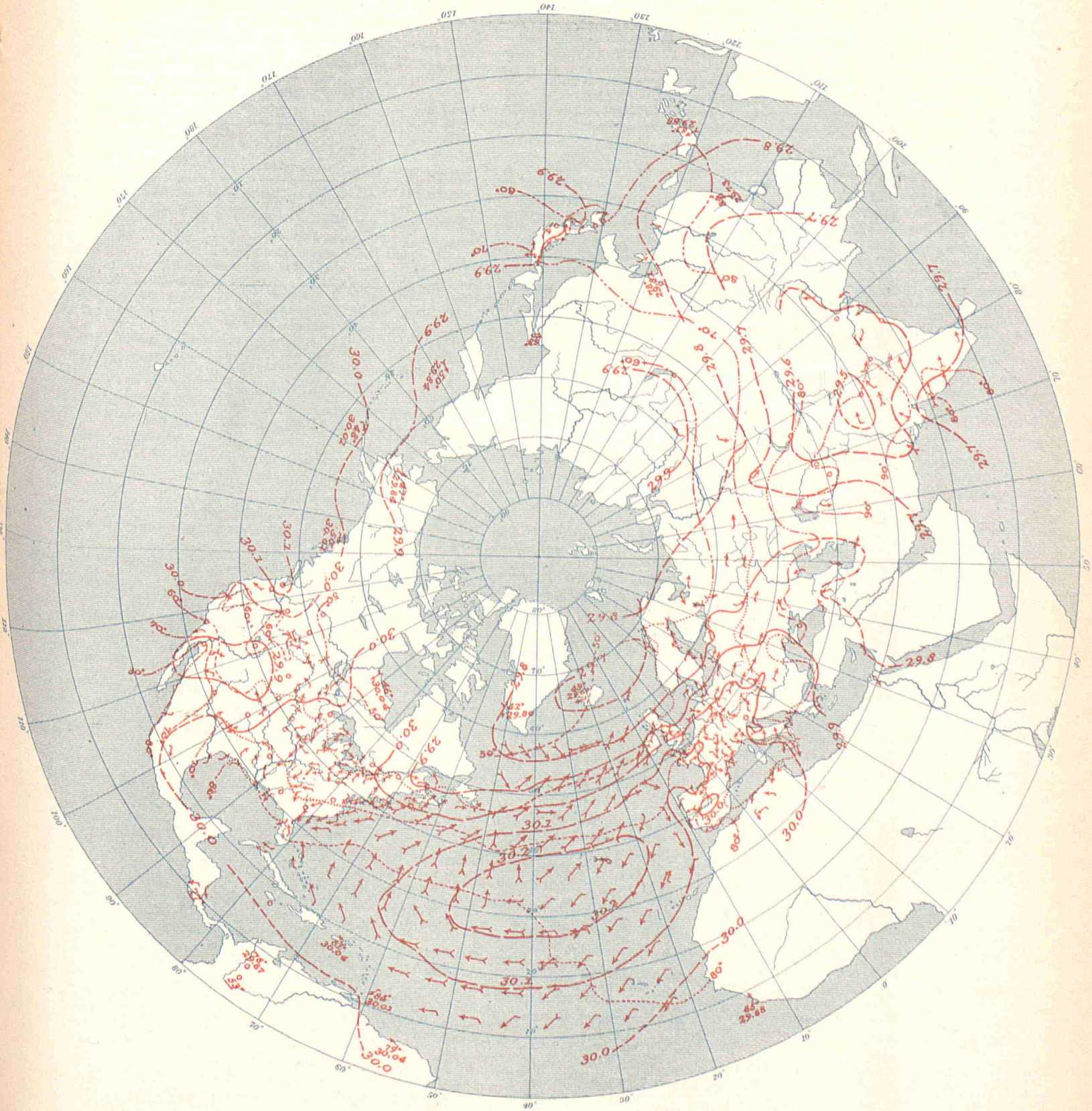
18th, page 7, District No. 2, s. s. "Hohenstaufen," longitude W. 35° 51′, should read W. 33° 51′.

30th, page 1, Canadian, Saint John's, Newfoundland, barometer should be omitted, about 0.40 inches too high; Saint Pierré, Newfoundland, reduced barometer 30.21 inches, 767.3 mm., should read 29.21, 741.9.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. August, 1883. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B.Hazen. Chief Signal Officer.
Signal Office 14th.

International Chart III. February, 1882. Storm-Tracks.

UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.
Signal Office 14th.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF SEPTEMBER, 1883.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
OCTOBER, 1884.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

SEPTEMBER, 1883.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for September, 1883. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.03	762.8	78.6	25.9	78.0	5	.....	.....	.....	8	4	13	.....	.....	.....	.....	0	inap.	inap.
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	30.03	762.7	78.6	25.9	57.9	6	3	13	.....	.....	.....	1	6	1	.....	.....	2	0.28	7.2
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.01	762.2	79.3	26.3	67.3	6	10	2	.....	2	.....	1	9	.....	.....	.....	2	1.07	27.2
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.03	762.8	80.2	26.8	51.7	6	7	3	1	1	1	8	3	.....	.....	.....	2	0.44	11.2
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.09	764.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.05	763.2	78.4	25.8	48.5	6	4	5	5	7	3	.....	.....	.....	.....	.....	2	0.35	9.0
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	82.6	28.1	15.3	11	15	1	1	.....	.....	1	1	.....	.....	.....	2	0	0
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2549	777	.....	.....	30.05	763.3	86.7	30.4	30.8	4	4	2	.....	3	4	9	4	.....	.....	.....	1	inap.	inap.
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.02	762.4	90.5	32.5	31.9	.....	1	9	1	.....	6	8	.....	5	.....	.....	1	0.19	4.8
AUSTRALIAN.																										
Adelaide	S. 34 57	E. 138 35	9.22 p.m.	140	42	.....	.....	30.14	765.5	51.0	10.6	75.6	4	3	3	5	6	1	1	3	4	.....	.....	4	1.86	47.2
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.90	759.4	29.99	761.7	51.4	10.8	79	4	2	2	0	6	4	2	4	.....	.....	.....	5	1.65	41.9
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.40	746.8	29.94	760.4	66.9	19.4	64.5	.....	.....	.....	6	4	8	5	7	.....	.....	.....	6	3.52	89.4
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.16	740.7	29.91	759 7	63.3	17.4	65.1	1	3	7	8	1	1	6	3	.....	.....	.....	7	5.60	142.3
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.06	738.0	29.91	759.7	58.5	14.7	79.7	20	1	.....	.....	6	.....	.....	.....	6	.....	.....	8	4.13	105.0
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.53	724.6	29.91	759.6	70.2	21.2	54	1	5	.....	1	11	8	3	1	.....	.....	.....	5	3.67	93.2
Kremsmunster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.59	726.2	29.91	759.6	62.1	16.7	76.1	1	1	7	3	.....	.....	5	8	5	.....	.....	6	2.79	70.9
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.97	735.8	29.93	760.3	63.3	17.4	66.1	2	1	3	4	6	9	3	2	.....	.....	.....	6	3.54	89.8
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.81	757.2	29.91	759.8	73.4	23.0	62.6	1	3	4	8	2	5	3	3	1	.....	.....	4	1.82	46.2
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.44	747.8	29.90	759.4	70.7	21.5	66	3	.....	0	2	12	.....	7	.....	.....	.....	.....	5	1.61	40.9
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.65	753.2	29.91	759.8	67.6	19.8	67.7	0	4	1	1	7	5	.....	.....	6	.....	.....	7	3.26	82.8
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.80	758.5	29.96	761.0	72.0	22.2	56.8	3	0	5	6	1	1	3	5	.....	.....	.....	5	3.81	96.8
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.25	743.0	29.96	760.9	64.0	17.8	67.1	2	7	6	1	2	8	3	.....	1	.....	.....	7	1.65	41.9
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.68	753.9	29.78	756.4	54.8	12.7	77.1	2	4	5	.....	2	7	4	6	.....	.....	.....	7	3.54	89.9
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.60	751.8	29.83	757.7	57.0	13.9	66.9	5	3	2	5	3	4	2	6	.....	.....	.....	6	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.78	756.4	59.4	15.2	73.9	1	5	8	4	.....	7	5	.....	.....	.....	.....	7	.....	.....
Bolton *a*	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.29	744.0	29.82	757.4	58.7	14.8	79.0	.....	2	2	7	6	3	3	6	.....	.....	.....	8	.....	.....
Bradford *a*	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.40	746.7	29.79	756.7	58.4	14.7	80.5	.....	4	2	5	.....	4	.....	10	.....	.....	.....	8	6.23	158.2
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.95	760.7	29.98	761.5	84.0	28.9	70.2	.....	.....	1	.....	.....	13	3	13	.....	.....	.....	4	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	29.7[illegible]	754.6	29.82	757.4	62.5	16.9	73.1	4	4	9	4	2	4	1	2	.....	.....	.....	6	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	160	49	29.65	753.1	29.82	757.4	62.2	16.8	72.1	.....	5	4	7	5	.....	2	3	4	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.64	752.8	29.86	758.4	59.4	15.2	75.7	1	5	7	5	3	5	4	.....	.....	.....	.....	7	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2205	672	27.68	703.1	29.90	759.4	74.8	23.8	47.7	7	2	.....	1	1	2	14	3	.....	.....	.....	5	.....	.....
Freetown *a*	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.61	752.1	29.84	757.9	86.8	30.4	79.7	3	1	1	1	1	3	2	2	1	.....	.....	4	.....	.....
Galway *a*	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.77	756.1	29.80	756 9	57.3	14.1	83.4	1	5	5	4	2	4	4	4	.....	.....	.....	5	4.29	109.0
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.00	762.0	30.05	763 3	76.2	24.6	89.7	.....	10	9	1	.....	.....	9	1	.....	.....	.....	2	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.55	750.6	29.70	755.9	57.5	14.2	72.0	1	2	10	4	2	.....	1	10	.....	.....	.....	6	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.65	753.1	29.82	757.4	62.8	17.1	70.6	6	3	1	9	5	2	3	1	.....	.....	.....	6	1.77	45.0
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.59	751 6	29.89	759.2	60.9	16.1	81.2	2	3	3	11	2	3	4	2	.....	.....	.....	7	1.84	46.7
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.79	756.7	29.83	757.7	61.6	16.4	69.3	3	4	7	4	6	2	1	3	.....	.....	.....	6	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.53	750.0	29.78	756.4	57.3	14.1	73.8	7	4	3	10	2	2	1	1	.....	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.88	758.9	29.95	760.7	78.3	25.7	68.1	.....	11	3	3	.....	7	1	5	.....	.....	.....	4	0.49	12.4
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	29.96	761.0	30.01	762.2	82.2	27.9	77.7	.....	.....	.....	4	7	7	5	7	.....	.....	.....	6	.....	.....
Oscott *n*	N. 52 28	W. 1 55	0.00 m.	483	147	29.17	740.9	29.68	753.9	51.4	10.8	81.4	2*m*	.....	2	3	5	.....	.....	3	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.52	749.8	29.75	755.6	59.4	15.2	75.6	2	5	1	8	4	5	.....	3	2	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.77	756.1	29.84	757.9	61.1	16.2	81.5	3	3	4	7	4	3	3	.....	3	.....	.....	7	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.69	754.1	29.79	756.7	53.6	12.0	84.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Scutari Cemet'y *a*	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.83	757 7	29.89	759.2	81.0	27.2	55.0	4	.....	1	9	.....	.....	.....	13	2	.....	.....	4	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.52*f*	749.8*f*	29.77	756.1	61.1	16.2	76.6	3	1	2	6	10	1	.....	5	2	.....	.....	6	4.71	119.6
Stiloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.73	755.1	29.70	755.9	59.5	15.3	77.5	4	3	6	4	1	3	6	3	.....	.....	.....	6	3.54	89.9
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.80*a*	756.9*a*	58.4	14.7	75.5*a*	6*a*	1	4	4	4	2	2	0	.....	.....	.....	9	.....	.....
Strathfield	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	62.4	16.9	75.8	3	5	4	9	2	4	1	1	1	.....	.....	6	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.81	757.2	29.90	759 4	63.8	17.7	75.2	.....	8	6	0	4	6	.....	.....	.....	.....	.....	7	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m	23	7	29.80	756.9	29.82	757.4	59.0	15.0	80.2	3	7	3	5	1	8	3	.....	.....	.....	.....	8	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.62	752.3	30.01	762.2	77.1	25.1	63.5	1	7	7	6	4	1	3	1	.....	.....	.....	3	0.94	23.9
CANADIAN.																										
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	35	11	29.96	761.0	30.00	762.0	52.9	11.6	85.9*a*	1	1	2	10	4	.....	.....	.....	12	.....	.....	6	1.39	35.3
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.96	761.0	30.01	762.2	55.7	13.2	79.7	3	5	5	9	3	2	1	1	1	5793	9322	4	2.42	61.5
Chatham*	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.95	760.7	30.01	762.2	50.4	10.2	68.2	2	5	4	14	2	1	.....	2	.....	3900	6373	3	1.71	43.4
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.85	758.2	30.04	763.0	47.7	8.7	91.5	1	10	7	4	.....	1	6	1	.....	.....	.....	6	2.70	68.6
Dalhousie *a*	N. 48 04	W. 66 22	7.32 a.m.	45	14	29.92	760.0	29.97	761.2	50.3	10.2	.....	.....	3	17	1	1	.....	3	.....	4	.....	.....	.....	1.29	32.8
Edmonton	N. 53 14	W. 113 38	4.33 a.m.	2380?	725?	27.75	704.8	.....	.....	34.7	1.5	56.9	.....	.....	7	1	2	2	.....	1	17	1839	2960	2	0	0
Father Point*	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.95	760.7	29.97	761.2	48.2	9.0	88.7	1	10	10	2	1	.....	.....	3	3	.....	.....	5	3.11	79.0
Fort Garry*	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.24	742.7	30.06	763 5	42.9	6.1	89.5	0	8	3	2	4	6	.....	1	.....	8910	14339	6	1.95	49.5
Fredericton	N. 45 57	W. 66 38	7.41 a.m.	59	18	29.98	761.5	30.05	763.3	50.1	10.1	83.9	.....	10	2	5	.....	3	4	2	4	.....	.....	3	1.49	37.8
Grand Manan	N. 44 46	W. 66 45	7.41 a.m.	49	15	30.00	762.0	30.05	763.3	53.8	12.1	82.4	4	3	.....	7	5	2	2	3	4	7894	12704	5	2.05	52.1
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	29.01	736.8	30.11	764.8	47.1	8.4	92.6	1	2	.....	3	2	1	4	.....	17	.....	.....	6	2.82	71.6
Halifax*	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.94	760.5	30.07	763.8	53.9	12.2	87.2	1	7	6	4	3	1	2	.....	6	.....	.....	4	2.37	60.2
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	350	107	29.67	753.0	30.00	763.5	54.0	12.6	89.6	.....	1	2	12	.....	.....	2	13	.....	.....	.....	6	3.13	79.5
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.77	756.1	30.10	764.5	52.9	11.6	84.5	3	3	5	4	5	1	.....	8	1	4494	7232	5	2.70	68.6
Little GlaceBay *b*	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.95	760 7	29.98	761.5	58.2	14.6	84.9	4*a*	3	4	12	2	2	2	.....	.....	.....	.....	4	0.92	23.4
London	N. 43 00	W. 81 15	6.43 a.m.	832	254	29.22	742.2	30.13	765 3	49.0	9.4	93.5	2	.....	.....	2	1	2	.....	2	21	.....	.....	6	3.47	88.1
Medicine Hat	N. 50 01	W. 110 37	4.46 a.m.	2136	651	27.72	704 1	30.00	763.5	43.5	6.4	66.5	3	2	1	2	4	2	.....	1	15	5724	9212	1	0	0
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.86	758.4	30.06	763.5	52.0	11.1	83.1	.....	7	5	8	4	1	3	2	.....	.....	.....	5	3.57	90.7
Ottawa	N. 45 26	W. 75 41	7.05 a.m.	223	68	29.82	757.4	30.00	763.5	47.9	8.8	92.2*a*	6*a*	0	4	2	8	1	.....	2	.....	.....	.....	4	2.32	58.9
Parry Sound*	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.40	740.7	30.09	764.3	48.7	9.3	94.1	3	3	1	3	2	5	7	6	.....	6244	10048	5	4.76	120.9
Peterboro	N. 44 17	W. 78 18	6.54 a.m.	675	206	29.36	745.7	30.10	764.5	51.2	10.7	82.5	1	4	8	3	2	1	1	.....	10	.....	.....	4	0.22	5.6
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.41	747.0	30.10	764.5	51.4	10.8	94.4	3	3	3	3	2	1	.....	7	8	4905	7990	6	2.08	52.8
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.45	748.0	30.10	764.5	51.3	10.7	90.6	2	0	3	2	.....	.....	8	7	2	.....	.....	6	2.68	68.1
Qu Appelle	N. 50 44	W. 103 42	5.13 a.m.	2115	646	27.80	706.1	30.11	764.8	37.0	2.8	85.4	1	3	2	8	2	1	1	1	11	6548	10538	3	0.14	3.6
Quebec*	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.71	754.6	30.03	762.7	49.4	9.7	92.9	3	.....	8	5	6	.....	.....	3	5	.....	.....	6	2.95	74.9
Rockliffe*	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.63	752.6	30.08	764.0	47.9	8.8	92.1	.....	5	3	.....	.....	5	1	2	14	.....	.....	4	4.24	107.7
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.98	761.5	30.03	762.7	51.0	10.6	87.0	3	0	1	6	4	1	3	.....	6	.....	.....	4	1.55	39.4
Saint John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	130	40	29.90	759.4	30.05	763.3	51.0	10.6	92.8	1	1	6	.....	15	2	3	2	.....	.....	.....	5	2.38	60.5
Saint Johns, N.F.	N. 47 34	W. 52 54	8.36 a.m.	230?	70?	29.76	755.9	30.01	762.2	53.0	11.7	90.1	1	5	9	7	3	2	.....	3	.....	.....	.....	3	3.13	79.5
Saugeen*	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.38	746.2	30.08	764.0	50.8	10.4	85.1	2	2	2	7	2	5	7	2	1	6583	10594	6	3.93	99.8
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	28.86	733.0	30.11	764.8	38.1	3.4	92.7	2	4	2	3	3	0	2	1	7	.....	.....	6	2.56	65.0
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.96	761.0	54.8	12.7	.....	5	5	7	0	.....	1	3	3	.....	.....	.....	.....	4.73	120.1
S.W. Pt, Anticosti	N. 49 24	W. 63 36	7.54 a.m.	30	9	29.85	758.2	29.88	758.9	46.9	9.4	89.3	7	8	.....	.....	1	8	1	1	4	.....	.....	4	1.03	41.4
Sydney*	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.97	761.2	30.02	762.5	54.4	12.4	82.7	2	1	3	13	2	.....	1	3	5	6354	10547	5	2.46	62.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
	° ′	° ′																								
CANADIAN —Con.																										
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.74	755.4	30.12	765.0	50.9	10.5	80.4	5	7	1	3	1	.....	3	7	3	6458	10393	6	2.23	56.6
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	29.07	738.4	30.13	765.3	50.7	10.4	86.4	8	1	8	3	2	1	5	1	1	.....	.....	6	2.10	53.3
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	30.00	762.0	30.07	763 8	53.1	11.7	89.5	3	2	2	5	3	2	5	2	6	.....	.....	5	1.72	43.7
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.05	763.3	30.08	764.0	62.7	17.1	82.0	.....	.....	10	8	.....	8	.....	3	1	.....	.....	7	0.86	21.8
Springbok *a*	S. 29 45	E. 17 43	1.19 p.m.	?	?	27.89	708.4	.....	.....	66.0	18.9	48.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
CHILIAN.																										
Coquimbo	S. 29 56	W. 71 21	7.22 a m.	72	22	30.00	761.9	30.08	763.9	53.2	11.8	89.9	1	2	1	5	6	4	8	3	.....	.....	.....	7	.....	.....
Iquique *c*	S. 20 12	W. 70 11	7.27 a m.	26	8	30.02	762.6	30.05	763.3	59.7	15.4	73.2	1	1	.....	10	4	5	.....	6	.....	.....	.....	.....	.....	.....
Niebla	S. 39 53	W. 73 25	7.14 a.m.	98	30	29.63	752.6	29.74	755.3	45.0	7.2	89.7	1	5	3	.....	1	.....	20	.....	.....	.....	.....	4	7.44	189.0
Punta Caldera	S. 27 03	W. 70 53	7.25 a.m.	82	25	29.97	761.3	30.06	763.6	55.4	13.0	82.1	1	10	1	5	.....	8	1	4	.....	.....	.....	7	.....	.....
Punta Corona	S. 41 47	W. 73 53	7.12 a.m.	174	53	29.95	760.8	30.14	765.6	.....	.....	.....	10	3	7	.....	4	2	3	1	.....	.....	.....	8	4.73	120.2
Valparaiso *a*	S. 33 02	W. 71 39	7.22 a.m.	131	40	29.93	760.2	30.07	763.8	52.9	11.6	85.0	6	3	2	9	3	2	1	3	.....	.....	.....	.....	.....	.....
CHINESE. (*Sub*).																										
Sung-shu-chwang	*a*N. 36 07	E. 103 56	7.04 p.m.	4987	1520	25.23	640.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	29.96	761.0	29.99	761.7	71.4	21.9	85.2	4	2	.....	.....	3	6	7	8	.....	.....	.....	7	2.55	64.8
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.81	757.1	29.85	758.3	59.4	15.2	73	.....	5	2	4	7	3	8	.....	1	.....	.....	7	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.80	756.9	29.82	757.4	59.9	15.5	78	1	1	6	9	4	2	6	1	.....	.....	.....	6	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.57	751.0	29.61	752.1	37.6	3.1	88	1	.....	2	2	10	.....	1	12	2	.....	.....	8	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.69	754.0	29.73	755.1	46.9	8.3	84	.....	1	.....	2	4	8	6	3	6	.....	.....	6	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.82	757.4	29.84	758.0	51.1	10.6	83	4	3	.....	5	.....	5	1	7	5	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.71	754.5	29.80	756.8	58.5	14.7	77	.....	4	5	6	3	4	5	3	.....	.....	.....	5	.....	.....
Egyptian.																										
Cairo	N. 30 03	E. 31 21	2.14 p.m.	?	?	29.74	755.3	.....	.....	89.1	31.7	.....	8	1	.....	.....	1	.....	1	19	.....	.....	.....	0	0	0
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.45	748.0	30.08	764.1	67.1	19.5	71.5	1	7	4	2	1	4	.....	.....	11	.....	.....	.....	2.60	65.9
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.52	749.8	30.03	762.8	62.4	16.9	82.1	1	3	1	10	7	1	.....	7	.....	.....	.....	.....	3.72	94.4
Avignon	N. 43 57	E. 4 48	0.27 p.m	65	20	29.90	759.5	29.98	761.5	73.0	22.8	62.8	15	4	3	1	4	2	.....	1	.....	.....	.....	4	4.94	125.4
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.39	746.4	29.93	760.2	64.6	18.1	62	.....	3	2	8	8	5	3	1	.....	.....	.....	7	2.99	75.9
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.63	752.5	29.89	759.1	64.4	18.0	68.5	2	1	9	6	1	4	5	2	.....	.....	.....	7	3.30	83.7
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.03	737.4	29.92	759.9	64.8	18.2	70.7	3	.....	3	5	14	.....	.....	5	.....	.....	.....	.....	4.89	124.1
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.75	755.6	30.00	762.1	67.5	19.7	66.4	2	1	9	9	2	1	5	1	.....	.....	.....	8	2.68	68.1
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.41	747.0	29.95	760.6	66.0	18.9	71.5	3	.....	6	10	6	1	3	1	.....	.....	.....	.....	2.24	57.0
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.72	754.8	29.97	761.1	64.0	17.8	80.9	1	5	7	9	1	4	1	2	.....	.....	.....	7	4.43	112.5
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.82	757.5	29.91	759.6	64.4	18.0	77.7	3	3	10	8	3	2	.....	1	.....	.....	.....	5	4.17	106.0
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.58	751.2	29.88	759.0	64.8	18.2	77.6	3	1	1	7	8	.....	2	.....	8	.....	.....	6	3.04	77.1
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.39	746.5	29.89	759.2	62.6	17.0	68.7	1	.....	4	2	7	7	7	2	.....	.....	.....	7	3.98	101.0
Clermont-Fer'and	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.63	727.1	29.95	760.6	67.3	19.6	58.0	6	1	11	3	1	2	1	5	.....	.....	.....	5	2.99	76.0
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.14	740.2	29.98	761.4	66.0	18.9	60.9	4	4	3	8	2	3	2	4	.....	.....	.....	.....	5.25	133.3
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.09	738.9	29.93	760.2	61.7	16.5	69.6	2	4	11	1	4	1	5	2	.....	.....	.....	6	3.98	101.1
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.45	697.2	29.92	759.9	65.8	18.8	59.2	9	.....	.....	.....	21	.....	.....	.....	.....	.....	.....	4	2.67	67.8
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.85	732.8	29.94	760.5	71.8	22.1	51	2	15	1	5	4	1	1	1	.....	.....	.....	5	2.10	53.3
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.21	741.9	29.95	760.8	67.3	19.6	65.2	2	9	1	6	3	2	3	4	.....	.....	.....	.....	7.35	186.6
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.44	722.3	29.96	760.9	62.6	17.0	66.1	2	2	3	16	2	1	2	2	.....	.....	.....	6	3.29	83.5
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.64	752.8	29.91	759.8	63.3	17.4	75.3	1	6	9	5	5	3	1	.....	.....	.....	.....	6	3.57	90.6
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.46	748.2	30.06	763.6	68.9	20.5	65.0	.....	1	19	6	1	2	1	.....	.....	.....	.....	6	3.31	84.0
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.85	758.3	29.96	760.9	64.8	18.2	72.9	.....	6	2	11	3	4	1	1	2	.....	.....	7	3.96	100.5
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	28.94	735.0	29.97	761.3	64.4	18.0	63.4	5	6	2	.....	9	3	3	2	.....	.....	.....	7	4.15	105.3
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.64	752.9	29.94	760.5	63.7	17.6	.....	3	2	7	8	3	5	1	1	.....	.....	.....	6	3.18	80.8
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.69	751.2	29.96	760.9	71.8	22.1	58.2	.....	3	10	11	2	2	2	.....	.....	.....	.....	.....	1.07	27.2
Montlouis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.92	632.9	29.76	755.9	57.4	14.1	37	3	3	7	7	1	3	6	.....	.....	.....	.....	6	1.96	49.8
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.83	757.7	29.94	760.4	73.4	23.0	68.4	3	10	6	3	2	3	1	2	.....	.....	.....	4	1.84	46.8
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.83	757.6	29.93	760.3	65.8	18.8	68.1	1	3	7	8	5	2	2	2	.....	.....	.....	9	4.92	125.0
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.89	759.1	30.00	761.9	72.9	22.7	50.9	1	12	1	2	1	3	3	5	.....	.....	.....	5	1.02	26.0
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.30	541.1	.....	.....	38.5	3.6	.....	.....	10	9	6	.....	.....	2	1	2	.....	.....	5	3.83	97.2
Privas [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.92	734.6	29.96	761.0	67.6	19.8	63.6	9	1	.....	.....	11	4	.....	4	1	.....	.....	4	5.11	129.7
Puy de Dôme	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.15	638.9	.....	.....	46.9	8.3	89.7	1	1	13	9	.....	.....	2	4	.....	.....	.....	7	7.23	183.6
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	29.95	760.7	29.98	761.5	68.0	20.0	69.9	.....	1	5	9	3	1	.....	1	10	.....	.....	7	2.00	50.7
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.75	755.7	29.96	761.0	66.2	19.0	92.0	1	4	5	12	3	2	2	1	.....	.....	.....	7	6.42	163.2
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.89	708.4	30.03	762.7	56.1	13.4	83.3	.....	21	1	1	.....	2	1	.....	4	.....	.....	7	4.72	119.8
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.85	758.2	29.87	758.7	65.1	18.4	79	3	6	4	9	2	2	2	.....	.....	.....	.....	6	5.23	132.9
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.76	755.8	29.92	760.0	64.6	18.1	66.1	*a*3	2	4	7	4	3	2	2	2	.....	.....	6	4.07	103.4
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.35	745.5	30.06	763.5	70.5	21.4	58.5	4	7	10	2	1	3	3	.....	.....	.....	.....	5	2.34	59.4
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	29.77	756.2	29.95	760.8	66.9	19.4	65.2	2	1	6	9	9	1	.....	2	.....	.....	.....	5	4.84	123.0
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.43	747.4	29.92	759.9	64.2	17.9	63.3	7	2	8	5	3	3	1	1	.....	.....	.....	.....	3.22	81.8
Sub-Series.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	0.03 p.m.	131	40	29.91	759.8	30.06	763.6	68.4	20.2	68.7	3	11	3	4	2	3	4	.....	.....	.....	.....	7	8.00	203.3
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.51	724.1	29.93	760.1	62.8	17.1	60.9	.....	4	8	8	1	3	2	3	1	.....	.....	7	2.34	59.5
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.10	739.2	29.93	760.3	64.8	18.2	62.8	1	4	6	4	5	2	1	2	5	.....	.....	6	2.84	72.1
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.76	755.9	29.90	759.4	65.3	18.5	60.5	.....	5	5	7	3	3	5	.....	2	.....	.....	7	0.99	25.1
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.43	747.6	29.96	760.9	63.9	17.7	59.1	2	1	9	2	5	6	4	.....	1	.....	.....	7	1.98	50.2
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.50	749.2	29.94	760.5	63.7	17.6	68.6	1	1	.....	15	1	1	2	7	2	.....	.....	8	5.46	138.8
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.17	741.0	29.90	759.4	62.6	17.0	65.8	7	1	1	5	11	1	4	.....	.....	.....	.....	6	2.34	59.4
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.56	750.9	29.91	759.7	65.1	18.4	62.2	3	1	5	8	4	3	4	1	1	.....	.....	7	2.42	61.6
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.56	725.4	29.94	760.5	63.5	17.5	72.4	1	1	5	19	1	1	.....	2	.....	.....	.....	6	4.65	118.0
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.79	756.6	29.87	758.7	61.9	16.6	75.6	2	4	4	9	2	3	5	.....	1	.....	.....	7	2.48	63.1
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.84	757.9	29.86	758.4	60.3	15.7	71.4	2	2	5	7	1	2	5	1	5	.....	.....	7	2.10	53.3
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.50	749.3	29.91	759.7	64.9	18.3	60.0	.....	5	3	8	4	4	3	3	.....	.....	.....	7	2.74	69.5
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.70	754.4	29.88	759.0	65.8	18.8	59.5	.....	4	6	7	4	2	6	1	.....	.....	.....	7	2.39	60.8
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.92	759.9	29.97	761.1	61.2	16.2	67.2	3	3	3	4	7	6	3	1	.....	.....	.....	6	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.13	714.5	29.99	761.7	62.4	16.9	62.7	1	7	4	4	.....	1	3	8	2	.....	.....	6	4.19	106.5
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.90	759.5	29.92	759.9	63.7	17.6	65.0	3	3	3	7	4	5	3	2	.....	.....	.....	6	2.33	59.2
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.38	740.2	29.91	759.6	64.0	17.8	69.0	.....	.....	10	3	4	1	3	4	5	.....	.....	8	3.27	83.0
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.00	736.6	29.86	758.4	64.0	17.8	64.5	7	1	5	8	3	.....	3	3	.....	.....	.....	7	2.28	57.8
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.84	757.9	29.86	758.5	60.8	16.0	72.7	2	1	4	8	3	4	4	4	.....	.....	.....	7	1.26	32.1
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.56	750.7	29.94	760.5	81.3	27.4	.....	2	.....	1	13	3	.....	.....	11	.....	.....	.....	8	0.14	3.6
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.66	753.2	29.71	754.5	82.9	28.3	75	.....	1	11	16	2	.....	.....	.....	.....	.....	.....	5	0.54	13.7
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.20	741.6	29.66	753.5	86.5	30.3	60	1	3	12	11	1	.....	1	1	.....	.....	.....	7	3.54	89.9
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.76	756.0	29.80	757.0	79.8	26.6	85	.....	9	18	3	.....	.....	.....	.....	.....	.....	.....	9	11.22	285.0
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.95	709.9	29.82	757.4	74.0	23.3	79	.....	11	12	6	.....	.....	.....	1	.....	.....	.....	8	10.91	277.1
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.53	750.1	29.81	757.1	90.7	32.6	47	.....	13	12	1	.....	.....	.....	3	1	.....	.....	6	4.67	118.6
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.29	718.5	29.74	755.3	85.9	29.9	48	.....	2	26	2	.....	.....	.....	.....	.....	.....	.....	7	0.28	7.1
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.29	693.2	29.85	758.2	71.0	21.7	82	.....	.....	18	12	.....	.....	.....	.....	.....	.....	.....	8	6.67	169.4
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.90	733.9	29.62	752.4	88.1	31.2	60	4	.....	.....	.....	.....	.....	5	2	19	.....	.....	2	10.72	272.3
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.73	729.7	29.61	752.1	86.0	30.0	69	.....	2	2	.....	2	1	1	.....	22	.....	.....	4	4.89	124.2
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.07	738.4	29.62	752.4	91.8	33.2	50	.....	8	9	1	.....	1	7	4	.....	.....	.....	4	3.65	92.7
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.64	727.3	29.67	753 6	80.4	26.9	78	.....	4	6	5	.....	2	.....	.....	13	.....	.....	8	15.72	399.3
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.32	719.4	29.67	753.5	81.8	27.7	75	1	6	7	3	2	1	2	5	3	.....	.....	7	12.50	317.5
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.25	743.0	29.62	752.4	87.2	30.7	65	4	4	1	1	.....	2	1	1	16	.....	.....	4	4.18	106.2
Allahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.31	744.4	29.62	752.3	84.3	29.1	80	.....	1	.....	.....	.....	1	.....	6	22	.....	.....	5	4.92	125.0
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.45	748.0	29.63	752.7	85.4	29.7	77	.....	2	1	1	1	5	9	7	4	.....	.....	6	4.53	115.1
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.65	702.3	29.65	752.0	78.5	25.8	81	1	3	.....	1	2	6	6	2	9	.....	.....	8	11 56	293.6

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for September, 1883. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
INDIAN—Cont'd.	° ′	° ′																								
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.58	751.2	29.66	753.2	83.8	28.8	79	.....	.....	1	3	2	1	.....	3	20	.....	.....	7	10.92	277.4
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.63	752.7	29.66	753.2	82.6	28.1	86	.....	.....	1	6	10	8	4	1	.....	.....	.....	8	6.96	176.8
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.56	750.7	29.67	753.7	81.6	27.6	86	1	.....	.....	.....	1	1	1	1	25	.....	.....	6	12.92	328.2
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.64	752.8	29.73	755.1	80.3	26.8	88	.....	.....	.....	6	7	8	.....	1	8	.....	.....	8	1.30	33.0
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.36	745.8	29.70	754.3	83.4	28.6	84	1	3	.....	4	.....	7	1	14	.....	.....	.....	7	12.21	310.1
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.24	717.2	29.65	753.1	87.7	30.9	56	3	13	2	4	.....	2	.....	4	2	.....	.....	2	7.24	183.9
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	30.01	762.2	.....	.....	81.3	27.4	65.8	1	9	2	1	3	9	2	.....	3	.....	.....	5	0	0
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.54	750.3	29.94	760.4	70.9	21.6	55	.....	.....	.....	2	4	1	6	.....	17	.....	.....	6	4.29	108.9
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.44	747.7	29.94	760.5	71.2	21.8	54	1	2	4	7	6	2	6	.....	.....	.....	.....	6	2.60	67.7
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.82	757.4	29.93	760.1	70.9	21.6	57	8	.....	1	3	9	3	1	5	.....	.....	.....	6	2.67	67.8
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.04	737.6	29.92	760.0	68.0	20.0	63	4	17	.....	2	3	.....	2	2	.....	.....	.....	6	2.04	51.7
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157	48	29.74	755.3	29.92	760.0	71.8	22.1	59	4	3	....	11	3	5	2	2	.....	.....	.....	5	3.82	97.0
Mondovi	N. 44 23	E. 7 48	0.39 p.m.	1824	556	28.06	712.7	29.93	760.3	65.5	18.6	65	9	10	8	.....	.....	1	1	1	.....	.....	.....	5	1.31	33.2
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.88	759.0	29.93	760.2	72.3	22.4	62	6	.	1	6	1	1	6	9	.....	.....	.....	5	4.11	104.5
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.67	753.6	29.92	760.0	74.8	23.8	49	5	2	7	7	3	1	1	4	.....	.....	.....	6	1.31	33.3
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.79	756.6	29.87	758.7	73.0	22.8	64	2	3	11	8	2	.....	1	3	.....	.....	.....	5	2.64	67.1
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.75	755.7	29.92	760.0	76.6	24.8	48	4	5	2	11	7	....	1	.....	.....	.....	.....	6	4.02	102.0
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.69	754.0	29.93	760.2	75.9	24.4	50	4	2	8	2	2	4	4	4	.....	.....	.....	4	1.53	38.8
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.08	738.6	29.94	760.5	76.1	24.5	64	.....	5	13	6	5	.....	1	.....	.....	.....	.....	4	3.25	82.5
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	29.76	755.9	29.95	760.7	76.3	24.6	56	.....	10	1	1	5	9	2	....	2	.....	.....	4	2.82	71.5
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.73	755.1	29.97	761.2	76.1	24.5	60	3	6	6	2	.....	.....	1	12	.....	.....	.....	4	4.31	109.5
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.89	759.3	29.94	760.4	78.4	25.8	61	3	....	2	8	5	1	8	3	.....	.....	.....	6	1.03	26.1
Sub-Series.																										
Naples *a.*	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.46	748.2	29.97	761.2	72.9	22.7	66.1	1	4	3	13	2	3	.....	3	.....	.....	.....	6	4.34	110.1
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	29.91	760.1	29.97	761.1	63.7	17.6	95	1	1	1	2	.....	2	7	.....	16	.....	.....	7	6.58	166.9
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.90	759.4	29.93	760.3	61.5	16.4	86.2	3	.....	6	6	10	2	1	.....	2	3183	5122	5	5.10	129.5
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	26	8	29.91	759.6	29.97	761.3	71.1	21.7	86	2	1	7	1	2	.....	4	4	9	.....	.....	5	6.82	173.2
Kagoshima	N. 31 35	E. 130 33	8.50 p.m.	14	4	29.94	760.5	29.95	760.8	72.4	22.4	78.2	3	7	2	.....	.....	1	2	2	13	.....	.....	4	3.10	78.9
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	29.87	758.6	29.97	761.2	68.2	20.1	85.5	.....	.....	.....	1	1	10	6	1	11	2481	3991	6	7.49	190.0
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.80	756.8	29.97	761.2	70.0	21.1	78.5	17	4	3	.....	1	1	4	.....	.....	2515	4048	5	4.61	117.0
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	29.94	760.6	29.97	761.1	73.0	22.8	81.7	5	5	8	1	.....	.....	8	2	1	5159	8302	6	5.86	149.1
Miasaka	N. 31 56	E. 131 26	8.54 p.m.	26	8	29.93	760.2	29.96	760.9	71.8	22.1	85	8	.....	9	2	1	2	6	2	.....	.....	.....	5	11.10	282.0
Miyako	N. 39 38	E. 141 59	9.36 p.m.	98	30	29.87	758.7	29.98	761.5	63.1	17.3	90	1	.....	13	3	7	.....	3	.....	3	1385	2229	7	5.61	142.4
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.76	756.0	29.96	761.0	71.2	21.7	78.9	6	.....	.....	1	.....	.....	.....	6	17	2649	4263	4	3.80	96.4
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	29.93	760.2	29.96	761.0	69.1	20.6	82.8	.....	1	2	5	.....	13	3	6	.....	3842	6183	6	9.20	233.7
Nobiru	N. 38 23	E. 141 11	9.32 p.m.	15	5	29.95	760.8	29.97	761.2	66.4	19.1	89.6	12	.....	2	.....	6	.....	5	5	.....	7201	11680	8	4.28	108.8
Numazu	N. 35 06	E. 138 51	9.23 p.m.	32	10	29.94	760.4	29.97	761.3	70.7	21.5	83	4	.....	.....	2	5	1	13	4	1	.....	.....	7	2.89	73.5
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	29.95	760.6	29.96	761.1	71.7	22.0	78.6	4	.....	7	1	.....	.....	4	14	.....	5358	8622	5	3.78	95.8
Sakai	N. 35 01	E. 133 31	9.01 p.m.	10	3	29.96	760.9	29.97	761.1	69.3	20.7	81	5	2	5	2	.....	.....	4	6	6	.....	.....	6	5.59	142.1
Shimonoseki	N. 33 58	E. 130 56	8.52 p.m.	13	4	29.83	757.6	29.97	761.3	70.7	21.5	82.9	1	.....	.....	.....	1	.....	1	26	.....	.....	.....	4	6.04	153.5
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.91	759.6	29.95	761.5	69.4	20.8	88.7	9	.....	.....	1	8	2	8	2	.....	5671	9127	6	6.26	159.1
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.90	759.4	29.95	760.7	73.1	22.8	73.8	2	.....	.....	1	9	.....	10	4	4	3520	5665	5	5.68	144.3
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.97	761.2	30.16	766.0	72.6	22.6	64.4	.....	.....	3	2	.....	9	16	.....	.....	.....	.....	5	1.07	27.2
MEXICAN.																										
Leon *a*	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24.33	618.0	30.00	762.0	58.8	14.9	88.0	3	8	9	3	2	2	2	.....	.....	.....	.....	8	4.58	116.3
Mazatlan *a*	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.65	753.1	29.91	759.6	78.4	25.8	85.4	3	.....	.....	.....	1	.....	7	14	.....	.....	.....	7	7.28	185.0
Sub-Series.																										
Altata	N. 24 40	W. 107 55	4.56 a.m.	?	?	.....	.....	.....	.....	78.0	25.6	89.4	2	.....	.....	.....	2	6	8	9	3	.....	.....	5	6.95	176.5
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.86	758.4	29.86	758.4	63.3	17.4	.....	1	.....	5	7	5	4	4	4	.....	.....	.....	.....	2.28	57.8
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.79	756.6	29.84	758.0	59.0	15.0	.....	2	3	4	7	7	1	3	3	.....	.....	.....	.....	2.96	75.2
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.83	757.6	29.83	757.6	60.1	15.6	.....	.....	3	3	9	2	6	5	2	.....	.....	.....	.....	1.72	43.8
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.85	758.2	29.85	758.2	62.6	17.0	71.5	.....	2	6	8	.. .	3	7	1	3	.....	.....	.....	3.62	92.0
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.82	757.4	29.87	758.6	63.0	17.2	70.9	.....	2	2	9	4	5	5	3	.....	.....	.....	6	2.41	61.3
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7.15 p.m.	?	?	29.91	759.7	.....	.....	80.2	26.8	77.4	19	.. ..	1	.....	1	.....	1	8	.....	.....	.....	6	1.11	28.3
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.72	754.8	29.78	756.4	57.4	14.1	67	3	4	.....	4	10	3	4	1	1	.....	.....	6	4.33	110.0
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.78	756.3	29.82	757.3	54.0	12.2	66	6	2	3	7	3	4	.....	5	.....	.....	.....	6	2.82	71.5
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.68	753.9	29.82	757.5	57.2	14.0	68	2	1	3	10	1	2	5	4	2	.....	.....	7	4.04	102.6
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.78	756.5	29.81	757.1	44.8	7.1	.....	2	4	5	7	2	2	2	4	2	.....	.....	8	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.73	756.5	29.83	757.7	49.3	9.6	70	4	....	4	6	4	.....	2	5	5	.....	.....	6	2.28	57.9
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	.....	.....	.....	.....	70.7	21.5	82.6	5	1	5	7	.....	4	2	5	1	.....	.....	4	7.09	180.0
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.08	764.1	30.17	766.2	75.6	24.2	63.0	1	1	.. ..	20	1	4	1	1	1	.....	.....	4	0.03	0.8
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	312	95	29.78	756.5	30.11	764.8	70.3	21.3	60.2	8	3	.....	9	6	1	.....	3	.....	.....	.....	5	0.85	21.5
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.12	765.1	30.19	766.9	73.0	22.8	71.0	4	....	3	6	2	.....	1	9	5	.....	.....	5	2.98	75.8
St. Paul de Loanda	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.79	756.7	29.99	761.8	73.2	22.9	84.6	6	8	9	5	.....	.....	.....	2	.....	.....	.....	7	0.04	0.9
San Salvador	S. 6 17	E. 14 53	1.07 p.m.	1834	559	28.13	714.6	29.98	761.4	77.0	25.0	60.5	2	4	14	5	2	1	.....	.....	2	.....	.....	8	.....	.....
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.39	645.0	30.06	763.4	57.2	14.0	59.0	.....	9	6	6	1	2	4	2	.....	.....	.....	5	7.77	197.3
RUSSIAN																										
Akmolinski *b*	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.86	733.0	29.91	759.7	62.2	16.8	38.6	2	4	5	2	3	1	3	6	2	.....	.....	4	0.19	4.8
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.91	759.7	29.93	760.2	50.2	10.1	76.7	1	5	7	1	4	5	1	2	4	.....	.....	8	2.18	55.3
Ashurada	N. 36 54	E. 53 55	3.44 p.m.	79	24	30.08	764.1	29.99	761.7	79.2	26.2	67.5	4	12	9	3	..	.....	1	.....	1	.....	.....	4	2.03	51.6
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.17	766.4	30.10	764.6	73.8	23.2	37.9	2	1	1	2	7	8	3	6	.....	.....	.....	3	0	0
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	30.08	764.1	30.04	762.9	75.2	24.0	64.3	10	1	.....	1	7	4	2	3	2	.....	.....	2	0.43	11.0
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.48	748.8	29.97	761.3	55.8	13.2	53.8	.....	2	7	6	3	.....	.....	7	5	.....	.....	5	1.18	30.1
Bieloserskk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.52	749.7	29.98	761.4	58.5	14.7	72.4	.....	7	6	2	5	1	1	1	7	.....	.....	7	1.55	39.4
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.72	754.8	29.96	760.9	61.3	16.3	65.1	1	2	3	8	4	3	1	1	.....	.....	.....	7	1.93	49.1
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	29.04	737.5	29.99	761.8	54.9	12.7	55.0	4	5	7	6	2	3	1	1	1	.....	.....	7	0.41	10.3
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.60	751.8	30.03	762.8	73.6	23.1	32.2	1	2	4	4	3	7	7	1	1	.....	.....	4	0.16	4.2
Irkutsk	N. 52 16	E. 104 16	7.05 p.m.	1536	468	28.43	722.2	30.09	764.2	46.2	7.9	71.1	1	4	.....	.....	2	1	1	3	18	.....	.....	5	0.52	13.2
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.76	755.8	30.02	762.5	63.7	17.6	50.5	3	3	5	8	3	5	1	2	.....	.....	.....	6	1.12	28.4
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	29.88	758.8	29.93	760.1	52.0	11.1	66.8	1	6	7	7	.....	3	1	2	3	.....	.....	8	1.52	38.7
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	29.94	760.5	29.96	761.1	72.3	22.4	58.9	.....	2	1	.....	1	1	8	8	9	.....	.....	3	0.84	21.2
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.37	745.9	29.98	761.5	69.3	20.7	43.9	2	3	1	2	9	4	5	4	.....	.....	.....	5	0.97	24.7
Koslov	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.54	750.4	30.03	762.8	67.6	19.8	49.9	2	2	4	7	3	2	5	3	2	.....	.....	5	0.40	10.1
Liban	N. 56 31	E. 21 01	1.32 p.m.	20	6	29.91	759.6	29.93	760.2	62.2	16.8	66.0	1	3	4	5	6	7	2	1	1	.....	.....	5	3.34	84.7
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.82	757.3	30.02	762.4	73.8	23.2	33.8	.....	2	2	5	1	5	7	8	.....	.....	.....	4	0.47	11.9
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.56	750.7	30.02	762.4	64.2	17.9	54.8	2	4	5	6	2	1	1	2	7	.....	.....	5	1.05	26.6
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.94	760.5	30.01	762.3	76.1	24.5	41.5	1	2	1	3	4	3	5	6	5	.....	.....	2	0.73	18.5
Nikolaievsk *a*	N. 53 08	E. 140 45	9.31 p.m.	59	18	.....	.....	.....	.....	48.2	9.0	84.2	1	2	3	2	1	2	2	2	14	.....	.....	5	.....	.....
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	29.84	757.8	29.98	761.4	64.9	18.3	70.0	.....	5	.....	6	2	2	.....	1	14	.....	.....	4	1.65	41.8
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.12 p.m.	328	100	29.67	753.6	30.01	762.2	77.7	25.4	26.2	6	10	1	1	.....	.....	1	2	9	.....	.....	3	0.16	4.1
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.74	755.5	29.94	760.5	55.2	12.9	69.6	2	9	4	4	2	4	2	3	.....	.....	.....	7	3.33	84.6
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.49	749.1	29.98	761.4	65.7	18.7	59.6	.....	4	3	3	5	9	4	1	1	.....	.....	6	0.94	24.0
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	29.89	759.2	29.92	760.0	79.5	26.4	75.3	1	10	4	9	2	.....	3	.....	1	.....	.....	3	3.37	85.7
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	29.94	760.4	29.96	761.0	60.1	15.6	61.2	2	6	8	5	4	2	2	1	.....	.....	.....	5	3.70	94.1
Samarkand	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.58	700.4	29.96	760.9	72.5	22.5	40.9	.....	2	2	.....	1	2	2	.....	21	.....	.....	1	0.02	0.6
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.36	745.6	30.00	762.1	60.6	15.9	40.9	7a	4	5	.....	1	.....	.....	1	11	.....	.....	3	0.52	13.1
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	138?	42?	29.74	755.5	29.95	760.7	75.7	24.3	54.4	4	9	6	5	2	.....	1	3	.....	.....	.....	3	0.24	6.0
Starol Bykhov	N. 53 31	E. 30 16	2.09 p.m.	423?	129?	29.46	748.2	30.00	761.9	68.0	20.0	63.5	.....	1	3	2	5	11	4	4	.....	.....	.....	7	0.77	19.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
RUSSIAN.—Cont'd	° ′	° ′																								
Tashkend	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.32	719.4	29.92	759.9	77.7	25.4	34.4	1	1	1	.....	.....	.....	.....	.....	27	.....	.....	2	0	0
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1313	409	28.62	727.0	29.99	761.7	75.2	24.0	49.3	1	5	2	.....	4	11	3	.....	4	.....	.....	4	2.02	51.3
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.46	697.5	29.90	759.4	65.7	18.7	56.2	.....	2	1	.....	1	1	.....	4	21	.....	.....	3	0.74	18.7
Viatka	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.36	745.7	29.98	761.6	55.9	13.3	70.5	4	3	6	7	2	5	2	.....	1	.....	.....	6	1.86	47.3
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.52	749.9	29.94	760.4	63.0	17.2	63.5	1	2	4	4	7	6	5	1	.....	.....	.....	6	1.88	47.7
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.81	757.2	30.10	764.6	44.2	6.8	71.8	1	4	10	2	.....	2	9	2	.....	.....	.....	6	0.99	25.1
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	98	30	29.87	758.7	29.97	761.2	75.7	24.3	67	.....	.....	7	3	10	2	6	2	.....	2564	4127	4	2.28	57.9
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.00	762.0	30.00	763.5	74.8	23.8	55	3	13	1	.....	1	7	1	1	3	2057	3311	6	2 71	68.9
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.14	689.3	30.03	762.7	67.3	19.6	50	4	1	3	14	2	.....	.....	6	.....	4466	7187	4	0.42	10.8
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.86	707.6	30.00	761.9	76.5	24.7	35.3	2	4	3	14	4	1	2	.....	.....	7009	11280	3	0.18	4.5
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.90	759.5	30.03	762.8	74.8	23.8	50	.....	2	.....	3	8	11	3	3	.....	1691	2721	4	inap.	inap.
Oviedo	N. 43 23	W. 5 49	11.45 a.m.	800	244	29.26	743.2	30.02	762.5	61.5	16.4	78	2	4	1	.....	8	4	11	.....	.....	3039	4891	8	2.91	74.0
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.13	740.0	30.01	762.3	65.8	18.8	74	4	2	3	14	3	.....	1	3	.....	6725	10823	7	7.21	183.2
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.93	760.2	30.00	761.8	77.0	25.0	86.6	.....	.....	.....	.....	5	16	9	.....	.....	.....	.....	2	3.83	97.3
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.81	757.2	29.87	758.7	78.6	25.9	68.4	2	1	3	8	4	6	3	3	.....	.....	.....	8	13.79	350.4
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	30.00	761.9	30.09	764.3	76.0	24.5	59	1	4	14	7	2	.....	2	.....	.....	.....	.....	3	0	0
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.93	760.3	30.02	762.6	80.4	26 9	86	.....	.....	.....	.....	.....	10	3	2	15	.....	.....	3	3.86	98.0
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.89	759 2	29.93	760.2	48.9	9.4	76	5	2	.....	7	8	5	.....	2	1	.....	.....	6	1.18	29.9
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.86	758.5	29.91	759.8	53.6	12.0	70	2	3	1	9	9	1	1	4	.....	.....	.....	6	3.52	89.4
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.83	757.6	29.88	758.9	56.7	13.7	68	3	3	.....	5	8	1	3	4	3	.....	.....	6	2.48	63.0
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.72	754.8	29.89	759.3	57.4	14.1	70	3	1	1	2	9	3	5	5	1	.....	.....	7	2.41	61.3
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.81	757.1	29.87	758.6	60.4	15.8	72	1	2	5	6	5	5	4	2	.....	.....	.....	5	2.27	57.6
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.79	756.6	29.87	758.8	56.3	13.5	75.2	2	3	2	2	9	5	4	3	.....	.....	.....	7	2.68	68.1
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.57	725.7	29.97	761.2	64.2	17.9	65.2	9	3	1	3	9	1	2	2	.....	.....	.....	6	5.67	144.1
TURKISH.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.95	760.8	75.0	23.9	58	12	.....	.....	7	1	.....	1	9	.....	.....	.....	5	2.22	56.4
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.08	764.0	76.6	24.8	.....	.....	8	8	7	6	1	.....	.....	.....	.....	.....	4	4.41	112.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.91	759.7	81.5	27.5	59.2	3	8	7	9	.....	.....	.....	3	.....	.....	.....	2	0	0
Samakov *j*	N. 42 12	E. 23 45	1.42 p.m.	?	?	26.38	670.0	.....	.....	69.2	20.7	74.1	.....	1	3	.....	.....	.....	2	2	12	.....	.....	7	3.04	77.2
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	30.04	763.0	30.12	765.0	56.6	13.7	74.2	7	6	2	3	10	.....	.....	1	1	3220	5182	6	3.19	81.0
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.42	747.3	30.07	763.8	49.3	9.6	86.5	.....	8	7	6	2	1	3	1	2	5973	9613	5	2.45	62.2
Apache, Fort	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	25.11	637.8	29.91	759.7	48.4	9.1	70.9	.....	.....	.....	.....	.....	7	12	4	7	3608	5806	1	0.60	15.2
Assinaboine, Ft.	N. 48 32	W. 109 42	4.49 a.m.	2710	826	27.28	692.9	30.13	765.3	43.9	6.6	74.0	.....	1	1	10	6	1	5	5	1	6214	10000	3	0.65	16.5
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1129	344	28.94	735.1	30.11	764.8	64.3	17.9	80.8	4	7	5	.....	.....	3	6	2	3	4546	7316	4	1.38	35.1
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	30.08	764.0	30.09	764.3	62.0	16.7	82.7	8	1	5	2	2	.....	2	6	4	7430	11957	7	5.31	134.9
Augusta *a*	N. 33 28	W. 81 54	6.40 a.m.	183	56	29.91	759.7	30.10	764.5	67.3	19.6	83.9	4	1	.....	.....	1	3	.....	4	17	2757	4438	5	1.25	31.7
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.07	763.8	30.12	765.0	60.9	16.1	78.8	4	2	3	.....	5	1	3	11	1	4110	6614	6	3.49	88.6
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	22	7	30.07	763.8	30.09	764.3	62.5	16.9	83.8	6	1	6	1	2	.....	6	7	1	11196	18018	6	4.84	122.9
Behring Id	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.77	756.1	29.79	756.7	43.9	6.6	90.9	5	2	3	7	8	2	2	1	.....	8449	13597	7	3.67?	93.2?
Bennett, Fort	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.51	724.1	30.10	764.5	48.1	9.0	78.5	2	12	.....	2	1	7	1	3	2	6175	9776	4	0.30	7.6
Benton, Fort	N. 47 50	W. 110 40	4.45 a.m.	2700	823	27.36	694.9	30.20	767.1	48.5	9.2	71.1	1	.....	1	1	1	.....	.....	.....	26	2054	3305	6	0.93	23.6
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.28	718.3	30.08	764.0	45.9	7.7	79.2	4	5	2	.....	1	6	4	4	4	6125	9857	4	0.04	1.0
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	30.07	763.8	30.10	764.5	59.7	15.4	81.4	5	3	3	6	.....	.....	1	11	1	9729	15056	5	2.60	66.0
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.21	691.1	29.98	761.5	47.4	8.6	.....	9	7	7	1	1	5	.....	.....	.....	2113	3400	2	0.20	5.1
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.94	760.5	30.09	764.3	55.7	13.2	80.7	2	9	3	9	2	1	1	3	.....	6104	9823	4	1.50	38.1
Brownsville	N. 25 53	W. 97 26	5.38 a.m.	57	17	29.95	760.7	30.01	762.2	71.7	22.1	92.5	8	1	.....	1	1	2	2	4	11	3017	4855	5	7.74	196.6
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	696	212	29.30	745.7	30.09	764 3	53.2	11.8	81.2	.....	2	2	4	5	3	6	8	.....	6311	1050	6	2.11	53.6
Buford, Fort	N. 48 00	W. 103 56	5.12 a.m.	1930	588	28.08	713.2	30.12	765.0	42.4	5.8	81.3	5	7	5	.....	4	.....	4	3	2	5627	9040	3	0.22	5.6
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.71	754.6	30.11	764.8	61.2	16.2	81.3	9	1	1	7	4	.....	.....	6	2	4690	7548	4	0.34	8.6
Canby, Fort *a*	N. 46 16	W. 124 04	3.52 a.m.	179	54	29.80	756.9	30.00	762.0	57.6	14.2	90.7	3	4	3	.....	10	7	1	1	.....	7052	11348	4	3.15	80.0
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.06	763.5	30.08	764.0	67.7	19.8	84.6	4	.....	2	6	6	....	2	10	.....	11091	17849	7	5.39	136.9
Cape May *a*	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.06	763.5	30.09	764.3	63.5	17.5	82.3	4	2	2	4	3	.....	1	12	1	10627	17102	6	4.59	116.6
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.28	743.7	29.96	761.0	56.9	13.8	83.4	4	16	.....	.....	.....	4	.....	.....	6	.....	.....	2	1.40	35.6
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.02	762.5	30.04	763 0	74.7	23.7	85.3	11	.....	1	.....	2	.....	2	13	1	5099	8206	3	2.77	70.4
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	29.98	761.5	30.03	762.7	70.6	21.4	90.1	8	1	4	4	.....	1	3	8	1	5784	9308	5	2.36	59.9
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.24	742.7	30.08	764.0	63.8	17.7	81.6	3	3	.....	9	1	1	2	11	.....	3785	6091	5	4.00	101.6
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.29	744.0	30.10	764.5	63.1	17.3	86.5	3	4	5	2	1	1	.....	5	9	2976	4789	5	3.40	86.4
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6089	1856	24.17	613.9	30.05	763.3	45.1	7.3	56.1	2	18	3	4	1	.....	1	1	.....	5590	8996	2	0.90	22.9
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.38	746.2	30.07	763.8	56.9	13.8	76.4	.....	4	1	8	1	6	4	5	1	4783	7697	4	1.36	34.5
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	18	5	30.06	763.5	30.08	764.0	65.2	18.4	88.4	3	5	.....	3	4	2	4	9	.....	7368	11857	7	4.05	102.9
Cincinnati	N. 39 06	W. 84 30	5.30 a.m.	620	189	29.44	747.8	30.09	764.3	60.2	15.7	78.2	3	2	2	1	1	6	4	1:	.....	3385	5447	4	1.83	46.5
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.36	745 7	30.08	764.0	55.3	12.9	73.8	3	.....	1	1	2	16	2	4	1	5389	8073	6	4.03	102.4
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.24	742.7	30.08	764.0	55.9	13.3	80.3	6	5	3	1	7	2	2	4	.....	4480	7210	4	2.43	61.7
Concho, Fort	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.16	715.3	30.06	763.5	62.7	17.1	83.0	1	3	3	4	6	2	.....	6	5	4931	7935	5	3.98	101.1
Custer, Fort	N. 45 42	W. 107 34	4.58 a.m.	3040	927	26.98	685.3	30.10	764.5	44.9	7.2	68.9	6	2	3	1	3	2	8	5	.....	3890	6260	1	0.46	11.7
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.41	747.0	30.06	763.5	53.7	12.1	81.1	2	2	2	6	1	2	7	8	.....	5525	8891	4	0.73	18.5
Davis, Fort	N. 30 38	W. 103 56	5.12 a.m.	4940	1506	25.29	642.4	29.99	761.7	57.6	14.2	75.2	5	.....	.....	1	.....	2	.....	2	20	3208	5162	4	1.49	37.8
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1667	508	28.32	719.3	30.07	763.8	49.5	9.7	62.8	4	.....	.....	6	2	.....	7	8	3	2799	4504	3	0.09	2.3
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.48	647.2	30.04	763.0	47.0	8.3	79.7	3	5	1	1	5	1	.....	6	8	2902	4670	3	0.11	2.8
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.07	763.8	30.09	764.3	64.0	17.8	89.6	2	3	2	6	3	1	.....	13	.....	12666	20374	6	2.62	66.6
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.89	632.2	30.00	762.0	51.5	10.8	62.5	5	3	.....	2	16	3	.....	.....	1	4541	7308	3	1.08	27.4
Des Moines *a*	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.20	741.7	30.09	764.3	52.7	11.5	80.4	7	3	3	2	4	1	3	4	3	3725	5995	6	1.88	47.8
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.40	746.7	30.09	764.3	54.9	12.7	81.6	2	3	7	2	3	1	5	6	.....	6036	9714	5	1.50	38.1
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2512	766	27.50	698.5	30.05	763.3	56.0	13.3	82.6	1	8	.....	1	4	9	3	4	.....	8355	13446	5	1.32	33.5
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.38	746.2	30.08	764.0	51.6	10.9	81.0	5	8	.....	4	4	4	2	1	2	3033	4881	4	2.09	53.1
Duluth	N. 46 48	W. 92 06	6.00 a.m.	644	184	29.33	745.0	30.07	763.8	50.4	10.2	80.7	.....	6	7	1	1	.....	.....	3	12	5527	8894	5	2.21	56.1
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.97	761.2	30.04	763.0	53.1	11.7	79.3	2	4	3	6	5	1	1	2	6	4956	7976	4	2.50	63.5
Elliott, Fort	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.35	694.7	30.04	763.0	57.1	13.9	72.1	2	5	1	3	2	3	1	3	10	6007	9667	4	4.97	126.2
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3764	1147	26.30	669.5	30.01	762.2	61.0	16.1	66.8	.....	1	.....	.....	1	2	7	3	16	2965	4772	3	2.51	63.8
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.38	746.2	30.09	764.3	55.6	13.1	77.6	3	3	.....	.....	14	4	4	2	.....	5717	9200	6	4.41	112.0
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	612	186	29.42	747.3	30.08	764.0	48.2	9.0	87.9	11	4	5	3	3	.....	2	.....	2	6464	10403	4	2.92	74.2
Fort Smith	N. 35 22	W. 94 24	5.50 a.m.	451	137	29.62	752.3	30.08	764.0	60.4	15.8	82.6	3	.....	2	.....	.....	10	1	14	.....	2769	4450	3	2.34	59.4
Galveston	N. 29 18	W. 94 47	5.49 a.m.	40	12	30.00	762.0	30.04	763.0	76.3	24.6	76.0	2	.....	2	2	4	5	5	9	1	5838	9395	5	3.22	81.8
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.42	747.3	30.08	764.0	53.7	12.1	84.0	3	1	2	3	3	2	7	9	.....	7134	11480	6	2.29	58.2
Grant, Fort	N. 32 39	W. 109 57	4.48 a.m.	4860	1481	25.27	641.8	29.87	758.7	63.5	17.5	47.2	6	4	1	3	.....	5	4	7	.....	5882	9466	1	0.42	10.7
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	19	6	30.03	762.7	30.05	763.3	72.1	22.3	84.7	3	1	2	7	1	.....	3	13	.....	12229	19680	6	9.89	251.2
Helena	N. 46 34	W. 112 04	4.40 a.m.	4100	1250	25.91	658.1	30.08	764.0	52.8	11.6	57.3	3	2	2	13	.....	.....	.....	10	.....	2572	4139	2	.....	.....
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.70	729.0	30.08	764.0	47.9	8.8	85.5	5	8	.....	1	2	9	3	2	.....	7658	12324	5	1.68	42.7
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.28	743 7	30.06	763.5	56.2	13.4	77.6	2	1	1	2	4	2	.....	11	7	1840	2961	5	2.72	69.1
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	30.01	762.2	30.04	763.0	75.0	23.9	86.6	8	.....	2	1	6	5	4	3	.....	7707	12403	5	9.86	250.4
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.00	762.0	30.04	763.0	71.5	21.9	88.3	7	2	1	1	3	5	5	6	.....	4596	7396	4	7.28	184.9
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.42	747.3	30.07	763.8	54.7	12.6	81.6	4	2	3	5	3	.....	6	5	2	4810	7741	3	1.76	44.7
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	29.96	761.0	29.98	761.5	81.1	27.3	79.1	.....	2	.....	1	2	1	6	8	10	4160	6695	5	5.17	131.3
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.06	763.5	30.08	764.0	69.8	21.0	83.2	1	2	5	5	.....	1	1	14	.....	12438	20017	6	7.73	196.3
Knoxville	N. 35 56	W. 83 58	6.32 a.m	980	299	29.08	738.6	30.10	764.5	61.2	16.2	86.1	.....	2	.....	8	.....	1	.....	11	8	3579	5760	5	2.53	64.3
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.31	744.5	30.08	764.0	52.0	11.1	80.2	9	4	.....	1	14	.....	.....	1	1	4725	7604	4	4.92	125.0
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.20	741.7	30.08	764.0	55.9	13.3	82.0	4	4	.....	.....	4	2	.....	1	15	3355	5399	4	1.57	39.9
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.17	740.9	30.00	762.0	50.6	10.3	67.2	.....	.....	.....	.....	.....	6	.....	5	19	672	1081	2	0.04	1.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for September, 1883.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metrs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																								
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.77	756.1	30.08	764.0	62.2	16.8	83.3	1	4	.....	.....	.....	.....	.....	1	24	2202	3544	3	3.67	93.2
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	371	113	29.54	750.3	29.93	760.2	62.5	16.9	81.5	1	.....	4	.....	2	1	.....	12	10	3782	6086	2	0	0
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.50	749.3	30.05	763.3	59.9	15.5	81.3	10	.....	2	2	6	2	1	5	2	5463	8791	4	0.32	8.1
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.41	747.0	30.09	764.3	61.7	16.5	79.6	2	.....	1	9	.....	..	1	10	7	2360	3798	6	5.57	141.5
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.43	747.5	30.08	764.0	51.8	11.0	84.3	3	3	1	9	3	2	7	1	1	6556	10551	5	2.03	51.6
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.04	763.0	30.05	763.3	71.0	21.7	88.8	5	4	3	4	1	2	1	9	1	11377	18309	6	12.69	322.3
Maginnis Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.70	652.8	30.10	764.5	45.3	7.4	58.6	.....	6	6	4	4	2	7	1	.....	5593	9001	2	0.66	16.8
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.36	745.7	30.08	764.0	49.9	9.9	78.2	.....	6	11	4	1	1	1	2	4	5583	8985	7	3.24	82.3
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.74	755.4	30.08	764.0	63.4	17.4	80.6	3	8	2	2	2	4	.....	4	5	3475	5592	3	1.05	26.7
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.34	745.2	30.08	764.0	53.2	11.8	82.4	7	3	3	8	2	2	4	1	.....	6874	11061	5	2.32	58.9
Mobile	N. 30 41	W. 88 02	6.16 a.m.	41	12	30.02	762.5	30.06	763.5	70.2	21.2	83.7	21	3	.....	.....	.....	1	1	3	1	3399	5470	4	0.96	24.4
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.85	758.2	30.08	764.0	67.7	19.8	82.4	3	2	1	1	2	1	5	1	14	2542	4091	4	0.22	5.6
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	29.07	738.4	30.06	763.5	44.3	6.8	86.2	6	3	.....	1	10	4	1	2	3	5385*f*	8666*f*	4	2.51	63.8
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.86	606.0	30.01	762.2	37.2	2.9	84.8	4	14	5	1	.....	2	3	1	.....	17665	28428	3	6.90	175.3
Nashville	N. 36 10	W. 86 47	6.21 a.m.	549	167	29.50	749.3	30.07	763.8	61.4	16.3	85.3	3	6	4	2	1	3	7	4	.....	3925	6316	5	2.23	56.6
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	29.98	761.5	30.09	764.3	55.0	12.8	83.5	8	5	1	4	3	.....	1	8	.....	5401	8692	5	2.43	61.7
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	30.08	764.0	30.13	765.3	57.9	14.4	81.3	9	3	3	2	.....	1	.....	5	7	3981	6408	5	3.24	82.3
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	29.98	761.5	30.03	762.7	74.9	23.8	76.9	5	.....	2	.....	.....	11	5	6	1	4006	6443	4	0.25	6.3
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.94	760.5	30.11	764.8	59.4	15.2	78.7	6	.....	6	4	3	.....	1	7	3	5519	8882	5	3.57	90.7
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.04	763.0	30.06	763.5	67.7	19.8	86.2	4	1	2	6	2	2	1	8	4	5012	9033	6	6.03	108.4
North Platte *a*	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.19	690.6	30.07	763.8	52.0	11.1	81.8	1	3	7	.....	2	.....	10	2	4	7365	11853	6	1.08	27.4
Olympia *a*	N. 47 03	W. 122 53	3.57 a.m.	36	11	29.98	761.5	30.02	762.5	50.2	10.1	91.4	.....	.....	.....	3	4	.....	.....	.....	22	1054	1712	3	2.24	56.9
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.94	735.1	30.11	764.8	54.6	12.6	84.8	5	6	1	.....	4	5	1	1	7	2385	3838	5	4.53	115.1
Oswego	N. 43 29	W. 76 35	7.02 a.m.	304	93	29.77	756.1	30.09	764.3	53.6	12.0	81.4	1	3	3	1	10	6	2	2	2	4964	7989	6	2.32	58.9
Palestine	N. 31 45	W. 95 40	5.45 a.m.	533	162	29.54	750.3	30.10	764.5	66.4	19.1	81.5	4	3	1	2	9	.....	3	8	.....	5255	8457	4	1.99	50.5
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.02	762.5	30.05	763.3	74.6	22.0	79.3	6	7	1	.....	.....	.....	3	12	1	4573	7359	5	0.32	8.1
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	92	28	30.02	762.5	30.12	765.0	59.9	15.5	89.7	6	4	1	7	2	1	.....	9	.....	5502	8854	5	4.24	107.7
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	18.05	458.5	30.03	762.7	27.0	−2.8	80.6	3	6	4	7	.....	.....	.....	10	.....	10817	17408	1	1.76	44.7
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	766	232	29.31	744.5	30.10	764.5	50.7	13.7	81.5	2	.....	2	1	1	1	.....	3	20	2565	4128	6	2.47	62.7
Poplar River *g*	N. 48 08	W. 105 10	5.07 a.m.	2030	619	.....	.....	.....	.....	47.4	8.6	64.5	.....	4	8	5	1	1	1	3	.....	.....	.....	2	1.01	25.6
Port Huron	N. 43 00	W. 82 26	6.38 a.m.	633	193	29.39	746.5	30.06	763.5	52.0	11.1	87.1	1	5	2	3	6	4	6	3	.....	5537	8911	6	2.24	56.9
Portland, Maine	N. 43 39	W. 70 15	7.27 a.m.	45	14	30.02	762.5	30.00	763.5	55.3	12.9	75.6	5	7	5	5	3	.....	1	3	1	4242	6827	4	2.68	68.1
Portland, Oreg	N. 45 32	W. 122 43	3.57 a.m.	67	20	29.94	760.5	30.01	762.2	54.4	12.4	86.1	4	4	2	2	3	.....	2	.....	13	2701	4347	2	0.67	17.0
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5340	1628	24.85	631.2	29.95	760.7	50.5	10.3	59.4	.....	.....	6	12	10	.....	2	.....	.....	3647	5809	0	0.33	8.4
Provincetown	N. 42 03	W. 70 11	7.27 a.m.	26	8	30.06	763.5	30.08	764.0	59.5	15.3	80.2	3	3	5	5	1	2	4	5	2	5221	8402	5	1.87	47.5
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	332	101	29.57	751.1	29.92	760.0	64.5	18.1	48.7	20	2	.....	.....	4	2	1	1	.....	4105	6606	0	1.04	26.4
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.48	748.8	30.02	762.5	50.5	10.3	84.4	4	3	.....	.....	2	1	5	13	2	1758	2828	2	0.62	15.7
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	65	20	29.83	757.7	29.90	759.4	62.2	16.8	70.8	1	4	.....	.....	4	18	.....	.....	3	3 57	5885	1	0.90	22.9
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	583	178	29.48	748.8	30.09	764.3	59.0	15.0	80.4	5	2	4	2	7	3	.....	7	.....	7201	11589	3	0.01	0.3
Saint Michael, Ft	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.54	750.3	29.58	751.3	43.1	6.2	88.2	4	3	.....	2	8	5	2	6	.....	9726	15652	9	4.48	113.8
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	801	244	29.22	742.2	30.07	763.8	49.8	9.9	82.8	2	9	2	3	4	8	1	.....	1	5300	8529	5	2.23	56.6
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.18	741.2	30.05	763.3	42.2	5.7	91.8	4	8	1	5	5	4	.....	1	2	5344	8600	4	1.57	39.9
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.70	652.8	29.95	760.7	62.0	16.7	42.9	1	3	.....	1	.....	6	5	2	12	3793	6104	2	0.13	3.3
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.83	757.7	29.90	759.4	64.9	18.3	79.8	5	5	2	2	1	1	4	10	.....	4105	6606	5	0	0
Sanford	N. 28 48	W. 81 23	6.42 a.m.	50*b*	50*b*	29.95	760.7	30.00	762.0	73.7	23.2	88.3	4	4	3	2	1	2	.....	10	4	4585	7379	5	3.43	87.1
Sandusky	N. 41 25	W. 82 40	6.37 a.m.	639	195	29.42	747.3	30.09	764.3	57.0	14.2	77.5	2	.....	3	6	6	6	3	4	.....	8635	13848	5	4.07	103.4
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	30.08	764.0	30.11	765.8	60.9	16.1	76.8	1	7	3	3	2	1	7	6	.....	11386	18324	5	4.03	117.6
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.88	758.9	29.95	760.7	57.7	14.3	87.7	4	2	8	10	2	1	.....	.....	3	6779	10909	5	0.42	10.7
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	29.97	761.2	30.06	763.5	70.4	21.3	84.8	15	4	.....	4	2	4	1	.....	.....	4634	7457	5	2.55	64.8
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	20.49	672.8	30.10	764.5	42.3	5.7	76.6	.....	1	22	6	.....	.....	.....	1	.....	3645	5866	2	0.79	20.1
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.83	757.7	30.07	763.8	64.9	18.3	80.2	1	3	3	1	5	5	1	8	3	2766	4451	4	1.29	32.8
Sill, Fort	N. 34 40	W. 98 23	5.34 a.m.	1200	366	28.80	733.0	30.08	764.0	62.1	16.7	77.9	13	1	.....	2	5	.....	1	1	7	5649	9091	4	1.44	36.6
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.78	756.4	29.84	757.9	50.0	10.0	83.1	.....	1	5	1	2	1	14	1	5	5655	9101	7	8.13	206.5
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	29.99	761.7	30.03	762.7	69.6	20.9	88.9	7	2	3	3	3	.....	2	10	.....	7962	12813	5	8.69	220.7
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	28.02	711.7	30.00	763.5	47.0	8.7	74.8	4	1	1	4	3	.....	2	1	14	1705	2744	2	0.08	2.0
Springfield, Ill	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.41	747.0	30.08	764.0	54.9	12.7	76.9	5	1	1	4	7	2	6	4	.....	6039	9719	3	1.06	26.9
Stockton, Fort	N. 30 53	W. 102 53	5.16 a.m.	3010	917	27.08	687.8	30.04	763.0	61.6	16.4	82.4	.....	2	3	8	4	7	3	.....	3	5648	9089	4	14.68	372.9
Thomas, Camp	N. 33 04	W. 110 02	4.48 a.m.	2710	826	.....	.....	.....	.....	60.6	15.9	51.5	.....	.....	.....	.....	4	16	1	.....	9	.....	.....	2	inap.	inap.
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.39	746.5	30.07	763.8	55.8	13.2	78.4	7	3	2	3	4	1	5	4	1	5840	9398	5	2.78	70.6
Unalashka	N. 53 53	W. 166 32	1.02 a.m.	13	4	29.03	752.6	29.65	753.1	44.5	6.9	79.6	1	8	.....	10	3	8	.....	.....	.....	10130	16302	9	9.75	247.6
Verde, Fort	N. 34 33	W. 111 52	4.40 a.m.	?	?	.....	.....	.....	.....	59.5	15.3	40.0	7	12	3	1	2	4	.....	1	.....	.....	.....	1	inap.	inap.
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.83	757.7	30.08	764.0	66.1	18.9	81.4	5	2	.....	1	5	4	3	2	8	2324	3740	3	0.84	21.3
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	30.02	762.5	30.13	765.3	59.8	15.4	82.4	4	3	1	2	5	.....	.....	8	7	2951	4749	6	4.33	110.0
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.16	664.5	29.98	761.5	51.4	10.8	76.2	3	5	10	5	.....	1	4	1	1	5903	9597	4	1.35	34.3
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	30.00	762.0	30.05	763.3	68.9	20.5	87.8	4	3	2	3	.....	3	2	7	6	4288	6901	6	16.53	419.9
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.78	731.0	30.08	764.0	51.4	10.8	82.4	7	7	2	1	4	4	3	1	1	6386	10277	4	3.98	101.1
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.65	753.1	29.79	756.7	73.0	23.1	61.9	2	1	.....	2	.....	1	.....	7	17	2605	4192	1	0.13	3.3
Sub-Series.																										
Bluefields	N. 12 00	W. 83 43	6.31 a.m.	.....	.....	.....	.....	.....	.....	78.5	25.8	.....	4	17	.....	.....	.....	.....	4	4	1	.....	.....	6	3.42	86.9
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.06	560.4	.....	.....	53.2	11.8	69.7	2	3	2	3	2	.....	2	.....	16	.....	.....	8	0.81	20.5
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	.....	.....	29.99	761.7	77.8	25.4	87.4	11	1	1	.....	.....	1	3	.....	13	2633	4237	8	3.63	92.2
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.02	762.5	30.02	762.5	79.6	26.4	80	.....	.....	.....	1	1	24	4	.....	.....	.....	.....	4	2.33	59.2
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.41	747.0	29.97	761.2	78	25.6	88	1	.....	.....	.....	11	.....	.....	2	16	.....	.....	9	7.33	186.2
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	76.6	24.8	89.7	.....	3	.....	2	2	6	2	15	.....	.....	.....	5	5.78	146.8
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	29.92	760.0	29.99	761.7	36.8	2.7	94.8	7	6	9	7	1	.....	.....	.....	.....	8060	12971	5	3.63	92.2

OCEAN SQUARE DATA FOR SEPTEMBER, 1883.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W. 22.5°	29.99	761.7	81.9	27.7	1			1	1	1	2	21		3	2.0
12.5 27.5	30.02	762.5	82.3	27.9	1			1	1	1	3	19		4	1.8
12.5 32.5	30.02	762.5	82.7	28.2	1			1		2	7	10		9	1.8
12.5 37.5	30.03	762.7	83.2	28.4					1	1	5	11		12	1.6
12.5 42.5	30.05	763.3	83.4	28.6					1	3	8	5		13	2.2
12.5 47.5	30.05	763.3	83.8	28.8					1	5	7	4		13	2.0
12.5 52.5	30.04	763.0	84.2	29.0	1				1	8	11	2		7	1.8
17.5 22.5	30.04	763.0	80.8	27.1	1				1	2	2	20		4	2.3
17.5 27.5	30.06	763.5	81.1	27.3	1				1	3	3	18		4	2.3
17.5 32.5	30.07	763.8	81.7	27.6	1				2		6	11		10	1.7
17.5 37.5	30.07	763.8	82.1	27.8					2		7	9		12	2.0
17.5 42.5	30.08	764.0	82.5	28.1					1	4	9	3		13	2.1
17.5 47.5	30.08	764.0	82.8	28.2					3	3	8	3		13	2.1
17.5 52.5	30.06	763.5	83.4	28.6						6	11	5		8	1.8
17.5 57.5	30.03	762.7	83.5	28.6					1	5	19	3		2	2.1
22.5 22.5	30.09	764.3	79.0	26.1	1					2	5	18		4	2.5
22.5 27.5	30.11	764.8	79.5	26.4	1				1	3	4	16		6	2.7
22.5 32.5	30.12	765.0	80.4	26.9					2	1	6	12	1	9	2.0
22.5 37.5	30.11	764.8	81.1	27.3					2	2	8	9		8	2.0
22.5 42.5	30.11	764.8	81.7	27.0	1				3	4	13	2		7	2.2
22.5 47.5	30.09	764.3	81.9	27.7	1		1	1	2	5	11	2		7	2.0
22.5 52.5	30.10	764.5	82.5	28.1					1	10	8	5		6	2.1
22.5 57.5	30.07	763.8	82.7	28.2				1		8	13	6		2	2.1
22.5 62.5	30.06	763.5	82.8	28.2	2			1	1	9	13	4			2.3
22.5 67.5	30.05	763.3	82.8	28.2	1			1	1	11	11	5			2.1
22.5 72.5	30.03	762.7	82.6	28.1	1			2	2	11	8	6			2.2
27.5 22.5	30.14	765.5	77.2	25.1	3					4	2	17		4	2.7
27.5 27.5	30.15	765.8	77.5	25.3	2			1	3	2	3	14		5	2.4
27.5 32.5	30.10	760.1	78.4	25.8	1			1	3	1	6	12		6	2.2
27.5 37.5	30.16	766.1	79.2	26.2	1			2	3	1	8	9		6	2.4
27.5 42.5	30.14	765.5	80.0	26.7	1		1	3	1	4	12	2		6	2.4
27.5 47.5	30.12	765.0	80.8	27.1	1	3		1	2	6	9	2		6	2.4
27.5 52.5	30.13	765.3	81.2	27.3		1		1	1	9	11	3		4	2.1
27.5 57.5	30.11	764.8	81.5	27.5	2			1	2	11	7	4		3	2.1
27.5 62.5	30.09	764.3	81.8	27.7	1	1		3	1	11	8	5			2.2
27.5 67.5	30.08	764.0	81.7	27.6	1		1	2		16	4	5	1		2.2
27.5 72.5	30.04	763.0	81.5	27.5	4			4	7	5	6	4			2.0
27.5 77.5	30.00	762.0	80.2	26.8	5	2	1	2	5	5	5	5			1.8
32.5 12.5	30.14	765.5	73.4	23.0	0	1		7				16			1.6
32.5 17.5	30.17	766.3	74.1	23.4	5		1	11			1	12			1.6
32.5 22.5	30.17	766.3	74.5	23.6	2	1	1	7	3	1		15			2.3
32.5 27.5	30.17	766.3	74.7	23.7	3	1	1	4	5		3	12		1	2.0
32.5 32.5	30.17	766.3	75.5	24.2	4		2	5	1	4	4	7		3	2.4
32.5 37.5	30.17	766.3	76.3	24.6	4	2	2	4	2	5	4	4		3	2.1
32.5 42.5	30.16	766.1	76.9	24.9	3	5	1	3	2	3	9	1		3	2.6
32.5 47.5	30.15	765.8	77.7	25.4	2	5	3	1	2	6	4	4		3	2.5
32.5 52.5	30.14	765.5	78.6	25.9	1	7	1	1	4	6	3	5		2	2.3
32.5 57.5	30.14	765.5	79.4	26.3	1	3		4	5	8	3	6			2.1
32.5 62.5	30.10	764.5	79.7	26.5	1	3	2	3	5	9	5	2			2.1
32.5 67.5	30.07	763.8	79.5	26.4			4	4	7	7	2	6			2.1
32.5 72.5	30.04	763.0	78.8	26.0	6	1		2	7	6	1	6	1		2.6
32.5 77.5	30.07	763.8	73.6	23.1	5	2		5	2	1	1	14			2.1
37.5 12.5	30.13	765.3	69.8	21.0	10	2	1	10	1			6			2.8
37.5 17.5	30.15	765.8	70.7	21.5	5	4	1	8	2		1	9			2.6
37.5 22.5	30.17	766.3	71.5	21.9	5	4		9	1	1	1	9			2.2
37.5 27.5	30.18	766.6	71.5	21.9	5	2	3	6	2		2	10			2.1
37.5 32.5	30.10	766.1	72.0	22.2	4	8		6	2	4	1	4		1	2.1
37.5 37.5	30.13	765.3	71.9	22.2	2	7	2	3	5	2	4	3		2	2.2
37.5 42.5	30.11	764.8	72.0	22.2	2	5	3	3	7	1	1	6		2	2.6
37.5 47.5	30.11	764.8	72.1	22.3	5	4	2	2	8		4	3		2	2.8
37.5 52.5	30.11	764.8	72.6	22.6	4	5		3	9	3	1	5			2.7
37.5 57.5	30.13	765.3	73.7	23.2	3	6		3	9	3	1	5			2.9
37.5 62.5	30.10	764.5	73.6	23.1	3	1	3	5	6	5	4	3			2.5
37.5 67.5	30.09	764.3	73.0	22.8	4	1	3	5	7	2	2	6			2.7
37.5 72.5	30.08	764.0	70.0	21.1	4	2	2	3	3	3	2	11			3.1
42.5 12.5	30.04	763.0	66.7	19.3	5	8		8	5			4			3.0
42.5 17.5	30.07	763.8	66.6	18.9	5	10		10	2			3			2.9
42.5 22.5	30.08	764.0	67.2	19.0	6	7	3	9	4			1			3.2
42.5 27.5	30.07	763.8	67.1	19.5	4	8	4	10	2			2			3.1
42.5 32.5	30.05	763.3	67.7	19.8	2	11	2	7	5	2		1			3.1
42.5 37.5	30.03	762.7	67.4	19.7	2	14		7	5	1		1			3.3
42.5 42.5	30.03	762.7	66.0	18.9	2	10	3	5	5	3	2				3.3
42.5 47.5	30.00	763.5	63.0	17.2	6	8		5	8	2		1			3.2
42.5 52.5	30.07	763.8	63.6	17.6	5	8	1	4	6	1	3	2			2.8
42.5 57.5	30.10	764.5	63.3	17.4	5	9	1	3	6	2	2	2			3.0
42.5 62.5	30.12	765.0	60.6	15.9	5	5	2	6	3	2	2	5			2.9
42.5 67.5	30.08	764.0	58.6	14.8	6	3	2	4	6	2	2	5			2.3
47.5 12.5	29.90	759.4	61.9	16.6	4	8	2	8	6	2					3.6
47.5 17.5	29.92	760.0	61.7	16.5	5	10	3	5	6	1					3.8
47.5 22.5	29.93	760.2	61.5	16.4	2	10	4	10	3	1					4.0
47.5 27.5	29.90	759.4	61.5	16.4	1	12	5	6	3	2		1			4.1
47.5 32.5	29.89	759.2	61.3	16.3	1	11	2	8	3	5					4.1
47.5 37.5	29.92	760.0	61.1	16.2	3	15		7	1	3	1				4.5
47.5 42.5	29.95	760.7	57.9	14.4	4	9	3	8	4		1	1			3.8
47.5 47.5	29.98	761.5	54.4	12.4	5	4	6	9	5	1					3.5
52.5 12.5	29.77	756.1	58.5	14.7	4	6	3	4	5	6	2				3.8
52.5 17.5	29.81	757.2	57.7	14.3	3	9	1	7	4	4	2				4.1
52.5 22.5	29.84	757.9	57.4	14.1	1	8	5	7	2	6		1			4.2
52.5 27.5	29.78	756.4	56.3	13.5		7	4	9	1	4	4	1			4.4
52.5 32.5	29.77	756.1	55.2	12.9	2	6	6	5	3	2	4	2			3.9
52.5 37.5	29.78	756.4	53.9	12.2	3	8	3	7	4		1	3		1	4.0
52.5 42.5	29.78	756.4	51.6	10.9	3	9	4	4	6	1	1	1		1	3.7
52.5 47.5	29.79	756.7	49.6	9.8	4	10	3	5	4	1		2		1	3.4
57.5 12.5	29.76	755.9	54.5	12.5	6	2		6	5	4	6	1			3.5
57.5 17.5	29.75	755.6	53.8	12.1	3	4	2	6	4	4	5	2			3.7
57.5 22.5	29.73	755.1	52.9	11.6	4	4	2	6	3	3	7		1		3.6
57.5 27.5	29.70	754.4	51.9*b*	11.1*b*	2	4	3	6	4		7	3		1	3.8
57.5 32.5	29.68	753.9	50.6*e*	10.3*e*		5	3	9	2		3	6		2	3.8
57.5 37.5	29.66	753.4	49.1*f*	9.5*f*	4	5	2	6	4			5		4	3.8
57.5 42.5	29.68	753.9			4	6		4	2	3		4		7	3.9
57.5 47.5	29.64	752.8			3	7	1	2	2	3		2		10	3.6

IVIGTUT, GREENLAND (N. 61° 12′, W. 48° 00′).

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity Per cent.	Wind. Direction. From.	Wind. Velocity. Miles perhour	Wind. Velocity. Metrs prsec.	Wind. Force 0–10	Clouds. Amount. Upper. 0–10	Clouds. Amount. Lower. 0–10	Clouds. Direction. Upper From	Clouds. Direction. Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Rainfall or melted snow in past 24 hours. Mill.	WEATHER
1883.																		
May 1	29.74	755.3	29.76	755.8	46.9	8.3		sse.			4–7		10					raining.
2	30.11	764.9	30.13	765.4	36.5	2.5		calm.			0		9					
3	30.00	761.9	30.02	762.4	33.4	0.8		nw.			4		2					
4	30.10	764.5	30.12	765.0	33.6	0.9		calm.			0		0					
5	30.13	765.3	30.15	765.8	34.5	1.4		calm.			0		0					
6	30.26	768.7	30.28	769.2	42.4	5.8		calm.			0		8					
7	30.35	771.0	30.37	771.5	44.2	6.8		calm.			0		8					
8	30.20	767.0	30.22	767.5	40.3	4.6		calm.			0		9					
9	29.73	755.1	29.75	755.6	45.5	7.5		se.			0		10					
10	30.01	762.2	30.03	762.7	40.0	7.8		se.			2		9					
11	30.06	763.4	30.08	763.9	38.3	3.5		calm.			0		0					
12	30.12	765.0	30.14	765.5	32.0	0.0		calm.			0		5					
13	30.10	764.5	30.12	765.0	37.9	3.3		calm.			0		6					
14	29.78	756.4	29.80	756.9	41.5	5.3		calm.			0		10					snowing.
15	29.26	743.1	29.28	743.6	35.8	2.1		w.			2		10					rain and snow.
16	29.79	756.7	29.81	757.2	37.9	3.1		calm.			0		10					snowing.
17	29.83	757.7	29.85	758.2	37.4	3.0		calm.			0		0					
18	29.97	761.1	29.98	761.6	40.3	4.6		calm.			0		9					
19	29.78	756.5	29.80	757.0	35.8	2.1		nw.			0		9					
20	29.74	755.4	29.76	755.9	38.8	3.8		calm.			0		9					
21	29.50	749.4	29.54	749.9	40.8	4.9		sse.			4–7		10					raining.
22	29.64	752.9	29.66	753.4	35.1	1.7		sw.			4		10					
23	29.72	754.9	29.74	755.4	32.4	0.8		nw.			6		6					
24	29.79	756.6	29.81	757.1	36.5	2.5		nw.			6		3					
25	29.61	752.0	29.63	752.5	41.4	5.2		calm.			0		0					
26	29.53	750.0	29.55	750.5	36.9	2.7		w.			2		1					
27	29.63	752.5	29.65	753.0	37.8	3.2		nw.			4		8					
28	29.62	752.3	29.64	752.8	36.0	2.2		calm.			0		0					
29	29.66	753.3	29.68	753.8	35.4	1.9		nw.			2		10					foggy.
30	29.90	759.5	29.92	760.0	39.9	4.4		calm			0		10					
31	29.88	759.0	29.90	759.5	44.2	6.8		calm.			0		9					
Mean	29.85	758.3	29.87	758.8	38.7	3.7							6.5					
June 1	29.98	761.6	30.00	762.1	44.2	6.8		s.			2–4		10					raining.
2	29.80	757.0	29.82	757.5	44.8	7.1		se.			2		10					raining.
3	29.78	756.5	29.80	757.0	41.2	5.1		calm.			0		5					
4	29.66	753.3	29.68	753.8	45.3	7.4		calm.			0		10					
5	29.74	755.4	29.76	755.9	37.0	2.8		nw.			4		7					
6	29.68	753.9	29.70	754.4	36.3	2.4		n.			6		7					
7	29.80	756.9	29.82	757.4	40.3	4.6		n.			2		7					
8	29.58	751.2	29.60	751.7	41.5	5.3		se.			2–4		10					snowing.
9	29.47	748.6	29.49	749.1	44.4	6.9		calm.			0		10					raining.
10	29.65	753.0	29.67	753.5	41.6	5.0		calm.			0		10					
11	29.86	758.4	29.88	758.9	40.5	4.7		calm.			0		10					
12	30.07	763.7	30.09	764.2	40.6	4.8		nw.			2		10					foggy.
13	30.02	762.4	30.04	762.9	42.4	5.8		calm.			0		10					foggy.
14	29.87	758.6	29.89	759.1	49.6	9.8		sse.			6–8		10					raining.
15	29.65	753.0	29.67	753.5	57.4	14.1		se.			6–8		10					raining.
16	30.06	763.6	30.08	764.1	44.1	6.7		calm.			0		10					
17	30.10	764.4	30.12	764.9	40.3	4.6		sw.			4		10					raining.
18	30.03	762.7	30.05	763.2	46.0	7.8		calm.			0		10					
19	30.00	762.1	30.02	762.6	42.3	5.7		calm.			0		10					raining.
20	29.71	754.7	29.73	755.2	42.8	6.0		calm.			0		0					
21	29.90	759.4	29.92	759.9	46.9	8.3		calm.			0		0					
22	30.07	763.8	30.09	764.3	51.6	10.9		n.			2		1					
23	30.05	763.3	30.07	763.8	53.1	11.7		calm.			0		7					
24	29.97	761.2	29.99	761.7	58.6	14.8		s.			2		8					
25	29.85	758.3	29.87	758.8	48.6	9.2		calm.			0		10					
26	29.84	758.0	29.86	758.5	46.6	8.1		nw.			2		9					
27	29.78	756.4	29.80	756.9	42.3	5.7		nw.			6		6					
28	29.51	749.6	29.53	750.1	43.5	6.4		calm.			0		0					
29	29.57	751.1	29.59	751.6	43.7	6.5		nw.			2		2					
30	29.67	753.6	29.69	754.1	50.0	10.0		sse.			4		10					
Mean	29.82	757.5	29.84	758.0	45.0	7.2							7.6					
July 1	29.70	754.4	29.72	754.9	48.6	9.2		calm.			0		10					raining.
2	29.60	751.7	29.62	752.2	45.9	7.7		calm.			0		10					raining.
3	29.56	750.8	29.58	751.3	46.4	8.0		calm.			0		9					
4	29.58	751.4	29.60	751.9	46.4	8.0		calm.			0		10					raining.
5	29.75	755.7	29.77	756.2	44.2	6.8		calm.			0		9					
6	29.91	759.7	29.93	760.2	45.7	7.6		s.			2		8					
7	29.87	758.8	29.89	759.3	47.3	8.5		s.			4		10					
8	29.71	754.7	29.73	755.2	40.0	7.8		s.			2		10					
9	29.65	753.2	29.67	753.7	47.3	8.5		calm.			0		10					
10	29.80	756.9	29.82	757.4	48.4	9.1		calm.			0		10					
11	29.98	761.4	30.00	761.9	49.3	9.6		calm.			0		5					
12	30.00	761.9	30.02	762.4	51.8	11.0		calm.			0		4					
13	30.06	763.5	30.08	764.0	58.6	14.8		s.			1		10					
14	30.11	764.7	30.13	765.2	47.7	8.7		calm.			0		10					
15	30.06	763.5	30.08	764.0	48.6	9.2		calm.			0		4					
16	29.98	761.5	30.00	762.0	49.8	9.9		calm.			0		10					
17	30.00	761.9	30.02	762.4	50.0	10.0		calm.			0		10					
18	30.00	762.0	30.02	762.5	53.6	12.0		calm.			0		10					
19	29.86	758.4	29.88	758.9	55.4	13.0		calm.			0		9					
20	29.89	759.2	29.91	759.7	52.0	11.1		w.			4		9					
21	29.77	756.2	29.79	756.7	47.8	8.8		calm.			0		10					
22	29.77	756.2	29.79	756.7	46.2	7.9		calm.			0		10					foggy.
23	29.76	755.9	29.78	756.4	55.2	12.9		s.			2		10					
24	29.94	760.5	29.96	761.0	47.8	8.8		calm.			0		10					
25	29.81	757.2	29.83	757.7	43.5	6.4		calm.			0		10					foggy.
26	29.69	754.1	29.71	754.6	47.8	8.8		calm.			0		1					
27	29.66	753.3	29.68	753.8	45.3	7.4		calm.			0		0					
28	29.71	754.5	29.73	755.0	50.2	10.1		calm.			0		8					
29	29.91	759.7	29.93	760.2	51.4	10.8		calm.			0		8					
30	30.03	762.7	30.05	763.2	54.5	12.5		calm.			0		9					
31	30.07	763.8	30.09	764.3	47.1	8.4		calm.			0		10					foggy.
Mean	29.84	758.0	29.86	758.5	49.1	9.5							8.5					

IVIGTUT—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Mill.	Reduced to sea-level. Inch.	Mill.	Temperature of the air. Fah.	Cent.	Relative Humidity Per cent.	Wind. Direction. From.	Velocity. Miles perhour	Metrs prsec.	Force 0-10	Clouds. Amount. Upper. 0-10	Lower. 0-10	Direction. Up'er From	Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Mill.	WEATHER.
August 1	29.89	759.1	29.91	759.6	41.9	5.5		n.			2		10					foggy.
2	29.76	756.0	29.78	756.5	46.4	8.0		calm.			0		1					
3	29.80	756.9	29.82	757.4	41.0	5.0		calm.			0		10					foggy.
4	29.95	760.6	29.97	761.1	41.0	5.0		calm.			0		10					foggy.
5	29.97	761.3	29.99	761.5	49.3	9.6		calm.			0		0					
6	29.91	759.8	29.93	760.3	50.9	10.5		calm.			0		2					
7	29.99	761.7	30.01	762.2	47.3	8.5		calm.			0		1					
8	29.91	759.7	29.93	760.2	42.6	5.9		calm.			0		10					foggy.
9	29.81	757.1	29.83	757.6	42.8	6.0		calm.			0		10					foggy.
10	30.01	762.2	30.03	762.7	45.9	7.7		calm.			0		0					
11	29.93	760.1	29.95	760.6	43.0	6.1		calm.			0		10					foggy.
12	29.87	758.8	29.89	759.3	47.1	8.4		calm.			0		10					
13	29.82	757.3	29.84	757.8	45.7	7.6		calm.			0		10					
14	29.60	751.9	29.62	752.4	47.7	8.7		calm.			0		10					
15	29.30	744.2	29.32	744.7	47.1	8.4		calm.			0		10					foggy.
16	29.06	738.2	29.08	738.7	42.6	5.9		n.			4		10					
17	29.41	747.0	29.43	747.5	41.9	5.5		n.			4		8					
18	29.51	749.6	29.53	750.1	41.9	5.5		n.			2		0					
19	29.68	753.9	29.70	754.4	41.5	5.3		calm.			0		8					
20	29.82	757.3	29.84	757.8	39.2	4.0		calm.			0		1					
21	20.77	756.2	29.79	756.7	38.3	3.5		calm.			0		10					foggy.
22	29.02	752.4	29.04	752.9	42.7	6.5		calm.			0		10					
23	29.51	749.6	29.53	750.1	45.1	7.3		calm.			0		10					raining.
24	29.45	747.9	29.47	748.4	41.0	5.0		calm.			0		10					foggy.
25	29.04	752.9	29.66	753.4	42.4	5.8		w.			2		10					foggy.
26	29.60	751.9	29.62	752.4	42.6	5.9		nw.			2		8					
27	29.79	756.7	29.81	757.2	42.8	6.0		calm.			0		10					foggy.
28	29.86	758.4	29.88	758.9	41.0	5.0		calm.			0		6					
29	29.95	760.6	29.97	761.1	42.1	5.6		calm.			0		5					
30	29.96	760.9	29.98	761.4	46.2	7.9		w.			2		9					
31	29.95	760.6	29.97	761.1	42.3	5.7		calm.			0		2					
Mean	29.74	755.5	29.76	756.0	43.7	6.5							7.1					
September 1	29.81	757.2	29.83	757.7	47.1	8.4		se.			2		10					
2	29.66	753.3	29.68	753.8	44.2	6.8		se.			2		10					
3	29.44	747.8	29.46	748.3	42.6	5.9		calm.			0		10					raining.
4	29.38	746.3	29.40	746.8	43.5	6.4		calm.			0		10					raining.
5	29.39	746.5	29.41	747.0	41.4	5.2		calm.			0		10					raining.
6	29.47	748.5	29.49	749.0	41.5	5.3		se.			6		10					raining.
7	29.20	741.7	29.22	742.2	46.0	7.8		se.			2		10					
8	29.32	744.6	29.34	745.1	41.9	5.5		nw.			4		9					
9	29.61	752.2	29.63	752.7	37.8	3.2		calm.			0		10					snow and fog.
10	29.54	750.2	29.56	750.7	36.7	2.6		calm.			0		9					
11	29.19	741.3	29.21	741.8	34.3	1.3		calm.			0		2					
12	29.14	740.2	29.16	740.7	36.9	2.7		calm.			0		3					
13	29.40	746.8	29.42	747.3	37.9	3.3		calm.			0		0					
14	29.67	753.7	29.69	754.2	38.1	3.4		nw.			2		10					
15	29.76	755.8	29.78	756.3	38.3	3.5		calm.			0		10					foggy.
16	29.90	759.4	29.92	759.9	37.2	2.9		calm.			0		10					
17	29.96	760.9	29.98	761.4	38.7	3.7		calm.			0		10					foggy.
18	29.96	761.0	29.98	761.5	48.9	9.4		se.			2		10					raining.
19	29.96	761.0	29.98	761.5	54.1	12.3		calm.			0		10					raining.
20	30.20	767.0	30.22	767.5	42.4	5.8		calm.			0		3					
21	30.02	762.5	30.04	763.0	39.7	4.3		calm.			0		5					
22	29.92	760.0	29.94	760.5	36.7	2.6		calm.			0		1					
23	29.51	749.5	29.53	750.0	32.9	0.5		calm.			0		10					foggy.
24	29.61	752.0	29.63	752.5	39.7	4.3		calm.			0		10					raining.
25	29.65	753.2	29.67	753.7	39.2	4.0		calm.			0		10					raining.
26	29.12	739.7	29.14	740.2	47.1	8.4		se.			6-7		10					raining.
27	29.09	738.9	29.11	739.4	41.2	5.1		s.			4-6		10					raining.
28	29.57	751.0	29.59	751.5	41.0	5.0		s.			4		10					snowing.
29	29.82	757.3	29.84	757.8	45.9	7.7		s.			6-9		10					raining.
30	29.84	757.9	29.86	758.4	36.1	2.3		calm.			0		9					
Mean	29.60	751.9	29.62	752.4	41.0	5.0							8.4					

JACOBSHAVN, GREENLAND (N. 69° 13′, W. 50° 55′).

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Mill.	Reduced to sea-level. Inch.	Mill.	Temperature of the air. Fah.	Cent.	Relative Humidity Per cent.	Wind. Direction. From.	Velocity. Miles perhour	Metrs prsec.	Force 0-10	Clouds. Amount. Upper. 0-10	Lower. 0-10	Direction. Up'er From	Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Mill.	WEATHER.
July 1	29.70	754.3	29.74	755.5	55.2	12.9		se.			6		4					
2	29.67	753.5	29.71	754.7	41.5	5.3		calm.			0		6					
3	29.43	747.4	29.47	748.6	56.5	13.6		se.			4		4					
4	29.34	745.1	29.38	746.3	54.3	12.4		se.			6		7					
5	29.72	755.0	29.77	756.2	37.9	3.3		s.			2		9					foggy.
6	29.63	752.7	29.68	753.9	40.3	4.6		w.			2		7					
7	29.78	756.5	29.83	757.7	50.0	10.0		w.			2		3					
8	29.71	754.6	29.76	755.8	45.0	7.2		calm.			0		1					
9	29.71	754.7	29.76	755.9	56.5	13.6		se.			6		5					
10	29.81	757.1	29.85	758.3	56.1	13.4		se.			6		2					
11	29.94	760.5	29.99	761.7	57.6	14.2		se.			4		2					
12	30.02	762.5	30.07	763.7	57.6	14.2		calm.			0		1					
13	29.95	760.6	29.99	761.8	43.5	6.4		sw.			1		8					raining.
14	29.78	756.5	29.83	757.7	39.6	4.2		sw.			6		10					raining.
15	30.02	762.6	30.07	763.8	46.0	7.8		e.			4		8					raining.
16	29.95	760.8	30.00	762.0	40.3	4.6		calm.			0		7					
17	29.93	760.1	29.97	761.3	43.2	6.2		calm.			0		1					
18	29.94	760.5	29.99	761.7	47.5	8.6		calm.			0		3					
19	29.76	755.9	29.81	757.1	47.1	8.4		s.			2		3					
20	29.56	750.9	29.61	752.1	41.4	5.2		n.			2		9					foggy.
21	29.58	751.2	29.62	752.4	41.0	5.0		sw.			2		7					
22	29.71	754.6	29.76	755.8	43.9	6.6		calm.			0		7					foggy.
23	29.52	749.9	29.57	751.1	42.1	5.6		calm.			0		7					
24	29.86	758.4	29.91	759.6	46.0	7.8		e.			4		7					
25	29.85	758.2	29.90	759.4	36.7	2.6		calm.			0		10					raining.
26	29.97	761.1	30.01	762.3	39.6	4.2		calm.			0		9					foggy.
27	29.83	755.7	29.88	758.9	40.6	4.8		calm.			0		2					
28	29.65	753.2	29.70	754.4	48.2	9.0		e.			2		7					
29	29.93	760.1	29.97	761.3	39.7	4.3		s.			2		8					foggy.
30	30.19	766.7	30.23	767.9	37.9	3.3		s.			2		9					foggy.
31	30.26	768.6	30.31	769.8	38.3	3.5		n.			2		8					foggy.
Mean	29.80	756.8	29.84	758.0	45.5	7.5							5.8					

JACOBSHAVN—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount. Upper.	Clouds. Amount. Lower.	Clouds. Direction. Up'er	Clouds. Direction. Lo'er	Rainfall in past 24 hours.		WEATHER.
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles perhour	Metrs prsec.	0–10	0–10	0–10	From	From	Inch.	Mill.	
1883.																		
August 1	30.07	763.7	30.11	764.9	39.7	4.3		calm			0		0					
2	29.93	760.2	29.98	761.4	40.3	4.6		w.			2		1					
3	29.80	758.5	29.91	759.7	39.9	4.4		calm			0		7					
4	29.89	759.3	29.94	760.5	41.7	5.4		calm			0		9					raining.
5	29.90	759.5	29.95	760.7	45.9	7.7		s			2		8					foggy.
6	29.93	760.2	29.98	761.4	47.5	8.6		calm			0		7					
7	29.99	761.8	30.04	763.0	51.4	10.8		calm			0		7					
8	30.01	762.2	30.06	763.4	39.2	4.0		calm			0		6					
9	29.97	761.1	30.01	762.3	39.6	4.2		calm			0		1					
10	29.93	760.2	29.98	761.4	44.2	6.8		calm			0		0					
11	29.71	754.5	29.75	755.7	50.4	10.2		se.			4		1					
12	29.70	754.4	29.75	755.6	40.8	4.9		calm			0		5					
13	29.82	757.5	29.87	758.7	40.3	4.6		calm			0		6					
14	29.67	753.7	29.72	754.9	43.0	6.1		e.			4		2					
15	29.45	748.1	29.50	749.3	41.4	5.2		s.			2		6					
16	29.22	742.2	29.27	743.4	37.0	2.8		s.			2		7					foggy.
17	29.54	750.4	29.59	751.6	31.6	— 0.2		n.			7		8					
18	29.68	753.9	29.73	755.1	31.3	— 0.4		calm			0		4					
19	29.65	753.0	29.69	754.2	35.2	1.8		s.			2		7					
20	29.77	756.1	29.82	757.3	39.7	4.3		w.			2		6					
21	29.77	756.1	29.82	757.3	42.1	5.6		calm			0		4					
22	29.67	753.7	29.72	754.9	38.3	3.5		calm			0		0					
23	29.62	752.4	29.67	753.6	42.4	5.8		ese.			2		0					
24	29.63	752.7	29.68	753.9	49.3	9.6		se.			6		2					
25	29.61	752.2	29.66	753.4	38.8	3.8		e.			2		3					
26	29.76	755.8	29.80	757.0	37.8	3.2		w.			2		4					
27	29.73	755.2	29.78	756.4	38.1	3.4		calm			0		1					
28	29.67	753.5	29.71	754.7	39.9	4.4		e.			6		2					
29	29.89	759.2	29.94	760.4	41.5	5.3		ese.			2		8					
30	30.00	762.0	30.05	763.2	38.8	3.8		calm			0		7					
31	29.91	759.8	29.96	761.0	38.3	3.5		e.			7		0					
Mean	29.77	756.2	29.84	757.4	40.8	4.9							4.2					
September 1	29.74	755.3	29.78	756.5	38.5	3.6		calm			0		1					
2	29.66	753.3	29.71	754.5	37.2	2.9		calm			0		3					
3	29.50	749.2	29.54	750.4	37.8	3.2		e.			4		3					
4	29.38	746.3	29.43	747.5	38.5	3.6		n.			2		4					
5	29.14	740.2	29.19	741.4	41.7	5.4		e.			4		8					
6	29.58	751.3	29.03	752.5	37.4	3.0		calm			0		8					raining.
7	29.14	740.1	29.19	741.3	36.7	2.6		s.			2		2					
8	29.13	739.8	29.17	741.0	36.7	2.6		calm			0		6					
9	29.26	743.3	29.31	744.5	39.9	4.4		e.			4		8					
10	29.67	753.5	29.71	754.7	47.3	8.5		s.			4		2					
11	29.46	748.2	29.50	749.4	29.5	— 1.4		calm			0		1					
12	29.45	748.1	29.50	749.3	25.5	— 3.6		e.			2		1					
13	29.43	747.5	29.48	748.7	31.6	— 0.2		ese.			4		9					snowing.
14	29.82	757.3	29.86	758.5	33.1	0.6		calm			0		4					
15	29.81	757.2	29.86	758.4	39.6	4.2		e.			4		2					
16	29.90	759.4	29.95	760.6	44.2	6.8		se.			6		3					
17	29.97	761.1	30.01	762.3	49.3	9.6		n.			2		4					
18	29.95	760.8	30.00	762.0	35.6	2.0		calm			0		8					
19	30.00	762.1	30.05	763.3	40.3	4.6		calm			0		7					
20	30.23	767.9	30.28	769.1	45.7	7.6		calm			0		9					raining.
21	30.10	764.5	30.15	765.7	47.5	8.6		e.			2		7					
22	29.86	758.5	29.91	759.7	35.2	1.8		s.			2		10					raining.
23	29.60	751.9	29.65	753.1	34.0	1.1		s.			2		1					
24	29.48	748.9	29.53	750.1	34.9	1.6		calm			0		7					
25	29.58	751.2	29.62	752.4	34.2	1.2		calm			0		8					
26	29.39	746.4	29.43	747.6	34.9	1.6		e.			2		0					
27	28.99	736.4	29.04	737.6	42.1	5.6		e.			4		7					
28	29.50	749.2	29.54	750.4	36.0	2.2		calm			0		3					
29	29.80	757.0	29.85	758.2	39.7	4.3		e			6		1					
30	29.89	759.2	29.94	760.4	35.4	1.9		calm			0		6					raining.
Mean	29.61	752.2	29.66	753.4	37.9	3.3							4.8					

UPERNAVIK, GREENLAND (N. 72° 47′, W. 56° 00′).

July 1	29.75	755.7	29.80	756.9	44.2	6.8	78	sw.			4		5					
2	29.65	753.2	29.70	754.4	44.2	6.8	79	sw.			2		8					
3	29.41	747.0	29.46	748.2	50.4	10.2	82	se.			4		6					
4	29.50	749.2	29.54	750.4	46.9	8.3	65	calm			0		0					
5	29.59	751.6	29.64	752.8	46.6	8.1	92	ne.			2		8					
6	29.73	755.2	29.78	756.4	37.9	3.3	86	ne.			2		8					
7	29.80	756.8	29.84	758.0	45.5	7.5	83	e.			4		0					
8	29.63	752.7	29.68	753.9	49.6	9.8	98	calm			0		0					
9	29.81	757.2	29.86	758.4	47.7	8.7	68	calm			0		5					
10	29.83	757.6	29.87	758.8	50.5	10.3	66	calm			0		0					
11	29.96	761.0	30.01	762.2	50.9	10.5	68	se.			2		0					
12	30.06	763.4	30.10	764.6	54.0	12.2	93	calm			0		4					
13	29.82	757.3	29.86	758.5	50.2	10.1	98	sse.			6		2					
14	29.63	752.7	29.68	753.9	44.1	6.7	83	ne.			2		9					
15	29.90	759.5	29.95	760.7	40.1	4.5	57	calm			0		9					
16	29.85	758.3	29.90	759.5	40.8	4.9	91	sw.			6		10					raining.
17	29.98	761.4	30.02	762.6	44.4	6.9	79	sw.			2		5					
18	29.95	760.7	30.00	761.9	45.1	7.3	65	calm			0		8					
19	29.80	756.8	29.84	758.0	50.7	10.4	28	se.			6		0					
20	29.30	744.2	29.35	745.4	44.4	6.9	85	calm			0		10					raining.
21	29.53	750.0	29.58	751.2	39.9	4.4	88	sw.			2		10					raining.
22	29.66	753.4	29.71	754.6	41.5	5.3	94	calm			0		10					raining.
23	29.61	752.2	29.66	753.4	40.5	4.7	86	calm			0		10					foggy.
24	29.85	758.3	29.90	759.5	40.1	4.5	83	sw.			6		9					
25	29.74	755.4	29.79	756.6	35.1	1.7	93	nw.			4		10					foggy.
26	29.91	759.8	29.96	761.0	37.6	3.1	79	sw.			4		10					
27	29.84	757.9	29.89	759.1	37.2	2.9	72	ne.			4		4					
28	29.70	754.3	29.74	755.5	39.9	4.4	84	n.			4		6					
29	29.93	760.3	29.98	761.5	36.3	2.4	83	calm			0		10					
30	30.16	766.1	30.21	767.3	33.3	0.7	89	w.			2		10					foggy.
31	30.24	768.0	30.28	769.2	35.4	1.9	92	sw.			4		8					
Mean	29.78	756.4	29.83	757.6	43.3	6.3	80						6.3					

UPERNAVIK—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity Per cent.	Wind. Direction. From	Wind. Velocity. Miles perhour	Wind. Velocity. Metrs prsec.	Wind. Force 0-10	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0-10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall in past 24 hours. Inch.	Rainfall in past 24 hours. Mill.	WEATHER.
1883.																		
August 1	30.20	767.1	30.25	768.3	39.0	3.9	90	w.			2		10					foggy.
2	29.88	758.9	29.93	760.1	38.7	3.7	90	sw.			4		10					
3	29.86	758.5	29.91	759.7	37.9	3.3	83	e.			2		5					
4	29.74	755.3	29.78	759.5	41.2	5.1	89	se.			2		10					raining.
5	29.76	755.8	29.80	757.0	38.1	3.4	95	calm.			0		10					raining.
6	29.71	754.6	29.76	755.8	40.8	4.9	100	sw.			7		10					raining.
7	29.82	757.3	29.86	758.5	40.8	4.9	84	sw.			4		7					hazy.
8	30.14	765.6	30.19	766.8	35.4	1.9	100	ne.			2		10					
9	29.98	761.6	30.03	762.8	44.4	6.9	72	ne.			2		10					
10	29.85	758.2	29.90	759.4	44.6	7.0	72	sw.			4		8					
11	29.68	753.8	29.72	755.0	46.9	8.3	99	e.			6		8					
12	29.73	755.2	29.78	756.4	46.6	8.1	98	sw.			2		8					
13	29.80	757.0	29.85	758.2	41.7	5.4	99	e.			2		10					
14	29.74	755.3	29.78	756.5	37.2	2.9	100	n.			4		10					foggy.
15	29.44	747.7	29.48	748.9	40.6	4.8	92	n.			2		2					
16	29.26	743.3	29.31	744.5	39.6	4.2	98	n.			6		3					
17	29.56	750.7	29.60	751.9	38.1	3.4	92	n.			2		10					
18	29.77	756.1	29.82	757.3	37.9	3.3	97	e.			2		0					
19	29.63	752.5	29.67	753.7	40.6	4.8	97	sw.			6		10					raining.
20	29.78	756.3	29.82	757.5	40.8	4.9	97	sw.			7		0					
21	29.82	757.5	29.87	758.7	40.3	4.6	100	e.			2		3					
22	29.82	757.3	29.86	758.5	39.2	4.0	98	ne.			7		2					
23	29.73	755.2	29.78	756.4	38.3	3.5	97	n.			2		0					
24	29.73	755.1	29.78	756.3	38.5	3.6	95	calm.			0		0					
25	29.62	752.4	29.67	753.6	43.0	6.1	100	e.			2		0					
26	29.74	755.3	29.78	756.5	34.9	1.6	98	calm.			0		0					
27	29.76	756.0	29.81	757.2	40.3	4.6	94	e.			2		0					
28	29.78	756.4	29.83	757.6	43.0	6.1	95	calm.			0		0					
29	29.91	759.8	29.96	761.0	39.7	4.3	93	calm.			0		8					
30	29.98	761.5	30.03	762.7	41.9	5.5	97	e.			2		9					
31	29.99	761.7	30.04	762.9	39.0	3.9	90	e.			2		5					
Mean	29.78	756.4	29.83	757.6	40.3	4.6	94						6.1					

GODTHAAB, GREENLAND (N. 64° 11′, W. 51° 46′).

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity Per cent.	Wind. Direction. From	Wind. Velocity. Miles perhour	Wind. Velocity. Metrs prsec.	Wind. Force 0-10	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0-10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall in past 24 hours. Inch.	Rainfall in past 24 hours. Mill.	WEATHER.
September 1	29.74	755.5	29.79	756.6	40.5	4.7	94	s.			4		10					
2	29.64	752.8	29.68	753.9	41.5	5.3	89	ene.			2-4		9					misty.
3	29.32	744.6	29.36	745.7	45.0	7.2	82	w.			2		10					raining.
4	29.29	744.0	29.34	745.1	40.1	4.5	96	s.			4		10					raining.
5	29.31	744.5	29.35	745.6	36.9	2.7	96	s.			4		10					raining.
6	29.42	747.3	29.47	748.4	40.8	4.9	67	e.			2		10					
7	29.15	740.5	29.20	741.6	40.6	4.8	96	s.			2		10					
8	29.33	745.0	29.37	746.1	35.1	1.7	84	w.			2		10					snowing.
9	29.47	748.5	29.51	749.6	31.6	— 0.2	83	s.			4-6		10					
10	29.34	745.2	29.38	746.3	31.6	— 0.2	100	ssw.			4		10					
11	29.25	742.9	29.29	744.0	31.6	— 0.2	68	ene.			4		1					
12	29.35	745.5	29.39	746.6	34.0	1.1	73	ne.			4		0					
13	29.51	749.5	29.55	750.6	34.9	1.6	89	ne.			2		8					misty.
14	29.71	754.6	29.75	755.7	35.6	2.0	82	nne.			2		10					misty.
15	29.74	755.5	29.79	756.6	33.8	1.0	80	ene.			4		2					
16	29.90	759.4	29.94	760.5	34.9	1.6	87	s.			4		9					
17	29.92	759.9	29.96	761.0	35.1	1.7	84	s.			2		0					
18	29.78	756.5	29.83	757.6	41.2	5.1	97	ene.			2		10					raining.
19	30.04	762.9	30.08	764.0	40.1	4.5	97	sw.			2		10					raining.
20	30.26	768.6	30.30	769.7	42.8	6.0	93	ne.			2		10					misty.
21	30.11	764.8	30.15	765.9	41.4	5.2	100	ne.			2		10					foggy.
22	29.91	759.6	29.95	760.7	35.8	2.1	100	sw.			2		10					foggy.
23	29.47	748.4	29.51	749.5	37.8	3.2	100	ssw.			2		10					rain and fog.
24	29.58	751.4	29.63	752.5	34.9	1.6	91	ssw.			2		10					
25	29.57	751.0	29.61	752.1	35.8	2.1	96	calm.			0		10					raining.
26	29.12	739.7	29.17	740.8	41.4	5.2	71	ene.			4		10					
27	28.94	735.0	28.98	736.1	41.5	5.3	82	calm.			0		10					
28	29.38	746.2	29.42	747.3	37.0	2.8	91	ene.			2		9					
29	29.56	750.8	29.60	751.9	38.3	3.5	92	ene.			4		10					raining.
30	29.90	759.5	29.95	760.6	34.9	1.6	76	ene.			2		5					
Mean	29.57	751.0	29.61	752.1	37.6	3.1	88						8.4					

BOGOTA, U. S. COLUMBIA (N. 4° 36′, W. 74° 14′.)

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity Per cent.	Wind. Direction. From	Wind. Velocity. Miles perhour	Wind. Velocity. Metrs prsec.	Wind. Force 0-10	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0-10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall in past 24 hours. Inch.	Rainfall in past 24 hours. Mill.	WEATHER.
June 1	22.06	560.3			53.4	11.9	77	n.	2	1			10ks; s		w.	0	0	
2	21.90	556.2			54.5	12.5	74	calm	0	0			9ks; s		nw.	0	0	
3	22.04	559.8			53.1	11.7	79	calm	0	0		0	4 s		w.	0	0	
4	22.05	559.9			54.5	12.5	72	ne.	4	2			10ks; n		s.	0	0	
5	22.05	560.0			53.1	11.7	79	calm	0	0		8ck; cs	0	w.		0.051	1.3	
6	22.07	560.5			54.5	12.5	77	s.	4	2		8 k	2 s	n.	ne.	0	0	
7	22.04	559.8			54.9	12.7	72	n.	4	2			6s; ks		n.	0.098	2.5	
8	22.05	560.1			57.0	13.9	73	calm	0	0			6s; ks		ne.	0	0	
9	22.08	560.8			57.6	14.2	73	calm	0	0			10s; ks		ne.	0.201	5.1	
10	22.07	560.7			55.8	13.2	72	sw.	7	3			10ks; s		n.	0	0	
11	22.06	560.3			60.6	15.9	76	sw.	2	1			10s; ks		nw.	0.142	3.6	
12	22.05	560.1			57.0	13.9	75	sw.	2	1			10s; ks		ne.	0.051	1.3	
13	22.04	559.9			57.0	13.9	72	n.	2	1			10s; ks		nw.	0	0	
14	22.05	560.1			57.9	14.4	66	calm	0	0			10ks; s		n.	0	0	
15	22.05	560.2			55.9	13.3	70	ne.	2	1			8ks; s		w.	0	0	
16	22.04	559.9			56.5	13.6	73	nw.	4	2			9ks; s		nw.	0.031	0.8	
17	22.04	559.8			54.0	12.2	63	s.	4	2			10 ks		s.	0	0	
18	22.06	560.3			54.5	12.5	77	calm	0	0			10ks; s		nw.	0	0	
19	22.04	559.9			57.0	13.9	78	calm	0	0			10 ks		e.	0.150	3.8	
20	22.05	560.0			54.5	12.5	77	s.	4	2		1 k	9ks; s	nw.	nw.	0.150	3.8	
21	22.07	560.7			56.5	13.6	75	ne.	2	1		2 cs	6 s	se.	w.	0.079	2.0	
22	22.10	561.2			55.9	13.3	77	n.	2	1			9ks; s		n.	0	0	
23	22.09	561.1			52.0	11.1	66	sw.	4	2		3c; ck	7ks; s	e.	n.	0.331	8.4	
24	22.06	560.4			50.0	10.0	65	nw.	2	1			10ks; sn		nw.	0.110	2.8	
25	22.03	559.6			55.9	13.3	64	calm	0	0			10 s		n.	0.039	1.0	
26	22.04	559.5			56.8	13.8	63	nw.	2	1		2k	4s; ks	w.;s	w.	0	0	
27	22.05	560.2			57.6	14.2	70	w.	2	1			10 sn		w.	0	0	
28	22.06	560.4			54.5	12.5	77	sw.	4	2			10ks; s		calm	0.039	1.0	
29	22.06	560.4			55.0	12.8	67	w.	4	2			10kn;sn		nw.	0.059	1.5	
30	22.04	559.9			54.5	12.5	72	sw.	4	2			10 ns			0.079	2.0	
Mean	22.05	560.0			55.2	12.9	72.4		2.1	0.9		0.8	8.3			1.601	40.9	

NOTE.—The above observations, taken at 7 a. m., Washington time, were received too late for publication in the DAILY BULLETIN, and are given here in full.

REVIEW.

INTERNATIONAL METEOROLOGY.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following description refers to chart ii. for the month of September, 1883, issued with this SUMMARY. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and prevailing wind-direction over the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich, mean time.

Three areas of barometric minima appear on the chart for September, 1883; the first of these is indicated by the isobar for 29.6 (751.8) and is situated in Alaska, where the mean pressure, at Fort Saint Michael's, was 29.58 (751.3). The remaining areas of least mean pressure are shown in Greenland and in British India, respectively, and are both indicated by the isobar for 29.7 (754.4). In the first-mentioned region, the mean pressure ranges from 29.61 (752.1) at Godthaab to 29.7 (754.4) over the ocean north of the fifty-fifth parallel; in British India the means range from 29.61 (752.1) to 29.67 (753.6) over that part of the country lying between the parallels of 20° and 30° north latitude and the meridians of 70° and 90° east longitude; in southern India the mean pressure exceeds 29.75 (755.6). In northern and western Europe the means range from 29.8 (766.9) to 29.9 (759.4); in the central, southern, and northeastern districts they vary from 29.9 (759.4) to 30.0 (762.0), and in the Iberian peninsula and the greater part of Russia they exceed 30.0 (762.0). In the North American continent the mean pressure is everywhere above 30.0 (762.0) except in the region west of 105° west longitude and south of the forty-fifth parallel.

No marked areas of barometric maxima are exhibited on the chart; the most extensive is that which occupies the Atlantic ocean and is enclosed by the isobar for 30.1 (764.5), which extends from W. 65° eastward to W. 10°, and from N. 20° northward to N. 40°; at the centre of this area, which is near the Azores, the pressure is 30.19 (766.8). Three small areas of high barometer are shown in the United States; one occupies Montana, where the mean pressure is 30.12 (765.0); another is shown in southern Tennessee and the northern parts of Georgia and Alabama, while the third area occupies the middle Atlantic states; in both areas the means vary from 30.1 (764.5) to 30.13 (765.3).

A comparison with the chart for the preceding month (August) shows a slight increase of pressure to have occurred in Montana and Wyoming and in the middle and south Atlantic states; in all other districts the pressure has remained nearly stationary, at stations where the pressure was below that of the preceding month, the deficiencies were extremely slight. Over the Atlantic ocean from the coasts of the United States eastward to about the sixty-fifth meridian there has been an increase of pressure, but to the eastward of that meridian there has been an extensive decrease, averaging .1 inch. In Europe, the pressure in Scandinavia and Russia exceeded that of August by about .1 inch, while in all other countries of the continent there has been a decrease ranging from .04 inch in the Iberian peninsula to .18 inch in the British Isles. In British India, there has been an increase of about .08 inch, and a corresponding increase has occurred throughout the continent of Asia.

Compared with the corresponding month of previous years, the mean atmospheric pressure in the United States was slightly below the normal on the Pacific coast, and in the east Gulf and south Atlantic states; in all other districts the mean pressure exceeded the September normal, the greatest departures being .1 inch in Wyoming. In Canada the mean pressure was slightly above the normal. In Europe, the pressure was about normal in Russia and the Iberian peninsula, and in all other districts, it was below the normal. In British India, it was .03 inch below the six years' mean.

The following table gives the mean pressure and mean temperature, with corresponding departures for September, 1883, in the several countries of the eastern hemisphere, compared with the normal as determined from observations taken during the last six years:

Countries.	Mean pressure.			Mean temperature.		
	Sept. mean of 6 (1877–'82) years.	Sept., 1883.	Departure.	Sept. mean of 6 (1877–'82) years.	Sept., 1883.	Departure.
				°	°	°
Algeria	30.02	30.04	+ 0.02	81.7	82.1	+ 0.4
Austria	29.96	29.91	— 0.05	66.0	66.6	+ 0.6
British Isles	29.96	29.81	— 0.15	57.9	59.6	+ 1.7
Denmark	29.91	29.82	— 0.09	59.1	59.3	+ 0.2
France	30.00	29.94	— 0.06	67.1	66.2	— 0.9
Germany	29.98	29.91	— 0.07	63.3	63.4	+ 0.1
India	29.70	29.67	— 0.03	82.9	83.2	+ 0.3
Italy	29.97	29.63	— 0.04	74.0	72.9	— 1.1
Norway	29.84	29.81	— 0.03	56.7	54.5	— 2.2
Portugal	30.03	.....	.....	74.4	.....	.....
Russia	29.98	29.98	normal	62.5	66.5	+ 4.0
Spain *	30.02	30.03	+ 0.01	73.6	71.6	— 2.0
Sweden	29.91	29.89	— 0.02	55.2	55.6	— 0.6

* Mean for five years only.

In the United States the mean temperature of the air was below the normal in the districts east of the Rocky mountains, and normal or slightly above normal over the country to the westward. In Canada it was below the normal. In Europe the mean temperature differed but slightly from the normal; in the southern peninsulas and in Scandinavia, it was slightly below, and in Russia and the other districts it was above the normal. In Hindostan it was 0°.3 above the six-year normal; the highest mean reported was 91°.8 Fahr. (33°.2 Cent.) at Agra, and the lowest was 71°.0 Fahr. (21°.7 Cent.) at Belgaum.

The following are some of the extreme mean temperatures reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Cairo, Egypt	89.1	31.7	Edmonton, N.W.Territory, B.A.	34.7	1.5
Freetown, Africa	86.8	30.4	York Factory, B. A.	30.8	2.7
Bridgetown, Barbadoes, W. I.	84.0	28.9	Qu 'Appelle, N. W. Ter., B. A.	37.0	2.8
Nassau, Bahamas	82.2	27.9	Godthaab, Greenland	37.6	3.1
Beirut, Syria	81.5	27.5	Fort Saint Michael's, Alaska	43.1	6.2

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of September, 1883, as compared with the means for six years:

Stations.	Mean pressure.			Mean temperature.		
	Sept. mean of 6 (1877–'82) years.	Sept., 1883.	Departure.	Sept. mean of 6 (1877–'82) years.	Sept., 1883.	Departure.
				°	°	°
Gibraltar*	30.03	30.05	+ 0.02	75.7	76.2	+ 0.5
Malta, Mediterranean Sea	29.96	29.95	— 0.01	81.6	78.3	— 3.3
Sandwick Manse, Orkney Islands	29.92	29.79	— 0.13	54.1	53.6	— 0.5
Bridgetown, Barbadoes*	29.95	29.98	+ 0.03	82.9	84.0	+ 1.1
Cape Town, Cape Good Hope	30.13	.....	.....	65.8	.....	.....
Fort Napier, Natal, South Africa*	29.94	29.90	— 0.04	73.5	74.8	+ 1.3
Freetown, Sierra Leone	29.90	29.84	— 0.06	82.1	86.8	+ 4.7
Mauritius, Indian Ocean	30.16	30.16	normal	72.9	72.6	— 0.3
Melbourne, New South Wales	30.01	29.99	— 0.02	52.6	51.4	— 1.2
Nassau, Bahamas	30.00	30.01	+ 0.01	83.1	82.2	— 0.9
Godthaab, Greenland	29.71	29.61	— 0.10	37.6	37.6	normal
Stykkisholm, Iceland	29.64	29.73	+ 0.09	45.8	46.9	+ 1.1
Thorshavn, Färöe Islands	29.78	29.84	+ 0.06	51.2	51.1	— 0.1
Zi-Ka-Wei, China	29.94	29.94	normal	71.0	71.4	+ 0.4
Athens, Greece	29.96	29.94	— 0.02	82.8	81.3	— 1.5
Cagliari, Sardinia, Italy	29.94	29.95	+ 0.01	78.3	76.3	— 2.0
Tokei, Japan	29.96	29.98	+ 0.02	70.2	69.4	— 0.8
Angra, Azores*	30.15	.....	.....	70.6	70.7	+ 0.1
Funchal, Madeira Islands	30.12	30.17	+ 0.05	75.3	75.6	+ 0.3
Ponta Delgado, Azores	30.19	30.19	normal	73.6	73.0	— 0.6
Archangel, Russia	29.93	29.93	normal	50.6	50.2	— 0.4
Tiflis, Russia	29.94	29.99	+ 0.05	75.9	75.2	— 0.7
Astrakhan, Russia	30.03	30.10	+ 0.07	69.8	73.8	+ 4.0
Ekaterinburg, Russia	29.92	29.99	+ 0.07	52.2	54.9	+ 2.7
Tashkend, Toorkistan, Asia	29.96	29.92	— 0.04	70.2	77.7	+ 7.5
Barnaul, Siberia, Asia	29.91	29.97	+ 0.06	55.6	55.8	0.2
Yeniseisk, Siberia, Asia	29.95	30.10	+ 0.15	47.2	44.2	— 3.0
Pekin, China	29.97	29.98	+ 0.01	67.6	64.9	— 2.7
Nikolaevsk on the Amoor, Asia	.....	.....	.....	.....	48.2	.....
San Juan de Puerto Rico, W. I.	29.97	30.02	+ 0.05	81.3	80.4	— 0.9
Beirut, Turkey in Asia	29.87	29.91	+ 0.04	85.1	81.5	— 3.6
Mexico, Mexico	.....	.....	.....	.....	.....	.....
Havana, Cuba, W. I.	29.97	30.00	+ 0.03	80.7	77.0	— 3.7
Paramaribo, D. Guiana, S. A.	30.04	30.02	— 0.02	81.7	79.6	— 2.1
York Factory, B. A.	29.97	29.99	+ 0.02	36.9	36.8	— 0.1

* Means for five years only.

In the United States, the prevailing winds were northeasterly along the Atlantic coast, and northerly and northeasterly in the lake region, and the Ohio and Mississippi valleys. In other districts east of the Rocky mountains, they were from east and southeast; on the Pacific coast they were northeasterly and northwesterly. In Canada, the winds were mostly from southwest to northwest. Over the Atlantic ocean the prevailing wind-directions were: easterly, southeasterly and southerly from W. 70° to W. 40°, and between N. 10° and 40°; mostly northeasterly from W. 40° to W. 10°, and from N. 10° northward to N. 40°. North of the fortieth parallel, northwesterly winds prevailed. In Europe, the winds were mostly southerly, southwesterly and westerly. In Japan, they were northerly and easterly.

The rainfall during September, 1883, was in excess of the average in the Atlantic coast states, except Florida and New England. It was also excessive on the middle slope of the Rocky mountains; on the Pacific coast and the Rio Grande valley; the excess being greatest in the Rio Grande valley and middle slope districts. In all other parts of the United States the rainfall was less than the average, the greatest deficiency having occurred in the eastern Gulf states. In Canada, the rainfall was less than the average, except in the Province of Quebec, where there was a slight excess. In Europe the rainfall was greater than the average, especially in the southern districts, where more than double the average amount of rain fell.

With this REVIEW is issued international chart iii. for the month of March, 1882. This chart continues the series of international charts begun in November, 1877, and exhibits the paths of the principal atmospheric depressions that have appeared in the northern hemisphere. The data are charted for each day of the month on the maps accompanying each issue of the "International Bulletin," and from those charts and additional miscellaneous data are traced the movements of the the centres of barometric minima.

The paths of thirty-four depressions have been traced for the month of March, 1882, and are distributed as follows: ten are charted in the North American continent; of these, four are traced from the Pacific coast eastward or southeastward to the lake region and thence northeastward over Canada to the Atlantic, and one depression is traced from the Gulf of Mexico northeastward to the maritime provinces. Two appear in the lake region, one of these being a continuation of a disturbance shown on the chart for February, while the remaining depressions are traced from the northern slope of the Rocky mountains eastward and southeastward to the Atlantic. Of the depressions traced over the Atlantic ocean seven are continuations of storms which first passed over the United States or Canada; of these, two appear to have reached the European coasts, while the others either filled in or became merged in larger depressions which existed north of the sixtieth parallel.

Thirteen depressions are shown in Europe; of this number, seven approached the Scandinavian coast from the Atlantic, and moved northeastward along the coast to northern Scandinavia, and thence southeastward into eastern Russia. One disturbance entered the British Isles, and passed southeastward over France to the Mediterranean, and one occupied the Italian peninsula. The depression traced as number xix. first appeared in Finland, and passed eastward to the White sea; number xxi. developed in southwestern Russia and moved northeastward; number xxx. appeared north of the British Isles, and passed southward over the North sea at the close of the month, and number xxvii. was a cyclonic storm of great intensity which occupied the Netherlands and Germany during the 26th and 27th. Four disturbances are traced in eastern China and Japan, and one is shown in Asiatic Turkey. The meteorological features of the month of March, 1882, resembled those of the preceding months (January and February) in that the majority of the storm tracks appeared to the northwestward of the British Isles, and passed over Scandinavia, thus causing the mean pressure for the month to remain below the normal in northern Europe, while areas of high pressure prevailed over the central and southwestern parts of the continent, where the mean pressure was consequently above the normal. The departure above normal was, however, not so marked as in the preceding months, while the decrease of pressure in the Scandinavian peninsula was greater than in those months.

The following descriptions refer to the depressions which appeared in the United States and Canada:

I.—This was a continuation of the disturbance traced as low-area xiv. on the chart for February. At the close of that month the depression occupied Missouri, whence it moved northeastward and by the morning of March 1st, was central near Georgian Bay, Ontario. During the day the disturbance moved slightly south of east over New England, attended by heavy rains there and in the middle Atlantic states; owing to the presence of an area of high pressures over the Maritime Provinces and near the New England coast, steep gradients were formed to the eastward of the depression, so that strong southerly and easterly gales occurred along the Atlantic coast north of Hatteras, North Carolina, and heavy rains occurred in the Saint Lawrence valley. By the morning of the 2d the disturbance was off the New England coast; the winds at the Atlantic coast stations had now changed to northwesterly and blew with the force of a strong breeze. As the depression moved slowly and with increasing energy northeastward over Nova Scotia, it was attended by rainy weather in that district and strong east to north gales over the Gulf of Saint Lawrence, with equally strong westerly gales to the southward of the centre. During the 4th the depression passed into the Atlantic and is hereafter described as low area xi.

II.—This depression probably developed west of the Rocky mountains prior to the 4th, but its centre could not be located until that day, when it appeared in Nebraska, where the barometer read 29.63 (752.6). The disturbance moved northeastward attended by snow storms in the districts to the northwestward of its track and cloudy or rainy weather eastward to the lower lake region by the 5th. On the morning of that day the centre was near Saint Paul, Minnesota, where the barometer read 29.38 (746.2). An area of high pressure existed to the northward of Manitoba, the barometer at York Factory, Hudson's bay, reading 30.95 (786.1); very steep barometric gradients were thus formed over the region north of the storm-centre, and furious snow storms with violent gales were reported from Manitoba and the Northwest Territories. The storm-centre moved eastward over the lakes, and on the 6th it was in Ontario, the pressure having risen to 29.78 (756.4); during the day it passed eastward to Maine and thence into the Atlantic, where it appears to have gathered fresh energy. This disturbance is hereafter referred to as low area xii.

III.—This disturbance developed in the western part of the Gulf of Mexico during the 8th, having been preceded by heavy rains in southern Texas during the 6th and 7th. As the depression moved northeastward it was attended by heavy rains in the Gulf and south Atlantic states, with rain or snow in the lake districts. On the 9th the storm-centre was in southern Illinois, and the rain area had extended to the lower lakes and middle Atlantic states; by the 10th the disturbance was shown as an elongated depression occupying the Saint Lawrence valley, New England, and the Maritime Provinces, in which districts the barometer ranged from 29.4 (746.7) to 29.55 (750.6); rain continued to fall in the Maritime Provinces and the Saint Lawrence valley, while clearing weather and high winds had set in over the lake region. The depression passed off the Nova Scotia coast during the day, and is hereafter described as low area xiii.

IV.—This depression probably developed in the Northwest Territories during the 11th and moved rapidly southeastward over the lake region. On the 12th the region of minimum pressure was north of Lake Huron, and rain or snow prevailed at stations in the lower lake region and along the Saint Lawrence valley. During the 12th the disturbance moved with increas-

ing energy eastward, and on the 13th the centre was over the Bay of Fundy. On the 14th the storm-centre was east of Cape Breton Island, where the barometer had fallen to 29.13 (739.9); strong n. and nw. breezes to moderate gales prevailed in the western semi-circle of the disturbance, while strong s. gales were reported at sea. This depression, which crossed the Atlantic and reached the European coasts, is hereafter described as low area xiv.

V.—This disturbance appeared in Dakota on the morning of the 14th, at which time the minimum barometric reading was 29.6 (751.8). As the depression moved east-southeastward during the day the pressure gradually increased, and on the 15th the readings ranged from 29.87 (758.7) to 29.95 (760.6), the lowest being in Illinois. During its passage south of the lakes this disturbance caused strong easterly winds in the lake region and light snow in the vicinity of Lake Erie. By the morning of the 16th the disturbance had passed into the Atlantic and was central off the Virginia coast. Its subsequent movements are described under low area xv.

VI.—From the 13th to the 16th an area of low pressure, with barometric readings ranging from 29.5 (749.3) to 29.7 (754.4), hovered off the California coast; on the last-mentioned date the area of decreasing pressure spread eastward and by the 17th the disturbance had entered Dakota, while another depression, probably a secondary development of vi., had appeared off the North Pacific coast. On the 17th the centre of number vi. was enclosed by the isobar for 29.6 (751.8) and strong winds, with threatening weather, prevailed from Dakota eastward to the lakes. Moving east-southeastward from Dakota, the disturbance reached Iowa on the 18th, the minimum readings being about 29.64 (752.8). A moderately steep gradient existed over the eastern part of the lower lake region, eastern Canada and New England, thus causing moderate se. and e. gales, with rain or snow throughout the former district. From Iowa the disturbance moved northeastward to the Saint Lawrence valley, attended by increasing pressure and, as the gradients decreased, by moderate winds. During the 19th the depression passed down the Saint Lawrence and entered the Gulf, where the pressure appears to have again decreased; on the 20th it was to the northward of Newfoundland, the pressure at the centre being now below 29.6 (751.8). This disturbance apparently moved north-northeastward towards Greenland, and is hereafter described as low-area xvi.

VII.—This was probably a secondary development of the preceding disturbance; on the 17th, the pressure, which had increased at stations to the north Pacific coast region after the passage of low area vi., again decreased to 29.9 (751.8), and by the 18th, the barometer had fallen below 29.4 (746.7). On the 19th, the disturbance spread eastward to the Rocky mountains and by the morning of the 20th, it was central as a storm of decided energy in Nebraska where the pressure was below 29.6 (751.8). The depression moved eastward causing heavy and disastrous rains in southern Indiana, Ohio, and Kentucky; on the 21st the storm-centre was in Michigan, where the minimum pressure was 29.49 (749.0) at Port Huron, the isobar for 29.6 (751.8), extending from Iowa eastward to Lake Erie. Steep barometric gradients existed over the regions to the southwest, west, and northwest of the storm-centre, and strong w. and nw. gales prevailed in the upper Mississippi and Missouri valleys, with violent e. gales in the upper lakes; during the 20th and 21st, heavy snow occurred in Minnesota, Michigan, and Wisconsin, and extended, on the 22d, to the lower lake region and New England. During the 21st, the pressure began to increase and by the 22d the minimum readings were reported from New England, but were not below 29.8 (756.9). Snow continued in that district and in the lower lake region during the 22d, but was followed by clearing weather during the night. During the 22d, the disturbance passed into the Atlantic, and filled up on the 23d, when the pressure over the Atlantic, south of the fiftieth parallel, was about 30.0 (762.0).

VIII.—This disturbance moved over the Northwest Territories of Canada during the 22d, and by the morning of the 23d its centre, which was enclosed by the isobar for 30.00 (762.0), occupied the Lake Superior region. During the 23d it moved with increasing energy over the provinces of Ontario and Quebec, and by the morning of the 24th was central between Quebec and Father Point, where the barometer read, respectively, 29.49 (749.0) and 29.53 (750.0). The disturbance was followed by an area of high pressure which caused moderate w. and nw. gales, with snow, over the lake region and along the Saint Lawrence valley. During the 24th the depression passed over the Gulf, and reached Newfoundland on the 25th, passing thence into the Atlantic during that day. Its subsequent movements are described under low area xvii.

IX.—By the morning of the 23d, the pressure at stations on the Alaskan coast, had decreased about .68 inch since the morning observation of the 22d. By the 24th, the area of decreasing pressure had reached the northern boundary of the United States, and on the following day a well-defined disturbance, at the centre of which the pressure was below 29.6 (751.8), occupied Minnesota. The storm centre moved in a southerly direction, and on the 26th, it was shown in Kansas, the central pressure remaining below 29.6 (751.8); during the 26th, strong s. to e. winds prevailed in the lake region and Ohio valley, with generally cloudy or rainy weather. On the 26th the disturbance moved to the northeastward, developing increased energy as the depression became deeper; on the 27th, the storm centre was in Michigan, where the minimum barometric reading was 29.29 (744.0), while the isobar for 29.4 (746.7) enclosed within its limits Lakes Michigan and Huron, and the southeastern part of the province of Ontario. Rainy weather continued in the Southern states and along the coast, and disastrous tornadoes occurred in Alabama and Georgia. As the disturbance moved over Ontario and Quebec to the mouth of the Saint Lawrence, it caused heavy rains in the lower lake region and Saint Lawrence valley, and moderate to strong w. and nw. gales in the former region and along the Atlantic coast from Hatteras northward. On the morning of the 28th, the centre of disturbance was over the Gulf of Saint Lawrence, the lowest reported barometer reading 29.19 (741.4) at Dalhousie, New Brunswick; at Father Point, the wind reached a velocity of fifty-five miles an hour from the west, and of forty miles sw. at Sidney, Cape Breton Island; heavy rain also fell at most stations in the Maritime Provinces. During the 28th, this disturbance probably moved north-northeastward, and united with a deep depression which was in southern Greenland on the 29th.

X.—On the 27th the barometer at Sitka, Alaska, read 29.29 (743.2), being a fall of about .65 inch; by the morning of the 28th the pressure had increased to 29.55 (750.6) in Alaska, while a fall of about .7 inch had occurred in Manitoba, where the barometer now read 29.26 (743.2), with high s. winds in Minnesota. The disturbance moved eastward, and on the 29th it was central over the northern part of Lake Superior, causing brisk to high southerly winds at stations in the upper lake region. On the 30th the disturbance passed down the Saint Lawrence valley, giving showery weather in that region, and followed in the lake region by an area of high pressures, which caused high w. and nw. winds in both districts. By the 31st the depression had passed northeastward over Labrador.

The following descriptions refer to the storms traced over the Atlantic ocean and in Europe.

XI.—This was a continuation of the disturbance described above as low area i. After leaving the coast of Nova Scotia on the 4th, it moved slowly eastward, and by the 5th it was shown as an elongated area of low pressures enclosed by the isobar for 29.4 (746.7) and extending from N. 38°, W. 60° northward and eastward to N. 50°, W. 50°. Within the area of minimum pressures the winds were light and variable, but moderate to strong gales were reported on either side of the disturbance, being from n. in the Maritime Provinces and off the coast of the United States, and from s. and sw. over the ocean east of 45° W. The disturbance moved slowly northeastward, and on the 6th it was central near N. 50°, W. 42°, the lowest reported

reading being 29.18 (741.2). A somewhat steep gradient existed to the southeastward of the centre, so that in that region moderate to fresh sw. gales occurred; in other quadrants the gradient was of moderate inclination, and brisk to high winds only (15 to 30 miles) were reported. During the 6th the disturbance appears to have moved north-northeastward towards Iceland; on the 7th the barometer at Stykkisholm read 28.73 (729.7), being a fall of .8 inch in twenty-four hours. A decided increase of pressure occurred during the 6th over western Europe, and this extended to Great Britain, so that steep gradients were formed over the British Isles and the North sea, causing strong sw. gales between W. 25° and 15° and strong breezes to moderate gales from W. 15° eastward to the British Isles.

On the 8th the disturbance remained in the neighborhood of Iceland, while stormy weather prevailed over the Atlantic. On the 9th the depression, having been joined by low area xii., which had moved over the ocean during the 7th and 8th, was now shown as an unusually large and deep depression, with its centre in Iceland, where the barometer read 28.03 (711.9). An area of high pressures, 30.6 (777.2), occupied the Maritime Provinces, the Atlantic coast, and the ocean eastward to about W. 45°, while another high area, 30.4 (772.1), covered central and western Europe; as a result of this distribution of pressure, exceedingly steep gradients were formed over the British Isles and the Atlantic ocean north of W. 45°, so that strong nw. gales prevailed over the Atlantic from the Banks of Newfoundland eastward to the fortieth meridian; w. gales occurred between that meridian and W. 20°, and strong ssw. and sw. gales over the British Isles and North sea. During the 10th and 11th the disturbance moved northeastward to northern Scandinavia, attended by rain or snow at stations in the peninsula, and showery weather over the northern parts of the British Isles; near the centre of disturbance the pressure remained below 29.0 (736.6). By the 12th the depression had moved, with increasing pressure, east-southeastward, over the White Sea, and had passed into western Siberia, where it disappeared.

XII.—This was a continuation of the depression previously described as low area ii. After passing to the eastward of the New England coast during the 6th the pressure began to decrease, and by the morning of the 7th the region of least pressure was enclosed by the isobar for 29.6 (751.8), the centre of depression being about N. 42°, W. 56°. During the 7th fresh breezes to moderate gales prevailed within the storm-area, but on the 8th, owing to the eastward advance of an area of high pressures from the United States, the barometric gradient increased, and the n. and nw. winds in the western semi-circle of the disturbance increased to the force of a strong gale. On the 8th the centre of this disturbance was apparently near N. 49°, W. 38°, whence it moved northward and probably became merged in low area xi., then central near Iceland.

XIII.—This was a continuation of the depression first charted and described as low area iii. The disturbance entered the Atlantic from the Maritime Provinces on the 10th, and by the 11th it was on the Banks of Newfoundland; fresh to strong n. and w. breezes prevailed in the Maritime Provinces and to the southward of Newfoundland, while strong sw. gales were reported over the region to the eastward of W. 45°. During the 11th, 12th, and 13th the depression moved nearly due northward, this movement being probably caused by the presence of an area of barometric maxima which lay in front of the disturbance, and stretched from about N. 35°, W. 40° northeastward to the British Isles and the Danish peninsula. During this period moderate to strong gales, mostly from w. and sw., prevailed over the Atlantic from W. 50° to the British Isles; on the 13th this disturbance became merged in the extensive depression which occupied the Arctic regions.

XIV.—This was a continuation of an important depression which passed over the Maritime Provinces and Newfoundland on the 14th, and is the only disturbance during this month that reached the European coasts at a lower latitude than N. 60°. On the 14th s. and sw. gales, of force 8 to 10, occurred between W. 55° and 45°, and in the latitude of the Banks; by the 15th the winds over that region had shifted to n. and nw., and were moderate in force, while those to the eastward of W. 40° became southerly and blew with a force of 8 to 10. On the 16th the centre of disturbance, where the pressure had now risen to 29.8 (756.9), was clearly indicated by the movement of the winds in about N. 51°, W. 37°. The area of barometric maxima, at the centre of which the pressure was 30.6 (777.2) was becoming smaller in extent and gradually withdrawing to the eastward with decreasing pressure, so that on the 17th, when the centre of depression was near N. 51°, W. 31°, the barometric gradient in front of the disturbance was slight and the winds moderated to fresh breezes. On the 18th the disturbance was near N. 52, W. 18°, and a rapid decrease of pressure set in over the British Isles; during the day the depression moved northeastward, and on the 19th it was central near the northwest coast of Ireland. Owing to the advance of an area of high barometer from the Maritime Provinces, the barometric gradient became steep in the southwest quadrant of the disturbance, and the nw. winds which prevailed in that region increased to force 9. During the 19th the disturbance apparently moved northward and united with a deep depression which was moving eastward from Iceland.

XV.—This is a continuation of a disturbance which passed into the Atlantic from the Virginia coast on the 16th (low area v.); on the 17th the circulation of the winds showed the storm-centre to be near N. 38°, W. 68°, the lowest reported pressure in that region being 29.84 (757.9). On the 18th the centre was well-defined south of Nova Scotia, the pressure having decreased to 29.7 (754.4); heavy e. and ne. gales prevailed over the Banks and several vessels on George's Banks lost anchors, cables, etc., and sustained other damage; vessels on the fortieth parallel and between W. 68° and 70° had n. gales of force 7 to 8, and those to the eastward had se. gales of force 6 to 7, with heavy rains. On the 19th the disturbance remained near N. 40° and between W. 60° and 65°; but the pressure was increasing, and during the day the depression either filled up or united with low area vi. which occupied Newfoundland on the 20th.

XVI.—This is a continuation of the disturbance described above as low area vi; it passed over Newfoundland during the 29th, and moved northward to southern Greenland, where, on the 21st, the pressure read 29.03 (737.3), a fall of .88 inch; at the same time a subsidiary disturbance, which was attended by strong s. gales, apparently existed near N. 45°, W. 45°. On the 22d, the region of least pressure was in Greenland, where the barometer was steadily falling, and the subsidiary disturbance, above referred to, had disappeared and pressure was generally high over the Atlantic south of N. 50°, except in the vicinity of Newfoundland and Nova Scotia, where it remained below 30.0 (762.0). During the 22d, the disturbance began to move eastward and by the 23d, the barometer at Stykkisholm, Iceland, had fallen to 28.75 (730.2), a decrease of about .4 inch in twenty-four hours. On the 24th the minimum barometric reading was 28.52 (724.4) at Stykkisholm, and decreasing pressure with showery weather and fresh w. and sw. breezes set in over the British Isles; over the Atlantic near the fiftieth parallel the winds were w. and blew with the force of a strong breeze to moderate gale. During the 25th and 26th, the disturbance moved to the Scandinavian coast and passed thence northeastward to the Arctic regions. During its passage along the coast the pressure near the centre of disturbance was below 29.0 (736.6), and strong s. winds with rain or snow occurred in Scandinavia.

XVII.—This is a continuation of a disturbance which crossed the Gulf of Saint Lawrence and entered the Atlantic during the 25th (low area viii.). On the 26th it was shown near N. 45°, W. 50°, as a small area of low pressures enclosed by the isobar for 29.6 (751.8) and attended by moderate to strong breezes from s. to nw. During the 27th and 28th it apparently passed northward and joined the depression which existed north of the sixtieth parallel.

XVIII.—This is a continuation of a disturbance which appeared off the Irish coast at the close of February, and is shown on the chart for that month as low area xxxvii. On March 1 the depression occupied the British Isles, the barometric minima being reported in Ireland, where the pressure was below 28.8 (731.5); strong e. breezes prevailed in northern England and Scotland and over the North sea, while strong w. and sw. gales occurred in the channel, the Bay of Biscay, and off the Irish coast, with heavy rains in all districts. By the 2d the centre of disturbance had moved slowly northeastward to the northwestern part of England, but the pressure had increased to 29.0 (736.6); the gales of the preceding day continued without any material diminution of force, attended by generally unsettled, rainy weather. During the 2d the disturbance appears to have moved southward over the southern counties of England, and by the 3d the centre was shown near Brest, France, with pressure about 29.2 (741.7); brisk to strong e. and ne. winds prevailed over England, with moderate n. gales in Ireland and over the ocean westward to the seventeenth meridian; in the Iberian peninsula strong w. breezes were reported, while moderate s. and se. winds prevailed along the French coast. The depression moved southeastward over France, and on the 4th it was central in the Mediterranean districts of that country; continuing its southeasterly course during the day the centre reached the neighborhood of Sicily on the 5th, the pressure having increased to 29.8 (756.9). During the 6th and 7th the disturbance occupied southern Italy, and finally dissipated on the last-mentioned date; moderate gales and rainy weather prevailed over the Mediterranean and the Italian peninsula during its passage.

XIX.—This depression appeared in Finland on the morning of the 1st, the pressure near the centre being below 29.5 (749.3); northerly gales prevailed over the Gulf of Bothnia, and moderate to strong w. winds in the Baltic. By the 2d the disturbance had moved to the White Sea region, the pressure at Archangel reading 29.52 (749.8), wind wsw.; during the day the depression apparently filled in.

XX.—By March 2d, the barometer at Godthaab, Greenland, had fallen to 29.12 (739.6), a fall of about .65 inch in twenty-four hours, and by the 3d the decrease had extended to Iceland, while an increase set in over Greenland. The chart for the 4th showed an elongated area of low pressures enclosed by the isobar for 28.8 (731.8), stretching from the east coast of Iceland to the Färöe Islands, with rainy weather and strong sw. to w. breezes over the British Isles and s. winds in Scandinavia. On the 5th the depression was off the Norwegian coast; moving northeastward it passed into northern Scandinavia on the 6th, causing strong w. and nw. gales over the North Sea, British Isles, and Denmark, with generally unsettled, rainy weather over the districts named; at the centre of disturbance the pressure was below 28.4 (721.3). During the 7th and 8th the storm-centre moved southeastward into northern Russia, attended by gradually rising pressure and strong nw. and n. gales in its rear. On the 9th the disturbance was in the Ural region, pressure at Ekaterinburg, 29.24 (742.7); after that date it passed into northern Siberia and disappeared.

XXI.—This depression appeared in southwestern Russia on the 4th, the barometric minimum being 29.19 (741.4) at Kiev, province of Little Russia; on the 5th, the disturbance was central near and to the eastward of Moscow, where the barometer read 29.42 (747.3) and, by the following day, it had apparently joined low area xx. which then occupied northern Europe.

XXII.—This area was a disturbance which appeared off the northwestern coast of Scotland on the 7th, and was probably a secondary development of low area xx. It moved northeastward, attended by rain or snow and strong sw. winds in the northern districts of the British Isles and, on the 8th, the centre was shown off the Norwegian coast near Bergen. The disturbance then moved east-southeastward over Scandinavia and the Baltic and passed into northern Russia, where the pressure remained below 29.6 (751.8) for several days.

XXIII.—On the 12th, the region of least pressure was in Iceland where the barometer read 29.15 (740.4); by the following day the low-area was transferred to northern Scandinavia, the barometer near the centre of disturbance having fallen to 28.98 (736.1), while rainy weather and strong w. and nw. winds prevailed over the northern part of the British Isles and southern Scandinavia. On the 14th, the centre of disturbance maintained about the same position as on the previous day, with pressure slightly lower; on the 15th, the isobar for 28.8 (731.5) extended from the extreme northern part of Scandinavia southeastward over Lapland and the White Sea, while a considerable increase of pressure had occurred over the countries to the southwestward of the low area. On the 16th, the depression remained over the White Sea, and as the barometric gradient became steeper over the Baltic and Scandinavia, strong w. and nw. breezes to gales occurred in these districts. By the 17th, the storm centre had moved southeastward to the government of Kasan, where the barometer now read 28.51 (724.1); strong nw. winds to moderate gales prevailed over the Black Sea and at stations lying southwest of Kasan. Moving eastward with decreasing pressure, the centre was shown in the Ural region on the 18th, the barometer at Ekaterinburg, reading 28.34 (719.8); strong nw. winds to gales continued at stations from Kasan southwestward to the Caucasus, and westward to the thirtieth meridian east of Greenwich. During the 19th, the depression crossed the Ural mountains and disappeared in Siberia.

XXIV.—This was a slight depression which occupied northern Arabia and the regions near the Suez canal on the 15th. On that day the atmospheric pressure in the above districts ranged from 29.72 (754.9) to 29.76 (755.9), which was about .2 inch less than on the preceding day. On the 16th the minimum reading was 29.73 (755.1) at Beirut, Syria, and at Suez the pressure varied from 29.74 (755.4) to 29.77 (756.1); during the day the pressure began to increase and the depression filled in.

XXV.—During the 17th and 18th the falling barometer at Stykkisholm, Iceland, indicated the development of a disturbance in that region. On the 19th the centre was in Iceland, and by the 20th it was near the Färöe Islands, where the pressure had decreased to 28.98 (736.1). The disturbance moved slowly northeastward to the Norwegian coast, having been joined by low area xiv, and during its passage caused showery weather and strong nw. winds to moderate gales in the British Isles, and s. and sw. gales with snow in Scandinavia. On the 22d the centre of disturbance was shown in Sweden, the pressure having increased to 29.3 (744.2); a steep gradient was formed over the northeast coast coasts of Great Britain and the North sea, and strong nw. gales were reported over the last-mentioned. During the day the disturbance moved northeastward, and disappeared in the White Sea region on the 24th.

XXVI.—On the 22d there was a decrease of pressure in northern Italy, and from that date until the 30th, the decrease spread southward and occupied the peninsula. During this period the pressure ranged from 29.65 (753.1) to 29.9 (759.4), and rainy weather and strong winds prevailed over Italy and the adjacent seas.

XXVII.—On the 26th, a deep depression with a well-defined cyclonic movement of the winds, appeared in the Netherlands; at the centre of disturbance the barometer read 29.0 (736.6), and abundant rain fell in France, the Netherlands and northern Germany. In England, over the Channel, and in western France, strong n. and nw. gales occurred, causing more or less damage to property at sea and on shore; in southern and eastern France the winds were w. and sw., and in Germany they were s., while, in Denmark they were e. and se., blowing with the force of a gale in nearly all districts. The disturbance moved northeastward over northern Germany, attended by increasing pressure and decreasing energy; and apparently passed into the Baltic during the 27th, after which it could not be traced as a distinct storm-centre.

XXVIII.—This disturbance appeared to the northward of Scotland on the 27th, the minimum barometric reading being

29.07 (738.4) observed on board the ship "Festina Lente," in N. 62° 28′, W. 2° 27′; Captain Andersen, commanding that vessel reported: "on the 26th, 27th, 28th, and 29th, the wind blew a brisk gale from the north between 8 a. m. and 6 p. m., but from 6 p. m. to 8 a. m. every night it hauled around the compass with the sun." Strong w. winds with rain, snow or sleet prevailed in the northern districts of Scotland, and brisk s. and sw. winds with rain or snow occurred in Scandinavia. During the 28th and 29th the disturbance passed rapidly northeastward along the coast, and disappeared in the region north of Scandinavia on the last-mentioned date.

XXIX.—This disturbance developed near the Norwegian coast immediately after the passage of low area xxviii. on the 28th; showery weather prevailed in northern Scotland and on the west coast of Norway, but no very high winds were reported. On the 29th the centre was over the Baltic, enclosed by the isobar for 29.6 (751.8) and causing rainy weather at stations to the southward. During the 29th it passed over the Baltic Provinces of Russia and, on the 30th, it was in the vicinity of Lake Ladoga where it dissipated.

XXX.—This disturbance appeared off the northwestern coast of Scotland on the 29th, the central pressure being below 29.5 (749.3), while moderate sw. winds and occasional rains prevailed over the British Isles. On the 30th the area of least pressure was shown in southern Norway, where the barometer read 29.39 (746.5). During the day the disturbance appears to have moved south-southwestward, the centre being over the northern part of the English channel on the 31st, while another disturbance appeared to be approaching the Irish coast. Rainy weather continued during the 30th and 31st, but the winds remained moderate in force.

The following descriptions refer to the depressions traced in Asia:

XXXI.—This depression was shown in southeastern Siberia on the 15th, by the decrease in pressure at Vladisvostok, where the barometer read 29.67 (753.6), or about .3 inch lower than on the preceding day. On the 16th the area of low pressure occupied the country between Vladivostok and Nikolaevsk, on the Amoor, where the barometer read, respectively, 29.57 (751.1) and 29.56 (750.8). On the 17th, the disturbance apparently passed into the Pacific, giving cloudy weather and snow in northern Japan.

XXXII.—This depression appeared in the Yellow Sea on the 18th, the barometer at Chee-Foo reading 29.79 (756.7), a fall of about .23 inch. The depression apparently passed eastward, and on the 19th the region of least pressure occupied the northern part of Niphon, where the barometer read 29.5 (749.4), and rainy weather prevailed generally throughout Japan. During the day the storm-centre passed into the Pacific, giving a nw. wind of 30 miles an hour at Nobiru, on the eastern coast of Niphon.

XXXIII.—This depression appeared off the eastern coast of Niphon on the 22d, when the barometer fell about .35 inch at stations on that island. The storm-centre appears to have moved north-northwestward, since, on the following day the minimum barometric readings were reported from the island of Yesso, and the circulation of the winds indicated the presence of the centre to the northwest of the island. By the 24th the pressure had increased to 29.8 (756.9).

XXXIV.—The chart for the 26th showed a considerable decrease of pressure to have occurred in northern Japan; on that day the barometric minima were enclosed by the isobar for 29.4 (746.7), and cloudy, rainy weather was general in nearly all parts of the country. On the 27th the storm-centre was to the northeast of Yesso, and a gradual increase of pressure set in; by the following day the disturbance had passed beyond the range of the observations.

GENERAL REMARKS.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevation of stations is obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least, this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the alphabet of the letter so used.

On February 1, 1883, the following change was made in publishing marine data in the "Daily International Bulletin":

All marine reports are classified as to districts, which are designated as follows: District No. 1, North Atlantic; District No. 2, South Atlantic, &c., under which headings the respective reports are printed.

BOUNDARIES OF DISTRICTS.

District No. 1 comprises the Atlantic ocean, its arms and tributaries, from the equator northward to the pole, and in the arctic from 100° E., westward to 100° W., of Greenwich.

District No. 2 comprises the Atlantic ocean, its arms and tributaries, from the equator southward to the pole, and in the antarctic from 20° E., westward to 70° W., of Greenwich.

District No. 3 comprises the Pacific ocean, its arms and tributaries, from the equator northward to the pole, and in the arctic from 100° W., westward to 100° E., of Greenwich.

District No. 4 comprises the Pacific ocean, its arms and tributaries, from the equator southward to the pole, and in the antarctic from 70° W., westward to 145° E., of Greenwich.

District No. 5 comprises the Indian ocean, its arms and tributaries, from the Asiatic continent southward to the pole, and in the antarctic from 20° E., eastward to 145° E., of Greenwich.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date.

In the above charts broken lines indicate that the lines so drawn are doubtful. Arrows show direction of, and fly with, the wind. Force is shown as follows:

SYMBOLS.	FORCE.	VELOCITY.	
		MILES PER HOUR.	METRES PER SECOND.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

The following remarks relate to the individual peculiarities in the *methods* of recording, and the *times* of taking, the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of Brig. General Béziat, Commandant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. Adelaide, furnished by co-operation of Charles Todd, C. M. G., F. R. A. S. The observations are taken at 9 p. m., local time.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemberg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind-direction is given to 32 points and weather by the Beaufort notation. At Bradford, no observations are taken on Sunday, except the rainfall, and in the monthly summary the letter designating a certain number of days missing, applies to all the data except rainfall.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army. At St. John's, N. F., the barometer appears read about .10 inch too high, which correction has been applied from August 1st, 1883.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Saint Francis Lighthouse, the original gives barometer reduced to freezing, but not to sea-level. The kind of clouds is given, but no distinction is made between upper and lower. Weather in general terms.

CHILIAN SERIES (by authority of the Secretary of Public Instruction, furnished by co-operation of Francisco Vidal Gormáz, President of the Central Meteorological Office at Santiago).—Observations are taken mostly at lighthouses on the coast; the originals give barometer as read off; temperature in Centigrade; humidity is not given but is computed at this office from the hygrometrical observations.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteoroiogical Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted.

EGYPTIAN SERIES (Furnished by the co-operation of Albert Ismalun, Director of the Laboratoire Khédivial du Caire).—Original gives barometer reduced to zero, but not to sea-level, temperature in Centigrade. The velocity is the mean for past 24 hours. Rainfall in millimetres.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Mont Louis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. On September 1st the elevation of barometer at Commercy changes to 243 meters.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only, and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by the co-operation of the Geographical Bureau, Department of the Interior, through I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms. On September 16th, the elevation of barometer at Hamamatsu changes to 28 meters.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (furnished by co-operation of the respective observers).—The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys-Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred. At Batavia the elevation is stated to be "a few meters."

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Astrakhan, Ashurada and Baku, the barometer-cistern is below sea-level. At Kasalinsk, the barometer appears to have a large error.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall

at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Professor E. Plantamour, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of F. Nimr, B. A., Director of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms. At Samakov, the barometer is reduced to freezing, but not to sea-level; temperature in Fahrenheit. The kind of clouds is given, also the distinction between upper and ower.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Puerto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind-direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind-direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luis at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a slace of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES (furnished by co-operation of E. Malmberg, Director of the Nautical Meteorological Bureau at Stockholm).—The originals give the barometer as read off. The movement of the air is indicated by force on a scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on a scale of 0 to 9 and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operations of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

ERRATA.

DAILY BULLETIN, September 1, page 8, H. M. S. "Euryalus," latitude S. 15° 55′, should read S. 17° 55′.

11th, page 2, French, Lescar, reduced barometer 777.7 mm., should read 767.7 mm.

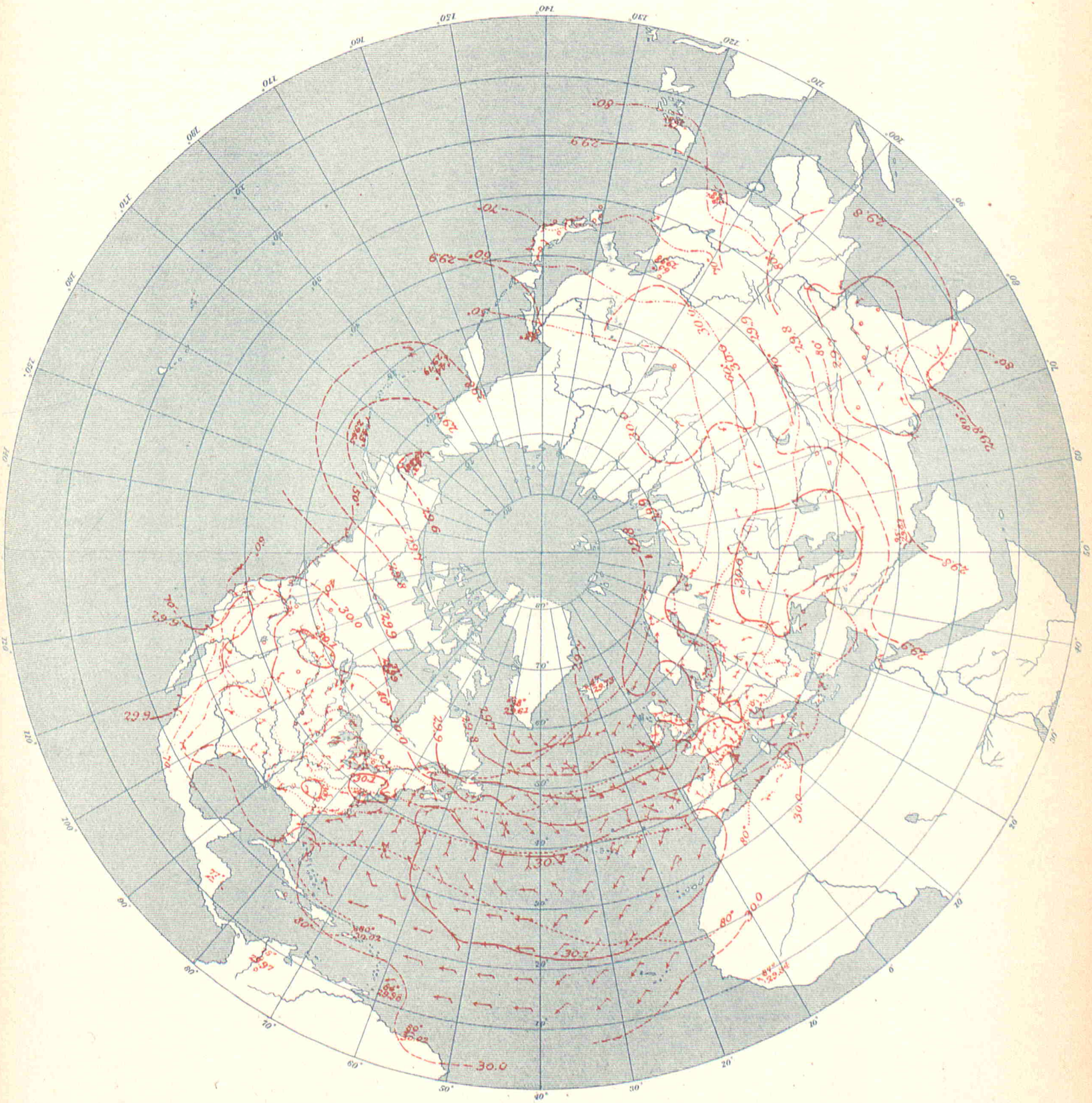
27th. page 4, United States, Cheyenne, temperature, Fah. 31°.7, should read 32.8.

30th, page 4, Spanish sub-series, San Fernando, actual barometer, for 29.00 inches read 29.90.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

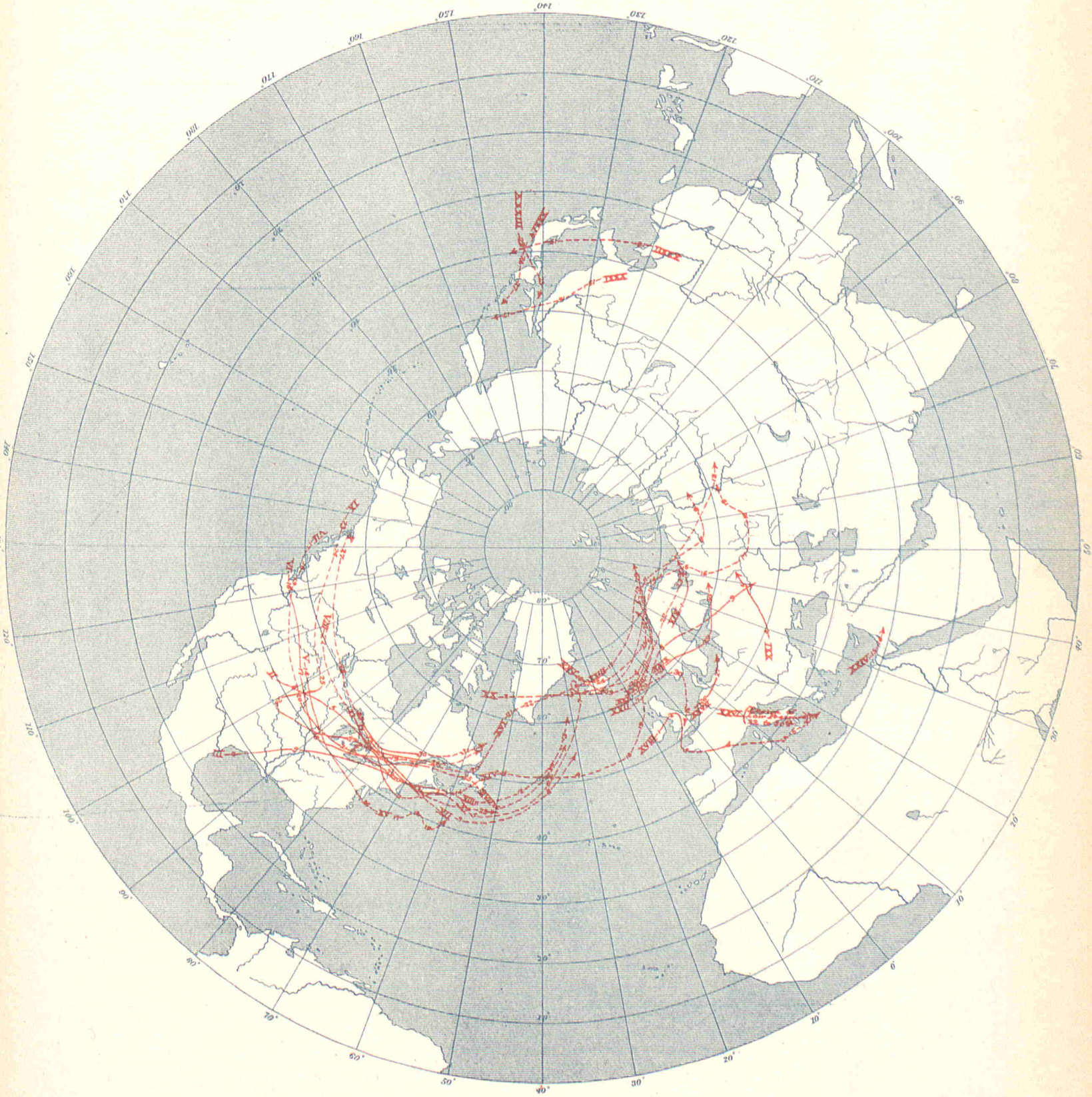
International Chart II. September, 1883. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.

International Chart III. March, 1882. Storm-Tracks.



UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W. B. Hazen, Chief Signal Officer.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF OCTOBER, 1883.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
NOVEMBER, 1884.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

OCTOBER, 1883.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
	Result of Simultaneous Observations for October, 1883.																									
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.08	764.1	72.0	22.2	78.8	7	.....	.....	.....	2	7	12	3	.....	.....	.....	3	0.98	24.8
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	30.08	764.0	70.7	21.5	63.1	7	3	8	4	.....	.....	3	6	.....	.....	.....	1	5.26	133.5
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.05	763.3	72.0	22.2	70.4	3	13	4	2	.....	.....	2	7	.....	.....	.....	3	3.26	82.8
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.08	764.1	71.1	21.7	60.4	11	7	4	2	10	.....	4	3	.....	.....	.....	3	1.37	34.7
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.11	764.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.11[i]	764.8[i]	63.3	17.4	73.6	8	1	5	5	2	4	1	5	.....	.....	.....	3	4.50	114.2
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	67.3	19.6	25.9	7	13	3	.....	2	4	.....	2	.....	.....	.....	2	0.04	0.9
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2549	777	.....	.....	30.13	765.3	72.7	22.6	37.9	10	3	2	1	1	5	4	5	.....	.....	.....	1	0.42	10.6
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.12	765.0	77.7	25.4	39.4	.....	1	8	.....	.....	8	4	1	9	.....	.....	1	0.51	13.0
AUSTRALIAN.																										
Adelaide	S. 34 57	E. 138 35	9.22 p.m.	140	42	.....	.....	30.05	763.3	55.8	13.2	68.2	4	2	3	6	8	6	1	.....	1	.....	.....	5	1.79	45.5
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.90	759.3	29.99	761.6	54.0	12.2	80.0	2	3	7	4	5	6	2	1	1	.....	.....	6	2.77	70.4
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.52	749.8	30.06	763.5	57.4	14.1	60.2	.....	1	.....	7	4	5	3	11	.....	.....	.....	7	3.94	100.2
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.28	743.7	30.05	763.2	53.4	11.9	71.9	.....	2	9	7	.....	1	6	6	.....	.....	.....	8	1.03	26.2
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.19	741.4	30.05	763.3	49.5	9.7	82.5	1	1	.....	.....	7	2	.....	.....	20	.....	.....	7	2.21	56.1
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.83	732.2	30.08	764.0	55.6	13.1	89.1	3	3	2	3	8	4	6	.....	2	.....	.....	7	3.51	89.1
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.65	727.6	30.07	763 7	58.1	14.5	66	.....	9	2	.....	3	14	3	.....	.....	.....	.....	5	1.49	37.8
Kremsmunster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.71	729.2	30.06	763.4	50.2	10.1	82.2	.....	2	11	1	.....	.....	2	8	7	.....	.....	6	1.83	46.5
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	29.07	738.4	30.06	763.6	52.2	11.2	72.5	.....	5	3	3	6	5	3	6	.....	.....	.....	8	1.76	44.8
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.93	760.1	30.04	762.9	63.3	17.4	70.7	1	1	6	4	4	2	7	5	1	.....	.....	5	3.40	86.4
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.58	751.3	30.04	763.0	57.7	14.3	70	5	1	9	2	8	2	3	1	.....	.....	.....	5	2.98	75.8
Szegedin *b*	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.78*d*	756.3*d*	30 00*d*	763.4*d*	58.1	14.5	71.7	1	2	5	5	8	2	2	2	2	.....	.....	7	1.97	50.0
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.97	761.3	30.07	763.8	63.9	17.7	53.4	4	1	5	4	2	.....	4	10	1	.....	.....	4	1.81	46.0
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.37	745.9	30.08	764.1	54.7	12.6	70.4	1	3	11	.....	1	11	2	1	1	.....	.....	7	0.92	23.4
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.70	754.4	29.80	756.9	50.5	10.3	67.1	2	3	8	5	9	3	1	.....	.....	.....	.....	5	2.14	54.4
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.65	753.1	29.89	759.2	51.0	10.6	80.3	2	6	.....	11	5	7	.....	.....	.....	.....	.....	7	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.92	760.0	52.1	11.2	77.3	.....	5	8	6	4	7	1	.....	.....	.....	.....	7	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.38	746.2	29.92	760.0	50.5	10.3	83.5	3	4	3	6	11	2	.....	2	.....	.....	.....	8	.....	.....
Bradford *d*	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.50	749.3	29.89	759.2	51.0	10.6	76.8	1	6	.....	10	1	5	.....	4	.....	.....	.....	7	3.65	92.7
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	29.85	758.2	29.97	761.2	55.1	12.8	75.5	6	6	8	4	3	1	1	2	.....	.....	.....	7	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	160	49	29.8[illegible]	757.2	29.99	761.7	54.2	12.3	79.9	6	1	3	7	4	2	.....	1	7	.....	.....	5	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.79	756.7	30.02	762.5	55.5	13.1	78.7	1	5	6	5	4	3	4	3	.....	.....	.....	7	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2205	672	27.65	702.3	29.87	758.7	76.9	24.9	54.8	.....	2	1	.....	.....	3	13	9	3	.....	.....	5	.....	.....
Freetown	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.71	754.0	29.94	760.5	83.6	28.7	83.7	6	.....	6	4	8	3	3	1	.....	.....	.....	6	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.85	758.2	29.89	759.2	51.7	10.9	84.9	1	6	7	10	4	1	.....	2	.....	.....	.....	6	4.95	125.7
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.05	763.3	30.10	764.5	68.6	20.3	88.9	.....	11	3	.....	.....	.....	12	5	.....	.....	.....	3	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.63	752.6	29.84	757.9	50.7	10.4	74.2	1	3	5	12	2	6	1	1	.....	.....	.....	6	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.81	757.2	29.98	761.5	55.1	12.8	76.7	4	3	3	11	4	2	3	1	.....	.....	.....	8	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.74	755.4	30.04	763.0	44.9	7.2	81.0	5	3	4	8	1	3	7	.....	.....	.....	.....	8	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.95	760.7	29.99	761.7	54.4	12.4	73.4	7	1	6	8	5	1	2	1	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.69	754.1	29.94	760.5	54.2	12.3	76.3	2	3	6	11	2	3	.....	4	.....	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.94	760.5	30.01	762.2	72.2	22.3	70.8	.....	13	1	3	.....	3	.....	11	.....	.....	.....	4	3.25	82.5
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	29.98	761.5	30.03	762.7	80.6	27.0	78.2	1	.....	.....	1	5	4	12	8	.....	.....	.....	6	.....	.....
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.44	747.8	29.96	761.0	52.0	11.1	85.9*a*	3	3	5	4	10	2	.....	4	.....	.....	.....	8	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.75	755.6	29.98	761.5	53.7	12.1	77.3	1	5	1	11	3	3	.....	4	3	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.93	760.2	30.00	762.0	55.9	13.3	82.8	3	5	4	8	3	4	1	3	.....	.....	.....	8	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.61	752.1	29.71	754.6	48.2	9.0	81.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Scutari Cemet'y *a*	N. 41 00	E. 29 03	2 04 p.m.	60	18	29.96	761.0	30.02	762.5	79.7	26.5	62.1	4	1	.....	7	1	.....	.....	13	4	.....	.....	6	.....	.....
Sheffield	N. 53 23	W. 1 28	0 02 p.m.	260	79	29.65	753.1	29.93	760.2	54.1	12.3	82.8*a*	2	1	1	11	6	.....	2	3	5	.....	.....	6	3.27	83.1
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.85	758.2	29.88	758.9	54.5	12.5	79.5	6	3	8	5	4	4	1	.....	.....	.....	.....	6	3.26	82.8
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.93	760.2	51.0	10.6	75.7	5	1	8	9	3	1	.....	4	.....	.....	.....	9	.....	.....
Strathfield	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	55.2	12.9	78.5	4	4	5	10	3	1	2	1	1	.....	.....	7	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.97	761.2	30.04	763.0	58.8	14.9	78.1	.....	8	6	4	2	6	3	2	.....	.....	.....	8	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.94	760.5	29.96	761.0	54.2	12.3	81.2	6	2	7	4	6	6	.....	.....	.....	.....	.....	8	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.69	754.1	30.08	764.0	70.3	21.3	62.6	2	12	1	3	1	2	2	7	1	.....	.....	6	2.79	70.9
CANADIAN.																										
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	35	11	30.08	764.0	30.14	765 5	38.4	3.6	.....	.....	1	4	5	2	1	1	.....	17	.....	.....	7	1.88	47.8
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	30.07	763.8	30.11	764.8	43.5	6.4	81.3	9	3	6	6	1	2	.....	1	3	6917	11132	7	6.10	154.9
Chatham*	N. 47 03	W. 65 29	7.45 a.m.	56	17	30.09	764.3	30.15	765.8	36.2	2.3	86.1	6	4	2	14	.....	.....	2	2	1	3704	5961	7	2.86	72.6
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.93	760.2	30.13	765.3	39.5	4.2	88.3	3	8	4	1	1	2	10	2	.....	.....	.....	7	1.82	46.2
Dalhousie *d*	N. 48 04	W. 66 22	7.32 a.m.	45	14	30.08	764.0	30.13	765.3	35.1*f*	1.7*f*	.....	1	2	17	.....	.....	.....	2	.....	5	.....	.....	5*i*	3.94	100.1
Edmonton *o*	N. 53 14	W. 113 38	4.33 a.m.	2380?	725?	27.45	697.2	.....	.....	22.6	30.3	62.5	.....	.....	2	.....	2	1	.....	.....	11	.....	.....	1	1.16	29.5
Father Point*	N. 48 31	W. 68 28	7.34 a.m.	20	6	30.10	764.5	30.12	765.0	36.9	2.7	85.7	3	1	7	7	4	1	.....	5	3	5540*c*	8916*c*	7	1.39	35.3
Fort Garry*	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.20	741.7	30.06	763.5	31.4	−0.3	91.3	4	4	3	3	8	6	2	.....	1	8101	13037	8	3.08	93.5
Fredericton	N. 45 57	W. 66 38	7.41 a.m.	59	18	30.12	765.0	30.18	766.6	36.9	2.7	82.2	1	9	3	2	4	1	2	5	4	.....	.....	6	3.65	92.7
Grand Manan	N. 44 46	W. 66 45	7.41 a.m.	49	15	30 10	764.5	30.16	766.1	43.8	6.6	80.2	6	2	3	5	2	3	1	5	4	9171	14759	5	6.62	168.2
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	29.03	737.3	30.16	766.1	39.6	4.2	90.2	1	1	3	1	4	3	1	1	16	.....	.....	6	2.35	59.7
Halifax*	N. 44 39	W. 63 36	7.53 a.m.	122	37	30.02	762.5	30.15	765.8	43.6	6.4	87.1	7	7	7	1	5	1	.....	2	1	.....	.....	5	6.98	177.3
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	350	107	29.72	754.9	30.12	765.0	42.6	5.9	89.0	1	4	.....	10	.....	.....	1	15	.....	.....	.....	6	2.01	51.1
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.82	757.4	30.17	766.3	42.3	5.7	82.3	11	3	1	2	6	2	1	4	1	5469	8801	6	3.64	92.5
Little GlaceBay *c*	N. 46 12	W. 59 58	8.08 a.m.	34	10	30.06	763.5	30.09	764 3	47.1	8.4	82.6*d*	3*b*	3	7	7	4	2	.....	3	.....	.....	.....	6	5.09	129.3
London	N. 43 00	W. 81 15	6.43 a.m.	816	248	29.23	742.4	30.15	765.8	40.9	4.9	90.1	3	.....	1	.....	5	.....	.....	4	18	.....	.....	6	2.12	53.8
Medicine Hat *a*	N. 50 01	W. 110 37	4.46 a.m.	2136	651	27.65	702.3	29.99	761.7	31.9	−0.1	85.5	*h*	1	4	1	2	.....	1	.....	14	.....	.....	3*h*	0.97*h*	24.6*h*
Minnedosa	N. 50 13	W. 99 48	5.29 a.m.	1796	545	28.04	712 2	30.02	762.5	29.4	−1.4	90.9	.....	7	3	4	3	4	5	2	3	.....	.....	7	2.22	56.4
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.95	760.7	30.16	766.1	40.4	4.7	82.6	5	2	7	3	6	.....	2	6	.....	.....	.....	7	2.49	63.2
Ottawa	N. 45 26	W. 75 41	7.05 a.m.	200	61	29.93	760.2	30.16	766.1	36.0	2.2	91.9*a*	6	2	3	4	3	.....	6	6	1	.....	.....	6	2.65	67.3
Parry Sound*	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.44	747.8	30.15	765.8	37.1	2.8	89.0	9	2	.....	2	3	2	6	4	3	6336	10197	6	4.21	106.9
Peterboro	N. 44 17	W. 78 18	6.54 a.m.	675	206	29.40	746.7	30.15	765.8	41.5	5.3	78.5	4	2	4	4	.....	.....	1	11	5	.....	.....	5	1.02	25.9
Port Arthur	N. 48 27	W. 89 12	6.11 a.m.	642	196	29.42	747.3	30.13	765.3	36.8	2.7	86.8	1	8	4	5	1	4	2	2	4	4299	6918	8	1.88	47.8
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.43	747.5	30.13	765.3	43.1	6.2	94.6	6	2	4	3	2	.....	.....	.....	14	5950	9575	7	1.74	44.2
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.47	748.5	30.13	765.3	43.2	6.2	87.1	8	1	6	1	.....	2	8	4	1	.....	.....	6	1.65	41.9
Qu Appelle	N. 50 44	W. 103 42	5.13 a.m.	2115	646	27.69	703.3	30.03	762.7	29.6	−1.3	91.1	1	2	2	4	6	4	1	1	10	6688	10763	6	1.38	35.1
Quebec*	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.78	756.4	30.15	765.8	37.8	3.2	94.1	2	1	2	3	5	.....	1	6	11	.....	.....	6	2.83	71.9
Rockliffe*	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.68	753.9	30.16	766.1	35.9	2.2	84.8	3	3	7	.....	3	8	2	.....	5	.....	.....	6	3.60	93.0
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	30.09	764.3	30.13	765.3	40.9	4.9	85.6	8	5	2	4	1	1	2	3	5	.....	.....	3	5.57	141.5
Saint John, N.B	N. 45 17	W. 66 03	7.44 a.m.	130	40	30.02	762.5	30.16	766.1	39.6	4.2	84.3	5	9	3	2	5	1	1	4	1	.....	.....	6	5.46	138.7
Saint Johns, N.F	N. 47 34	W. 52 54	8.36 a.m.	230?	70?	29.87	758.7	30.13	765.3	42.1	5.6	91.8	1	2	6	5	4	4	.....	9	.....	.....	.....	5	6.95	176.5
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	30.03	762.8	46.2	7.9	.....	4	6	6	5	2	3	.....	5	.....	.....	.....	.....	5.07	128.7
Saugeen*	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.40	746.7	30.14	765 5	38.7	3.7	84.3	6	1	3	2	2	4	5	1	7	7074	11384	5	3.03	77.0
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	28.86*a*	733 0*a*	30.16*a*	766.1*a*	38.9	3.8	90.4	2	2	4	1	2	7	2	3	8	.....	.....	6	2.23	56.6

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
CANADIAN.—Con.	° ′	° ′																								
S.W.Pt, Anticostik	N. 49 24	W. 63 36	7.54 a.m.	30	9	30.01	762.2	30.04	763.0	38.8	3.8	88.0	3	6	.....	.....	3	7	1	.....	.....	.....	.....	6	1.78	45.2
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	30.04	763.0	30.10	764.5	43.4	6.3	86.5	4	3	4	7	2	3	.....	2	6	6858	11037	7	6.83	173.4
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.78	756.4	30.17	766.3	42.0	5.6	84.1	7	2	2	2	2	1	5	8	2	6141*b*	9883*b*	7	0.91	23.1
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	29.09	738.9	30.18	766.6	40.6	4.8	88.3	*g*7	2	2	2	3	1	3	4	.....	.....	.....	7	2.19	55.6
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	30.09	764.3	30.15	765.8	48.6	9.2	88.8	4	4	2	1	2	2	9	4	3	.....	.....	4	4.90	124.5
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.00	762.0	30.03	762.7	64.4	18.0	85.7*a*	.....	.....	.....	17	.....	4	1	6	3	.....	.....	6	1.49	37.8
Cape Town *n*	S. 34 02	E. 18 29	1.22 p.m.	.....	.....	29.87	758.7	29.90	759.4	70.7	21.5	58.3	3	3	.....	.....	.....	5	1	1	4	.....	.....	4	0	0
Springbok *b*	S. 29 45	E. 17 43	1.19 p.m.	?	?	27.88	708.1	.....	.....	60.2	15.7	47.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.91	23.1
CHILIAN.																										
Coquimbo	S. 29 56	W. 71 21	7.22 a.m.	72	22	29.98	761.4	30.06	763.4	56.7	13.7	88.2	4	3	2	5	3	2	10	2	.....	.....	.....	7	.....	.....
Iquique *b*	S. 20 12	W. 70 11	7.27 a.m.	26	8	29.99	761.8	30.02	762.5	62.4	16.9	73.4	.....	1	1	23	2	.....	.....	2	.....	.....	.....	.....	.....	.....
Niebla	S. 39 53	W. 73 25	7.14 a.m.	98	30	29.58	751.1	29.69	754.0	49.5	9.7	86.7	2	8	2	.....	.....	.....	19	.....	.....	.....	.....	3	8.69	220.8
Punta Caldera	S. 27 03	W. 70 53	7.25 a.m.	82	25	29.96	761.0	30.05	763.2	57.6	14.2	82.3	.....	9	.....	13	.....	4	.....	5	.....	.....	.....	7	.....	.....
Punta Corona	S. 41 47	W. 73 53	7.12 a.m.	174	53	29.92	760.0	30.11	764.8	.....	.....	.....	6	7	.....	3	10	2	3	.....	.....	.....	.....	5	4.94	125.5
Valparaiso	S. 33 02	W. 71 39	7.22 a.m.	82	25	29.90	759.4	29.98	761.6	57.2	14.0	83.7	6	.....	.....	6	12	5	.....	2	.....	.....	.....	7	.....	.....
CHINESE. (*Sub*).																										
Sung-shu-chwang	*a*N. 36 07	E. 103 56	7.04 p.m.	4987	1520	25.36	644.0	.....	.....	46.0	7.8	.....	4	6	5	1	.....	2	.....	2	10	.....	.....	4	.....	.....
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	30.14	765.6	30.17	766.2	61.5	16.4	83.9	9	2	3	1	1	3	7	5	.....	.....	.....	5	1.03	26.1
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.84	757.9	29.89	759.1	50.9	10.5	79	4	4	5	4	3	7	3	1	.....	.....	.....	7	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.85	758.3	29.87	758.8	51.1	10.6	81	1	2	9	7	2	3	4	3	.....	.....	.....	7	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.59	751.6	29.63	752.7	27.1	—2.7	80	3	2	1	1	5	2	2	12	3	.....	.....	6	.....	.....
Jacobshavn	N. 69 13	W. 50 55	8.44 a.m.	42	13	29.60	751.9	29.65	753.1	20.3	—6.5	.....	1	.....	1	1	2	1	20	.....	5	.....	.....	6	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.32	744.8	29.37	745.9	39.9	4.4	79	.....	.....	1	3	5	3	8	9	2	.....	.....	8	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.56	750.9	29.59	751.5	46.9	8.3	85	4	2	11	7	5	1	.....	1	.....	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.73	755.1	29.82	757.4	49.8	9.9	79	.....	2	7	3	3	7	2	4	3	.....	.....	6	.....	.....
Egyptian.																										
Cairo	N. 30 03	E. 31 21	2.14 p.m.	?	?	29.84	758.0	.....	.....	81.9	27.7	.....	11	2	1	1	.....	.....	5	11	.....	.....	.....	2	0.42	10.6
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.52	749.9	30.17	766.4	58.5	14.7	84.4	3	.....	6	4	5	12	.....	1	.....	.....	.....	.....	2.55	64.8
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.55	750.6	30.10	764.6	53.2	11.8	90.4	2	.....	4	5	6	6	2	6	.....	.....	.....	5	2.13	54.2
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	30.01	762.2	30.09	764.8	63.7	17.6	60.5	6	19	1	1	.....	4	.....	.....	.....	.....	.....	4	0.82	20.7
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.52	749.7	30.08	763.9	55.0	12.8	68	.....	3	.....	9	4	9	2	4	.....	.....	.....	7	3.43	87.1
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.78	756.4	30.05	763.2	54.0	12.2	76.2	.....	5	6	4	3	6	5	2	.....	.....	.....	7	2.40	61.0
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.14	740.2	30.06	763.4	45.9	7.7	86.3	1	.....	1	9	5	3	1	11	.....	.....	.....	6	6.52	165.6
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.84	757.9	30.10	764.5	59.2	15.1	74.7	2	3	4	5	3	4	7	3	.....	.....	.....	7	3.09	78.5
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.51	749.6	30.07	763.8	57.4	14.1	76.4	1	1	6	10	3	4	4	2	.....	.....	.....	.....	2.90	73.7
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.85	758.2	30.10	764.4	58.1	14.5	82.1	6	1	4	7	1	2	1	6	3	.....	.....	7	2.76	70.0
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.93	760.3	30.01	762.3	57.2	14.0	74.9	1	5	6	4	6	4	2	3	.....	.....	.....	.....	2.11	53.7
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.73	755.2	30.14	765.5	53.8	12.1	81.5	3	3	1	10	7	3	1	.....	3	.....	.....	5	4.53	115.1
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.51	749.6	30.03	762.7	54.1	12.3	72.3	3	2	3	6	6	3	7	1	.....	.....	.....	6	3.11	78.9
Clermont-Fer'and	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.72	729.6	30.07	763.8	52.2	11.2	55.3	4	8	4	3	1	7	2	2	.....	.....	.....	6	1.42	36.2
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.26	743.2	30.13	765.3	56.5	13.6	70.5	2	3	2	6	7	5	2	4	.....	.....	.....	.....	2.87	72.8
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.21	741.9	30.04	763.1	52.9	11.6	78.4	1	2	13	4	2	.....	8	1	.....	.....	.....	6	6.60	167.6
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.55	699.7	30.06	763.5	57.2	14.0	64.0	1	2	1	7	3	4	1	2	10	.....	.....	.....	1.50	38.0
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.93	734.8	30.04	763.0	64.6	18.1	49	4	10	2	2	7	4	1	1	.....	.....	.....	4	0.70	17.7
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.34	745.3	30.11	764.7	56.5	13.6	72.2	2	8	.....	5	2	.....	7	7	.....	.....	.....	.....	4.55	115.6
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.50	723.9	30.10	764.4	54.7	12.6	76	.....	3	1	16	2	5	1	3	.....	.....	.....	.....	3.44	87.3
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.74	755.5	30.02	762.5	56.1	13.4	81.0	1	8	6	1	4	5	5	1	.....	.....	.....	6	3.05	77.5
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.54	750.2	30.10	764.4	62.8	17.1	66.4	3	.....	9	6	3	1	5	4	.....	.....	.....	5	4.91	124.7
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.99	761.7	30.09	764.3	59.4	15.2	69.8	1	6	3	6	2	3	3	6	1	.....	.....	6	3.65	92.6
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	29.05	737.8	30.11	764.8	55.0	12.8	71.3	4	6	1	.....	7	3	5	5	.....	.....	.....	5	3.07	77.9
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.76	755.9	30.08	763.9	54.7	12.6	82.3	5	3	4	7	3	5	3	1	.....	.....	.....	7	3.24	82.3
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.72	756.6	30.05	763.6	64.6	18.1	61.1	.....	5	9	7	3	4	3	.....	.....	.....	.....	.....	0.62	15.7
Montlouis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	28.85	732.9	29.76	755.9	49.1	9.5	52.8	2	4	3	8	3	2	5	4	.....	.....	.....	5	2.89	73.4
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.95	760.6	30.06	763.4	64.0	17.8	76.1	3	9	6	2	2	2	3	4	.....	.....	.....	5	0.53	13.5
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.29	744.0	30.08	764.0	51.6	10.9	79.9	4	10	3	3	11	.....	.....	.....	.....	.....	.....	.....	3.63	92.3
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.95	760.6	30.10	764.6	58.1	14.5	74.3	4	4	4	6	3	1	3	6	.....	.....	.....	7	5.02	127.6
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.99	761.7	30.10	764.5	63.3	17.4	65	.....	13	2	1	1	7	4	3	.....	.....	.....	6	2.65	67.4
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.27	540.2	.....	.....	32.4	0.2	.....	3	5	6	1	.....	.....	3	7	.....	.....	.....	5	6.46	164.1
Privas [mit.]	N. 44 45	E. 4 36	0.26 p.m.	997	304	29.00	738.1	30.12	765.1	60.1	15.6	63.9	16	.....	2	.....	10	.....	1	1	1	.....	.....	3	.....	.....
Puy de Dôme	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.19	639.9	.....	.....	40.5	4.7	87.7	.....	3	9	5	4	6	1	3	.....	.....	.....	7	5.47	139.0
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.05	763.3	30.08	764.0	60.1	15.6	76.0	3	1	2	5	5	2	4	3	6	.....	.....	3	1.27	32.2
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.86	758.5	30.08	764.0	57.7	14.3	82.8	2	3	2	6	6	6	2	4	.....	.....	.....	6	2.43	61.8
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.93	709.5	30.10	764.4	54.0	12.2	82.2	.....	15	5	.....	1	8	1	1	.....	.....	.....	.....	4.80	121.8
Rouen *a*	N. 49 26	E. 1 05	0.12 p.m.	39	12	30.01	762.3	30.06	763.6	55.4	13.0	83.3	6	4	3	1	2	3	7	4	.....	.....	.....	6	2.75	69.8
St. Lô	N. 49 06	W. 1 05	0.04 p.m.	134	41	29.90	759.5	30.02	762.5	55.0	12.8	78.9	3	4	10	4	2	3	2	3	.....	.....	.....	.....	2.90	73.7
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.90	759.5	30.07	763.6	53.8	12.1	77.6	2	3	1	10	6	2	2	4	1	.....	.....	8	2.82	71.6
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.42	747.2	30.16	766.0	61.0	16.1	72.5	1	6	7	3	1	13	.....	.....	.....	.....	.....	6	1.88	47.7
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	29.92	759.9	30.08	764.0	57.6	14.2	72.2	8	3	5	6	3	.....	3	3	.....	.....	.....	5	3.02	76.8
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.56	750.9	30.05	763.4	53.1	11.7	76.5	3	2	7	3	3	4	2	6	1	.....	.....	.....	2.88	73.1
Sub-Series.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	0.03 p.m.	131	40	29.99	761.7	30.14	765.5	61.3	16.3	79.6	4	6	5	2	5	2	3	4	.....	.....	.....	7	8.02	203.6
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.61	726.6	30.06	763.5	51.3	10.7	72.4	.....	1	7	8	1	4	3	2	5	.....	.....	6	1.82	46.1
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.21	741.9	30.05	763.3	52.7	11.5	70.7	2	1	7	5	1	3	1	.....	11	.....	.....	6	1.87	47.4
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.85	758.1	30.00	761.9	53.6	12.0	76.2	2	1	12	1	7	2	2	.....	4	.....	.....	8	2.96	75.3
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.54	750.3	30.08	763.9	53.2	11.8	66.3	2	1	9	5	4	7	2	.....	1	.....	.....	7	1.08	27.5
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.62	752.3	30.08	764.1	53.6	12.0	71.4	1	.....	1	17	1	.....	.....	10	1	.....	.....	7	5.76	146.4
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.29	743.9	30.00	762.0	53.1	11.7	73.8	1	1	5	6	12	.....	5	1	.....	.....	.....	7	1.98	50.2
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.67	753.7	30.04	762.9	53.8	12.1	69.1	1	1	2	12	4	2	2	2	5	.....	.....	8	2.86	72.6
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.66	728.0	30.09	764.3	50.5	10.3	79.7	1	1	4	20	1	1	.....	3	.....	.....	.....	7	4.50	114.2
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.87	758.6	29.96	760.9	52.2	11.2	80.5	3	.....	2	16	1	4	3	2	.....	.....	.....	8	2.85	72.3
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.90	759.5	29.91	759.8	51.8	11.0	82.5	2	1	8	8	3	2	4	1	2	.....	.....	7	3.84	97.6
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.60	751.7	30.02	762.5	53.6	12.0	71.8	3	1	4	6	10	2	2	3	.....	.....	.....	8	3.57	90.7
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.80	756.8	29.99	761.7	54.5	12.5	74.6	1	4	4	9	3	5	1	3	1	.....	.....	8	1.95	49.5
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.93	760.3	29.98	761.5	50.7	10.4	76.5	1	6	6	4	5	7	.....	2	.....	.....	.....	7	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.23	717.0	30.10	764.4	50.7	10.4	70.4	4	11	2	2	.....	.....	5	2	5	.....	.....	7	2.33	59.1
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.95	760.6	29.96	761.0	52.0	11.1	73.8	2	2	4	10	3	8	1	1	.....	.....	.....	7	2.05	52.1
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.50	749.3	30.03	762.7	53.6	12.0	70	1	5	3	12	4	.....	.....	.....	6	.....	.....	7	2.70	68.7
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.10	739.2	29.99	761.7	54.3	12.4	65.8	8	3	8	3	1	.....	6	2	.....	.....	.....	6	1.30	32.9
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.89	759.1	29.91	759.7	51.6	10.9	80.0	4	1	2	11	4	5	3	1	.....	.....	.....	8	3.72	94.5
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.65	753.2	30.03	762.8	72.0	22.2	.....	3	1	1	3	10	.....	1	12	.....	.....	.....	6	8.32	211.2
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.82	757.5	29.87	758.8	86.2	30.1	59	.....	.....	8	21	2	.....	.....	.....	.....	.....	.....	1	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.38	746.2	29.85	758.1	88.4	31.3	35	4	.....	.....	1	5	5	5	11	.....	.....	.....	3	1.11	28.2
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.82	757.4	29.86	758.4	82.4	28.0	78	3	14	4	3	1	2	.....	4	.....	.....	.....	5	10.40	264.2
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	28.01	711.6	29.88	758.9	77.7	25.4	66	1	5	2	3	.....	6	5	9	.....	.....	.....	6	7.97	202.4
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.58	751.2	29.86	758.3	83.1	28.4	69	1	7	6	.....	.....	1	10	4	2	.....	.....	9	7.94	201.7
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.34	720.0	29.81	757.1	81.0	27.2	65	3	4	2	1	.....	5	7	9	.....	.....	.....	8	0.13	3.3
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.29	693.2	29.54	757.9	73.9	23.3	77	3	1	6	8	3	.....	4	5	1	.....	.....	7	8.05	204.5
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.12	739.6	29.86	758.5	81.5	27.5	47	.....	1	1	1	.....	.....	1	.....	27	.....	.....	1	0	0
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.95	735.3	29.85	758.1	81.1	27.3	44	.....	1	3	.....	.....	.....	.....	.....	27	.....	.....	1	0	0
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.30	744.2	29.86	758.4	88.4	31.3	26	1	13	11	3	.....	1	1	.....	1	.....	.....	2	0	0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for October, 1883.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Met'rs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	O	Miles	Kil.	0-10	Inch.	Mill.
INDIAN—Cont'd.	° ′	° ′																									
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.82	732.0	29.86	758.5	81.4	27.4	55	.....	.....	.....	.....	.....	4	5	5	17	.....	.....	4	5.98	151.9
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.54	724.9	29.90	759.4	79.6	26.4	54	1	1	3	.....	1	5	.....	10	10	.....	.....	4	1.43	36.3
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.49	749.1	29.87	758.6	83.0	28.3	41	2	2	.....	2	.....	.....	.....	1	24	.....	.....	1	0	0
Allahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.56	750.7	29.87	758.7	78.3	25.7	62	.....	.....	.....	.....	.....	2	.....	.....	29	.....	.....	3	0.79	20.1
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.68	753.8	29.86	758.5	81.2	27.3	59	1	8	2	2	.....	3	1	3	11	.....	.....	4	0.40	10.2
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.57	707.8	29.88	758.9	77.7	25.4	49	6	18	1	2	1	.....	.....	2	1	.....	.....	3	0.20	5.1
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.79	756.6	29.87	758.7	82.6	28.1	74	1	.....	.....	.....	.....	.....	1	2	27	.....	.....	4	1.26	32.0
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.84	757.8	29.86	758.4	81.6	27.6	70	6	7	4	4	1	2	3	1	3	.....	.....	3	0.75	19.0
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.74	755.5	29.86	758.5	79.2	26.2	80	1	.....	.....	.....	.....	.....	1	4	25	.....	.....	1	2.15	54.6
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.78	756.5	29.87	758.8	78.7	25.9	79	1	7	7	4	.....	.....	1	.....	11	.....	.....	3	0.13	3.3
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.55	750.5	29.89	759.1	79.1	26.2	81	.....	.....	.....	2	.....	3	.....	26	.....	.....	.....	3	3.03	78.0
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.45	722.6	29.88	758.9	85.9	29.9	31	6	6	4	2	2	1	2	6	2	.....	.....	3	0.33	8.4
ITALIAN.																											
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.65	753.1	30.06	763.4	61.5	16.4	57	.....	.....	.....	2	1	.....	14	1	13	.....	.....	5	4.02	102.1
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.48	748.9	30.00	762.0	59.9	15.5	60	.....	4	4	6	2	8	3	4	.....	.....	.....	5	1.91	48.6
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.94	760.5	30.05	763.3	61.3	16.3	60	6	1	1	5	.....	.....	5	10	3	.....	.....	4	1.00	25.5
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.15	740.4	30.06	763.4	58.6	14.8	62	4	5	1	3	6	1	1	10	.....	.....	.....	5	1.01	25.6
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157	48	29.84	758.0	30.04	762.9	64.6	18.1	54	13	.....	.....	8	3	5	.....	2	.....	.....	.....	4	2.76	70.1
Mondovi	N. 44 23	E. 7 48	0.39 p.m.	1824	556	28.15	715.0	30.06	763.6	56.5	13.6	65	5	7	13	2	1	.....	1	2	.....	.....	.....	5	1.24	31.5
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	30.01	762.3	30.06	763.5	62.4	16.9	69	10	6	2	5	1	.....	.....	7	.....	.....	.....	5	2.56	65.1
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.78	756.4	30.04	762.9	64.4	18.0	57	4	1	2	5	6	.....	5	8	.....	.....	.....	5	1.76	44.8
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.90	759.4	29.98	761.6	65.7	18.7	55	1	3	8	2	7	.....	4	6	.....	.....	.....	5	0.85	21.7
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.85	758.3	30.03	762.7	67.3	19.6	50	8	4	6	6	5	1	.....	.....	1	.....	.....	5	1.29	32.7
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.77	756.2	30.02	762.6	67.5	19.7	63	7	1	5	2	4	2	2	8	.....	.....	.....	5	3.86	98.1
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.15	740.5	30.04	763.0	65.5	18.6	63	.....	3	11	8	6	3	.....	.....	.....	.....	.....	6	6.02	152.8
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	29.83	757.7	30.02	762.5	67.8	19.9	61	.....	10	4	.....	4	6	1	.....	6	.....	.....	4	2.46	62.5
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.80	757.0	30.05	763.3	69.1	20.6	60	3	3	4	2	.....	.....	.....	16	3	.....	.....	5	3.35	85.1
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.97	761.2	30.01	762.3	70.5	21.4	62	4	.....	6	4	3	1	6	6	1	.....	.....	6	4.02	102.2
Sub-Series.																											
Naples	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.52	749.8	30.04	762.9	65.1	18.4	64.2	6	.....	1	8	2	3	4	7	.....	.....	.....	6	3.45	87.6
JAPANESE.																											
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	30.04	763.0	30.07	763.9	54.8	12.6	97	3	2	2	.....	.....	2	4	.....	18	.....	.....	6	8.10	206.0
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	30.02	762.4	30.05	763.3	53.4	11.9	84	.....	3	4	3	10	1	3	1	6	4419	7111	5	3.83	97.3
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	92	28	29.97	761.3	30.07	763.8	63.2	17.3	87	3	4	4	1	.....	1	8	2	8	.....	.....	6	9.38	238.3
Kagoshima	N. 31 35	E. 130 33	8.50 p.m.	14	4	30.05	763.1	30.06	763.4	67.0	19.4	80	4	6	.....	1	.....	.....	3	5	12	.....	.....	5	3.28	83.4
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	29.99	761.7	30.10	764.5	59.5	15.3	90	2	.....	1	2	.....	13	6	.....	7	2533	4076	8	12.85	326.0
Kioto	N. 35 01	E. 135 46	9.11 p.m.	102	49	29.91	759.8	30.09	764.2	61.1	16.2	86	20	1	2	.....	1	.....	1	4	2	1029	2022	8	10.09	256.1
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	30.05	763.3	30.07	763.8	65.9	18.8	83	1	12	11	.....	1	1	4	1	.....	5014	8069	6	16.25	412.9
Miasaka	N. 31 56	E. 131 26	8.54 p.m.	26	8	30.04	763.0	30.07	763.7	65.5	18.6	85	16	.....	7	.....	1	.....	4	3	.....	.....	.....	6	8.95	227.4
Miyako	N. 39 38	E. 141 59	9.36 p.m.	98	30	29.97	761.3	30.08	764.1	54.3	12.4	90	.....	1	21	4	3	1	1	.....	.....	2011	4202	6	10.32	262.2
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.87	758.7	30.07	763.8	65.2	18.4	78	4	1	1	.....	1	1	2	11	10	3309	5326	4	3.70	94.2
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	30.04	763.1	30.08	764.0	60.3	15.7	85	5	1	3	1	.....	11	.....	9	1	4476	7204	6	7.93	201.3
Nobiru	N. 38 23	E. 141 11	9.32 p.m.	15	5	30.06	763.5	30.08	763.9	58.1	14.5	87	13	4	.....	1	5	.....	6	1	1	7692	12379	7	6.78	172.3
Numazdu	N. 35 06	E. 138 51	9.23 p.m.	32	10	30.04	763.1	30.08	764.0	62.5	16.9	83	1	.....	.....	2	1	2	17	7	1	.....	.....	8	14.18	360.2
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	30.06	763.5	30.08	764.1	62.2	16.7	85	14	.....	1	.....	.....	.....	4	12	.....	6033	9709	7	13.22	336.1
Sakai	N. 35 01	E. 133 13	9.01 p.m.	10	3	30.08	764.0	30.09	764.2	62.8	17.1	80	12	3	1	1	2	.....	4	6	2	.....	.....	6	10.89	276.7
Sapporo	N. 43 04	E. 141 23	9.33 p.m.	60	18	29.98	761.5	30.04	763.0	49.2	9.6	88	4	2	4	3	6	6	1	.....	5	4724	7600	7	9.44	239.7
Shimonoseki	N. 33 58	E. 130 56	8.52 p.m.	134	41	29.94	760.6	30.09	764.3	64.4	18.0	82	2	1	1	1	.....	1	2	2	21	.....	.....	5	4.70	119.4
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	30.02	762.4	30.09	764.3	61.0	16.1	88	14	1	2	.....	6	.....	6	2	.....	5826	9375	6	10.45	265.6
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.01	762.3	30.06	763.6	64.1	17.8	81	5	3	.....	.....	1	1	1	12	8	2735a	4402a	7	15.00	380.8
MAURITIUS.																											
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.91	759.7	30.11	764.7	74.3	23.5	65	.....	.....	2	3	1	8	15	2	.....	.....	.....	7	1.89	48.0
MEXICAN.																											
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24 34	618 2	30.03	762.7	56.4	13.6	87	11	7	3	4	1	1	1	1	2	.....	.....	6	1.18	30.0
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.65	753.0	29.90	759.6	76.6	24.8	88	12	4	.....	.....	.....	.....	4	11	.....	.....	.....	4	0.11	2.8
NETHERLANDS.																											
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.98	761.4	29.98	761.4	55.2	12.9	.....	3	4	7	7	3	4	3	.....	.....	.....	.....	.....	4.61	117.0
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.88	759.0	29.94	760.4	50.5	10.3	.....	2	4	6	6	6	.....	4	3	.....	.....	.....	.....	3.22	81.9
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.93	760.2	29.93	760.2	52.5	11.4	.....	1	3	3	11	4	2	4	3	.....	.....	.....	.....	5.26	133.5
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.97	761.1	29.97	761.1	54.1	12.3	80	1	2	5	10	1	1	0	1	4	.....	.....	.....	3.98	101.0
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.93	760.2	29.98	761.4	54.3	12.4	78	3	.....	4	8	6	.....	10	.....	.....	.....	.....	7	2.95	74.9
Sub-Series.																											
Batavia	S. 6 11	E. 106 48	7.15 p.m.	?	?	29.89	759.1	.....	.....	79.2	26.2	80	17	1	.....	.....	1	1	.....	11	.....	.....	.....	7	7.06	179.2
NORWEGIAN.																											
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.64	752.9	29.71	754.5	49.1	9.5	71	3	2	2	4	14	5	.....	1	.....	.....	.....	8	9.69	246.2
Bronø	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.55	750.5	29.59	751.5	45.5	7.5	70	2	2	4	11	3	6	1	1	1	.....	.....	7	4.62	117.3
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.61	752.2	29.76	756.0	46.8	8.2	70	2	4	3	9	7	4	.....	1	1	.....	.....	6	1.98	50.2
Gjesvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.50	749.2	29.52	749.8	36.3	2.4	.....	3	1	4	2	5	4	3	1	8	.....	.....	8	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.49	749.0	29.54	750.2	41.9	5.5	71	1	4	6	4	3	2	2	3	6	.....	.....	8	7.68	195.0
PORTUGUESE.																											
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	.....	.....	.....	.....	66.9	19.4	82	2	2	6	4	2	4	7	4	.....	.....	.....	4	3.66	93.1
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.08	763.9	30.16	766.1	71.1	21.7	60	.....	.....	2	10	.....	8	.....	5	.....	.....	.....	6	1.99	50.5
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	312	95	29.80	756.8	30.13	765.3	64.2	17.9	61	7	5	.....	3	4	1	1	10	.....	.....	.....	4	0.77	19.6
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.21	767.4	30.28	769.2	70.0	21.1	64	3	.....	4	4	3	.....	3	7	7	.....	.....	4	2.30	60.0
San Salvador	S. 6 17	E. 14 53	1.07 p.m.	1834	559	28.10	713.8	29.93	760.2	78.8	26.0	65	3	4	2	8	3	2	.....	1	8	.....	.....	9	2.51	63.8
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.37	644.3	30.12	750.2	47.7	8.7	74	1	4	7	2	.....	5	8	2	2	.....	.....	6	21.19	538.2
RUSSIAN																											
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.92	734.5	30.02	762.4	42.6	5.9	54	1	3	11	11	2	.....	2	1	.....	.....	.....	5	0.70	17.7
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.69	754.1	29.71	754.6	35.2	1.8	85	3	3	5	7	3	5	3	1	1	.....	.....	9	0.67	17.1
Ashurada	N. 36 54	E. 53 55	3.44 p.m.	79	24	30.24	768.1	30.15	765.7	71.4	21.9	71	9	15	4	.....	.....	.....	1	2	.....	.....	.....	3	1.54	39.2
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.26	768.6	30.19	766.7	59.5	15.3	55	4	3	0	6	2	7	2	.....	1	.....	.....	5	0.27	6.8
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	30.21	767.4	30.17	766.2	66.4	19.1	73	9	1	.....	4	11	4	.....	2	.....	.....	.....	4	2.19	55.7
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.63	752.7	30.15	765.8	40.6	4.8	64	1	1	4	14	3	1	.....	3	4	.....	.....	8	1.08	27.5
Bielosersk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.34	745.2	29.82	757.3	40.1	4.5	82	.....	4	9	4	4	5	.....	1	4	.....	.....	9	2.46	62.5
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.64	752.9	29.89	759.2	46.2	7.9	78	1	4	7	8	7	2	1	1	.....	.....	.....	7	2.07	52.5
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.91	734.2	29.89	759.2	36.9	2.7	74	2	4	5	9	6	2	.....	1	2	.....	.....	8	1.55	39.3
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.69	754.2	30.15	765.7	56.3	13.5	63	1	6	5	3	6	3	4	3	.....	.....	.....	6	1.63	41.4
Irkutsk	N. 52 16	E. 104 16	7.05 p.m.	1536	468	28.56	725.5	30.25	768.3	39.4	4.1	66	2	2	.....	.....	1	6	3	.....	17	.....	.....	3	0.02	0.5
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.66	753.4	29.93	760.3	44.4	6.9	70	2	3	7	9	5	3	1	1	.....	.....	.....	8	0.84	21.3
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	29.64	752.8	29.69	754.1	36.9	2.7	79	2	3	11	6	4	1	1	.....	3	.....	.....	8	1.17	29.7
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	30.11	764.7	30.13	765.3	61.2	16.2	64	8	2	2	.....	.....	3	3	4	9	.....	.....	4	0.34	8.7
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.43	747.6	30.08	763.9	52.7	11.5	64	1	3	9	5	1	8	.....	4	.....	.....	.....	6	1.70	43.3
Kostov	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.52	749.7	30.02	762.6	47.7	8.7	75	3	4	8	7	6	1	.....	.....	2	.....	.....	7	3.80	96.5
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	29.90	759.4	29.92	760.0	50.0	10.0	74	2	1	9	6	4	5	2	1	1	.....	.....	6	3.68	93.5
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.90	759.4	30.10	764.5	59.4	15.2	53	2	2	7	8	4	3	2	3	.....	.....	.....	5	1.48	37.5
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.48	748.8	29.96	761.1	46.6	8.1	69	4	6	6	9	3	.....	.....	1	2	.....	.....	8	0.97	24.7
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	30.07	763.7	30.14	765.5	59.9	15.5	68	2	2	2	5	6	1	2	5	6	.....	.....	4	0.63	16.1
Nikolaievsk	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.86	758.3	29.94	760.5	35.4	1.9	79	1	3	5	.....	.....	.....	1	1	20	.....	.....	5	.....	.....
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	30.01	762.3	30.15	765.9	56.5	13.6	73	.....	3	.....	4	.....	2	.....	.....	22	.....	.....	3	1.12	28.5
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.12 p.m.	328	100	29.88	758.8	30.22	767.7	62.8	17.1	34	2	1	3	.....	1	1	3	5	15	.....	.....	2	.....	.....
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.55	750.5	29.75	755.6	39.0	3.9	78	1	12	1	6	4	3	1	2	1	.....	.....	7	4.07	103.3
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.57	751.0	30.07	763.7	51.3	10.7	71	2	3	7	5	5	4	2	3	.....	.....	.....	7	2.07	52.6
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	30.03	762.7	30.09	763.5	73.8	23.2	80	.....	5	1	3	5	.....	13	.....	4	.....	.....	4	4.25	108.0
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	29.80	756.9	29.82	757.5	44.4	6.9	73	2	6	7	5	5	2	1	3	.....	.....	.....	7	2.13	54.1
Samarkand	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.74	704.6	30.21	767.3	58.3	14.6	55	.....	.....	2	.....	.....	8	.....	.....	21	.....	.....	2	1.68	42.6

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for October, 1883. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
RUSSIAN.—Cont'd	° ′	° ′																								
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.54	750.4	30.22	767.5	44.8	7.1	50	4	2	5	4	4	4	.....	.....	8	.....	.....	5	0.14	3.5
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	138?	42?	29.89	759.1	30.10	764.4	65.7	18.7	58	6	5	3	6	5	.....	.....	6	.....	.....	.....	3	0.82	20.7
Staroi Bykhov	N. 53 31	E. 30 16	2.09 p.m.	423?	129?	29.48	748.8	30.04	763.0	50.4	10.2	66	2	1	3	5	7	7	2	4	.....	.....	.....	8	2.57	65.3
Tashkend	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.52	724.3	30.17	766.4	62.2	16.8	46	1	2	1	1	.....	.....	1	.....	25	.....	.....	4	0.93	23.6
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.62	701.5	30.14	765.6	50.2	10.1	58	2	1	.....	.....	.....	1	1	2	24	.....	.....	3	1.15	29.1
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1313	409	28.74	730.1	30.13	765.4	68.4	20.2	51	2	6	.....	2	6	10	.....	1	4	.....	.....	3	1.59	40.3
Viatka	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.19	741.5	29.84	757.8	38.3	3.5	84	1	7	11	4	3	4	.....	.....	1	.....	.....	8	1.82	46.2
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.62	752.2	30.04	763.1	51.6	10.9	75	2	....	11	3	6	5	1	1	2	.....	.....	7	1.20	30.6
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.84	757.9	30.14	765.5	31.6	—0.2	84	2	3	12	5	3	1	1	1	3	.....	.....	9	2.02	51.3
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	98	30	29.95	760.7	30.06	763.4	68.0	20	70	...	.....	7	6	5	5	6	2	.....	3230	5198	5	3.34	84.7
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.08	764.1	30.14	765.6	66.2	19.0	69	.....	12	.....	1	3	9	1	.....	5	1615	2599	7	6.06	153.8
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.18	690.3	30.15	765.8	55.8	13.2	70	7	.....	5	5	5	1	1	7	.....	3798	6113	6	1.62	41.2
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.91	708.8	30.12	765.0	61.9	16.6	61	2	1	2	4	10	2	5	5	.....	6446	10373	6	1.94	49.3
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.93	760.3	30.08	763.9	65.8	18.8	61	.....	6	1	6	4	2	4	8	.....	1597	2570	7	0.77	19.5
Oviedo	N. 43 23	W. 5 49	11.45 a.m.	800	244	29.37	746.0	30.12	765.0	54.7	12.6	82	.....	2	.....	.....	15	6	8	.....	.....	.....	.....	8	4.48	113.8
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.20	741.6	30.09	764.2	61.2	16.2	74	6	3	.....	11	1	4	.....	4	2	6006	9666	7	3.98	101.1
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.93	760.3	30.00	761.9	75.5	24.2	84	.....	.....	.....	.....	4	16	10	1	.....	.....	.....	3	3.95	100.3
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.86	758.5	29.92	759.9	78.7	25.9	84	4	3	1	1	2	5	4	10	1	4249	6838	6	5.67	144.0
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	30.01	762.0	30.11	764.8	67.8	19.9	66	2	3	12	.....	4	4	5	1	.....	.....	.....	4	4.56	115.8
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.90	759.4	29.99	761.7	79.5	26.4	88	.....	.....	.....	.....	.....	6	.....	.....	25	.....	.....	3	5.55	141.0
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.65	753.1	29.69	754.1	37.8	3.2	86	5	2	4	4	9	3	.....	1	3	.....	.....	6	2.40	61.0
Umeå	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.66	753.3	29.71	754.6	42.3	5.7	74	4	8	1	10	4	.....	.....	1	3	.....	.....	6	2.41	61.1
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.66	753.4	29.71	754.7	45.3	7.4	69	3	3	1	3	6	1	1	3	10	.....	.....	6	1.57	39.8
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.65	753.2	29.83	757.7	46.6	8.1	72	3	1	7	11	5	1	.....	2	1	.....	.....	6	2.09	53.1
Wisby *a*	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.80	756.8	29.85	758.3	48.7	9.3	79	1	3	11	2	7	1	2	3	.....	.....	.....	6	2.43	61.7
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.72	754.8	29.80	757.0	45.7	7.6	75	2	5	4	7	11	.....	.....	2	.....	.....	.....	6	1.98	50.2
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.68	728.4	30.11	764.7	54.0	12.2	71	15	1	5	.....	9	1	.....	.....	.....	.....	.....	8	4.00	101.5
TURKISH.																										
Constantinople	N 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.10	764.4	68.2	20.1	64	14	1	1	4	2	1	....	8	.....	.....	.....	6	1.30	33.1
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.13	765.2	69.3	20.7	.....	.....	12	5	6	2	2	.....	4	.....	.....	.....	5	7.52	191.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.98	761.4	79.9	26.6	61.1	3	4	4	7	.....	.....	....	13	.....	.....	.....	3	2.12	53.8
Samakov *g*	N. 42 12	E. 23 45	1.42 p.m.	?	?	26.76	679.7	.....	.....	63.7	17.6	77	1	.....	1	2	.....	1	.....	.....	19	.....	.....	7	6.64	168.7
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	30.13	765.3	30.21	767.3	47.0	8.3	73.2	7	2	4	3	10	.....	1	4	.....	4062	6537	6	3.49	88.6
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.47	748.5	30.14	765.5	38.8	3.8	84.7	3	9	6	2	3	4	2	1	1	6865	11048	6	3.38	85.9
Apache, Fort	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	25.00	635.0	29.90	759.4	38.1	3.4	74.9	.....	.....	.....	2	.....	6	14	1	8	4263	6860	3	1.39	35.3
Assinaboine, Ft	N. 48 32	W. 109 42	4.49 a.m.	2710	826	27.13	689.1	30.05	763.3	33.4	0.8	74.2	2	3	1	13	4	1	2	4	1	7033	11318	6	0.98	24.9
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1129	344	28.97	735.8	30.16	766.1	59.3	15.2	89.1	.....	6	1	3	.....	4	13	4	.....	6076	9778	4	1.52	38.6
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	30.16	766.1	30.16	766.1	53.2	11.8	82.5	12	.....	1	.....	4	2	3	5	4	7083	11399	6	6.18	157.0
Augusta *a*	N. 33 28	W. 81 54	6.40 a.m.	183	56	29.98	761.5	30.17	766.3	62.0	16.7	83.4	4	3	.....	3	.....	1	2	9	9	3388	5452	6	1.69	42.9
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.17	766.3	30.22	767.6	53.8	12.1	79.2	10	2	3	.....	3	3	4	6	.....	4213	6780	6	2.83	71.9
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	22	7	30.10	766.1	30.18	766.6	53.7	12.1	81.1	8	1	2	1	3	2	6	6	2	11304	18192	6	6.51	165.4
Bennett, Fort	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.44	722.4	30.06	763.5	36.0	2.2	82.1	2	9	1	.....	.....	12	.....	3	4	6285	10114	7	1.19	30.2
Benton, Fort	N. 47 50	W. 110 40	4.45 a.m.	2700	823	27.22	691.4	30.13	765.3	35.0	1.7	71.3	2	.....	1	3	3	.....	.....	2	20	3428	5517	7	1.64	41.7
Bismarck *c*	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.18	715.8	30.06	763.5	36.1	2.3	88.1	3	4	2	.....	1	7	7	3	1	6696	10776	7	3.88	98.6
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	30.16	766.1	30.19	766.8	50.3	10.2	81.9	7	.....	2	2	2	1	3	13	1	11854	19077	4	7.38	187.4
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.21	691.1	30.07	763.8	36.7	2.6	89.2	3	11	5	....	.....	3	3	2	4	2113	3400	6	4.06	103.1
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	30.04	763.0	30.20	767.1	44.2	6.8	82.2	4	9	7	4	1	2	.....	2	2	6777	10906	5	6.40	162.6
Brownsville	N. 25 53	W. 97 26	5.38 a.m	57	17	29.92	760.0	29.98	761.5	73.4	23.0	90.4	3	.....	.....	.....	7	7	.....	.....	14	4648	7480	5	1.65	41.9
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	696	212	29.38	746.2	30.14	765.5	45.6	7.6	82.2	4	1	3	2	2	4	2	13	.....	7007	11276	6	3.58	90.9
Buford, Fort	N. 48 00	W. 103 56	5.12 a.m.	1930	588	27.94	709.7	30.05	763.3	32.8	0.4	87.0	3	.....	9	.....	1	4	7	5	2	6356	10229	7	1.41	35.8
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.72	754.9	30.12	765.0	55.8	13.2	87.2	7	2	.....	4	3	4	1	8	2	6211	9995	6	6.97	177.0
Canby, Fort	N. 46 16	W. 124 04	3.52 a.m.	179	54	29.80	756.9	30.00	762.0	49.7	9.8	92.6	7	3	4	1	3	5	7	1	.....	7307	11759	6	5.05	143.5
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.14	765.5	30.16	766.1	60.3	15.7	84.0	10	.....	3	1	5	2	1	9	.....	12022	19347	6	7.86	199.6
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.14	765.5	30.17	766.3	54.2	12.3	80.1	8	1	1	2	4	3	.....	12	.....	10186	16382	6	8.63	219.2
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.33	745.0	30.02	762.5	50.4	10.2	85.5	6	14	1	.....	.....	7	....	2	1	14597	13491	3	2.12	53.8
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.06	763.5	30.08	764.0	72.8	22.7	88.0	11	1	2	2	1	2	2	8	2	5535	8908	3	0.23	5.8
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	30.05	763.3	30.11	764.8	65.5	18.6	91.7	6	.....	4	3	.....	.....	1	17	.....	6597	10617	6	1.33	33.8
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.31	744.5	30.17	766.3	57.5	14.2	86.3	5	1	2	4	1	1	5	12	.....	3942	6344	8	4.31	109.5
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.31	744.5	30.14	765.5	59.2	15.1	89.7	1	2	1	4	7	3	1	7	5	3705	5962	6	3.93	99.8
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6089	1856	23.97	608.8	30.01	762.2	33.1	0.6	69.5	4	10	7	.....	8	.....	1	1	.....	6591	11251	4	1.66	42.2
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.39	746.5	30.10	764.5	49.0	9.4	77.8	3	3	2	4	1	4	5	5	4	5925	9535	7	7.36	186.9
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	18	5	30.14	765.5	30.16	766.1	56.4	13.6	87.3	8	5	.....	1	3	3	3	7	1	9010	14500	6	6.05	168.9
Cincinnati	N. 39 06	W. 84 30	6.30 a.m.	620	189	29.47	748.5	30.13	765.3	55.2	12.9	81.3	3	3	1	5	3	4	2	10	.....	4048	6514	6	8.39	213.1
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.38	746.2	30.12	765.0	48.8	9.3	74.9	3	1	1	3	5	7	6	5	.....	6072	9772	7	3.56	90.4
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.26	743.2	30.12	765.0	50.6	10.3	82.6	7	6	1	2	3	4	4	4	.....	5258	8462	7	6.11	155.2
Concho, Fort	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.09	713.5	30.04	763.0	59.8	15.4	89.1	2	2	3	.....	9	2	3	6	4	6572	10576	8	8.02	203.7
Custer, Fort	N. 45 42	W. 107 34	4.58 a.m.	3040	926	26.82	681.2	30.06	763.5	32.7	0.4	77.8	5	5	6	1	1	5	2	6	.....	4688	7544	7	0.97	24.6
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.44	747.8	30.10	764.5	46.0	7.8	81.1	5	3	3	2	1	4	5	8	.....	6331	10189	7	5.13	130.3
Davis, Fort	N. 30 38	W. 103 56	5.12 a.m.	4940	1506	25.20	640.1	30.05	763.3	53.2	11.8	75.2	4	2	.....	4	1	6	.....	2	12	3431	5522	3	0.42	10.7
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1667	508	28.26	717.8	30.00	763.5	39.3	4.1	81.6	.....	1	.....	7	5	.....	4	11	3	4206	6769	5	1.44	36.6
Deadwood *a*	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.34	643.6	30.02	762.5	36.5	2.5	80.7	1	2	2	1	3	1	3	3	14	2513	4044	4	0.80	20.3
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.15	765.8	30.17	766.3	55.9	13.3	85.4	7	1	1	3	4	3	3	9	.....	13081	21051	6	5.12	130.0
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.70	627.4	29.96	761.0	39.1	3.9	70.3	2	7	3	....	10	3	1	1	4	4789	7707	5	1.49	37.8
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.20	741.7	30.12	765.0	43.9	6.6	81.7	9	3	2	1	4	7	2	2	1	4175	6719	6	4.42	112.3
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.42	747.3	30.13	765.3	47.4	8.6	83.7	5	7	3	1	1	4	5	5	.....	7165	11531	7	2.55	64.8
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2512	766	27.41	696.2	30.04	763.0	44.9	7.2	81.1	5	8	3	.....	2	7	3	2	1	9729	15657	6	3.32	84.3
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.41	747.0	30.13	765.3	44.2	6.8	78.0	5	5	4	.....	2	4	2	6	3	3870	6228	7	4.44	112.8
Duluth	N. 46 48	W. 92 06	6.00 a.m.	644	184	29.35	745.5	30.11	764.8	40.8	4.9	79.3	5	4	6	6	1	1	4	3	1	6484	10435	8	3.19	81.0
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	30.09	764.3	30.16	766.1	42.7	5.9	78.4	9	3	2	2	6	1	1	3	4	7214	11610	4	8.43	214.1
Elliott, Fort	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.25	692.1	30.04	763.0	49.3	9.6	85.9	6	2	1	3	4	5	1	5	4	8684	13975	5	5.32	135.1
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3764	1147	26.29	667.8	30.03	762.7	51.1	10.6	72.2	2	7	4	.....	.....	2	4	1	11	2944	4738	2	2.03	51.6
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.41	747.0	30.14	765.5	49.3	9.6	81.5	4	1	2	5	8	4	2	3	2	6240	10042	7	4.00	101.6
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	612	186	29.45	748.0	30.12	765.0	40.4	4.7	84.3	12	2	4	1	3	3	3	1	2	7157	11518	6	3.93	99.8
Fort Smith	N. 35 22	W. 94 24	5.50 a.m.	451	137	29.57	751.1	30.05	763.3	58.9	14.9	88.3	2	1	1	.....	.....	1	13	.....	13	3799	6114	7	7.29	185.2
Galveston	N. 29 18	W. 94 47	5.49 a.m.	40	12	29.98	761.5	30.02	762.5	74.5	23.6	82.7	1	.....	1	5	9	6	4	5	.....	7559	12165	6	6.78	172.2
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.42	747.3	30.10	764.5	43.8	6.6	85.0	3	1	1	1	2	4	7	12	.....	8208	13209	7	3.67	93.2
Grant, Fort	N. 32 39	W. 109 57	4.48 a.m.	4860	1481	25.21	640.3	29.91	759.7	50.1	10.1	54.0	5	3	1	.....	1	5	4	12	.....	4047	6513	2	1.21	30.7
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	19	6	30.11	764.8	30.12	765.0	64.2	17.9	91.2	4	2	1	1	1	2	2	18	.....	9755	15699	7	3.89	98.8
Helena	N. 46 34	W. 112 04	4.40 a.m.	4100	1250	25.75	654.0	30.05	763.3	34.8	1.6	80.1	8	3	1	12	1	2	.....	4	.....	3348	5372	6	blank	blank
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.65	727.7	30.08	764.0	38.1	3.4	82.5	3	7	6	1	.....	11	1	2	.....	6953	11189	7	1.96	49.8
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.28	743.7	30.08	764.0	50.7	10.4	79.7	2	2	2	1	5	3	1	6	9	2444	3933	7	8.56	217.4
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	29.99	761.7	30.02	762.5	74.0	23.3	89.5	3	1	.....	1	12	6	3	5	.....	10256	16505	5	2.46	62.5
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.05	763.3	30.09	764.3	70.6	21.4	88.5	8	2	.....	2	5	.....	3	10	1	5281	8499	4	7.26	184.4
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.44	747.8	30.12	765.0	46.7	8.2	85.3	5	6	3	1	.....	3	7	5	1	5821	9368	6	6.95	176.5
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	29.98	761.5	30.00	762.0	78.4	25.8	85.3	.....	.....	.....	1	1	3	8	14	4	5584	8986	5	19.77	502.2
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.13	765.3	30.15	765.8	62.5	16.9	84.8	2	3	.....	3	1	2	5	14	1	13630	21935	6	3.80	96.5
Knoxville	N. 35 56	W. 83 58	6.32 a.m	980	299	29.10	739.1	30.14	765.5	57.1	13.9	92.9	5	.....	.....	8	.....	.....	3	9	6	3716	5980	6	4.66	118.4
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.33	745.0	30.12	765.0	41.9	5.5	76.5	6	5	4	2	7	3	1	2	1	5442	8758	6	1.68	42.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for October, 1883.							Wind.											Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Directions.									Total Movement.				
				Feet.	Metr's	Actual.		Reduced.					N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
						Inch.	Mill.	Inch.	Mill.	Fah.	Cent.															
U. S.—Continued.	° ′	° ′																								
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.19	741.4	30.09	764.3	47.2	8.4	83.8	6	4	.....	.....	4	4	6	3	4	4645	7475	6	8.31	211.0
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.20	741.7	30.05	763.3	42.4	5.8	75.6	.....	3	1	2	.....	5	1	5	14	1737	2795	4	1.84	46.7
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.75	755.5	30.07	763.8	61.7	16.5	87.5	2	3	1	4	2	3	4	7	5	4134	6653	7	5.55	141.0
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	371	113	29.60	751.8	30.00	762.0	53.7	12.1	80.2	4	4	1	1	....	1	3	15	2	4544	7314	5	1.42	36.1
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.52	749.8	30.09	764.3	55.1	12.8	83.3	11	3	1	5	3	1	2	4	1	6073	9774	7	8.05	204.5
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.47	748.5	30.16	766.1	54.9	12.7	79.5	1	1	1	2	2	.....	3	11	10	2166	3480	7	4.47	113.5
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.47	748.5	30.14	765.5	42.6	5.9	73.3	4	3	2	6	7	2	4	3	.....	7285	11724	8	2.40	61.0
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.12	765.0	30.13	765.3	63.3	17.4	90.1	12	4	2	.....	2	2	1	8	.....	11849	19069	7	2.83	71.9
Maginnis, Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.51	647.9	29.96	761.0	32.1	0.1	69.0	2	11	7	1	1	3	5	1	.....	6655	10710	4	4.05	103.1
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.38	746.2	30.12	765.0	40.4	4.7	73.9	6	3	8	3	5	2	.....	.....	4	6021	9690	7	2.58	65.5
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.74	755.4	30.08	764.0	60.9	16.1	89.9	4	4	1	5	3	5	2	6	1	4369	2031	7	8.56	217.4
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.35	745.5	30.11	764.8	45.6	7.6	79.2	7	5	3	4	2	2	4	4	.....	9542	15356	7	1.92	48.8
Mobile	N. 30 41	W. 88 02	6.16 a.m.	41	12	30.05	763.3	30.09	764.3	67.0	19.4	86.6	12	.....	3	1	1	2	5	3	4	4484	7216	5	0.84	21.3
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.89	759.2	30.12	765.0	64.3	17.9	83.8	1	2	.....	7	1	6	5	6	3	3934	6331	5	2.00	50.8
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	29.06	738.1	30.08	764.0	33.5	0.8	90.5	5	2	3	.....	2	10	4	3	2	8057	12966	6	3.22	81.8
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.82	605.0	30.16	766.1	28.0	−2.2	94.1	1	12	5	3	3	2	2	3	.....	.....	.....	3	5.55	141.0
Nashville	N. 36 10	W. 86 47	6.21 a.m.	549	167	29.51	749.5	30.09	764.3	58.9	14.9	88.7	4	2	3	4	2	5	6	5	.....	4751	7646	7	5.27	133.9
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	30.08	764.0	30.20	767.1	44.3	6.8	81.5	15	3	2	2	2	.....	.....	7	.....	5772	9289	5	5.87	149.1
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	30.18	766.6	30.22	767.6	48.0	8.9	81.3	10	1	2	3	1	1	2	5	6	4432	7132	4	7.33	186.2
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	30.00	762.0	30.05	763.3	71.3	21.8	85.5	2	4	2	5	1	3	5	8	1	4896	7879	4	3.43	87.1
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	30.03	762.7	30.21	767.3	50.2	10.1	73.6	4	1	3	3	3	1	5	7	4	5091	8192	5	4.27	108.5
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.12	765.0	30.15	765.8	59.7	15.4	84.2	9	2	2	2	3	1	2	9	1	5950	9575	5	3.79	96.3
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.09	688.1	30.05	763.3	39.1	3.9	84.4	3	3	3	1	4	5	4	3	5	7402	12009	6	3.47	88.1
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	29.97	761.2	30.01	762.2	45.2	7.3	90.6	.....	.....	.....	.....	9	.....	.....	1	21	2039	3281	7	3.73	94.7
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.92	734.6	30.12	765.0	44.3	6.8	85.7	9	2	2	1	3	8	3	.....	3	4383	7054	6	5.03	127.8
Oswego	N. 43 29	W. 76 35	7.02 a.m.	394	93	29.82	757.4	30.15	765.8	46.8	8.2	73.7	2	1	2	1	7	14	.....	4	.....	6232	10029	7	1.94	49.3
Palestine	N. 31 45	W. 95 40	5.45 a.m.	533	162	29.51	749.5	30.07	763.8	64.0	17.8	87.8	2	1	2	.....	11	2	4	4	.....	.....	.....	8	4.47	113.5
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.06	763.5	30.09	764.3	67.4	19.7	85.4	6	4	1	8	1	.....	4	6	1	5830	9382	3	1.91	48.5
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	92	28	30.10	764.5	30.20	767.1	51.1	10.6	85.4	7	3	.....	5	2	.....	3	11	.....	5250	8449	5	4.20	106.7
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.72	450.1	30.00	762.0	13.5	−10.3	83.0	1	6	11	13	.....	.....	.....	.....	.....	18132	29180	2	0.15	3.8
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	700	233	29.33	715.0	30.15	765.8	50.8	10.4	80.5	3	5	3	2	2	2	2	8	4	3476	5594	6	2.43	61.7
Port Huron	N. 43 00	W. 82 26	6.38 a.m.	633	193	29.41	747.0	30.10	764.5	43.5	6.4	84.4	3	2	2	1	6	.....	7	6	4	6614	10644	7	3.47	88.1
Portland, Maine	N. 43 39	W. 70 15	7.27 a.m.	45	14	30.12	765.0	30.18	766.6	44.6	7.0	76.2	13	2	6	4	2	.....	.....	3	1	4816	7750	5	3.51	89.2
Portland, Oreg	N. 45 32	W. 122 43	3.57 a.m.	67	20	29.90	761.0	30.03	762.7	47.4	8.6	89.4	2	2	4	1	9	2	1	.....	10	3730	6003	7	3.91	99.3
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5340	1628	24.74	628.4	29.90	759.4	39.1	3.9	70.6	.....	.....	2	18	7	1	1	.....	1	4993	8035	2	0.43	10.9
Provincetown	N. 42 03	W. 70 11	7.27 a.m.	26	8	30.16	766.1	30.19	766.8	49.1	9.5	75.3	7	3	2	1	4	1	5	6	2	7058	11359	4	7.45	189.2
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	332	101	29.65	753.1	30.01	762.2	50.9	10.5	74.5	17	6	.....	1	2	.....	.....	2	3	4783	7697	2	2.68	68.1
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.80	756.9	30.04	763.0	71.4	21.9	87.9	3	.....	.....	.....	1	19	4	.....	4	5098	8204	4	0.22	5.6
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.49	749.0	30.16	766.1	44.8	7.1	83.4	.....	1	4	3	3	4	2	5	.....	5223	8405	8	1.36	34.5
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.51	749.5	30.07	763.8	45.6	7.6	86.9	4	.....	.....	2	2	7	4	2	10	1999	3217	7	2.84	72.1
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	65	20	29.92	760.0	30.00	762.0	50.8	10.4	84.1	2	7	.....	1	7	10	2	1	1	3988	6418	2	0.97	24.6
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	583	178	29.49	749.0	30.11	764.8	51.5	10.8	88.6	5	3	3	3	2	4	3	8	.....	8430	13566	7	6.60	167.6
Saint Michael, Ft	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.57	751.1	29.61	752.1	32.2	0.1	90.5	2	.....	7	1	6	10	2	2	1	10750	16214	8	1.66	42.2
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	801	244	29.23	742.4	30.10	764.5	40.5	4.7	79.2	1	2	5	1	5	9	.....	.....	8	5019	8077	7	1.10	27.9
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.10	740.7	30.06	763.5	32.1	0.1	90.3	1	9	.....	4	2	11	.....	.....	4	3524	5671	6	3.90	99.1
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.61	650.5	30.01	762.2	41.3	5.2	62.4	2	1	1	.....	.....	12	4	4	7	3746	6028	5	2.24	56.9
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.90	759.4	29.98	761.5	57.1	13.9	77.5	9	6	3	2	1	1	3	6	.....	4591	7388	5	2.01	51.1
Sanford	N. 28 48	W. 81 23	6.42 a.m.	50	15	29.99	761.7	30.04	763.0	71.7	22.1	91.4	1	5	1	5	2	1	.....	15	1	5030	8095	5	8.38	212.9
Sandusky	N. 41 25	W. 82 40	6.37 a.m.	639	195	29.44	747.8	30.14	765.5	49.6	9.8	79.3	4	.....	3	10	4	3	2	5	.....	10260	10512	6	4.88	123.9
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	30.16	766.1	30.20	767.1	52.4	11.3	78.0	1	3	1	2	5	2	8	9	.....	11657	18760	5	5.20	132.1
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.94	760.5	30.01	762.2	53.6	12.0	88.7	4	3	6	14	1	.....	.....	.....	3	5665	9278	3	1.48	37.6
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	30.03	762.7	30.12	765.0	65.2	18.4	85.1	15	3	3	1	1	.....	1	6	1	5411	8708	5	1.41	35.8
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.35	669.3	30.05	763.3	31.8	−0.1	84.6	3	2	18	2	.....	.....	1	.....	5	6137	9876	5	2.22	50.4
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.77	756.1	30.01	762.2	64.3	17.9	85.5	2	2	2	1	13	3	2	5	1	4435	7137	7	0.97	24.6
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.84	757.9	29.91	759.7	43.8	6.6	79.6	1	2	5	1	1	3	14	3	1	5337	8589	7	13.31	338.1
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.08	764.0	30.12	765.0	62.2	16.8	88.2	12	2	2	1	2	1	2	9	.....	7049	12310	7	1.19	30.2
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	27.97	710.4	30.05	763.3	37.7	3.2	75.5	9	.....	3	7	4	.....	.....	.....	8	2648	4262	4	1.48	37.6
Springfield, Ill	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.42	747.3	30.11	764.8	49.3	9.6	81.8	5	4	4	.....	3	5	4	6	.....	6617	10649	7	6.08	154.4
Stockton, Fort	N. 30 53	W. 102 53	5.16 a.m.	3010	917	27.01	686.0	30.04	763.0	56.5	13.6	82.6	1	3	1	11	2	8	2	3	.....	6128	9862	5	0.51	13.0
Tatoosh Id	N. 48 23	W. 124 44	3.21 a.m.	86	26	29.89	759.2	.....	.....	46.5	8.1	94.1	1	1	4	4	1	2	15	1	2	8209	13211	6	4.30	109.2
Thomas, Camp	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.26l	692.4l	29.97l	761.2l	43.1	6.2	44.3	1	.....	5	.....	3	8	2	.....	12	.....	.....	2	0.52	13.2
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.41	747.0	30.11	764.8	48.5	9.2	77.1	10	1	2	2	5	2	5	3	1	6700	10782	7	3.68	93.5
Unalashka	N. 53 53	W. 166 32	1.02 a.m.	13	4	29.82	757.4	29.84	757.9	42.5	5.8	76.6	.....	6	1	10	10	2	.....	1	1	8668	13950	7	6.15	156.2
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.82	757.4	30.08	764.0	65.4	18.6	86.6	7	1	.....	.....	9	6	3	1	4	4161	6696	5	4.84	122.9
Washington, D.C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	30.09	764.3	30.21	767.3	52.1	11.2	84.3	8	3	.....	2	3	1	2	5	7	3088	4970	7	2.63	66.8
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.02	660.9	29.95	760.7	39.1	3.9	78.9	4	3	9	4	1	2	3	5	.....	6959	11199	4	0.69	17.5
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	30.08	764.0	30.14	765.5	62.0	16.7	86.1	5	2	2	1	2	2	1	14	2	4887	7865	6	1.09	27.7
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.75	730.2	30.08	764.0	49.3	4.0	87.1	4	9	3	.....	4	5	2	4	.....	6322	10174	7	1.98	50.3
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.74	755.4	29.88	758.9	57.0	13.9	66.5	1	4	1	4	1	3	1	5	11	2777	4409	2	0.05	1.3
Sub-Series.																										
Bluefields	N. 12 00	W. 83 43	6.31 a.m.	20	6	.....	.....	.....	.....	77.0	25.0	.....	11	12	1	.....	.....	.....	.....	7	.....	.....	.....	6	8.13	206.5
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.03	559.6	.....	.....	53.2	11.8	75.7	2	.....	1	2	1	1	.....	1	23	.....	.....	8	7.23	183.7
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	.....	.....	29.97	761.2	75.9	24.4	87.1	20	.....	.....	.....	.....	1	.....	.....	10	2311	3719	7	4.46	113.3
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.00	762.0	30.00	762.0	79.7	26.5	80	.....	.....	.....	.....	1	18	12	.....	.....	.....	.....	4	1.54	39.1
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.41	747.0	29.97	761.2	78.0	25.6	89	2	.....	.....	.....	9	.....	.....	.....	20	.....	.....	9	8.02	203.2
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	75.0	23.9	89.2	.....	4	1	1	1	6	3	13	2	.....	.....	4	18.25	463.5
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	30.08	764.0	30.15	765.8	28.5	−1.9	94.6	4	13	5	5	1	.....	2	1	.....	8340	13422	4	0.62	15.7

OCEAN SQUARE DATA FOR OCTOBER, 1883.

Location of Centre of each Square.		Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
		Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W.	22.5°	29.99	761.7	79.4	26.3					1	1	7	17		5	2.2
12.5	27.5	30.00	762.0	80.7	27.1					1	1	7	17		5	2.3
12.5	32.5	30.02	762.5	80.6	27.0					1	1	8	13		8	2.1
12.5	37.5	30.02	762.5	80.6	27.0					1		14	7		9	2.0
12.5	42.5	30.02	762.5	81.0	27.2						3	11	8		9	1.6
12.5	47.5	30.02	762.5	80.9	27.2						3	12	8		8	1.7
12.5	52.5	30.02	762.5	81.2	27.3					1	6	18	3		3	1.8
17.5	22.5	30.05	763.3	78.1	25.6					1		8	17		5	2.4
17.5	27.5	30.06	763.5	78.5	25.8					1		9	16		5	2.5
17.5	32.5	30.07	763.8	78.8	26.0						1	13	10		7	2.3
17.5	37.5	30.07	763.8	79.2	26.2						1	15	8		7	2.3
17.5	42.5	30.03	762.7	80.0	26.7						4	14	7		6	1.7
17.5	47.5	30.06	763.5	80.0	26.7						4	15	7		5	1.7
17.5	52.5	30.05	763.3	80.3	26.8					1	5	18	4		3	2.1
17.5	57.5	30.02	762.5	81.0	27.2					2	6	20	1		2	2.1
22.5	22.5	30.11	764.8	76.0	24.4					1	2	7	16		5	2.4
22.5	27.5	30.11	764.8	76.5	24.7					1	1	8	17		4	2.3
22.5	32.5	30.12	765.0	77.5	25.3					1	2	18	6		4	2.1
22.5	37.5	30.11	764.8	78.0	25.6					1	4	16	8		2	2.0
22.5	42.5	30.11	764.8	78.2	25.7	2					7	15	6		1	2.0
22.5	47.5	30.11	764.8	78.4	25.8					2	11	9	8		1	2.3
22.5	52.5	30.08	764.0	79.0	26.1					2	10	13	5		1	2.2
22.5	57.5	30.06	763.5	79.6	26.4	1				4	6	14	6			2.0
22.5	62.5	30.03	762.7	80.7	27.1	1			2	2	6	12	8			2.4
22.5	67.5	30.01	762.2	80.8	27.1	2	2		1		4	12	10			2.0
22.5	72.5	30.02	762.5	81.9	27.7	2	1			3	2	15	8			2.2
27.5	22.5	30.16	766.1	73.7	23.2				1		2	5	19		4	2.5
27.5	27.5	30.17	766.3	74.3	23.5					1	1	10	16		3	2.4
27.5	32.5	30.17	766.3	75.1	23.9						5	15	7		3	2.3
27.5	37.5	30.16	766.1	75.5	24.2		1				7	17	5		1	2.3
27.5	42.5	30.15	765.8	76.0	24.4	1			2	2	9	11	6			2.3
27.5	47.5	30.14	765.5	75.8	24.3				4	2	12	6	7			2.4
27.5	52.5	30.12	765.0	76.4	24.7	1			3	6	9	7	5			2.2
27.5	57.5	30.09	764.3	77.0	25.0	1	1	1	3	9	5	4	7			2.2
27.5	62.5	30.05	763.3	77.8	25.4	3	2	1	4	7	2	6	6			2.2
27.5	67.5	30.03	762.7	78.2	25.7	5	2	2	5	2	3	7	5			2.8
27.5	72.5	30.05	763.3	78.6	25.9	5	1	1	1	4	3	4	12			2.5
27.5	77.5	30.05	763.3	78.1	25.6	0			1	4	2	10	8			2.0
32.5	12.5	30.13	765.3	70.0	21.1	3	1		4			1	19		3	1.5
32.5	17.5	30.16	766.1	70.1	21.2	4	1	2	5		2	1	16			1.5
32.5	22.5	30.22	767.6	72.1	22.3	3			2		2	2	18		4	2.3
32.5	27.5	30.24	768.1	72.3	22.4	1			2	2	1	10	12		3	2.4
32.5	32.5	30.24	768.1	73.0	22.8				1	4	10	4	9		3	2.8
32.5	37.5	30.24	768.1	73.6	23.1	2	1		2	4	9	2	10		1	2.7
32.5	42.5	30.19	766.8	75.9	24.4	2			4	9	4	7	5			2.9
32.5	47.5	30.17	766.3	73.3	22.9	4		2	4	7	4	3	7			2.9
32.5	52.5	30.13	765.3	73.3	22.9	1	2	1	2	8	4	5	8			2.9
32.5	57.5	30.08	764.0	72.9	22.7	1	3	1	5	5	6	4	6			2.9
32.5	62.5	30.05	763.3	73.9	23.3	6	2	1	5	3	9	1	4			2.6
32.5	67.5	30.04	763.0	73.8	23.2	8		3		4	4	2	1			2.8
32.5	72.5	30.08	764.0	73.9	23.1	7	2	1	1	4	1	3	12			3.3
32.5	77.5	30.09	764.3	69.2	20.7	10	1	1	2	1	2		14			2.7
37.5	12.5	30.14	765.5	66.2	19.0	6	4		4	3			12		2	2.5
37.5	17.5	30.20	767.1	67.8	19.9	2	6	1	4	1			15		2	2.4
37.5	22.5	30.25	768.3	69.2	20.7	4	1	2	5	2		2	14		1	2.4
37.5	27.5	30.26	768.6	69.6	20.9	3		6	3	3	5	4	7			2.2
37.5	32.5	30.23	767.8	70.5	21.4	3	2	4	3	5	7	1	5		1	2.6
37.5	37.5	30.19	766.8	70.5	21.6	5	2	2	4	9	2	1	5		1	3.1
37.5	42.5	30.16	766.1	72.6	22.6	5			8	9	2	1	6			3.0
37.5	47.5	30.15	765.8	71.0	21.7	3	4	1	3	9	3	3	5			3.1
37.5	52.5	30.12	765.0	68.9	20.5	4	3	1	5	6	3	4	5			3.4
37.5	57.5	30.07	763.8	68.4	20.2	5	3	1	5	5	1	5	6			3.6
37.5	62.5	30.07	763.8	68.3	20.2	4	5	1	5	2	2	3	9			3.5
37.5	67.5	30.08	764.0	66.1	18.9	6	5		2		4	2	12			3.5
37.5	72.5	30.13	765.3	63.0	17.2	10			1	5	2		13			3.3
42.5	12.5	30.12	765.0	62.8	17.1	8	6	3	4	4		1	4		1	2.9
42.5	17.5	30.17	766.3	63.7	17.6	7	7	4	3	5		1	3		1	3.2
42.5	22.5	30.16	766.1	64.4	18.0	5	10	4	3	3	1	1	3		1	3.4
42.5	27.5	30.20	767.1	64.6	18.1	3	6	4	8	6	1	2	1			3.3
42.5	32.5	30.16	766.1	66.2	19.0	2	5	5	2	10	2		5			3.3
42.5	37.5	30.13	765.3	65.8	18.8	3	5	2	6	10	1		4			3.9
42.5	42.5	30.12	765.0	63.4	17.4	6	7	1	3	8	2	1	3			4.2
42.5	47.5	30.08	764.0	59.6	15.3	5	4	1	7	4	4	2	4			3.8
42.5	52.5	30.13	765.3	58.1	14.5	5	5	1	5	5	3	3	4			4.0
42.5	57.5	30.09	764.3	57.3	14.1	9	4	3	4	3	3	3	2			4.0
42.5	62.5	30.12	765.0	54.0	12.2	3	7		2	3	1	3	12			3.8
42.5	67.5	30.15	765.8	50.5	10.3	10	3	1	2	3	3	4	5			3.3
47.5	12.5	30.06	763.5	58.9	14.9	7	5	6	7	3		1	2			3.3
47.5	17.5	30.08	764.0	59.3	15.2	4	8	8	4	5	2					3.6
47.5	22.5	30.08	764.0	58.9	14.9	3	12	4	6	5	1					3.8
47.5	27.5	30.07	763.8	58.7	14.9	4	9	5	4	9						4.2
47.5	32.5	30.05	763.3	58.4	14.7	2	11	4	5	8			1			4.1
47.5	37.5	30.02	762.5	57.2	14.0	2	13	3	5	6	1		1			4.0
47.5	42.5	30.03	762.7	53.4	11.9	2	12	3	5	7		1	1			3.6
47.5	47.5	30.06	763.5	48.5	9.2	3	9	3	7	5	1		3			3.4
52.5	12.5	29.93	760.2	54.4	12.4	3	8	6	7	6			1			3.8
52.5	17.5	29.90	759.4	53.8	12.1	2	10	6	7	5	1					4.1
52.5	22.5	29.88	758.9	52.7	11.5	2	10	9	4	6						4.0
52.5	27.5	29.85	758.2	52.0	11.1	1	12	7	6	5						4.5
52.5	32.5	29.85	758.2	51.0	10.6	1	15	3	6	6						4.4
52.5	37.5	29.86	758.4	48.6	9.2	2	13	4	7	5						3.8
52.5	42.5	29.88	758.9	45.7	7.6	4	12	5	5	4			1			3.6
52.5	47.5	29.89	759.2	42.0e	5.6e	3	11	5	4	7			1			3.8
57.5	12.5	29.73	755.1	49.3	9.6	2	9	5	10	4	1					4.0
57.5	17.5	29.68	753.9	48.5	9.2	2	6	8	11	3	1					4.1
57.5	22.5	29.65	753.1	47.2	8.4		11	5	9	4	1		1			4.1
57.5	27.5	29.64	752.8	45.6	7.6	1	12	4	10	3		1				4.3
57.5	32.5	29.65	753.1	42.3a	5.7a	3	14	2	8	4						4.0
57.5	37.5	29.68	753.9	41.8	5.4	4	12	2	7	5	1					4.1
57.5	42.5	29.71	754.6	41.8	5.4	6	10	3	4	3	3		1			3.5
57.5	47.5	29.73	755.1			6	12	2	6	2	2				1	3.5

VLADIVOSTOCK (N. 43° 09′, E. 132° 00′).

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity. Per cent.	Wind. Direction. From.	Wind. Velocity. Miles per hour	Wind. Velocity. Metrs pr sec.	Wind. Force 0–10	Clouds. Amount. Upper. 0–10	Clouds. Amount. Lower. 0–10	Clouds. Direction. Upper From	Clouds. Direction. Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Rainfall or melted snow in past 24 hours. Mill.	WEATHER
1883.																		
January 1	29.92	760.0	29.99	761.7	0.7	—17.4	32	nw.	22	10	.....	0	0	.....	.....	0	0	
2	30.26	768.5	30.32	770.2	— 2.2	—19.0	35	ne.	13	6	.....	0	0	.....	.....	0	0	
3	30.25	768.3	30.32	770.0	7.9	—13.4	49	calm.	0	0	.....	0	0	.....	.....	0	0	
4	30.21	767.3	30.28	769.0	14.0	—10.0	25	calm.	0	0	.....	0	0	.....	.....	0	0	
5	30.17	766.3	30.24	768.0	5.0	—15.0	40	calm.	0	0	.....	0	0	.....	.....	0	0	
6	30.13	765.3	30.20	767.0	19.4	— 7.0	50	calm.	0	0	.....	0	0	.....	.....	0.004	0.1	
7	29.97	761.1	30.03	762.8	22.3	— 5.4	64	nw.	13	6	.....	0	5 k	.....	.....	0	0	
8	30.12	765.1	30.19	766.8	13.3	—10.4	46	calm.	0	0	.....	0	5 k	.....	.....	0	0	
9	29.92	759.9	29.98	761.6	20.1	— 6.6	33	calm.	0	0	.....	0	0	.....	.....	0	0	
10	29.72	754.9	29.79	756.6	20.5	— 6.4	27	n.	13	6	.....	0	5 k	.....	.....	0	0	
11	30.04	762.9	30.10	764.6	4.3	—15.4	20	nw.	27	12	.....	0	0	.....	.....	0	0	
12	30.20	767.0	30.26	768.7	7.2	—13.8	30	nw.	18	8	.....	0	0	.....	.....	0	0	
13	30.34	770.7	30.41	772.4	— 5.4	—20.8	39	n.	34	15	.....	0	0	.....	.....	0	0	
14	30.52	775.2	30.59	776.9	— 5.1	—20.6	40	nw.	40	18	.....	0	0	.....	.....	0	0	
15	30.24	768.2	30.31	769.9	— 9.8	—23.2	52	n.	40	18	.....	0	5 k	.....	.....	0	0	
16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
17	30.21	767.4	30.28	769.1	—10.1	—23.4	48	nw.	49	22	.....	8 ck	0	.....	.....	0	0	
18	30.14	765.5	30.21	767.2	— 7.2	—21.8	45	nw.	18	8	.....	8 ck	0	.....	.....	0	0	
19	30.13	765.2	30.19	766.9	— 2.6	—19.2	42	nw.	18	8	.....	0	0	.....	.....	0	0	
20	30.13	765.4	30.20	767.1	— 2.2	—19.0	38	se.	18	8	.....	0	5 k	.....	.....	0	0	
21	30.03	762.7	30.10	764.4	12.2	—11.0	52	calm.	0	0	.....	0	0	.....	.....	0	0	
22	30.24	768.2	30.31	769.9	11.8	—11.2	30	calm.	0	0	.....	0	0	.....	.....	0	0	
23	30.44	773.1	30.50	774.8	7.5	—13.6	32	n.	18	8	.....	0	0	.....	.....	0	0	
24	30.39	771.8	30.45	773.5	0.3	—17.6	35	ne.	13	6	.....	0	5 k	.....	.....	0	0	
25	30.21	767.3	30.28	769.0	10.8	—11.8	72	calm.	0	0	.....	.....	10 k	.....	.....	0.020	0.5	
26	30.23	767.8	30.30	769.5	— 0.8	—18.2	45	n.	13	6	.....	0	0	.....	.....	0	0	
27	30.17	766.2	30.23	767.9	4.6	—15.2	30	n.	27	12	.....	0	0	.....	.....	0	0	
28	30.24	768.1	30.31	769.8	3.6	—15.8	36	n.	18	8	.....	0	0	.....	.....	0	0	
29	30.08	763.9	30.14	765.6	13.8	—10.4	28	calm.	0	0	.....	0	0	.....	.....	0	0	
30	29.87	758.8	29.94	760.5	3.6	—15.8	35	n.	27	12	.....	0	0	.....	.....	0.055	1.4	
31	30.05	763.2	30.11	764.9	8.6	—13.0	23	n.	18	8	.....	0	0	.....	.....	0	0	
Mean	30.15	765.8	30.22	767.5	5.5	—14.7	39.4	.....	14.3	6.4	.....	.....	1.7	.....	.....	0.079	2.0	
February 1	30.17	766.2	30.23	767.9	— 8.3	—22.4	25	calm.	0	0	.....	0	0	.....	.....	0	0	
2	29.97	761.2	30.04	762.9	— 2.9	—19.4	60	calm.	0	0	.....	0	0	.....	.....	0	0	
3	29.98	761.5	30.05	763.2	—10.5	—23.6	60	calm.	0	0	.....	0	5 k	.....	.....	0	0	
4	30.01	762.3	30.08	764.0	10.4	—12.0	48	calm.	0	0	.....	0	0	.....	.....	0	0	
5	30.33	770.3	30.39	772.0	4.6	—15.2	40	n.	22	10	.....	0	0	.....	.....	0	0	
6	30.50	774.8	30.57	776.5	7.3	—13.7	30	calm.	0	0	.....	0	0	.....	.....	0	0	
7	30.39	771.8	30.45	773.5	— 8.0	—22.2	38	n.	22	10	.....	0	3 k	.....	.....	0	0	
8	30.28	769.1	30.35	770.8	3.2	—16.0	40	n.	22	10	.....	0	0	.....	.....	0	0	
9	30.38	771.6	30.45	773.3	— 6.9	—21.6	42	n.	22	10	.....	0	0	.....	.....	0	0	
10	30.33	770.3	30.39	772.0	9.7	—12.4	26	n.	27	12	.....	0	3 s	.....	.....	0	0	
11	30.39	772.0	30.46	773.7	— 1.8	—18.8	37	n.	18	8	.....	0	0	.....	.....	0	0	
12	30.43	773.0	30.50	774.7	16.9	— 8.4	48	calm.	0	0	.....	0	0	.....	.....	0	0	
13	30.50	776.3	30.63	778.0	5.7	—14.6	33	n.	13	6	.....	0	0	.....	.....	0	0	
14	30.32	770.0	30.38	771.7	19.8	— 6.8	67	calm.	0	0	.....	.....	10 k	.....	.....	0.004	0.1	
15	30.22	767.5	30.28	769.2	18.7	— 7.4	60	n.	18	8	.....	0	5 k	.....	.....	0	0	
16	30.10	764.4	30.16	766.1	19.0	— 7.2	68	n.	22	10	.....	0	8 k	.....	.....	0.004	0.1	
17	30.15	765.8	30.22	767.5	20.5	— 6.4	65	se.	13	6	.....	0	8 n	.....	.....	0	0	
18	30.02	762.5	30.09	764.2	21.9	— 5.6	65	nw.	9	4	.....	.....	10 n	.....	.....	0.004	0.1	snowing.
19	30.28	769.0	30.34	770.7	5.0	—15.0	28	n.	18	8	.....	0	0	.....	.....	blank	blank	
20	30.32	770.2	30.39	771.9	16.9	— 8.4	28	ne.	13	6	.....	0	0	.....	.....	0	0	
21	30.37	771.3	30.43	773.0	3.6	—15.8	45	ne.	22	10	.....	0	5 k	.....	.....	0	0	
22	30.36	771.1	30.43	772.8	11.5	—11.4	36	n.	22	10	.....	0	3 s	.....	.....	0	0	
23	30.33	770.4	30.40	772.1	4.6	—15.2	29	n.	22	10	.....	0	5 k	.....	.....	0	0	
24	30.19	766.7	30.25	768.4	15.1	— 9.4	38	ne.	13	6	.....	.....	10 k	.....	.....	0	0	
25	30.34	770.6	30.41	772.3	— 0.8	—18.2	37	nw.	9	4	.....	0	0	.....	.....	0	0	
26	30.24	768.0	30.30	769.7	11.5	—11.4	22	calm.	0	0	.....	0	0	.....	.....	0	0	
27	30.23	767.9	30.30	769.6	— 1.5	—18.6	40	calm.	0	0	.....	0	0	.....	.....	0	0	
28	30.13	765.3	30.20	767.0	20.5	— 6.4	68	se.	9	4	.....	0	0	.....	.....	0	0	
Mean	30.26	768.6	30.33	770.3	7.3	—13.7	43.7	.....	11.0	4.9	.....	.....	2.7	.....	.....	0.012	0.3	
March 1	30.00	762.0	30.07	763.7	22.6	— 5.2	68	calm.	0	0	.....	0	0	.....	.....	0	0	
2	29.92	760.0	29.99	761.7	29.8	— 1.2	60	calm.	0	0	.....	0	2 k	.....	.....	0	0	
3	30.10	764.4	30.16	766.1	19.8	— 6.8	39	n.	18	8	.....	0	0	.....	.....	0	0	
4	30.03	762.7	30.10	764.4	15.4	— 9.2	50	calm.	0	0	.....	0	0	.....	.....	0	0	
5	29.99	761.8	30.06	763.5	23.7	— 4.6	36	calm.	0	0	.....	0	0	.....	.....	0	0	
6	30.05	763.3	30.12	765.0	21.6	— 5.8	38	calm.	0	0	.....	0	0	.....	.....	0	0	
7	29.89	759.2	29.96	760.9	7.9	—13.4	24	nne.	9	4	.....	0	0	.....	.....	0	0	
8	30.04	763.0	30.11	764.7	5.0	—15.0	22	calm.	0	0	.....	0	0	.....	.....	0	0	
9	30.06	763.4	30.12	765.1	15.4	— 9.2	60	n.	13	6	.....	0	0	.....	.....	0	0	
10	30.10	764.5	30.17	766.2	22.3	— 5.4	24	nne.	9	4	.....	0	0	.....	.....	0	0	
11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
12	30.04	763.1	30.11	764.8	26.4	— 3.1	61	e.	8	4	.....	0	0	.....	.....	0	0	
13	30.11	764.8	30.18	766.5	27.3	— 2.6	43	n.	27	12	.....	0	2 k	.....	.....	0	0	
14	30.07	763.7	30.13	765.4	30.4	— 0.9	58	se.	18	8	.....	0	6 k	.....	.....	0	0	
15	29.54	750.3	29.61	752.0	25.9	— 3.4	70	ne.	34	15	.....	.....	10 k	.....	.....	0.209	5.3	snowing.
16	29.30	744.2	29.37	745.9	23.0	— 5.0	47	nw.	13	6	.....	0	3 k	.....	.....	blank	blank	
17	29.51	749.5	29.58	751.2	24.1	— 4.4	31	nnw.	22	10	.....	4 ck	0	.....	.....	0	0	
18	29.77	756.1	29.84	757.8	20.8	— 2.9	41	n.	27	12	.....	0	0	.....	.....	0	0	
19	29.81	757.1	29.87	758.8	30.4	— 0.9	84	se.	9	4	.....	0	8 k	.....	.....	0	0	
20	29.98	761.6	30.05	763.3	18.5	— 7.5	79	nw.	9	4	.....	0	0	.....	.....	0	0	
21	30.02	762.6	30.09	764.3	18.9	— 7.3	70	n.	9	4	.....	0	0	.....	.....	0	0	
22	30.29	769.3	30.35	771.0	30.4	— 0.9	66	n.	9	4	.....	0	0	.....	.....	0	0	
23	30.21	767.4	30.28	769.1	33.3	0.7	92	ese.	18	8	.....	0	7 s	.....	.....	0	0	
24	30.09	764.3	30.16	766.0	23.9	— 4.5	65	nnw.	18	8	.....	8 ck	0	.....	.....	0	0	
25	30.16	766.1	30.23	767.8	25.0	— 3.9	73	nw.	18	8	.....	0	0	.....	.....	0	0	
26	30.04	763.0	30.11	764.7	31.3	— 0.4	66	wnw.	18	8	.....	0	0	.....	.....	0	0	
27	29.84	757.8	29.90	759.5	41.0	5.0	82	calm.	0	0	.....	0	0	.....	.....	0	0	
28	29.62	752.3	29.69	754.0	39.7	4.3	63	nw.	27	12	.....	0	4 k	.....	.....	0	0	
29	29.79	756.6	29.85	758.3	27.1	— 2.7	70	ne.	9	4	.....	0	6 k	.....	.....	0	0	
30	29.72	754.9	29.79	756.6	14.0	—10.0	64	n.	22	10	.....	0	5 k	.....	.....	0	0	
31	29.71	754.5	29.77	756.2	22.8	— 5.1	72	ese.	22	10	.....	0	2 k	.....	.....	0	0	
Mean	29.93	760.1	29.99	761.8	24.1	— 4.4	57.3	.....	12.5	5.6	.....	.....	2.2	.....	.....	0.209	5.3	

VLADIVOSTOCK—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount. Upper.	Clouds. Amount. Lower.	Clouds. Direction. Up'er	Clouds. Direction. Lo'er	Rainfall or melted snow in past 24 hours.		WEATHER.
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles perhour	Metrs pr sec.	0-10	0-10	0-10	From	From	Inch.	Mill.	
1883.																		
April 1	29.95	761.0	30.03	762.7	19.6	— 6.9	69	n.	18	8	.....	0	0	.....	.....	0	0	
2	29.67	753.6	29.74	755.3	35.4	1.9	91	se.	22	10	.....	.....	10 k	.....	.....	0	0	
3	29.77	756.1	29.84	757.6	31.8	— 0.1	58	n.	18	8	.....	0	0	.....	.....	0	0	
4	29.98	761.5	30.05	763.2	28.2	— 2.1	90	nw.	22	10	.....	.....	10 n	.....	.....	0.091	2.3	snowing.
5	30.12	765.0	30.19	766.7	29.3	— 1.5	64	calm.	0	0	.....	0	2 k	.....	.....	blank	blank	
6	30.22	767.6	30.29	769.3	32.9	0.5	80	s.	22	10	.....	.....	10 n	.....	.....	0.024	0.6	snowing.
7	30.28	769.0	30.34	770.7	32.0	0.0	84	nnw.	9	4	.....	0	0	.....	.....	blank	blank	
8	29.99	761.8	30.06	763.5	36.1	2.3	89	se.	13	6	.....	.....	10 k	.....	.....	0	0	
9	29.81	757.1	29.87	758.8	37.6	3.1	81	e.	13	6	.....	.....	10 n	.....	.....	0	0	
10	29.75	755.6	29.82	757.3	35.1	1.7	94	calm.	0	0	.....	.....	10 n	.....	.....	0.539	13.7	
11	29.82	757.4	29.89	759.1	37.2	2.9	78	nw.	18	8	.....	0	8 k	.....	.....	0.083	2.1	
12	29.92	759.9	29.98	761.6	37.9	3.3	52	se.	9	4	.....	0	7 n	.....	.....	0.059	1.5	
13	29.39	746.4	29.45	748.1	35.8	2.1	91	nnw.	9	4	.....	0	6 ks	.....	.....	0.303	7.7	
14	30.03	762.8	30.10	764.5	31.8	— 0.1	90	ese.	9	4	.....	0	0	.....	.....	0	0	
15	30.04	763.0	30.11	764.7	36.1	2.3	80	nne.	18	8	.....	0	8 n	.....	.....	0.004	0.1	
16	30.09	764.2	30.15	765.9	36.5	2.5	70	sw.	40	18	.....	0	0	.....	.....	0	0	
17	30.15	765.7	30.21	767.4	32.5	0.3	87	calm.	0	0	.....	0	3 k	.....	.....	0	0	
18	30.18	766.5	30.24	768.2	37.2	2.9	85	nw.	13	6	.....	.....	10 ks	.....	.....	0.004	0.1	
19	30.10	764.6	30.17	766.3	35.8	2.1	84	s.	22	10	.....	0	4 k	.....	.....	0	0	
20	29.65	753.1	29.72	754.8	38.5	3.6	93	calm.	0	0	.....	.....	10 n	.....	.....	0.402	10.2	raining.
21	29.74	755.3	29.80	757.0	47.3	8.5	44	nw.	13	6	.....	0	7 k	.....	.....	blank	blank	
22	29.73	755.1	29.80	756.8	42.6	5.9	66	nw.	9	4	.....	0	2 k	.....	.....	0	0	
23	29.07	753.7	29.74	755.4	42.6	5.9	81	calm.	0	0	.....	.....	10 k	.....	.....	0.087	2.2	
24	30.02	762.6	30.09	764.3	39.0	3.9	59	nw.	18	8	.....	0	0	.....	.....	0	0	
25	29.81	757.1	29.87	758.8	39.7	4.3	85	se.	34	15	.....	.....	10 n	.....	.....	0	0	
26	29.86	758.4	29.93	760.1	39.9	4.4	64	calm.	0	0	.....	0	3 k	.....	.....	0	0	
27	29.95	760.8	30.02	762.5	42.3	5.7	85	se.	27	12	.....	.....	10 n	.....	.....	0.059	1.5	
28	29.58	751.4	29.65	753.1	38.3	3.5	85	nne.	22	10	.....	0	8 k	.....	.....	0.110	2.8	
29	29.73	755.2	29.80	756.9	46.9	8.3	71	se.	13	6	.....	0	2 k	.....	.....	0	0	
30	29.84	757.9	29.91	759.6	42.7	6.5	50	n.	22	10	.....	0	2 k	.....	.....	0	0	
Mean	29.89	759.3	29.96	761.0	36.7	2.6	76.7	.....	15.2	6.8	.....	.....	5.7	.....	.....	1.764	44.8	
May 1	30.07	763.8	30.14	765.5	39.7	4.3	73	e.	13	6	.....	0	2 k	.....	.....	0	0	
2	30.16	766.0	30.22	767.7	43.7	6.5	47	se.	18	8	.....	.....	10 k	.....	.....	0	0	
3	30.03	762.7	30.10	764.4	41.4	5.2	90	se.	9	4	.....	.....	10 k	.....	.....	0	0	
4	29.48	748.8	29.55	750.5	35.1	1.7	94	ne.	27	12	.....	.....	10 n	.....	.....	1.228	31.2	raining.
5	29.37	745.9	29.43	747.6	40.1	4.5	98	calm.	0	0	.....	.....	10 n	.....	.....	0.244	6.2	
6	29.70	754.3	29.76	756.0	41.9	5.5	77	calm.	0	0	.....	0	4 k	.....	.....	0	0	
7	30.01	762.3	30.08	764.0	45.1	7.3	74	nw.	18	8	.....	0	2 k	.....	.....	0	0	
8	29.98	761.6	30.05	763.3	41.9	5.5	65	ese.	22	10	.....	.....	10 n	.....	.....	0.067	1.7	
9	29.76	755.9	29.83	757.6	42.4	5.8	97	ne.	9	4	.....	0	5 k	.....	.....	0	0	
10	29.81	757.1	29.87	758.8	48.0	8.9	74	calm.	0	0	.....	0	0	.....	.....	0	0	
11	29.84	757.9	29.91	759.6	43.7	6.5	84	sw.	9	4	.....	0	6 k	.....	.....	0	0	
12	29.87	758.6	29.93	760.3	40.1	4.5	92	se.	22	10	.....	.....	10 n	.....	.....	0.260	6.6	raining.
13	29.82	757.5	29.89	759.2	42.4	5.8	97	se.	13	6	.....	.....	10 n	.....	.....	blank	blank	
14	29.65	753.0	29.71	754.7	42.3	5.7	90	s.	22	10	.....	.....	10 n	.....	.....	0.031	0.8	
15	29.79	756.7	29.86	758.4	51.1	10.6	74	calm.	0	0	.....	.....	10 k	.....	.....	0	0	
16	29.76	755.9	29.83	757.6	50.2	10.1	75	e.	13	6	.....	0	1 k	.....	.....	0.012	0.3	
17	29.75	755.6	29.82	757.3	48.7	9.3	57	calm.	0	0	.....	0	0	.....	.....	0	0	
18	29.75	755.7	29.82	757.4	50.7	10.4	74	se.	27	12	.....	0	5 k	.....	.....	0	0	
19	29.87	758.6	29.93	760.3	47.3	8.5	93	sse.	18	8	.....	0	0	.....	.....	0	0	
20	29.99	761.7	30.06	763.4	43.3	6.3	93	se.	18	8	.....	.....	10 n	.....	.....	0	0	foggy.
21	29.95	760.8	30.02	762.5	49.1	9.5	95	ese.	18	8	.....	0	5 k	.....	.....	0	0	
22	29.93	760.2	30.00	761.9	51.6	10.9	74	ese.	18	8	.....	0	0	.....	.....	0	0	
23	29.85	758.3	29.92	760.0	48.0	8.9	93	calm.	0	0	.....	0	0	.....	.....	0	0	
24	29.85	758.1	29.91	759.8	52.3	11.3	87	se.	18	8	.....	0	4 ks	.....	.....	0	0	
25	29.62	752.3	29.69	754.0	50.0	10.0	76	se.	18	8	.....	0	8 k	.....	.....	0	0	
26	29.28	743.7	29.35	745.4	52.7	11.5	82	n.	13	6	.....	.....	10 n	.....	.....	0.465	11.8	raining.
27	29.40	746.8	29.47	748.5	54.5	12.5	98	nw.	13	6	.....	.....	10 k	.....	.....	0.047	1.2	
28	29.62	752.4	29.69	754.1	58.5	14.7	80	calm.	0	0	.....	0	8 n	.....	.....	0	0	
29	29.88	758.9	29.95	760.6	49.1	9.5	67	sw.	18	8	.....	0	5 k	.....	.....	0	0	
30	29.99	761.8	30.06	763.5	46.2	7.9	88	se.	18	8	.....	.....	10 n	.....	.....	0	0	
31	29.85	758.3	29.92	760.0	49.1	9.5	98	e.	34	15	.....	.....	10 n	.....	.....	0	0	foggy.
Mean	29.80	756.8	29.86	758.5	46.4	8.0	82.5	.....	13.9	6.2	.....	.....	6.3	.....	.....	2.354	59.8	
June 1	29.54	750.2	29.60	751.9	46.9	8.3	96	se.	18	8	.....	.....	10 n	.....	.....	0.925	23.5	raining.
2	29.35	745.5	29.42	747.2	55.2	12.9	87	nw.	9	4	.....	0	6 k	.....	.....	0.008	0.2	
3	29.70	754.3	29.76	756.0	45.9	7.7	93	se.	22	10	.....	.....	10 n	.....	.....	0.039	1.0	
4	29.92	760.0	29.99	761.7	45.3	7.4	98	se.	22	10	.....	.....	10 k	.....	.....	0	0	
5	29.98	761.6	30.05	763.3	44.4	6.9	99	calm.	0	0	.....	0	7 n	.....	.....	0	0	
6	29.95	760.8	30.02	762.5	51.1	10.6	89	se.	13	6	.....	0	3 k	.....	.....	0	0	
7	30.01	762.3	30.08	764.0	49.8	9.9	94	se.	18	8	.....	0	3 k	.....	.....	0	0	
8	29.91	759.6	29.97	761.3	47.3	8.5	94	se.	9	4	.....	.....	10 k	.....	.....	0	0	
9	29.88	758.9	29.95	760.6	48.7	9.3	93	se.	18	8	.....	.....	10 n	.....	.....	0	0	
10	29.97	761.2	30.04	762.9	51.6	10.9	199	se.	18	8	.....	.....	10 n	.....	.....	0	0	foggy.
11	30.02	762.4	30.08	764.1	52.7	11.5	00	se.	13	6	.....	.....	10 n	.....	.....	0.028	0.7	rain and fog.
12	29.98	761.6	30.05	763.3	52.7	11.5	197	se.	13	6	.....	.....	10 n	.....	.....	blank	blank	
13	29.95	760.7	30.02	762.4	54.5	12.5	100	se.	22	10	.....	.....	10 n	.....	.....	0	0	foggy.
14	29.91	759.7	29.98	761.4	54.5	12.5	100	se.	22	10	.....	.....	10 n	.....	.....	0	0	foggy.
15	29.84	758.0	29.91	759.7	54.5	12.5	00	calm.	0	0	.....	.....	10 n	.....	.....	0	0	foggy.
16	29.81	757.2	29.88	758.9	54.1	12.3	99	e.	18	8	.....	.....	10 n	.....	.....	0	0	foggy.
17	29.69	754.2	29.76	755.9	67.5	19.7	180	calm.	0	0	.....	0	3 ks	.....	.....	0	0	
18	29.50	749.2	29.56	750.9	59.9	15.5	00	ese.	18	8	.....	.....	10 n	.....	.....	0.031	0.8	
19	29.58	751.4	29.65	753.1	67.5	19.7	64	wnw.	22	10	.....	1 ck	0	.....	.....	0	0	
20	29.70	754.3	29.76	756.0	62.1	16.7	61	se.	18	8	.....	10 cs	0	.....	.....	0	0	
21	29.68	753.9	29.75	755.6	58.1	14.5	99	calm.	0	0	.....	0	0	.....	.....	0.157	4.0	
22	29.73	755.2	29.80	756.9	59.9	15.5	92	se.	27	12	.....	0	3 k	.....	.....	0.142	3.6	
23	29.87	758.8	29.94	760.5	62.5	17.1	86	calm.	0	0	.....	0	0	.....	.....	0	0	
24	29.78	756.5	29.85	758.2	60.6	15.9	88	se.	18	8	.....	0	8 n	.....	.....	0	0	
25	29.67	753.6	29.74	755.3	54.1	12.3	90	se.	22	10	.....	0	3 n	.....	.....	0	0	
26	29.57	751.0	29.63	752.7	57.4	14.1	90	ne.	13	6	.....	.....	10 n	.....	.....	0.984	25.0	raining.
27	29.74	755.4	29.81	757.1	60.6	15.9	94	calm.	0	0	.....	0	0	.....	.....	blank	blank	
28	29.83	757.6	29.89	759.3	58.8	14.9	197	se.	18	8	.....	.....	10 n	.....	.....	0.173	4.4	
29	29.78	756.5	29.85	758.2	58.5	14.7	00	se.	13	6	.....	0	8 n	.....	.....	0	0	
30	29.72	755.0	29.79	756.7	58.8	14.9	97	e.	18	8	.....	.....	10 n	.....	.....	0	0	
Mean	29.79	756.6	29.86	758.3	55.2	12.9	92.5	.....	14.5	6.5	.....	.....	7.2	.....	.....	2.488	63.2	

VLADIVOSTOCK—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity. Per cent.	Wind. Direction. From.	Wind. Velocity. Miles perhour	Wind. Velocity. Metrs prsec.	Wind. Force 0-10	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0-10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall in past 24 hours. Inch.	Rainfall in past 24 hours. Mill.	WEATHER.
1883.																		
July 1	29.66	753.3	29.72	755.0	58.8	14.9	100	se.	22	10	.....	0	8 n	.....	.....	0	0	foggy.
2	29.68	753.8	29.74	755.5	60.3	15.7	97	se.	18	8	.....	.....	10 n	.....	.....	0	0	
3	29.71	754.7	29.78	756.4	60.6	15.9	84	se.	13	6	.....	0	0	.....	.....	0	0	
4	29.77	756.1	29.84	757.8	62.8	17.1	87	se.	13	6	.....	.....	10 n	.....	.....	0	0	
5	29.86	758.4	29.93	760.1	61.4	16.9	89	w.	13	6	.....	0	4 n	.....	.....	0.173	4.4	
6	29.83	757.7	29.90	759.4	62.4	16.9	99	w.	18	8	.....	.....	10 n	.....	.....	0.445	11.3	raining.
7	29.88	758.9	29.95	760.6	60.3	15.7	94	w.	13	6	.....	0	2 k	.....	.....	0.728	18.5	
8	29.91	759.7	29.98	761.4	63.9	17.7	91	calm	0	0	.....	0	1 k	.....	.....	0	0	
9	29.85	758.1	29.91	759.8	63.5	17.5	85	wnw.	13	6	.....	0	0	.....	.....	0	0	
10	29.79	756.7	29.86	758.4	59.9	15.5	97	se.	18	8	.....	0	4 n	.....	.....	0	0	
11	29.82	757.3	29.88	759.0	59.9	15.5	99	s	13	6	.....	0	8 n	.....	.....	0	0	
12	29.77	756.2	29.84	757.9	64.2	17.9	99	se.	13	6	.....	0	8 n	.....	.....	0	0	foggy.
13	29.78	756.3	29.84	758.0	63.9	17.7	91	se.	27	12	.....	0	8 n	.....	.....	0	0	foggy.
14	29.68	753.8	29.74	755.5	65.3	18.5	99	se.	18	8	.....	.....	10 n	.....	.....	0	0	
15	29.74	755.3	29.80	757.0	62.8	17.1	97	se.	34	15	.....	0	5 n	.....	.....	0.118	3.0	raining.
16	29.84	757.8	29.90	759.5	63.1	17.3	93	se	27	12	.....	.....	10 n	.....	.....	blank	blank	
17	29.80	756.8	29.86	758.5	62.1	16.7	97	s.	18	8	.....	0	4 s	.....	.....	0.217	5.5	
18	29.74	755.5	29.81	757.2	64.6	18.1	87	ese.	40	18	.....	.....	10 n	.....	.....	0.378	9.6	
19	29.76	755.9	29.83	757.6	65.7	18.7	97	se.	40	18	.....	0	8 n	.....	.....	0	0	foggy.
20	29.71	754.5	29.77	756.2	64.9	18.3	100	se.	18	8	.....	.....	10 n	.....	.....	0.016	0.4	foggy.
21	29.64	752.8	29.71	754.5	66.7	19.3	99	se.	13	6	.....	.....	10 n	.....	.....	0.551	14.0	raining.
22	29.51	749.6	29.58	751.3	77.5	25.3	65	sw.	18	8	.....	0	4 ks	.....	.....	blank	blank	
23	29.62	752.3	29.69	754.0	73.2	22.9	82	calm	0	0	.....	0	0	.....	.....	0	0	
24	29.67	753.7	29.74	755.4	72.5	22.5	83	e.	13	6	.....	0	6 ks	.....	.....	0	0	
25	29.69	754.1	29.76	755.8	77.9	25.5	91	calm	0	0	.....	0	0	.....	.....	0	0	
26	29.80	757.0	29.87	758.7	75.0	23.9	84	ese.	18	8	.....	0	0	.....	.....	0	0	
27	29.70	754.4	29.77	756.1	76.8	24.9	81	se.	13	6	.....	.....	10 n	.....	.....	0	0	
28	29.55	750.5	29.61	752.2	72.1	22.3	100	ese.	13	6	.....	.....	10 n	.....	.....	0	0	foggy.
29	29.67	753.5	29.73	755.2	76.5	24.7	84	ne.	13	6	.....	0	6 n	.....	.....	0.157	4.0	
30	29.60	751.9	29.67	753.6	71.8	22.1	73	nnw.	13	6	.....	0	5 k	.....	.....	0	0	
31	29.67	753.7	29.74	755.4	69.3	20.7	97	ese.	13	6	.....	0	5 ks	.....	.....	0	0	
Mean	29.73	755.2	29.80	756.9	66.6	19.2	91.0	.....	16.6	7.4	.....	.....	6.0	.....	.....	2.784	70.7	
August 1	29.72	755.0	29.79	756.7	69.1	20.6	94	se.	22	10	.....	0	5 n	.....	.....	0	0	
2	29.84	757.8	29.90	759.5	68.2	20.1	95	se.	27	12	.....	.....	10 n	.....	.....	0	0	
3	29.82	757.3	29.88	759.0	70.0	21.1	97	se.	9	4	.....	0	8 n	.....	.....	0	0	
4	29.74	755.5	29.81	757.2	73.2	22.9	96	se.	40	18	.....	.....	10 n	.....	.....	0	0	
5	29.76	755.8	29.82	757.5	71.8	22.1	90	ese.	34	15	.....	.....	10 n	.....	.....	1.535	39.0	
6	29.83	757.6	29.89	759.3	72.5	22.5	99	calm	0	0	.....	.....	10 n	.....	.....	0	0	
7	29.71	754.6	29.78	756.3	72.9	22.7	96	se.	9	4	.....	0	7 n	.....	.....	0.031	0.8	
8	29.64	752.8	29.71	754.5	73.9	23.3	96	calm	0	0	.....	.....	10 n	.....	.....	0.079	2.0	
9	29.57	751.1	29.64	752.8	72.9	22.7	89	se.	18	8	.....	.....	10 n	.....	.....	0.118	3.0	
10	29.63	752.5	29.69	754.2	73.2	22.9	96	se.	22	10	.....	0	6 k	.....	.....	0.028	0.7	
11	29.82	757.4	29.89	759.1	73.6	23.1	88	calm	0	0	.....	0	6 k	.....	.....	0.701	17.8	
12	30.07	763.8	30.14	765.5	76.1	24.5	60	nw.	13	6	.....	0	2 s	.....	.....	0	0	
13	29.73	755.2	29.80	756.9	77.9	25.5	91	w.	9	4	.....	0	6 s	.....	.....	0	0	
14	29.68	753.9	29.75	755.6	76.1	24.5	89	e.	13	6	.....	0	5	.....	.....	0	0	
15	29.63	752.5	29.69	754.2	74.7	23.7	89	sse.	13	6	.....	0	5 n	.....	.....	0	0	
16	29.75	755.7	29.82	757.4	68.9	20.5	79	e.	9	4	.....	7 cs	0	.....	.....	0	0	
17	30.11	764.7	30.17	766.4	69.3	20.7	45	n.	13	6	.....	0	8	.....	.....	0.087	2.2	raining.
18	29.97	761.3	30.04	763.0	65.3	18.5	80	calm	0	0	.....	8 cs	0	.....	.....	blank	blank	
19	29.87	758.7	29.94	760.4	64.6	18.1	89	se.	9	4	.....	0	0	.....	.....	0	0	
20	29.88	759.0	29.95	760.7	72.5	22.5	73	w.	9	4	.....	0	0	.....	.....	0	0	
21	29.91	759.8	29.98	761.5	69.3	20.7	88	ese.	9	4	.....	0	0	.....	.....	0	0	
22	29.92	760.0	29.99	761.7	68.9	20.5	83	calm	0	0	.....	8 cs	0	.....	.....	0	0	
23	29.94	760.4	30.00	762.1	70.0	21.1	85	calm	0	0	.....	5 cs	0	.....	.....	0	0	
24	30.04	763.1	30.11	764.8	72.5	22.5	86	n.	9	4	.....	0	8 k	.....	.....	0	0	
25	30.08	763.9	30.14	765.6	70.0	21.1	92	calm	0	0	.....	0	0	.....	.....	0	0	
26	30.02	762.4	30.08	764.1	76.1	24.5	76	calm	0	0	.....	0	2 s	.....	.....	0	0	
27	29.84	757.8	29.90	759.5	71.4	21.9	88	calm	0	0	.....	3 cs	0	.....	.....	0	0	
28	29.76	755.8	29.82	757.5	72.5	22.5	80	se.	13	6	.....	0	7 k	.....	.....	0	0	
29	29.65	753.0	29.71	754.7	76.1	24.5	78	ese.	13	6	.....	0	6 n	.....	.....	0	0	
30	29.80	756.8	29.86	758.5	70.0	21.1	91	se.	22	10	.....	.....	9 n	.....	.....	0.421	10.7	raining.
31	29.86	758.4	29.93	760.1	59.5	15.3	90	nne.	34	15	.....	.....	10 n	.....	.....	1.575	40.0	
Mean	29.82	757.5	29.89	759.2	71.4	21.9	86.1	.....	11.9	5.3	.....	.....	6.2	.....	.....	4.575	116.2	
September 1	29.87	758.6	29.93	760.3	61.0	16.1	95	calm	0	0	.....	0	0	.....	.....	0	0	
2	29.94	760.5	30.01	762.2	63.9	17.7	83	calm	0	0	.....	0	8 n	.....	.....	0	0	
3	29.87	758.6	29.93	760.3	60.3	15.7	84	calm	0	0	.....	0	6 s	.....	.....	0.016	0.4	
4	29.87	758.8	29.91	760.5	62.1	16.7	97	e.	9	4	.....	0	0	.....	.....	0	0	
5	29.72	754.9	29.79	756.6	65.7	18.7	86	se.	49	22	.....	.....	9 k	.....	.....	0	0	
6	29.82	757.4	29.89	759.1	58.5	14.7	86	calm	0	0	.....	0	5 s	.....	.....	0.138	3.5	
7	29.82	757.4	29.89	759.1	53.1	11.7	93	calm	0	0	.....	0	5 ks	.....	.....	0.256	6.5	
8	29.92	760.0	29.99	761.7	61.7	16.5	59	n.	18	8	.....	0	0	.....	.....	0	0	
9	30.17	766.2	30.23	767.9	60.6	15.9	74	w.	13	6	.....	0	8 s	.....	.....	0	0	
10	29.84	757.9	29.91	759.6	56.3	13.5	95	ese.	34	15	.....	.....	10 n	.....	.....	0.709	18.0	raining.
11	29.51	749.5	29.58	751.2	63.1	17.3	91	se.	40	18	.....	.....	9 n	.....	.....	0.102	2.6	raining.
12	29.57	751.1	29.64	752.8	59.5	15.3	65	nw.	18	8	.....	0	2 s	.....	.....	blank	blank	
13	29.87	758.6	29.93	760.3	61.7	16.5	74	w.	9	4	.....	0	0	.....	.....	0	0	
14	30.07	763.7	30.13	765.4	61.7	16.5	99	e.	13	6	.....	0	0	.....	.....	0	0	
15	30.17	766.3	30.24	768.0	59.5	15.3	94	ene.	9	4	.....	0	2 s	.....	.....	0	0	
16	30.04	762.9	30.10	764.6	60.6	15.9	94	se.	40	18	.....	.....	9 n	.....	.....	0	0	
17	29.76	755.8	29.82	757.5	56.7	13.7	86	ene.	9	4	.....	0	4 s	.....	.....	0.268	6.8	
18	29.73	755.2	29.80	756.9	58.1	14.5	80	calm	0	0	.....	0	3 ks	.....	.....	0	0	
19	29.91	759.8	29.98	761.5	50.9	10.5	80	calm	0	0	.....	0	0	.....	.....	0	0	
20	29.85	758.1	29.91	759.8	55.2	12.9	74	se.	9	4	.....	0	0	.....	.....	0	0	
21	29.67	753.6	29.74	755.3	57.4	14.1	85	w.	40	18	.....	.....	9 n	.....	.....	0.067	1.7	raining.
22	29.82	757.5	29.89	759.2	49.5	9.7	63	w.	13	6	.....	0	0	.....	.....	0.016	0.4	
23	29.83	757.7	29.90	759.4	52.0	11.1	58	wnw.	18	8	.....	0	5 n	.....	.....	0	0	
24	29.90	759.4	29.97	761.1	54.1	12.3	55	w.	34	15	.....	0	8 k	.....	.....	0	0	
25	29.84	757.9	29.91	759.6	50.2	10.1	68	wnw.	18	8	.....	.....	9 n	.....	.....	0.020	0.5	
26	29.98	761.4	30.04	763.1	52.3	11.3	61	w.	13	6	.....	0	0	.....	.....	0	0	
27	30.02	762.4	30.08	764.1	55.2	12.9	78	sw.	13	6	.....	0	0	.....	.....	0	0	
28	30.16	766.0	30.22	767.7	56.3	13.5	79	se.	18	8	.....	0	4 k	.....	.....	0	0	
29	30.07	763.7	30.13	765.4	58.1	14.5	91	se.	27	12	.....	0	3 s	.....	.....	0.118	3.0	
30	30.05	763.2	30.11	764.9	52.0	11.1	76	nw.	22	10	.....	.....	10 n	.....	.....	0.189	4.8	
Mean	29.89	759.1	29.95	760.8	57.6	14.2	80.1	.....	16.3	7.3	.....	.....	4.3	.....	.....	1.898	48.2	

VLADIVOSTOCK—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount.		Clouds. Direction.		Rainfall in past 24 hours.		WEATHER.
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles per hour	Mètrs pr sec.	0–10	Upper. 0–10	Lower. 0–10	Up'er From	Lo'er From	Inch.	Mill.	
1883.																		
October 1	29.92	760.0	29.99	761.7	53.4	11.9	83	wnw.	13	6	.....	0	0	.....	.....	0	0	
2	29.95	760.6	30.01	762.3	51.3	10.7	97	calm.	0	0	.....	0	0	.....	.....	0	0	
3	29.95	760.8	30.02	762.5	54.7	12.6	96	se.	9	4	.....	.....	10ks	.....	.....	0.008	0.2	
4	30.03	762.7	30.10	764.4	54.1	12.3	78	calm.	0	0	.....	0	0	.....	.....	0	0	
5	29.91	759.7	29.98	761.4	51.3	10.7	94	ene.	9	4	.....	0	0	.....	.....	0	0	
6	30.06	763.4	30.12	765.1	56.3	13.5	97	s.	9	4	.....	0	8 n	.....	.....	0	0	
7	30.10	764.4	30.16	765.1	49.1	9.5	94	e.	9	4	.....	0	0	.....	.....	0	0	
8	29.87	758.6	29.93	760.3	58.1	14.5	71	ne.	13	6	.....	0	6 n	.....	.....	0	0	
9	29.85	758.3	29.92	760.0	53.4	11.9	83	calm.	0	0	.....	0	2	.....	.....	0	0	
10	30.14	765.5	30.21	767.2	55.9	13.3	71	e.	9	4	.....	4 c	0	.....	.....	0.008	0.2	
11	30.13	765.3	30.20	767.0	50.2	10.1	99	e.	9	4	.....	.....	10	.....	.....	0	0	foggy.
12	30.13	765.4	30.20	767.1	49.1	9.5	96	e.	13	6	.....	.....	10	.....	.....	0	0	fogky.
13	29.89	759.2	29.96	760.9	53.8	12.1	85	calm.	0	0	.....	0	0	.....	.....	0	0	
14	30.15	765.7	30.21	767.4	53.1	11.7	93	se.	18	8	.....	.....	10	.....	.....	0	0	foggy.
15	30.05	763.2	30.11	764.9	49.3	9.6	100	e.	9	4	.....	.....	10	.....	.....	0	0	foggy.
16	30.06	763.6	30.13	765.3	50.5	10.3	64	nne.	9	4	.....	.....	10	.....	.....	0	0	foggy.
17	30.10	764.4	30.16	766.1	46.4	8.0	75	ne.	13	6	.....	0	0	.....	.....	0	0	
18	30.18	765.5	30.24	768.2	45.9	7.7	76	calm.	0	0	.....	0	3 s	.....	.....	0	0	
19	30.08	763.9	30.14	765.6	52.7	11.5	87	ese.	22	10	.....	.....	10 n	.....	.....	0.177	4.5	raining.
20	30.09	764.2	30.15	765.9	52.3	11.3	97	calm.	0	0	.....	.....	10 n	.....	.....	0.299	7.6	raining.
21	30.07	763.8	30.14	765.5	52.0	11.1	91	calm.	0	0	.....	0	0	.....	.....	blank	blank	
22	30.08	764.0	30.15	765.7	44.4	6.9	81	ne.	18	8	.....	.....	10 n	.....	.....	0.138	3.5	raining.
23	30.15	765.7	30.21	767.4	30.0	— 1.1	52	ne.	18	8	.....	0	0	.....	.....	blank	blank	
24	30.23	767.9	30.30	769.6	30.4	— 0.9	65	calm.	0	0	.....	0	0	.....	.....	0	0	
25	30.30	769.6	30.37	771.3	32.2	0.1	75	calm.	0	0	.....	0	0	.....	.....	0	0	
26	30.40	772.2	30.47	773.9	36.1	2.3	84	e.	13	6	.....	0	4 s	.....	.....	0*	0	
27	30.22	767.7	30.29	769.4	45.5	7.5	88	ese.	13	6	.....	0	4 k	.....	.....	0.114	2.9	
28	30.16	766.1	30.23	767.8	39.0	3.9	98	e.	9	4	.....	0	0	.....	.....	0	0	
29	30.24	768.1	30.31	769.8	44.1	6.7	82	e.	9	4	.....	0	4 s	.....	.....	0	0	
30	29.87	758.7	29.94	760.4	47.3	8.5	74	calm.	0	0	.....	.....	10 n	.....	.....	0.201	5.1	
31	29.24	742.8	29.31	744.5	40.1	4.5	92	calm.	0	0	.....	.....	10 n	.....	.....	0	0	
Mean	30.05	763.3	30.12	765.0	47.8	8.8	84.5	.....	8.1	3.6	.....	.....	4.7	.....	.....	0.945	24.0	

GRATZ, AUSTRIA (N. 47° 04′, E. 15° 28′).

DATE.	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles per hour	Mètrs pr sec.	0–10	Upper. 0–10	Lower. 0–10	Up'er From	Lo'er From	Inch.	Mill.	WEATHER.
1883.																		
September 1	28.52	724.5	29.82	757.5	76.3	24.6	65	s.	.....	.....	1	.....	2	.....	.....	0	0	
2	28.44	722.4	29.62	752.3	75.7	24.3	52	sw.	.....	.....	6	.....	4	.....	.....	0	0	
3	28.67	728.3	29.89	759.2	65.7	18.7	80	w.	.....	.....	2	.....	6	.....	.....	0	0	
4	28.67	728.2	29.87	758.8	72.1	22.3	67	w.	.....	.....	3	.....	7	.....	.....	0	0	
5	28.59	726.2	29.82	757.4	59.5	15.3	63	nw.	.....	.....	5	.....	10	.....	.....	0	0	
6	28.72	729.4	29.95	760.7	60.4	15.8	75	e.	.....	.....	2	.....	10	.....	.....	1.256	31.9	
7	28.66	727.9	29.87	758.8	66.2	19.0	64	nw.	.....	.....	6	.....	0	.....	.....	0	0	
8	28.63	727.3	29.84	758.0	66.6	19.2	62	nw.	.....	.....	4	.....	2	.....	.....	0	0	
9	28.70	728.9	29.91	759.8	66.9	19.4	84	n.	.....	.....	4	.....	4	.....	.....	0	0	
10	28.82	732.1	30.05	763.3	63.0	17.2	63	e.	.....	.....	4	.....	6	.....	.....	0	0	
11	28.85	732.8	30.08	764.1	63.7	17.6	74	sw.	.....	.....	2	.....	3	.....	.....	0.067	1.7	
12	28.85	732.7	30.08	764.0	63.5	17.5	66	calm.	.....	.....	0	.....	10	.....	.....	0	0	
13	28.89	733.9	30.13	765.2	66.6	19.2	64	s.	.....	.....	1	.....	5	.....	.....	0	0	
14	28.91	734.4	30.15	765.7	64.4	18.0	70	s.	.....	.....	1	.....	0	.....	.....	0.197	5.0	
15	28.90	734.0	30.13	765.4	62.1	16.7	82	se.	.....	.....	1	.....	10	.....	.....	0	0	
16	28.93	734.8	30.17	766.2	61.9	16.6	82	ne.	.....	.....	1	.....	10	.....	.....	0.299	7.6	
17	28.95	735.2	30.18	766.6	63.1	17.3	85	calm.	.....	.....	0	.....	10	.....	.....	0	0	
18	28.88	733.6	30.11	764.9	64.9	18.3	66	ne.	.....	.....	1	.....	5	.....	.....	0	0	
19	28.86	733.1	30.10	764.6	59.9	15.5	85	nw.	.....	.....	4	.....	10	.....	.....	0	0	
20	28.74	730.1	29.97	761.3	63.1	17.3	72	se.	.....	.....	2	.....	0	.....	.....	0	0	
21	28.58	726.0	29.79	756.6	67.5	19.7	71	s.	.....	.....	1	.....	7	.....	.....	0	0	
22	28.55	725.2	29.76	756.0	64.6	18.1	70	sw.	.....	.....	2	.....	3	.....	.....	0.146	3.7	
23	28.60	726.5	29.82	757.5	63.1	17.3	56	nw.	.....	.....	2	.....	10	.....	.....	0.012	0.3	
24	28.80	731.4	30.03	762.7	61.2	16.2	56	sw.	.....	.....	3	.....	0	.....	.....	0	0	
25	28.79	731.2	30.02	762.6	59.5	15.3	74	sw.	.....	.....	1	.....	5	.....	.....	0	0	
26	28.86	733.1	30.10	764.4	63.5	17.5	69	s.	.....	.....	1	.....	3	.....	.....	0	0	
27	28.79	731.2	30.00	762.1	65.3	18.5	71	w.	.....	.....	2	.....	3	.....	.....	0	0	
28	28.61	726.7	29.84	757.8	61.0	16.1	79	w.	.....	.....	2	.....	10	.....	.....	0	0	
29	28.45	722.7	29.69	754.0	56.8	13.8	80	w.	.....	.....	1	.....	10	.....	.....	0.681	17.3	
30	28.35	720.2	29.58	751.2	59.0	15.0	80	w.	.....	.....	1	.....	7	.....	.....	0.055	1.4	
Mean	28.72	729.5	29.95	760.6	64.2	17.9	70.9	.....	.....	.....	2.2	.....	5.9	.....	.....	2.713	68.9	
October 1	28.38	720.9	29.63	752.6	63.0	17.2	63	se.	.....	.....	1	.....	2	.....	.....	0	0	
2	28.61	726.8	29.85	758.1	57.4	14.1	71	sw.	.....	.....	2	.....	10	.....	.....	0.244	6.2	
3	28.65	727.8	29.89	759.3	56.7	13.7	73	e.	.....	.....	2	.....	8	.....	.....	0.055	1.4	
4	28.45	722.7	29.69	754.0	57.4	14.1	65	s.	.....	.....	2	.....	10	.....	.....	0.157	4.0	
5	28.49	723.7	29.74	755.4	52.3	11.3	52	n.	.....	.....	2	.....	10	.....	.....	0.240	6.1	
6	28.54	724.9	29.78	756.3	54.7	12.6	53	n.	.....	.....	5	.....	4	.....	.....	0.244	5.7	
7	29.07	738.3	30.34	770.6	51.3	10.7	67	w.	.....	.....	2	.....	8	.....	.....	0	0	
8	29.20	741.7	30.47	774.0	52.2	11.2	68	calm	.....	.....	0	.....	0	.....	.....	0	0	
9	29.10	739.0	30.35	771.0	56.8	13.8	58	s.	.....	.....	1	.....	0	.....	.....	0	0	
10	28.92	734.5	30.16	766.1	58.1	14.5	72	s.	.....	.....	1	.....	10	.....	.....	0	0	
11	28.77	730.7	30.02	762.5	54.1	12.3	76	s.	.....	.....	2	.....	10	.....	.....	0	0	
12	28.70	729.0	29.94	760.5	57.7	14.3	56	sw.	.....	.....	1	.....	3	.....	.....	0	0	
13	28.85	732.9	30.10	764.5	58.1	14.5	62	e.	.....	.....	2	.....	10	.....	.....	0	0	
14	28.96	735.5	30.21	767.4	55.0	12.8	70	e.	.....	.....	2	.....	10	.....	.....	0	0	

NOTE.—The above observations, taken at 7 a. m., Washington time, were received too late for publication in the DAILY BULLETIN, and are given here in full; for continuation of the same, see DAILY BULLETIN.

REVIEW.

INTERNATIONAL METEOROLOGY FOR OCTOBER, 1883.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following description refers to chart ii. for the month of October, 1883, issued with this SUMMARY. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and prevailing wind-direction over the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich, mean time.

Only one area of low mean pressure appears on the chart for October, 1883; this area is indicated by the isobar for 29.4 (746.7), and is situated in Iceland, where the mean pressure, at Stykkisholm, is 29.37 (746.0). To the southward and eastward of the low area the barometric gradient increases gradually until the isobar for 30.0 (762.0), which runs from Newfoundland eastward along the forty-ninth parallel, is reached. In British India the means range from 29.81 (757.2) to 29.9 (759.4). In that part of Europe lying north of the sixtieth parallel the mean pressure ranges from 29.55 (750.6) in northern Scandinavia to 29.82 (757.4) at Saint Petersburg, Russia. In the British Isles and over the European continent, between N. 52° and 60°, the mean pressure ranges from 29.8 (756.9) to 30.0 (762.0); in all other parts of Europe it exceeds 30.0 (762.0). In the North American continent the lowest mean pressures are found in southwestern Arizona and the northern part of the Gulf of California, where they vary from 29.88 (758.9) to 29.9 (759.4). In British Columbia the pressure is less than 30.0 (762.0), but in all other parts of the continent it exceeds that amount.

Four areas of barometric maxima are exhibited on the chart; these are each enclosed by the isobar for 30.2 (767.1), and are distributed geographically as follows: the first is shown in the United States and covers the territory from N. 38° northeastward over the Atlantic seaboard states to N. 44° and between W. 70° and 78°. The second area occupies the Atlantic ocean from W. 20° westward to W. 40° and between N. 30° and 40°; at the centre of this area, near the Azores, the mean pressure is 30.26 (768.6); elsewhere over the Atlantic ocean, south of N. 50°, the pressure exceeds 30.0 (762.0). The third area stretches from the Caspian Sea eastward over Turkestan and southward to the borders of Afghanistan, the pressure over the this region being above 30.2 (767.1). The fourth area of high pressures is situated in that part of Asia bounded by the meridians of 80° and 112°, east longitude, and the parallels of 45° and 55°, north latitude. In other parts of Asia, excepting Hindostan and the region near the Sea of Okhotsk, the mean pressure exceeds 30.0 (762.0).

A comparison with the chart for the preceding month (September), shows the following changes to have occurred: over the eastern slope of the Rocky mountains and in the west Gulf states, the mean pressure is slightly below that of the preceding month. In all other sections of the United States it is above that for September, the increase being most marked in New England and in Canada. Over the Atlantic Ocean, south of 50° north latitude, there has been a general increase of pressure; between N. 50° and 60° there has been no material change, but to the northward of 60° and east of W. 30°, there has been a decrease of about .3 inch. In Europe there has been a general increase of pressure throughout the continent except in Scandinavia, where the mean pressure averages about .15 inch less than that for September. The increase is greatest in Austria, France, and the British Isles, and is least in Russia and in Denmark. Throughout Asia there has been a general and decided increase of pressure.

Compared with the corresponding month of previous years, the mean atmospheric pressure over the United States was slightly below the normal in the southern part of the country; on the Pacific coast, and in the Rocky mountain districts. In the northern districts east of the Mississippi river it was above the normal. In Canada the mean pressure was above the normal. In Europe the mean atmospheric pressure was slightly above normal in all districts, except in Russia and in the Danish and Scandinavian peninsulas; in the last-mentioned district the deficiency was about .14 inch. In British India it was .04 inch above the six years mean.

The following table gives the mean pressure and mean temperature, with corresponding departures for October, 1883, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the last six years:

Countries.	Mean pressure.			Mean temperature.		
	Oct. mean of 6 (1877–'82) years.	Oct., 1883.	Departure.	Oct. mean of 6 (1877–'82) years.	Oct., 1883.	Departure.
				°	°	°
Algeria	30.07	30.10	+ 0.03	72.4	70.8	— 1.6
Austria	29.99	30.06	+ 0.07	56.7	56.2	— 0.5
British Isles	29.91	29.94	+ 0.03	52.6	53.1	+ 0.5
Denmark	29.90	29.86	— 0.04	49.1	50.6	+ 1.5
France	29.98	30.08	+ 0.10	61.8	57.0	— 4.8
Germany	29.97	30.01	+ 0.04	51.1	52.6	+ 1.5
India	29.82	29.86	+ 0.04	81.2	81.5	+ 0.3
Italy	29.98	30.04	+ 0.06	65.0	64.0	— 1.0
Norway	29.82	29.65	— 0.17	45.5	45.8	+ 0.3
Portugal	30.05	30.13	+ 0.08	67.0	64.2	— 2.8
Russia	30.01	29.99	— 0.02	48.6	50.3	+ 1.7
Spain *	29.99	30.11	+ 0.12	66.0	62.7	— 3.3
Sweden	29.87	29.76	— 0.11	42.5	44.1	+ 1.6

* Mean for five years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of October, 1883, as compared with the means for six years:

Stations.	Mean pressure.			Mean temperature.		
	Oct. mean of 6 (1877–'82) years.	Oct., 1883.	Departure.	Oct. mean of 6 (1877–'82) years.	Oct., 1883.	Departure.
				°	°	°
Gibraltar	30.04	30.10	+ 0.06	70.0	68.6	— 1.4
Malta, Mediterranean Sea	29.99	30.01	+ 0.02	74.0	72.2	— 1.8
Sandwick Manse, Orkney Islands	29.86	29.71	— 0.15	48.4	48.2	— 0.2
Bridgetown, Barbadoes*	29.93	.....	.....	82.4	.....	.....
Cape Town, Cape Good Hope	30.05	29.90	— 0.15	70.7	70.7	normal
Fort Napier, Natal, South Africa	29.87	29.87	normal	73.2	76.9	+ 3.7
Freetown, Sierra Leone	29.91	29.94	+ 0.03	83.9	83.6	— 0.3
Mauritius, Indian Ocean	30.11	30.11	normal	75.1	74.3	— 0.8
Melbourne, New South Wales	29.98	29.99	+ 0.01	54.6	54.0	— 0.6
Nassau, Bahamas	30.00	30.03	+ 0.03	79.8	80.6	+ 0.8
Godthaab, Greenland	29.70	29.63	— 0.07	30.1	27.1	— 3.0
Stykkisholm, Iceland	29.74	29.37	— 0.37	39.8	39.9	+ 0.1
Thorshavn, Färöe Islands	29.77	29.59	— 0.18	45.8	46.9	+ 1.1
Zi-Ka-Wei, China	30.15	30.17	+ 0.02	60.9	61.5	0.6
Athens, Greece	30.02	30.03	+ 0.01	72.3	72.0	— 0.3
Cagliari, Sardinia, Italy	29.95	30.02	+ 0.07	70.9	67.8	— 3.1
Tokei, Japan	30.07	30.09	+ 0.02	57.8	61.0	+ 3.2
Angra, Azores*	30.06	.....	.....	66.7	66.9	+ 0.2
Funchal, Madeira Islands	30.11	30.16	+ 0.05	73.0	71.1	— 1.9
Ponta Delgado, Azores	30.08	30.28	+ 0.20	69.5	70.0	+ 0.5
Archangel, Russia	29.84	.....	.....	38.0	.....	.....
Tiflis, Russia	30.10	30.13	+ 0.03	65.2	68.4	+ 3.2
Astrakhan, Russia	30.15	30.19	+ 0.04	56.1	59.5	+ 3.4
Ekaterinburg, Russia	30.03	29.89	— 0.14	35.9	36.9	normal
Tashkend, Toorkistan, Asia	30.21	30.17	— 0.04	54.8	62.2	+ 7.4
Barnaul, Siberia, Asia	30.16	30.15	— 0.01	37.5	40.6	+ 3.1
Yeniseisk, Siberia, Asia	30.10	30.14	+ 0.04	29.2	31.6	+ 2.4
Pekin, China	30.16	30.15	— 0.01	53.6	56.5	+ 2.9
Nikolaevsk on the Amoor, Asia	.....	29.94	.....	.....	35.4	.....
San Juan de Puerto Rico, W. I.	29.95	29.99	+ 0.04	80.8	79.5	— 1.3
Beirut, Turkey in Asia	29.95	29.98	+ 0.03	79.1	79.9	+ 0.8
Mexico, Mexico	30.21	.....	.....	53.5	.....	.....
Havana, Cuba, W. I.	29.97	30.00	+ 0.03	78.5	75.5	— 3.0
Paramaribo, D. Guiana, S. A.	29.99	30.00	+ 0.01	80.8	79.7	— 1.1
York Factory, B. A.	29.96	30.15	+ 0.19	23.3	28.5	+ 5.2

* Means for five years only.

In the United States the mean temperature of the air was above the normal in the country lying south of the thirty-fifth parallel and east of the one hundred and fifth meridian; in this section the excess was from 1° to 5°. In all other districts of the United States the temperature was from 2° to 6° below the normal. In Canada it was also considerably below the normal. In Europe the mean temperature of the air was slightly below normal in the southern peninsulas, in France, and in Austria; in all other countries it was normal or slightly above the normal. In Hindostan it was 0°.3 above the six years' mean; the highest mean reported was 86°.2 Fahr. (30°.1

Cent.) at Kurrachee, and the lowest was 73°.9 Fahr. (23°.3 Cent.) at Belgaum.

The following are some of the extreme mean temperatures reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Africa	83.6	28.7	Jacobshavn, Greenland	20.3	— 6.5
Cairo, Egypt	81.9	27.7	Godthaab, Greenland	27.1	— 2.7
Nassau, Bahamas	80.6	27.0	York Factory, B. A.	28.5	— 1.9
Beirut, Syria	79.9	26.6	Yeniseisk, Siberia	31.6	— 0.2

In the United States the prevailing winds were mostly northerly and northeasterly over the country east of the ninetieth meridian; in the other districts they were from south, east, northeast, and north, and on the Pacific coast they were variable. Over the Atlantic ocean the prevailing winds were northeasterly and easterly from the coast of the United States eastward to the sixty-fifth meridian and between N. 20° and 45°. Between N. 30° and N. 45° and from W. 65° to 30° they were mostly southerly; from W. 30° eastward to the European coasts and between N. 30° and 45° they were northeasterly and northerly. South of N. 30° they were easterly, and north of N. 45° they were northwesterly. In Europe the winds were mostly from south to southwest. In Japan the winds were mostly northerly.

The rainfall (including melted snow) during October, 1883, was less than the average in the lake districts of the United States, in the south Atlantic and east Gulf states, Rio Grande valley, in Idaho and Montana, and in the north Pacific coast region; in all other districts it was greater than the average, the excess being most marked in the Ohio valley, Tennessee, Florida, and New England. In Canada the rainfall was below the average. In Europe it was about the average.

STORM-TRACKS FOR OCTOBER, 1883, AND APRIL, 1882.

With this SUMMARY are issued the international storm-track charts for the months of October, 1883, and April, 1882. Hereafter, the storm-track chart for the month corresponding to that for which the SUMMARY is published, will be issued with that SUMMARY. The charts covering the intervening period (May, 1882, to September, 1883,) will be prepared as soon as practicable and will be published with the SUMMARY, from time to time, until the series is brought up to date.

These charts continue the international series begun in November, 1877. The data are charted for each day of the month, on the maps accompanying each issue of the "International Bulletin," and from these charts and additional miscellaneous data are traced the movements of the centres of barometric minima.

The following refers to the chart for October, 1883:

During October, 1883, the paths of thirty-six depressions that have appeared in the northern hemisphere have been determined; the geographical distribution of these disturbances was as follows: Nine depressions are traced in the North American continent; six of these moved with more or less rapidity from southwest to northeast; two passed eastward near the northern boundary of the United States, and one (number ii.) apparently originated in Mexico, and pursued a somewhat abnormal path, moving, first, north-northwestward over Arizona and southeastern California, to about latitude 42° north, and thence northward and eastward to British America.

Nine depressions are traced on the Atlantic ocean; of these, three are continuations of storms which developed in, and passed over the United States and Canada; while these disturbances advanced sufficiently near the European coasts to materially affect the weather conditions over western Europe, the centre of one only (number xiv.), appears to have actually entered the continent. One disturbance prevailed over the region between Bermuda and the coast of the United States, and one was first noted in the vicinity of the Bahamas, from which region it moved northeastward along the coast of the Carolinas. One depression developed in mid-ocean, and one near the coast of Labrador. Two depressions are shown in Greenland, these passed southeastward and entered the European continent. The general direction of movement of the storms which crossed the Atlantic was northeastward, with the exception of the two which developed in Greenland.

Of the storm-centres traced in Europe, five entered the continent north of the sixtieth parallel, and moved in an easterly or southeasterly direction; one appeared in Germany, and moved northeastward over the Baltic to the White Sea; and one developed over the North Sea, and passed southeastward to the Adriatic, where it recurved and moved off in an east-northeasterly direction. Two depressions are exhibited over the Mediterranean, and one in central Russia; one developed in northern Russia and moved eastward into Siberia.

Five depressions appeared in Japan, their general movement being from southwest to northeast. Number xxxiii. indicates the position of a disturbance which appeared in the Pacific ocean on the 9th and 10th, and numbers xxxiv., xxxv. and xxxvi. are depressions which occupied Alaska and Behring Sea.

The following are descriptions of the depressions charted:

I.—This disturbance appeared in Colorado on the 1st, the pressure near the centre being 29.68 (753.9); as the depression moved rapidly east-northeastward it caused rainy weather in the districts to the eastward, and by the morning of the 2d it occupied the Ohio valley, the barometric minimum being 29.43 (747.5) at Columbus, Ohio. During the day it passed into the Atlantic from the Massachusetts coast, followed by clearing weather in the districts to the westward of the coast line. This disturbance is hereafter referred to as low area xi.

II.—This disturbance was in northwestern Mexico and the Gulf of California on the 1st. The observer at Altata, state of Cinaloa, Mexico, reported: at 9 p. m. of the 1st, a strong wind sprang up from ne. and changed suddenly to all points of the compass, increasing in force until 5 a. m. of the 2d. The gale destroyed the town of Altata, leaving only four houses standing. The observer's anemometer was carried away, so that the velocity of the wind could not be ascertained. In some places the sea washed as far as one mile beyond high-water mark. The bark "Harmodius," at Mazatlan, had to cut away her three masts to avoid being driven ashore during a severe gale on the 2d and 3d. During the 2d the disturbance appears to have entered the United States, and, passing northwestward over Arizona, it was shown in southeastern California on the 3d, its centre being then enclosed by the isobar for 29.6 (751.8). By the 4th it had moved northward to British Columbia, causing moderate to strong northerly gales off the coast, and by the following day the depression occupied the Northwest Territories, where it finally dissipated.

III.—This depression developed in Arizona and New Mexico on the night of the 6th, and on the morning of the 7th its centre was enclosed by the isobar for 29.8 (756.9). The disturbance moved rapidly in a north-northeasterly direction to northern Minnesota and Manitoba, where it appeared on the 8th, with pressure near the centre 29.56 (750.8). Cloudy, rainy weather prevailed in the central valleys during its passage, and on the 8th the rains extended to the lake region. On the 9th the depression occupied Lake Superior, the pressure having increased to 29.65 (751.1); but unsettled and showery weather continued in the lake region and along the Saint Lawrence valley. On the 10th the disturbance was over the northern part of the province of Quebec, whence it passed northeastward over Labrador to the ocean; this is hereafter described as low area xiv.

IV.—This was an extensive but shallow depression which occupied the Ohio valley, Tennessee, and the Gulf states on the 13th, the barometric minimum, 29.9 (759.4), being in Louisiana. Rain fell in the upper lake region and in the Mississippi valley on the 13th, and extended on the 14th to the lower lakes and eastward to the coast line. On the 14th the area of low pressure occupied western New York and the New England states, where

the pressure ranged from 29.7 (754.4) to 29.8 (756.9); moderate southwesterly gales prevailed along the New England coast, with high northerly winds over the lake districts. During the 14th the disturbance passed over New England and the Canadian Maritime Provinces and entered the Atlantic, where it was shown on the 15th off the coast of Newfoundland; during that date it probably became merged in an extensive depression which occupied the ocean north of the fiftieth parallel.

V.—This depression appeared in the southwestern part of the United States on the 16th, the pressure at the centre of disturbance being about 29.75 (755.6). By the 17th the area of depression occupied Colorado, Nebraska, and Kansas, over which districts the pressure ranged from 29.5 (749.3) to 29.6 (751.8), with rainy weather accompanied by high winds over the country to the northward and northeastward of the centre. On the 18th the disturbance was shown in Manitoba, where it was joined by a depression which had advanced from the northwest; at the centre of disturbance the barometer read 29.25 (742.9), and the isobar for 29.4 (746.7) stretched from Manitoba eastward to Lake Superior. An area of high pressure occupied the Atlantic coast districts on the 18th, and as the disturbance moved eastward the barometric gradient became somewhat steep, and moderate southerly gales prevailed over the lakes. The depression moved eastward with increasing pressure and was attended by showery weather along the Saint Lawrence, and on the 19th it disappeared to the eastward of Hudson Bay.

VI.—This depression appeared in the Saskatchewan valley on the 17th, when low area v. was in Kansas; it moved eastward, attended by rainy weather, and on the 18th it coalesced with low area v. in Manitoba.

VII.—This disturbance probably developed over the western part of the Gulf of Mexico on the 23d, and by the following day its centre was on the Texas coast, where the pressure was 29.95 (760.7). By the 25th it had moved northeastward to Illinois and Ohio, where the barometric readings ranged from 29.8 (756.9) to 29.95 (760.7); moderate easterly winds with cloudy weather and occasional rain prevailed over the lake region. On the 26th the centre of disturbance was near Buffalo, where the barometer read 29.93 (760.2); during the day it passed eastward over New England into the Atlantic, and is hereafter described as low area xviii.

VIII.—This depression appeared off the coast of Oregon and Washington Territory on the 24th, the pressure at the land stations being less than 29.5 (749.3) on that date. During the 25th and 26th, the disturbance moved slowly eastward, causing cloudy, rainy weather in the northern plateau district, and in California southward to San Francisco. On the 27th the disturbance was in the Saskatchewan valley, where the pressure was 29.4 (746.7). On the 28th it occupied the same region, with no material change in pressure; on the 29th the region of least pressure was shown in Manitoba, where the barometer read 29.33 (745.0), the trough of low pressures extending northwestward over the Northwest Territories and causing rain or snow in the northwestern sections of the United States and in British America. An area of high pressures occupied the Hudson Bay region, and the disturbance was apparently forced in an east-southeasterly direction, combining, on the 30th, near the mouth of the Saint Lawrence river, with a depression which had moved from Kansas northeastward over the lake region.

IX.—This disturbance appeared in Colorado on the 28th, on which date the pressure in that state was below 29.6 (751.8), while over the region between the meridians of 90° and 110° it was below 29.8 (756.9), and a deep depression was in the Saskatchewan valley; cloudy or rainy weather prevailed over the country from the Mississippi river eastward to the lake region. The disturbance moved northeastward with slowly decreasing pressure, and on the 29th it was shown in northern Indiana and Michigan, where the barometer read 29.4 (746.7), and showery weather prevailed from Lake Michigan eastward to the Atlantic coast. As the depression moved northeastward over the provinces of Ontario and Quebec, it was joined by low area viii, the combined system forming a deep depression which exhibited great energy; on the 30th, the storm-centre, where the pressure was now below 28.9 (734.0) was near Quebec; an area of high pressures existed to the eastward of the Maritime Provinces, and as the depression approached the Atlantic, steep barometric gradients were formed, so that strong southerly and easterly gales prevailed over the Maritime Provinces, the Gulf of Saint Lawrence, and over the Atlantic as far as the fifty-fifth meridian. Another area of high pressures occupied the region north of Lake Superior, and as the winds shifted to westerly over the lakes, they attained the force of a strong gale; high westerly winds also occurred at stations on the New England coast. On the 31st the depression was over the Gulf of Saint Lawrence, the pressure at Anticosti Island being 29.11 (739.4) at the morning observation. The wind shifted to westerly over the Maritime Provinces, and moderated slightly, but violent westerly gales were reported on the Banks, with equally heavy southerly and southwesterly gales from W. 50° eastward to W. 35°.

The following are descriptions of the disturbances traced over the Atlantic and in Europe:

X.—This depression was shown off the coast of Labrador on the 2d, the lowest reported barometric reading being 29.33 (745.0) in N. 52°, W. 54°. It moved northward, and on the 3d the low area was shown in Greenland, the barometer at Godthaab reading 29.10 (739.1), a fall of about .6 inch during twenty-four hours. The depression apparently continued its northerly movement, and was probably closely connected with that charted as low area xii.

XI.—This was a continuation of the depression traced over the United States as low area i. It passed into the Atlantic on the 2d, and, moving northeastward along the coast of Nova Scotia, was central east of Cape Breton Island on the 3d; on the 4th it was near the Strait of Belle Isle, attended by moderate to strong southwesterly gales on the Banks of Newfoundland. During the 5th it probably merged in a depression which occupied Greenland.

XII.—On the 5th the barometer at Jacobshavn, Greenland, read 29.11 (739.4), the pressure at that station having been unsteady since the 3d. By the 6th the decrease had extended eastward to Iceland, where the barometer on the 6th showed a fall of about .4 inch. On the 7th the area of low barometer was shown off the Norwegian coast, and rainy weather had become general over the Scandinavian peninsula; during the day the depression passed over northern Scandinavia, and on the 8th the barometric minimum, 29.07 (738.4), was reported at Petrozavodsk, Russia; moderate to strong westerly winds prevailed over Scandinavia, the Baltic, and northeastern Europe, with cloudy or rainy weather, while an area of high pressure, giving clear weather and higher temperature, prevailed over central and southwestern Europe. By the 9th the depression had advanced to eastern Russia; moving thence eastward, it crossed the Ural mountains and disappeared in Siberia.

XIII.—This disturbance apparently originated in the neighborhood of Bermuda on the 8th; on that date the pressure over the ocean between Bermuda and W. 60° and N. 29° decreased about .25 inch. On the 9th the storm-centre was a little to the eastward of Bermuda, where the barometer now read 29.51 (749.5), wind n.; moderate to strong northerly gales prevailed over the ocean between the United States and Bermuda, with easterly gales to the northward of 35° N. and westerly and southwesterly breezes to the southward of 28° N. By the 10th the storm-centre had passed to the westward of Bermuda; the pressure over the region between W. 62° and 70° and N. 27° and 33° remained about 29.7 (754.4), and the wind at Bermuda shifted to southwest and increased to a gale, as did also the southwesterly winds encountered by vessels in the southeast quadrant of the disturbance. To the westward and northward the heavy gales continued, the wind gradually shifting to northeast between Bermuda and the coast line. On the 11th the reports showed the storm-centre to be near

N. 30°, W. 74°, the lowest reported pressure being 29.74 (755.4); strong northerly and northeasterly gales prevailed off the coast of Florida and the Carolinas, while the winds shifted to southeast over the region east of the seventieth meridian, and gradually moderated. During the 12th and 13th the storm-centre was off the coasts of Georgia and South Carolina, and, owing to the presence of a rather steep barometric gradient to the eastward and northeastward of the depression, moderate to strong southeasterly and easterly gales prevailed along the coast from North Carolina northward to the fortieth parallel and eastward to the seventieth meridian. During the 13th the disturbance appears to have entered South Carolina as a shallow depression and to have rapidly filled in. The schooner "Elise and Lucie" encountered this storm and reported on the 9th, when in the latitude of Bermuda and W. 74° 30′, that she had a hurricane from northeast, lasting four days, during which she lost and split sails; ocean steamers arriving in New York reported having met with a very heavy southeasterly sea-swell on the 11th in N. 41°, and from W. 66° to 72°.

XIV.—This was a continuation of the depression charted as low area iii.; it passed off the Labrador coast during the 10th, and on the following day it was central near N. 57°, W. 40°, where the lowest reported barometric reading was 29.52 (749.8); moderate westerly and southwesterly gales prevailed over the ocean between W. 50° and 30°, and N. 45° and 55°. By the 12th the region of least pressure was shown near N. 56°, W. 26°, the barometer having fallen to 29.14 (740.1); strong northwesterly breezes to moderate gales occurred over the region west of the thirtieth meridian; and to the eastward of the twenty-fifth meridian the winds were southerly and southwesterly, but they did not exceed the force of a moderate gale. On the 13th, the storm-centre was to the southward of Iceland, where the barometer had fallen to 28.89 (733.8); during the 14th and 15th, the disturbance moved slowly southward, the pressure at the centre remaining below 29.0 (736.6), and throwing off subsidiary depressions, which traveled over the British Isles, giving rainy weather and strong winds to gales over those Islands and the North sea. The passage of the disturbance was probably retarded by the area of high barometer which occupied northeastern and eastern Europe during the 13th, 14th and 15th, but on the 16th this high area began to withdraw to the southeastward, and at the same time, the depression advanced to northern Scotland. On the 16th, the lowest barometric readings were reported from the Orkney and Shetland Islands, where the pressure was 28.64 (727.4), and 28.8 (731.5), while the barometer stood below 29.0 (736.6) over the whole of Scotland, and the northern part of Ireland. During this date, strong southwesterly breezes to gales, with rainy weather prevailed over the British Isles and western Europe, while the wind moderated over the ocean west of the fiftieth meridian. On the 17th the storm-centre was near the Färöe Islands, barometer at Thorshavn reading 28.49 (723.6), and stormy weather continued over the greater part of western Europe and the Scandinavian peninsula. On the 18th the centre of disturbance was in Norway, the barometric minimum, 28.63 (727.2), being at Brono. Steep gradients formed over the British Isles and that part of Europe lying north of the fiftieth parallel, so that strong westerly gales prevailed generally from W. 20° eastward to E. 15°, with southerly and southwesterly gales over the Gulf of Bothnia and in the Russian Baltic Provinces. During the 19th and 20th the centre of disturbance remained in Scandinavia with no change of pressure, and during those dates small subsidiary disturbances formed to the southward of the central depression and passed eastward, giving heavy rains. During the 21st the pressure began to increase, and the chart for that day showed the low area to be over southern Sweden and the Baltic, where the pressure ranged from 29.26 (743.2) to 29.3 (744.2); as the barometric gradient declined rapidly, the wind in nearly all districts moderated to fresh or strong breezes. On the 22d the depression occupied the Gulf of Finland, the pressure having increased to 29.6 (751.8); showery weather prevailed in the Russian Baltic Provinces, followed by fair weather on the 23d, when the depression filled in.

XV.—This disturbance occupied northern Greenland on the 20th and 21st; it moved southeastward with decreasing pressure, and on the 22d it was shown near Iceland, pressure at Stykkisholm, 28.67 (728.2). Rather steep gradients were formed over the ocean south of Iceland, and moderate to strong westerly gales were reported by vessels on the fiftieth parallel. On the 23d the storm-centre was between Iceland and the Färöe Islands, and rain was falling in the British Isles and Scandinavia, with decreasing pressure in the northern districts. During the 24th and 25th the disturbance was between the Färöe Islands and the Norwegian coast, the pressure on the last-mentioned date having decreased to 28.8 (731.5); westerly and southwesterly winds, increasing to strong gales, occurred in the British Isles, North Sea, and northern Germany, with southerly and southeasterly breezes in the Baltic and Scandinavia, and showery weather in nearly all districts of western and northern Europe. On the 26th the region of least pressure occupied the southern part of the Gulf of Finland, accompanied by strong gales over the Baltic, where the winds had now shifted to west. During the day the depression moved eastward and passed into northeastern Russia, where it was central on the 27th. On the 28th and 29th it occupied the Ural region, causing fresh to strong westerly breezes over eastern Russia and southward to the Caspian Sea. By the 30th it had passed into Siberia, where it apparently dissipated.

XVI.—This depression appears to have developed in the sub-tropical region near the Bahamas on the 22d, but it did not attain any great depth or display unusual storm-energy during the earlier part of its path. On the 22d the pressure over the Bahamas and the West Indies was about 29.88 (758.9) and over the region north of the twenty-seventh parallel it was above 30.0 (762.0); moderate to strong northeasterly gales were reported during that day by vessels in the Gulf stream and near the coasts of the United States. On the 23d, the disturbance was near the Carolina coast but the barometer did not fall below 29.95 (760.7), but owing to a somewhat steep gradient that existed to the northward and northeastward, very strong easterly and northeasterly gales prevailed along the coast of the United States from Hatteras, North Carolina, to Cape Cod, Massachusetts. On the 24th the depression pushed steadily northeastward against the area of high pressures which persisted to the northward of the fortieth parallel, causing a steepening of the barometric gradient and an increase in the force of the easterly and northeasterly gales; the southerly and southeasterly winds to the eastward of the depression also increased in force. The chart for the 25th, showed the centre of disturbance for the first time, enclosed by the isobar for 29.8 (756.9), near N. 41°, W. 61°; an area of high barometer occupied the region from W. 52° eastward to W. 40° and from N. 25° northward to N. 48°, so that steep gradients were formed to the eastward of the depression, which produced violent southerly and southeasterly gales. On the 27th the disturbance moved to about N. 42°, W. 46°, the pressure remaining about 29.75 (755.6); as the gradients had declined in all quadrants of the depression, the winds during the 26th did not exceed the force of a moderate gale, but on the 27th, owing to a great decrease of pressure that occurred at the centre of disturbance, they again attained the force of 10. On the 27th, the lowest barometer reading was 29.02 (737.1), in N. 48° W. 32°, the depression extending as a trough of low pressure northward to Iceland. By the 28th, the disturbance had moved north-northeastward to about N. 60°, W. 21°, and during that and the three following days, it was apparently forced to the westward in the vicinity of Iceland, the pressure fluctuating between 29.0 (736.6) and 29.3 (744.2). An area of high pressures, which appeared in southeastern Europe on the 26th, began to move northwestward with increasing pressure and by the 29th and 30th, it had spread over the whole of northern and western Europe, the pressure at the centre, in western Russia, being 30.7 (779.8). The movement of this

area of high pressures probably accounts for the northerly and westerly movement of the low area.

XVII.—This disturbance appeared near N. 49°, W. 42° on the 23d, when the barometer suddenly fell to 29.27 (743.4) a decrease of about .7 inch. The depression moved northeastward, and during the 24th it apparently merged in low area xv., which then occupied the Färöe Islands. Strong breezes to moderate gales attended the passage of this disturbance.

XVIII.—This was a continuation of low area vii.; it entered the Atlantic during the 26th, the pressure gradually decreasing after the disturbance left the land, and on the 27th it was central near N. 43°, W. 60°. On the 28th it was near N. 43°, W. 48°, the pressure having decreased to 29.27 (743.4) near the centre; strong northerly and northeasterly winds prevailed over the Banks of Newfoundland, with moderate to strong easterly and southerly winds to the northward and eastward of the low area. On the 29th the disturbance was shown near N. 48°, W. 34°, with the barometer down to 29.12 (739.5), and very heavy southerly gales to the eastward of the thirtieth meridian; on the 30th it was near N. 53°, W. 28°, and during the day it probably became merged in low area xvi.; the combined depressions causing a continuance of heavy westerly gales over the region south of the fifty-fifth parallel at the close of the month.

XIX.—This disturbance occupied central and western Europe on the 1st, the barometric minimum, 29.48 (748.8), being in Germany. On the 2d the low area was in southern Sweden, the pressure at the centre remaining unchanged; during the 3d and 4th it moved northeastward to northern Russia and disappeared in the White Sea region. During its passage it caused showery weather in the British Isles and in the northern and western districts of Europe.

XX.—This was a depression which appeared in central Russia on the 2d; it moved northeastward, with steadily decreasing pressure, and on the 3d its centre was shown near Kasan, where the barometer read 29.33 (745.0). On the 4th it was central in the Ural region, barometer at Ekaterinburg 29.17 (740.9); during the day the disturbance passed into Siberia, and on the 5th it was shown near Yeniseisk, and by the following day it had passed beyond the stations of observation.

XXI.—This depression developed over the North Sea on the 3d; it moved southward with decreasing pressure at the centre, and attended by general rains in western Europe. On the 4th the centre was enclosed by the isobar for 29.4 (746.7), which covered the Netherlands and the northern part of the Channel; strong northerly breezes to moderate gales prevailed over the British Isles; westerly and northwesterly breezes in France, and southerly and southeasterly winds in Denmark and Germany, with cloudy or rainy weather in most districts. The disturbance moved southeastward over Germany, and by the 5th it occupied northern Italy; during the day it passed east-northeastward over Austro-Hungary, and disappeared in Russia on the 6th, its passage being attended by showery weather and brisk winds.

XXII.—This depression appeared in the region south of the White Sea on the 5th; on the 6th it was near Lake Onega, causing a strong northeasterly gale at Petrozavodsk. On the 7th the area of low barometer occupied northern Russia, and showery weather prevailed in the districts to the southward and westward of the disturbance. On the 8th this disturbance crossed the Ural mountains and disappeared in western Siberia, causing a moderate northerly gale at Ekaterinburg.

XXIII.—This was a depression which appeared near Akmolinski, Siberia, on the 6th, when the barometer at that station fell to 29.19 (741.5). By the following day the depression had apparently filled in, the barometer having risen to 30.19 (766.8).

XXIV.—This disturbance appeared in the extreme northern part of Scandinavia on the 8th, and remained in that region until the 9th, when it began to move southeastward. On the 10th the centre was to the southwestward of Archangel, with the pressure below 29.2 (741.7); it moved thence eastward, and on the 11th it occupied the Ural region, lowest barometer reported being 29.43 (747.5). On the 12th it moved into northeastern Siberia and disappeared.

XXV.—This appeared on the 11th, off the coast of Norway; on the 12th its centre was in Finland, where the pressure was 29.35 (745.5); strong northwesterly gales prevailed over the Gulf of Bothnia and at stations in Scandinavia. On the 13th the depression was central north of Archangel, where the barometer read 29.53 (750.0); during the day the disturbance disappeared in the Arctic region.

XXVI.—This depression appeared in the Mediterranean on the 12th, on which date the centre was north of Sicily where the pressure was 29.83 (757.7). On the 15th the centre was near the entrance to the Adriatic; by the following day the the depression had filled in. Moderate rains accompanied the passage of this disturbance.

XXVII.—This depression developed over the Mediterranean near the eastern coast of Spain on the 21st; it moved slowly northeastward and on the 22d it occupied the Gulf of Genoa, where the pressure was about 29.85 (758.2). Rainy weather prevailed in the French districts adjoining the Mediterranean, and over Italy; on the 23d the depression occupied the Adriatic, the lowest reported barometric reading being 29.85 (758.2). During the day the disturbance moved eastward over Austro-Hungary, and on the 24th its centre was enclosed by the isobar for 29.8 (756.9); on the 25th it was to the northward of the Black Sea, where it apparently dissipated. Its passage was attended by showery weather and fresh to brisk winds.

The following descriptions refer to the depressions charted in Japan:

XXVIII.—This depression appeared off the coast of southern Japan on the 4th, the pressure at the land stations being about 29.85 (758.2). As the disturbance moved northeastward along the coast, showery weather prevailed in Niphon, with fresh to brisk winds at coast stations. On the 5th the storm-centre was enclosed by the isobar for 29.8 (756.9), the U. S. S. "Pensacola," in N. 32° 40′, E. 140° 58′, reporting barometer 29.78 (756.4), wind sse., force 3. On the 6th the centre of disturbance was to the eastward of 141° east longitude, and was apparently increasing in energy. The "Pensacola," in N. 32° 39′, E. 140° 58′, reported barometer 29.41 (747.0), wind n., force 9. During the 6th the disturbance disappeared over the Pacific.

XXIX.—This disturbance appeared off the southern coast of Kiusiu on the 7th, the pressure at the centre of depression being less than 29.6 (751.8). On this day rainy weather and strong winds to gales prevailed over Niphon and the southern districts. During the day the depression moved northeastward over southern Niphon, with decreasing pressure and increasing storm-energy, and on the 8th its centre was shown in northern Niphon, where the barometer now stood at 29.30 (744.2), while moderate to strong gales prevailed in all districts except that in the extreme southwest. By the following day the disturbance had apparently passed into the Sea of Okhotsk, and clearing weather set in over Japan.

XXX.—This disturbance, like its predecessor, appeared off the southern coast of Japan, on the 12th. It moved northeastward along the eastern coast of Niphon, and on the 13th, it was central to the northeastward of Japan, passing thence beyond the limits of the observations. During its passage it caused strong winds to gales, and rainy weather.

The depressions numbered xxix. and xxx., were unusually severe in Japan. The following interesting article by Mr. E. Knipping, giving a detailed description of the paths of these storms, was published in the "Japan Mail," of October 22d, 1883, and is given in full herewith:

Notes on the storms of October 7th to 9th, and 12th to 13th, 1883.

The geographical position of Japan, between the continent of Asia on one side, and the Pacific ocean on the other, makes its climate dependent on these two great expanses of land and water, which, in their influence on the distribution of pressure in summer and winter, show the greatest contrasts.

In winter a wide area of high pressure, or anti-cyclone, lies over central Asia, while a deep depression occupies the northern Pacific near the Aleutian

Islands, causing a constant air current over Japan from north and west. In summer the positions of the highest and lowest pressure are nearly reversed, the lowest being then in Asia, the highest over the eastern part of the north Pacific. At this time of the year south to east winds are prevalent in Japan.

Whenever these two commanding areas of high and low pressure are well established in the middle of winter and summer the weather in Japan shows the greatest constancy, but as soon as they commence shifting in the spring and fall the weather becomes unsettled and changeable.

The autumn changes of this year began on September 1st, and brought a number of smaller and three large depressions. The first of the large ones passed September 11th to 14th (see "Japan Mail" of September 24th); the second, October 7th to 9th; the third, October 12th to 13th; the two last ones being similar in many respects.

The storm of October 7th to 9th traversed the whole country from southwest to northeast with great rapidity and fury. It passed probably through or near the Riukiu Islands, crossed 30° north latitude in about 130° east longitude or more, was off Kii Channel on the 8th at 6 a. m., passed east of Wakayama and Osaka (noon), Kioto (1 p. m.) to Kanazawa, in Echizen (2 p. m.), thence via Niigata (5 p. m.) to near Aomori (10 p. m.), and through Tsugaru strait into Hokkaido, passing Sapporo earlier than 6 a. m. on the 9th.

In these twenty-four hours the centre thus traveled more than twenty-five n. m. p. h. on an average, the distance, Wakayama–Sapporo, being six hundred n. m.; but from 5 p. m. on the 8th its rate of progress was fifty-five n. m. p. h.

The weather map for Sunday, October 7th, 2 p. m., shows the first approach of this depression. The barometer had fallen at Kagoshima 3 mm. since the morning, while pressure was banking up over the Inland Sea and in eastern Nippon by 2 mm. As these changes were not known at the time in Tokiyo, the first intimation of a storm approaching the southern coast was received by special telegram from Kagoshima and Nagasaki, heavy gales blowing at both stations at 9 and 10 p. m.. respectively, so that the warning issued immediately to the southwest coast was late for these two stations.

On Monday morning the 8th the depression had made rapid progress, advancing towards the northeast. The centre was then off Kii Channel, with very steep gradients* over central Japan from 5 upwards to 9; north to east gales from Kochi to Hamamatsu, little wind yet in northeastern Japan and also in the extreme west, heavy rain all over southern Nippon.

At noon the centre was abreast of Wakayama and Ozaka; at 2 p. m. near Kanazawa, the barometer having fallen there 17 mm. in eight hours, the heaviest fall recorded at any station since the publication of the weather maps in March. In eastern Nippon gradients ranged about 6, and the rain extended further northward to Hakodate.

From 2 to 10 p. m. the fluctuations in pressure were greatest, a fall of 17 mm. being recorded at Aomori, a rise of 20 mm. at Kanazawa. The former station had a calm at 10 p. m., the centre of the storm being near the station, while Hakodate had an easterly gale; all eastern Nippon, south to west gales.

On the 9th at 6 a. m. the centre was beyond Sapporo. In the whole south the wind had gone down and Sapporo, near the centre, had light wind, but in Tsugaru Strait and in northern Nippon strong southwesterly gales were blowing, changing afterwards to west, and at Sapporo with increasing force to northwest. At night the last gales were recorded in the north.

At both Hokkaido stations the wind reached force 6†; at thirteen others, force 5; at three more, force 4; leaving four out of the twenty-two stations, with force 3, or less.

The lowest pressure recorded was at Wakayama, 738 mm.; Ozaka and Kiyoto, 737 mm.; Kanazawa and Niigata, 738 mm.; Aomori and Sapporo, 743 mm.; the centre travelling with the greatest speed at the time when the pressure near the centre was lowest.

At two stations the change of wind near the centre lagged considerably behind the passage of the minimum of pressure, namely, at Ozaka, where the lowest barometer was noted at noon; north wind at 1 p. m.; west wind at 2 p. m.; and at Niigata with lowest reading at 5 p. m.; southeast wind at 6 p. m.; southwest wind at 7 p. m. In slowly moving cyclonic storms the greatest change of wind takes places usually about the time when the barometer is lowest.

The amount of rain for two successive days was:

	mm.		mm.
At Wakayama	139	At Kanazawa	62
Ozaka	96	Hiroshima	59
Sapporo	93	Gifu	56
Kiyoto	89	Numadzu	40
Sakai	82	Tokiyo	39
Miyasaki	66	Hakodate	34
Miyako	64	all others	18 or less.
Kochi	63		

* Greatest barometric slope in mm. for 60 naut. miles.

† At stations provided with anemometers for registering the velocity of the wind, the following table is used:

		Scale 0-6
Up to	1.5 metres per second	force 0
Up to	3.5 metres per second	force 1
Up to	6 metres per second	force 2
Up to	10 metres per second	force 3
Up to	15 metres per second	force 4
Up to	29 metres per second	force 5
Above	29 metres per second	force 6

Not provided with anemometers are: Kagoshima, Miyasaki, Shimonoseki, Sakai, Hamamatsu, Numadzu, Akita; at these stations the force is guessed.

Not two days after the disappearance of this storm in the north, on the 11th, the aspect in the south grew threatening again, another depression advancing with the same symptoms and in the same quarter as the one which had just passed.

Saturday, the 13th October, at 6 a. m., its centre was near Wakayama with the pressure then at 746 mm., exactly the same as five days earlier and also with very steep gradients in central Japan, ranging from 4 to 11. After passing Wakayama, however, the centre did not cross to the sea of Japan, but went straight ahead, being about midway between Niigata and Tokiyo at 2 p. m., entering the Pacific near Nobiru at 4 p. m.

The rainfall in this storm was also heavy, the following amounts being recorded:

	mm.		mm.
Gifu	150 in 3 days.	Numadzu	50 in 3 days.
Wakayama	113 in 2 days.	Hamamatsu	44 in 3 days.
Osaka	? ?	Akita	40 in 1 day.
Tokiyo	74 in 3 days.	Miyasaki	37 in 1 day.
Miyako	69 in 1 day.	Niigata	28 in 1 day.
Kiyoto	68 in 3 days.	Aomori	24 in 1 day.
Kanazawa	68 in 2 days.	Hakodate	16 in 1 day.
Nobiru	65 in 3 days.	Sakai	12 in 1 day.
Kochi	50 in 1 day.		

None at Nagasaki, Kagoshima, Hiroshima, Shimonoseki, or Sapporo.

Both storms traveled in general about northeast, the first a little more northerly.

	1st storm.	2d storm.
The greatest velocity of the centre was	55	38 n. m. p. h.
The lowest barometer	737	746 m. m.
The greatest fall of barometer in 8 hours	17	15 m. m.
The greatest rise of barometer in 8 hours	20	8 m. m.
The steepest gradient	9	11
Number of stations with gales (out of 22)	18	8

In both storms due warnings were given to the coast, late at some western stations in the first one, owing to want of telegrams. In sixteen hours, the interval during which the coast may at present be considered as not properly guarded, a storm traveling at the rate of twenty-five n. m. p. h. may be, at 2 p. m. on one day south of Ôdinawa, at 6 a. m. the next morning at Kagoshima.

Twin depressions following each other in short intervals and similar in many respects do not seem to be quite rare, as two instances were noted in July, one pair crossing Nippon with an interval of two days, another pair going over southern Hokkaido within six days, In July, as well as in October, the first of the pair was always the principal one.

E. KNIPPING.

TOKIO, October 17, 1883.

XXXI.—This disturbance appears to have originated over the northern part of the Sea of Japan. It apparently moved southeastward over northern Niphon, and on the 23d it was central off the northeastern coast of that Island, the pressure at the land stations being about 29.85 (758.2). By the following day the depression had disappeared from the chart.

XXXII.—This was a disturbance which had apparently moved up from the China Sea, and on the 30th it was near the Strait of Corea. It moved with decreasing pressure northeastward over the Sea of Japan, attended by rainy weather and high winds to gales in Niphon. At the close of the month the area of low pressure occupied northern Niphon, where the barometer ranged from 29.45 (748.0) to 29.5 (749.3).

The following depressions appeared in Behring Sea and in the north Pacific ocean:

XXXIII.—This was a disturbance which appeared in the north Pacific ocean, apparently moving to the westward, on the 9th and 10th. On the first mentioned date the s. s. "Oceanic," in N. 39° 34′, W. 179° 45′, reported barometer 29.76 (755.9), a fall of about .2 inch, wind nw., force 4 to 6, weather fair; on the 10th, in N. 39° 38′, E. 175° 45′, the barometer read 29.88 (758.9), wind sw., force 4 to 6, and on the same day the s. s. "City of Tokio," in N. 40° 56′, E. 171° 56′, had nnw. wind of force 6, with squally weather. The ship "Cambrian Monarch," in latitude 42° 20′ north, and longitude 180°, reported on the 10th having encountered a strong gale, in which the wind backed from nw. to sw. and s., after which the weather became settled.

XXXIV.—This is charted to indicate the presence of an area of low barometer which occupied the Aleutian archipelago and Behring Sea from the 9th to the 17th. During this period the pressure ranged from 29.5 (749.3) to 29.8 (756.9).

XXXV.—On the 20th, the barometer at Fort Saint Michael's, Alaska, fell to 29.22 (742.2). By the 21st, it read 29.01 (736.8) and the wind had shifted from se. to n., with light rain; on the 22d the pressure had increased to 29.8 (756.9).

XXXVI.—This was a depression which appeared in Alaska

on the 26th, when the barometer fell to 29.09 (738.9); by the the morning of the 27th, the area of least pressure was shown near Sitka. On the 28th, it extended southeastward over British Columbia and the Northwest Territories, and probably joined the depression charted as low area viii.

STORM TRACKS FOR APRIL, 1882.

The paths of thirty-seven atmospheric depressions are shown on the chart for April, 1882; these are distributed, geographically, as follows: eight are traced in the United States and Canada; of this number, five are traced from the region west of the Rocky mountains, southeastward or eastward to the Atlantic; two moved eastward along the northern boundary of the United States and Canada, and one, number iii, moved from the southwestern part of the United States northeastward to the lake region and thence eastward to the Atlantic. The tracks of eleven disturbances are shown over the north Atlantic ocean; of these, four are continuations of the storms which passed over the North American continent; three developed over the ocean west of the sixtieth meridian; three developed in mid-ocean, and one near the British coasts. The general movement of these depressions was to the northeastward between the parallels of 45° and 55° north latitude, that traced as number xi. being remarkable for its erratic track and its long duration in mid-ocean.

Thirteen depressions are traced in Europe, of this number four entered the continent south of the fiftieth parallel and passed southeastward to the Mediterranean, three appeared in eastern Europe, and one in the Black Sea region, while the remainder traversed the British Isles and northern Europe. The storms which crossed the British Isles moved, in general, from sw. to ne., while those in Scandinavia passed to the eastward and southeastward. One disturbance is shown in Greenland and four in eastern Asia.

The general direction of movement of the storms traced in April, 1882, does not materially differ from that of the preceding month (March, 1882), but they have moved at a somewhat lower latitude; and while fewer storms are traced in northern Europe, they are more numerous in the British Isles than was the case in the previous month. As a result of this there was a decided increase in the mean pressure over Scandinavia and other parts of northern Europe, with a corresponding decrease in the British Isles and southern Europe.

The following descriptions refer to the depressions which appeared in the United States and Canada:

I.—This disturbance appeared in Manitoba on the morning of the 1st, its centre being enclosed by the isobar for 29.8 (756.9). As the disturbance traveled quickly eastward, it caused light rains in the lake region, and by the morning of the 2d, it had reached the province of Quebec, the pressure at the centre being now about 29.7 (754.4). During the day, it passed over northern New England and Nova Scotia into the Atlantic, still attended by rainy weather and brisk to high winds or moderate gales. On the 3d, the storm centre was in the Atlantic, and is hereafter described as low area xi.

II.—On the morning of the 3d this disturbance occupied Manitoba, Minnesota, and eastern Dakota, which districts were enclosed by the isobar for 29.8 (756.9), while, near the centre of disturbance, in Manitoba, the barometer read 29.64 (752.8). The disturbance moved rapidly eastward over Lake Superior, causing rainy weather and high winds on the lakes; on the 4th the region of low pressure was in northern Ontario and was closely followed by an area of high pressures which caused generally clear, freezing weather over the districts to the westward of the storm-centre. During the 4th the depression passed northeastward from the Saint Lawrence and reached the Atlantic from the coast of Labrador; this disturbance is hereafter referred to as low area xii.

III.—This disturbance developed in Arizona and New Mexico on the 4th; by the 5th its centre was enclosed by the isobar for 29.8 (756.9), which occupied Colorado and portions of Wyoming. During the day the depression moved northeastward and reached northern Iowa and Wisconsin, where it was central on the 6th; an area of high pressures occupied eastern Canada on the 6th, and as this disturbance moved over the lakes, steep barometric gradients were formed, so that high southerly winds to gales prevailed in the lake region. On the 7th the disturbance was in Ontario, whence it moved in a course slightly south of east over the Maritime Provinces, and passed into the Atlantic, being attended by rainy weather and strong winds. On the 8th the depression was shown to eastward of Nova Scotia, and is hereafter described as low area xiii. During the passage of this disturbance over Iowa and Wisconsin, severe tornadoes occurred in its southeast quadrant.

IV.—This depression appeared in the vicinity of Salt Lake City, Utah, on the 6th, and by the morning of the 7th it had moved into Colorado, where the barometer had fallen to 29.56 (750.8). During the 8th and 9th the disturbance moved slowly northeastward over Nebraska, southeastern Dakota, and Iowa, attended by rainy weather and brisk winds in the Mississippi and Missouri valleys, and by northerly winds and snow to the westward of the centre. During the 9th the course changed to the southeast and the disturbance passed rapidly over Tennessee and the Ohio valley toward the coast; on the 10th the disturbance was in North Carolina, whence it passed into the Atlantic and merged with low area ix., which was then central off the coast. Strong northerly winds with freezing temperatures and snow prevailed over the region north of the fortieth parallel as the disturbance passed to the coast, and disastrous tornadoes occurred in Kansas on the 6th.

V.—This disturbance appeared in California on the 9th; it moved southeastward during the 10th, crossed the Rocky mountains and appeared in northwestern Texas on the 11th; during this day it extended as a trough of low pressures from Montana southeastward to the Texas coast, while an area of high pressures occupied the country from Dakota southeastward to Mississippi and thence eastward to the Atlantic coast. On the 12th the barometric minima were reported from southern Texas, and during that day the disturbance passed off the Texas coast into the Gulf of Mexico; it moved eastward over the Gulf during the 13th and 14th, and apparently filled in during the last-mentioned date when near the western coast of Florida. During its passage across the Gulf the depression caused rainy weather and severe local storms in the Gulf states, and heavy "northers" on the Texas coast.

VI.—This disturbance appeared in Montana on the 15th, where a rapid decrease of pressure had taken place during the preceding twenty-four hours, the barometer having fallen from 30.20 (767.1) on the 14th to 29.8 (756.9) at the morning observation of the 15th. The depression moved south-southeastward during that date, and on the 16th it was shown in Utah, Colorado, and Arizona, with rain at Salt Lake City and heavy snow at Pioche, Nevada. During the 16th it moved eastward into Kansas, and thence northeastward over Nebraska to southwestern Iowa, where it was central on the 18th, its passage being marked by the occurrence of disastrous tornadoes in Missouri, Illinois, and Iowa, while generally rainy weather and brisk southerly winds prevailed over the central districts from the Gulf to the lake region. On the 19th the disturbance was central with increased energy in Wisconsin, the pressure near the centre having fallen to 29.2 (741.7). Heavy rains and high winds now prevailed over the lake districts and eastward to the Saint Lawrence river. By the morning of the 20th the isobar for 29.2 (741.7) extended from Georgian Bay eastward to northern New England and the province of Quebec. Moderate westerly gales and snow prevailed in the lower lake region, with unsettled, rainy weather in the districts to the eastward. During the 20th the depression moved eastward to the Bay of Fundy, where it was central on the 21st; it then passed northeastward over Nova Scotia, attended by strong gales on the Banks of Newfoundland and off the New England coast. On the 22d the centre was near Cape Breton Island, where the pressure was 29.25 (742.9); moving slowly eastward with no

material change of pressure at the centre it was shown off the southern coast of Newfoundland on the 23d. As the disturbance moved into the Atlantic an increase of pressure appears to have occurred, the barometric minima on the 24th being about 29.7 (754.4) on the eastern edge of the Banks, and by the following day the depression had disappeared from the chart.

VII.—On the morning of the 18th, the barometer at Sitka, Alaska, had fallen .7 inch, and by the following day, the decrease of pressure had extended to the northern boundary of the United States. On the 20th the circulation of the winds showed the presence of an area of low pressures in eastern Montana and Wyoming and in western Dakota, where the pressure was 29.6 (751.8); on the 28th the barometric minimum was in Kansas; northerly winds prevailed at stations on the eastern slope of the Rocky mountains, while southerly, southeasterly and easterly winds were reported at stations to the eastward and northward of the low area. During the 21st the depression moved slowly east-southeastward to southern Missouri where it was central on the 22d, causing rainy weather and strong easterly winds in the upper lake region and in the Mississippi valley; on the 23d the disturbance occupied the country east of the Mississippi river and south of the fortieth parallel, the lowest barometric readings being reported in Kentucky; during the day the depression passed off the Carolina coast with increasing pressure and finally dissipated during the 24th. This disturbance, like its predecessors, was accompanied by severe tornadoes in its eastern quadrants.

VIII.—This depression appeared on the north Pacific coast on the 24th, and moved rapidly southeastward to Colorado, where it was central on the 25th, the isobar for 29.8 (756.9) being elliptical in form, and extending from Montana southeastward to Kansas; on the following day, the depression, which had become contracted, occupied Illinois, and caused high easterly winds in the lake region. During the 26th, it moved eastward and passed into the Atlantic, the centre being shown near the coast of Delaware on the 27th; it then passed northeastward along the coast, and on the 28th, it was south of Nova Scotia, attended by moderate westerly gales near the fortieth parallel, and brisk to high northeasterly winds and occasional gales over Nova Scotia. During the 29th, it passed north-northeastward, and disappeared over the Gulf of Saint Lawrence.

The following descriptions refer to the depressions traced over the Atlantic ocean and in Europe:

IX.—This disturbance was indicated in about N. 37°, W. 68° on the morning of the 10th, by the report of the ship "Lake Erie"; that vessel in N. 38°, W. 69°, had barometer 29.47 (748.5), a fall of .43 inch, wind ene., force 6, heavy rain; and by the following day, in N. 38° 30′, W. 68° 30′, the barometer had risen to 29.56 (751.6), wind nw., force 3; vessels to the southward and westward of the "Lake Erie," had northerly and westerly winds of moderate force, while those on the fortieth parallel and to the eastward, had easterly and southeasterly winds of force 3 to 5. During the 10th, the disturbance moved northeastward, and on the 11th it was central in N. 41°, W. 63°, with the winds remaining moderate in force in all quadrants; during the 11th, its movement was northerly, and passing over the northern part of Nova Scotia, it entered the Gulf of Saint Lawrence, where it was central on the 12th, with the pressure about 29.5 (749.3) near the centre. After the 12th its movement was to the northwest and by the 13th, the centre of disturbance was over the mouth of the Saint Lawrence river, barometer at Father Point, Quebec, reading 29.21 (741.9), wind sw., 25 miles an hour, heavy snow; the disturbance then recurved and again crossed the Gulf, reaching Newfoundland on the 14th, causing moderate northwesterly gales over the Maritime Provinces and the Gulf of Saint Lawrence. This disturbance crossed the Atlantic and entered the continent of Europe, and is hereafter described as low area xiv.

X.—This was probably a continuation of the depression charted as low area x. on the chart for the preceding month, (March); it passed northeasward over Labrador at the close of that month, and was apparently to the westward of Godthaab, Greenland, on April 1st, the barometer at that station having fallen to 29.35 (745.2), wind s., force 6. By the following day the barometer had risen to 29.93 (760.2), and the depression had disappeared from the chart.

XI.—This was a continuation of the disturbance traced over Canada and northern New England as low area i. After reaching the Atlantic on the 2d the depression moved eastward, and on the 3d it was central near N. 43°, W. 53°, in which region the pressure was 29.56 (750.8), with moderate northerly gales to the westward of the sixtieth meridian and brisk southerly and southwesterly gales to the eastward of W. 50°. During the day the depression moved northeastward and was shown near N. 48°, W. 40° on the 4th, the lowest reported pressure being 29.31 (744.5); moderate to strong northwesterly gales prevailed during the day over the region west of 43° west longitude, with equally strong southerly gales to the eastward of 40° W. Continuing its northeasterly course, the disturbance reached N. 53°, W. 30°, on the 5th; at the same time another depression was to the northeastward of Newfoundland, and subsidiary disturbances existed over the ocean between N. 40° and 50° and W. 60° and W. 40°. Under the combined influence of these disturbances, strong variable winds to gales prevailed over the Atlantic ocean. On the morning of the 6th the depression had been forced to the southward and westward, while the area of high pressure which occupied northern Europe had spread over the ocean in a southwesterly direction. From the 7th to the 10th this depression remained, with slow and erratic movements and steadily decreasing pressure, over the region bounded by the parallels of 45° and 50° north latitude and the meridians of 30° and 42° west longitude, and during this time moderate to strong gales prevailed over the Atlantic. By the morning of the 10th the pressure at the centre of this disturbance had decreased to 29.1 (739.1) and very heavy gales were reported, especially in the southwest quadrant of the depression. During the 10th the storm-centre resumed its notheasterly movement, and by the 11th it was shown near N. 49°, W. 32°, the central pressure remaining unchanged and the winds increasing in force in all quadrants. On the 12th the centre was in N. 49°, W. 17°, and the disturbance had now extended its influence to the European coasts, while the gales to the westward of the thirtieth meridian had somewhat moderated in force. During the 12th it moved slowly northeastward with decreasing pressure, and by the 13th it was central off the west coast of Ireland, with the pressure at the centre about 28.75 (730.2). Strong south to southeast winds prevailed over France and the British Isles, with easterly gales on the fifty-fifth parallel and to the northward; and rainy, unsettled weather prevailed generally over western Europe. On the 14th the storm-centre was in Ireland, while a secondary disturbance was central in England, but the pressure had increased to 29.0 (736.6). Southwesterly gales prevailed over the Channel, but elsewhere the winds did not exceed the force of a strong breeze. During the 14th the disturbance moved over the North Sea, causing snow in the northern, and rainy, unsettled weather in nearly all districts. On the 15th the centre was shown over northern Denmark and the Skager Rack, the lowest reported pressure being 29.05 (737.9). It then moved northeastward over Sweden, and on the 16th was central, with slightly increased pressure, over the Gulf of Bothnia, causing moderate to strong gales in that region and over the Baltic, with rain or snow to the southwestward of the centre. On the 17th the disturbance occupied Finland, but the pressure had increased to 29.3 (744.2); high winds to gales and rain or snow accompanied the depression during that date, and by the 18th it had disappeared to the northeastward of the White Sea.

XII.—This was a continuation of the disturbance which passed off the coast of Labrador on the 4th, and before described as low area ii. On the 5th the depression was to the southward of Greenland, and by the following day it had passed into Greenland, causing the barometer at Godthaab to

fall to 29.41 (747.0), with the wind shifting from e. to n. On the 7th the disturbance disappeared from the chart.

XIII.—This was a continuation of the depression before described as low area iii. It passed into the Atlantic from the Maritime Provinces during the 7th, and on the following day the centre was indicated near N. 42°, W. 63°; it caused moderate to strong gales, especially in the southwest quadrants, and showery weather in the Maritime Provinces. During the 8th, it moved eastward, followed by northwesterly gales to the westward, and during the 9th it apparently become merged in low area xi., which occupied mid-ocean.

XIV.—This is a continuation of low area ix. After leaving Newfoundland it moved rapidly eastward, and on the 15th it was shown near N. 52°, W. 32°, the pressure at the centre being below 29.6 (751.8). Moderate gradients existed over the ocean, so that the winds during the 15th, did not exceed the force of 5–6; the disturbance moved east-northeastward during the 15th, and by the 16th, the pressure had decreased to 29.35 (745.5), in N. 53°, W. 15°. On the 17th, the depression occupied the British Isles, the minimum pressure, 29.27 (743.4), being in western Scotland, while unsettled weather, with rain or snow, was general in the western districts. On the 18th, the disturbance, having crossed the North Sea, was central off the coast of Germany, causing a continuance of showery and unsettled weather in western and central Europe. By the 19th, the depression had passed northeastward with increasing pressure, to southern Scandinavia, where it apparently dissipated.

XV.—This disturbance developed on the 16th near N. 36°, W. 60°, the lowest reported pressure in that region being 29.65 (753.1). The pressure decreased rapidly as the disturbance moved northeastward, and by the following day the storm-centre was in N. 44°, W. 44°, with the pressure at 28.6 (726.4). Captain E. Pilcher, commanding the ship "Lake Erie," in about N. 40° 40′, W. 52° 06′, reported on the 16th, at 10.30 p. m., Greenwich time: "Having experienced a moderate gale from ese. to s. all day with incessant rain; water tolerably smooth and barometer falling; the wind fell light towards sunset and veering into nw. suddenly blew a hurricane for about four hours, with tremendous sea from e. and n., lowest barometer 28.79 (731.3)." The following reports indicate the severity of the storm during the 17th: s. s. "Parthia," in N. 43° 40′, W. 43° 47′, barometer 28.54 (724.9), wind s., force 10, raining; s. s. "Rhynland," in N. 43° 44′, W. 42° 45′, barometer 28.58 (725.9), wind s., force 9, stormy; s. s. "Illinois," in N. 43° 06′, W. 43° 30′, barometer 28.69 (728.7), wind w., force 8, clear; s. s. "Celtic," in N. 45° 24′, W. 41° 11′, barometer 28.68 (728.5), wind s., force 6, misty; s. s. "Hermann," in N. 42° 23′, W. 44° 20′, barometer 28.77 (730.7), wind w., force 9, rainy. All vessels between W. 35° and 40° and N. 40° and 45°, had southerly gales of force 10, while those between W. 45° and 50° and the above-mentioned parallels of latitude, experienced northerly and northwesterly gales of force 8 to 9. During the 17th the disturbance moved northeastward, without change in the pressure at the centre, and accompanied by violent southerly and westerly gales. On the 18th the storm-centre was in N. 50°, W. 33°, the minimum barometric reading in that neighborhood being 28.7 (729.0). On the 19th the region of least pressure was shown near N. 56°, W. 27°, but the barometer had begun to rise and now read 29.1 (739.1), although the violent southerly to westerly gales continued without abatement. On the 20th the pressure had increased to 29.4 (756.7), and by the 21st this disturbance had moved northeastward and was central between Iceland and the Färöe Islands, while a subsidiary disturbance had formed near N. 50°, W. 30°; the latter moved eastward and developed great energy as it approached the British coasts, while the primary disturbance to the northward gradually decreased in intensity, and by the 22d it could not be traced as a separate depression.

XVI.—This was a slight depression which developed near the coast of the United States, south of Hatteras, during the 29th, and at the close of the month it was apparently central off the New England coast, with the pressure at the centre below 29.9 (759.4).

XVII.—This was a continuation of the disturbance traced as low area xxx. on the chart for March; it moved from the southern coast of Scandinavia southwestward over the North Sea at the close of that month, and on April 1 it was central to the southwestward of the British Isles. From that date until the 4th the depression lingered near the British coasts, with the pressure varying from 29.45 (748.0) on the 1st to 29.9 (759.4) on the 4th, and causing showery weather and fresh to strong winds over the British Isles.

XVIII.—This depression appeared in the Ural region on the 3d, the barometer at Ekaterinburg falling from 30.13 (765.3) on the 2d to 29.7 (754.4) on the 3d. By the 4th the pressure had decreased to 29.31 (744.4). On the 5th the depression occupied the province of Tomsk, Siberia; on the following day it was shown near Yeniseisk, whence it passed beyond the limits of the stations of observation.

XIX.—This disturbance appeared off the western coast of Spain on the 4th; it moved over the southern part of the Bay of Biscay during that day and entered southern France on the 5th. Passing eastward, attended by rainy weather in the Iberian peninsula and southern France, it reached the Mediterranean on the 6th, when it apparently dissipated.

XX.—An area of low pressures, within which the barometer ranged from 29.75 (755.6) to 29.95 (760.7), occupied the Italian peninsula and the eastern part of the Mediterranean from the 5th to the 10th, and during this period showery weather prevailed in those districts and in Algeria. During the 10th, the disturbance began to move eastward and on the 11th, it was shown over the Adriatic; by the following day it was in Austro-Hungary, attended by showery weather but increasing pressure and during the day it apparently filled in.

XXI.—This was a depression which appeared in northern Scandinavia on the 9th; it passed southeastward and on the 10th its centre was to the northeastward of Archangel, Russia, the barometer at that station reading 29.65 (753.1) wind nw. On the 11th the centre of disturbance was shown in the Ural region, the barometer at Ekaterinburg reading 29.76 (755.9), wind sw; during the 12th the depression apparently filled in. This disturbance did not cause any unusual weather conditions during its passage.

XXII.—On the 11th a disturbance developed over the western part of the Black Sea, causing fresh to strong winds in that region, with pressure about 29.55 (750.6). It passed east-northeastward, attended by strong northeasterly winds to gales along the northern shore of the Black Sea, and by the 12th it was central in Caucasia, where the barometer read 29.45 (748.0), with moderate northerly and northwesterly winds over the eastern part of the Black Sea. On the 13th the low area was to the southwestward of Akmolinsk, Siberia; by the following day it had passed to the northeastward and occupied the region between that station and Barnaul, with the pressure at the centre less than 29.35 (745.5). During the 14th the depression probably filled in.

XXIII.—This was a slight depression which developed in southern Scandinavia on the 11th, its centre being inclosed by the isobar for 29.8 (756.9); on the 12th it occupied the Baltic, causing moderate to strong northerly winds in Scandinavia, with rain or snow in the districts contiguous to the Baltic. On the 13th the storm-centre was over the Gulf of Finland, the barometer at Saint Petersburg reading 29.37 (746.0), wind ssw., light snow; during the day the disturbance appears to have moved in a south-southeasterly course, and on the 14th it was shown near Moscow, where the barometer read 29.41 (747.0); during that day the pressure increased and the depression disappeared from the chart.

XXIV.—This depression appeared in the extreme northern part of Scandinavia on the 12th, when the barometer read 29.58 (751.3) at stations in that region. It passed southeastward with decreasing pressure, and on the 13th it was to the

northeastward of the White Sea region; during the day it passed beyond the range of observations.

XXV.—This disturbance appeared in western France on the 15th, having approached the coasts from the Bay of Biscay; it was attended by rainy weather and strong northeasterly winds over the English channel. It passed in a southeasterly course over the central districts of France, and on the 16th, the centre of disturbance was over the Gulf of Genoa, where the pressure was about 29.65 (753.1); on the 17th the region of barometric minima was in northern Italy, but the pressure was increasing, and during the day the depression dissipated; moderate to heavy rains attended this disturbance throughout its course.

XXVI.—This depression appeared to the westward of the Ural mountains on the 19th, on which date the barometer at Ekaterinburg fell to 29.59 (751.6), wind ssw., rainy weather. On the following day the disturbance was in western Siberia, and by the 21st it had passed northeastward beyond the limits of the stations of observation.

XXVII.—This disturbance appeared off the Norwegian coast on the 20th, and was probably an off-shoot from low area xv; its centre on the 20th was enclosed by the isobar for 29.4 (746.7). On the 21st the area of low pressure occupied the head of the Gulf of Bothnia, being attended by moderate northwesterly gales along the coast of Sweden, and rain or snow in most places in Scandinavia and the Russian Baltic provinces. By the following day the disturbance had passed eastward over the White Sea districts and disappeared.

XXVIII.—This was a subsidiary disturbance which appeared near N. 50°, W. 30° when low area xv. was central near the Färöe Islands; the depression moved eastward with increasing energy and decreasing pressure during the 21st, and by the 22d it was central to the southwestward of Ireland, its centre being enclosed by the the isobar for 29.2 (741.7). Strong northerly gales were encountered by vessels between the meridians of 13° and 20° west longitude, and from N. 48° to 55°, with moderate to strong southerly winds to the eastward, and moderate westerly and southwesterly gales in the Bay of Biscay. On the 23d the centre of disturbance, having moved over the Irish Sea, occupied the northwestern part of England and was attended by moderate winds at English stations, but to the eastward and southward they attained the force of a moderate gale. During the 24th and 25th the low area remained over the northern part of the North Sea, with pressure near the centre about 29.0 (736.6), and causing rainy weather over the British Isles, western Europe, and Scandinavia, with strong winds to gales along the shores of the North Sea. During the last-mentioned day the disturbance appears to have moved southward, and was shown on the 26th, to the westward of the Danish peninsula, the pressure remaining about 29.0 (736.6); moderate to strong gales occurred in Denmark, Germany, and over the North Sea, and rainy weather continued in most districts. By the 27th, the course had changed to the northeastward, and the depression moved to Scandinavia, the barometer having risen to 29.35 (745.5); as the disturbance advanced with increasing pressure at the centre, the weather became fair in the districts to the westward of the centre, but rain continued to fall over the Gulf of Bothnia, while the wind moderated generally in all districts. During the 27th, the depression appears to have filled in.

XXIX.—This was a slight disturbance which appeared near Moscow on the 23d, its centre being enclosed by the isobar for 29.8 (756.9). By the following day the depression had filled in.

XXX.—This depression appeared near N. 53°, W. 30° on the 24th, with pressure at the centre about 29.65 (753.1), and attended by strong southwesterly gales in its southeastern quadrant. By the 25th the disturbance had reached the Irish coast. The winds over the region between W. 10° and 30° had now shifted to west and northwest, and blew with the force of a moderate or strong gale; in the absence of steep barometric gradients to the eastward the wind remained moderate in force. During the 25th the disturbance apparently passed over the British Isles and merged with low area xxviii, which occupied the North Sea on the 26th.

XXXI.—This disturbance appeared in northern Italy on the 27th, on which date the pressure in that district was 29.45 (748.0); rainy weather with strong northwesterly winds to gales prevailed over southeastern France with strong southerly and southeasterly winds in the Italian peninsula. On the 28th, the disturbance was over the Adriatic, with the pressure slightly above that of the preceding day; the winds in the southern part of Italy and over the Mediterranean had shifted to westerly and blew strongly, and the rain area extended over the Adriatic and to the western provinces of Austro-Hungary. On the 29th the disturbance was central in eastern Hungary, where the barometer read 29.55 (750.6); during the day the pressure began to increase and the depression filled in.

XXXII.—This disturbance appeared off the northwestern coast of Ireland on the 27th; it moved southeastward with decreasing pressure and by the following day it occupied the Irish Sea, and the greater part of England, the pressure near the centre of disturbance being about 29.1 (739.1). During the 29th the disturbance passed to the North Sea, and recurved to the northeastward, and was shown near the northeastern coast of Scotland; during the day it probably became merged in low area xxxiii., which had advanced over the British Isles from the Atlantic.

XXXIII.—This was a disturbance which appeared on the 28th near N. 47° W. 27°, in which region the barometer read 29.55 (750.6). During the day the depression moved eastward and on the 29th the area of low pressures occupied the British Isles with the minimum readings in Wales. Rainy weather and moderate to strong northerly and westerly gales prevailed over the region from the Saint George's Channel westward to the twelfth meridian, with strong westerly and southwesterly gales over the English Channel and along the French coast. On the 29th the disturbance moved over the North Sea, and at the close of the month it was central off the southern coast of Scandinavia, with the pressure below 29.15 (740.4). Moderate to strong southwesterly gales and showery weather prevailed over the North Sea and along the European coast from Belgium to Denmark.

The following are descriptions of depressions traced in eastern Asia:

XXXIV.—This disturbance apparently developed over the Sea of Japan on the 3d, the pressure having decreased about .3 inch over that region, and the adjacent land areas on that date. The centre of disturbance apparently moved north-northeastward along the western coast of Niphon, and on the 4th, the barometric minima were in the northern part of that island, and ranged from 29.4 (746.7), to 29.55 (750.6); during its passage northward, unsettled, showery weather prevailed in Japan. The disturbance moved northward to the Sea of Okhotsk, where it apparently remained until the 8th, when it gradually disappeared; during the period from the 5th to 8th, the barometer at Nikolaevsk, on the Amoor, varied from 29.39 (746.5), to 29.43 (747.5).

XXXV.—This was a well-defined depression which appeared in southern Japan on the 12th; it was preceded by rainy weather during the 11th, and on the 12th the barometer fell to 29.65 (753.1); rain continued throughout Japan, and high winds, ranging from twenty-five to forty-five miles an hour, occurred at numerous stations. By the 13th the region of least pressure was transferred to the northern districts, where the southwesterly winds increased in force while the westerly and northwesterly winds in the southern districts moderated. On the 14th the depression passed into the Pacific and beyond the field of observation.

XXXVI.—This was a depression which probably developed in northeastern China during the 20th and 21st. On the 22d it was shown over the northern part of the Sea of Japan, its centre being enclosed by the isobar for 29.8 (756.9); on the following day the pressure increased to 30.0 (762.0) and the depression disappeared.

XXXVII.—This depression appeared to the westward of Zi-Ka-Wei on the 26th, on which date the barometer at that station read 29.65, (753.1) wind s. raining; being a fall of .29 inch during the preceding twenty-four hours. On the 27th, the depression occupied the Yellow Sea and the peninsula of Corea, the pressure ranging from 29.55 (750.6) to 29.6 (751.8) with rainy weather in southern Japan. On the 28th, the disturbance, having moved northeastward, was shown near Vladivostock, where the barometer read 29.24 (742.7). On the following day the depression appears to have recurved and moved southwestward, as shown by the shift of the wind at Vladivostock; at the close of the month, it was shown as an extensive depression stretching from northeastern China to the Sea of Okhotsk.

GENERAL REMARKS.

DAILY BULLETIN.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations.

On February 1, 1883, the following change was made in publishing marine data in the "Daily International Bulletin":

All marine reports are classified as to districts, which are designated as follows: District No. 1, North Atlantic; District No. 2, South Atlantic, &c., under which headings the respective reports are printed.

BOUNDARIES OF DISTRICTS.

District No. 1 comprises the Atlantic ocean, its arms and tributaries, from the equator northward to the pole, and in the Arctic from 100° E., westward to 100° W., of Greenwich.

District No. 2 comprises the Atlantic ocean, its arms and tributaries, from the equator southward to the pole, and in the Antarctic from 20° E., westward to 70° W., of Greenwich.

District No. 3 comprises the Pacific ocean, its arms and tributaries, from the equator northward to the pole, and in the Arctic from 100° W., westward to 100° E., of Greenwich.

District No. 4 comprises the Pacific ocean, its arms and tributaries, from the equator southward to the pole, and in the Antarctic from 70° W., westward to 145° E., of Greenwich.

District No. 5 comprises the Indian ocean, its arms and tributaries, from the Asiatic continent southward to the pole, and in the Antarctic from 20° E., eastward to 145° E., of Greenwich.

The following remarks relate to the individual peculiarities in the *methods* of recording, and the *times* of taking, the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of Brig. General Béziat, Commandant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. Adelaide, furnished by co-operation of Charles Todd, C. M. G., F. R. A. S. The observations are taken at 9 p. m., local time.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemberg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind-direction is given to 32 points and weather by the Beaufort notation. At Bradford, no observations are taken on Sunday, except the rainfall, and in the monthly summary the letter designating a certain number of days missing, applies to all the data except rainfall.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army. At St. John's, N. F., the barometer appears read about .10 inch too high, which correction has been applied from August 1st, 1883. On October 1st elevation of barometer changes to 816 feet at London and to 200 feet at Ottawa.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Saint Francis Lighthouse, the original gives barometer reduced to freezing, but not to sea-level. The kind of clouds is given, but no distinction is made between upper and lower. Weather in general terms.

CHILIAN SERIES (by authority of the Secretary of Public Instruction, furnished by co-operation of Francisco Vidal Gormáz, President of the Central Meteorological Office at Santiago).—Observations are taken mostly at lighthouses on the coast; the originals give barometer as read off; temperature in Centigrade; humidity is not given but is computed at this office from the hygrometrical observations.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted. At Jacobshavn observations are taken at 8 a. m., local time.

EGYPTIAN SERIES (Furnished by the co-operation of Albert Ismalun, Director of the Laboratoire Khédivial du Caire).—Original gives barometer reduced to zero, but not to sea-level, temperature in Centigrade. The velocity is the mean for past 24 hours. Rainfall in millimetres.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Montlouis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Montlouis and Perpignan.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only, and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of

—0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by the co-operation of the Geographical Bureau, Department of the Interior, through I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (furnished by co-operation of the respective observers).—The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys-Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred. At Batavia the elevation is stated to be "a few meters."

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Astrakhan, Ashurada and Baku, the barometer-cistern is below sea-level. At Kasalinsk, the barometer appears to have a large error.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of the Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of F. Nimr, B. A., Director of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms. At Samakov, the barometer is reduced to freezing, but not to sea-level; temperature in Fahrenheit. The kind of clouds is given, also the distinction between upper and lower.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Puerto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind-direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind-direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES (furnished by co-operation of E. Malmberg, Director of the Nautical Meteorological Bureau at Stockholm).—The originals give the barometer as read off. The movement of the air is indicated by force on a scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on a scale of 0 to 9 and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operations of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date.

In the above charts broken lines indicate that the lines so drawn are doubtful.

Arrows show direction of, and fly with, the wind. Force is shown as follows:

SYMBOLS.	FORCE.	VELOCITY.	
		MILES PER HOUR.	METRES PER SECOND.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The position of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevation of stations is obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least, this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the alphabet of the letter so used.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

ERRATA.

DAILY BULLETIN, October 11, 1883, page 7, district No. 1, bk. "Ibis," for longitude W. 74° 40′, read 74° 00′.

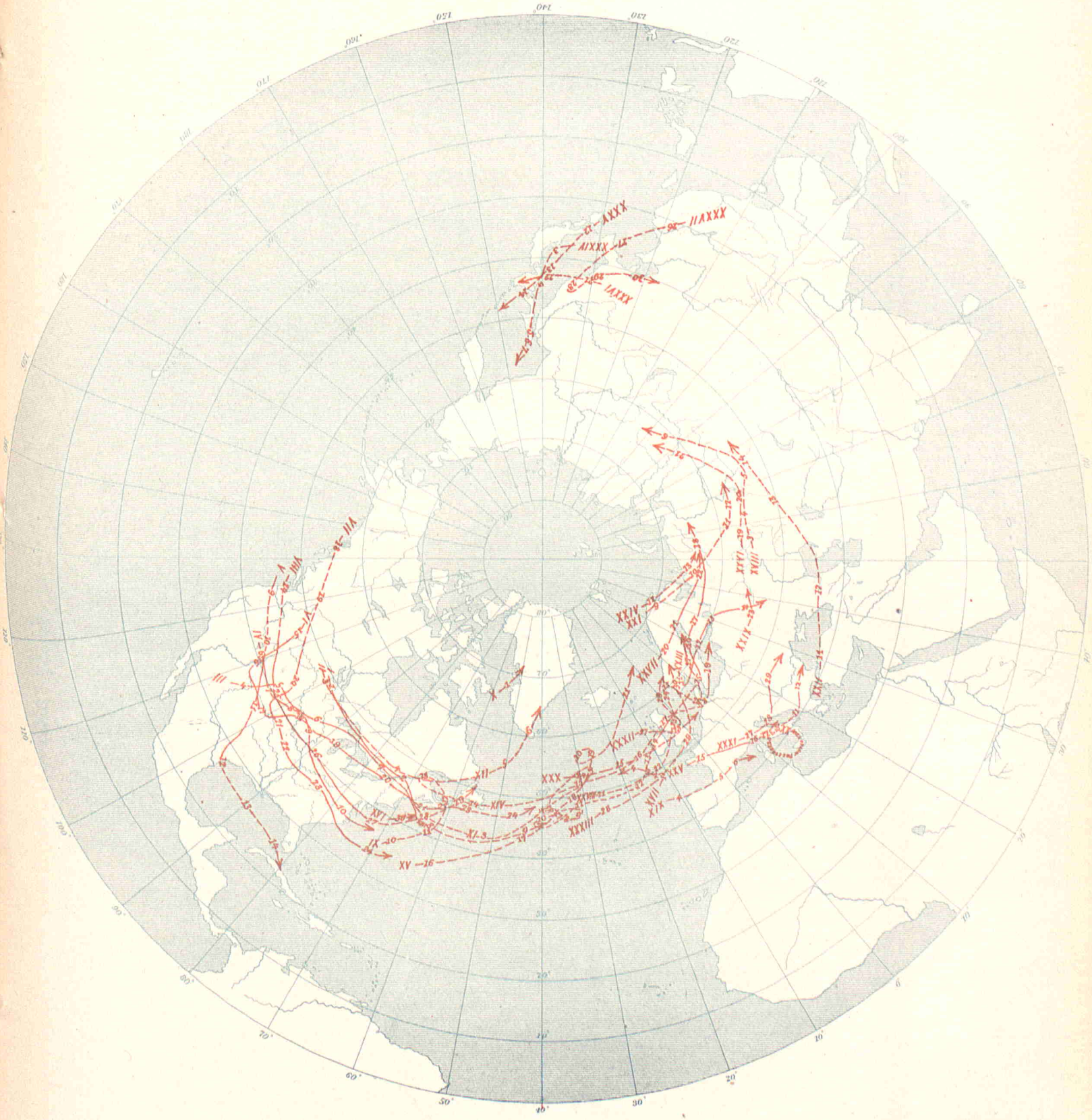
15th, page 2, make observer at Cape Town, Cape Colony, Capt. R. Gardner Warton, and move I. Garfelt and names above up one line, so that I. Garfelt will be opposite Cape St. Francis Light-house and Miss Grace Pope opposite SW. Point, Anticosta; same correction on 16th, 18th, 19th, 20th, 21st.

Page 2, Chilian, Valparaiso, from October 1st to 12th, inclusive, reduced barometer reads 0.05 inches or 1.3 mm. too high.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

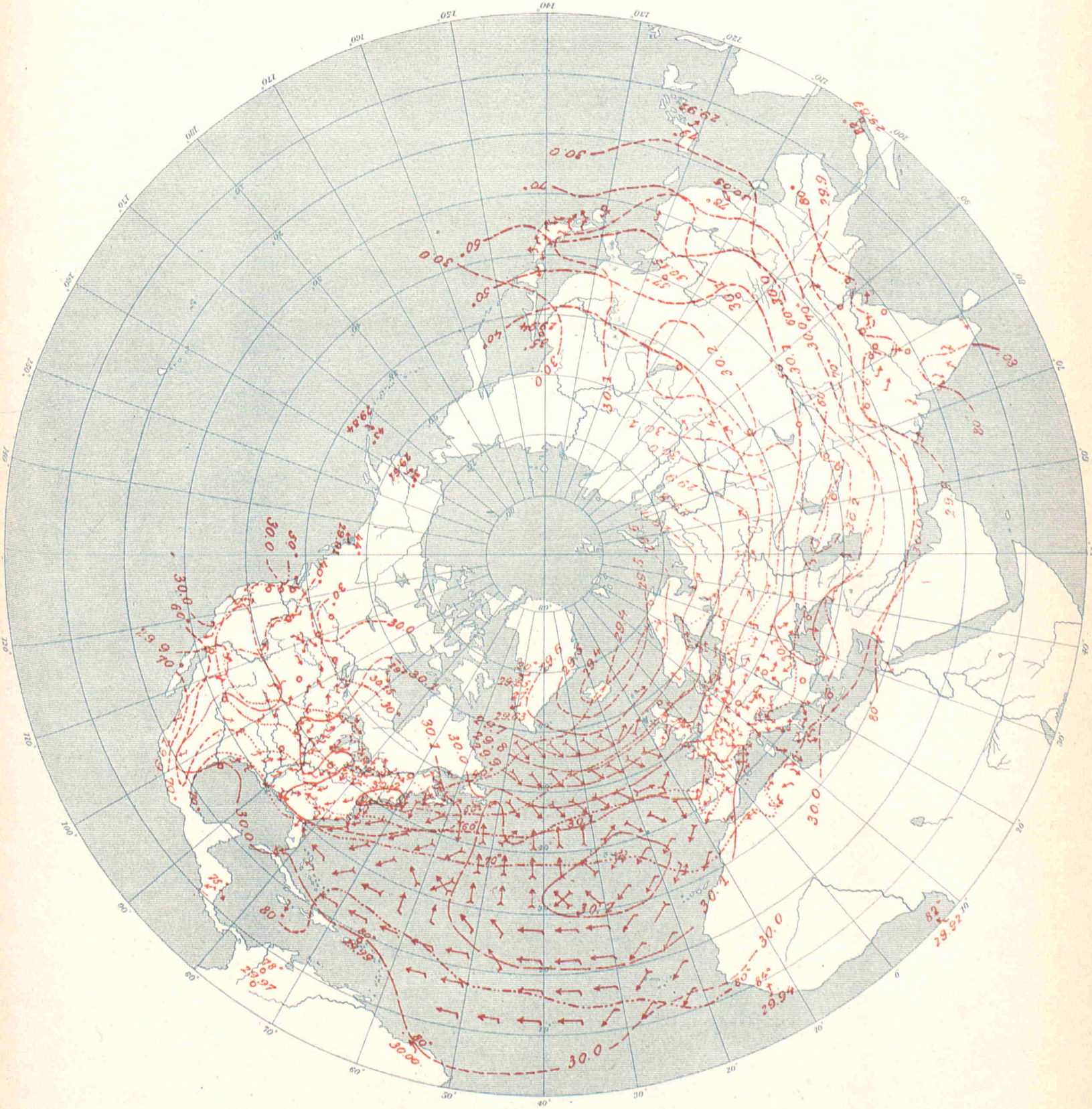
International Chart III. April, 1882. Storm-Tracks.



UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W. B. Hazen, Chief Signal Officer.
Signal Office 14th.

International Chart II. October, 1883. Isobars, Isotherms, and Winds.

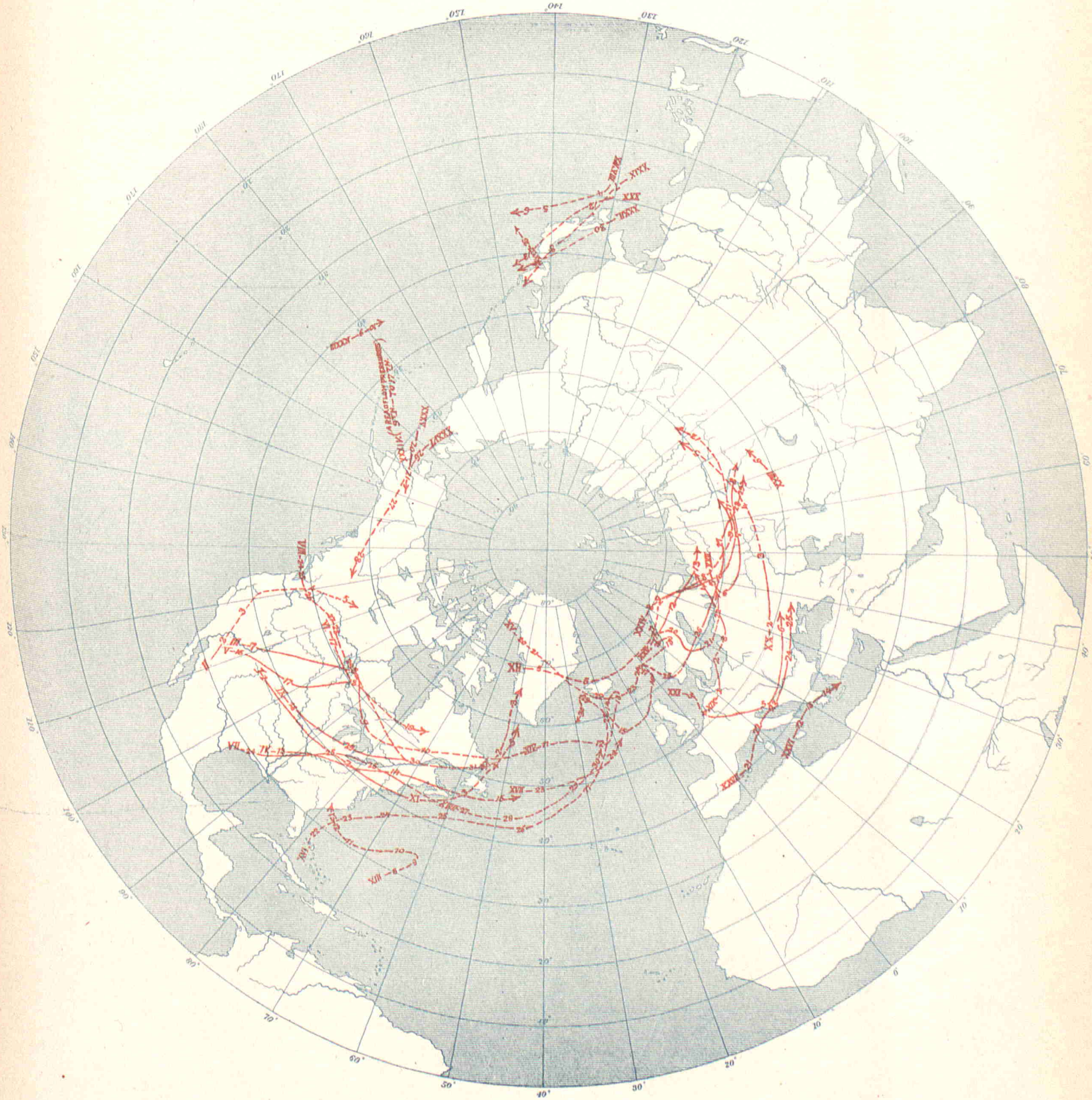


UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W.B.Hazen Chief Signal Officer.

Signal Office Lith.

International Chart III. October, 1883. Storm-Tracks.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.

Signal Office Lith.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF NOVEMBER, 1883.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
DECEMBER, 1884.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

NOVEMBER, 1883.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
	° ′	° ′																								
ALGERIAN.																										
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.11	764.9	67.1	19.5	77.8	12	1	.....	.....	1	2	12	2	.....	.....	.....	1	0.09	2.4
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	30.11	764.7	65.3	18.5	67.4	2	12	4	5	.....	2	3	2	.....	.....	.....	3	7.22	183.5
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.05	763.3	68.0	20.0	71.5	3	13	4	4	.....	.....	.....	2	.....	.....	.....	3	4.54	115.3
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.09	764.3	65.8	18.8	59.1	2	16	2	3	4	.....	.....	3	.....	.....	.....	2	1.55	39.4
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.16	766.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	.....	.....	55.2	12.9	69.6	7	8	8	.....	3	2	1	1	.....	.....	.....	3	0.78	19.9
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	55.9	13.3	40.8	5	12	4	2	1	.....	1	5	.....	.....	.....	2	1.84	46.6
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2549	777	.....	.....	30.17	766.2	63.1	17.3	53.1	7	10	3	3	4	.....	2	1	.....	.....	.....	1	0.40	11.8
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.12	765.1	67.1	19.5	58.4	2	2	13	.....	.....	3	3	1	6	.....	.....	2	0.55	14.0
AUSTRALIAN.																										
Adelaide	S. 34 57	E. 138 35	9.22 p.m.	140	42	.....	.....	30.02	762.5	62.5	16.9	62.8	.....	.....	1	3	13	4	5	3	1	.....	.....	5	1.83	46.5
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.88	759.0	29.98	761.4	58.6	14.8	79	1	.....	4	5	8	5	3	4	.....	.....	.....	6	3.22	81.8
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.53	750.1	30.10	764.5	44.8	7.1	64.5	.....	2	6	5	3	4	3	7	.....	.....	.....	7	5.09	129.3
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.24	742.8	30.03	762.7	42.8	6.0	78.8	.....	.....	10	9	3	1	6	1	.....	.....	.....	7	2.00	50.9
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.18	741.1	30.06	763.0	39.4	4.1	88.6	1	1	1	.....	11	1	.....	15	.....	.....	.....	9	2.42	61.4
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.81	731.8	30.10	764.4	42.3	5.7	81.4	1	3	1	6	8	6	1	1	3	.....	.....	6	1.18	30.0
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.64	727.4	30.10	764.5	46.0	7.8	72.3	1	4	7	.....	4	14	.....	.....	.....	.....	.....	6	2.11	53.7
Kremsmunster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.68	728.4	30.06	763.5	39.6	4.2	85.6	2	1	2	6	.....	.....	1	7	11	.....	.....	7	1.88	47.7
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	29.06	738.0	30.06	763.6	43.5	6.4	80.1	2	5	1	4	7	9	1	1	.....	.....	.....	6	1.47	37.3
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.91	759.8	30.04	763.1	54.1	12.3	73.2	2	9	3	1	3	2	4	6	.....	.....	.....	5	5.01	127.3
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.59	751.6	30.06	763.6	45.0	7.2	80	.....	.....	7	5	3	4	8	3	.....	.....	.....	6	1.75	44.5
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.79	756.6	30.07	763.8	46.0	7.8	78.2	5	6	1	2	8	1	.....	1	6	.....	.....	8	2.20	55.8
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.99	761.7	30.09	764.2	52.7	11.5	61.2	.....	1	6	4	.....	.....	6	7	6	.....	.....	4	4.96	126.1
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.35	745.6	30.09	764.2	42.6	5.9	75.2	.....	3	7	1	1	12	1	.....	5	.....	.....	7	0.66	16.8
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.45	748.0	29.55	750.6	43.6	6.4	74.6	.....	2	12	2	13	.....	1	.....	.....	.....	.....	5	1.95	49.5
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.47	748.5	29.71	754.6	43.3	6.3	84.0	b	1	4	10	7	2	4	.....	.....	.....	.....	6	.....	.....
Bidston	N. 53 24	W. 3 04	11.50 a.m.	197	60	.....	.....	29.73	755.1	45.8	7.7	75.3	1	5	7	8	3	6	.....	.....	.....	.....	.....	6	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.18	741.2	29.72	754.9	43.6	6.4	84.1	3	2	3	11	7	2	1	1	.....	.....	.....	7	.....	.....
Bradford d	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.34	745.2	29.74	755.4	44.8	7.1	78.9	.....	10	2	10	.....	.....	.....	4	.....	.....	.....	6	3.11	79.0
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.89	759.2	29.92	760.0	81.3	27.4	79.0	.....	.....	.....	.....	.....	6	.....	24	.....	.....	.....	5	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	.....	.....	46.4	8.0	79.4	2	4	12	9	1	1	.....	1	.....	.....	.....	5	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	160	49	29.66	753.4	29.83	757.7	48.1	8.9	79.4	3	2	4	14	1	.....	.....	2	4	.....	.....	6	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.66	753.4	29.89	759.2	50.5	10.3	77.2	1	3	11	4	6	1	3	1	.....	.....	.....	6	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2205	672	27.61	701.3	29.83	757.7	75.5	24.2	65.4	1	1	1	1	.....	5	6	15	.....	.....	.....	6	.....	.....
Freetown	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.70	754.4	29.93	760.2	82.9	28.3	85.4	8	1	2	1	10	1	6	1	.....	.....	.....	4	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.66	753.4	29.70	754.4	44.6	7.0	86.0	1	.....	12	13	2	.....	2	.....	.....	.....	.....	8	6.29	159.8
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.09	764.3	30.15	765.8	63.9	17.7	89.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.41	747.0	29.61	752.1	42.4	5.8	82.7	1	1	10	13	2	1	.....	2	.....	.....	.....	5	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.66	753.4	29.83	757.7	47.6	8.7	78.7	2	3	4	15	4	1	1	.....	.....	.....	.....	6	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.63	752.6	29.92	760.0	50.0	10.0	83.3	2	5	8	9	3	.....	2	1	.....	.....	.....	8	1.59	40.4
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.80	756.9	29.84	757.9	47.3	8.5	76.3	3	2	8	13	2	1	.....	1	.....	.....	.....	6	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.51	749.5	29.77	756.1	46.0	7.8	80.1	2	3	5	17	1	1	.....	.....	1	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.96	761.0	30.04	763.0	64.1	17.8	70.3	1	15	.....	2	.....	7	.....	5	.....	.....	.....	5	5.17	131.3
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.13	765.3	30.07	763.8	76.3	24.6	76.1	5	2	.....	.....	2	2	2	17	.....	.....	.....	6	.....	.....
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.26	743.2	29.82	757.4	45.0	7.2	82.2	2	1	2	10	11	1	1	2	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.58	751.3	29.81	757.2	47.1	8.4	77.5	1	2	2	13	9	.....	1	1	1	.....	.....	5	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.79	756.7	29.86	758.4	49.7	9.8	85.3	.....	6	7	6	6	1	2	2	.....	.....	.....	7	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.36	745.7	29.46	748.3	43.0	6.1	85.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Scutari Cemet'y	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.99	761.7	30.06	763.5	55.4	13.0	69.8	2	1	.....	4	4	.....	1	14	4	.....	.....	6	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.46	748.3	29.74	755.4	46.0	7.8	81.4	1	1	.....	15	8	.....	.....	2	3	.....	.....	6	3.15	80.0
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.65	753.1	29.68	753.9	44.8	7.1	91.5	3	1	13	7	1	.....	2	1	2	.....	.....	6	4.44	112.8
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.73	755.1	44.2	6.8	78.8	4	.....	12	6	2	.....	1	5	.....	.....	.....	9	.....	.....
Strathfield	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	47.6	8.7	78.4	1	7	7	13	2	.....	.....	.....	.....	.....	.....	6	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.84	757.9	29.89	759.2	53.1	11.7	77.8	.....	8	4	10	3	1	3	1	.....	.....	.....	7	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.77	756.1	29.80	756.9	50.2	10.1	77.7	1	4	9	8	5	1	2	.....	.....	.....	.....	8	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.68	753.9	30.07	763.8	64.6	18.1	65.7	1	14	1	3	2	3	3	3	.....	.....	.....	6	6.15	156.2
CANADIAN.																										
Bathurst d	N. 47 39	W. 65 43	7.45 a.m.	35	11	29.98	761.5	30.02	762.5	30.2	−1.0	.....	.....	2	3	10	1	.....	.....	.....	13	.....	.....	7	1.11	28.2
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.97	761.2	30.01	762.2	35.0	1.7	85.3	3	1	7	6	4	3	1	1	4	7184	11561	6	2.49	63.2
Chatham*	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.96	761.0	30.02	762.5	29.0	−1.7	88.2	5	3	3	15	1	1	1	.....	1	3800	6115	6	2.39	60.7
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.84	757.9	30.04	763.0	32.3	0.2	87.2	1	12	10	1	.....	1	5	.....	.....	.....	.....	3	2.51	63.8
Dalhousie d	N. 48 04	W. 66 22	7.32 a.m.	45	14	29.94b	760.5b	29.99b	761.7b	26.5d	−3.1d	.....	2b	1	11	1	1	.....	3	.....	9	.....	.....	7b	1.92a	a48.8
Father Point*	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.94	760.5	29.95	760.7	29.5	−1.4	85.1	5	1	6	7	5	.....	1	1	4	6689	10765	8	2.54	64.5
Fort Garry*	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.10	739.1	30.00	762.0	12.1	−11.1	81.2	6	5	6	2	7	2	.....	2	.....	8701	14002	5	1.20	30.5
Fredericton	N. 45 57	W. 66 38	7.41 a.m.	59	18	29.99	761.7	30.00	763.5	29.5	−1.4	86.1	2	8	6	1	3	1	4	2	3	.....	.....	7	2.42	61.5
Grand Manan	N. 44 46	W. 66 45	7.41 a.m.	49	15	30.00	762.0	30.05	763.3	38.5	3.6	80.1	3	3	7	4	3	1	3	.....	6	10141	16320	8	3.84	97.5
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	29.94	760.5	30.08	764.0	34.2	1.2	95.0	3	4	4	5	5	3	.....	.....	6	.....	.....	7	3.28	83.3
Halifax*	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.94	760.5	30.08	764.0	35.9	2.2	88.5	3	3	9	3	5	3	.....	1	3	.....	.....	5	3.48	88.4
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	372	113	29.63	752.0	30.04	763.0	36.9	2.7	86.9	.....	1	.....	24	.....	.....	1	4	.....	.....	.....	7	3.10	78.7
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.71	754.6	30.06	763.5	36.0	2.2	84.8	1	2	8	7	6	3	.....	3	.....	7807	12504	7	3.57	90.7
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.95	760.7	29.99	761.7	37.8a	3.2a	84.9a	g	5	0	5	3	1	2	1	.....	.....	.....	6	5.79	147.1
London	N. 43 00	W. 81 15	6.43 a.m.	816	248	29.15	740.4	30.09	764.3	30.0	2.2	85.4	4	1	5	2	7	.....	2	.....	9	.....	.....	7	4.90	124.5
Medicine Hat a	N. 50 01	W. 110 37	4.46 a.m.	2136	651	27.62	701.5	30.06	763.5	15.6	−9.1	90.5	4	6	3	2	2	.....	.....	1	11	6760	10879	2	0.35	8.9
Minnedosa	N. 50 13	W. 99 48	5.29 a.m.	1796	545	27.92	709.2	30.00	762.0	8.7	−12.9	89.8	2	9	5	2	2	2	5	3	.....	.....	.....	5	2.22	56.4
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.82	757.4	30.03	762.7	32.2	0.1	80.5	4	2	7	6	8	1	1	1	.....	.....	.....	6	3.09	78.5
Ottawa	N. 45 26	W. 75 41	7.05 a.m.	200	61	29.79	756.7	30.02	762.5	27.9	−2.3	87.2	2	5	7	8	.....	.....	2	6	.....	.....	.....	7	2.59	65.8
Parry Sound*	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.28	743.7	30.01	762.2	31.3	−0.4	84.4	2	2	4	1	4	5	7	1	4	.....	.....	7	6.15	156.2
Peterboro	N. 44 17	W. 78 18	6.54 a.m.	675	206	29.28	743.7	30.04	763.0	35.1	1.7	82.3	2	3	9	8	2	1	1	1	3	.....	.....	8	2.06	52.3
Port Arthur	N. 48 27	W. 89 12	6.11 a.m.	642	196	29.23	742.4	29.98	761.5	20.4	−6.4	85.4	1	6	3	6	1	.....	1	4	8	4054	6524	5	4.15	105.4
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.34	745.2	30.08	764.0	37.8	3.2	94.3	.....	3	8	11	3	.....	1	2	2	7014	12253	7	3.52	89.4
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.41	747.0	30.08	764.0	37.6	3.1	82.8	.....	.....	13	8	1	.....	6	2	.....	.....	.....	6	3.77	95.8
Qu Appelle	N. 50 44	W. 103 42	5.13 a.m.	2115	646	27.59	700.8	30.04	763.0	9.9	−12.3	92.3h	.....	8	2	9	3	1	.....	1	6	8690	12376	5	0.80	20.3
Quebec*	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.64	752.8	30.01	762.2	29.0	−1.7	93.5	2	.....	3	5	.....	.....	2	2	16	.....	.....	9	4.69	119.1
Rockliffe*	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.51	749.5	29.99	761.7	29.1	−1.6	83.1	1	7	3	.....	.....	13	3	.....	3	.....	.....	8	3.42	86.9
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.98	761.5	30.03	762.7	35.5	1.9	87.2	3	7	5	3	1	1	3	3	4	.....	.....	6	2.54	64.5
Saint John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	130	40	29.90	759.4	30.05	763.3	34.3	1.3	86.1	4a	5	8	2	5	.....	2	3	.....	.....	.....	6	4.04	102.6
Saint Johns, N.F.	N. 47 34	W. 52 54	8.30 a.m.	230?	70?	29.81?	757.2?	30.07?	763.8?	36.1	2.3	94.1	2	2	6	8	5	2	.....	5	.....	.....	.....	5	4.76	120.9
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.93	760.3	40.1	4.4	.....	4	4	7	7	3	1	.....	4	.....	.....	.....	.....	3.58	91.0
Saugeen*	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.27	743.4	30.01	762.2	33.8	1.0	87.1	6	6	3	4	8	2	1	.....	.....	12510	20132	9	4.98	126.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
	° ′	° ′																								
CANADIAN —Con.																										
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	29.75	755.6	30.07	763.8	32.8	0.4	90.6	.....	5	6	7	4	1	1	.....	6	.....	.....	7	4.62	117.3
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.96	761.0	30.03	762.7	35.5	1.9	86.9	4	4	3	10	4	1	1	.....	3	8357	13449	7	4.61	117.1
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.68	753.9	30.08	764.0	35.6	2.0	84.4	2	1	12	8		3	4	.....	.....	.....	.....	8	2.48	63.0
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	29.04	737.6	30.14	765 5	34.5	1.4	87.6	.....	1	3	9	6	6	3	2	.....	8638*a*	13901*a*	8	5.28	134.1
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.98	761.5	30.06	763.5	36.0	2.2	88.1	1	6	4	5	1	2	10	1	.....	.....	.....	6	2.49	63.2
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	29.98	761.5	30.01	762.2	67.1	19.5	88.3	.....	.....	1	20	.....	3	.....	5	1	.....	.....	4	0.66	16.8
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	.....	.....	29.88	758.9	.....	.....	74.3	23.5	58.0	2	12	8	.....	1	6	.....	1	.....	.....	.....	3	0.24	6.1
Springbok	S. 29 45	E. 17 43	1.19 p.m.	?	?	29.91	759.7	.....	.....	80.4	26.9	36.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
CHILIAN.																										
Coquimbo	S. 29 56	W. 71 21	7.22 a m.	72	22	29.94	760.5	30.02	762.5	59.0	15.0	87.3	10	1	1	6	.....	.....	5	7	.....	.....	.....	7	.....	.....
Iquique	S. 20 12	W. 70 11	7.27 a m.	26	8	29.97	761.1	29.99	761.8	64.9	18.3	71.2	.....	...	.....	27	2	.....	1	.....	.....	.....	.....	.....	.....	.....
Punta Caldera	S. 27 03	W. 70 53	7.25 a.m.	82	25	29.93	760.2	30.02	762.4	60.8	16.0	80.2	.....	12	.....	10	.....	1	2	5	.....	.....	.....	7	.....	.....
Punta Corona	S. 41 47	W. 73 53	7.12 a.m.	174	53	29.81	757.1	29.99	761.8	.....	.....	.....	10	3	7	3	2	.....	5	.....	.....	.....	.....	7	9.82	249.5
Valparaiso	S. 33 02	W. 71 39	7.22 a.m.	131	40	29.80	756.8	29.94	760.4	60.3	15.7	82.8	1	1	.....	10	15	.....	3	.....	.....	.....	.....	5	.....	.....
CHINESE. (*Sub*).																										
Sung-shu-chwang	*a*N. 36 07	E. 103 56	7.04 p.m.	4987	1520	25.33	643.4	.....	.....	36.9	2.7	.....	3	1	3	.....	.....	2	5	7	8	.....	.....	2	.....	.....
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	30.28	769.0	30.30	769.6	50.2	10.1	82.1	14	6	.....	.....	.....	1	3	6	.....	.....	.....	8	3.94	100.1
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.74	755.3	29.78	756.5	43.3	6.3	85	1	1	6	8	9	1	2	1	1	.....	.....	8	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.71	754.5	29.72	755.0	43.2	6.2	91	1	2	3	8	5	8	2	1	.....	.....	.....	8	.....	.....
Godthaab.	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.43	747.4	29.47	748.5	20.7	—6.3	84	9	.....	1	2	7	.....	2	8	1	.....	.....	7	.....	.....
Jacobshavn	N. 69 13	W. 50 55	8.44 a.m.	42	13	29.47	748.5	29.52	749.7	15.8	—9.0	.....	.....	.....	.....	1	3	2	16	.....	8	.....	.....	7	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.28	743 8	29.33	744.9	35.6	2.0	85	5	.....	.....	.....	2	6	6	10	1	.....	.....	8	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.32	744.6	29.34	745.2	41.9	5.5	84	5	2	1	9	3	2	4	3	1	.....	.....	6	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.59	751.5	29.68	753.8	42.8	6.0	88	2	1	2	5	10	5	1	3	1	.....	.....	7	.....	.....
Egyptian.																										
Cairo	N. 30 03	E. 31 21	2.14 p.m.	?	?	29.87	758.6	.....	.....	73.1	22.9	.....	7	6	.....	7	1	.....	2	7	.....	.....	.....	5	inap.	inap.
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.52	749.7	30.17	766.4	52.3	11.3	92.5	2	4	8	5	2	7	1	.....	1	.....	.....	.....	2.58	65.5
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.45	748.1	30.00	762.0	46.2	7.9	90.6	.....	1	2	12	10	.....	.....	5	.....	.....	.....	.....	2.03	51.5
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	30.03	762.7	30.11	764.7	55.2	12.9	63.6	8	16	2	1	.....	3	.....	.....	.....	.....	.....	3	0.39	10.0
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.46	748.3	30.03	762.7	46.2	7.9	81	1	.....	.....	15	6	8	.....	.....	.....	.....	.....	8	3.12	79.3
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.69	754.1	29.96	761.0	47.5	8.6	77.9	.....	3	7	6	7	3	2	2	.....	.....	.....	7	2.75	69.8
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.13	739.8	30.06	763.4	48.2	9.0	80.5	3	1	1	2	13	3	3	4	.....	.....	.....	5	4.40	111.7
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.83	757.6	30.08	764.1	54.0	12.2	75.6	.....	4	4	6	6	6	2	2	.....	.....	.....	7	3.42	86.9
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.48	748.8	30.04	763.0	49.3	9.6	79.5	1	.....	10	11	2	1	3	2	.....	.....	.....	.....	3.20	81.2
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.76	756.0	30.01	762.2	54.3	12.4	83.9	2	2	6	12	3	1	2	1	1	.....	.....	7	10.02	254.5
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.93	760.3	30.01	762.3	48.2	9.0	82.5	3	2	6	5	8	6	.....	.....	.....	.....	.....	.....	3.51	89.1
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.64	752.9	29.97	761.2	46.0	7.8	84.5	3	.....	.....	11	10	4	.....	.....	2	.....	.....	5	2.52	64.0
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.44	747.7	29.96	760.9	45.0	7.2	73.4	1	2	6	6	9	3	2	1	.....	.....	.....	7	3.74	95.0
Clermont-Fer'and	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.69	728.8	30.05	763.2	51.1	10.6	62.2	2	8	5	7	4	2	1	1	.....	.....	.....	7	1.18	30.0
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.22	742.2	30.10	764.5	48.9	9.4	76.8	1	3	7	4	11	3	1	.....	.....	.....	.....	8	3.54	90.0
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.14	740.1	30.02	762.4	44.1	6.7	84.1	1	.....	11	10	5	.....	3	.....	.....	.....	.....	5	6.24	158.3
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.54	699.5	30.11	764.7	48.4	9.1	53.8	4	1	3	2	7	1	5	2	5	.....	.....	3	3.21	81.6
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.93	734.7	30.07	763 7	55.0	12.8	60	3	10	2	2	3	6	3	1	.....	.....	.....	5	2.16	54.8
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.31	744.4	30.06	763.6	48.2	9.0	75.3	.....	5	3	2	5	6	2	7	.....	.....	.....	.....	2.73	69.4
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.47	723.2	30.08	764 0	48.0	8.9	73.8	.....	.....	2	18	2	4	.....	4	.....	.....	.....	.....	4.42	112.4
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.64	752.8	29.91	759.8	50.9	10.5	89.8	2	2	6	9	6	4	.....	1	.....	.....	.....	.....	2.78	70.5
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.54	750.4	30.09	764.3	56.5	13.6	72.5	.....	1	6	12	1	1	3	6	.....	.....	.....	5	4.13	104.9
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.91	759.8	30.02	762.4	55.0	12.8	71.9	1	5	5	9	3	5	.....	2	.....	.....	.....	7	4.56	115.9
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	29.02	737.2	30.10	764.6	47.3	8.5	74.7	4	4	3	2	5	6	5	1	.....	.....	.....	.....	1.96	49.7
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.69	754.2	30.00	762.1	47.8	8.8	86.1	.....	6	6	12	1	2	2	1	.....	.....	.....	7	3.04	77.2
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.78	756.5	30.06	763.5	58.3	14.6	59.7	.....	9	5	6	3	3	2	2	.....	.....	.....	.....	1.30	33.1
Montlouis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.85	631.1	29.69	754.1	45.0	7.2	49.9	2	1	8	8	2	4	3	2	.....	.....	.....	3	0.09	2.3
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.97	761.1	30.05	763.3	57.4	14.1	81	13	6	6	1	.....	2	1	1	.....	.....	.....	3	0.50	12.8
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.24	742.8	30.06	763.5	44.1	6.7	81.9	.....	3	5	8	13	1	.....	.....	.....	.....	.....	.....	3.58	90.9
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.89	759.1	30.05	763.2	52.0	11.1	79.4	4	1	7	8	6	1	.....	3	.....	.....	.....	8	6.26	159.0
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.98	761.6	30.10	764.5	58.3	14.6	59.9	1	13	3	2	.....	3	2	6	.....	.....	.....	6	0.24	6.2
Pic du Midi (Sum-[mit.)	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.20	538.6	.....	.....	28.2	—2.1	.....	1	12	8	3	1	.....	1	1	3	.....	.....	5	5.03	127.7
Privas	N. 44 45	E. 4 36	0.26 p.m.	997	304	29.00	736.6	30.06	763.6	50.7	10.4	69.5	11	.....	2	.....	11	.....	.....	.....	6	.....	.....	.....	4.15	105.3
Puy de Dôme	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.11	637.7	.....	.....	34.0	1.1	92.5	1	3	10	10	2	1	2	1	.....	.....	.....	8	5.26	133.6
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.02	762.6	30.05	763.3	54.7	12.6	78.7	.....	3	1	6	7	1	1	2	9	.....	.....	6	1.88	47.7
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.80	756.8	30.01	762.3	53.1	11.7	87.5	.....	5	5	6	3	8	1	2	.....	.....	.....	.....	4.97	126.2
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.91	709.0	30.09	764.2	47.3	8.5	80.7	1	4	.....	4	1	11	8	.....	1	.....	.....	.....	3.14	79.8
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.92	759.9	29.97	761.1	48.0	8.9	82	4	1	8	5	4	1	3	2	2	.....	.....	5	2.70	68.7
St. Lô	N. 49 06	W. 1 05	0.04 p.m.	134	41	29.81	757.2	29.97	761.2	48.4	9.1	82.9	3	2	11	5	4	2	2	1	.....	.....	.....	7	1.73	43.9
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.82	757.4	29.98	761.6	47.1	8.4	79.6	.....	1	2	12	7	2	2	2	2	.....	.....	.....	2.36	59.9
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.42	747.2	30.15	765.7	53.8	12.1	74.5	1	3	6	3	3	11	2	1	.....	.....	.....	6	1.34	33.9
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	29.84	758.0	30.02	762.5	51.6	10.9	77.9	2	.....	7	5	11	2	2	1	.....	.....	.....	.....	3.75	95.2
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.48	748.7	29.97	761.2	46.4	8.0	81.8	1	3	14	4	2	3	3	.....	.....	.....	.....	.....	2.19	55.6
Sub-Series.																										
St. Martin du Hinx	N. 43 35	W. 1 16	0.03 p m.	131	40	29.98	761.4	30.13	765.2	55.9	13.3	78.0	3	2	10	7	2	.....	5	1	.....	.....	.....	7	7.65	194.3
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.55	725.2	30.04	763.1	41.2	5.1	82.0	.....	.....	8	10	3	5	.....	.....	4	.....	.....	8	1.83	46.8
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.12	739.7	29.97	761.3	41.9	5.5	79.0	.....	1	6	4	3	8	2	.....	6	.....	.....	7	2.08	52.8
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.76	755.9	29.91	759.7	44.1	6.7	80.8	.....	2	7	8	6	2	1	.....	4	.....	.....	8	1.74	44.1
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.47	748.5	30.00	761.9	43.2	6.2	73.2	.....	1	8	7	8	5	1	.....	.....	.....	.....	7	0.68	17.3
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.56	750.7	30.02	762.4	45.9	7.7	78.0	1	.....	.....	24	.....	.....	3	2	.....	.....	.....	8	5.03	127.7
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.19	741.5	29.90	759.5	43.3	6.3	81.8	.....	2	3	6	17	1	1	.....	.....	.....	.....	8	2.15	54.6
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.60	751.7	29.97	761.2	45.0	7.2	78.0	1	.....	6	13	4	5	.....	.....	1	.....	.....	8	3.02	76.8
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.61	726.8	30.06	763.5	44.2	6.8	74.9	2	.....	7	12	2	1	2	4	.....	.....	.....	7	2.84	72.2
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.75	755.6	29.84	757.9	43.3	6.3	86.8	.....	2	2	14	3	8	.....	.....	1	.....	.....	7	2.29	58.1
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.78	756.4	29.80	756.8	42.8	6.0	84.6	3	.....	2	9	9	5	1	.....	1	.....	.....	7	4.50	114.4
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.52	749.7	29.95	760.7	44.8	7.1	72.3	.....	1	4	7	15	2	1	.....	.....	.....	.....	7	1.46	37.0
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.71	751.5	29.90	759.4	45.1	7.3	79.2	1	1	7	3	11	6	.....	.....	1	.....	.....	6	1.67	42.4
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.88	759.0	29.93	760.2	41.7	5.4	88.1	1	2	2	7	9	7	2	...	.....	.....	.....	9	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.18	715.7	30.04	763.0	42.1	5.6	74.1	2	9	2	3	.....	2	6	1	5	.....	.....	7	2.53	64.3
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.88	759.0	29.90	759.4	41.9	5.5	83.4	.....	2	8	7	4	9	.....	.....	.....	.....	.....	9	1.64	41.6
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.44	747.8	29.96	761.0	45.3	7.4	77.6	.....	.....	12	6	6	2	.....	1	3	.....	.....	8	2.84	72.2
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.04	737.7	29.95	760.7	46.0	7.8	68.3	2	.....	14	7	1	.....	3	3	.....	.....	.....	6	1.81	45.9
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.78	756.5	29.81	757.1	41.7	5.4	88.1	2	.....	4	7	6	10	1	.....	.....	.....	.....	9	1.98	50.3
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m	361	110	29.69	754.0	30.07	763.8	62.8	17.1	.....	10	.....	.....	1	10	2	2	5	.....	.....	.....	6	4.56	115.9
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.89	759.2	29.94	760.5	79.5	26.4	47	...	1	5	18	1	.....	2	3	.....	.....	.....	1	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.44	747.9	29.92	760.0	82.3	27.9	22	6	5	.....	6	3	2	2	6	.....	.....	.....	1	0	0
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.84	758.0	29.88	758.9	80.8	27.1	68	6	19	5	.....	.....	.....	.....	.....	.....	.....	.....	1	0.86	21.8
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	28.03	712.0	29.89	759 3	78.2	25.7	43	.....	1	.....	.....	.....	11	12	6	.....	.....	.....	2	0.08	2.0
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.60	751.8	.....	.....	80.4	26.8	67.3	1	.....	3	.....	.....	.....	6	17	3	.....	.....	8	5.30	134.6
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.37	720.6	.....	.....	79.0	26.1	46.1	.....	6	1	.....	.....	3	9	11	.....	.....	.....	3	0.17	4.3
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.34	694.4	29.88	759.0	74.9	23.8	56	4	.....	2	2	1	1	4	16	.....	.....	.....	3	1.10	27.9
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.19	741.3	29.95	760.8	66.4	19.1	58	.....	.....	.....	.....	.....	.....	3	27	.....	.....	.....	1	0.66	16.8
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	29.02	737.1	29.94	760.6	67.8	19.9	51	2	1	11	.....	1	.....	2	.....	13	.....	.....	1	0.65	16.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations November, 1883. Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
INDIAN—Cont'd.	° ′	° ′																								
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.37	746.0	29.95	760.6	75.0	23.9	32	.....	19	5	1	.....	.....	4	1	.....	.....	.....	2	0	0
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.86	733.0	29.91	759.8	75.9	24.4	41	.....	.....	.....	.....	.....	.....	1	3	26	.....	.....	1	0	0
Jubbulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.57	725.6	29.95	760.7	71.4	21.9	48	1	.....	.....	.....	.....	.....	1	3	25	.....	.....	1	0	0
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.56	750.7	29.94	760.5	71.7	22.1	57	.....	3	3	1	.....	.....	.....	1	22	.....	.....	0	0	0
Allahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.01	752.2	29.94	760.4	68.2	20.1	59	.....	.....	.....	.....	.....	.....	.....	1	29	.....	.....	0	0	0
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.73	755.2	29.92	760.0	71.8	22.1	53	1	7	8	1	.....	.....	1	4	8	.....	.....	0	0	0
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.88	708.3	29.94	760.5	67.6	19.8	46	9	15	2	.....	.....	.....	1	3	.....	.....	.....	1	0	0
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.83	757.6	29.91	759.8	74.8	23.8	71	.....	.....	1	.....	.....	.....	.....	1	28	.....	.....	1	0.09	2.3
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.88	758.9	29.90	759.5	71.3	21.8	68	13	10	3	.....	.....	.....	.....	3	1	.....	.....	2	0	0
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.78	756.4	29.90	759.5	72.7	22.6	72	1	2	.....	2	.....	.....	3	4	18	.....	.....	1	0	0
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.80	757.0	29.89	759.3	74.9	23.8	78	.....	8	6	1	.....	1	1	.....	13	.....	.....	2	0	0
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.58	751.4	29.92	760.0	70.7	21.5	79	.....	.....	.....	.....	.....	.....	2	27	1	.....	.....	2	0.23	5.8
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.49	723.6	29.95	760.8	74.3	23.5	35	4	16	2	3	1	.....	.....	3	1	.....	.....	2	0	0
Zanzibar	S. 6 10	E. 39 11	2 45 p.m.	23	7	29.87	758.7	.....	.....	82.4	28.0	69.4	6	7	1	4	1	.....	5	4	2	.....	.....	4	3.16	80.3
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.66	753.3	30.08	763.9	50.9	10.5	60	.....	.....	.....	.....	.....	.....	4	1	25	.....	.....	5	4.41	112.1
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.57	751.0	30.10	764.5	47.5	8.6	72	.....	2	5	9	4	5	3	2	.....	.....	.....	6	3.12	79.3
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.96	761.0	30.07	763.8	49.8	9.9	67	8	3	2	3	2	3	4	5	.....	.....	.....	5	1.08	27.3
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.17	740.8	30.10	764.4	46.2	7.9	67	5	7	3	.....	6	4	3	2	.....	.....	.....	6	0.69	17.5
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157	48	29.84	758.0	30.04	762.9	55.9	13.3	56	17	.....	.....	1	.....	3	.....	8	1	.....	.....	5	5.72	145.3
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	30.02	762.6	30.08	763.9	51.8	11.0	78	10	11	5	2	.....	1	.....	1	.....	.....	.....	7	2.93	74.4
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.78	756.4	30.04	762.9	54.7	12.6	67	2	3	3	3	3	1	4	11	.....	.....	.....	6	2.74	69.6
Leghorn *a*	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.89	759.3	29.98	761.5	57.6	14.2	74	4	.....	2	2	4	1	5	11	.....	.....	.....	6	3.07	78.0
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.85	758.1	30.02	762.6	59.5	15.3	60	17	2	1	3	5	.....	.....	1	1	.....	.....	0	1.29	32.7
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.79	756.6	30.04	763.1	61.9	16.6	64	9	4	1	.....	9	1	3	3	.....	.....	.....	4	1.77	44.9
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.17	741.0	30.05	763.6	61.0	16.1	68	.....	3	8	11	7	1	.....	.....	.....	.....	.....	6	3.37	85.6
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	29.80	757.0	30.00	761.9	62.4	16.9	68	.....	10	2	.....	.....	6	2	.....	10	.....	.....	5	6.35	161.2
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.79	756.7	30.04	763.1	64.4	18.0	61	3	1	6	5	.....	1	1	11	2	.....	.....	5	2.57	65.2
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	30.00	761.9	30.04	763.0	64.4	18.0	70	3	.....	5	2	3	3	10	4	.....	.....	.....	6	4.18	106.3
Sub-Series.																										
Naples *b*	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.52	749.9	30.04	763.0	58.5	14.7	65.3	1	4	5	3	2	4	3	5	1	.....	.....	5	2.87	73.0
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	30.08	764.1	30.11	765.0	40.0	4.5	92	7	3	2	.....	.....	2	2	.....	14	.....	.....	6	7.92	201.0
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	30.06	763.4	30.09	764.4	37.9	3.3	83.8	.....	.....	7	4	10	4	.....	.....	5	3928	6322	6	5.48	138.9
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	30.09	764.2	30.10	764.5	37.5	3.1	83.0	13	3	5	1	.....	1	1	2	4	.....	.....	5	1.35	34.3
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	92	28	30.01	762.3	30.11	764.9	49.8	9.9	79.3	5	5	6	.....	.....	.....	1	2	11	.....	.....	4	1.80	45.6
Hiroshima	N. 34 23	E. 132 27	8.58 p.m.	14	4	30.18	766.6	30.20	767.0	49.4	9.6	85.8	21	2	1	1	..	.....	1	4	.....	4476	7202	4	0.74	18.8
Kagoshima	N. 31 35	E. 130 33	8.50 p.m.	14	4	30.16	766.0	30.17	766.3	54.4	12.5	78.3	12	4	.....	.....	.....	1	1	8	4	.....	.....	5	1.67	42.4
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	30.06	763.6	30.17	766.2	46.1	7.8	88.7	2	1	2	3	1	8	12	1	.....	4666	7413	7	10.04	270.1
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.99	761.7	30.16	766.1	45.9	7.7	89.1	17	2	2	2	1	.....	1	3	2	1526	2456	6	1.68	42.4
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	30.14	765.5	30.16	766.0	52.7	11.5	75.2	4	8	8	.....	1	.....	2	6	1	4382	7051	4	2.03	51.6
Miasaka	N. 31 56	E. 131 26	8.54 p.m.	26	8	30.15	765.8	30.18	766.5	52.8	11.5	84.5	15	.....	10	.....	2	.....	2	1	.....	.....	.....	5	1.95	49.6
Miyakoa	N. 39 38	E. 141 59	9.36 p.m.	98	30	30.00	762.0	30.11	764.8	40.8	4.9	76.0	3	1	21	2	2	.....	.....	.....	.....	2749	4425	4	1.84	46.9
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.98	761.6	30.19	766.8	52.6	11.4	76.7	3	3	.....	.....	.....	1	4	8	11	2686	4322	5	1.33	33.5
Nilgata	N. 37 55	E. 139 03	9.24 p.m.	32	10	30.09	764.3	30.13	765.2	48.0	8.9	80.5	6	1	6	..	.. ..	13	1	3	.....	5691	9159	6	10.84	275.7
Nobiru	N. 38 23	E. 141 11	9.32 p.m.	15	5	30.08	764.1	30.10	764.5	41.5	5.3	86.7	23	6	.....	.....	.....	.....	.....	1	.....	6985	11241	4	0.61	15.5
Numadzu	N. 35 06	E. 138 51	9.23 p.m.	32	10	30.06	763.5	30.10	764.4	49.5	9.7	81.4	3	1	.....	2	.....	.....	21	3	.....	.....	.....	4	1.85	47.0
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	30.15	765.8	30.16	766.3	48.4	9.1	84.4	10	2	2	.....	.....	1	4	11	.....	5275	8488	4	1.90	48.3
Sakai	N. 35 01	E. 133 13	9.01 p.m.	10	3	30.18	766.6	30.19	766.8	49.8	9.9	79.5	6	2	6	4	4	3	2	2	1	.....	.....	7	5.52	140.3
Sapporo	N. 43 04	E. 141 23	9.33 p.m.	60	18	30.01	762.2	30.08	764.0	34.8	1.6	81.7	3	5	5	9	3	1	.....	.....	4	4166	6944	5	5.06	128.4
Shimonoseki	N. 33 58	E. 130 56	8.52 p.m.	134	41	30.05	763.3	30.20	767.0	52.6	11.4	74.3	1	1	2	2	2	1	3	1	17	.....	.....	5	2.08	52.8
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	30.04	762.9	30.11	764.0	47.6	8.7	80.7	17	.....	2	.....	1	.....	10	.....	.....	5134	8262	4	1.48	37.6
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.10	764.5	30.15	765.8	51.2	10.7	75.8	5	3	.....	1	.....	.....	1	15	5	2638	4246	5	2.41	61.0
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.92	760.0	29.98	761.5	77.3	25.2	64.9	.....	1	1	1	.....	.....	22	5	.....	.....	.....	6	1.41	35.8
MEXICAN.																										
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	21 35	618 5	30.12	765.0	51.1	10.6	84.8	5	16	5	.....	.....	1	.....	.....	3	.....	.....	5	0.62	15.7
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.70	754.4	29.95	761.0	71.8	22.1	82.7	15	5	.....	.....	...	.....	2	8	... ..	.....	.....	1	.....	.....
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.86	758.4	29.86	758.4	47.1	8.4	.....	2	3	5	6	11	1	2	.....	.....	.....	.....	.....	2.54	64.5
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.74	755.4	29.80	756.8	43.5	6.4	.....	2	2	2	16	6	1	1	.....	.....	.....	.....	.....	3.66	93.0
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.78	756.5	29.78	756.5	46.6	8.1	.....	1	4	2	10	8	3	2	.....	.....	.....	.....	.....	4.00	101.7
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.84	757.9	29.84	757.9	46.4	8.0	84.2	.....	2	5	11	8	2	2	.....	.....	.....	.....	.....	3.57	90.6
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.8	757.0	29.85	758.2	46.4	8.0	80.7	.....	5	2	7	13	.....	3	.....	.....	.....	.....	6	3.33	84.6
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7.15 p.m.	?	?	29.84	758.0	.....	.....	77.4	25.2	86.4	9	.....	4	1	2	1	2	11	.....	.....	.....	8	10.24	260.0
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.49	749.0	29.55	750.6	42.6	5.9	74	.....	.....	1	2	18	6	1	.....	2	.....	.....	8	10.77	273.5
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.53	750.0	29.57	751.0	40.1	4.5	69	.....	.....	2	3	6	5	7	3	4	.....	.....	8	4.10	104.1
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.52	749.9	29.67	753.7	37.6	3.1	87	1	.....	2	6	5	7	3	5	1	.....	.....	8	4.41	112.1
Gjæsvar	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.58	751.3	29.60	751.9	34.5	1.4	.....	.....	.....	2	6	8	3	1	2	8	.....	.....	7	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.54	750.4	29.59	751.6	36.1	2.3	73	9	.....	1	3	2	1	.....	8	6	.....	.....	6	3.62	91.9
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	.....	.....	.....	.....	62.8	17.1	49.5	2	4	1	4	2	4	6	5	2	.....	.....	5	4.04	102.5
Campo	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.16	740.6	30.16	766.1	60.4	15.8	65.0	4	3	5	1	3	.....	6	6	2	.....	.....	6	0.24	6.0
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.06	763.4	30.14	765.6	67.6	19.8	64.3	2	1	.....	6	1	7	3	9	1	.....	.....	5	7.30	185.5
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	312	95	29.85	758.1	30.19	766.7	59.7	15.4	65.7	6	.....	1	6	3	.....	1	13	.....	.....	.....	5	0.73	18.5
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.17	766.2	30.24	768.0	64.9	18.3	69.5	5	1	.....	7	5	1	1	7	3	.....	.....	4	2.78	70.7
St. P'l de Loando	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.68	753.9	29.88	759.0	79.0	26.1	87.9	.....	3	26	1	.. ...	.....	.....	.....	.....	.....	.....	6	0.18	4.6
San Salvador	S. 6 17	E. 14 53	1.07 p.m.	1834	559	28.05	712.4	29.87	758.6	80.4	26.9	65.2	2	13	7	3	.....	.....	.....	1	4	.....	.....	8	6.94	176.4
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.38	644.6	30.17	766.4	43.9	6.6	80.3	.....	10	7	2	1	4	5	.....	1	.....	.....	7	8.94	227.2
RUSSIAN																										
Akmollinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	29.19	741.4	30.37	771.3	13.8	-10.1	87.3	1	3	9	5	1	3	2	4	2	.....	.....	6	0.33	8.4
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.93	760.3	29.95	760.8	30.4	−0.9	90.6	.....	.....	2	6	11	4	4	2	1	.....	.....	10	0.35	9.0
Ashuruda	N. 36 54	E. 53 55	3.44 p.m.	79	24	30.30	769.5	30.20	767.1	60.8	16.0	75.0	9	12	2	.....	.....	1	3	3	.....	.....	.....	5	1.18	30.1
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.43	773.0	30.36	771.1	42.1	5.6	65.7	.....	1	2	.....	1	9	12	4	1	.....	.....	6	0.05	1.3
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	30.30	769.5	30.25	768.3	54.5	12.5	79.4	6	.....	.....	1	7	7	3	4	2	.....	.....	6	0.98	24.8
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.86	758.4	30.41	772.5	7.5	−13.6	76.8	.....	.....	2	18	.....	1	.....	.....	9	.....	.....	6	0.95	24.1
Bielosersk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.64	752.8	30.12	765.1	33.8	1.0	91.8	.....	.....	2	4	12	8	1	.....	3	.....	.....	9	1.18	29.9
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.68	753.9	29.93	760.2	38.8	3.8	91.2	.....	.....	3	7	13	4	3	.....	.....	.....	.....	10	2.45	62.2
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	29.32	744.6	30.35	770.8	22.6	−5.2	85.7	.....	.....	12	11	3	2	.....	.....	2	.....	.....	9	0.28	7.1
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.75	755.6	30.21	767.3	44.1	6.7	73.0	2	3	.. ..	2	4	12	4	1	2	.....	.....	8	0.28	7.0
Irkutsk	N. 52 16	E. 104 16	7.05 p.m.	1536	468	28.63	727.1	30.43	772.9	10.0	−12.2	80.4	.....	6	.....	.....	1	3	1	1	18	.....	.....	3	0.004	0.1
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	30.09	764.2	30.37	771.4	30.2	−1.0	85.1	2	1	.....	4	14	8	.....	1	.....	.....	.....	9	0.46	11.8
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	29.90	759.4	29.95	760.7	33.1	0.6	87.6	.....	1	2	10	7	3	1	1	5	.....	.....	9	0.37	9.3
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	30.12	765.0	30.14	765.6	48.4	9.1	77.8	4	1	.....	.....	1	2	7	7	8	.....	.....	6	0.04	1.0
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.47	748.6	30.13	765.2	40.6	4.8	82.1	.....	2	1	4	6	12	3	1	1	.....	.....	8	1.18	29.9
Kostov	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.74	755.5	30.27	768.9	35.6	2.0	86.2	1	1	2	5	8	8	4	.....	1	.....	.....	8	0.59	14.9
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	29.85	758.1	29.87	758.7	42.1	5.6	85.7	.....	.....	4	7	4	11	2	.....	2	.....	.....	9	3.76	95.5
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	30.04	763.0	30.25	768.3	41.9	5.5	72.6	1	1	3	2	2	2	10	9	.....	.....	.....	8	0.07	1.8
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.72	754.8	30.22	767.5	35.1	1.7	87.1	.....	3	4	8	8	1	2	1	3	.....	.....	9	1.05	26.7
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	30.11	764.8	30.18	766.6	46.4	8.0	70.6	1	1	1	2	6	3	5	5	6	.....	.....	5	0.23	5.8
Nikolaievsk	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.94	760.6	30.03	762.8	11.3	−11.5	77.6	1	4	5	.....	.....	.....	3	1	16	.....	.....	3	.....	.....
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	30.22	767.7	30.37	771.3	34.5	1.4	65.7	1	4	.....	5	1	.....	.....	.....	19	.....	.....	2	0.36	9.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for November, 1883. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
RUSSIAN—Cont'd	° ′	° ′																								
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.12 p.m.	328	100	29.98	761.5	30.35	770.8	42.3	5.7	43.9	7	....	1	1	....	.....	1	11	9	.....	.....	4	0.10	2.6
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.79	756.6	29.99	761.8	35.2	1.8	90.3	....	2	1	10	8	5	1	.....	3	.....	.....	9	1.65	41.8
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.57	751.0	30.08	764.0	40.5	4.7	88.5	....	.....	4	5	8	9	1	....	3	.....	.....	9	1.56	39.5
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	30.06	763.5	30.09	764.3	61.7	16.5	79.0	....	2	1	2	2	2	18	.....	3	.....	.....	5	5.89	149.6
St. Petersburg	N. 59 56	E. 30 46	2.09 p.m.	20	6	29.95	760.7	29.97	761.3	37.4	3.0	85.6	...	2	2	3	13	8	2	.....	.....	.....	.....	9	1.67	42.4
Samarkand	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.79	705.9	30.32	770.2	46.0	7.8	69.0	....	.....	.....	.....	.....	8	1	.....	21	.....	.....	5	0.54	13.8
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.79	756.6	30.52	775.1	10.4	-12.0	76.2	1	1	1	5	1	2	4	.....	15	.....	.....	6	0.85	21.7
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	138?	42?	29.91	759.6	30.12	765.0	54.5	12.5	61.0	8	2	1	1	6	.....	2	10	.....	.....	.....	5	0.15	3.9
Staroi Bykhov	N. 53 31	E. 30 16	2.09 p.m.	423?	129?	29.54	750.3	30.11	764.8	38.8	3.8	86.8	.....	.....	2	1	4	21	2	.....	.....	.....	.....	9	1.56	39.7
Tashkend	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.63	727.2	30.36	771.0	45.5	7.5	65.5	.....	2	.....	...	.. ..	.....	.....	.....	28	.....	.....	5	0.91	23.0
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1313	409	28.80	731.5	30.24	768.1	52.0	11.1	64.3	2	2	.....	.....	3	16	3	.....	4	.....	.....	7	1.04	26.4
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.72	704.2	30.37	771.4	28.9	−1.7	70.4	1	....	1	.....	.....	.....	.....	1	27	.....	.....	5	0.44	11.3
Viatka	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.63	752.7	30.30	769.6	27.3	−2.6	92.6	2	.....	4	10	4	7	.....	1	2	.....	...	6	0.88	22.3
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	30.17	766.2	30.23	767.9	28.8	−1.8	67.3	10	5	.....	.....	.....	3	7	2	3	.....	.....	3	0.41	10.4
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.57	751.0	30.00	762.1	40.8	4.9	84.7	1	1	5	5	11	5	1	.....	1	.....	.....	7	1.54	39.1
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	30.08	764.0	30.40	772.2	−4.9	−20.5	82.3	.....	2	10	1	1	5	4	.....	7	.....	.....	6	0.36	9.2
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	98	30	29.96	761.0	30.07	763.7	62.1	16.7	70	...	.....	5	6	6	5	6	2	.....	1824	2935	5	1.17	29.7
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.10	764.5	30.16	766.0	59.0	15.0	77	.....	12	2	1	....	9	.....	.....	6	1444	2323	7	6.78	172.1
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.18	690.3	30.20	767.1	48.4	9.1	74	.....	3	3	2	8	1	.....	13	.....	4287	6899	6	2.05	52.0
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.92	709.1	30.17	766.2	55.4	13.0	71.6	1	2	1	6	7	4	3	6	.....	4755	7652	4	2.27	57.7
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.98	761.4	30.11	764.8	65.5	18.6	65.2	2	4	1	14	3	2	1	3	.....	.....	.....	5	0.46	11.7
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.21	741.9	30.11	764.8	56.3	13.5	82.3	7	2	4	9	2	.....	1	3	2	5244	8439	8	6.46	164.2
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.99	761.7	30.06	763.4	73.5	23.1	82.6	4	.....	.....	.....	2	2	17	5	.....	.....	.....	4	1.76	44.7
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.87	758.6	29.93	760.1	77.7	25.4	80.5	4	..	.....	.....	1	7	5	13	.....	2862	5301	3	2.39	60.8
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	30.06	763.6	30.16	766.2	65.1	18.4	64	3	8	6	2	1	.....	10	.....	.....	.....	.....	3	0.19	4.7
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.89	759 2	29.98	761.5	77.7	25.4	87	.....	.....	1	.....	1	6	1	...	21	.....	.....	3	4.66	118.4
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.75	755.7	29.79	756.7	34.5	1.4	95	.....	.....	.....	9	9	2	1	5	4	.....	.....	9	2.89	73.3
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.70	754.3	29.75	755.6	36.7	2.6	92	.....	.....	3	11	3	2	2	2	7	.....	.....	9	5.10	129.4
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.67	753.5	29.72	754.8	37.4	3.0	87	2	.....	.....	2	6	3	2	1	14	.....	.....	8	4.87	123.8
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.58	751.3	29.76	755.8	40.8	4.9	87	2	.....	4	6	11	2	1	2	2	.....	.....	8	3.90	99.0
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.71	754.6	29.77	756.1	42.6	5.9	87	.....	1	5	10	6	4	1	3	.....	.....	.....	8	3.83	97.3
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.64	752.9	29.73	755.1	39.6	4.2	93.1	9	1	1	7	2	3	2	5	.....	.....	.....	9	3.31	84.0
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.65	727.7	30.10	764.4	47.1	8.4	70.6	8	4	2	2	8	3	2	1	.....	.....	.....	8	2.41	61.1
TURKISH.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.11	764.8	57.9	14.4	68	11	.....	.....	2	6	1	2	8	.....	.....	.....	6	2.54	64.4
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.12?	765.0?	63.9	17.7	.....	1	14	2	3	1	2	2	5	.....	.....	.....	5	6.02	153.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.99	761.8	70.5	21.4	66.1	3	6	2	11	.....	2	....	6	.....	.....	.....	6	15.30	388 6
Samakov *b*	N. 42 12	E. 23 45	1.42 p.m.	?	?	26.84	681.7	.....	.....	50.5	10.3	73.6	.....	.....	.....	.....	.....	.....	.....	.....	18	.....	.....	5	0	0
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	30.06	763.5	30.14	765.5	40.4	4.7	71.2	6	4	5	.....	14	.....	1	.....	.....	4754	7651	6	1.14	29.0
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.33	745.0	30.03	762.7	30.6	−0.8	85.2	.....	3	13	5	5	4	.....	.....	.....	7614	12253	7	3.46	87.9
Apache, Fort	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	25.06	636.5	30.16	766.1	26.5	−3.1	73.7	...	.....	.....	.....	.....	10	15	5	.....	3750	6035	1	0.02	0.5
Assinaboine, Ft.	N. 48 32	W. 109 42	4.49 a.m.	2710	826	27.11	688.6	30.09	764.3	21.6	−5.8	70.8	2	5	.....	19	2	... ..	.....	2	.....	9196	14800	6	3.76	95.5
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1129	344	29.06	738.1	30.28	769.1	47.7	8.7	72.7	3	5	3	1	5	2	8	3	.....	6716	10808	4	4.72	119.9
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	30.17	766.3	30.18	766.6	43.0	6.1	74.5	7	6	6	4	2	1	.....	1	3	6669	9767	5	1.25	31.7
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	30.09	764.3	30.29	769.4	50.9	10.5	77.6	5	5	.....	.....	.....	2	1	3	14	2376	3824	4	3.73	94.7
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.19	766.8	30.24	768.1	44.4	6.9	67.2	8	4	5	3	4	1	2	3	.....	4061	6535	4	1.37	34.8
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	22	7	30.16	766.1	30.18	766.6	43.6	6.4	77.3	7	5	6	7	1	.....	1	2	1	11181	17994	5	1.06	26.9
Bennett, Fort	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.43	722.1	30.12	765.0	20.0	−6.7	77.5	.....	12	.....	1	.....	4	.....	2	11	4335	6976	3	inap	inap.
Benton, Fort	N. 47 50	W. 110 40	4.45 a.m.	2700	823	27.18	690.4	30.14	765.5	25.1	−3.8	54.8	2	1	.....	.....	5	6	. ....	2	14	5105	8216	7	0.36	9.1
Bismarck *b*	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.17	715.5	30.10	764.5	19.6	−6.9	86.8	1	10	4	....	1	5	3	4	....	6171	9931	4	0.26	6.6
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	30.12	765.0	30.15	765.8	44.1	6.7	80.5	9	5	2	10	.....	1	1	2	.....	12191	19619	5	3.16	80.3
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.29	693.2	30.23	767.8	30.3	−0.9	87.5	2	13	7	4	.....	2	.....	1	1	2028	3264	4	0.46	11.7
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.95	760.7	30.11	764.8	39.1	3.9	75.0	....	10	6	7	3	.....	2	....	2	7682	12363	5	2.08	52.8
Brownsville	N. 25 53	W. 97 26	5.38 a.m	57	17	30.03	762.7	30.09	764.3	64.4	18.0	89.6	6	4	.....	.....	2	4	.....	.....	14	4768	7673	6	3.32	84.3
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	690	210	29.28	743.7	30.05	763.3	41.6	5.3	75.6	.....	2	7	8	5	3	3	2	.....	.....	.....	7	2.93	74.4
Buford, Fort	N. 48 00	W. 103 56	5.12 a.m.	1930	588	27.92	709.2	30.08	764.0	16.7	−8.5	87.9	2	2	9	3	6	1	3	3	1	6481	10430	5	0.14	3.6
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.83	757.7	30.25	768.3	44.9	7.2	77.8	6	...	1	6	9	2	2	4	.....	6597	10617	5	4.36	110.7
Canby, Fort	N. 46 16	W. 124 04	3.52 a.m.	179	54	29.86	758.4	30.00	763.5	46.4	8.0	94.1	2	3	6	2	7	4	3	2	1	8059	13935	7	8.34	211.8
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.21	767.3	30.23	767.8	49.6	9.8	71.5	5	6	.....	8	6	1	2	1	1	10604	17063	4	0.74	18.8
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.16	766.1	30.18	766.6	45.6	7.6	74.7	5	5	3	4	5	1	3	4	.....	13134	21138	4	3.39	86.1
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.45	748.0	30.15	765.8	48.6	9.2	81.4	9	12	.....	.....	.....	4	....	2	3	10709	17234	3	1.36	34.5
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.17	766.3	30.19	766.8	61.4	16.3	82.2	11	.	.....	.....	1	2	5	11	.....	5757	9265	3	0.93	23.6
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	30.16	766.1	30.22	767.6	54.9	12.7	84.3	12	2	1	5	1	.....	1	7	1	5485	8832	4	1.08	27.4
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.38	746.2	30.26	768.6	45.8	7.7	74.4	8	3	2	7	3	1	1	5	. ....	3764	6057	4	4.65	118.1
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.43	747.5	30.28	769 1	45.4	7.4	78.1	2	4	1	5	2	3	1	6	6	4006	6447	5	6.79	172.4
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6089	1856	23.98	609.1	30.21	767.3	32.0	0.0	53.3	1	16	8	4	1	...	.....	.....	.....	6940	11169	1	0.16	4.1
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.37	746.0	30.11	764.8	37.1	2.8	71.9	1	6	8	9	3	2	.....	1	.....	6440	10364	5	5.26	133.6
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	18	5	30.19	766.8	30.21	767.3	45.9	7.7	79.4	7	7	2	.....	8	1	1	3	1	8720	14033	4	1.21	30.7
Cincinnati	N. 39 06	W. 84 30	5.30 a.m.	620	189	29.54	750.3	30.23	767.8	44.2	6.8	78.0	2	4	2	7	1	10	.....	3	1	4357	7012	4	4.87	123.7
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.37	746.0	30.14	765.5	40.2	4.6	70.2	.....	3	5	4	11	6	.....	1	.....	9431	15177	7	2.36	59.9
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.30	744.2	30.19	766.8	39.4	4.1	75.4	.....	4	6	3	10	5	2	.....	.....	5984	9630	5	3.87	98.3
Concho, Fort	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.20	716.3	30.21	767.3	47.7	8.7	80.9	3	.....	4	3	9	...	1	5	5	6198	9903	6	0.29	7.4
Custer, Fort	N. 45 42	W. 107 34	4.58 a.m.	3040	926	26.82	681.2	30.14	765.5	22.4	−5.3	76.8	7	3	4	.....	1	8	2	5	.....	4505	7250	6	1.10	27.9
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.43	747.5	30.12	765.0	36.5	2.5	74.5	.....	12	4	9	2	2	.....	1	.....	7428	11954	5	3.58	90.9
Davis, Fort	N. 39 38	W. 103 56	5.12 a.m.	4940	1506	25.29	642.4	30.19	766.8	41.1	5.1	75.0	7	.....	.....	2	.....	6	.....	.....	15	4169	6705	4	0.64	16.3
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1667	508	28.30	718.8	30.09	764.3	38.5	3.6	82.3	2	.....	.....	11	8	2	.....	5	2	5789	9316	6	3.11	79.0
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.32	643.1	30.16	766.1	29.4	−1.4	73.0	1	2	6	3	.....	.....	6	.....	12	2379	3829	2	0.45	11.4
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.19	766.8	30.21	767.3	45.4	7.4	81.8	5	3	3	7	5	1	1	5	.....	12226	19676	4	1.58	40.1
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.73	628.1	30.23	767.8	34.0	1.1	61.9	.....	1	1	5	18	3	.....	2	.....	4923	7923	2	0.32	8.1
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.18	741.2	30.13	765.3	33.8	1.0	71.8	7	5	5	5	4	1	1	1	1	5247	8444	3	1.32	33.5
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.37	746.0	30.11	764.8	40.8	4.9	75.2	1	3	7	3	2	9	4	.....	1	8554	13766	6	2.24	56.9
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2512	766	27.45	697.2	30.19	766.8	32.2	0.1	79.0	1	8	6	2	1	5	4	1	2	7740	12456	2	0.12	3.0
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.36	745.7	30.11	764.8	33.2	0.7	68.7	.....	10	5	3	9	3	.....	.....	.....	4646	7429	5	1.65	41.9
Duluth	N. 46 48	W. 92 06	6.00 a.m.	644	184	29.22	742.2	30.02	762.5	25.5	−3.6	80.5	5	5	9	5	2	.....	2	1	1	6116	9843	6	1.63	41.4
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.98	761.5	30.05	763.3	37.9	3.3	78.4	1	5	5	7	2	1	3	2	4	7082	11397	6	3.77	95.8
Elliott, Fort	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.31	693.7	30.24	768.1	38.0	3.3	69.1	6	3	1	5	7	2	.....	2	4	7420	11941	3	0.04	1.0
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3764	1147	26.38	670.0	30.23	767.8	39.6	4.2	74.2	.....	3	2	.....	.....	.....	7	.....	18	2730	4403	4	0.61	15.5
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.37	746.0	30.13	765.3	41.6	5.3	73.8	1	6	.....	7	12	2	1	1	.....	9493	15277	7	3.47	88.1
Escanaba	N. 45 43	W. 87 05	6.20 a.m.	612	186	29.30	744.2	30.00	762.0	30.3	−0.9	79.7	3	7	5	6	8	1	.....	.....	.....	7460	12005	7	3.62	91.9
Fort Smith	N. 35 22	W. 94 24	5.50 a.m.	451	137	29.70	754.4	30.19	766.8	45.9	7.7	77.3	3	1	.....	.....	2	.....	12	2	10	3850	6196	5	4.74	120.4
Galveston	N. 29 18	W. 94 47	5.49 a.m.	40	12	30.08	764.0	30.12	765.0	62.6	17.0	80.8	2	.....	.....	1	5	6	7	8	1	6975	11225	6	4.88	123.9
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.34	745.2	30.04	763.0	39.0	3.9	81.9	4	8	4	6	3	2	3	.....	.....	11776	18951	7	4.86	123.4
Grant, Fort	N. 32 39	W. 109 57	4.48 a.m.	4860	1481	25.26	641.6	30.10	764.5	41.8	5.4	56.6	5	1	1	.....	1	7	1	13	1	4859	7820	1	0.11	2.8
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	12	4	30.21	767.3	30.22	767.6	54.0	12.2	81.1	11	5	1	7	.....	2	.....	2	2	8386	13496	5	4.50	114.3
Helena	N. 46 34	W. 112 04	4.40 a.m.	4100	1250	25.73	653.5	30.11	764.8	28.1	−2.2	72.3	10	1	....	15	.....	1	.....	3	.....	3311	5328	4	0.66	16.8
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.61	726.7	30.09	764.3	21.3	−4.3	71.7	4	8	1	3	2	12	.....	.....	.....	7329	11795	4	0.05	1.3
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.33	745.0	30.17	766.3	40.7	4.8	73.8	1	4	5	2	10	.....	2	.....	6	4277	6893	5	6.80	172.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for November, 1883.																					Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.																
						Actual.		Reduced.					Directions.									Total Movement.							
				Feet.	Metrs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		0–10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																											
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	30.10	764.5	30.13	765.3	63.1	17.3	85.4	7	.....	.....	.....	7	4	4	7	1	10359	16671		5	1.21	30.7
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.16	766.1	30.21	767.3	57.9	14.4	83.5	10	2	.....	.....	1	4	1	7	5	4194	6749		4	0.09	2.3
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.46	748.3	30.15	765.8	37.2	2.9	77.1	3	6	2	6	7	2	1	.....	3	6645	10694		4	2.09	53.1
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.04	763.0	30.06	763.5	73.5	23.1	84.6	4	.....	.....	.....	.....	2	5	19	.....	8629	13887		3	0.84	21.3
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.22	767.6	30.24	768.1	50.8	10.4	75.0	3	7	3	7	1	.....	.....	7	2	.....	.....		4	1.65	41.9
Knoxville	N. 35 56	W. 83 58	6.32 a.m	980	299	29.22	742.2	30.29	769.4	41.4	5.2	85.8	2	1	2	3	1	1	1	14	5	3643	5866		5	4.18	105.2
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.24	742.7	30.06	763.5	32.3	0.2	74.5	3	4	6	3	14	.....	.....	.....	.....	7186	11565		5	1.09	27.7
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.23	742.4	30.17	766.3	38.1	3.4	71.5	4	4	.....	2	13	.....	1	.....	6	4974	8006		3	2.02	51.3
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.24	742.7	30.11	764.8	37.6	3.1	78.1	.....	1	.....	4	...	7	1	10	7	2080	3347		5	1.86	47.2
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.88	758.9	30.21	767.3	49.6	9.8	76.9	8	1	.....	.....	6	3	.....	4	8	3679	5921		5	3.13	79.5
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	371	113	29.67	753.6	30.07	763.8	50.7	10.4	66.0	2	.....	1	.....	.....	1	2	23	1	3986	6415		3	0	0
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.61	752.1	30.20	767.1	45.1	7.3	76.4	2	3	4	4	7	3	.....	3	4	6128	9862		4	6.05	153.7
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.52	749.8	30.24	768.1	43.6	6.4	67.6	3	1	4	8	2	.....	1	2	9	2556	4114		5	1.14	29.0
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.31	744.5	30.00	762.0	34.0	1.1	82.2	1	7	3	6	9	3	1	.....	.....	8515	13703		8	13.30?	337.8?
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.22	767.6	30.23	767.8	52.4	11.3	80.7	6	10	2	2	2	2	.....	5	1	10125	16101		5	0.51	13.0
Maginnis, Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.45	646.4	30.05	763.3	25.2	−3.8	55.2	3	4	9	5	.....	.....	1	8	.....	9944	16003		6	1.12	28.4
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.22	742.2	29.99	761.7	30.1	−1.1	74.6	3	7	7	7	5	1	.....	.....	.....	7653	12316		8	2.88	73.2
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.86	758.4	30.21	767.3	48.9	9.4	78.9	1	4	2	2	2	10	1	6	2	4524	7280		4	4.56	115.8
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.28	743.7	30.08	764.0	33.9	1.1	78.0	4	9	7	7	2	1	.....	.....	.....	10100	16254		5	1.81	46.0
Mobile	N. 30 41	W. 88 02	6.16 a.m.	41	12	30.16	766.1	30.20	767.1	54.4	12.4	78.5	15	.....	.....	1	5	3	1	5	.....	4996	8040		5	2.57	65.3
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	30.01	762.2	30.25	768.3	50.8	10.4	80.9	4	3	1	.....	1	8	2	8	3	3437	5531		5	1.70	43.2
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	29.00	736.6	30.06	763.5	16.6	−8.6	84.8	6	5	1	3	6	6	1	1	1	8021	12908		5	0.10	4.1
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.61	599.7	30.17	766.3	18.3	−7.6	91.8a	2	19	3	4	.....	1	1	.....	.....	.....	.....		2	3.72	94.5
Nashville	N. 36 10	W. 86 47	6.21 a.m.	549	167	29.63	752.6	30.23	767.8	44.9	7.2	83.2	.....	5	1	3	4	9	5	3	.....	4708	7577		5	3.11	79.0
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	30.03	762.7	30.15	765.8	38.2	3.4	75.4	7	6	4	8	2	1	.....	2	.....	5677	9135		5	1.56	39.6
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	30.13	765.3	30.18	766.6	41.2	5.1	77.7	7	7	5	3	1	1	.....	3	3	5185	8344		4	3.19	81.0
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	30.12	765.0	30.18	766.6	59.2	15.1	75.9	3	.....	.....	.....	7	5	4	9	2	5974	9614		4	6.39	161.5
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	30.00	762.0	30.18	766.6	41.7	5.4	73.2	2	5	6	4	3	3	1	1	5	5001	8048		5	1.05	41.9
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.19	766.8	30.22	767.6	49.0	9.4	73.2	6	4	.....	10	3	.....	.....	4	3	5560	8948		4	0.55	14.0
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.09	688.1	30.17	766.3	29.3	−1.5	73.3	3	4	1	3	2	6	1	1	9	5104	8214		3	0.42	10.7
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	30.05	763.3	30.09	764.3	44.3	6.8	88.5	.....	.....	1	2	12	.....	.....	.....	15	2821	4540		8	5.10	129.5
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.91	734.3	30.15	765.8	33.2	0.7	76.0	6	4	2	1	9	4	.....	.....	4	6079	9783		2	0.64	16.3
Oswego	N. 43 29	W. 76 35	7.02 a.m.	304	93	29.73	755.1	30.07	763.8	40.3	4.6	68.8	2	8	2	2	9	6	1	.....	.....	7933	12767		8	3.02	76.7
Palestine	N. 31 45	W. 95 40	5.45 a.m.	533	162	29.61	752.1	30.18	766.6	54.0	12.2	77.5	2	2	.....	2	8	4	3	9	.....	6814	10966		6	7.09	180.1
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.17	766.3	30.20	767.1	56.2	13.4	74.0	11	.....	.....	.....	3	2	4	10	.....	5314	8552		5	3.06	77.7
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	92	28	30.10	764.5	30.20	767.1	43.9	6.6	77.5	1	5	2	10	2	1	1	4	4	5084	8182		4	1.34	34.0
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.73	450.3	30.39	771.9	11.2	−11.6	72.3	.....	11	10	6	.....	.....	1	1	1	.....	.....		1	0.07	1.8
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	766	233	29.35	745.5	30.20	767.1	42.1	5.6	75.6	1	3	5	6	4	4	3	2	2	5394	8681		6	1.50	38.1
Poplar, Rive	N. 48 08	W. 105 10	5.07 a.m.	2030	619	.....	.....	.....	.....	12.6	−10.8	63.9	1	4	9	4	2	3	1	6	.....	.....	.....		5	0.09	2.3
Port Huron	N. 43 00	W. 82 26	6.38 a.m	633	193	29.34	745.2	30.06	763.5	35.8	2.1	86.1	.....	5	5	7	9	1	2	1	.....	9326	15008		6	2.58	65.5
Portland, Maine	N. 43 39	W. 70 15	7.27 a.m.	45	14	30.02	762.5	30.07	763.8	38.6	3.7	72.5	9	6	6	7	.....	.....	.....	2	.....	6150	9897		6	3.60	93.0
Portland, Oreg	N. 45 32	W. 122 43	3.57 a.m	67	20	30.03	762.7	30.10	764.5	44.1	6.7	92.3	1	3	1	6	14	.....	.....	.....	5	3917	6304		7	8.20	209.8
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5340	1628	24.82	630.4	30.16	766.1	28.9	−1.7	67.4	.....	.....	5	17	6	.....	.....	1	1	3638	5855		1	map.	map.
Provincetown	N. 42 03	W. 70 11	7.27 a.m.	26	8	30.09	764.3	30.12	765.0	42.4	5.8	81.2	2	10	5	9	1	.....	.....	2	1	8047	12951		6	3.58	90.9
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	332	101	29.79	756.7	30.16	766.1	43.2	6.2	84.6	25	3	.....	.....	.....	.....	.....	1	1	3678	5919		1	0.74	18.8
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.93	760.2	30.18	766.6	61.5	16.4	85.7	1	11	.....	.....	1	8	1	2	6	4449	7160		3	1.70	43.2
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.41	747.0	30.11	764.8	38.3	3.5	74.8	.....	6	8	9	5	1	.....	1	.....	10614	17081		8	2.03	51.6
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.62	752.3	30.19	766.8	42.1	5.6	86.9	.....	.....	1	4	3	3	8	.....	11	1489	2396		6	2.20	55.9
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	65	20	30.06	763.5	30.14	765.5	43.6	6.4	89.8	3	5	.....	3	3	9	4	.....	3	3126	5031		1	0.61	15.5
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	583	178	29.56	750.8	30.21	767.3	44.9	7.2	72.1	2	4	5	4	9	3	1	2	.....	9459	15222		4	3.71	94.2
Saint Michael, Ft	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.79	756.7	29.83	757.7	12.6	−10.8	93.7	5	2	5	3	7	2	2	2	2	13461	21663		6	1.00	26.9
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	801	244	29.13	739.9	30.04	763.0	27.8	−2.3	69.3	1	8	6	1	6	3	.....	1	4	5095	8199		5	1.01	25.7
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.07	738.4	30.00	762.0	14.4	−9.8	81.9	1	11	1	5	7	2	1	2	.....	6440	13664		4	0.26	6.6
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.72	653.3	30.29	769.4	34.6	1.4	58.3	1	4	1	.....	.....	9	3	1	11	3166	5095		4	1.78	45.2
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.97	761.2	30.04	763.0	52.8	11.6	71.1	3	6	1	1	.....	1	2	16	.....	3526	5676		2	0.20	5.1
Sandusky	N. 41 25	W. 82 40	6.37 a.m.	639	195	29.42	747.4	30.14	765.5	41.5	5.3	77.7	.....	6	7	14	.....	.....	2	1	.....	11388	18327		6	3.92	99.6
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	30.15	765.8	30.18	766.6	43.4	6.3	70.9	2	9	9	4	2	.....	2	2	.....	11015	17726		5	1.54	39.1
Sanford	N. 28 48	W. 81 23	6.42 a.m.	50	15	30.08	764.0	30.14	765.5	63.6	17.0	86.2	4	9	1	1	.....	3	1	10	1	6091	9802		4	0.35	8.9
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	30.06	763.5	30.14	765.5	50.6	10.3	88.8	7	5	1	5	3	2	1	3	3	4459	7176		4	1.00	40.6
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	30.14	765.5	30.23	767.8	53.3	11.8	79.8	17	2	.....	2	2	4	1	2	.....	4723	7601		4	0.58	14.7
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.33	668.8	30.15	765.8	20.2	−3.2	72.9	1	1	11	10	.....	.....	3	3	1	8350	13438		5	0.83	21.1
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.91	759.7	30.16	766.1	52.3	11.3	78.2	5	2	2	1	8	5	.....	6	1	3054	5880		6	8.66	220.0
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.80	756.9	29.87	758.7	32.7	0.4	75.6	.....	1	3	3	1	.....	9	9	4	7023	11302		6	10.63	270.0
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.20	767.1	30.24	768.1	51.4	10.8	79.5	15	2	1	2	3	2	1	4	.....	6188	9958		4	0.35	8.9
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	27.98	710.7	30.06	763.5	34.5	1.4	79.1	5	1	2	7	9	.....	.....	.....	6	3375	5431		5	1.98	50.3
Springfield, Ill	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.46	748.3	30.18	766.6	39.0	3.9	73.2	2	7	5	3	12	1	.....	.....	.....	7913	12734		3	3.48	88.4
Stockton, Fort	N. 30 53	W. 102 53	5.16 a.m.	3010	917	27.10	688.3	30.22	767.6	43.8	6.6	70.9	3	1	.....	4	5	1	.....	1	15	2825	4540		4	1.29	32.8
Tatoosh Id	N. 48 23	W. 124 44	3.21 a.m.	86	26	29.92	760.0	.....	.....	43.3	6.3	95.2	.....	.....	8	6	2	.....	12	.....	2	11472	18462		8	15.83	402.1
Thomas, Camp	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.34	694.4	30.18	766.6	34.6	1.4	67.1	.....	.....	.....	1	9	5	4	.....	11	.....	.....		2	0	0
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.38	746.2	30.11	764.8	40.9	4.9	70.3	.....	3	9	6	9	.....	2	1	.....	7789	12535		6	3.03	77.0
Unalashka	N. 53 53	W. 166 32	1.02 a.m.	13	4	29.95	760.7	29.98	761.5	36.1	2.3	78.4	4	3	3	8	6	.....	4	.....	2	10032	16145		8	5.02	127.5
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.95	760.7	30.22	767.6	52.8	11.6	79.5	10	.....	.....	1	3	12	.....	1	3	3951	6358		5	11.53	292.8
Washington, D.C.	N. 38 54	W. 77 02	7.00 a.m.	100	32	30.12	765.0	30.21	768.1	41.6	5.3	77.5	.....	5	2	4	3	.....	.....	3	13	3181	5119		4	1.19	30.2
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.06	661.9	30.17	766.3	24.7	−4.1	74.0	4	3	17	3	1	2	.....	.....	.....	4507	7253		2	0.21	5.3
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	30.19	766.8	30.25	768.3	51.9	11.1	70.4	7	4	2	3	3	2	2	5	2	4589	7385		6	0.42	10.7
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.74	730.0	30.12	765.0	27.0	−2.8	80.8	9	3	3	5	1	3	1	5	.....	6440	10364		2	0.08	2.0
Yuma *a*	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.82	757.4	29.98	761.5	52.7	11.5	48.7	7	4	.....	2	.....	1	1	11	3	3284	5285		1	0	0
Sub-Series.																													
Bluefields	N. 12 00	W. 83 43	6.31 a.m.	.....	.....	.....	.....	.....	.....	75.5	24.2	.....	10	15	3	.....	.....	.....	.....	1	1	.....	.....		6	12.13	308.1
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.00	558.7	.....	.....	53.2	11.8	76.2	2	2	2	1	1	.....	.....	3	19	.....	.....		7	2.80	71.0
Chimo, Ft. B.	N. 59 00	W. 68 00	7.36 a.m	126	38	29.75	755.6	29.90	759.4	12.8	−10.7	97.0	2	6	1	10	4	1	1	2	3	7268	11696		9	0.44	11.2
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	.....	.....	29.93	761.5	72.8	22.7	80.6	21	.....	.....	.....	.....	.....	.....	.....	9	1954	3145		4	3.67	93.2
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.01	762.2	30.01	762.2	79.	26.1	83	.....	.....	.....	.....	.....	13	17	.....	.....	.....	.....		5	6.19	157.2
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.65	753.1	30.21	767.3	77.1	25.1	90.0	4	.....	.....	.....	7	.....	.....	.....	19	.....	.....		10	8.15	207.0
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	75.4	24.1	89.0	.....	.....	1	.....	.....	1	4	24	.....	.....	.....		3	5.70	144.8
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	30.03	762.7	30.10	764.5	−5.6	−20.9	86.3	6	11	4	5	.....	.....	2	2	.....	9740	15675		4	0.82	20.8

OCEAN SQUARE DATA FOR NOVEMBER, 1883.

Location of Centre of each Square.		Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
		Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5°	W. 22.5°	29.99	761.7	79.2*a*	26.2*a*						2	21	7			3.7
12.5	27.5	29.99	761.7	78.9*b*	26.1*b*	2						22	5	1		3.5
12.5	32.5															
12.5	37.5															
12.5	42.5															
12.5	47.5															
12.5	52.5															
17.5	22.5	30.03	762.7	76.5*a*	24.7*a*	1				1	1	16	10	1		3.5
17.5	27.5	30.01	763.0	76.3	24.6	2				1		19	8			3.5
17.5	32.5															
17.5	37.5															
17.5	42.5															
17.5	47.5															
17.5	52.5	30.01	762.2	79.6	26.4							21	9			4.2
17.5	57.5	29.93	761.5	80.1	26.7						1	21	8			3.8
22.5	22.5	30.07	763.8	74.0	23.3	1				2	3	10	14			3.7
22.5	27.5	30.08	764.0	73.7	23.2					3	1	17	9			4.0
22.5	32.5	30.09	764.3	74.8	22.8		2				1	21	5	1		4.2
22.5	37.5	30.06	763.5	75.7	24.3	1	1		1			22	5			4.3
22.5	42.5	30.09	764.3	76.2	24.6	2					1	22	5			4.1
22.5	47.5	30.04	763.0	76.5	21.8						1	24	5			4.2
22.5	52.5	30.06	763.5	77.7	25.4						4	20	6			4.3
22.5	57.5	30.04	763.0	78.9	26.1					1	6	16	7			4.1
22.5	62.5	30.03	762.7	73.1	26.2	4					6	14	6			3.9
22.5	67.5	30.01	762.2	78.6	25.9	2		1	2		5	13	6	1		4.5
22.5	72.5															
27.5	22.5	30.11	764.8	73.2	22.9			1		3	4	10	11		1	4.2
27.5	27.5	30.13	765.3	71.6	22.0	1	1	1	3	2		15	7			4.4
27.5	32.5	30.15	765.8	72.5	22.5	2	2	1	2		1	17	5			4.5
27.5	37.5	30.15	765.8	73.6	23.1	1	4	1			2	15	7			4.5
27.5	42.5	30.15	765.8	71.3	21.8	2	2	1		1	1	18	4	1		4.2
27.5	47.5	30.13	765.3	74.2	23.4	3		1		2	3	18	3			4.2
27.5	52.5	30.11	764.8	74.9	23.8	1				3	4	16	6			4.4
27.5	57.5	30.09	764.3	75.6	24.2	1	1		1	3	6	14	4			4.4
27.5	62.5	30.04	763.0	74.9	23.8	3	1		2	2	7	9	6			3.8
27.5	67.5	30.05	763.3	75.6	24.2	0	1	1	1	2	3	8	8			4.2
27.5	72.5	30.12	765.0	74.7	23.7	6	3			2	3	6	10			4.8
27.5	77.5	30.10	764.5	72.8	22.7	8	2			1	4	1	14			3.8
32.5	12.5	30.15	765.8	68.3	20.2	5		1	2	4	3	8	7			3.3
32.5	17.5	30.14	765.5	67.6	19.8	3		1	4	4	5	7	6			2.9
32.5	22.5	30.17	766.3	67.9	19.9				2	4	6	9	9			4.1
32.5	27.5	30.19	766.8	68.4	20.2	2		4	3	3	5	7	6			4.4
32.5	32.5	30.19	766.8	70.1	21.2	1	4		2	3	4	12	4			4.3
32.5	37.5	30.18	766.6	70.7	21.5	3	2	4		2	4	13	2			4.4
32.5	42.5	30.17	766.3	71.1	21.7	3	3	2		2	6	12	2			4.3
32.5	47.5	30.16	766.1	71.6	22.0	3		4	2	3	4	8	5		1	3.9
32.5	52.5	30.13	765.3	72.0	22.2	1	1	2	2	7	2	8	7			4.2
32.5	57.5	30.09	764.3	71.9	22.2	1	2	6		4	3	10	4			5.0
32.5	62.5	30.06	763.5	70.4	21.3	5	3	4	1	5	1	7	4			4.5
32.5	67.5	30.09	764.3	69.7	20.9	5	3	6	3		2	4	7			4.3
32.5	72.5	30.14	765.5	68.6	20.3	7	4		1	3	2	2	11			4.5
32.5	77.5	30.21	767.3	59.6	15.3	11	4	1	2	2	3	2	4	1		3.8
37.5	12.5	30.19	766.8	63.8	17.7	8		1	5	4	1	2	9			3.5
37.5	17.5	30.19	766.8	64.3	17.9	6	1	3	5	4	1	2	8			4.2
37.5	22.5	30.22	767.6	65.1	18.4	2	1	3	5	8	2	2	6	1		3.7
37.5	27.5	30.23	767.8	63.9	17.7	2	2	3	5	5	1	3	8		1	4.2
37.5	32.5	30.18	766.6	65.3	18.5	4		4	3	6	4	4	5			4.3
37.5	37.5	30.16	766.1	65.9	18.8	3	2	5	3	4	7	1	3	1	1	4.4
37.5	42.5	30.16	766.1	64.8	18.2	2	2	5	2	6	6	5	1		1	4.6
37.5	47.5	30.15	765.8	64.5	18.1	3	2	7		5	7	3	2	1		4.2
37.5	52.5	30.12	765.0	64.6	18.1	2	1	6	1	6	4	6	4			4.8
37.5	57.5	30.04	763.0	64.7	18.2	4	2	6	2	4	4	3	5			5.0
37.5	62.5	30.05	763.3	62.8	17.1	4	3	4	5	2	2	6	4			5.0
37.5	67.5	30.11	764.8	60.7	15.9	3	4	9	1	2	1	7	3			4.8
37.5	72.5	30.17	766.3	54.9	12.7	5	4	4	5	2	2	4	4			4.9
42.5	12.5	30.14	765.5	59.6	15.3	6		9	5	4		4	2			3.8
42.5	17.5	30.15	765.8	60.4	15.8	4	5	9	6	4	1	1				4.7
42.5	22.5	30.15	765.8	60.5	15.8	4	1	5	9	7	1	2			1	4.3
42.5	27.5	30.14	765.5	60.3	15.7	3	4	4	6	5	2	2	3		1	4.8
42.5	32.5	30.17	766.3	60.8	16.0	3	5	5	5	6	4		2			4.8
42.5	37.5	30.09	764.3	60.6	15.9	1	5	7	8	4	2	2	1			5.2
42.5	42.5	30.08	764.0	58.0	14.4	3	4	7	6	6	3		1			5.2
42.5	47.5	30.02	762.5	54.6	12.6	4	3	8	4	7	1	1		1	1	5.0
42.5	52.5	30.05	763.3	52.3	11.3	2	3	6	3	8	4	2	2			5.1
42.5	57.5	30.05	763.3	52.8	11.6	5	2	5	5	4	2	1	6			5.5
42.5	62.5	30.07	763.8	49.1	9.5	3	3	7	4	6		2	4		1	4.8
42.5	67.5	30.09	764.3	44.8	7.1	2	8	3	6	5	1	2	2		1	4.4
47.5	12.5	29.97	761.2	55.6	13.1	6	2	12	3	3	2	2				5.6
47.5	17.5	29.96	761.0	55.8	13.2	3	2	15	4	4	2					5.6
47.5	22.5	29.96	761.0	55.6	13.1	1	3	14	7	3			2			5.6
47.5	27.5	29.93	760.2	55.5	13.1	2	6	13	4	4	1					6.1
47.5	32.5	29.90	759.4	55.5	13.1	3	4	12	5	3	2		1			6.1
47.5	37.5	29.92	760.0	53.4	11.9	3	7	10	4	4	1		1			6.2
47.5	42.5	29.92	760.0	49.2	9.6	4	7	9	3	6	1					5.5
47.5	47.5	29.93	760.2	43.7	6.5	2	7	7	7	4	2				1	5.7
52.5	12.5	29.75	755.6	49.9	9.9	1	4	14	4	4	3					5.1
52.5	17.5	29.72	754.9	49.9	9.9	1	6	14	4	4	1					5.6
52.5	22.5	29.71	754.6	49.8	9.9	4	2	16	2	4	2					6.1
52.5	27.5	29.68	753.9	47.9	8.8	2	5	16	3	4						5.9
52.5	32.5	29.70	754.4	45.7	7.6	4	2	15	5	2	1		1			5.9
52.5	37.5	29.69	754.1	42.6	5.9	1	8	12	2	5	1		1			6.4
52.5	42.5	29.70	754.4	41.0	5.0	2	6	12	3	5	1	1				5.9
52.5	47.5	29.71	751.6	35.9*b*	2.2*b*	2	5	10	9	1	2				1	5.5
57.5	12.5	29.50	749.3	43.8	6.6	2	2	11	11	3			1			5.5
57.5	17.5	29.45	748.0	42.9	6.1	3	4	9	10	3	1					6.3
57.5	22.5	29.45	748.0	42.3	5.7	5	2	11	5	3	2	2				6.0
57.5	27.5	29.48	748.8	41.0	5.0	5	3	12	3	2	3	1	1			6.2
57.5	32.5	29.51	749.5	39.1*b*	3.9*b*	6	2	13	4	2	2	1				6.2
57.5	37.5	29.52	749.8	36.9*d*	2.7*d*	4	7	10	2	4	1		2			6.0
57.5	42.5	29.54	750.3	36.5*g*	3.5*g*	5	4	8	5	1	4		1		2	5.5
57.5	47.5	29.57	751.1			4	6	7	6	1	1	1			4	5.5

FORT CONGER, GRINNELL LAND (Lady Franklin Bay)

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity. Per cent.	Wind. Direction. From.	Wind. Velocity. Miles per hour	Wind. Velocity. Metrs pr sec.	Clouds. Force 0–10	Clouds. Amount. Upper. 0–10	Clouds. Amount. Lower. 0–10	Clouds. Direction. Upper From	Clouds. Direction. Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Rainfall or melted snow in past 24 hours. Mill.	WEATHER
1881.																		
August 1																		
2																		
3																		
4																		
5					37.2	2.9							3			0	0	
6					37.1	2.8							7			0	0	
7					36.9	2.7							8			0	0	
8			29.53	750.0	31.9	— 0.1							3			0	0	
9			29.41	747.0	33.2	0.7							10			0	0	
10			29.56	750.8	36.9	2.7							10					snowing.
11			29.77	756.1	35.9	2.2							6			0	0	
12			29.86	758.4	40.7	4.8							5			0	0	
13			29.96	761.0	42.9	6.1							10			0	0	
14			29.83	757.7	42.9	6.1							0			0	0	
15			29.87	758.7	40.4	4.7		sw.	2	0.9			2			0	0	
16			29.97	761.2	37.9	3.3		n.	2	0.9			9			0	0	
17			30.01	762.2	36.9	2.7		sw.	2	0.9			fog.			0	0	foggy.
18			30.02	762.5	33.7	0.9		se.	2	0.9			8			inap.	inap.	
19			29.89	759.2	28.0	— 2.2		sw.	7	3.1			10			inap.	inap.	
20			29.81	757.2	24.0	— 4.4		sw.	1	0.4			fog.			0	0	foggy.
21			29.76	755.9	32.0	0.0		calm.	0	0			10			inap.	inap.	snowing.
22			29.77	756.1	32.9	0.5		sw.	4	1.8			10			inap.	inap.	
23			29.96*	761.0*	31.8	— 0.1							10			inap.	inap.	(*Aneroid.)
24			30.08	764.0	28.0	— 2.2		sw.	2	0.9			10			0	0	
25			30.12	765.0	27.4	— 2.6		sw.	7	3.1			10			0	0	
26			30.06	763.5	27.9	— 2.3		sw.	2	0.9			10			0	0	
27			29.79	756.7	25.0	— 3.9		n.	5	2.2			10			0.13	3.3	snowing.
28			29.79	756.7	24.4	— 4.2		calm.	0	0			6			0.02	0.5	
29			29.92	760.0	28.9	— 1.7		nw.	4	1.8			10			0	0	
30			29.92	760.0	28.9	— 1.7		se.	5	2.2			0			0	0	
31			29.74	755.4	25.1	— 3.8		se.	6	2.7			8			0	0	
Mean			29.85	758.2	32.9	0.5				2.2	1.4		7.6			0.15	3.8	
September 1			29.60	751.8	24.9	— 3.9		sse.	1	0.4			1			0	0	
2			29.65	753.1	21.9	— 5.6		ne.	6	2.7			8			0	0	
3			30.01	762.2	22.9	— 5.1		ne.	2	0.9			2			0	0	
4			30.23	767.8	22.9	— 5.1		n.	7	3.1			0			0	0	
5			30.04	763.0	14.9	— 9.5		e.	4	1.8			0			0	0	
6			29.96	761.0	17.5	— 8.1		n.	2	0.9			fog.			0	0	foggy.
7			30.04	763.0	24.9	— 3.9		n.	5	2.2			7			0.02	0.5	
8			29.74	755.4	19.5	— 6.9		calm.	2	0.9			10			0.02	0.5	snowing.
9			29.75	755.6	18.9	— 7.3		ne.	0	0			10			0	0	
10			29.20	741.7	24.8	— 4.0		ne.	21	10.7			10			0.06	1.5	
11			29.39	746.5	12.9	—10.6		e.	2	0.9			8			0	0	
12			29.60	751.8	19.4	— 7.0		sw.	15	6.7			10			0.02	0.5	
13			29.82	757.4	14.1	— 9.9		n.	5	2.2			7			0	0	
14			29.88	758.9	14.9	— 9.5		calm.	1	0.4			1			0	0	
15			29.94	760.5	12.8	—10.7		ne.	6	2.7			10			0	0	
16			29.87	758.7	9.9	—12.3		calm.	0	0			2			0	0	
17			30.01	762.2	13.9	—10.1		e.	1	0.4			10			0.01	0.3	
18			30.16	766.1	12.4	—10.3		calm.	1	0.4			10			0.03	0.8	snowing.
19			30.19	766.8	9.9	—12.3		e.	6	2.7			8			0.02	0.5	
20			29.98	761.5	7.7	—13.5		e.	8	3.6			8			0	0	
21			29.99	761.7	— 7.1	—21.7		e.	2	0.9			0			0	0	
22			29.84	757.9	— 0.1	—21.2		calm.	1	0.4			0			0	0	
23			29.73	755.1	— 0.1	—17.8		calm	1	0.4			0			0	0	
24			29.69	754.1	0.9	—17.2		e.	5	2.2			0			0	0	
25			29.66	753.4	— 5.1	—20.6		e.	4	1.8			0			0	0	
26			29.65	753.1	— 8.1	—22.3		e.	4	1.8			0			0	0	
27			29.51	749.5	2.4	—16.4		calm.	0	0			10			0.02	0.5	snowing.
28			29.55	750.6	1.9	—16.7		n	12	5.4			2			0	0	
29			29.77	756.1	2.4	—16.4		n.	8	3.6			10			0	0	
30			29.79	756.7	0.1	—17.7		ne.	1	0.4			10			0	0	
Mean			29.81	757.2	10.8	—11.8				4.5	2.0		5.5			0.23	5.8	
October 1			29.66	753.4	4.4	—15.3		se.	2	0.9			10			0.02	0.5	snowing.
2			29.48	748.8	6.2	—14.3		ne.	1	0.4			10			0	0	
3			29.57	751.1	1.3	—17.1		e.	2	0.9			10			0	0	
4			29.41	747.0	— 9.6	—23.1		e.	2	0.9			0			0	0	
5			29.42	747.3	—11.6	—24.2		calm.	1	0.4			0			0	0	
6			29.54	750.3	— 8.6	—22.6		se.	3	1.3			0			0	0	
7			29.70	754.4	1.4	—17.0		se.	2	0.9			10			0.01	0.3	
8			29.58	751.3	1.9	—16.7		calm.	1	0.4			10			0.09	2.3	snowing.
9			29.57	751.1	—13.6	—25.3		ne.	3	1.3			10			0	0	
10			29.81	757.2	— 2.6	—19.2		calm.	1	0.4			10			0.05	1.3	
11			29.87	758.7	— 6.1	—21.2		calm.	1	0.4			10			0	0	
12			29.95	760.7	—14.1	—25.6		se.	1	0.4			10			0	0	
13			29.96	761.0	—18.6	—28.1		calm.	2	0.9			0			0	0	
14			29.99	761.7	—17.6	—27.6		calm.	1	0.4			0			0	0	
15			29.72	754.9	—17.6	—27.6		calm.	2	0.9			0			0	0	
16			29.53	750.0	—25.4	—31.9		e.	5	2.2			0			0	0	
17			29.73	755.1	—15.6	—26.4		calm.	1	0.4			10			0	0	
18			29.70	754.4	—25.6	—32.0		se.	1	0.4			0			0	0	
19			30.00	762.0	—17.6	—27.6		calm.	2	0.9			0			0	0	
20			30.18	766.6	—14.6	—25.9		calm.	1	0.4			6			0	0	
21			30.08	764.0	— 4.4	—20.2		ne.	1	0.4			10			0.02	0.5	
22			30.44	773.2	—11.1	—23.9		e.	5	2.2			0			0.04	1.0	
23			30.46	773.7	—14.1	—25.6		calm.	1	0.4			4			0	0	
24			30.28	769.1	— 5.6	—20.9		ne.	1	0.4			3			0	0	
25			30.34	770.6	— 3.6	—19.8		calm.	1	0.4			2			0	0	
26			30.37	771.4	2.2	—16.6		w.	2	0.9			0			0	0	
27			30.42	772.7	— 1.6	—18.7		calm.	1	0.4			0			0	0	
28			30.26	768.6	0.4	—17.6		e.	1	0.4			0			0	0	
29			30.05	763.5	— 6.4	—21.3		calm.	0	0			0			0	0	
30			29.79	756.7	— 6.6	—21.4		calm.	1	0.4			7			0	0	
31			29.82	757.4	— 5.6	—20.9		calm.	2	0.9			0			0	0	
Mean			29.89	759.2	— 8.4	—22.4				1.6	0.7		4.2			0.23	5.8	

FORT CONGER, GRINNELL LAND (Lady Franklin Bay).—Continued

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Mill.	Reduced to sea-level. Inch.	Mill.	Temperature of the air. Fah.	Cent.	Relative Humidity Per cent.	Wind. Direction. From.	Velocity. Miles perhour	Metrs pr sec.	Force 0–10	Clouds. Amount. Upper. 0–10	Lower. 0–10	Direction. Upper From	Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Mill.	WEATHER
1881.																		
November 1			30.17	766.3	— 9.9	—23.3		calm.	1	0.4			3			0.05	1.3	
2			30.14	765.5	— 7.6	—22.0		calm.	1	0.4			10			0.04	1.0	
3			30.03	762.7	—10.6	—23.7		e.	2	0.9			0			0	0	
4			30.01	762.2	—10.6	—23.7		e.	3	1.3			0			0	0	
5			29.47	748.5	—23.6	—30.9		se.	3	1.3			4			0	0	
6			29.31	744.5	— 7.1	—21.7		calm.	2	0.9			10			0	0	
7			29.40	746.7	—14.6	—25.9		ne.	10	4.5			10			0.03	0.8	
8			29.54	750.3	—10.3	—23.5		calm.	1	0.4			10			0.09	2.3	snowing.
9			29.79	756.7	—18.6	—28.1		e.	5	2.2			10			0	0	
10			29.84	757.9	—29.1	—33.9		n.	5	2.2			0			0	0	
11			29.85	758.2	—35.4	—37.4		calm.	0	0			0			0	0	
12			30.21	767.3	—34.6	—37.0		e.	1	0.4			0			0	0	
13			30.04	763.0	—27.3	—32.9		calm.	0	0			0			0	0	
14			30.02	762.5	—36.1	—37.8		calm	0	0			0			0	0	
15			30.11	764.8	—29.6	—34.2		calm.	0	0			0			0.04	1.0	
16			29.86	758.4	—18.6	—28.1		calm.	0	0			10			0.04	1.0	snowing.
17			29.94	760.5	—32.4	—35.8		calm.	0	0			0			0	0	
18			29.81	757.2	—28.1	—33.4		calm.	0	0			0			0	0	
19			29.55	750.6	—20.2	—29.0		calm.	0	0			0			0	0	
20			29.46	748.3	—21.6	—29.8		calm.	1	0.4			0			0	0	
21			29.61	752.1	—21.4	—29.7		ne.	4	1.8			0			0	0	
22			29.42	747.3	—28.6	—33.7		e.	1	0.4			0			0	0	
23			29.35	745.5	—33.6	—36.4		calm.	0	0			0			0	0	
24			29.67	753.6	—29.6	—34.2		calm.	0	0			0			0	0	
25			29.83	757.7	—27.6	—33.1		e.	6	2.7			2			0	0	
26			29.77	756.1	—35.4	—37.4		calm.	2	0.9			0			0	0	
27			29.79	756.7	—32.6	—35.9		calm.	0	0			0			0	0	
28			29.80	756.9	—38.2 8	—39.0 8		calm.	0	0			0			0	0	
29			29.69	754.1	—34.6	—37.0		calm.	0	0			0			0	0	
30			29.73	755.1	—40.6 8	—40.3 8		calm.	0	0			0			0	0	
Mean			29.77	756.1	—24.9	—31.6			1.6	0.7			2.3			0.29	7.4	
December 1			29.33	745.0	—31.1	—35.1		calm.	1	0.4			0			0	0	
2			29.31	744.5	—19.6	—28.7		calm.	0	0			10			0.07	1.8	
3			29.48	748.8	—26.7	—32.6		calm.	0	0			0			0	0	
4			29.63	752.6	—29.1	—33.9		calm.	0	0			2			inap.	inap.	
5			29.64	752.8	—21.6	—29.8		e.	5	2.2			0			0	0	
6			29.75	755.6	—35.6	—37.6		calm.	1	0.4			0			0	0	
7			29.80	756.9	—33.7	—36.5		calm.	0	0			0			0	0	
8			30.01	762.2	—30.0	—34.8		calm.	0	0			10			0	0	
9			29.83	757.7	—32.8	—36.0		calm.	0	0			0			0	0	
10			29.85	758.2	—23.1	—30.6		calm.	0	0			10			inap.	inap.	
11			29.70	754.4	—34.6	—37.0		calm.	0	0			1			0	0	
12			29.49	749.0	—34.6	—37.0		calm.	2	0.9			4			0.05	1.3	
13			29.40	746.7	—28.5	—33.6		calm.	0	0			10			0.03	0.8	
14			29.56	750.8	—27.1	—32.8		calm.	0	0			10			0.01	0.3	
15			29.71	754.6	—39.0	—39.4		calm.	0	0			0			0	0	
16			29.79	756.7	—41.7	—40.9		calm.	0	0			0			0	0	
17			29.75	755.6	—40.0	—40.0		calm.	0	0			0			0	0	
18			29.70	755.9	—41.2	—40.7		calm.	0	0			0			0	0	
19			29.82	757.4	—43.2	—41.8		calm.	0	0			0			0	0	
20			29.72	754.9	—44.7	—42.6		calm.	1	0.4			0			0	0	
21			29.71	754.6	—33.6	—36.4		calm.	0	0			3			0	0	
22			29.46	748.3	—26.6	—32.6		calm.	0	0			8			0.10	2.5	
23			29.41	747.0	—25.1	—31.7		e.	2	0.9			10			0.07	1.8	snowing.
24			29.40	746.7	—24.1	—31.2		e.	16	7.2			10			0.04	1.0	snowing.
25			29.65	753.1	—33.6	—36.4		calm.	0	0			0			0.02	0.5	
26			29.84	757.9	—22.9	—30.5		e.	1	0.4			10			inap.	inap.	
27			30.04	763.0	—28.6	—33.7		calm.	0	0			0			0	0	
28			30.16	766.1	—34.1	—36.7		calm.	3	1.3			0			0	0	
29			30.01	762.2	—32.6	—35.9		calm.	0	0			0			0	0	
30			29.89	759.2	—40.7	—40.4		calm.	0	0			4			0	0	
31			30.02	762.5	—42.7	—41.5		calm.	0	0			0			0	0	
Mean			29.78	756.4	—32.4	—35.8			1.0	0.4			3.3			0.39	9.9	
1882.																		
January 1			29.62	752.3	—25.1	—31.7		calm.	1	0.4			10			0	0	
2			29.82	757.4	—22.5	—30.3		calm.	0	0			10			0	0	
3			30.22	767.6	—27.3	—32.9		calm.	0	0			10			0	0	
4			29.89	759.2	—28.8	—33.8		calm.	0	0			10			0	0	
5			29.67	753.6	—29.6	—34.2		calm.	1	0.4			10			0	0	
6			29.83	757.7	—35.8	—37.7		calm.	0	0			10			0	0	
7			29.92	760.0	—30.4	—34.7		calm.	0	0			8			0	0	
8			29.91	759.7	—39.4	—39.7		calm.	0	0			0			0	0	
9			29.85	758.2	—48.2	—44.6		calm.	0	0			0			0	0	
10			29.97	761.2	—52.4	—47.4		calm.	0	0			0			0	0	
11			30.03	762.7	—47.4	—44.1		calm.	0	0			0			0	0	
12			29.72	754.9	—36.6	—38.1		calm.	0	0			0			0.14	3.6	
13			29.59	751.6	—39.9	—39.9		calm.	2	0.9			0			0	0	
14			29.25	742.9	—55.9	—48.8		calm.	1	0.4			2			0.07	1.8	
15			29.53	750.0	—34.1	—36.7		calm.	0	0			10			0.05	1.3	
16			29.73	755.1	—30.9	—34.9		calm.	0	0			10			0.04	1.0	
17			29.40	746.7	—31.6	—35.3		sw.	3	1.3			0			inap.	inap.	
18			29.75	755.6	—42.7	—41.5		calm.	1	0.4			0			0	0	
19			29.77	756.1	—39.2	—39.6		calm.	1	0.4			0			0	0	
20			29.95	760.7	—43.4	—41.9		calm.	0	0			0			0	0	
21			29.80	756.9	—36.0	—37.8		calm.	0	0			0			0	0	
22			29.98	761.5	—41.0	—40.6		calm.	0	0			0			0	0	
23			29.61	752.1	—47.2	—44.0		calm	0	0			0			0	0	
24			29.40	746.7	—41.2	—40.7		calm.	2	0.9			0			0	0	
25			29.48	748.8	—46.3	—43.5		calm.	0	0			0			0	0	
26			29.91	759.7	—49.7	—45.4		calm.	0	0			0			0	0	
27			29.83	757.7	—42.7	—41.5		calm.	0	0			0			0	0	
28			29.59	751.6	—44.5	—42.5		calm.	0	0			0			0	0	
29			29.64	752.8	—46.4	—43.6		calm.	0	0			0			0	0	
30			29.20	741.7	—38.2	—39.0		calm.	1	0.4			10			0.27	6.9	snowing.
31			29.51	749.5	—39.9	—39.9		calm.	0	0			10			0	0	
Mean			29.72	754.9	—39.2	—39.6			0.4	0.2			3.5			0.57	14.5	

FORT CONGER, GRINNELL LAND (Lady Franklin Bay).—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity. Per cent.	Wind. Direction. From.	Wind. Velocity. Miles perhour	Wind. Velocity. Metrs prsec.	Wind. Force 0–10	Clouds. Amount. Upper. 0–10	Clouds. Amount. Lower. 0–10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall in past 24 hours. Inch.	Rainfall in past 24 hours. Mill.	WEATHER.
1882.																		
February 1			29.19	747.4	—50.1	—45.6		calm	1	0.4			0			0	0	
2			29.42	747.3	—49.3	—45.2		calm	0	0			1			0	0	
3			29.49	749.0	—56.0	—49.2		calm	1	0.4			0			0	0	
4			29.78	750.4	—46.3	—43.5		calm	0	0			2			0	0	
5			30.24	768.1	—52.0	—47.0		calm	1	0.4			0			0	0	
6			30.60	777.2	—53.4	—47.4		calm	1	0.4			0			0	0	
7			30.04	763.0	—51.6	—48.1		e.	1	0.4			0			0	0	
8			29.61	752.1	—50.7	—45.9		calm	0	0			0			0	0	
9			29.60	751.8	—52.3	—46.8		calm	0	0			0			0	0	
10			29.74	755.4	—53.6	—47.6		calm	0	0			2			0	0	
11			29.58	758.9	—57.1	—40.5		calm	0	0			1			0	0	
12			29.92	760.0	—53.3	—47.4		calm	1	0.4			0			0	0	
13			29.89	759.2	—58.5	—50.3		calm	0	0			0			0	0	
14			29.98	761.5	—54.8	—48.2		calm	0	0			3			0	0	
15			29.75	755.0	—52.4	—46.9		calm	0	0			1			0	0	
16			29.42	747.3	—55.2	—48.1		calm	0	0			1			0	0	
17			29.34	745.2	—33.8	—36.6		calm	1	0.4			10			0.04	1.0	
18			29.40	740.7	—41.0	—40.6		calm	1	0.4			6			0	0	
19			29.70	754.4	—42.1	—41.2		calm	0	0			6			0	0	
20			29.78	756.4	—51.7	—46.5		s.	2	0.9			1			0	0	
21			29.83	757.7	—48.1	—44.5		calm	2	0.9			2			0	0	
22			30.31	769.9	—42.6	—41.4		calm	0	0			4			0	0	
23			30.35	771.1	—53.1	—47.3		ne.	2	0.9			1			0	0	
24			29.98	761.5	—45.6	—43.1		calm	0	0			0			0.02	0.5	
25			29.59	751.0	—22.0	—30.0		calm	0	0			5			0.02	0.5	
26			29.37	746.0	—22.6	—30.3		calm	3	1.3			10			0.03	0.8	snowing.
27			29.37	746.0	—33.3	—36.3		calm	0	0			10			0	0	
28			29.50	749.3	—41.3	—40.7		calm	0	0			0			0	0	
Mean			29.75	755.6	—47.4	—44.1			0.6	0.3			2.4			0.11	2.8	
March 1			29.71	754.6	—21.4	—29.7		e.	1	0.4			10			0.01	0.3	snowing.
2			29.31	744.5	—33.0	—36.1		calm	0	0			5			0	0	
3			29.18	741.2	—32.3	—35.7		calm	0	0			8			0.03	0.8	
4			29.82	757.4	—33.2	—36.2		calm	1	0.4			10			0.03	0.8	snowing.
5			29.91	760.5	—39.4	—39.7		e.	1	0.4			10			0.01	0.3	
6			29.75	755.6	—27.1	—32.8		e.	12	5.4			10			0.02	0.5	snowing.
7			29.96	761.0	—43.1	—41.7		nw.	2	0.9			2			0.02	0.5	
8			29.70	754.4	—37.0	—38.3		e.	1	0.4			8			inap.	inap.	
9			29.64	752.8	—36.6	—38.1		ne.	1	0.4			6			0.01	0.3	
10			29.54	750.3	—22.1	—30.1		calm	0	0			8			0.01	0.3	
11			29.40	746.7	—14.8	—26.0		calm	0	0			10			0.09	2.3	snowing.
12			29.46	748.3	—18.1	—27.8		ne.	2	0.9			10			0.03	0.8	snowing.
13			29.66	753.4	—37.2	—38.4		calm	1	0.4			5			0	0	
14			29.79	756.7	—35.3	—37.4		calm	0	0			3			0	0	
15			29.85	758.2	—40.0	—40.0		calm	0	0			2			0	0	
16			30.10	764.5	—38.0	—38.9		calm	0	0			10			0	0	
17			30.47	773.9	—34.6	—37.0		calm	0	0			9			0.01	0.3	
18			30.55	776.0	—31.6	—35.3		calm	0	0			3			0	0	
19			30.43	772.9	—24.6	—31.4		calm	0	0			10			inap.	inap.	snowing.
20			30.30	769.6	—29.1	—33.9		calm	0	0			10			0.03	0.8	
21			29.89	759.2	— 8.9	—22.7		s.	8	3.6			10			inap.	inap.	snowing.
22			29.43	747.5	—32.1	—35.6		calm	0	0			0			inap.	inap.	
23			29.29	744.0	—30.8	—34.9		se.	2	0.9			10			0	0	snowing.
24			29.53	750.0	—35.9	—37.7		calm	0	0			0			0	0	
25			29.75	755.6	—41.9	—41.1		e.	0	0			1			0	0	
26			29.81	757.2	—36.1	—37.8		calm	0	0			0			0	0	
27			29.74	755.4	—33.0	—36.1		calm	0	0			6			0	0	
28			29.66	753.4	—39.0	—39.4		calm	0	0			1			0	0	
29			29.29	744.0	—30.6	—34.8		calm	0	0			10			0	0	
30			29.28	743.7	—27.9	—33.3		e.	1	0.4			3			0	0	
31			29.91	759.7	—14.4	—25.8		e.	1	0.4			7			0	0	
Mean			29.75	755.6	—30.9	—34.9			1.1	0.5			6.2			0.28	7.1	
April 1			29.91	759.7	—34.5	—36.9		se.	1	0.4			0			0	0	
2			29.84	757.9	—35.5	—37.5		calm	0	0			0			0	0	
3			30.08	764.0	—33.4	—36.3		calm	0	0			1			0	0	
4			29.90	759.4	—30.9	—34.9		calm	0	0			2			inap.	inap.	
5			29.85	758.2	—16.0	—26.7		ne.	5	2.2			10			0.07	1.8	snowing.
6			29.84	757.9	—29.5	—34.2		ne.	2	0.9			1			0	0	
7			29.90	759.4	—26.2	—32.3		e.	2	0.9			1			0	0	
8			30.18	766.6	—10.0	—23.3		nw.	4	1.8			10			inap.	inap.	snowing.
9			30.93	785.6	2.7	—16.3		se.	6	2.7			1			0	0	
10			30.74	780.8	—10.0	—23.3		se.	3	1.3			0			0	0	
11			30.43	772.9	6.5	—14.2		e.	3	1.3			5			0	0	
12			30.54	775.7	— 4.1	—20.1		e.	2	0.9			0			0	0	
13			30.51	774.9	1.5	—16.9		n.	2	0.9			10			0	0	
14			30.14	765.5	— 1.5	—18.6		e.	2	0.9			0			0	0	
15			29.84	757.9	— 3.7	—19.8		se.	2	0.9			0			0	0	
16			29.70	754.4	5.0	—15.0		n.	4	1.8			0			0	0	
17			29.65	753.1	— 5.6	—20.9		e.	2	0.9			0			inap.	inap.	
18			29.93	760.2	— 7.6	—22.0		se.	1	0.4			3			0.02	0.5	
19			30.12	765.0	— 7.5	—21.9		n.	1	0.4			10			0.07	1.8	snowing.
20			30.40	772.1	— 9.7	—23.2		e.	2	0.9			10			0.02	0.5	snowing.
21			30.36	771.1	—18.1	—27.8		n.	2	0.9			0			0	0	
22			29.91	759.7	6.3	—14.3		s.	15	6.7			10			inap.	inap.	
23			30.40	772.1	10.3	—12.1		n.	6	2.7			8			0	0	
24			30.13	765.3	— 2.8	—19.3		n.	2	0.9			10			0.01	0.3	
25			30.11	764.8	5.0	—15.0		e.	22	9.8			10			0.01	0.3	snowing.
26			30.29	769.4	— 7.5	—21.9		ne.	1	0.4			0			0	0	
27			30.31	769.9	— 9.1	—22.8		calm	0	0			0			0	0	
28			30.24	768.1	—10.3	—23.5		s.	1	0.4			0			0	0	
29			30.24	768.1	—10.2	—23.4		ne.	1	0.4			0			0	0	
30			30.18	766.6	— 3.8	—19.9		ne.	1	0.4			3			0	0	
Mean			30.15	765.8	— 9.7	—23.2			3.2	1.4			3.5			0.20	5.1	

FORT CONGER, GRINNELL LAND, (Lady Franklin Bay).—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity Per cent.	Wind. Direction. From.	Wind. Velocity. Miles per hour	Wind. Velocity. Metrs pr sec.	Wind. Force 0-10	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0-10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall in past 24 hours. Inch.	Rainfall in past 24 hours. Mill.	WEATHER.
1882																		
May 1			30.26	768.6	6.5	—14.2		n.	2	0.9			8			0	0	
2			30.17	766.3	10.2	—12.1		w.	2	0.9			7			0	0	
3			30.17	766.3	26.2	— 3.2		s.	15	6.7			4			0	0	
4			30.37	771.4	20.0	— 6.7		sw.	6	2.7			4			0	0	
5			30.20	768.6	8.2	—13.2		ne.	2	0.9			0			inap.	inap.	
6			30.15	765.8	12.1	—11.1		e.	2	0.9			7			0	0	
7			30.02	762.5	17.4	— 8.1		s.	2	0.9			6			inap.	inap.	
8			30.12	765.0	13.7	—10.2		e.	21	9.4			10			0.01	0.3	snowing.
9			30.33	770.4	6.2	—14.3		sw.	1	0.4			10			inap.	inap.	
10			30.33	770.4	6.3	—14.3		s.	2	0.9			7			inap.	inap.	
11			30.31	769.9	4.3	—15.4		s.	1	0.4			10			0.04	1.0	
12			30.27	768.8	9.2	—12.7		w.	1	0.4			10			0.05	1.3	snowing.
13			30.07	763.8	10.5	— 8.6		se.	13	5.8			10			0.04	1.0	snowing.
14			30.02	762.5	18.0	— 7.8		ne.	1	0.4			9			0	0	
15			29.72	754.9	14.5	— 9.7		n.	1	0.4			8			inap.	inap.	
16			29.73	755.1	10.2	— 8.8		sw.	4	1.8			10			inap.	inap.	snowing.
17			29.78	756.4	14.0	—10.0		s.	1	0.4			10			0	0	
18			29.77	756.1	16.4	— 8.7		nw.	1	0.4			10			0	0	
19			29.82	757.4	14.9	— 9.5		n.	1	0.4			1			0	0	
20			29.99	761.7	18.5	— 7.5		ne.	1	0.4			0			0	0	
21			30.10	764.5	22.6	— 5.1		se.	2	0.9			1			0	0	
22			30.16	766.1	19.0	— 7.2		se.	1	0.4			10			inap.	inap.	
23			30.36	771.1	24.4	— 4.2		w.	2	0.9			6			inap.	inap.	
24			30.50	774.7	14.1	— 9.9		n.	1	0.4			0			0	0	
25			30.31	769.9	16.4	— 8.7		n.	6	2.7			10			0	0	
26			30.22	767.6	20.2	— 6.6		ne.	1	0.4			4			0	0	
27			30.17	766.3	26.4	— 3.1		e.	2	0.9			10			inap.	inap.	
28			30.22	767.6	29.3	— 1.5		ne.	1	0.4			2			0	0	
29			30.01	762.2	32.8	0.4		w.	3	1.3			6			0.04	1.0	
30			30.04	763.0	23.4	— 4.8		e.	14	6.3			10			0.04	1.0	snowing.
31			30.41	772.4	21.9	— 5.6		w.	2	0.9			8			0.01	0.3	
Mean			30.13	765.3	16.8	— 8.4			3.7	1.7			6.7			0.23	5.8	
June 1			30.33	770.4	18.3	— 7.6		e.	1	0.4			1			0	0	
2			30.14	765.5	18.6	— 7.4		se.	1	0.4			5			0	0	
3			30.10	764.5	16.2	— 8.8		se.	1	0.4			0			0	0	
4			30.01	762.2	25.4	— 3.7		sw.	2	0.9			10			0	0	
5			29.95	760.7	23.9	— 4.5		e.	16	7.2			3			0	0	
6			30.00	762.0	19.3	— 7.1		ne.	2	0.9			10			0	0	
7			30.02	762.5	21.2	— 6.0		n.	2	0.9			0			0	0	
8			29.96	761.0	27.7	— 2.4		s.	2	0.9			0			0	0	
9			30.01	762.2	28.8	— 1.8		e.	2	0.9			2			0	0	
10			30.09	764.3	31.5	— 0.3		nw.	2	0.9			6			0	0	
11			30.08	764.0	30.9	— 0.6		sw.	4	1.8			3			0	0	
12			29.86	758.4	33.0	0.6		w.	1	0.4			10			inap.	inap.	
13			30.00	762.0	33.7	0.9		sw.	2	0.9			10			inap.	inap.	
14			29.83	757.7	35.2	1.8		w.	3	1.3			10			0.07	1.8	raining.
15			29.69	751.8	33.8	1.0		n.	1	0.4			10			0.08	2.0	snowing.
16			29.46	748.3	35.6	2.0		e	13	5.8			10			0.02	0.5	
17			29.54	750.3	30.9	— 0.6		e.	9	4.0			10			0.03	0.8	snowing.
18			29.56	750.8	28.4	— 2.0		ne.	2	0.9			10			0.02	0.5	
19			29.69	754.1	30.9	— 0.6		sw.	1	0.4			4			inap.	inap.	
20			29.81	757.2	34.0	1.1		s.	24	10.7			10			inap.	inap.	
21			30.05	763.3	35.4	1.9		s.	4	1.8			10			0	0	
22			29.91	759.7	44.4	6.9		se.	10	4.5			7			0	0	
23			29.71	754.6	40.5	4.7		nw.	2	0.9			5			0.04	1.0	
24			30.08	764.0	38.8	3.8		se.	6	2.7			10			inap.	inap.	
25			30.09	764.3	38.6	3.7		s.	2	0.9			4			0	0	
26			30.08	764.0	39.2	4.0		s.	2	0.9			1			0	0	
27			30.04	763.0	41.3	5.2		sw.	2	0.9			0			0	0	
28			30.08	764.0	47.2	8.4		s.	6	2.7			2			0	0	
29			30.04	763.0	41.0	5.0		sw.	13	5.8			6			0	0	
30			29.98	761.5	46.8	8.2		s.	11	4.9			1			0	0	
Mean			29.94	760.5	32.4	0.2			5.0	2.2			5.9			0.26	6.6	
July 1			29.97	761.2	48.5	9.2		se.	11	4.9			6			0.02	0.5	
2			30.03	762.7	35.0	1.7		sw.	2	0.9			10			0.01	0.3	
3			30.14	765.5	35.4	1.9		w.	2	0.9			10			0	0	
4			30.17	766.3	32.7	0.4		s.	7	3.1			10			0	0	
5			29.94	760.5	36.2	2.3		w.	3	1.3			0			0	0	
6			29.82	757.4	43.0	6.1		s.	2	0.9			0			0	0	
7			29.79	756.7	41.4	5.2		w.	2	0.9			3			0	0	
8			29.68	753.9	39.4	4.1		se.	12	5.4			10			0.02	0.5	
9			29.77	756.1	36.8	2.7		w.	2	0.9			10			0	0	
10			29.90	759.4	37.2	2.9		se.	7	3.1			10			0.01	0.3	
11			30.03	762.7	33.2	0.7		se.	5	2.2			10			0.08	2.0	
12			30.00	762.0	30.4	— 0.9		w.	1	0.4			10			0.03	0.8	snowing.
13			29.69	754.1	34.7	1.5		sw.	3	1.3			10			0.12	3.0	
14			29.49	749.0	35.5	1.9		se.	1	0.4			10			0.46	11.7	raining.
15			29.49	749.0	38.7	3.7		se.	14	6.3			10			0.18	4.6	raining.
16			29.47	748.5	42.1	5.6		se.	11	4.9			10			0.01	0.3	
17			29.64	752.8	35.4	1.9		se.	3	1.3			9			inap.	inap.	
18			29.59	751.6	38.6	3.7		s.	2	0.9			10			inap.	inap.	
19			29.47	748.5	34.5	1.4		w.	3	1.3			10			inap.	inap.	
20			29.55	750.6	33.9	1.1		w.	4	1.8			10			0	0	
21			29.70	754.4	34.5	1.4		sw.	2	0.9			10			inap.	inap.	
22			29.72	754.9	35.2	1.8		sw.	2	0.9			9			0	0	
23			29.78	756.4	33.8	1.0		sw.	3	1.3			10			0.01	0.3	
24			29.74	755.4	35.1	1.7		w.	2	0.9			10			0.04	1.0	
25			29.56	750.8	36.6	2.6		sw.	2	0.9			10			0	0	
26			29.59	751.6	38.7	3.7		s.	7	3.1			8			inap.	inap.	
27			29.49	719.0	37.2	2.9		nw.	5	2.2			10			0	0	
28			29.22	742.2	36.2	2.3		se.	3	1.3			10			inap.	inap.	
29			29.37	746.0	33.9	1.1		s.	4	1.8			9			0.02	0.5	
30			29.78	756.4	34.6	1.4		sw.	3	1.3			8			inap.	inap.	
31			29.69	754.1	34.5	1.4		w.	3	1.3			4			0	0	
Mean			29.72	754.9	36.5	2.5			5.3	2.4			8.6			1.01	26.7	

FORT CONGER, GRINNELL LAND (Lady Franklin Bay).—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount.		Clouds. Direction.		Rainfall in past 24 hours.		WEATHER.
												Upper.	Lower.	Up'er	Lo'er			
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles perhour	Metrs prsec.	0-10	0-10	0-10	From	From	Inch.	Mill.	
1882.																		
August 1			29.52	749.8	36.8	2.7		sw.	2	0.9			0			inap.	inap.	
2			29.71	754.6	34.7	1.5		se.	18	8.0			10			0.02	0.5	snowing.
3			29.89	759.2	35.1	1.7		e.	2	0.9			10			0	0	
4			29.93	760.2	33.4	0.8		ne.	1	0.4			10			0	0	
5			29.82	757.4	36.9	2.7		s	2	0.9			3			0	0	
6			29.88	758.9	38.2	3.4		se.	10	7.2			10			0.06	1.5	
7			30.09	764.3	34.0	1.1		s.	3	1.3			10			0	0	
8			29.75	755.6	33.1	0.6		sw.	2	0.9			7			0	0	
9			29.50	749.3	38.9	3.8		se.	6	2.7			10			0.05	1.3	
10			29.70	754.4	32.4	0.2		sw.	2	0.9			10			0.28	7.1	
11			29.65	753.1	38.9	3.8		se.	2	0.9			8			0.02	0.5	
12			29.77	756.1	38.8	3.8		sw.	2	0.9			1			0	0	
13			29.82	757.4	37.0	2.8		se	15	6.7			7			0	0	
14			29.87	758.7	40.5	4.7		s.	16	7.2			10			0	0	
15			29.92	760.0	36.7	2.6		w.	2	0.9			10			0	0	
16			29.86	758.4	39.9	4.4		sw.	1	0.4			8			0	0	
17			29.87	758.7	38.1	3.4		sw.	2	0.9			10			0.10	2.5	
18			29.98	761.5	34.9	1.6		se.	1	0.4			10			0.01	0.3	
19			29.63	752.6	40.8	4.9		se.	14	6.3			10			0	0	
20			29.56	750.8	36.6	2.6		se.	15	6.7			8			inap.	inap.	
21			29.70	754.4	39.7	4.3		nw.	5	2.2			9			0	0	
22			29.70	754.4	38.4	3.6		w.	1	0.4			5			0	0	
23			29.77	756.1	35.5	1.9		sw.	6	2.7			10			0.03	0.8	raining.
24			29.94	760.5	35.7	2.1		se.	6	2.7			10			0.01	0.3	
25			29.88	758.9	34.2	1.2		se.	2	0.9			10			inap.	inap.	
26			30.08	764.0	33.1	0.1		e.	1	0.4			1			0	0	
27			30.03	762.7	29.1	— 1.6		se.	2	0.9			10			inap.	inap.	
28			30.03	762.7	30.3	— 0.9		se.	2	0.9			2			0.01	0.3	
29			29.85	758.2	31.4	— 0.3		s.	6	2.7			10			0.01	0.3	
30			29.87	758.7	27.4	— 2.6		e.	5	2.2			10			0.01	0.3	snowing.
31			29.75	755.6	26.6	— 3.0		e.	1	0.4			10			0	0	
Mean			29.82	757.4	35.4	1.9			5.2	2.3			8.0			0.61	15.5	
September 1			29.57	751.1	22.4	— 5.3		s.	2	0.9			10			0	0	
2			29.55	750.6	23.2	— 4.9		calm	0	0			9			0.05	1.3	
3			29.62	752.3	25.8	— 3.4		sw.	1	0.4			10			0.01	0.3	snowing.
4			29.52	749.8	24.1	— 4.4		nw.	1	0.4			10			0.08	2.0	snowing.
5			29.70	754.4	25.3	— 3.7		calm	0	0			10			0.13	3.3	snowing.
6			29.57	751.1	23.2	— 4.9		n.	23	10.3			10			0.02	0.5	snowing.
7			29.68	753.9	22.3	— 5.4		ne.	18	8.0			10			0.02	0.5	snowing.
8			29.85	758.2	19.2	— 7.1		e.	5	2.2			10			0.02	0.5	snowing.
9			30.00	762.0	15.0	— 9.1		nw.	3	1.3			10			0	0	
10			30.14	765.5	19.7	— 6.8		n.	1	0.4			8			0	0	
11			30.13	765.3	20.6	— 6.3		se.	4	1.8			6			0	0	
12			29.86	758.4	15.9	— 8.9		ne.	3	1.3			1			inap.	inap.	
13			29.88	758.9	21.1	— 6.1		se.	1	0.4			10			0.02	0.5	snowing.
14			29.80	756.9	19.0	— 7.2		n.	9	4.0			10			inap.	inap.	
15			29.83	757.7	13.4	—10.3		ne.	4	1.8			2			0	0	
16			29.96	761.0	13.5	—10.3		ne.	1	0.4			8			0	0	
17			30.15	765.8	21.7	— 5.7		ne.	3	1.3			10			0.01	0.3	snowing.
18			30.17	766.3	14.9	— 9.5		calm	0	0			10			0.02	0.5	snowing.
19			29.94	760.5	4.4	—15.3		e.	4	1.8			0			0	0	
20			29.44	747.8	7.9	—13.4		ne.	4	1.8			5			0	0	
21			29.28	743.7	8.7	—12.9		n.	1	0.4			9			0.05	1.3	
22			29.46	748.3	19.4	— 7.0		nw.	3	1.3			10			0	0	
23			29.45	748.0	20.7	— 6.3		sw.	15	6.7			9			0	0	
24			29.52	749.8	18.2	— 7.7		se.	7	3.1			1			0	0	
25			29.63	752.6	9.0	—12.8		e.	4	1.8			0			0	0	
26			29.59	751.6	8.9	—12.8		n.	2	0.9			2			inap.	inap.	
27			29.55	750.6	19.5	— 6.9		s.	4	1.8			3			0	0	
29			29.73	755.1	22.6	— 5.2		se.	3	1.3			2			0	0	
29			30.02	762.5	19.2	— 7.1		e.	2	0.9			5			0	0	
30			29.76	755.9	12.1	—11.1		ne.	4	1.8			0			0.04	1.0	
Mean			29.74	755.4	17.7	— 7.9			4.4	2.0			6.7			0.47	11.9	
October 1			29.81	757.2	11.1	—11.6		n.	19	8.5			10			0.01	0.3	
2			29.72	754.9	9.4	—12.6		n.	8	3.6			10			0.01	0.3	
3			29.67	753.6	10.6	—11.9		ne.	20	8.9			10			0.02	0.5	
4			29.62	752.3	3.0	—16.1		ne.	15	6.7			10			0.01	0.3	
5			29.80	756.9	— 9.5	—23.1		n.	1	0.4			3			0	0	
6			29.90	759.4	— 7.5	—21.9		calm	0	0			0			0	0	
7			29.93	760.2	— 7.5	—21.9		calm	0	0			7			0	0	
8			29.80	758.4	— 8.6	—22.6		e.	3	1.3			0			0	0	
9			29.74	755.4	—10.7	—23.7		e.	6	2.7			0			0	0	
10			29.37	746.0	— 4.6	—20.3		n.	1	0.4			10			0.03	0.8	
11			29.68	753.9	1.2	—17.1		ne.	3	1.3			10			0	0	
12			29.53	750.0	— 5.0	—20.6		e.	1	0.4			10			0	0	
13			29.62	752.3	— 2.4	—19.1		ne.	5	2.2			8			0	0	
14			29.68	753.9	0.7	—17.4		ne.	1	0.4			10			0	0	
15			29.64	752.8	0.0	—17.8		calm	0	0			10			0.08	2.0	
16			29.94	760.5	— 7.5	—21.9		e.	5	2.2			10			0.03	0.8	
17			30.11	764.8	—14.6	—25.9		e.	1	0.4			1			0	0	
18			29.92	760.0	— 9.6	—23.1		se.	4	1.8			2			0	0	
19			30.13	765.3	—15.1	—26.2		calm	0	0			5			0	0	
20			30.20	767.1	—10.6	—23.7		calm	0	0			10			0.01	0.3	
21			29.98	761.5	— 8.6	—22.0		sw.	5	2.2			5			0	0	
22			29.79	756.7	—11.6	—24.2		calm	0	0			10			inap.	inap.	
23			30.06	763.5	—10.2	—23.4		calm	0	0			10			0	0	
24			30.17	766.3	—16.4	—26.9		calm	0	0			0			0	0	
25			30.23	767.8	—19.0	—28.3		calm	0	0			1			0	0	
26			30.24	768.1	—16.3	—26.8		calm	0	0			0			0	0	
27			30.33	770.4	—14.5	—25.8		calm	0	0			10			0	0	
28			30.22	767.6	—15.3	—26.3		calm	0	0			0			0	0	
29			30.14	765.5	—17.8	—27.7		e.	7	3.1			1			0	0	
30			30.00	762.0	—16.0	—26.7		calm	0	0			0			0	0	
31			30.03	762.7	—13.1	—25.1		calm	0	0			10			0.04	1.0	
Mean			29.91	759.7	— 7.6	—22.0			3.4	1.5			5.9			0.24	6.1	

FORT CONGER, GRINNELL LAND, (Lady Franklin Bay).—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity Per cent.	Wind. Direction. From	Wind. Velocity. Miles per hour	Wind. Velocity. Metrs pr sec.	Wind. Force 0-10	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0-10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall in past 24 hours. Inch.	Rainfall in past 24 hours. Mill.	WEATHER.
1882																		
November 1			29.87	758.7	— 7.8	—22.1		calm.	0	0			10			0.02	0.5	snowing.
2			29.74	755.4	—21.1	—29.5		calm.	0	0			3			0	0	
3			29.70	754.4	—23.5	—30.8		calm	0	0			3			0	0	
4			29.86	758.4	—15.6	—26.4		calm	0	0			10			0	0	
5			29.92	760.0	—27.1	—32.8		se.	1	0.4			0			0	0	
6			30.00	762.0	—28.6	—33.7		e.	2	0.9			0			0	0	
7			30.09	764.3	—22.4	—30.2		ne.	1	0.4			10			0.03*	0.8*	
8			30.02	762.5	—29.4	—34.1		e.	3	1.3			4			0	0	
9			30.42	772.7	—34.4	—36.9		e.	1	0.4			0			0	0	
10			30.30	769.6	—36.9	—38.3		e.	1	0.4			0			0	0	
11			29.97	761.2	—37.0	—38.3		calm.	0	0			0			0	0	
12			29.55	750.6	—34.9	—37.2		calm	0	0			0			0	0	
13			29.28	743.7	—17.4	—27.4		ne.	2	0.9			0			inap.	inap.	
14			29.35	745.5	—23.2	—30.7		s.	2	0.9			0			0	0	
15			29.10	740.7	—17.0	—27.2		e.	2	0.9			0			0	0	
16			29.58	751.3	—19.1	—28.4		n.	13	5.8			0			0	0	
17			29.66	753.4	—33.5	—36.4		calm.	1	0.4			0			0	0	
18			29.78	756.4	—36.5	—38.1		calm	0	0			0			0	0	
19			29.90	759.4	—25.6	—32.0		e.	1	0.4			3			0	0	
20			29.98	761.5	—21.0	—29.4		sw.	3	1.3			7			0.06*	1.5*	
21			30.12	765.0	—28.8	—33.8		calm.	0	0			2			0	0	
22			30.32	770.1	—33.7	—36.5		calm	0	0			0			0	0	
23			30.38	771.6	—35.1	—37.3		calm.	0	0			2			0	0	
24			30.39	771.9	—36.5	—38.1		calm.	0	0			0			0	0	
25			30.23	767.8	—34.5	—36.9		calm.	0	0			1			0	0	
26			30.50	774.7	—31.4	—35.2		calm.	0	0			0			0	0	
27			30.24	768.1	—32.5	—35.8		se.	1	0.4			0			0	0	
28			30.14	765.5	—31.4	—35.2		calm.	0	0			5			0	0	
29			30.30	769.6	—39.1	—39.5		ne.	1	0.4			0			0	0	
30			30.02	762.5	—39.0	—39.4		e.	2	0.9			0			0	0	
Mean			29.96	761.0	—28.5	—33.6			1.2	0.5			2.0			0.11	2.8	* mostly frost.
December 1			30.07	763.8	—35.6	—37.6		calm.	0	0			0			0	0	
2			29.95	760.7	—39.1	—39.5		calm.	0	0			0			0	0	
3			30.00	762.0	—37.4	—38.6		calm.	0	0			0			0	0	
4			30.27	768.8	—28.6	—33.7		calm.	0	0			5			0	0	
5			30.14	765.5	—32.6	—35.9		calm.	0	0			0			0	0	
6			29.89	759.2	—33.5	—36.4		e.	1	0.4			0			0	0	
7			29.97	761.2	—30.5	—34.7		ne.	1	0.4			0			0	0	
8			30.03	762.7	—34.1	—36.7		calm.	0	0			0			0	0	
9			30.30	769.0	—31.1	—35.1		e.	1	0.4			0			0	0	
10			30.35	770.9	—29.5	—34.2		calm.	0	0			0			0	0	
11			30.50	774.7	—29.1	—33.9		calm.	0	0			0			0	0	
12			30.58	776.7	—22.2	—30.1		ne.	1	0.4			0			0	0	
13			30.56	776.2	—32.7	—35.9		calm.	0	0			0			0	0	
14			30.33	770.4	—28.6	—33.7		calm.	0	0			6			0	0	
15			30.33	770.4	—25.8	—32.1		calm.	0	0			0			0	0	
16			30.48	774.2	—21.6	—29.8		e.	2	0.9			2			0	0	
17			30.19	766.8	—32.9	—36.1		calm.	0	0			0			0	0	
18			29.71	754.6	—21.8	—29.9		calm.	0	0			10			0	0	
19			29.67	753.6	—31.5	—35.3		calm.	0	0			2			0	0	
20			29.73	755.1	—18.8	—28.2		calm.	0	0			10			0.17	4.3	snowing.
21			30.20	767.1	—28.1	—33.4		n.	2	0.9			0			inap.	inap.	
22			30.15	765.8	—33.0	—30.1		se.	1	0.4			4			0	0	
23			30.31	769.9	—28.4	—33.6		calm.	0	0			8			0	0	
24			30.17	760.3	—25.1	—31.7		calm.	0	0			2			0	0	
25			29.99	761.7	0.8	—17.3		s.	14	6.3			10			0	0	
26			30.04	763.0	— 2.6	—19.2		calm.	0	0			10			0	0	
27			30.20	767.1	—32.7	—35.9		calm	0	0			0			0	0	
28			30.08	764.0	—34.8	—37.1		calm.	0	0			1			0	0	
29			29.92	760.0	—15.0	—26.1		e.	1	0.4			10			0.04	1.0	snowing.
30			29.82	757.4	—18.1	—27.8		e.	1	0.4			10			0	0	
31			30.17	766.3	—30.7	—34.8		calm.	0	0			0			0	0	
Mean			30.13	765.3	—27.2	—32.9			0.8	0.4			2.9			0.21	5.3	
1883.																		
January 1			30.42	772.7	—41.8	—41.0		calm.	0	0			0			0	0	
2			30.16	766.1	—33.4.8	—36.3.8		ne.	3	1.3			2			0	0	
3			30.29	769.4	—38.4	—39.1		calm.	0	0			1			0	0	
4			30.01	762.2	—42.1	—41.2		calm.	0	0			0			0	0	
5			29.60	751.8	—32.0.8	—35.6.8		se.	1	0.4			0			0	0	
6			29.67	753.6	—25.8	—32.1		s.	1	0.4			1			0	0	
7			29.47	748.5	—30.2	—34.6		calm.	0	0			2			0	0	
8			29.75	755.6	—35.6	—37.6		calm.	0	0			0			0	0	
9			30.00	762.0	—33.9	—30.6		calm	0	0			0			0	0	
10			30.28	769.1	—32.6	—35.9		calm	0	0			0			0	0	
11			30.26	768.6	—36.8	—38.2		calm	0	0			2			0.03	0.8	
12			30.05	763.3	—30.7	—34.8		calm.	0	0			10			inap.	inap.	
13			29.98	761.5	—34.6	—37.0		calm,	0	0			0			0	0	
14			29.85	758.2	—39.1	—39.5		calm	0	0			0			0	0	
15			29.78	756.4	—42.1	—41.2		calm.	0	0			0			0	0	
16			30.02	762.5	—46.1	—43.4		calm.	0	0			0			0	0	
17			30.01	762.2	—39.8	—39.9		calm.	0	0			10			0.05	1.5	snowing.
18			29.96	761.0	—40.7	—40.4		calm.	0	0			6			0.02	0.5	
19			29.80	756.9	—45.5	—43.1		calm.	0	0			2			0	0	
20			30.04	763.0	—43.4	—41.9		calm.	0	0			3			0	0	
21			30.34	770.6	—30.0	—34.8		calm.	0	0			10			0.01	0.3	
22			29.91	759.7	—34.5	—36.9		calm	0	0			10			0.03	0.8	
23			29.45	748.0	—31.2	—35.1		calm.	0	0			10			0.01	0.3	
24			29.30	744.2	—40.1	—40.1		calm.	0	0			10			0	0	
25			29.13	739.9	—43.1	—41.7		calm,	0	0			0			0	0	
26			29.33	745.0	—36.6	—38.1		calm.	0	0			3			inap.	inap.	
27			29.56	750.8	—23.9	—31.1		calm.	0	0			10			0.03	0.8	snowing.
28			29.64	752.8	—28.2	—33.4		calm	0	0			10			0.04	1.0	
29			29.86	758.4	—27.9	—33.3		calm.	0	0			4			0.04	1.0	
30			30.12	765.0	—28.8	—33.8		calm.	0	0			7			0	0	
31			30.25	768.3	—32.5	—35.8		calm	0	0			0			0	0	
Mean			29.88	758.9	—35.5	—37.5			0.2	0.009			3.6			0.27	6.9	

FORT CONGER, GRINNELL LAND (Lady Franklin Bay).—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity Per cent.	Wind. Direction. From.	Wind. Velocity. Miles perhour	Wind. Velocity. Metrs pr sec.	Wind. Force 0-10	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0-10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Rainfall or melted snow in past 24 hours. Mill.	WEATHER.
1883.																		
February 1			30.14	765.5	—45.5	—43.1		calm.	0	0			0			0	0	
2			29.85	758.2	—46.0	—43.3		e.	2	0.9			2			0	0	
3			29.86	758.4	—48.6	—44.8		calm.	0	0			5			0	0	
4			29.56	750.8	—41.1	—40.6		calm.	0	0			10			0.04*	1.0*	snowing.
5			29.44	747.8	—44.7	—42.0		calm.	0	0			0			0	0	
6			29.48	748.8	—43.8	—42.1		ne.	2	0.9			0			0	0	
7			29.70	754.4	—39.3	—39.6		calm.	0	0			2			0	0	
8			29.47	748.5	—37.08	—36.78		calm.	0	0			0			0	0	
9			29.16	740.7	—35.5	—37.5		e.	1	0.4			0			0	0	
10			29.49	749.0	—38.5	—39.2		ne.	1	0.4			1			0	0	
11			29.49	749.0	—39.6	—39.8		calm.	0	0			0			inap.	inap.	
12			29.50	749.3	—27.6	—33.1		calm.	0	0			10			0.01	0.3	
13			29.38	746.2	—28.6	—33.7		calm.	0	0			10			inap.	inap.	snowing.
14			29.37	746.0	—40.9	—40.5		calm.	0	0			0			0	0	
15			29.69	754.1	—40.4	—40.2		calm.	0	0			0			0	0	
16			29.84	757.9	—46.1	—43.4		calm.	0	0			0			0	0	
17			29.75	755.6	—46.6	—43.7		e.	1	0.4			1			0	0	
18			29.35	745.5	—43.6	—42.0		ne.	1	0.4			2			0	0	
19			29.02	737.1	—35.6	—37.6		calm.	0	0			2			0	0	
20			29.06	738.1	—22.6	—30.3		e.	1	0.4			10			0.02*	0.5*	
21			29.35	745.5	—12.6	—24.8		calm.	0	0			10			0.03	0.8	snowing.
22			29.64	752.8	—14.3	—25.7		e.	1	0.4			10			0.05	1.3	snowing.
23			29.79	756.7	—30.6	—34.8		se.	1	0.4			1			0	0	
24			29.84	757.9	—39.2	—39.6		nw.	2	0.9			2			0	0	
25			30.20	767.1	—43.1	—41.7		calm.	0	0			1			0	0	
26			29.89	759.2	—39.6	—39.8		ne.	3	1.3			10			0	0	
27			29.80	756.9	—45.3	—42.9		ne.	2	0.9			0			0	0	
28			29.49	749.0	—50.3	—45.7		calm.	0	0			5			0	0	
Mean			29.59	751.6	—38.1	—38.9			0.6	0.3			3.4			0.15	3.8	(* partly frost.)
March 1			29.68	753.9	—47.2	—44.0		calm.	0	0			0			0	0	
2			29.75	755.6	—24.8	—37.1		calm.	0	0			10			0.06	1.5	
3			30.21	767.3	—36.6	—36.1		ne.	1	0.4			4			0	0	
4			30.07	763.8	—34.9	—37.2		calm.	0	0			10			0.04	1.0	
5			30.72	780.3	—33.6	—30.4		s.	1	0.4			4			0	0	
6			30.36	771.1	—36.4	—38.0		calm.	0	0			0			0	0	
7			30.13	765.3	—28.8	—33.8		s.	3	1.3			3			0	0	
8			29.79	756.7	3.3	—15.9		s.	13	5.8			10			0.05	1.3	snowing.
9			30.49	774.4	—24.0	—31.1		calm.	0	0			0			0	0	
10			30.36	771.1	—35.4	—37.4		calm.	0	0			0			0	0	
11			29.76	755.9	—33.6	—36.4		calm.	0	0			0			0	0	
12			30.02	762.5	—19.6	—26.7		n.	5	2.2			4			0	0	
13			29.63	752.6	—24.4	—31.3		e.	3	1.3			1			0	0	
14			29.38	746.2	—17.7	—27.6		sw.	1	0.4			5			inap.	inap.	
15			29.75	755.6	7.4	—3.7		e.	4	1.8			1			0	0	
16			30.11	764.8	—18.3	—27.9		e.	1	0.4			3			0	0	
17			29.95	760.7	—19.0	—28.3		e.	3	1.3			5			0	0	
18			29.80	756.9	—17.0	—27.2		ne.	1	0.4			2			0	0	
19			30.09	764.3	—10.2	—23.4		ne.	2	0.9			4			0	0	
20			29.85	758.2	—10.6	—23.7		ne.	3	1.3			0			0	0	
21			30.05	763.3	—17.3	—27.4		nw.	1	0.4			1			0	0	
22			29.53	750.0	— 9.4	—23.0		s.	3	1.3			10			0.14	3.6	snowing.
23			30.27	768.8	—13.1	—25.1		w.	1	0.4			4			0.02	0.5	
24			30.19	766.8	—24.3	—31.3		ne.	3	1.3			1			0.01	0.3	
25			30.32	770.1	—15.6	—26.4		nw.	2	0.9			5			0.02	0.5	
26			30.43	772.9	— 1.2	—18.4		se.	9	4.0			10			0.02	0.5	snowing.
27			30.23	767.8	— 3.6	—19.8		se.	5	2.2			10			0.04	1.0	
28			30.17	766.3	— 4.4	—20.2		calm.	0	0			10			0.11	2.8	snowing.
29			30.12	765.0	— 3.2	—19.6		ne.	1	0.4			10			0.05	1.3	snowing.
30			30.20	767.1	— 2.4	—19.1		calm.	0	0			10			0.05	1.3	snowing.
31			30.09	764.3	—22.1	—30.1		se.	2	0.9			0			0	0	
Mean			30.05	763.3	—19.0	—28.3			2.2	1.0			4.4			0.61	15.5	
April 1			29.68	753.9	—25.7	—32.1		e.	1	0.4			0			0	0	
2			29.59	751.6	—25.9	—32.2		ne.	1	0.4			0			0	0	
3			29.56	750.8	—29.9	—34.4		e.	2	0.9			0			0	0	
4			29.32	744.7	—21.2	—29.6		nw.	1	0.4			9			0	0	
5			29.54	750.3	— 8.6	—22.6		calm.	0	0			10			0.02	0.5	snowing.
6			29.67	753.6	—15.8	—26.6		e.	3	1.3			2			0	0	
7			29.70	755.9	—18.6	—28.1		ne.	1	0.4			10			0.04	1.0	
8			30.11	764.8	—10.9	—23.8		se.	2	0.9			10			0.02	0.5	snowing.
9			29.79	756.7	—22.9	—30.5		se.	2	0.9			0			0	0	
10			29.81	757.2	—26.4	—32.4		se.	2	0.9			0			0	0	
11			29.80	756.9	—19.7	—28.7		ne.	2	0.9			1			0	0	
12			29.79	756.7	—17.9	—27.7		e.	1	0.4			9			0	0	
13			30.04	763.0	—20.6	—29.2		e.	1	0.4			3			0	0	
14			29.98	761.5	—23.1	—30.6		e.	2	0.9			6			0	0	
15			30.26	768.6	—19.8	—28.8		calm.	0	0			3			0	0	
16			30.26	768.6	—21.7	—29.8		e.	1	0.4			0			0	0	
17			30.27	768.8	—17.7	—27.6		ne.	1	0.4			0			0	0	
18			30.13	765.3	—18.6	—28.1		e.	2	0.9			0			inap.	inap.	
19			30.10	764.5	— 8.6	—22.6		se.	1	0.4			8			0.01	0.3	
20			29.90	759.4	—16.8	—27.1		n.	2	0.9			0			0	0	
21			29.95	760.7	—22.4	—30.2		calm.	0	0			0			0.02	0.5	
22			30.32	770.1	— 8.7	—22.6		se.	4	1.8			2			0	0	
23			30.67	779.0	—11.8	—24.3		se.	1	0.4			0			0	0	
24			30.57	776.5	—10.4	—23.6		calm.	0	0			0			0	0	
25			30.40	772.1	— 7.9	—22.2		calm.	0	0			1			0	0	
26			30.39	771.9	—12.5	—24.7		e.	1	0.4			0			0	0	
27			30.13	765.3	— 4.4	—20.2		calm.	0	0			10			0	0	
28			30.32	770.1	— 2.5	—19.2		calm.	0	0			9			0	0	
29			30.53	775.4	1.2	—17.1		calm.	0	0			10			0.03	0.8	snowing.
30			30.59	777.0	— 2.9	—19.4		calm.	0	0			0			0	0	
Mean			30.04	763.0	—15.8	—26.6			1.1	0.5			3.4			0.14	3.6	

FORT CONGER, GRINNELL LAND (Lady Franklin Bay).—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount.		Clouds. Direction.		Rainfall or melted snow in past 24 hours.		WEATHER.
												Upper.	Lower.	Up'er	Lo'er			
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles per hour	Metrs pr sec.	0-10	0-10	0-10	From	From	Inch.	Mill.	
1883.																		
May 1			30.19	766.8	— 7.6	—22.0		calm.	0	0			8			0	0	
2			29.93	760.2	— 2.6	—19.2		calm.	0	0			10			0.06	1.5	snowing.
3			30.10	764.5	— 2.6	—19.2		e.	7	3.1			0			0	0	
4			30.17	766.3	— 5.6	—20.9		e.	1	0.4			0			0	0	
5			30.25	768.3	— 3.9	—19.9		ne.	1	0.4			0			0	0	
6			30.30	769.6	— 2.6	—19.2		e.	1	0.4			0			0	0	
7			30.61	777.5	8.1	—13.3		e.	2	0.9			0			0	0	
8			30.64	778.2	4.6	—15.2		e.	1	0.4			0			0	0	
9			30.63	778.0	7.4	—13.7		ne.	2	0.9			0			0	0	
10			30.41	772.4	10.4	—12.0		e.	2	0.9			0			0	0	
11			30.33	770.4	17.2	— 8.2		calm.	0	0			0			0	0	
12			30.12	765.0	14.5	— 9.7		calm.	0	0			5			0	0	
13			29.88	758.9	27.4	— 2.6		ne.	2	0.9			10			0.14	3.6	
14			29.88	758.9	24.6	— 4.1		e.	18	8.0			10			0.01	0.3	snowing.
15			29.94	760.5	13.9	—10.1		nw.	6	2.7			10			0.02	0.5	
16			29.79	756.7	16.2	— 8.8		nw.	1	0.4			10			0.05	1.3	snowing.
17			29.99	761.7	10.5	—11.9		ne.	1	0.4			0			0	0	
18			30.23	767.8	14.3	— 9.8		e.	1	0.4			0			0	0	
19			30.22	767.6	13.9	—10.1		nw.	1	0.4			2			0	0	
20			30.00	762.0	21.3	— 5.9		ne.	2	0.9			1			0	0	
21			29.64	752.8	26.2	— 3.2		e.	2	0.9			10			inap.	inap.	
22			29.67	753.6	27.9	— 2.3		se.	3	1.3			2			0	0	
23			29.56	750.8	21.5	— 5.8		se.	1	0.4			5			0.01	0.3	
24			29.82	757.4	27.4	— 2.6		se.	7	3.1			10			inap.	inap.	snowing.
25			29.86	758.4	24.5	— 4.2		se.	2	0.9			10			0.03	0.8	
26			29.82	757.4	23.0	— 5.0		s.	1	0.4			10			0.07	1.8	snowing.
27			29.77	756.1	21.6	— 5.8		s.	2	0.9			10			0.05	1.3	snowing.
28			29.77	756.1	20.4	— 6.4		sw.	7	3.1			10			0.04	1.0	snowing.
29			29.71	754.6	18.1	— 7.7		e.	1	0.4			10			0.09	2.3	
30			29.52	749.8	23.9	— 4.5		s.	14	6.3			5			0.01	0.3	
31			29.62	752.3	30.4	— 0.9		s.	6	2.7			10			0	0	
Mean			30.01	762.2	14.3	— 9.8			3.1	1.4			5.1			0.58	14.7	
June 1			29.68	753.9	29.4	— 1.4		se.	7	3.1			5			0	0	
2			29.56	750.8	24.4	— 4.2		se.	1	0.4			5			0	0	
3			29.52	749.8	34.5	1.4		s.	2	0.9			7			0	0	
4			29.62	752.3	30.9	— 0.6		se.	4	1.8			10			0	0	
5			29.67	753.6	29.9	— 1.2		nw.	3	1.3			10			0.01	0.3	
6			29.69	754.1	29.4	— 1.4		s.	2	0.9			10			inap.	inap.	snowing.
7			29.62	752.3	28.0	— 2.2		s.	17	7.6			10			0	0	
8			29.60	751.8	31.5	— 0.3		s.	3	1.3			1			0	0	
9			29.53	750.0	30.5	— 0.8		se.	8	3.6			0			0	0	
10			29.58	751.3	27.1	— 2.7		w.	0	2.7			10			inap.	inap.	
11			29.74	755.4	31.9	— 0.1		w.	4	1.8			7			inap.	inap.	
12			29.84	757.9	28.0	— 1.9		sw.	3	1.3			10			inap.	inap.	
13			30.09	764.3	35.6	2.0		s.	7	3.1			5			0	0	
14			30.16	766.1	34.0	1.1		s.	5	2.2			1			0	0	
15			30.03	762.7	31.8	— 0.1		sw.	2	0.9			1			0	0	
16			29.74	755.4	31.7	— 0.2		s.	3	1.3			4			0	0	
17			29.97	761.2	32.2	0.1		nw.	4	1.8			10			0	0	
18			30.01	762.2	34.4	1.3		ne.	20	8.9			10			0	0	
19			29.98	761.5	31.1	— 0.5		w.	7	3.1			10			inap.	inap.	
20			29.94	760.5	33.5	0.8		nw.	1	0.4			10			inap.	inap.	
21			30.02	762.5	33.9	1.1		sw.	1	0.4			10			0	0	
22			30.09	764.3	32.1	0.1		s.	4	1.8			0			inap.	inap.	
23			30.18	766.6	34.2	1.2		calm.	0	0			10			0.04	1.0	snowing.
24			29.67	753.6	35.5	1.9		ne.	24	10.7			7			0	0	
25			29.76	755.9	33.6	0.9		w.	4	1.8			7			0	0	
26			29.87	758.7	35.1	1.7		calm.	0	0			10			0.05	1.3	
27			29.98	761.5	34.7	1.5		w.	1	0.4			10			inap.	inap.	snowing.
28			29.94	760.5	31.5	1.4		sw.	5	2.2			10			0.01	0.3	snowing.
29			29.80	756.9	36.9	2.7		ne.	13	5.8			9			inap.	inap.	
30			29.92	760.0	33.4	0.8		sw.	3	1.3			10			0	0	
Mean			29.83	757.7	32.1	0.1			5.5	2.5			7.3			0.11	2.8	
July 1			29.87	758.7	31.4	— 0.3		w.	2	0.9			5			0	0	
2			29.82	757.4	36.4	2.4		sw.	1	0.4			3			0	0	
3			29.68	753.9	34.7	1.5		s.	4	1.8			0			0	0	
4			29.72	754.9	32.9	0.5		sw.	3	1.3			8			0	0	
5			29.90	759.4	32.5	0.3		sw.	2	0.9			fog			0	0	foggy.
6			29.84	757.9	31.4	— 0.3		s.	9	4.0			3			inap.	inap.	
7			29.85	758.2	33.9	1.1		s.	1	0.4			10			0	0	
8			29.99	761.7	40.4	4.7		sw.	2	0.9			0			0	0	
9			30.11	764.8	36.2	2.3		sw.	4	1.8			4			0	0	
10			30.12	765.0	32.5	0.3		s.	2	0.9			0			0	0	
11			30.03	762.7	32.4	0.2		s.	3	1.3			3			0	0	
12			30.00	762.0	35.9	2.2		s.	1	0.4			3			0	0	
13			29.87	758.7	39.9	4.4		sw.	2	0.9			7			0	0	
14			29.84	757.9	35.1	1.7		sw.	2	0.9			10			0	0	
15			29.82	757.4	37.4	3.0		sw.	1	0.4			2			0	0	
16			29.80	759.9	40.3	4.6		ne.	1	0.4			9			0	0	
17			29.88	758.9	41.0	0.7		se.	5	2.2			8			0	0	
18			29.83	757.7	39.1	3.9		w.	3	1.3			2			0	0	
19			29.87	758.7	40.2	4.6		sw.	3	1.3			1			0	0	
20			29.60	751.8	38.0	3.3		w.	4	1.8			0			0	0	
21			29.54	750.3	35.2	1.8		nw.	2	0.9			1			0	0	
22			29.64	752.8	40.4	4.7		w.	2	0.9			6			0	0	
23			29.78	756.4	35.0	1.7		sw.	2	0.9			10			0.04	1.0	raining.
24			29.82	757.4	36.6	2.6		sw.	2	0.9			10			0.01	0.3	
25			29.80	759.9	33.5	0.8		se.	10	4.5			10			0.19	4.8	snowing.
26			29.90	759.4	33.2	0.7		sw.	1	0.4			10			0.07	1.8	snowing.
27			29.91	759.7	35.9	2.2		e.	19	8.5			10			0.01	0.3	snowing.
28			29.94	760.5	33.5	0.8		s.	2	0.9			0			0	0	
29			30.03	762.7	34.2	1.2		sw.	2	0.9			0			0	0	
30			30.09	764.3	41.9	5.5		s.	4	1.8			10			0	0	
31			29.99	761.7	44.0	6.7		sw.	7	3.1			6			0	0	
Mean			29.87	758.7	36.4	2.4			3.2	1.4			5.2			0.32	8.1	

* For explanation of above observations see General Remarks.

REVIEW.

INTERNATIONAL METEOROLOGY FOR NOVEMBER, 1883.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following description refers to chart ii. for the month of November, 1883, issued with this SUMMARY. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and prevailing wind-direction over the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich, mean time.

The area of barometric minima is indicated by the isobar for 29.4 (746.7) and, as in November, 1882, occupies that part of the Arctic north of the sixtieth parallel and between Greenland and Scandinavia; the lowest mean pressures reported were 29.33 (745.0) at Stykkisholm, Ireland, and 29.34 (745.2) at Thorshavn, Färöe Islands. The highest mean pressure reported was 30.43 (772.9) at Irkutsk, Siberia, being a range of 1.10 inches (27.9 m. m.), over the area covered by the observations.

To the southward and eastward of the area of least pressure the barometric gradient gradually increases until the isobar for 30.0 (762.0) is reached. That isobar extends from northeastern Russia (northern Ural region) westward to the White Sea, and thence southwestward over western Russia and the countries bordering on the North Sea to northern France; from there it crosses the Atlantic Ocean on the forty-fifth parallel, to the Gulf of Saint Lawrence and encloses that part of the Dominion of Canada lying north of the forty-seventh parallel and east of the hundredth meridian.

Four areas of barometric maxima are shown on the chart and are distributed as follows: one, 30.4 (772.1), in Asia; one, 30.2 (767.1), over the Atlantic ocean; and two, each indicated by the isobar for 30.2 (767.1), in the United States. The first of these is an extensive area of high pressures which occupies nearly the whole of Asia, extending from 50° E. eastward to 120° E., and between the parallels of 40° and 60° N.; at the centre of the area the mean pressure exceeds 30.4 (772.1).

The second area occupies the Azores, where the mean pressure is 30.24 (768.1), while the isobar for 30.1 (764.5) extends from 55° W. to the meridian of Greenwich, and from 25° N. to 43° N. Of the two areas shown in the United States, one covers the country from 40° N. southward to Florida and the Gulf coast, and from 92° W. eastward to the Atlantic coast; within this area the pressure ranges from 30.2 (767.1) to 30.28 (769.1). The other area extends from Oregon southeastward to Texas, and comprises within its limits the following states and territories: eastern Oregon, the southern portions of Idaho and Wyoming, Nevada, Utah, northeastern Arizona, Colorado, New Mexico, northwestern Texas, Indian Territory, and Kansas. Over this part of the United States the mean pressure varied from 30.21 (767.3) to 30.29 (767.4), the latter value at Salt Lake City, Utah. In all other sections of the United States, and in the southern districts of Canada, the mean pressure varied from 30.0 (762.0) to 30.19 (766.9), the means increasing in a southerly direction.

A comparison with the chart for the preceding month (October, 1883,) shows the following changes:

Over Scandinavia, Denmark, the British Isles, France, and Germany there has been a decrease of pressure, averaging .08 inch; the decrease is least in Sweden, where it was about .02 inch, and is greatest in the British Isles and Denmark, where it amounted to .17 inch and .13 inch, respectively. In Russia, there has been an increase of about .14 inch; in the southern peninsulas and in Austria, the increase varies from .01 to .04. The area of barometric minima retains materially the same position as in the preceding month. Over the North American continent there has been an increase of pressure, except in the northern districts of the United States and in Canada, where it has decreased. Over the Atlantic ocean, north of the forty-fifth parallel, it has also decreased slightly. Throughout Asia there has been a decided and general increase.

Compared with the corresponding month of previous years, the mean atmospheric pressure for November, 1883, was below the normal in Norway, the British Isles, and Denmark; in other parts of Europe it was but slightly above, except in Russia, where the excess was more than .15 inch. In the United States the mean pressure was generally below the normal, except on the south Atlantic and Gulf coasts. In Canada was also below the normal.

The following table gives the mean pressure and mean temperature, with corresponding departures for November, 1883, in the several countries of the northern hemisphere, compared with the means as determined from observations taken during the last six years:

Countries.	Mean pressure.			Mean temperature.		
	Nov. mean of 6 (1877–'82) years.	Nov. 1883.	Departure.	Nov. mean of 6 (1877–'82) years.	Nov. 1883.	Departure.
				°	°	°
Algeria	30.12	30.12	normal	63.9	63.1	− 0.8
Austria	30.02	30.07	+ 0.05	44.0	44.9	+ 0.9
British Isles	29.85	29.77	− 0.08	46.0	46.6	+ 0.6
Denmark	29.77	29.73	− 0.04	41.1	43.1	+ 2.0
France	30.00	30.04	+ 0.04	48.6	50.4	+ 1.8
Germany	29.92	29.94	+ 0.02	42.3	43.5	+ 1.2
India	29.94	29.92	− 0.02	74.7	74.1	− 0.6
Italy	30.02	30.05	+ 0.03	55.8	56.0	+ 0.2
Norway	29.71	29.60	− 0.11	40.0	39.1	− 0.9
Portugal	30.11	30.18	+ 0.07	58.5	60.0	+ 1.5
Russia	29.96	30.13	+ 0.17	37.4	39.4	+ 2.0
Spain	30.09	30.14	+ 0.05	57.9	58.8	+ 0.9
Sweden	29.73	29.75	+ 0.02	31.9	38.6	+ 6.7

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of November, 1883, as compared with the means for six years:

Stations.	Mean pressure.			Mean temperature.		
	Nov. mean of 6 (1877–'82) years.	Nov. 1883.	Departure.	Nov. mean of 6 (1877–'82) years.	Nov. 1883.	Departure.
				°	°	°
Gibraltar	30.10	30.15	+ 0.05	*65.1	63.9	− 1.2
Malta, Mediterranean Sea	30.03	30.04	+ 0.01	68.0	64.1	− 3.9
Sandwick Manse, Orkney Islands	29.66	29.46	− 0.20	43.0	43.0	normal
Bridgetown, Barbadoes	.....	.....	.....	.....	.....	.....
Cape Town, Cape Good Hope	30.01	.....	.....	73.8	74.3	+ 0.5
Fort Napier, Natal, South Africa	29.80	29.83	+ 0.03	75.7	75.5	− 0.2
Freetown, Sierra Leone	29.90	29.93	+ 0.03	85.4	82.9	− 2.5
Mauritius, Indian Ocean	30.03	29.98	− 0.05	77.6	77.3	− 0.3
Melbourne, New South Wales	29.94	29.98	+ 0.04	56.9	58.6	+ 1.7
Nassau, Bahamas	30.06	30.07	+ 0.01	76.0	76.3	+ 0.3
Godthaab, Greenland	29.63	29.47	− 0.16	25.6	20.7	− 4.9
Stykkisholm, Iceland	29.59	29.33	− 0.26	32.3	35.6	+ 3.3
Thorshavn, Färöe Islands	29.60	29.34	− 0.26	40.9	41.9	+ 1.0
Zi-Ka-Wei, China	30.29	30.30	+ 0.01	52.5	50.2	− 2.3
Athens, Greece	30.07	30.07	normal	63.4	62.8	− 0.6
Cagliari, Sardinia, Italy	30.01	30.00	− 0.01	64.1	62.4	− 1.7
Tokei, Japan	30.06	30.11	+ 0.05	47.7	47.6	− 0.1
Angra, Azores	30.13	.....	.....	62.6	62.8	+ 0.2
Funchal, Madeira Islands	30.13	30.14	+ 0.01	69.7	67.6	− 2.1
Ponta Delgado, Azores	30.16	30.24	+ 0.08	65.0	64.9	− 0.1
Archangel, Russia	29.72	29.95	+ 0.23	22.4	30.4	+ 8.0
Tiflis, Russia	30.23	30.24	+ 0.01	55.3	52.0	− 3.3
Astrakhan, Russia	30.21	30.36	+ 0.15	42.8	42.1	− 0.7
Ekaterinburg, Russia	30.03	30.35	+ 0.32	23.8	22.6	− 1.2
Tashkend, Toorkistan, Asia	30.33	30.36	+ 0.03	44.3	45.5	+ 1.2
Barnaul, Siberia, Asia	30.30	30.41	+ 0.11	20.2	7.5	−12.7
Yeniseisk, Siberia, Asia	30.30	30.40	+ 0.10	10.8	− 4.9	−15.7
Pekin, China	30.30	30.37	+ 0.07	37.3	34.5	− 2.8
Nikolaevsk on the Amoor, Asia	.....	.....	.....	*13.1	11.3	− 1.8
San Juan de Puerto Rico, W. I.	29.97	29.98	+ 0.01	78.6	77.7	− 0.9
Beirut, Turkey in Asia	30.03	29.99	− 0.04	72.2	70.5	− 1.7
Mexico, Mexico	30.31	.....	.....	49.0	.....	.....
Havana, Cuba, W. I	30.02	30.06	+ 0.04	73.4	73.5	+ 0.1
Paramaribo, D. Guiana, S. A	29.96	30.01	+ 0.05	81.6	79.0	− 2.6
York Factory, B. A	30.01	30.10	+ 0.09	2.5	− 5.6	− 8.1

* Means for five years only.

In the United States the mean temperature of the air was above the average in all districts except in northern California, where it was below the normal. In Canada it was above the normal In Europe the mean temperature was generally above the normal, the excess being greatest in Sweden. In British India it was 0.6 below the six years' mean; the highest mean temperature reported was 82°.3 Fahr. (27°.9 Cent.), at Deesa,

and the lowest was 66°.4 Fahr. (19°.1 Cent.) at Lahore. In Siberia the temperature was much below the normal, the means at Barnaul and Yeniseisk being 12°.7 Fahr. or 7°.0 Cent. and 15°.7 Fahr. or 8°.7 Cent., respectively, below the normals for six years.

The following are some of the extreme mean temperatures reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Africa	82.9	28.3	York Factory, B. A	—5.6	—20.9
Bridgetown, Barbadoes	81.3	27.4	Yeniseisk, Siberia	—4.9	—20.5
Paramaribo, Dutch Guiana, S. A.	79.0	26.1	Barnaul, Siberia	7.5	—13.6
Manila, Philippine Islands	77.7	25.4	Irkutsk, Siberia	10.0	—12.2
San Juan de Puerto Rico, W. I.	77.7	25.4	Nikolaevsk on the Amoor, Asia	11.3	—11.5

In the United States the prevailing winds were as follows: From the hundredth meridian eastward to the New England coast and north of the fortieth parallel they were mostly from south to west and northwest; south of 40° N. and from the above-mentioned meridian eastward to the Atlantic they were northerly and northeasterly; west of the hundredth meridian the winds were mostly northerly and westerly. In Canada they were southwesterly, westerly, and northwesterly. Over the Atlantic ocean the prevailing winds were easterly and northeasterly from the coast of the United States south of N. 40° eastward to the tenth meridian west of Greenwich. North of the fortieth parallel from the North American coast eastward to the European coast they were mostly westerly. In Europe the winds were from south to southwest and west. In Japan they were mostly northerly.

The rainfall during November, 1883, was less than the average in the Atlantic and Pacific coast districts of the United States, and also in the Mississippi and Missouri valleys; in other portions of the country it was slightly in excess of the average. In Canada it was excessive, except in Nova Scotia, where it was less than the average. In Europe it was in excess of the average November amount.

STORM-TRACK CHART FOR NOVEMBER, 1883.

Chart iii. is published for the month of November, 1883, and shows the paths of the atmospheric depressions that have appeared in the northern hemisphere during that month. The data are charted for each day of the month on the maps accompanying each issue of the "International Bulletin," and from these charts and additional miscellaneous data are traced the movements of the centres of barometric minima. This chart continues the series of international charts begun in November, 1877.

The paths of forty-two atmospheric disturbances are shown on the chart; these are geographically distributed as follows: Fifteen are traced in the North American continent; two of these depressions appear to have originated in Alaska and to have passed thence southeastward to the lake districts of the United States, and then eastward over Canada; one is traced from the Pacific coast of the United States eastward to the lake region and thence northward to Hudson Bay and Davis Strait, its easterly movement after leaving the lake region having apparently been checked by the presence of two areas of high pressures, one of which occupied the country south of the depression, while the other was to the eastward of it. Two depressions developed in the lake region and passed eastward to the Atlantic, and one, number x., was first noted in Texas, whence it moved northeastward over the lakes and Canada to the Atlantic. The remaining depressions approached the United States from the Saskatchewan valley and moved in a direction slightly south of east to the lakes and thence eastward over Canada.

Fifteen disturbances are traced over the North Atlantic ocean; of this number, four were continuations of depressions which passed into the Atlantic from the American coast north of the fortieth parallel; two, numbers xxxiv. and xxxvii. prevailed over the sub-tropical region between N. 25° and 30°, and W. 60° and 70° during the closing days of the month. Number xxxvi. occupied the neighborhood of the Madeira islands at the end of the month, and the remaining disturbances developed in mid-ocean or near the coast of the British Isles.

In Europe, six depressions are shown in the Mediterranean districts, their general direction of movement being towards the southeast; of the disturbances traced in that part of Europe north of the fiftieth parallel, five are storms which entered the continent from the Atlantic, and one appeared in the White Sea region.

Five depressions are charted in eastern Asia, one of these, number xli., being probably a typhoon which passed over or near to Manila.

The month of November, 1883, was remarkable for the number and violence of the storms which occurred, both over the Atlantic ocean, and in the adjacent land areas, the weather being more boisterous and stormy in character than is usual in November. Many of the depressions attained considerable depth, the barometer near the centre of disturbance falling below 29.0 (736.6)

The following descriptions refer to the storms charted in the United States and Canada:

I.—On the morning of the 1st the atmospheric pressure over the Aleutian archipelago was below 28.8 (731.5), and light winds and rainy weather prevailed in that region, while strong w. gales were reported over the Pacific ocean near N. 45°, W. 170°. By the 2d the pressure at Unalashka had increased to 30.0 (762.0), and the region of least pressure was transferred to the vicinity of Fort Saint Michael's, where the barometer read 29.31 (744.5), wind nw., 36 miles, light snow. During the 3d and 4th the depression apparently moved southeastward over the Northwest Territories of British America, attended by gradually increasing pressure, and on the last-mentioned date it entered the United States, passing over eastern Minnesota. On the 5th the centre of disturbance was enclosed by the isobar for 29.6 (751.8), which was elongated in form and stretched from the northern part of Lake Superior southwestward to eastern Iowa. On the 5th showery weather prevailed in the upper lake region and in the Mississippi and Missouri valleys, and extended with the eastward movement of the depression to the lower lakes and Ohio valley, on the 6th, while brisk to high wind, or moderate gales occurred on the lakes. On the 6th the storm-centre was near Georgian bay, the lowest reported barometric observation being 29.5 (749.3) at Parry Sound, Ontario; during this date strong sw. winds to gales, with rainy weather, prevailed along the Saint Lawrence valley, and the winds on the upper lakes shifted to w. and nw. By the morning of the 7th the disturbance was over the Gulf of Saint Lawrence, whence it passed in a southeasterly direction over Cape Breton Island and into the Atlantic. This disturbance in its passage over the Atlantic is hereafter described as low area xxii.

II.—This was a slight depression which appeared in Manitoba on the 2d; it moved in a southeasterly direction and by the following day it had reached northern Ontario. On the 4th the storm-centre was in the northern part of the province of Quebec, causing brisk sw. gales along the Saint Lawrence river, and moderate to strong s. winds over the Gulf. During the day the depression appears to have moved northeastward over Labrador, and during the 5th it became merged in a zone of low pressures which occupied the region north of the sixtieth parallel.

III.—By the morning of the 4th the pressure at Fort Saint Michael's, Alaska, had decreased to 29.44 (747.8), being a fall of about .6 inch since the observation of the 3d; on the 5th the area of low pressure was shown near Sitka, where the barometer read 29.29 (744.0), and by the morning of the 6th there was no material change in pressure at that station, but the decrease had spread southeastward to Manitoba. The chart for the 7th showed the disturbance over Manitoba, with pressure at the centre less than 29.6 (751.8); on the 8th the

low area occupied Manitoba and the the Lake Superior region, while another depression was apparently forming in the Missouri valley; during the day low area iii. apparently became merged in this last depression, which had increased in energy and occupied Michigan on the 9th.

IV.—This was probably the disturbance which developed in the Missouri valley during the 8th; it moved rapidly eastward, and by the 9th, it was shown as a well-defined storm-centre enclosed by the isobar for 29.6 (751.8), occupying Lakes Michigan and Huron, the state of Michigan, and the northern parts of Indiana and Ohio. Rainy weather became general in the districts north of the thirty-eighth parallel, and east of the Mississippi river, and moderate westerly gales occurred over the lakes after the passage of the disturbance. By the morning of the 10th, the storm-centre occupied the Gulf of Saint Lawrence, causing moderate westerly gales and showery weather in the Maritime Provinces. This disturbance is hereafter referred to as low area xxiv.

V.—The pressure in the Saskatchewan valley remained low after the passage of low area iii. until the 10th, on which date an extended disturbance occupied the Northwest Territory and Manitoba. By the morning of the 11th the pressure had decreased to 29.4 (746.7), the region of least pressure being to the northward of Lake Superior; a rapid increase of pressure had set in over the country west of the ninety-fifth meridian, thus causing steep gradients for northwesterly winds which attained the force of a gale, together with falling temperature. On the 12th, the centre of disturbance, at which the pressure was now 29.1 (739.1), was in the province of New Brunswick, having been followed during its passage north of the lakes by an area of high pressure, which caused strong w. and nw. gales and lower temperatures, these having been preceded by equally strong sw. gales, with rain, snow, and sleet. During the 12th the disturbance passed northeastward over the Gulf of Saint Lawrence and entered the Atlantic ocean. This storm is hereafter described as low area xxvii.

VI.—This depression appeared in the Saskatchewan valley on the 12th and moved east-southeastward to Lake Superior, where it was central on the 13th, the pressure near the centre being below 29.6 (751.8). Strong sw. winds to moderate gales, with rain or snow, prevailed over the lakes, shifting, on the 14th, to w. and nw. On the 14th the depression occupied northern New England and the lower Saint Lawrence valley, causing rain or snow and brisk winds; during the 14th the disturbance passed northeastward with increasing pressure and, by the 15th, it had probably merged with low area xxvii., then central in southern Greenland.

VII.—This was a slight depression which appeared in the lake region on the 15th; as it moved eastward it developed energy and was attended by strong n. and nw. gales in its western quadrants, and rain or snow in the lower lake region. By the morning of the 16th the disturbance had passed off the New England coast and was central south of Nova Scotia, its centre being enclosed by the isobar for 29.8 (756.9). Rain or snow, with moderate to strong e. and ne. winds prevailed over the Maritime Provinces, and moderate to brisk nw. gales occurred along the coast of the United States from Boston, Massachusetts, southward to Cape Hatteras, North Carolina. This disturbance is hereafter described as low area xxix.

VIII.—This depression occupied the Northwest Territory and Manitoba, on the 16th, the pressure in the last-mentioned district being about 29.7 (754.4). On the 17th the depression was to the northward of Lake Superior, where it apparently filled in; its passage was not attended by any noticeable change in the weather conditions in the United States or Canada.

IX.—This low area was shown in southern Dakota on the morning of the 19th, the pressure at the centre of disturbance being about 29.8 (756.9). As it moved northeastward to the lake region, the area of disturbance became enlarged and on the 20th, the enclosing isobar, 29.8 (756.9), occupied the upper lake region and the Mississippi valley, and rainy or cloudy weather prevailed over the country between the Mississippi river and the eightieth meridian. On the 21st the depression passed to the northward of Lake Superior and apparently filled in.

X.—On the morning of the 21st, a barometric depression occupied Texas, Arkansas, and Indian Territory, while another depression was shown over the Saskatchewan valley. The disturbance in the southwest moved rapidly northeastward, causing general rains in its eastern quadrants, and on the 22d it occupied northern Ontario, having apparently been joined by the disturbance from Manitoba; the combined depressions caused fresh to strong sw. gales with rain, especially in the lower lake region. During the 22d the depression passed northeastward with increasing pressure over northern Canada, and by the 23d it had dispersed.

XI.—This depression occupied northern Montana and Washington Territory on the 22d, the pressure over that region being about 29.7 (754.4); by the 23d the disturbance had moved southeastward to southern Minnesota and Dakota. The course changed to the northeastward during the 23d, and on the following day the depression was shown in northern Ontario, whence it moved rapidly eastward with increasing pressure to the Gulf of Saint Lawrence; during its passage over the United States and Canada, it caused light rains in the northern districts but the winds remained light. On reaching the ocean, this disturbance developed great energy, and is hereafter described as low area xxxiii.

XII.—This depression appeared on the north Pacific coast on the 24th, on which date the barometer in that region fell below 29.6 (751.8), and rainy weather was general throughout California, with heavy snow-storms in Montana and Idaho. Moving rapidly eastward the disturbance reached Minnesota on the 25th; the isobar for 29.6 (751.8) which enclosed the storm-centre was elliptical in form, and extended from Manitoba southward to northern Kansas, and threatening weather with brisk winds prevailed in the central valleys. On the 26th an area of high barometer occupied the country east of the seventy-fifth meridian; its centre, 30.7 (779.8), being in the Maritime Provinces; another area of barometric maxima was shown to the westward of the Mississippi river, and between these two high areas the depression existed as a trough of low pressure, extending from York Factory, Hudson Bay, south-southeastward to Lake Michigan. Steep gradients now appeared on both sides of the barometric trough, and moderate to strong gales, with rain or snow prevailed throughout the lake region. By the 27th the area of high pressures which was to the westward of the ninety-fifth meridian had spread east-northeastward with increasing pressure, and now reached W. 70°, while the high area over the Maritime Provinces withdrew to the eastward; this movement of the western area of high pressure apparently forced the depression to the northward, as, on the 27th the region of low barometer occupied Hudson Bay, and the winds moderated and clearing weather set in over the United States. By the 28th the disturbance had apparently passed into Davis Strait, causing a decrease of about .5 inch in the pressure over Greenland.

XIII.—This was a disturbance which appeared in Washington Territory and Oregon on the 26th, causing heavy rains and high winds in those districts. On the 27th the depression had advanced to Idaho and Wyoming, where it filled in during the day.

XIV.—This depression appeared near Sitka, Alaska, on the 29th, on which date it apparently extended southwestward over the Pacific ocean for a considerable distance. On the 29th the barometer at Sitka read 29.22 (742.2); by the following day it had risen to 29.66 (753.4), and the depression was disappearing.

XV.—This disturbance was probably subsidiary to low area xiv. which occupied Alaska. On the 29th it was shown over the Northwest Territory, whence it moved rapidly in a direction slightly south of east towards the lake region. At the close of the month it occupied Lake Ontario, giving rain and snow

and moderate to strong sw. gales in the Maritime Provinces and along the New England coast.

The following descriptions refer to the depressions traced over the Atlantic and in Europe:

XVI.—This was probably a continuation of the disturbances charted as low areas xvi. and xviii. on the chart for October, 1883. At the close of that month the depressions occupied the ocean between Greenland and Iceland, and by the morning of the 1st an extensive area of low barometer, within which the pressure was below 29.2 (741.7), stretched from about N. 56° W. 42° north-northeastward to Iceland, where a se. gale was blowing. Heavy w. and sw. gales of force 9–10 occurred over the ocean from N. 47° to N. 55° and between W. 45° and 30°. By the 2d the depression had moved, with a slight increase of pressure, to Iceland, and the winds moderated slightly, but still blew with a force of 8. On the 3d the depression remained near Iceland and the winds over the ocean moderated to about force 6; they increased, however, on the 4th, as the disturbance moved with decreasing pressure towards the Färöe Islands. On that date the barometer at Thorshavn read 28.53 (724.6), while moderate to strong w. and sw. gales, with rainy weather prevailed over the British Isles, and moderate s. gales at stations in the Scandinavian and Danish peninsulas. By the morning of the 5th the region of least pressure was shown near the Norwegian coast, the barometer remaining below 28.8 (731.5); on the 6th and 7th the depression moved slowly northeastward along the Scandinavian coast, causing, in conjunction with low area xvii., a continuation of unsettled and stormy weather in the northwestern districts of Europe. On the 7th the depression disappeared in the Arctic regions north of Scandinavia, causing heavy w. and s. gales at stations in northern Norway.

XVII.—From the 1st to the 3d an area of relatively low pressures occupied the Banks of Newfoundland and westward to the Maritime Provinces, and during those dates unsettled weather with moderate s. and sw. gales prevailed over the above-mentioned district. On the morning of the 4th the area of low barometer was central near N. 50°, W. 43°, where the pressure was about 29.7 (754.4). As the disturbance moved eastward the pressure decreased and by the 5th the storm-centre was near N. 53°, W. 18°, with the barometer down to 29.18 (741.2); strong breezes to fresh gales from sw. to nw. were reported by vessels under the influence of this disturbance. Continuing its easterly movement during the 5th, the depression passed over the British Isles, attended by rainy weather and strong winds to gales, and on the 6th the centre was over the North Sea, with pressure below 29.0 (736.6). During the 6th unsettled, showery weather prevailed in the eastern districts of the British Isles and over the North Sea, with moderate to strong breezes in all quadrants of the depression. By the 7th the storm-centre had moved northeastward to the Baltic, the pressure having increased to 29.16 (740.7); rain continued to fall near the centre of the disturbance, but the winds remained moderate in force and fair weather set in over the British Isles and at stations on the European shore of the North Sea. By the 8th the depression had passed northeastward to the White Sea, in which region it disappeared during the day, having caused unsettled, rainy weather in the northern districts of Russia.

XVIII.—This depression appeared in the vicinity of Archangel on the 2d, when the barometer at that station read 29.5 (749.3); moderate to strong nw. breezes prevailed on Lakes Onega and Ladoga. On the 3d the disturbance was shown in the Ural region, its centre being to the northward of Ekaterinburg; moving thence eastward it passed into central Siberia, where it apparently filled in.

XIX.—This disturbance appeared in northern Italy on the 5th, with the pressure at the centre about 29.7 (754.4); on the 6th, the depression occupied the Adriatic, the Italian peninsula, and the greater part of Austro-Hungary. The lowest reported barometric reading was 29.63 (752.6), and strong ne. winds occurred over the Adriatic; during the 6th the depression filled in.

XX.—This depression appeared south of Iceland on the 7th; on that date the barometer at Stykkisholm read 29.29 (744.0), wind e., while heavy w. gales prevailed over the Atlantic near the fifty-fifth parallel. By the 8th, the barometer at Stykkisholm had fallen to 29.0 (736.6), the wind remaining at east; over the ocean west of the thirtieth meridian, the wind had shifted to nw., and blew with a force equivalent to 8 on the scale of 0–10. On the 9th, the disturbance was near the Färöe Islands, where the barometer read 28.93 (734.8), and rainy weather with moderate to strong w. winds occurred in the British Isles, with moderate s. and se. gales in the Scandinavian peninsula. During the 9th, the disturbance moved slowly southeastward, with a very slight increase of pressure, and by the 10th, it was central off the eastern coast of Scotland, attended by showery and unsettled weather, and moderate to strong w. and nw. winds in the British Isles, and over the English channel, where the wind attained a force of 8. On the 11th, the centre of the disturbance was over Denmark, but the pressure had risen to 29.35 (745.5), and, as the barometric gradient was slight, the winds did not exceed the force of a moderate or fresh breeze. During the 12th, 13th, and 14th, the disturbance remained over northern Germany and the Baltic, with the pressure fluctuating between 29.2 (741.7) and 29.6 (751.8), and giving out small subsidiary disturbances which traversed southern and central Europe; these latter caused local rains and high winds. During the 13th and 14th, an area of high pressures moved westward and southward, apparently from Siberia and the Arctic regions, and by the 15th, its centre, where the barometer read 31.0 (787.4), occupied the government of Kasan, Russia, and the depression was rapidly filled in.

XXI.—This was a slight disturbance which appeared near the Saint George's channel on the 7th, the centre of depression being enclosed by the isobar for 29.5 (749.3); it moved northeastward over England and the North Sea during the day, and on the 8th it was shown near the Danish coast, the pressure remaining unchanged. On the 9th the disturbance occupied southern Norway, after which it probably merged with low area xx.; during its passage it was attended by general rains, but the winds were moderate in force.

XXII.—This was a continuation of the disturbance traced over the North American continent as low area i.; on the 7th the depression occupied the southern part of the Gulf of Saint Lawrence, whence it moved in a southeasterly direction and by the following day, it appeared as a well-defined disturbance, enclosed by the isobar for 29.6 (751.8), off the coast of Nova Scotia. During the 8th, the course changed to the northeastward and on the 9th the storm-centre was near the eastern coast of Newfoundland, the pressure having decreased to 29.35 (745.5); moderate to strong gales occurred on the Banks and eastward to the fortieth meridian. There was a further decrease of pressure during the 9th and, by the following day, the storm-centre was transferred to about N. 53°, W. 36°, where the barometer now read 29.14 (740.1); as the barometric gradient had decreased the winds moderated somewhat, although they still blew with the force of a moderate gale. On the 11th the isobar for 29.2 (741.7) occupied the ocean between N. 50° and 55°, and from W. 42° eastward to W. 24°; at the same time the pressure over the ocean between N. 48° and 60° and from the Gulf of Saint Lawrence eastward to the British coasts was less than 29.7 (754.4), while to the northward of 60° north latitude, the pressure was increasing. Within this area of low barometer were two distinct storm-centres, numbers xxii. and xxiv.; the barometric gradient was slight, so that only moderate to strong breezes, rising occasionally to the force of gale, prevailed over the area. During the 11th the disturbance appears to have coalesced with low area xxiv., the combined system forming, on the 12th, a rather deep depression of considerable energy.

XXIII.—This was a slight disturbance which appeared in northern Italy on the 8th, where the pressure was about 29.85 (758.2); it moved eastward or slightly to the north of east,

and on the 9th the centre was shown near the Austrian shore of the Adriatic, whence it moved, with increasing pressure, to southern Russia, where it filled in. During the passage of this depression rainy weather prevailed over the Italian peninsula and the Adriatic, and moderate to strong w. and nw. breezes occurred over the Mediterranean.

XXIV.—This was a continuation of the depressions traced in the North American continent as low areas iii. and iv. These disturbances, which had united during the 9th, occupied the Gulf of Saint Lawrence on the 10th; moving thence eastward over Newfoundland, attended by strong winds to moderate gales; the depression reached N. 50° W. 42° on the 11th, when it was apparently joined by low area xxii., and by the 12th the two disturbances formed an extensive depression, at the centre of which the barometer read 28.8 (731.5). Moderate to strong nw. gales prevailed over the ocean between W. 50° and 35°, while strong s. breezes were reported from W. 30° eastward to W. 15°, with light breezes in the vicinity of the storm-centre, near N. 53° W. 33°. On the 13th an area of high pressures which had formed to the northward of the sixtieth parallel during the 11th and 12th, now began to spread southward and westward with rapidly increasing pressure; the area of low barometer was apparently forced to the southeastward, and on the 13th it was shown as a trough of low pressures extending from N. 52° W. 22° southeastward to N. 46° W. 16°. The barometer had risen to 29.5 (749.3) within this area, while a rapid decrease took place over the region west of the fortieth meridian; by the 14th the disturbance had moved southward and was between the twentieth meridian and the coast of Portugal, the pressure in that region being about 29.8 (756.9). By the following day the depression had disappeared from the chart.

XXV.—This was a disturbance, subsidiary to low area xxii., which appeared near the Irish coast on the 11th; it moved northward along the coast line, giving showery weather over the British Isles, and during the 12th it was apparently dissipated by the advance of the area of high barometer from the north.

XXVI.—This depression appeared over the Adriatic on the 13th, the pressure at the centre being less than 29.6 (751.8); it moved slowly southward during the 14th attended by light rains and moderate breezes, and by the 15th the region of low barometer was to the southeastward of Sicily, but the depression was rapidly dissipating, and by the following day it had ceased to exist.

XXVII.—This was a continuation of the storm described above as low area v. On the morning of the 12th the disturbance occupied eastern Canada, the barometric minimum 29.1 (739.1) being near the mouth of the Saint Lawrence river; the depression moved slowly eastward during the day, attended by decreasing pressure and increasing storm-energy. On the 13th the barometric minimum, 28.41 (721.3), was near the Strait of Belle Isle, while the isobar for 28.6 (726.4) covered the region from Anticosti Island northeastward to the fiftieth meridian. Furious w. and nw. gales prevailed over the ocean south of Nova Scotia, the Maritime Provinces, and along the coast of the United States, and numerous disasters to shipping occurred, both on the coasts and farther off shore. To the eastward of the fiftieth meridian southerly gales of force 7 to 8 were reported, and these extended eastward to W. 35°. By the 14th the depression had moved slowly north-northeastward, the central pressure still below 28.8 (731.5); owing to the advance of an area of high pressure from the north-eastward, the barometric gradient became somewhat steep in the eastern quadrants of the depression; the high area of the Atlantic, which had apparently been temporarily displaced by the passage of low areas xxii. and xxiv. regained its position and advanced northward, thus causing a steepening of the gradients to the southward of the depression; so that during the 15th and 16th, the winds attained hurricane force and caused great damage to shipping.

During the 15th and 16th the storm-centre moved slowly northward to Greenland and then eastward to Iceland, while the heavy w. gales continued over the ocean from N. 50° to 60°; on the 17th the centre of disturbance was to the westward of Stykkisholm, Iceland, where the barometer read 28.98 (736.1), while another deep depression was central near N. 50°, W. 40°, and under the influence of these disturbances a series of hurricane-like gales prevailed over nearly the whole of the Atlantic, north of the fortieth parallel. On the 18th the two depressions had apparently united, and the barometric minimum was now in Iceland, where the pressure was 28.35 (720.1), with a westerly gale of force 10, and small subsidiary depressions, exhibiting more or less energy, were moving eastward over the British Isles and northwestern Europe. On the 19th the disturbance was central between Iceland and the Färöe Islands; the pressure at the former being 28.46 (722.9), wind n., force 8, and at the latter 28.52 (724.4), wind sw., force 6.

An area of high pressures, 30.6 (777.2), advanced rapidly in a northeasterly direction over the Atlantic during the 18th and 19th, and at the same time another area of high barometer occupied the European continent east of 20° east longitude and from the White Sea, southward to, and beyond the Black Sea. This distribution of pressure caused a great increase in the barometric gradients to the eastward, southward, and southwestward of the storm-centre, and furious westerly gales prevailed over the Atlantic from W. 40° eastward to the English Channel, and from N. 45° to N. 55°; over the northern part of Great Britain, the winds were southwesterly, and blew with the force of a gale, and rain fell generally throughout the United Kingdom. On the 20th, there was a slight increase of pressure at the centre of disturbance, which had moved slowly eastward, but there was no material abatement in the force of the gales or in the condition of the weather over the British Isles, except that the wind had shifted to w. over that district and the rain area had extended over the Scandinavian peninsula to the Gulf of Finland. During the 21st, 22d, and 23d, the area of low pressures remained between the Färöe Islands and the Norwegian coast, with the barometer varying from 29.0 (736.6) to 29.2 (741.7); during this period, unsettled, rainy weather with frequent gales, prevailed over western Europe, and several subsidiary depressions were formed to the southward of the central region of low pressure. After the 23d, this depression seems to have coalesced with what was probably a subsidiary depression which attained great depth and intensity during the 24th and 25th.

XXVIII.—This disturbance appeared near the Irish coast on the 15th, and was attended by rainy weather and strong winds It moved eastward over Ireland and the midland counties of England and on the 16th it was near the southeast coast; after this date it could not be traced as a distinct low area.

XXIX.—This was a continuation of low area vii., which passed into the Atlantic ocean from the lake districts of the United States during the 15th. On the 16th the disturbance was central south of Nova Scotia, causing nw. gales along the coast of the United States, with e. gales in Nova Scotia and southward to N. 42°; as the disturbance moved northeastward the pressure rapidly decreased, and, with the advance of an area of barometric maxima in rear of the depression, very steep gradients were formed in the southwest quadrant. On the 17th the centre of this disturbance was near N. 50°, W. 40°, where the barometer read 28.9 (734.0); furious nw. gales with hurricane-like squalls and high seas prevailed from W. 60° eastward to W. 50°, and to the eastward of the last-mentioned meridian they were from sw. and s., blowing with hurricane force. During the prevalence of this storm numerous ocean steamers sustained damage to boats and deck fittings, and the Belgian s. s. "Plantyn" foundered. (For special barometric observations, etc., see "North Atlantic Storms" number ix., MONTHLY WEATHER REVIEW, November, 1883.) During the 17th the depression moved rapidly north-northeastward and united with low area xxvii; the barometric gradient continued to increase in rear of the depression and the furious gales continued throughout the 18th.

XXX.—This depression appeared over the Mediterranean between Sardinia and the Spanish coast on the 17th, its centre being enclosed by the isobar for 29.8 (756.9). It moved southeastward attended by strong winds and rainy weather, and finally dissipated when south of Sicily during the 18th.

XXXI.—This was a shallow depression which appeared over northern Italy on the 24th; it passed slowly southeastward over the peninsula, and on the 25th it occupied southern Italy. By the 26th it had filled in; during its passage it did not cause any great departure from the normal weather conditions over the peninsula.

XXXII.—On the 23d, the isobar for 29.2 (741.7) presented the form of an elongated ellipse with the longer axis pointing sw. and ne. between W. 20°, and the meridian of Greenwich; on the following day, the circulation of the winds between W. 20° and 30°, and to the northward of the fiftieth parallel, indicated the presence of another area of low pressure, while the barometer had fallen to 28.8 (731.5). The area retained its elongated form with an extension towards the west, and resting now on the thirtieth meridian west of Greenwich; the gales which attended low area xxvii. had slightly moderated during the 23d, but on the 24th, they again increased, and reached the force of a hurricane. During the day, the storm-centre moved eastward with decreasing pressure, and on the 25th it was shown off the northwestern coast of Scotland, the barometer having fallen to 28.4 (721.3). Steep gradients existed over western Europe and the British Isles, and strong s. and sw. breezes to moderate, and occasionally strong, gales with heavy rain, prevailed over those districts. (For special observations at sea in connection with this disturbance, see "North Atlantic Storms," number x., MONTHLY WEATHER REVIEW, November, 1883). On the 26th, the disturbance maintained its position north of Scotland, while another, and deeper depression was central near N. 50°, W. 40°; as the barometric gradient had decreased slightly in all quadrants the winds moderated somewhat over the ocean east of the thirtieth meridian, and over the land area, although in many places they still blew with the force of a strong gale; rainy, unsettled weather continued over western Europe. By the 27th, the pressure had increased to 29.4 (759.7) and the depression was near the Norwegian coast, and to the northward of the Färöe islands, while low area xxxiii. had advanced to N. 54°, W. 25°. After the 27th, this depression either filled in or merged in low area xxxiii.

XXXIII.—This was a continuation of low area xi., which moved over the United States and Canada and entered the Atlantic on the 25th. The chart for that day showed this as a shallow depression central south of Newfoundland, but during the day a great decrease of pressure occurred, and on the 26th, the storm-centre had reached N. 50° W. 40°, where the barometer now read 28.7 (729.0); strong w. and nw. gales occurred over the Banks and to the southward of the storm-centre, while strong breezes to moderate gales, variable in direction, prevailed to the eastward of the depression. On the 27th the region of least pressure was near N. 54° W. 26° where the barometer read 28.4 (721.3). The area of the disturbance extended northward to Iceland and southward to the Azores, a distance of about 1,500 geographical miles, and from W. 40° eastward to the meridian of Greenwich. Strong northerly and northwesterly gales prevailed over the ocean west of the thirtieth meridian, and equally furious southerly gales occurred from that meridian eastward to W. 15°; an area of high pressures appeared over the Iberian peninsula, and this increased the barometric gradient in the southeast quadrant of the depression. During the 28th the disturbance moved slowly northeastward with increasing pressure at the centre, and causing unsettled weather over the British Isles; on the 29th it was off the northern coast of Norway, and by the 30th it had entered Scandinavia and then occupied the Gulf of Bothnia and the northern districts, causing strong w. breezes to moderate gales and rainy weather over the Baltic Sea and the adjacent land areas.

XXXIV.—This disturbance apparently developed to the southward of the Bermudas on the 26th; on that date a decrease of pressure, averaging .25 inch, occurred over the ocean between N. 20° and 30°, and W. 60° and 70°, and strong n. and ne. gales prevailed over the region west of the seventieth meridian, with moderate e. and se. winds and squally weather between W. 65° and 60°. On the 27th the centre of disturbance was enclosed by the isobar for 29.8 (766.9), which was circular in form and the cyclonic tendency of the winds was well defined by the marine observations received; at Bermuda the barometer had fallen from 30.02 (762.5) to 29.85 (758.2), with strong e. wind and squally weather; south of Bermuda the winds were se. and s., moderate in force, while to the westward of W. 70°, where the barometric gradient was steep, the n. and ne. winds blew with the force of a heavy gale. In the Bahamas the winds were w. and nw. On the 28th, the storm-centre was near Bermuda, where the barometer now read 29.55 (750.6), with the wind ese., force 6, raining; with the increase in the gradients the winds in all quadrants of the depression, increased greatly in force, and numerous vessels lost spars, sails, and had decks swept. Moving northeastward from Bermuda, with decreasing pressure, the storm-centre reached N. 43°, W. 52° on the 29th, the barometric reading in that region being 29.39 (746.5), wind variable, force 3 to 7; strong gales from n., nw., and w. prevailed over the region between the American coast and the fifty-eighth meridian, and extended southward to the twenty-fifth parallel, while moderate s. and se. gales were reported to the eastward, between W. 40° and 50°. On the 30th the disturbance was shown near N. 52°, W. 40°, where the pressure was below 29.6 (751.8), with moderate to strong gales from s. to n., in that region. At the close of the month, a deep depression appeared in southern Greenland, while an area of barometric maxima occupied the region between W. 30° and the European coasts.

XXXV.—This was a slight disturbance which appeared over the Mediterranean on the 27th, the pressure at the centre being about 29.9 (759.4). The pressure increased with the southeastward movement of the disturbance, and by the 28th the depression had filled in.

XXXVI.—This disturbance was apparently a part of low area xxxiii., on the 27th, and it afterwards developed into a distinct storm near the Azores. On the 27th low area xxxiii. extended southward to the Azores, but on the 28th, it moved northward, and an increase of pressure set in over the region between N. 45° and 50°, while a decrease occurred in the vicinity of the Azores, the barometer at Ponta Delgado, falling to 29.47 (748.5). On the 29th the centre of disturbance was southeast of the Azores, where the pressure had increased to 29.65 (753.1), with wind shifting to ne., and blowing with the force of a moderate gale; strong s. to sse. breezes to moderate gales prevailed near N. 36°, W. 22°, where the barometer read 29.61 (752.1). During the day the depression appears to have moved in a southerly direction, and at the close of the month the lowest reported barometer, 29.7 (754.4), was in N. 35°, W. 25°, and the winds in the Azores and to the southward had shifted to easterly and were moderate in force. Heavy rain accompanied the disturbance during the 29th and 30th.

XXXVII.—This disturbance was shown near Bermuda on the last day of the month; its centre was well-defined between Bermuda and N. 28°, with the pressure about 29.4 (746.7). At Bermuda a ne. gale of force 8, with showery weather prevailed; in N. 26° 24′, W. 70° 50′ the brig "Wm. Mason" had a heavy nw. gale in which she lost and split sails, and the bark "Dunsinane," in N. 28° 30′, W. 67°, had a heavy ne. to nw. and w. gale lasting eight hours, during which she had decks swept, bulwarks stove, and lost several sails. The ship "Rudolph," in N. 27° 51′, W. 66° 14′, reported barometer 29.4 (746.7), wind w. by s., force 8, stormy weather and high sea.

The following descriptions refer to the depressions traced in eastern Asia.

XXXVIII.—This indicates the position of a disturbance that appeared in the Pacific ocean on the 10th; on that date

the s. s. "City of Rio de Janeiro," in N. 33° 37′, E. 160° 30′, reported barometer 29.53 (750.0); being a fall of .46 inch during twenty-four hours, wind shifting from se. to s. force 6, stormy, threatening weather. By the following day the barometer had risen to 29.75 (755.6) with wind at w; during the dry the disturbance passed beyond the area covered by the observations.

XXXIX.—This was a slight disturbance which appeared near Southern Japan on the 10th; it moved northeastward along the western coast of Niphon, giving rainy weather and rising temperature, and on the 11th it was apparently central over the Sea of Japan, but at no great distance from Niphon; at the land stations the pressure was 29.8 (756.9). The disturbance continued its northeasterly course and disappeared in the Sea of Okhotsk on the 12th, having caused strong w. and nw. winds in northern Japan.

XL.—This was a slight depression that appeared in northern Niphon on the 13th; it moved slowly northeastward over Yezo during the 14th and 15th, causing rainy weather in northern Japan on those dates. During the 15th and 16th, the depression occupied Yezo and the Sea of Okhotsk, the pressure at stations in the former district varying from 29.51 (749.5) to 29.59 (751.6). By the 17th the disturbance had disappeared from the chart.

XLI.—This was probably a typhoon which originated to the eastward of, and passed over or near, the Philippine Islands into the China Sea between the 16th and 18th, but the data as yet in the possession of this office are insufficient to accurately determine its track. During the 14th and 15th the barometer at Manila fell steadily, with wind at nne., and by the 16th it read 29.7 (754.4), the wind having shifted to nnw., 15 miles an hour, with threatening, rainy weather. On the 17th the wind was e., barometer 29.72 (754.9), weather fair, and at the same time H. B. M. S. "Champion," in N. 18°, E. 117° 40′, had barometer 29.73 (755.1), a fall of .10 inch; wind ne. force 8, squally; and the s. s. "Radnorshire," in N. 17° 57′, E. 113° 50′, had barometer 29.80 (756.9); wind nne., force 7, increasing on the following day to force 8; during this time squally, rainy weather and heavy sea-swell prevailed. During the 18th pressure remained stationary, 29.8 (756.9), and by the following day the disturbance had disappeared.

XLII.—During the 21st and 22d, an area of low pressure occupied the Sea of Okhotsk, the pressure at Nikolaevsk, on the Amoor, being about 29.97 (756.7). On the 23d, the pressure began to increase, and the disturbance apparently filled in.

GENERAL REMARKS.

DAILY BULLETIN.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations.

On February 1, 1883, the following change was made in publishing marine data in the "Daily International Bulletin":

All marine data are classified as to districts, which are designated as follows: District No. 1, North Atlantic; District No. 2, South Atlantic, &c., under which headings the respective reports are printed.

BOUNDARIES OF DISTRICTS.

District No. 1 comprises the Atlantic ocean, its arms and tributaries, from the equator northward to the pole, and in the Arctic from 100° E., westward to 100° W., of Greenwich.

District No. 2 comprises the Atlantic ocean, its arms and tributaries, from the equator southward to the pole, and in the Antarctic from 20° E., westward to 70° W., of Greenwich.

District No. 3 comprises the Pacific ocean, its arms and tributaries, from the equator northward to the pole, and in the Arctic from 100° W., westward to 100° E., of Greenwich.

District No. 4 comprises the Pacific ocean, its arms and tributaries, from the equator southward to the pole, and in the Antarctic from 70° W., westward to 145° E., of Greenwich.

District No. 5 comprises the Indian ocean, its arms and tributaries, from the Asiatic continent southward to the pole, and in the Antarctic from 20° E., eastward to 145° E., of Greenwich.

The following remarks relate to the individual peculiarities in the *methods* of recording, and the *times* of taking, the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of Brig. General Béziat, Commandant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. Adelaide, furnished by co-operation of Charles Todd, C. M. G., F. R. A. S. The observations are taken at 9 p. m., local time.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemberg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind-direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army. At St. John's, N. F., the barometer appears read about .10 inch too high, which correction has been applied from August 1st, 1883.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Saint Francis Lighthouse, the original gives barometer reduced to freezing, but not to sea-level. The kind of clouds is given, but no distinction is made between upper and lower. Weather in general terms.

CHILIAN SERIES (by authority of the Secretary of Public Instruction, furnished by co-operation of Francisco Vidal Gormáz, President of the Central Meteorological Office at Santiago).—Observations are taken mostly at lighthouses on the coast; the originals give barometer as read off; temperature in Centigrade; humidity is not given but is computed at this office from the hygrometrical observations.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted. At Jacobshavn the observations are taken at 8 a. m., local time.

EGYPTIAN SERIES (Furnished by the co-operation of Albert Ismalun, Director of the Laboratoire Khédivial du Caire).—Original gives barometer reduced to zero, but not to sea-level, temperature in Centigrade. The velocity is the mean for past 24 hours. Rainfall in millimetres.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Montlouis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Montlouis and Perpignan.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only, and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by the co-operation of the Geographical Bureau, Department of the Interior, through I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (furnished by co-operation of the respective observers).—The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys-Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred. At Batavia the elevation is stated to be "a few meters."

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Astrakhan, Ashurada and Baku, the barometer-cistern is below sea-level. At Kasalinsk, the barometer appears to have a large error.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 10 a. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of the Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of F. Nimr, B. A., Director of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms. At Samakov, the barometer is reduced to freezing, but not to sea-level; temperature in Fahrenheit. The kind of clouds is given, also the distinction between upper and lower.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Puerto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind-direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind-direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operations of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the

several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date.

In the above charts broken lines indicate that the lines so drawn are doubtful. Arrows show direction of, and fly with, the wind. Force is shown as follows:

SYMBOLS.	FORCE.	VELOCITY.	
		MILES PER HOUR.	METRES PER SECOND.
○	0	0	0
	1, 2	0 to 9	0 to 4
	3, 4	9.1 to 22.5	4.1 to 10.1
	5, 6	22.6 to 40.5	10.1 to 18.1
	7, 8	40.6 to 67.5	18.1 to 30.2
	9, 10	67.6 up.	30.2 and over.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The position of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevation of stations is obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least, this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the alphabet of the letter so used.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

BRITISH SERIES: Bradford. A letter designating a certain number of days missing applies to all data except rainfall.

CANADIAN SERIES: Hamilton. On November 8, 1883, the elevation changes from 350 to 372 feet.

CHILIAN SERIES: Valparaiso. On November 1, 1883, the elevation changes from 25 to 40 meters.

NOTES.

Fort Conger, Grinnell Land (Lady Franklin Bay). Latitude N. 81° 20′; longitude W. 64° 58′. Elevation, 24.2 feet above mean tide level. Furnished by the co-operation of 1st Lieutenant A. W. Greely, 5th U. S. Cavalry, Acting Signal Officer and Assistant, chief of the United States expedition, through Brig. and Brevet Major General W. B. Hazen, Chief Signal Officer, U. S. Army, on behalf of the International Polar Commission.

Instruments.

Barometer: all readings are corrected for instrumental error and reduced to freezing; the reduction to sea-level is made by a constant of +.036 to and including September 26, 1882, and after by a constant of +.030. Thermometer: all readings are corrected for instrumental error; readings above —37°.9 Fah. (unless marked "s") are from a mercurial thermometer, and all readings below —37.9 Fah. from a spirit thermometer. Wind: all directions are true; recorded velocities are miles blown since the preceding hour; movement without direction shows that the wind has blown during the hour but calm prevailed at the hour of observation. Anemometer exposed on top of building, 31 feet above ground. Anemoscope, 150 feet ne. of house, 24 feet above ground, and about 50 feet above ridge pole of building. Rain-gauge has bottom on the ground.

Phenomena.

All time mentioned in the following notes refers to Washington time.

September 4th, 1881, solar halo of 22° and 44° radius with contact arch on outer ring and a sun dog on either side of sun; 9th, 10.30 p. m., bright moon and first stars observed; 21st, aurora from 9.40 to 10.30 p. m., bright.

October 4th, solar halo until 3 p. m.; mock moon (paraselene) at 7 p. m., prismatic colors well defined; 7th, atmosphere filled with hoar frost; 13th, the sun did not appear above horizon; 16th, aurora from 7 to 7.20 p. m., color white; 19th, auroral arch from 9 to 9.21 p. m., color white; 20th, darkness increasing; Jupiter visible at 2.30 a. m.; 21st, Jupiter, Arcturus, Capella, and Alpha Geminorum plainly visible at midday; 22d, Mars, Polaris, Castor, Pollux, Vega, Capella, Cygni, Jupiter, and Arcturus visible twenty-four hours; 6 p. m., auroral arch, curtain formation, color white, duration twenty-five minutes, slight magnetic disturbance; 25th, streamer from 5.50 to 6.05 p. m., color white; 26th, aurora from 12.01 a. m. to 4.10 a. m., arch undergoing a variety of changes; 28th, aurora 8 to 8.25 p. m., remarkable bright display; marked magnetic disturbance at 8.25 p. m.; 29th, Polaris plainly visible; from 4 to 9 p. m., auroral streamer, 9.15 to 10.10 p. m., auroral arch, reddish tint; 30th, auroral arch at 9 p. m., five minutes later a second arch formed below the first, color white, disappeared at 9.25 p. m.

November, auroras; 10th, 12.01 to 12.15 p. m. and from 5.05 to 5.15 p. m.; 14th, from 11 a. m. to 12.17 p. m., undergoing a variety of changes; 20th, streamer at 9.30 a. m.; 23d, 9 to 9.10 a. m.; 24th, 5.40 to 7.30 p. m. and from 8.25 to 9.20 p. m., very heavy magnetic disturbance; 25th, aurora from 6.45 to 7.10 a. m. and from 9.40 to 9.55 a. m., color pale yellow; 27th, 10 to 10.05 a. m.; 28th, 3.13 to 3.20 a. m. and 11.20 a. m. to 12.50 p. m.

December 4th, two mock moons from midnight to 8 a. m.; at 2 a. m. two contact arches formed the first tangent with circle which nearly surrounded the moon, the second about 10° from the first; auroras, 5th, 11.23 to 11.30 p. m.; a beautiful lunar halo and mock moons at 6 p. m., disappearing at 6.40 p. m.; 11th, 1.55 to 6.40 p. m.; 14th, 8.45 to 9 p. m.; 17th, 8.54 to 11 p. m.; 19th, 6 to 7.55 a. m., color white, another at 1.30 p. m., color intense white with a shade of green, disappearing at 6.15 p. m., faint streamers at 7 and 9 p. m.; 20th, faint auroral streamers; 21st, aurora from 12 p. m. of 20th to 2.20 a. m.

January, 1882, auroras, 10th, 6.50 to 8.40 p. m.; 11th, 9 to 9.15 p. m.; 19th, 7.35 to 8.30 a. m. strong magnetic disturbance; 22d, 4 to 5.30 p. m.; 30th, lunar halo of 22° with two mock moons and contact arch at 2 p. m. lasting until 4 p. m., another at 6.25 p. m. ending at 7.20 p. m.; at 7.30 p. m. a corona consisting of four concentric circles, first, nearly white, second, yellow, third, blue, and fourth, pale red; diameter of outer ring, 6°; 31st, several lunar halos during day.

February, auroras, 1st, 12.40 to 1.05 a. m.; 11th, 4.30 to 4.40 p. m.; 15th, 7.03 to 7.17 p. m., color yellow; 17th, 9.29 to 9.38 p. m.; 19th, 10 to 10.18 p. m.; 20th, 8.26 to 8.30 p. m., faint; 21st, faint at 1 a. m., lasting but a few moments; 23d, 10.30 to 12.18 a. m.; 28th, first view of returning sun obtained at 11.40 a. m.; whole disk visible at 11.45 a. m.

March 27th, Jupiter, Mars, Bootis, Vega, Alpha and Beta Geminorum, Canis Minoris, Alpha-Aurigæ, and Polaris could just be perceived at midnight; 28th, Polaris faintly visible, Jupiter, Vega, Arcturus, and Mars plainly seen; 29th, Jupiter and Arcturus visible at 8 p. m.

April 2d, Jupiter alone visible at 12 p. m.

September 3d, sun went below horizon; 14th, Saturn, Alpha Cygni, and Bootis observed at 10 p. m.

October, auroras, 2d, at 10.30 p. m., lasting until 3.30 a. m. of 3d; 10.30 p. m., lasting until 12.30 a. m. of 4th; 6th, 9.03 to 12 p. m.; 7th, 1 20 to 1.30 a. m., and at 9.10 p. m., lasting three minutes; 9th, 10.30 to 11 p. m.; 10th, 1.16 to 1.30 a. m.; 22d, 10.30 to 11.50 p. m.; 23d, 3.07 to 3.15 a. m. and 10.23 to 10.40 p. m.; 24th, Jupiter observed at 11 a. m.; aurora 6.03 to 7.50 p. m.; 28th, at 11 a. m. Jupiter, Aldebaran, Vega, Alpha Geminorum observed; lunar corona at 3 p. m., prismatic colors.

November, auroras, 2d, 8.30 to 9.55 p. m.; 4th, 8 to 8.40 p. m.; 6th, 3 to 3.55 a. m.; 7th, 5.07 to 7.32 a. m., undergoing a variety of changes; 10th, 10.08 to 10.15 p. m., reappearing at 10.23 p. m. and continuing past midnight; 11th, 2 to 3.45 a. m. and from 6.50 to 8.40 p. m.; considerable magnetic disturbance; 13th, 8.20 to 8.50 p. m.; 14th, 9.30 to 10.05 p. m.; decided magnetic disturbance; 15th, at 5 a. m., lasting all day and undergoing a variety of changes both in color and form; 16th, disappeared at 12.30 a. m.; great magnetic disturbance throughout the day; 17th, 1 a. m., with a remarkable display of colors and change in formation; strong magnetic disturbance; aurora disappeared at 9.10 p. m.; 18th, 4.40 a. m. to 9.20 p. m.; 19th, 5 a. m. to 9.20 p. m.; 21st, 12.50 a. m. to 11.25 a. m.; 26th, lunar halo with counter arcs at 1 p. m., lasting all day; 29th, 11.15 a. m., duration three minutes.

December, auroras, 1st, 12.55 to 3.08 p. m.; 2d, 3.50 to 6.30 a. m.; 3d, 8.05 to 8.45 a. m. and from 9.30 p. m. to 10 p. m.; 4th, 10.10 to 10.20 p. m.; 5th, 11.10 to 11.20 a. m., also from 12.07 to 1.25 p. m.; streamers at 8.55 p. m., lasting five minutes; 6th, 8.50 to 9.30 a. m.; 7th, 5 p. m., duration five minutes; 8th, 5.07 to 5.45 p. m.; 9th, 3.30 to 3.45 p. m. and from 4 to 8.05 p. m.; 10th, 11.10 a. m. to 12.16 p. m. and from 8.16 to 9.30 p. m.; 11th, 9.05 to 9.30 a. m.; 12th, 3.25 to 3.35 a. m. and from 3.15 to 3.45 p. m.; 14th, 12.18 to 12.30 a. m.; 15th, 5.50 to 6.15 a. m. and from 7.30 to 8 p. m.; 16th, 2.05 to 2.15 p. m. with slight magnetic disturbance, reappearing at 5 p. m. and continuing the balance of day; 17th, aurora ended at 12 m.; 23d, lunar halo at 2 p. m.; 28th, streamers from 2.22 to 2.40 p. m.; 29th, 12.25 to 12.40 p. m.

January, 1883, auroras, 1st, 9 a. m. to 10.30 a. m.; 3d, 4 p. m. to midnight; 4th, disappeared at 1.30 a. m., reappearing at 10 and 11 a. m. and 6 p. m.; 5th, 7.30 a. m.; 6th, 2 to 2.15 p. m., 7.08 to 7 17 p. m., 7.50 to 8.12 p. m., and 8.30 to 8.50 p. m.; 7th, patches of auroral haze at 5 and 6 p. m.; 8th, auroral light 1.30 to 1.35 p. m.; 9th, 1 a. m., auroral haze 11.25 to 11.35 p. m.; 10th, auroral haze 1 a. m. to 12 m., aurora 10 to 10.45 p. m.; 13th, streamer 7.05 to 7.15 a. m.

February 14th, aurora from 5 to 6.25 a. m.; 15th, daylight from 10 a. m.

to 2 p. m.; 18th, aurora 6.05 to 6.14 p. m.; 24th, aurora 10.05 to 10.15 p. m.; 27th, first appearance of sun at midday.

March 29th, constant daylight.

ERRATA.

DAILY BULLETIN, November 3, 1883, page 3, Japanese, Osaka, reduced barometer 29.22 inches, should read 30.22; page 4, United States, Assinaboine, Fort, actual barometer 736.8 mm., should read 636.8; Block Island, temperature 4°.9 Cent., should read 4°.4; page 6, bark "National Eagle," barometer 763.3 mm., should read 766.3; H. P. M. S. "Douro," Saint Thomas, W. I., should read Saint Thomas, Gulf of Guinea, same correction on 6th.

11th, page 8, District No. 5, bark "Mohican," latitude N., should read S.

23d, page 3, Italian sub-series, Naples, reduced barometer 29.77 (756.2), should read 30.17 (766.2).

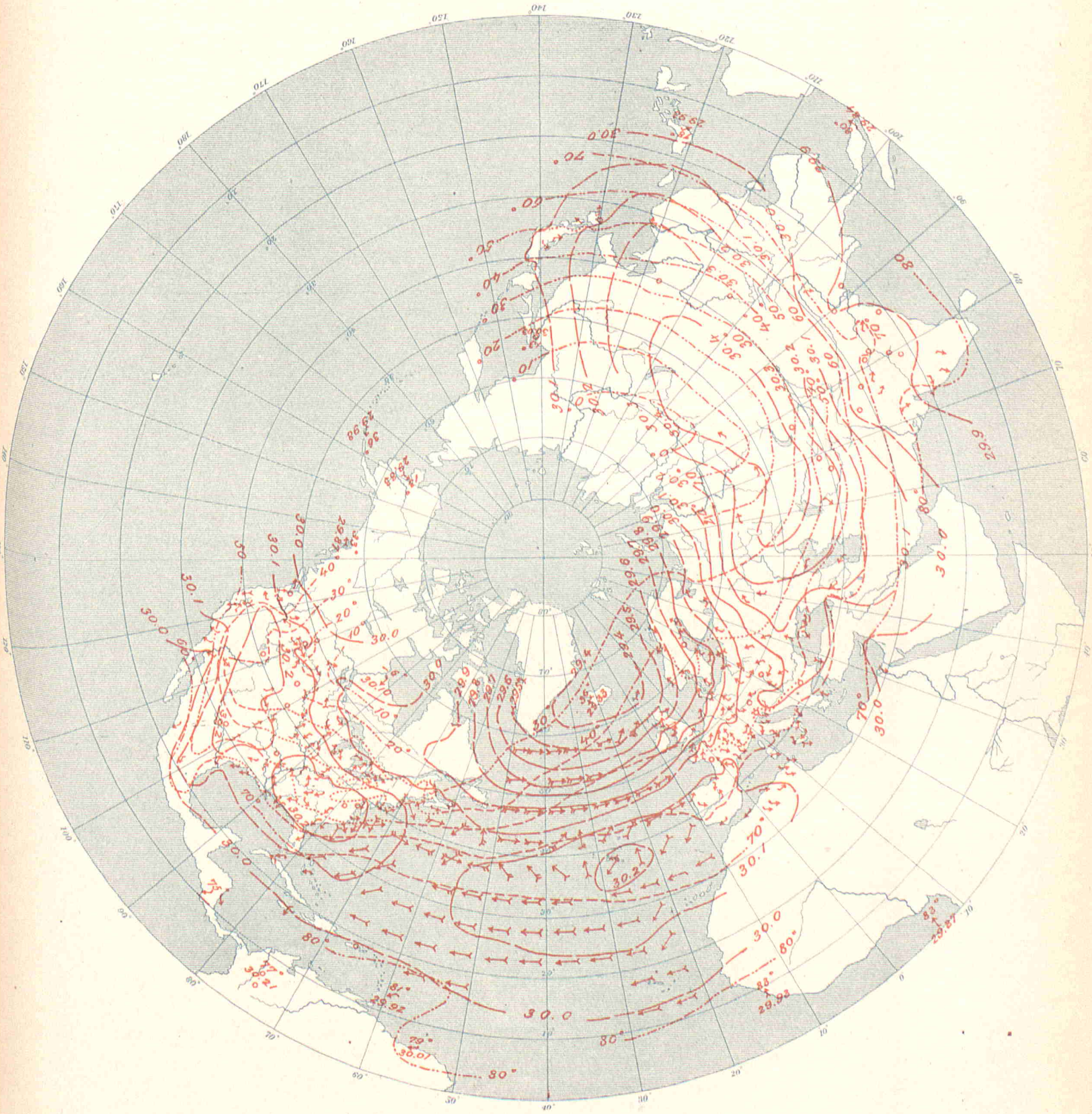
PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,

Brig. & Bvt. Maj. Gen'l,

Chief Signal Officer, U. S. A.

International Chart II. November, 1883. Isobars, Isotherms, and Winds.



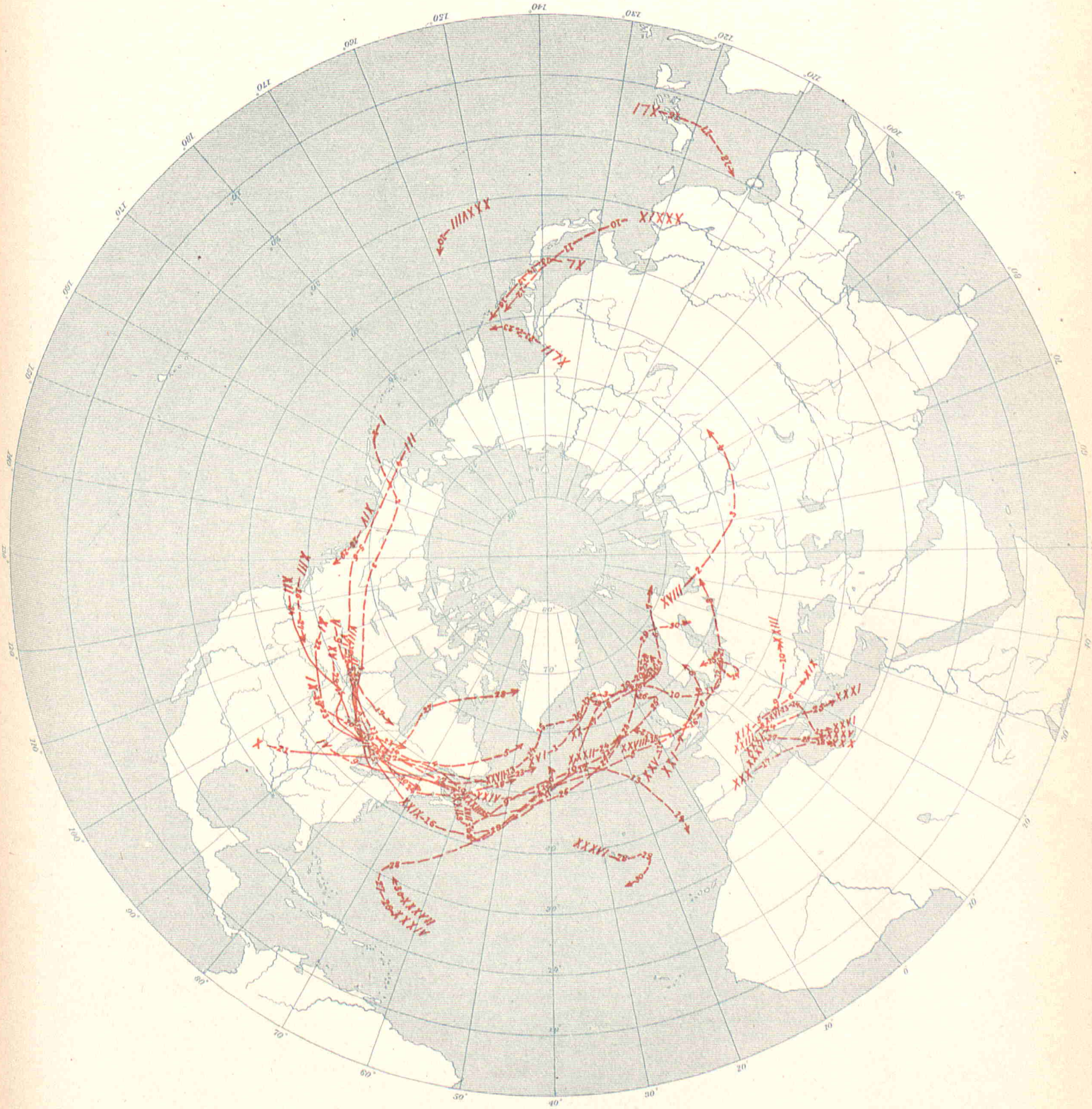
UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.

Signal Office Lith.

12085

International Chart III. November, 1883. Storm-Tracks.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.

W.B.Hazen, Chief Signal Officer.

Signal Office Lith.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF DECEMBER, 1883.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
JANUARY, 1885.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

DECEMBER, 1883.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for December, 1883. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
Algerian.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.13	765.4	59.9	15.5	72.4	9	3	1	.....	3	2	10	3	.....	.....	.....	2	1.03	26.2
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	30.13	765.3	56.8	13.8	74.4	1	1	1	13	2	3	2	8	.....	.....	.....	4	5.36	136.2
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.09	764.2	58.6	14.8	75.9	2	12	10	.....	3	.....	1	3	.....	.....	.....	4	2.55	64.7
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.09	764.2	57.4	14.1	65.3	7	15	4	4	.....	.....	.....	1	.....	.....	.....	3	0.62	15.7
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.19	766.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.13	765.3	48.0	8.9	73.0	8	9	4	2	3	1	.....	4	.....	.....	.....	4	0.25	6.4
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	46.8	8.2	54.3	7	13	1	5	1	2	.....	2	.....	.....	.....	2	0.20	6.6
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2549	777	.....	.....	30.11	764.9	55.4	13.0	72.8	3	10	3	1	3	5	1	5	.....	.....	.....	1	0.44	11.1
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.17	766.3	57.9	14.4	47.1	5	1	15	.....	.....	.....	2	1	7	.....	.....	2	0.08	1.9
Australian.																										
Adelaide	S. 34 57	E. 138 35	9.22 p.m.	140	42	.....	.....	29.92	760.0	65.4	18.6	58.1	2	.....	6	6	4	6	3	.....	4	.....	.....	3	0.90	22.9
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.77	756.2	29.86	758.5	60.4	15.8	73	1	1	4	5	6	11	.....	3	.....	.....	.....	6	1.59	40.4
Austrian.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.52	749.9	30.10	764.6	34.7	1.5	58.3	.....	2	2	14	.....	2	1	10	.....	.....	.....	7	1.30	33 0
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.18	741.2	29.98	761.5	32.9	0.5	82.6	.....	4	8	12	.....	1	2	4	.....	.....	.....	5	0.94	24.0
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.11	739.4	30.02	762.4	28.2	−2.1	86.9	2	2	.....	.....	5	6	.....	.....	16	.....	.....	8	1.13	28.7
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.80	731.4	30.10	764.6	33.4	0.8	73.1	2	3	4	5	9	3	1	1	3	.....	.....	7	1.00	25.4
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.57	725.6	30.06	763.6	30.0	−1.1	90.6	2	6	4	5	2	10	2	.....	.....	.....	.....	8	0.94	23.9
Kremsmunster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.69	728.7	30.09	764 3	32.5	0.3	88.6	.....	3	12	4	1	.....	3	.....	8	.....	.....	8	4.33	110.0
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.95	735.4	29.99	761.7	30.7	−0.7	80.2	3	6	5	3	6	8	.....	.....	.....	.....	.....	9	0.93	23.6
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.91	759.8	30.03	762 7	45.7	7.6	70.5	5	5	4	2	2	1	6	5	1	.....	.....	5	2.19	55.7
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.54	750.2	30.14	765.5	31.6	−0.2	85	1	3	7	3	3	3	11	.....	.....	.....	.....	7	1.51	38.3
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.76	755.9	30.05*a*	763.2*a*	34.9*a*	1.6*a*	83.7*b*	3*d*	7	3	4	6	1	.....	.....	3	.....	.....	6*d*	0.41	10.5
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.98	761.4	30.68	763.9	44.2	6.8	58.0	.....	1	.....	.....	.....	.....	7	9	14	.....	.....	6	1.26	32.0
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.32	744.8	30.07	763.8	36.7	2.6	76.0	1	6	13	.....	4	5	1	.....	1	.....	.....	7	1.76	44.7
British.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.87	758.7	29.97	761.2	40.7	4.8	75.1	1	3	10	10	6	1	.....	.....	.....	.....	.....	6	2.34	59.4
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.91	759.7	30.14	765.5	42.9	6.1	88.0	1*a*	3	4	10	11	1	.....	.....	.....	.....	.....	7	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	30.08	764.0	43.5	6.4	80.3	4	2	9	8	3	3	2	.....	.....	.....	.....	8	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.57	751.1	30.12	765.0	40.9	4.9	84.0	2	6	9	6	6	1	1	.....	.....	.....	.....	8	.....	.....
Bradford *e*	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.68	753.9	30.08	764.0	42.4	5.8	82.5	1	13	2	5	.....	3	.....	2	.....	.....	.....	8	1.32	33.5
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.98	761.5	30.01	762.2	80.9	27.2	70.9	.....	.....	.....	.....	.....	1	2	28	.....	.....	.....	4	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	30.05	763 3	30.17	766.3	40.7	4.8	87.9	7	5	11	2	4	.....	1	1	.....	.....	.....	7	.....	.....
Chatham *a*	N. 51 25	E. 0 33	0.10 p.m.	160	49	29.97	761.2	30.14	765.5	42.1	5.6	84.8	7	3	6	4	.....	.....	1	1	8	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	30.05	763.3	30.28	769.1	46.5	8.1	77.3	3	8	7	3	4	1	2	3	.....	.....	.....	7	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2205	672	27.56	700 0	29.78	756.4	79.4	26.3	58.7	2	.....	3	.....	.. ..	3	8	15	.....	.....	.....	5	.....	.....
Freetown	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.67	753.6	29.89	759.2	82.8	28.2	84.2	7	2	4	4	7	2	5	.....	.....	.....	.....	5	.....	.....
Galway *a*	N. 53 15	W. 9 03	11.32 a.m.	32	10	30.13	765.3	30.17	766.3	43.5	6.4	85.1	1	7	5	14	.....	.....	1	2	.....	.....	.....	7	2.47	62.7
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.10	764.5	30.16	766.1	59.1	15.1	89.5	.....	12	2	.....	.....	.....	17	.....	.....	.....	.....	5	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.84	757.9	30.04	763.0	42.5	5.8	83.0	1	2	7	14	2	1	1	3	.....	.....	.....	8	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.98	761.5	30.16	766.1	42.1	5.6	81.6	3	5	5	14	1	1	1	1	.....	.....	.....	8	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.95	760.7	30.26	768.6	45.4	7.4	81.2	5	5	4	8	1	1	3	3	1	.....	.....	8	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	30.14	765.5	30.17	766.3	42.5	5.8	77.7*a*	7	2	9	6	1	2	2	2	.....	.....	.....	8	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.88	758.9	30.14	765.3	42.3	5.7	80.2	2	7	4	14	.....	.....	.....	3	1	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.94	760.5	30.01	762.2	58.9	14.9	68.4	.....	10	1	5	.....	3	1	11	.....	.....	.....	5	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.14	765.5	30.19	766.8	71.9	22.2	79.9	3	1	.....	2	2	2	13	8	.....	.....	.....	5	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.95	760.7	30.18	766.6	42.2	5.7	81.8	2	6	7	9	4	.....	.....	2	1	.....	.....	8	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	30.17	766.3	30.25	768.3	45.4	7.4	85.5	1	11	4	3	.....	1	2	1	8	.....	.....	7	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.77	756.1	29.87	758.7	41.8	5.4	84.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	2.04 p.m.	60	18	29.88	758.9	29.95	760.7	47.4	8.6	76.7	11	1	2	5	6	1	1	4	.....	.....	.....	8	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.83	757.7	30.12	765.0	42.8	6.0	82.9	1	6	6	9	.....	.....	.....	3	6	.....	.....	6	1.58	40.1
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	30.06	763.5	30.09	764.3	42.5	5.8	90.5	6	3	9	10	.....	1	2	.....	.....	.....	.....	7	3.17	80.5
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	30.11*a*	764 8*a*	41.3	5.2	81.5	2	7	8	7	3	.. ..	2	2	.....	.....	.....	9	.....	.....
Strathfield	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	42.5	5.8	86.9	4	8	5	2	1	.....	1	4	6	.....	.....	4	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	30.24	768.1	30.27	768.8	47.4	8.6	80.6	3	3	6	6	3	4	3	3	.....	.....	.....	9	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.64	752.8	30.04	763.0	57.4	14.1	64.8	4	9	4	5	1	2	.....	6	.....	.....	.....	7	1.48	37.6
Canadian.																										
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	35	11	29.93	760.2	29.97	761.2	13.1	−10.5	.....	1	6	2	6	.....	.....	1	.....	15	.....	.....	7	1.37	34.8
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.90	759.4	29.94	760.5	21.9	−5.6	91.7	6	5	7	3	5	1	1	.....	3	6720	10815	8	5.36	136.1
Chatham*	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.93	760.2	29.99	761.7	12.2	−11.0	91.6	3	8	10	7	1	.....	.....	1	1	3835	6172	6	2.85	72.4
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.83	757.7	30.03	762.7	14.2	−9.9	93.3	6	9	2	1	.....	1	11	.....	1	.....	.....	7	2.24	56.9
Dalhousie *d*	N. 48 04	W. 66 22	7.32 a.m.	45	14	29.93	760.2	29.98	761.5	12.3	−10.9	.....	1	3	17	1	.....	.....	3	.....	6	.....	.....	6	2.44	62.0
Father Point*	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.97	761.2	29.99	761.7	11.8	−11.2	85.9	6	5	1	5	8	1	.....	2	3	5820*b*	6936*b*	9	1.82	46.2
Fort Garry*	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.22	742.2	30.17	766.3	−5.1	−20.6	79.0	5	8	3	....	9	1	.....	1	4	7554	12157	3	0.87	22.1
Fredericton	N. 45 57	W. 66 38	7.41 a.m.	59	18	29.97	761.2	30.04	763.0	13.5	−10.3	89.1	1	16	2	1	2	1	1	.....	7	.....	.....	7	3.55	90.2
Grand Manan	N. 44 46	W. 66 45	7.41 a.m.	49	15	29.97	761.2	30.02	762.5	25.3	−3.7	79.5	7	8	1	6	1	2	1	4	1	11307	18196	8	3.28	83.3
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	28.91	734.3	30.09	764.3	22.3	−5.4	98.1	.....	4	6	4	3	2	.....	1	11	.....	.....	8	2.55	64.8
Halifax*	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.86	758.4	30.00	762.0	24.5	−4.2	91.6	4	11	5	2	4	1	1	2	1	.....	.....	6	6.67	169.4
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	372	113	29.62	752.3	30.04	763.0	26.3	−3.2	86.3*g*	.....	1	1	23	.....	1	.....	5	.....	.....	.....	8	2.66	67.6
Kingston*	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.72	754.9	30.08	764.0	20.6	−6.3	82.9	8	2	3	2	7	1	.....	6	2	6682	10753	6	3.33	84.6
Little GlaceBay	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.86	758.4	29.90	759.4	30.0	−1.1	86.1	4	5	4	6	6	3	1	2	.....	.....	.....	7	4.21	106.9
London	N. 43 00	W. 81 15	6.43 a.m.	816	248	29.10	739.1	30.07	763.8	23.6	−4.7	83.3	.....	.....	6	4	5	1	2	.....	13	.....	.....	8	3.10	78.7
Medicine Hat	N. 50 01	W. 110 37	4.46 a.m.	2136	651	27.02	701.5	30.06	763.5	15.9	−8.9	89.8	1	1	7	7	10	1	.....	4	.....	7018	11294	5	0.24	6.1
Minnedosa*	N. 50 13	W. 99 48	5.29 a.m.	1796	545	28.00	711.2	30.10	766.1	−3.1	−19.5	96.5	2	17	5	1	.....	2	3	1	.....	.....	.....	3	1.24	31.5
Montreal*	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.84	757.9	30.07	763.8	12.9	−10.6	85.4	4	1	7	5	7	1	3	3	.....	.....	.....	8	3.35	85.1
Ottawa	N. 45 26	W. 75 41	7.05 a.m.	200	61	29.83	757.7	30.07	763.8	10.3	−12.1	90 3*a*	4	8	7	2	1	.....	3	6	.....	.....	.....	7	2.21	56.1
Parry Sound*	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.29	744.0	30.06	763.5	16.5	−8.6	79.6*a*	11	3	1	2	5	4	4	1	.....	7434	11964	8	4.23	107.4
Peterboro	N. 44 17	W. 78 18	6.54 a.m.	675	206	29.28	743.7	30.07	763.8	21.0	−6.1	77.6	4	7	4	3	1	.....	3	4	5	.....	.....	7	0.61	15.5
Port Arthur	N. 48 27	W. 89 12	6.11 a.m.	642	196	29.32	744.7	30.10	764.5	3.3	−15.9	84.1	1	5	14	3	2	.....	1	2	3	3591	5779	5	1.81	46.1
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.34	745.2	30.07	763.8	25.9	−3.4	93.0	4	2	7	6	4	.....	2	2	4	6895	11096	8	2.93	74.4
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.39	746.5	30.08	764.0	26.2	−3.2	86.1	1	2	13	5	1	3	5	1	.....	.....	.....	7	2.49	63.2
Qu Appelle	N. 50 44	W. 103 42	5.13 a.m.	2115	646	27.65	702.3	30.17	766.3	0.4	−17.6	95.0*i*	.....	4	9	4	2	1	2	1	8	8351*c*	13439	2	1.10	27.9
Quebec*	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.65	753.1	30.03	762.7	11.0	−11.3	85.0	6	.....	3	7	4	.....	.....	1	10	.....	.....	8	4.72	119.9
Rockliffe*	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.49	749.0	30.05	763.3	9.9	−12.3	80.2	1	5	5	.....	.....	12	3	.....	5	.....	.....	7	2.11	53.6
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.95	760.7	30.00	762.0	20.0	−6.7	87.3	5	13	1	1	4	3	.....	4	.....	.....	.....	6	4.23	107.4
Saint John, N.B	N. 45 17	W. 66 03	7.44 a.m.	130	40	29.85	758.2	30.01	762 2	20.9	−6.2	88.4	6*e*	4	10	.....	4	1	2	1	.....	.....	.....	7	5.72	145.3
Saint Johns, N.F	N. 47 34	W. 52 54	8.36 a.m.	230?	70?	29.63	752.6	29.88	758.9	28.8	−1.8	99.4	1	6	2	8	3	7	.....	4	.....	.....	.....	8	6.41	162.8
Saint Pierre *f*	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	.....	.....	33.4	0.8	.....	4	4	2	8	3	3	1	.....	.....	.....	.....	.....	2.69	68.4
Saugeen*	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.25	742.9	30.01	762	24.3	−4.3	91.4	.....	3	4	6	9	4	2	3	.....	11113	17884	9	3.74	95.0
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	28.71	729.2	30.07	763.8	22.3	−5.4	91.9	.....	2	7	7	3	5	.....	.....	7	.....	.....	9	2.14	54.4
Sydney*	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.84	757.9	29.90	759.4	27.6	−2.4	88.1	5	5	5	8	1	4	1	.....	2	7720	12424	9	4.79	121.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for December, 1883. Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
CANADIAN —Con.	° ′	° ′																								
Toronto	N. 43.39	W. 79 23	6.50 a.m.	350	107	29.67	753.6	30.08	764.0	24.6	—4.1	85.0	4	1	6	5	1	1	3	8	2	8538	13740	8	1.45	36.8
Woodstock	N. 43 08	W. 80.47	6.48 a.m.	980	299	28.97	735.8	30.09	764.3	23.5	—4.7	86.1	1*b*	2	3	12	3	2	4	2	.....	.....	.....	8	2.63	66.8
Yarmouth	N. 43 50	W. 66.02	7.44 a.m.	61	19	29.94	760.5	30.01	762.2	29.2	—1.6	80.8	7	8	2	1	3	1	8	1	.....	.....	.....	5	5.71	145.0
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	29.96	761.0	29.99	761.7	69.9	21.0	89.2	.....	.....	.....	19	3	4	1	4	.....	.....	.....	4	1.58	40.1
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	.....	.....	29.91	759.7	.....	.....	71.7	22.1	53.0	5	11	2	.....	3	5	1	4	.....	.....	.....	2	0.67	17.0
Springbok	S. 29 45	E. 17 43	1.19 p.m.	?	?	27.91	708.9	.....	.....	81.5	27.5	37.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.09	2.3
CHILIAN.																										
Coquimbo	S. 29 56	W. 71 21	7.22 a.m.	72	22	29.90	759.4	29.98	761.4	61.7	16.5	86.4	14	2	4	4	.....	1	2	4	.....	.....	.....	7	.....	.....
Iquique..*a*	S. 20 12	W. 70 11	7.27 a.m.	26	8	29.91	759.8	29.95	760.6	68.5	20.3	72.3	.....	1	.....	26	2	.....	.....	1	.....	.....	.....	.....	.....	.....
Niebla	S. 39 53	W. 73 25	7.14 a.m.	98	30	29.58	751.3	29.69	754.0	58.6	14.8	75.2	.....	4	3	.....	2	.....	21	.....	1	.....	.....	2	2.24	57.0
Punta Caldera	S. 27 03	W. 70 53	7.25 a.m.	82	25	29.89	759.3	29.98	761.6	63.9	17.7	71.5	1	9	.....	14	.....	6	.....	1	.....	.....	.....	7	.....	.....
Punta Corona	S. 41 47	W. 73 53	7.12 a.m.	174	53	29.89	759.2	30.08	764.0	.....	.....	.....	2*d*	4	5	4	3	2	5	2	.....	.....	.....	5	3.89	98.7
Valparaiso	S. 33 02	W. 71 39	7.22 a.m.	82	25	29.82	757.3	29.90	759.5	63.3	17.4	82.5	4	1	7	11	6	1	1	.....	.....	.....	.....	5	.....	.....
CHINESE. (*Sub*).																										
Sung-shu-chwang	N. 36.07	E. 103 56	7.04 p.m.	4987	1520	25.37	644.3	.....	.....	39.9	4.4	.....	4	9	1	6	1	6	1	1	2	.....	.....	1	.....	.....
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	30.38	771.7	30.41	772.3	37.4	3.0	78.8	8	10	2	3	1	2	3	1	1	.....	.....	3	0.61	15.5
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.79	756.7	29.84	757.9	36.5	2.5	86	2	8	6	7	1	5	.....	2	.....	.....	.....	7	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.85	758.3	29.87	758.8	37.9	3.3	89	3	6	9	5	3	2	3	.....	.....	.....	.....	8	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.64	752.9	29.69	754.0	6.6	-14.1	89	12	3	.....	1	3	2	1	9	.....	.....	.....	6	.....	.....
Jacobshavn	N. 69 13	W. 50 55	8.44 a.m.	42	13	29.68	753 8	29.72	755.0	—3.1	-19.5	.....	.....	.....	1	2	.....	2	10	1	15	.....	.....	4	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	30	11	29.36	745.8	29.41	746.9	30.9	—0.6	87	1	1	2	7	6	4	2	5	3	.....	.....	8	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.70	754.3	29.72	754.9	39.7	4.3	81	2	5	9	7	5	1	.....	2	.....	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.74	755.0	29.82	757.4	37.8	3.2	90	3	4	11	3	5	2	2	1	.....	.....	.....	7	.....	.....
Egyptian.																										
Cairo	N. 30 03	E. 31 21	2.14 p.m.	?	?	29.93	760.1	.....	.....	64.2	17.9	.....	1	1	1	14	5	.....	5	4	.....	.....	.....	5	0.32	8.1
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.72	755.0	30.34	770.5	40.1	4.5	92.1	3	9	9	1	1	4	.....	.....	4	.....	.....	.....	1.11	28.2
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.70	754.4	30.21	767 4	40.6	4.8	92.2	8	4	3	6	7	.....	.....	3	.....	.....	.....	.....	0.61	15.5
Avignon	N. 43 57	E. 4 48	0.27 p.m	65	20	30.05	763.2	30.13	765 2	45.3	7.4	62.1	11	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	0.14	3.6
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.61	752.0	30.20	767.0	39.4	4.1	80.7	.....	6	.....	6	3	6	10	.....	.....	.....	.....	6	2.82	71.7
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.93	760.3	30.21	767.3	41.0	5.0	78.8	3	8	6	5	.....	.....	4	5	.....	.....	.....	9	1.37	34.8
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.23	742.5	30.15	765.9	38.8	3.8	83.3	3	.....	.....	2	8	3	1	14	.....	.....	.....	6	6.88	174.7
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	30.00	761.9	30.26	768.7	41.5	5.3	84.6	3	7	7	3	3	2	3	3	.....	.....	.....	7	2.03	51.6
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.64	752.9	30.22	767.7	40.8	4.9	86.7	5	.....	14	4	.....	1	4	3	.....	.....	.....	.....	0.97	24.7
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	30.10	764.4	30.30	769.6	47.8	8.8	85.0	9	3	4	4	.....	1	2	2	6	.....	.....	8	4.11	104.5
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	30.11	764.8	30.19	766.8	44.2	6.8	84.6	2	10	3	5	5	3	1	2	.....	.....	.....	.....	1.28	32.5
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.83	757.6	30.15	765.9	39.9	4.4	88.2	3	2	5	7	5	4	1	4	.....	.....	.....	8	1.60	40.5
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.73	755.2	30.26	768.7	38.3	3.5	77.4	1	7	6	5	2	1	4	5	.....	.....	.....	.....	2.35	59.8
Clermont-Fer'and	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.82	732.0	30.24	768.2	37.8	3.2	76.8	11	3	14	3	.....	.....	.....	.....	.....	.....	.....	8	1.22	31.0
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.31	744.4	30.17	766 3	37.8	3.2	77.0	7	3	5	4	2	2	1	7	.....	.....	.....	8	3.83	97.2
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.33	745.0	30.22	767.5	37.2	2.9	87.5	2	2	17	1	.....	.....	6	3	.....	.....	.....	7	3.73	94.8
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.51	698.7	30.20	767.0	38.5	3.6	61.2	5	2	.....	.....	3	1	2	10	8	.....	.....	4	0.67	17.0
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.93	734.7	30.08	764.1	46.0	7.8	61.8	7	12	.....	3	1	.....	2	6	.....	.....	.....	4	0.33	8.4
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.41	747.0	30.17	766.4	36.0	2.2	81.2	3	2	1	2	5	7	8	2	1	.....	.....	.....	3.50	89.0
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.01	726.6	30.25	768.4	36.3	2.4	86.5	1	7	4	7	.....	5	4	3	.....	.....	.....	8	2.33	59.1
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	30.04	762.9	30.10	764.6	45.3	7.4	83.8	6	13	1	.....	3	4	2	2	.....	.....	.....	7	0.96	24.4
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.72	754.9	30.30	769.7	44.6	7.0	77.1	2	3	6	4	.....	.....	1	15	.....	.....	.....	.....	2.85	72.4
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	30.20	767.1	30.30	769.7	47.7	8.7	68.5	6	5	3	3	1	1	1	5	6	.....	.....	5	0.64	16.2
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	29.12	739.7	30.27	768.8	35.6	2.0	85.4	3	11	2	1	.....	4	7	3	.....	.....	.....	.....	2.10	53.4
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.98	761.4	30.32	770.1	41.5	5.3	80.8	4	3	6	1	3	2	5	7	.....	.....	.....	.....	0.52	13.2
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.80	756.9	30.09	764.2	49.8	9.9	57.0	.....	12	7	2	1	1	4	4	.....	.....	.....	5	0.40	11.6
Montlouis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.85	631.1	29.69	754.1	35.2	1.8	59.0	9	6	4	8	.....	.....	1	3	.....	.....	.....	4	1.55	39.3
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	30.00	762.0	30.12	765.1	48.4	9.1	82.1	16	13	2	.....	.....	.....	.....	.....	.....	.....	.....	3	0	0
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.39	746.4	30.19	766.7	36.7	2.6	84.5	3	4	6	9	6	.....	1	2	.....	.....	.....	.....	2.35	59.8
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	30.15	765.8	30.31	769.8	43.9	6.6	79.1	6	6	6	1	2	1	3	6	.....	.....	.....	8	0.61	15.4
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	30.06	763.4	30.17	766.3	49.5	9.7	55.4	2	20	4	3	.....	.....	1	1	.....	.....	.....	6	0.56	14.3
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.19	538.2	.....	.....	20.8	—6.2	.....	3	7	1	2	1	4	4	9	.....	.....	.....	3	11.89	302.0
Privas..*a*..... [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	29.06	738.2	30.19	766.8	40.6	4.8	75.0	21	1	1	.....	5	.....	.....	.....	2	.....	.....	.....	0.41	10.4
Puy de Dôme	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.15	638.9	.....	.....	28.4	—2.0	83.4	4	4	10	.....	.....	2	3	8	.....	.....	.....	7	8.75	222.3
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.20	767.0	30.22	767.6	44.1	6.7	75.4	6	2	4	1	.....	.....	4	6	8	.....	.....	5	2.20	56.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	30.06	763.5	30.28	769.1	43.0	6.1	84.1	2	7	.....	4	1	5	3	9	.....	.....	.....	.....	0.69	17.5
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.99	710.9	30.22	767.5	36.0	2.2	77.0	3	14	.....	.....	.....	2	6	.....	6	.....	.....	.....	2.29	53.1
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	30.17	766.4	30.22	767.5	43.5	6.4	88.0	2	10	4	3	2	3	4	3	.....	.....	.....	7	2.14	54.3
St. Lô..*d*	N. 49 06	W. 1 05	0.04 p.m.	134	41	30.06	763.6	30.22	767.7	44.6	7.0	80.3	2	7	6	6	1	2	1	2	.....	.....	.....	8	0.15	3.9
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	30.04	762.9	30.20	767.1	41.5	5.3	76.9	4	7	3	5	3	.....	1	6	2	.....	.....	8	1.18	29.9
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.51	749.5	30.08	769.0	40.8	4.9	88.4	2	6	11	2	3	2	4	1	.....	.....	.....	9	1.44	36.7
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	30.07	763.7	30.24	768.0	43.3	6.3	78.6	7	6	9	4	2	.....	.....	3	.....	.....	.....	.....	1.04	26.4
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.72	755.0	30.20	767.1	40.8	4.9	80.0	8	5	7	1	1	.....	3	4	2	.....	.....	.....	0.85	21.6
Sub-Series.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	0.03 p.m.	131	40	30.15	765.7	30.30	769.5	43.9	6.6	82.3	5	3	6	1	.....	3	8	5	.....	.....	.....	7	4.38	111.3
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.61	726.7	30.13	765.3	32.9	0.5	88.1	1	3	8	6	.....	2	2	3	6	.....	.....	8	3.08	78.2
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.19	741.5	30.03	762.7	34.9	1.6	75.5	3	3	3	8	2	4	1	2	5	.....	.....	8	2.56	65.1
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.80	756.9	29.95	760.6	35.8	2.1	87.0	3	7	10	2	3	1	3	1	1	.....	.....	8	2.38	60.5
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.44	747.8	29.97	761.3	33.6	0.9	83.1	.....	5	11	4	4	3	3	.....	1	.....	.....	9	1.52	38.5
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.67	753.6	30.16	766.0	37.4	3.0	80.5	1	1	.....	18	.....	.....	3	8	.....	.....	.....	8	3.88	98.6
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.30	744.1	30.01	762.2	36.7	2.6	85.1	1	8	4	5	10	1	1	1	.....	.....	.....	8	3.12	79.3
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.71	754.7	30.09	764.3	37.9	3.3	82.1	6	1	4	10	6	.....	.....	3	1	.....	.....	8	1.70	43.1
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.69	728.7	30.17	766.4	39.0	2.2	83.0	.....	2	3	16	1	.....	.....	9	.....	.....	.....	8	3.86	98.0
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.85	758.2	29.94	760.5	36.3	2.4	90.6	2	5	9	9	2	.....	3	1	.....	.....	.....	9	3.35	85.0
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.87	758.8	29.89	759.1	38.3	3.5	78.8	1	4	10	8	1	1	2	4	.....	.....	.....	9	4.55	115.6
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.58	751.3	30.02	762 4	36.0	2.2	81.9	2	6	6	8	5	1	1	2	.....	.....	.....	9	2.19	55.6
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.77	756.2	29.97	761.2	37.0	2.8	82.5	2	4	10	7	1	1	2	3	1	.....	.....	8	1.91	48.4
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.79	756.7	29.84	757.9	34.2	1.2	92.7	2	5	6	3	8	3	1	3	.....	.....	.....	9	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.22	716.9	30.09	764.3	32.4	0.2	83.3	1	14	4	3	.....	1	4	1	3	.....	.....	8	2.78	70.7
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.84	758.0	29.86	758.4	35.4	1.9	87.9	1	8	8	5	3	5	.....	1	.....	.....	.....	8	1.55	39.4
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.57	751.1	30.10	764.5	38.3	3.5	75	1	8	12	5	2	.....	.....	.....	3	.....	.....	8	1.85	47.0
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.13	740.0	30.08	764.0	36.0	2.2	76.5	3	3	10	9	2	.....	3	1	.....	.....	.....	8	2.10	53.3
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.85	758.1	29.87	758.6	36.3	2.4	88.9	5	2	6	10	1	4	2	1	.....	.....	.....	8	2.15	54.7
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.56	750.7	29.95	760.6	52.9	11.6	.....	20	1	3	3	3	.....	.....	1	.....	.....	.....	6	5.18	131.6
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	30.03	762.8	30.08	764 2	74.8	23.8	43	1	2	6	11	3	1	5	2	.....	.....	.....	2	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.58	751.4	30.06	763.6	76.5	24.7	23	10*a*	9	2	2	1	1	.....	5	.....	.....	.....	1	0	0
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.96	761.0	30.00	761.9	77.2	25.1	63	7	21	2	.....	.....	.....	.....	1	.....	.....	.....	2	0	0
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	28.14	714.6	30.01	762.3	75.9	24.4	25	1	2	.....	.....	.....	4	15	9	.....	.....	.....	2	0	0
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.43	696.7	29.99	761.7	73.8	23.2	38	3	2	.....	1	.....	1	4	17	3	.....	.....	4	0.19	4.8
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.34	745.1	30.12	765.0	59.7	15.4	54	1	.....	.....	.....	.....	1	1	.....	28	.....	.....	2	0.07	1.8
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	29.15	740.3	30.09	764.2	61.7	16.5	48	.....	.....	10	.....	.....	.....	1	.....	20	.....	.....	1	0.03	0.8
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.51	749.5	30.10	764.4	66.7	19.3	39	.....	4	18	.....	2	2	1	3	1	.....	.....	1	0	0
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.99	736.2	30.06	763 4	70.7	21.5	34	.....	.....	.....	.....	.....	.....	.....	3	28	.....	.....	1	0	0
Jubbulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.69	728.8	30.10	764.4	65.5	18.6	40	4	.....	.....	.....	.....	.....	.....	4	23	.....	.....	1	0	0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
INDIAN—Cont'd.	° ′	° ′																								
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.70	754.3	30.09	764.3	62.4	16.9	70	7	3	.....	.....	.....	.....	1	20	.....	.....	.....	0	0	0
Allahabad *a*	N. 25 26	E. 81 52	5.35 p.m.	397	94	29.76	756.0	30.09	764.3	60.9	16.1	66	.....	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	1	0	0
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.89	759.1	30.08	764.0	65.0	18.3	51	1	6	14	2	.....	1	1	6	.....	.....	.....	1	0	0
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	28.00	711.1	30.09	764.3	60.5	15.8	44	8	15	1	.....	.....	1	2	1	3	.....	.....	2	0.36	9.1
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.97	761.2	30.05	763.4	68.2	20.1	68	3	1	.....	.....	.....	.....	2	5	20	.....	.....	2	0.92	23.4
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	30.02	762.6	30.05	763.2	64.2	17.9	73	10	11	2	1	.....	.....	2	3	2	.....	.....	2	2.54	64.5
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.94	760.5	30.05	763.6	65.6	18.7	77	2	.....	.....	.....	.....	.....	4	7	18	.....	.....	1	0.06	1.5
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.95	760.6	30.04	763.0	67.8	19.9	78	2	10	6	1	.....	.....	3	.....	9	.....	.....	4	0.71	18.0
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.74	755.4	30.09	764.4	61.2	16.2	85	.....	.....	.....	1	1	1	3	22	3	.....	.....	4	1.28	32.5
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.62	726.9	30.11	764.8	66.5	19.2	43	6	10	6	3	2	2	.....	1	1	.....	.....	2	0	0
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	29.88	758.9	.....	.....	84.9	29.4	63.4	2	1	.....	4	2	.....	1	20	1	.....	.....	3	0.83	21.1
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.48	723.4	.....	.....	77.6	25.3	38	5	5	.....	.....	.....	6	12	3	.....	.....	.....	4	0	0
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.71	754.6	.....	.....	79.0	26.1	62	1	.....	6	.....	1	.....	6	17	.....	.....	.....	7	0.94	23.9
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.64	752.9	30.07	763.7	41.7	5.4	61	.....	.....	.....	.....	1	.....	10	.....	20	.....	.....	5	1.47	37.3
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.58	751.3	30.12	765.1	36.7	2.6	77	3	8	7	5	1	2	3	2	.....	.....	.....	6	0.48	12.3
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.95	760.8	30.07	763.7	39.4	4.1	70	10	8	2	3	1	.....	.....	6	1	.....	.....	5	0.61	15.4
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.15	740.4	30.10	764.5	37.0	2.8	76	9	6	1	2	2	2	6	3	.....	.....	.....	6	0.16	4.0
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157	48	29.84	758.0	30.04	763.0	48.7	9.3	54	11	1	.....	.....	.....	6	1	5	7	.....	.....	5	1.64	41.6
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	30.01	762.2	30.06	763.5	41.7	5.4	75	11	12	7	.....	.....	.....	.....	1	.....	.....	.....	6	1.06	26.8
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.74	755.4	30.00	762.1	44.8	7.1	64	3	1	1	2	.....	2	3	19	.....	.....	.....	5	0.66	16.8
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.89	759.1	29.97	761.3	48.7	9.3	59	2	.....	4	1	1	.....	5	18	.....	.....	.....	6	0.57	14.4
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.82	757.4	30.00	761.9	50.7	10.4	52	20	2	4	.....	2	.....	.....	3	.....	.....	.....	5	2.26	57.4
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.72	754.8	29.97	761.3	52.0	11.1	62	13	4	2	3	3	.....	2	4	.....	.....	.....	5	1.14	29.0
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.11	739.4	30.02	762.6	47.7	8.7	70	.....	9	13	.....	5	4	.....	.....	.....	.....	.....	6	7.50	190.4
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	29.81	757.1	30.00	762.1	53.2	11.8	69	1	16	2	.....	1	2	.....	.....	9	.....	.....	5	3.66	93.1
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.76	755.8	30.01	762.3	55.9	13.3	61	6	3	6	2	1	.....	2	6	5	.....	.....	7	5.41	137.5
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.91	759.8	29.96	760.9	56.8	13.8	63	4	2	8	1	4	2	6	4	.....	.....	.....	7	1.77	44.9
Sub-Series.																										
Naples	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.47	748.5	30.00	762.1	50.4	10.2	63.6	8	8	2	5	1	.....	2	5	.....	.....	.....	5	2.22	56.4
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	29.88	758.8	29.91	759.7	33.8	1.0	86	.....	12	6	.....	.....	3	4	.....	6	.....	.....	9	6.56	166.7
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.80	757.0	29.84	758.0	30.2	—1.0	80.3	1	2	12	7	6	1	1	.....	1	94580	152210	8	3.94	100.0
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	92	28	29.94	760.4	30.04	762.0	40.7	4.8	73	.....	.....	22	.....	.....	.....	.....	.....	9	.....	.....	2	1.34	34.0
Hir shima	N. 34 23	E. 132 27	8.58 p.m.	14	4	30.15	765.8	30.17	766.2	39.2	4.0	82	16	.....	5	1	1	.....	3	5	.....	4047	6511	6	0.86	21.7
Kagoshima	N. 31 35	E. 130 33	8.50 p.m.	14	4	30.23	767.7	30.24	768.0	41.6	5.3	81.2	18	3	.....	.....	1	.....	.....	.....	9	.....	.....	4	1.67	42.4
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	29.94	760.4	30.05	763.2	39.2	4.0	83.4	.....	1	3	10	6	3	5	3	.....	8251	13279	9	19.83	503.6
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.92	760.0	30.09	764.4	36.7	2.6	77.2	8	3	7	7	2	1	1	.....	2	2316	3727	4	1.20	30.4
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	30.12	765.1	30.15	765.6	41.0	5.0	75.6	4	12	11	1	.....	.....	2	1	.....	5139	8270	2	0.72	18.2
Miasaka	N. 31 56	E. 131 26	8.54 p.m.	26	8	30.18	766.6	30.21	767.3	41.6	5.3	72	.....	1	29	.....	1	.....	.....	.....	.....	.....	.....	1	0.14	3.5
Miyako	N. 39 38	E. 141 59	9.36 p.m.	98	30	29.75	755.7	29.86	758.5	32.8	0.4	76.1	1	.....	25	3	1	.....	.....	.....	1	3400	5472	3	3.09	78.4
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	30.03	762.7	30.24	768.1	42.6	5.9	76.9	8	5	2	.....	1	.....	.....	.....	15	3260	5247	5	3.72	94.3
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	29.92	760.0	29.96	760.9	39.2	4.0	81.4	6	2	11	3	2	7	.....	.....	.....	8947	14398	9	13.10	333.9
Nobiru	N. 38 23	E. 141 11	9.32 p.m.	15	5	29.88	759.0	29.90	759.4	34.4	1.4	83.5	19	7	3	1	.....	.....	.....	1	.....	8498	13675	5	1.76	44.7
Numadza	N. 35 06	E. 138 51	9.23 p.m.	32	10	29.93	760.1	29.96	761.0	42.8	6.0	69	2	.....	7	7	.....	.....	12	3	.....	.....	.....	2	2.84	72.2
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	30.09	764.3	30.11	764.7	39.2	4.0	77.0	3	5	13	2	3	1	1	3	.....	7609	12245	4	0.93	23.6
Sakai	N. 35 01	E. 133 13	9.01 p.m.	10	3	30.10	764.6	30.11	764.8	40.7	4.8	74	3	1	20	6	1	.....	.....	.....	.....	.....	.....	8	6.88	174.8
Shimonoseki	N. 33 58	E. 130 56	8.52 p.m.	134	41	30.04	764.1	30.19	766.8	44.1	6.7	66	2	2	9	10	.....	.....	1	.....	7	.....	.....		2.83	71.9
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.88	758.9	29.96	760.9	38.5	3.6	73 5	14	4	3	4	2	1	.....	2	1	.....	.....	7	1.24	31.6
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.06	763.6	30.12	765.0	42.2	5.7	70.0	1	10	4	.....	.....	1	2	8	5	3997	6433	2	0.65	16.4
MAURITIUS.																								5		
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.76	755.9	29.95	760.8	79.8	26.6	69.1	2	4	1	1	.....	2	8	13	.....	.....	.....	7	4.02	102.1
MEXICAN.																										
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24 36	618 7	30.19	766.8	47.0	8.3	84.7	5	15	1	.....	2	.....	.....	1	7	.....	.....	6	1.13	28.7
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.75	755.7	30.02	762.4	69.3	20.7	80.0	6	9	.....	.....	.....	1	8	7	.....	.....	.....	4	1.06	27.0
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.11	764.8	30.11	764.8	41.2	5.1	.....	2	4	7	7	3	1	5	2	.....	.....	.....	.....	2.37	60.1
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.93	760.3	29.99	761.7	37.8	3.2	.....	5	8	2	9	1	.....	4	2	.....	.....	.....	.....	2.39	60.7
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	30.02	762.5	30.02	762.5	40.8	4.9	.....	1	4	10	6	1	3	2	4	.....	.....	.....	.....	2.67	67.9
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	30.08	764.0	30.08	764.0	47.5	8.6	87.1	2	4	9	9	.....	.....	3	1	3	.....	.....	.....	2.18	55.5
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	30.02	762.6	30.07	763.8	39.9	4.4	85.6	7	4	8	7	1	.....	1	3	.....	.....	.....	8	1.89	48.1
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7.15 p.m.	?	?	29.91	759.6	.....	.....	77.9	25.5	83.9	12	5	6	2	2	1	.....	3	.....	.....	.....	8	6.22	158.0
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.72	754.8	29.78	756.4	37.2	2.9	84.2	4	4	1	1	8	13	.....	.....	.....	.....	.....	8	8.40	213.4
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.51	749.6	29.55	750.6	36.0	2.2	74.5	.....	.....	3	7	7	4	3	3	4	.....	.....	8	4.83	122.7
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.61	752.0	29.76	755.9	28.9	—1.7	85.3	3	2	5	5	3	3	3	3	4	.....	.....	8	0.82	20.8
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.40	746.8	29.43	747.4	28.6	—1.9	.....	3	5	3	5	3	5	2	3	2	.....	.....	8	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.43	747.4	29.47	748.6	33.1	0.6	78.5	6	.....	2	11	2	1	1	4	4	.....	.....	8	6.19	157.2
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	.....	.....	.....	.....	60.1	15.6	84.5	6	1	1	4	1	6	11	1	.....	.....	.....	4	3.33	84.6
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.06	763 5	30.15	765.8	63.0	17.2	66.7	2	2	.....	3	2	5	8	6	3	.....	.....	6	5.39	136.8
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	312	95	29.89	759.2	30.24	768.0	51.1	10.6	59.1	9	3	.....	.....	2	1	.....	15	1	.....	.....	4	0.004	0.1
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.20	767.0	30.27	768.8	62.6	17.0	72.6	1	2	.....	1	1	2	11	8	5	.....	.....	3	2.62	66.5
St. P'l de Loando	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.69	754.0	29.89	759.1	80.2	26.8	87.2	1	6	23	.....	.....	.....	.....	1	.....	.....	.....	6	0.58	14.8
San Salvador	S. 6 17	E. 14 53	1.07 p.m.	1834	559	28.05	712.5	29.87	758.7	81.3	27.4	66.0	1	7	17	.....	.....	.....	3	2	1	.....	.....	8	3.94	100.0
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.39	644.8	30.25	768.4	37.9	3.3	65.0	3	5	5	1	1	10	5	1	.....	.....	.....	4	1.68	42.7
RUSSIAN																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	29.02	737.0	30.20	767.2	7.5	—13.6	91.9	2	1	4	10	2	4	3	1	4	.....	.....	6	.....	.....
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.58	751.4	29.60	751.9	20.8	—6.2	87.6	1	4	3	3	10	5	2	2	1	.....	.....	9	1.05	26.7
Ashurada	N. 36 54	E. 53 55	3.44 p.m.	79	24	30.19	766.7	30.09	764.3	55.2	12.9	79.7	7	5	4	1	.....	2	5	7	.....	.....	.....	6	2.77	70.3
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.22	767.6	30.14	765.6	29.1	—1.6	89.1	4	6	4	2	1	4	5	2	3	.....	.....	9	0.30	7.6
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	30.14	765.6	30.10	764.4	46.6	8.1	70.7	15	1	.....	6	3	.....	.....	1	5	.....	.....	4	0	0
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.81	757.1	30.36	771.2	8.2	—13.2	82.8	.....	.....	1	10	4	.....	1	1	14	.....	.....	6	0.60	15.3
Bielosersk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.27	743.5	29.76	756.0	22.6	—5.2	95.2	3	2	3	4	8	7	2	1	1	.....	.....	9	1.91	48.6
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.50	749.4	29.76	755.9	29.5	—1.4	94.2	1	2	7	6	8	2	.....	2	3	.....	.....	10	1.50	39.6
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	29.03	737.4	30.07	763.8	13.6	—10.2	84.7	1	1	6	5	3	9	.....	1	5	.....	.....	8	0.17	4.3
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.56	750.7	30.03	762.8	28.9	—1.7	82.7	5	6	4	2	3	4	2	2	3	.....	.....	8	0.48	12.3
Irkutsk	N. 52 16	E. 104 16	7.05 p.m.	1536	468	28.70	728.9	30.50	774.6	11.5	—11.4	87.2	2	4	.....	1	2	4	1	2	15	.....	.....	7	0.33	8.3
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.71	754.6	30.00	762.0	17.6	—8.0	94.5	.....	2	2	2	8	10	2	1	4	.....	.....	10	0.30	7.6
Kem	N. 64 57	E. 34 39	2.20 p.m.	43	13	29.60	751.9	29.65	753.2	22.6	—5.2	90.6	2	3	6	5	7	.....	.....	3	5	.....	.....	8	1.28	32.5
Kertch	N. 45 21	E. 36 29	2.34 p.m.	187	67	29.94	760.5	29.96	761.1	39.6	4.2	82.7	3	4	5	.....	1	4	5	3	6	.....	.....	8	1.09	27.7
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.28	743.8	29.95	760 8	27.1	—2.7	86.6	4	6	8	2	4	3	3	1	.....	.....	.....	8	.....	.....
Kostov	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.41	746.9	29.94	760.5	24.6	—4.1	87.8	1	4	6	6	7	3	.....	1	3	.....	.....	9	2.63	66.7
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	29.76	755.9	29.78	756.5	34.5	—1.4	87.8	4	2	7	6	1	5	2	3	1	.....	.....	9	2.56	65.0
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.83	757.6	30.01	763.0	30.7	—0.7	79.8	1	2	2	8	4	5	5	3	1	.....	.....	9	0.90	22.8
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.35	745.4	29.85	758.2	24.3	—4.3	85.3	4	3	4	4	10	3	.....	.....	3	.....	.....	9	1.42	36.2
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.94	760.6	30.02	762.4	32.2	0.1	85.5	2	5	1	5	3	4	.....	9	2	.....	.....	6	0.28	7.2
Nikolaievsk	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.73	755.2	29.82	757.4	—3.8	—19.9	77.8	1	6	15	.....	.....	.....	1	1	7	.....	.....	5	.....	.....
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	30.20	767.0	30.34	770.6	28.6	—1.9	53.9	1	7	.....	.....	2	.....	.....	.....	21	.....	.....	1	0	0
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.12 p.m.	328	100	29.74	755.3	30.10	764.6	39.6	4.2	66.2	1	1	6	2	1	3	3	7	7	.....	.....	8	.....	.....
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.47	748.6	29.68	753 8	25.5	—3.6	88.5	2	8	2	7	3	1	1	2	5	.....	.....	10	2.15	54.6
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.42	747.2	29.94	760.5	27.9	—2.3	91.3	.....	5	7	4	6	5	.....	1	3	.....	.....	9	0.94	23.8
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	30.00	762.1	30.04	762.9	53.4	11.9	70.7	1	2	.....	3	.....	.....	21	.....	4	.....	.....	7	2.97	75.4

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for December, 1883. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
RUSSIAN —Cont'd	° ′	° ′																								
St.Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	29.70	754.3	29.72	754.9	28.4	—2.0	89.0	4	4	7	3	9	1	.....	3	.....	.....	.....	10	1.45	36.8
Samarkand	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.69	703.4	30.22	767.7	44.4	6.9	70.7	.....	2	.....	2	.....	3	.....	.....	24	.....	.....	6	.....	.....
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.68	753.8	30.41	772.4	7.7	-13.5	83 9	1	.....	1	1	4	4	11	1	8	.....	.....	6	0.62	15.8
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	138?	42?	29.76	755.8	29.97	761.3	43.9	6.0	73.9	2	1	3	3	4	1	3	12	2	.....	.....	8	2.72	69.0
Staroi Bykhov	N. 53 31	E. 30 16	2.09 p.m.	423?	129?	29.32	744.6	29.90	759.5	26.1	—3.3	87.7	2	3	5	.....	6	10	2	3	.....	.....	.....	9	1.42	36.1
Tashkend	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.51	724.2	30.24	768.1	41.5	5.3	64.1	2	8	.....	.....	.....	.....	....	5	16	.....	.....	7	.....	.....
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1313	409	28.67	728.2	30.12	765.0	46.8	8.2	52.2	6	4	.....	1	2	5	.....	.....	13	.....	.....	5	0.53	13.5
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.62	701.4	30.28	769 2	23.5	—4.7	73.4	.....	2	2	2	.....	.....	.....	1	24	.....	.....	6	.....	.....
Viatka	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.26	743.3	29.94	760.4	18.0	—7.8	96.2	....	3	3	1	10	6	.....	1	7	.....	.....	10	0.80	20.4
Vladivostock	N. 43 09	E.132 00	8.56 p.m.	59?	18?	30.00	761.9	30.06	763.6	13.8	-10.1	69.6	12	7	1	.....	.....	.....	1	3	7	.....	.....	2	0.12	3.0
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.48	748.8	29.92	759 9	32.4	0.2	85.6	1	6	6	5	7	6	.....	.....	.....	.....	.....	9	0.92	23.5
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	30.09	764.3	30.41	772.5	4.5	-15.3	85.1	.....	1	12	3	1	2	3	1	8	.....	.....	7	0.74	18.8
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	98	30	29.96	761.0	30.08	761.9	50.7	10.4	73	1	16	8	.....	2	1	.....	3	.....	.....	.....	4	0.98	24.9
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.26	768.5	30.32	770.0	48.9	9.4	82	1	6	.....	.....	2	8	1	1	12	1146	1844	5	5.36	136.1
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.26	692.4	30.37	771.4	35.8	2.1	85	3	1	.....	2	6	.....	.....	18	1	3969	6388	6	0.91	23.1
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.96	710.2	30.27	768.8	44.1	6.7	64.9	2	.....	.....	4	1	8	4	12	.....	5684	9148	4	0.66	16.7
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	30.01	762.3	30.15	765.9	49.3	9.6	68	1	8	3	11	3	.....	1	4	.....	1980	3187	6	3.84	97.5
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.34	745.3	30.26	768.7	48.9	9.4	75	12	.....	.....	.....	.....	.....	2	9	8	6171	9931	6	0.68	17.3
Sub-Series.																										
Havana	N. 23 08	W.82 28	7.39 a.m.	62	19	30.06	763.5	30.13	765 2	66.9	19.4	86.6	2	1	.....	.....	.....	5	21	2	.....	.....	.....	3	0.32	8.1
Manilla	N. 14 35	E.120 56	8.12 p.m.	54	16	29.98	761.5	30.04	762.9	74.9	23.8	85.0	5	.....	.....	.....	1	3	8	14	.....	2955	5473	3	0.12	3.2
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	30.08	764.0	30.18	766.6	55.6	13.1	67.3	6	7	2	.....	.....	5	7	4	.....	.....	.....	4	3.58	90.7
San Juan de Porto Rico	N. 18 30	W.66 10	7.44 a.m.	82	25	29.95	760.8	30.04	763.1	75.7	24.3	83	6	.....	.....	.....	.....	5	6	2	12	.....	.....	4	17.66	448.6
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.60	751.8	29.64	752.8	22.8	—5.1	95	6	1	3	1	9	4	.....	2	5	.....	.....	8	1.74	44.3
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.60	751.7	29.65	752.0	24.6	—4.1	93	5	7	2	6	3	.....	.....	2	6	.....	.....	7	1.66	42.2
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.60	751.9	29.65	753.2	26.6	—3.0	86	3	1	.....	.....	2	1	.....	1	23	.....	.....	6	0.87	22.0
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.55	750.5	29.72	755.0	30.9	—0.6	87	4	3	10	6	2	1	.....	2	3	.....	.....	7	0.56	14.2
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.67	753.5	29.72	755.0	36.0	2.2	85	4	5	6	7	4	1	1	3	.....	.....	.....	7	1.86	47.2
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.61	752.1	29.70	754.3	29.3	—1.5	92.6	4	4	3	13	4	3	.....	.....	.....	.....	.....	7	0.73	18.6
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.73	729.7	30.22	767.5	36.5	2.5	82.1	8	3	3	1	9	4	.....	3	.....	.....	.....	8	2.49	63.2
TURKISH.																										
Constantinople	N 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.99	761.7	46.6	8.1	78	11	6	.....	9	1	2	.....	2	.....	.....	.....	8	11.10	281.9
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	29.99	761.8	54.9	12.7	.....	.....	9	.....	1	4	.....	.....	17	.....	.....	.....	5	3.78	96.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	30.02	762.4	63.5	17.5	63.1	3	3	.....	16	1	4	1	3	.....	.....	.....	6	6.45	163.8
Samakov *a*	N. 42 12	E. 23 45	1.42 p.m.	?	?	26.61	675.9	.....	.....	32.8	0.4	86.3	.....	.....	4	.....	.....	.....	2	.....	11	.....	.....	6	1.30	33.0
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	30.04	763.0	30.13	765 3	27.8	—2.3	74.2	9	5	1	4	9	.....	2	1	.....	4773	7681	7	2.55	64.8
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.33	745.0	30.04	763.0	21.2	—6.0	80.4	.....	3	12	5	6	3	.....	2	.....	7451	11991	8	2.20	55.9
Apache, Fort	N. 33 48	W.109 57	4.48 a.m.	5050	1539	25.05	636.3	30.13	765 3	31.1	—0.5	79.8	.....	.....	1	3	.....	11	8	8	.....	4148	6676	3	3.48	88.4
Assinaboine, Ft	N. 48 32	W.109 42	4.49 a.m.	2710	826	27.15	689.6	30.18	766.6	20.9	—6.2	68.7	2	3	.....	21	.....	.....	1	3	1	8725	14041	4	0.23	5.8
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1129	344	28.99	736.3	30.22	767.6	42.7	5.9	79.1	2	11	2	3	1	5	5	2	.....	7183	11560	4	4.84	122.9
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	30.12	765.0	30.12	765.0	34.4	1.3	79.7	10	10	2	5	1	1	.....	1	1	5390	8674	6	2.54	64.5
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	30.03	762.7	30.23	767.8	46.1	7.8	82.0	1	4	5	.....	2	3	.....	2	14	1723	2773	4	2.59	65.8
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.12	765.0	30.17	766.3	36.2	2.3	71.3	5	8	4	2	2	1	1	6	2	3634	5848	4	2.98	75.7
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	22	7	30.10	764.5	30.12	765.0	34.9	1.6	77.7	8	6	5	6	1	.....	2	3	.....	10859	17476	6	2.83	71.9
Bennett, Fort	N. 44 43	W.100 39	5.26 a.m.	1510	457	28.50	723.9	30.26	768.6	13.1	-10.5	84.0	1	5	.....	.....	.....	2	2	5	16	4304	6926	5	1.18	30.0
Benton, Fort	N. 47 50	W.110 40	4.45 a.m.	2700	823	27.25	692.1	30.25	768.3	21.8	—5.7	48.5	.....	1	1	11	.....	.....	.....	5	13	4962	7985	6	0.11	2.8
Bismarck	N. 46 47	W.100 38	5.26 a.m.	1694	516	28.22	716.8	30.24	768.1	11.1	-11.6	68.0	5	9	4	1	.....	2	6	.....	4	5635	9068	4	1.33	33.8
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	30.07	763.8	30.10	764.5	33.7	0.9	82.6	8	6	2	4	2	2	1	6	.....	13367	21511	5	2.85	72.4
Boise City	N. 43 37	W.116 08	4.24 a.m.	2750	838	27.35	694.7	30.33	770.4	.....	.....	.....	4	10	8	2	1	2	1	1	2	2753	4430	5	2.27	57.7
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.92	760.0	30.08	764.0	25.8	—3.4	77 0	4	11	6	6	3	1	.....	.....	.....	7455	11997	6	3.71	94.2
Brownsville	N. 25 53	W. 97 26	5.38 a.m	57	17	30.06	763.5	30.12	765.0	57.7	14.3	93.6	13	.....	.....	1	6	5	....	...	6	6112	9835	5	2.59	65.8
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	690	210	29.28	743.7	30.08	764.0	32.9	0.5	68.4	1	4	6	7	5	3	4	1	.....	9965	16037	7	2.74	69.6
Buford, Fort *c*	N. 48 00	W.103 56	5.12 a.m.	1930	588	27.97	710.4	30.24	768.1	6.9	-13.9	87.7	2	4	6	3	.....	2	2	7	2	.....	.....	4	0.11	2.8
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.79	756.7	30.21	767.3	37.5	3.1	75.0	9	1	1	5	8	1	2	1	3	6594	10612	6	2.18	55.4
Canby, Fort	N. 46 16	W.124 04	3.52 a.m.	179	54	29.85	758.2	30.05	763.3	43.3	6.3	88.4	3	1	4	5	.....	12	3	2	1	8933	14376	5	5.87	149.1
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.15	765.8	30.17	766.3	41.7	5.4	78.6	6	4	1	8	6	1	1	3	1	9061	14582	5	2.02	51.3
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.11	764.8	30.14	765.5	37.8	3.2	80.5	6	6	4	4	5	1	2	2	1	12615	20301	6	3.81	96.8
Cape Mendocino	N. 40 26	W.124 24	3.50 a.m.	637	194	29.42	747.3	30.12	765 0	48.3	9.1	81.0	7	7	.....	1	.....	12	.....	3	1	11895	19143	4	2.25	57.1
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.19	766.8	30.21	767.3	58.0	14.4	89.2	4	2	1	.....	3	4	6	9	2	4239	6822	3	0.32	8.1
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	30.12	765.0	30.18	766.6	51.2	10.7	85.7	4	1	4	7	.....	1	1	8	5	4556	7332	4	2.81	71.4
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.31	744.5	30.20	767.1	42.0	5.6	75.1	3	7	....	8	3	.....	2	8	.....	3102	4992	4	3.13	79.5
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.36	745.7	30.22	767.6	41.7	5.4	77.4	3	5	2	7	6	...	2	6	.....	4250	6840	5	3.82	97.0
Cheyenne	N. 41 08	W.104 48	5.09 a.m.	6089	1856	23.96	608.6	30.26	768.6	26.5	—3.1	61.6	7	13	6	2	1	1	.....	.....	1	7914*a*	12736*a*	3	0.80	20.3
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.34	745.2	30.10	764.5	26.7	—2.9	73.8	1	6	8	5	6	2	1	.....	2	5945	9557	5	1.59	40.4
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	18	5	30.13	765.3	30.15	765.8	38.2	3.4	83.0	4	8	3	5	4	...	1	3	3	8036	12932	6	1.92	48.8
Cincinnati	N. 39 06	W. 84 30	5.30 a.m.	620	189	29.48	748.8	30.18	766.6	35.6	2.0	82.3	2	6	3	6	2	4	2	2	4	3986	6415	5	5.61	142.5
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.33	745.0	30.12	765.0	30.4	—0.9	77.5	2	4	6	7	6	5	1	.....	.....	8397	13514	7	2.68	68.1
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.24	742.7	30.15	765.8	31.3	—0.4	78.3	2	3	7	4	9	4	.....	2	.....	5643	9081	6	4.12	104.6
Concho, Fort	N. 31 25	W.100 24	5.26 a.m.	1900	579	28.22	716.8	30.24	768.1	41.0	5.0	85.7	3	6	4	3	7	.....	.....	4	4	6094	9807	5	1.20	30.5
Custer, Fort	N. 45 42	W.107 34	4.58 a.m.	3940	926	26.85	682.0	30.25	768.3	20.7	—6.3	78.8	4	4	6	3	4	4	4	2	.....	4813	7746	6	1.87	47.5
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.40	746.7	30.11	764.8	26.7	—2.9	70.0	1	10	4	7	3	2	2	2	.....	6216	10004	6	0.99	25.1
Davis, Fort	N. 30 38	W.103 56	5.12 a.m.	4940	1506	25.29	642.4	30.23	767.8	36.1	2.3	73.2	6	.....	.....	7	4	1	1	2	10	5425	8730	3	0.81	20.6
Dayton	N. 46 19	W.117 56	4.16 a.m.	1667	508	28.38	720.8	30.22	767.6	30.1	—1.1	87.3	4	2	.....	4	6	1	.....	9	5	3708	5962	4	2.79	70.9
Deadwood	N. 44 23	W.103 43	5.13 a.m.	4600	1402	25.34	643.6	30.33	770.4	23.2	—4.9	78.1	5	1	5	3	1	4	2	1	9	2811	4524	3	1.01	25.7
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.13	765.3	30.15	765.8	37.1	2.8	80.8	5	6	2	5	8	2	.....	3	.....	11830	19038	6	2.26	57.4
Denver	N. 39 45	W.105 00	5.08 a.m.	5294	1614	24.71	627.6	30.23	767.8	27.8	—2.3	68.9	3	3	.....	1	18	3	1	2	.....	6001	9658	3	2.32	58.9
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.17	740.9	30.15	765.8	23.0	—5.0	72.3	8	5	5	4	1	3	1	2	2	4850	7805	4	1.08	27.4
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.35	745.5	30.11	764.8	31.3	—0.4	78.9	1	1	9	11	2	1	3	3	.....	7685	12367	7	2.67	67.8
Dodge City	N. 37 45	W.100 00	5.28 a.m.	2512	766	27.46	697.5	30.26	768.6	28.2	—2.1	75.4	2	6	8	3	1	4	.....	3	4	7055	11354	3	1.07	27.2
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.35	745.5	30.12	765.0	23.0	—5.0	65.5	2	6	7	4	8	2	1	1	.....	4159	6693	5	1.88	47.8
Duluth	N. 46 48	W. 92 06	6.00 a.m.	644	184	29.32	744.7	30.14	765.5	11.1	-11.6	82.8	2	7	9	7	2	.....	3	.....	1	6382	10271	5	3.02	76.7
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.94	760.5	30.01	762.2	22.2	—5.4	73.4	6	8	5	2	3	2	1	3	1	9116	14671	8	4.43	112.5
Elliott, Fort	N. 35 30	W.100 21	5.27 a.m.	2650	808	27.31	693.7	30.27	768.8	32.5	0.3	77.4	5	8	1	3	5	2	.....	2	5	8472	13634	3	0.84	21.3
El Paso	N. 31 47	W.106 30	5.02 a.m.	3764	1147	26.38	670.0	30.24	768.1	36.7	2.6	75.2	1	7	4	.....	.....	2	2	2	13	3105	4997	4	0.84	21.3
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.33	745.0	30.10	764.5	31.3	—0.4	81.3	2	6	2	8	8	1	2	2	.....	8500	13679	8	3.74	95.0
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	612	186	29.34	745.2	30.06	763.5	16.8	—8.4	81.1	3	10	3	8	6	.....	1	.....	.....	7419	11940	6	1.07	42.4
Fort Smith	N. 35 22	W. 94 24	5.50 a.m.	451	137	29.68	753.9	30.18	766 6	38.2	3.4	77.3	6	3	2	1	3	2	12	.....	2	4373	7038	5	3.09	78.5
Galveston	N. 29 18	W. 94 47	5.49 a.m.	40	12	30.09	764.3	30.13	765.3	57.5	14.2	79.8	7	1	2	2	4	5	6	4	.....	7854	12640	5	2.91	73.9
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.34	745.2	30.05	763.3	28.8	—1.8	81.1	3	4	3	5	5	2	3	4	2	9003	15454	8	1.54	39.1
Grant, Fort	N. 32 39	W.109 57	4.48 a.m.	4860	1481	25.27	641.8	30.15	765.8	38.5	3.6	67.5	5	5	.....	.....	5	7	5	4	.....	6097	9812	3	1.44	36.6
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	12	4	30.16	766.1	30.17	766.3	46.9	8.3	82.5	6	3	1	6	1	1	1	9	3	6633	10675	6	3.46	87.9
Helena *a*	N. 46 34	W.112 04	4.40 a.m.	4100	1250	25.80	655.3	30.18	766.6	26.0	—3.3	71.2	9	3	7	5	.....	.....	.....	1	5	3269	5261	3	1.02	25.9
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.67	728.2	30.21	767.3	13.3	-10.4	73.3	6	12	.....	2	2	6	2	.....	1	6971	11218	4	0.61	15.5
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.28	743.7	30.13	765.3	30.7	—0.7	75.8	2	6	5	3	9	3	.....	1	2	4576	7364	6	4.34	110.2
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	30.12	765.0	30.15	765.8	56.2	13.4	86.4	9	1	3	2	7	4	1	4	.....	10326	16618	4	1.77	45.0
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.16	766.1	30.21	767.3	53.8	12.1	89.2	5	3	3	1	4	2	.....	5	8	3443	5541	4	0.42	10.7
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.43	747.5	30.14	765.5	27.5	—2.5	76.1	2	5	4	6	2	4	2	1	5	4803	7730	4	1.20	30.5
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.11	764.8	30.13	765.3	69.5	20.8	83.4	2	1	.....	1	.....	.....	6	18	3	6606	10631	3	0.97	24.6

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for December, 1883.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																								
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.17	766.3	30.19	766.8	44.4	6.9	77.8	3	6	4	6	1	.....	2	9	.....	10034	16148	4	2.89	73.4
Knoxville	N. 35 56	W. 83 58	6.32 a.m	980	299	29.14	740.1	30.22	767.6	36.0	2.2	88.5	2	1	4	2	2	1	2	9	8	3439	5534	5	3.35	85.1
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.26	743.2	30.11	764.8	20.2	—6.6	75.1	7	4	3	1	13	2	.....	1	.....	6308	10152	5	1.06	26.9
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.22*a*	742.2*a*	30.18*a*	766.6*a*	30.5*a*	—0.8*a*	74.2*a*	2	9	2	3	7	1	1	1	5	5310	8546	4	0.65	16.5
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.35	745.5	30.23	767.8	31.9	—0.1	77.9	.....	1	.....	5	.....	8	.....	3	14	1513	2483	5	1.36	34.5
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.86	758.4	30.19	766.8	43.9	6.6	76.6	5	6	2	3	4	3	1	4	3	4038	6498	4	3.89	98.8
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	371	113	29.70	754.4	30.10	764 5	49.1	9.7	72.7	1	1	.....	.....	.....	.....	5	23	1	4391	7066	2	2.56	65.0
Louisville	N. 38 15	W 85 45	6.25 a.m.	530	162	29.56	750.8	30 16	766.1	37.8	3.2	77.3	3	1	8	2	8	3	.....	4	2	6433	10353	7	4.86	123.4
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.44	747.8	30.17	766.3	36.5	2.5	71.2	.....	4	2	10	3	2	1	3	6	2365	3806	5	5.91	150.1
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.32	744.7	30.02	762.5	23.5	—4.7	86.1	.....	8	7	1	6	5	2	2	.....	9171	14759	9	10.93?	277.6?
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.18	766.6	30.19	766.8	46.7	8.2	82.0	9	4	2	4	1	2	2	4	3	8615	13864	5	1.88	47.8
Maginnis, Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.52	648.2	30.15	765 8	23.6	—4.7	52.0	1	8	13	2	.....	3	1	3	.....	9717	15638	6	0.39	9.9
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.27	743.4	30.05	763.3	18.7	—7.4	74.2	3	6	11	4	3	2	.....	2	.....	8197	13191	7	2.01	50.8
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.83	757.7	30.19	766.8	42.2	5.7	81.5	2	6	4	1	1	10	1	4	2	4748	7641	6	5.86	148.8
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.28	743.7	30.09	764.3	23.7	—4.6	80.3	6	8	8	5	2	2	.....	.....	.....	10132	10306	6	1.96	49.8
Mobile	N. 30 41	W. 88 02	6.16 a.m.	41	12	30.14	765.5	30.18	766.6	51.5	10.8	83.8	19	2	3	1	2	2	1	.....	1	4268	6809	5	3.11	79.0
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.96	761.0	30.20	767 1	48.1	8.9	83.5	6	4	1	3	2	3	2	2	8	2787	4486	6	4.23	107.4
Moorhead *a*	N. 46 52	W. 96 44	5.41 a.m.	923	281	29.07	738.4	30.18	766.6	—0.5	—18.1	91.8	10	4	4	.....	5	3	2	1	1	7261	11685	5	1.47	37.3
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.43	595.1	30.06	763.5	7.6	—13.6	80.0*b*	.....	18	8	2	2	.....	1	.....	.....	.....	.....	4	2.66	67.6
Nashville	N. 36 10	W. 86 47	6.21 a.m.	549	167	29.58	751.3	30.19	766.8	39.4	4.1	86.4	3	4	7	2	3	4	6	2	.....	4935	7942	8	4.97	126.2
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	29.99	761.7	30.11	764.8	26.4	—3.1	81.2	10	8	1	4	3	.....	.....	5	.....	5800	9334	5	3.85	97.8
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	30.09	764.3	30.14	765.5	28.4	-2.0	76.2	10	5	5	3	.....	2	1	5	.....	5869	9445	5	3.62	91.9
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	30.11	764.8	30.17	766.3	56.3	13.5	81.7	6	2	2	.....	4	6	6	5	.....	5556	8941	6	3.47	88.1
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.95	760.7	30.14	765.5	31.2	—0.4	80.0	6	2	6	5	3	2	.....	5	2	5375	8650	6	3.40	86.4
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.14	765.5	30.17	766.3	42.3	5.7	77.7	4	1	3	6	2	1	.....	5	9	3495	5624	4	2.40	61.0
North Platte *b*	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.10	688.3	30.26	768.6	21.1	—4.4	79.3	1	3	5	.....	.....	1	1	2	16	4685	7541	4	1.43	36.3
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	30.05	763.3	30.09	764.3	37.5	3.1	86.9	.....	.....	1	1	7	.....	.....	.....	22	1738	2797	6	5.14	130.6
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.91	734.3	30.20	767.1	24.4	—4.2	72.7	7	4	5	4	5	2	2	.....	2	7076	11387	3	0.73	18.5
Oswego	N. 43 29	W. 76 35	7.02 a.m.	304	93	29.73	755.1	30.08	764.0	28.1	—2.2	69.9	2	3	4	2	8	8	1	3	.....	7891	12699	8	4.08	103.6
Palestine	N. 31 45	W. 95 40	5.45 a.m.	533	162	29.60	751.8	30.18	766.6	48.8	9.3	77.4	10	2	.....	3	8	1	2	5	.....	7017	11341	6	2.50	63.5
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.15	765.8	30.18	766.6	53.3	11.8	81.7	9	1	3	3	1	1	3	9	1	4231	6809	5	5.30	134.0
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	92	28	30.04	763.0	30.15	765.8	34.6	1.4	80.6	3	9	1	8	.....	1	1	6	2	4826	7767	6	2.76	70.1
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.62	447.5	30.28	769.1	7.5	—13.6	80.5	3	7	9	5	.....	.....	1	5	1	.....	.....	3	0.72	18.3
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	766	233	29.28	743.7	30.14	765.5	33.3	0.7	85.6	3	4	4	6	4	2	1	7	.....	5030	8095	8	3.40	86.4
Poplar, River *k*	N. 48 08	W. 105 10	5.07 a.m.	2030	619	.....	.....	.....	.....	—4.4	—20.2	91.6	1	3	9	2	.....	.....	.....	4	1	.....	.....	5	0.13	3.3
Port Huron	N. 43 00	W. 82 26	6.38 a.m	633	193	29.31	744.5	30.04	763.0	24.3	—4.3	82.0	1	6	6	6	7	1	1	1	2	7206	11597	7	1.30	33.0
Portland, Maine	N. 43 39	W. 70 15	7.27 a.m.	45	14	29.99	761.7	30.04	763 0	24.6	—4.1	75.0	7	8	7	3	1	.....	.....	4	1	6310	10155	6	2.63	66.8
Portland, Oreg *a*	N. 45 32	W. 122 43	3.57 a.m	67	20	30.04	763.0	30.11	764.8	39.4	4.1	87.5	1	1	2	4	13	1	3	.....	5	3876	6238	7	0.34	161.0
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5340	1628	24.82	630.4	30.19	766.8	32.7	0.4	80.9	.....	1	4	17	5	.....	3	1	.....	4242	6827	3	4.54	115.3
Provincetown	N. 42 03	W. 70 11	7.27 a.m.	26	8	30.04	763.0	30.07	763.8	31.9	—0.1	81.4	2	9	4	3	4	2	2	5	.....	9102	14648	8	2.60	66.0
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	332	101	29.80	756.9	30.16	766.1	38.4	3.6	91.4	11	10	.....	.....	7	.....	2	.....	1	3775	6075	3	0.52	13.2
Rio Grande City	N 26 22	W. 98 45	5.33 a.m.	230	70	29.95	760.7	30.20	767.1	54.9	12.7	91.0	9	5	2	.....	.....	8	1	3	3	3904	6283	4	1.07	27.2
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.39	746.5	30.10	764.5	26.3	—3.2	83.0	1	5	5	11	5	3	.....	1	.....	9511	15306	8	2.33	59.2
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.59	751.6	30.16	766.1	37.4	3.0	89.2	.....	.....	1	4	3	2	6	2	13	1724	2774	5	5.73	145.5
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	65	20	30.09	764.3	30.17	766.3	39.4	4.1	94.4	4	4	.....	.....	3	13	2	2	3	2845	4578	2	0.44	11.2
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	583	178	29.51	749.5	30.17	766.3	36.0	2.2	77.3	2	5	7	6	7	2	.....	2	.....	9148	14723	5	1.78	45.2
Saint Michael, Ft	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.75	755.6	29.79	756 7	3.7	—15.7	91.1	4	.....	.....	4	3	2	6	7	5	8490	13663	6	0.70	17.8
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	801	244	29.18	741.2	30.13	765.3	15.8	—9.0	68.0*a*	2	10	3	2	4	2	.....	1	7	3883	6249	4	1.59	40.4
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.19	741.4	30.18	766.6	—2.4	—19.1	89.7	4	13	.....	1	10	2	1	.....	.....	7746	12466	3	0.20	6.6
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.74	653.8	30.28	769.1	29.4	—1.4	61.3	2	5	1	.....	2	2	2	.....	17	2954	4802	5	1.20	30.5
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	30.00	762.0	30.07	763.8	52.0	11.1	71.9	1	1	.....	.....	2	.....	6	20	1	4034	6492	3	1.88	47.8
Sandusky	N 41 25	W. 82 40	6.37 a.m.	639	195	29.39	746.5	30.12	765.0	31.3	—0.4	74.8	1	6	5	12	7	.....	.....	.....	.....	9019	15480	7	2.61	66.3
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	30.10	764.5	30.13	765.3	33.2	0.7	76.0	5	8	3	8	.....	.....	2	5	.....	11491	18493	5	2.57	65.3
Sanford	N. 28 48	W. 81 23	6.42 a.m.	50	15	30.12	765.0	30.17	766.3	55.4	13.0	88.5	3	6	1	7	1	1	1	3	8	3686	5932	2	0.15	3.8
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	30.08	764.0	30.15	765 8	47.4	8.6	87.7	9	7	.....	4	3	7	.....	1	.....	4793	7713	4	0.92	23.4
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	30.10	764.5	30.20	767.1	50.8	10.4	77.6	9	4	4	4	4	.....	2	3	1	4316	6946	4	1.99	50.5
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.39	670.3	30.22	767.6	24.6	—4.1	68.5	2	1	5	13	.....	.....	.....	4	6	7042	11333	4	0.54	13.7
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.90	759.4	30.15	765.8	46.8	8.2	78.3	8	3	1	3	8	3	3	2	.....	4687	7543	7	3.07	78.0
Sitka	N. 57 03	W. 135 19	3.07 a m.	63	19	29.61	752.1	29.68	753 9	36.0	2.2	74.2	.....	.....	.....	1	2	1	20	2	5	9105	14653	7	14.54	369.3
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.15	765.8	30.19	766.8	47.6	8.7	82.8	9	5	3	3	.....	2	3	5	1	6192	9965	4	1.57	39.9
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	28.66	712.7	30.18	766.6	25.9	—3.4	71.6	11	4	2	5	1	.....	.....	.....	8	2373	3819	4	0.21	5.3
Springfield, Ill	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.41	747.0	30.14	765.5	30.3	—0.9	77.3	2	6	6	5	8	2	1	1	.....	7692	12379	5	3.17	80.5
Stockton, Fort	N. 30 53	W. 102 53	5.16 a.m.	3010	917	27.10	688.3	30.21	768.1	39.7	4.3	78.7	1	1	2	3	3	2	.....	.....	19	3552	5716	4	0.86	21.8
Tatoosh Id	N. 48 23	W. 124 44	3.21 a.m.	86	26	29.92	760.0	.....	.....	41.4	5.2	90.2	.....	1	2	5	5	2	15	1	.....	12577	20235	7	10.45	265.4
Thomas, Camp	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.36	694.9	30.18	766.6	37.4	3.0	82.7	.....	.....	1	.....	3	3	2	.....	22	.....	.....	4	1.07	27.2
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.36	745.7	30.10	764.5	30.2	—1.0	76.8	1	4	9	10	5	1	1	.....	.....	6697	10778	7	1.90	48.3
Unalaskka	N 53 53	W. 166 32	1.02 a.m.	13	4	29.03	752.6	29.66	753.4	30.4	—0.9	78.2	5	4	1	8	5	5	2	.....	1	11227	18068	8	13.64	346.4
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.94	760.5	30.20	767.1	48.4	8.9	78.9	8	2	1	1	2	10	2	.....	5	4303	7021	6	9.42	239.3
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	30.05	763.3	30.17	766.3	32.7	0.4	82.2	.....	6	1	7	1	.....	.....	6	10	3203	5155	6	2.89	73.4
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.05	661.7	30.20	767.1	25.2	—3.8	82.3	4	2	15	1	2	1	3	2	1	5835	9390	4	1.68	42.7
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	30.14	765.5	30.20	767.1	46.7	8.2	74.8	1	9	1	6	1	1	2	10	.....	4305	7025	5	1.22	31.0
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.77	730.7	30.20	767.1	18.8	—7.3	78.9	3	10	5	4	.....	1	2	1	5	6700	10782	4	0.91	23.1
Sub-Series.																										
Behring Island	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.53	750.0	29.55	750.6	28.0	—2.2	82.3	5	1	.....	3	1	2	11	8	.....	9586	15427	7	1.72	43.7
Bluefields	N. 12 00	W. 83 43	6.31 a.m.	.....	.....	.....	.....	.....	.....	74.7	26.8	.....	15	12	1	.....	.....	.....	.....	3	.....	.....	.....	7	17.0	431.8
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	21.99	558.7	.....	.....	52.3	11.3	73.5	.....	1	2	1	3	1	1	.....	22	.....	.....	5	2.17	55.1
Chimo, Ft.	N 59 00	W. 68 00	7.36 a m	126?	38?	29.94	760.5	30.10	764.5	—19.3	—28.5	100.	3	.....	.....	7	11	4	1	2	3	6368	10248	3	0.31	7.9
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	.....	.....	30.04*b*	763.0*b*	70.6	21.4	84.6	27	2	.....	.....	.....	.....	.....	.....	2	2081	3349	5	0.17	4.3
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.03	762.7	30.03	762.7	77.6	25.3	85	.....	.....	.....	.....	.....	3	28	.....	.....	.....	.....	5	4.32	109.7
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.39	746.5	29.95	760.7	77.9	25.5	87.5	1	.....	.....	.....	13	.....	.....	.....	17	.....	.....	9	5.02	127.5
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	74.9	23.8	89.6	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	.....	3	0.34	8.6
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	30.01	762.2	30.08	764.0	—25.7	—32.1	67.3	5	10	7	6	2	.....	1	.....	.....	.....	.....	5	0.61	15.5
U. S. COLOMBIA.																										
Sub-Series.																										
Colon	N. 9 22	W. 79 55	6.50 a.m.	7	2	29.89	759.1	29.89	759.3	79.0	26.1	85.7	19	.....	3	2	6	.....	1	.....	.....	.....	.....	7	10.39	264.0
Naos	N. 8 55	W. 79 32	6.50 a.m.	39	12	29.85	758.1	29.88	759.0	74.7	23.7	90.9	18	10	3	.....	.....	.....	.....	.....	.....	.....	.....	2	3.15	80.1

OCEAN SQUARE DATA FOR DECEMBER, 1883.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W. 22.5°	29.97	761.2	78.4	25.8							12	16		3	3.9
12.5 27.5	29.99	761.7	77.6	25.3							13	15		3	4.2
12.5 32.5	29.99	761.7	70.9	24.9	1						19	10		1	4.5
12.5 37.5	30.01	762.2	77.6	25.3							22	9			4.4
12.5 42.5	30.02	762.5	77.8	25.4	1						20	10			4.3
12.5 47.5	30.03	762.7	78.3	25.7						1	17	13			4.3
12.5 52.5	30.04	763.0	78.1	25.6					1	4	14	12			4.3
17.5 22.5	30.03	762.7	75.6	24.2	2	1					14	12		2	3.7
17.5 27.5	30.03	762.7	75.2	24.0	1						19	9		2	4.1
17.5 32.5	30.04	763.0	75.1	23.9	3	1		1			14	11		1	4.3
17.5 37.5	30.06	763.5	75.7	24.3	6	1	1				17	6			4.3
17.5 42.5	30.07	763.8	75.9	24.4	3					1	18	9			4.4
17.5 47.5	30.08	764.0	76.6	24.8	5				1	4	16	5			4.4
17.5 52.5	30.06	763.5	77.2	25.1					2	3	15	11			4.4
17.5 57.5	30.06	763.5	78.6	25.9		1	1	1	1	1	19	7			4.1
22.5 22.5	30.05	763.3	72.2	22.3	4		2		1		17	6	1		3.7
22.5 27.5	30.08	764.0	72.7	22.6	1	1	1	1		1	12	13		1	4.4
22.5 32.5	30.09	764.3	73.0	22.8	4	2		1	1	1	9	11		2	4.4
22.5 37.5	30.10	764.5	73.5	23.1	6	4		1		2	12	6			4.2
22.5 42.5	30.11	764.8	74.2	23.4	6	1			1	8	8	7			4.4
22.5 47.5	30.11	764.8	74.8	23.8	6				4	4	11	6			4.2
22.5 52.5	30.10	764.5	75.5	24.2	3			1	2	4	14	7			4.3
22.5 57.5	30.10	764.5	75.4	24.7	2	2	1	1		2	15	7		1	4.3
22.5 62.5	30.10	764.5	76.0	24.4	4	4	1	1			10	5			4.0
22.5 67.5	30.10	764.5	76.2	24.6	3	1			1	2	14	9		1	4.3
22.5 72.5	30.10	764.5	75.9	24.4	4					3	13	10		1	4.5
27.5 22.5	30.10	764.5	69.5	20.8	5	1		1	1	4	12	4	1	2	3.8
27.5 27.5	30.12	765.0	69.8	21.0	7		3		2	3	9	6		1	4.4
27.5 32.5	30.14	765.5	70.5	21.4	5	2	2		1	3	8	10			4.3
27.5 37.5	30.13	765.3	71.5	21.9	8	4	1		1	3	8	5		1	4.4
27.5 42.5	30.14	765.5	71.5	21.9	7	3	1		5	5	8	2			4.3
27.5 47.5	30.12	765.0	72.3	22.4	4	3	1		4	5	8	4	1	1	4.3
27.5 52.5	30.12	765.0	72.6	22.6	3	3	5	1	4	4	9	2			4.5
27.5 57.5	30.10	764.5	72.5	22.5	5	2	4	1	3	5	6	4	1		4.3
27.5 62.5	30.12	765.0	72.6	22.6	5	5	1	1	2	1	8	7	1		4.5
27.5 67.5	30.15	765.8	72.9	22.7	6	4	1	1	1	3	7	7	1		4.4
27.5 72.5	30.15	765.8	72.6	22.6	3	3	1	2	2	4	5	10		1	4.2
27.5 77.5	30.10	766.1	68.9	20.5	3	1		3	1	2	8	13			3.6
32.5 12.5	30.15	765.8	62.1	16.7	7	2			1	2	13	4		2	3.8
32.5 17.5	30.14	765.5	63.3	17.4	4	1		4	1	5	12	1	1	2	2.8
32.5 22.5	30.17	766.3	67.7	19.8	6	1		1	2	10	8	3			4.5
32.5 27.5	30.17	766.3	67.2	19.6	2	1	1	1	3	4	10	9			4.6
32.5 32.5	30.10	766.1	68.2	20.1	6		1	2	1	5	6	10			4.5
32.5 37.5	30.16	766.1	68.8	20.4	5	3	5	2	3	3	6	4			4.6
32.5 42.5	30.14	765.5	68.9	20.5	2	3	3	3	7	2	6	5			4.4
32.5 47.5	30.10	764.5	69.1	20.6	3	4	7	3	4	4	5	1			4.8
32.5 52.5	30.08	764.0	69.3	20.7	4	4	6	4	7	2	2	2			4.9
32.5 57.5	30.05	763.3	66.6	19.2	2	6	6	7	2	2	4	2			5.1
32.5 62.5	30.05	763.3	67.7	19.8	4	6	7	4	2		3	4		1	5.1
32.5 67.5	30.13	765.3	67.2	19.6	5	6	6	6	3			3	1	1	4.9
32.5 72.5	30.18	766.6	65.1	18.4	7	6		3	7	2	2	4			4.6
32.5 77.5	30.20	767.1	55.8	13.2	7	4	2	7	3	2	4	2			4.0
37.5 12.5	30.23	767.8	56.2	13.4	7	1				3	4	5	1		3.9
37.5 17.5	30.25	768.3	60.4	15.8	6	1		1	3	3	5	11	1		4.1
37.5 22.5	30.27	768.8	62.2	16.8	4			2	4	10	4	6	1		4.6
37.5 27.5	30.25	768.3	62.0	16.7	3		1	5	2	8	6	6			3.8
37.5 32.5	30.18	766.6	64.6	18.1	2	1	1	7	4	5	9	2			5.0
37.5 37.5	30.15	765.8	64.7	18.2	3	2	3	2	6	6	5	2		2	4.9
37.5 42.5	30.08	764.0	63.8	17.7	3	3	3	6	7	4	3	2			5.0
37.5 47.5	30.07	763.8	62.5	16.9	5	2	6	5	5	4	2	1		1	5.3
37.5 52.5	30.01	762.2	62.0	16.7	2	3	7	4	6	3	3	2		1	5.4
37.5 57.5	29.96	761.0	60.6	15.9	4	5	7	2	6	2	1	3		1	6.0
37.5 62.5	30.01	762.2	58.2	14.6	4	7	5	5	2	2	2	3		1	5.9
37.5 67.5	30.05	763.3	55.5	13.1	5	8	6	5	2	2		3			5.5
37.5 72.5	30.14	765.5	49.1	9.5	8	8	2	6	4	1	1	1			5.1
42.5 12.5	30.29	769.4	54.5	12.5	9	3	1		4	2		10	2		3.8
42.5 17.5	30.30	769.6	57.5	14.2	7	2	2	1	7	2	3	6	1		4.5
42.5 22.5	30.26	768.6	58.8	14.9	2	2	3	1	10	6	2	5			4.6
42.5 27.5	30.22	767.6	59.7	15.4	1		1	8	8	5	7	1			4.5
42.5 32.5	30.15	765.8	60.7	15.9	2	2		8	7	6	6				5.3
42.5 37.5	30.11	764.8	59.9	15.5	4	3	1	6	6	6	3	2			5.7
42.5 42.5	30.06	763.5	56.4	13.6	3	2	4	6	9	5	1	1			5.5
42.5 47.5	30.01	762.2	50.2	10.1	8	1	3	2	10	2	2	3			5.2
42.5 52.5	29.95	760.7	47.5	8.6	4	4	5	2	4	6	3	2			5.8
42.5 57.5	29.91	759.7	44.9	7.2	5	9	1	5	4	1	1	5			5.7
42.5 62.5	29.96	761.0	39.7	4.3	6	8	5	3	3		5	1			5.4
42.5 67.5	30.02	762.5	33.7	0.9	5	8	4	2	4	2	5	1			5.2
47.5 12.5	30.30	769.6	53.7	12.1	6	5	6	2	5	2	1	3			5.2
47.5 17.5	30.30	769.6	56.8	13.8	4	5	5	4	8	2	1	2			4.9
47.5 22.5	30.25	768.3	55.9	13.3	2	1	5	5	13	1	4				4.8
47.5 27.5	30.18	766.6	55.2	12.9	1	2	5	6	9	6	1			1	5.0
47.5 32.5	30.08	764.0	54.8	12.7	3	1	5	6	4	7	4			1	5.7
47.5 37.5	30.01	762.2	52.2	11.2	3	2	8	8	2	5	1	1		1	5.7
47.5 42.5	29.96	761.0	45.5	7.5	3	5	5	7	6	3	1	1			5.5
47.5 47.5	29.91	759.7	37.7	3.2	5	3	6	7	6	3	1				5.5
52.5 12.5	30.23	767.8	48.1	8.9	5	3	12		8		2	1			4.9
52.5 17.5	30.20	767.1	49.2	9.6	2	3	11	7	4	1	2	1			5.1
52.5 22.5	30.13	765.3	48.9	9.4	1	2	9	7	8	1	1	2			5.6
52.5 27.5	30.08	764.0	47.5	8.6	1	4	7	9	6	2	1	1			5.5
52.5 32.5	29.94	760.5	45.2	7.3	1	2	7	11	7	1		1	1		5.7
52.5 37.5	29.85	758.2	42.5	5.8		5	9	6	9		1	1			5.8
52.5 42.5	29.82	757.4	37.4	3.0	4	4	6	10	5	1	1				5.7
52.5 47.5	29.81	757.2	30.5	−0.8	4	5	5	5	5	1	2			1	5.3
57.5 12.5	29.94	760.5	43.4	6.3	2	3	14	10	2						5.2
57.5 17.5	29.92	760.0	42.5	5.8		5	12	8	6						5.7
57.5 22.5	29.83	757.7	41.4	5.2		5	7	11	6	1	1				5.7
57.5 27.5	29.77	756.1	39.1	3.9		3	10	6	9	3					5.5
57.5 32.5	29.70	754.4	36.3	2.4	1	3	10	9	6	2					6.0
57.5 37.5	29.67	763.6	33.7	0.9	3	4	9	5	9				1		5.7
57.5 42.5	29.67	753.6	30.8	−0.7	7	4	7	4	6	1		1		1	5.7
57.5 47.5	29.69	754.1			7	8	2	3	6		1	1			5.3

FORT CHIMO, UNGAVA, LABRADOR.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity Per cent	Wind. Direction. From.	Wind. Velocity. Miles per hour	Wind. Velocity. Metrs per sec.	Wind. Force 0-10	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0-10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall in past 24 hours. Inch.	Rainfall in past 24 hours. Mill.	WEATHER.
1882																		
November 1	29.81	757.2	29.95	760.7	28	— 2.2	88	ne.	.....	.....	6	.....	10 8	.....	ne.	0	0	cloudy.
2	30.05	763.3	30.20	767.1	20	— 6.7	84	nw.	.....	.....	6	.....	10 8	.....	nw.	0	0	cloudy.
3	30.23	767.8	30.38	771.6	22	— 5.6	87	sw.	7	3.1	.....	.....	10 8	.....	w.	0	0	cloudy.
4	29.96	761.0	30.11	764.8	22	— 5.6	100	w.	39	17.4	.....	.....	10 8	.....	w.	0	0	cloudy.
5	30.06	763.5	30.21	767.3	17	— 8.3	100	w.	20	11.6	.....	0	0	.....	.....	0	0	clear.
6	30.13	765.3	30.27	768.8	27	— 2.8	88	s.	20	8.9	.....	.....	10 8	.....	s.	0	0	cloudy.
7	30.04	763.0	30.18	766.6	28	— 2.2	88	s.	18	8.0	.....	.....	10 8	.....	s.	0	0	cloudy.
8	29.91	759.7	30.05	763.3	31	— 0.6	100	s.	10	4.5	.....	.....	10 nY	.....	s.	inap.	inap.	cloudy.†
9	29.66	753.4	29.80	756.9	33	0.6	88	sw.	18	8.0	.....	.....	10-8	.....	sw.	inap.	inap.	cloudy.
10	29.64	752.8	29.78	756.4	26	— 3.3	88	sw.	23	10.3	.....	.....	10 8	.....	sw.	0	0	cloudy.
11	29.91	759.7	30.05	763.3	23	— 5.0	88	sw.	28	12.5	.....	.....	10 8	.....	sw.	0	0	cloudy.
12	29.87	758.7	30.03	762.7	8	—13.3	100	sw.	7	3.1	.....	0	0	.....	.....	0	0	clear.
13	29.86	758.4	30.01	762.2	15	— 9.4	100	sw.	14	6.3	.....	.....	10 8	.....	sw.	0	0	cloudy.
14	29.61	752.1	29.77	756.1	4	—15.6	100	ne.	5	2.2	.....	0	0	.....	.....	0	0	clear.
15	29.66	738.1	29.22	742.2	13	—10.6	100	n.	10	4.5	.....	.....	10 8	.....	nw.	0.21	5.3	cloudy.
16	29.31	744.5	29.46	748.3	20	— 6.7	100	sw.	29	13.0	.....	.....	10 8	.....	sw.	0.07	1.8	cloudy.
17	29.63	752.6	29.78	756.4	22	— 5.6	100	sw.	30	13.4	.....	0	0	.....	.....	0.11	2.8	clear.
18	29.80	756.9	29.95	760.7	22	— 5.6	87	sw.	20	8.9	.....	.....	10 8	.....	sw.	0	0	cloudy.
19	30.05	763.3	30.20	767.1	14	—10.0	100	nw.	10	4.5	.....	.....	10 8	.....	sw.	0	0	cloudy.
20	30.04	763.0	30.19	766.8	20	— 6.7	100	sw.	32	14.3	.....	.....	10 8	.....	sw.	0	0	cloudy.
21	30.06	763.5	30.27	768.8	12	—11.1	100	sw.	10	4.5	.....	0	0	.....	.....	0	0	clear.
22	30.07	763.8	30.23	767.8	8	—13.3	100	sw.	1	0.4	.....	0	1 8	.....	sw.	0	0	clear.
23	29.99	761.7	30.15	765.8	7	—13.9	100	se.	8	3.6	.....	10 cs	0	se.	.....	0	0	cloudy.
24	29.92	760.0	30.07	763.8	14	—10.0	100	se.	4	1.8	.....	.....	10 8	.....	s.	0	0	cloudy.
25	29.88	758.9	30.03	762.7	25	— 3.9	100	ne.	20	8.9	.....	.....	10 8	.....	e.	0	0	cloudy.
26	29.83	757.7	29.97	761.2	30	— 1.1	100	ne.	38	17.0	.....	.....	10 8	.....	ne.	0.10	2.5	cloudy.
27	29.83	757.7	29.98	761.5	22	— 5.6	100	ne.	33	0.6	.....	.....	10 8	.....	ne.	0.16	4.1	cloudy.
28	29.88	758.9	30.03	762.7	21	— 6.1	100	n.	19	8.5	.....	.....	10 n	.....	nw.	0.09	2.3	light snow.
29	29.89	759.2	30.04	763.0	10	—12.2	100	nw.	16	7.2	.....	.....	10 8	.....	nw.	0.18	4.6	cloudy.
30	29.97	761.2	30.13	765.3	— 5	—20.6	100	s.	2	0.9	.....	.....	10 8	.....	s.	0	0	cloudy.
Mean	29.87	758.7	30.02	762.5	18.6	— 7.4	96.2	.....	17.8	8.0	.....	0.3	7.7	.....	.....	0.92	23.4	
December 1	29.71	754.6	29.87	758.7	— 3	—19.4	100	sw.	3	1.3	.....	.....	10 8	.....	s.	0	0	cloudy.
2	29.71	754.6	29.87	758.7	— 1	—18.3	100	s.	3	1.3	.....	0	8 8	.....	s.	0	0	cloudy.
3	29.81	757.2	29.97	761.2	12	—11.1	100	sw.	4	1.8	.....	.....	10 8	.....	s.	0	0	cloudy.
4	29.83	757.7	29.99	761.7	— 3	—19.4	100	sw.	26	11.6	.....	0	0	.....	.....	0	0	clear.
5	29.78	756.4	29.94	760.5	— 4	—20.0	100	sw.	26	11.6	.....	0	0	.....	.....	0	0	clear.
6	30.14	765.5	30.30	769.6	—19	—28.3	100	s.	2	0.9	.....	0	0	.....	.....	0	0	clear.
7	29.87	758.7	30.03	762.7	— 1	—18.3	100	se.	38	17.0	.....	.....	9 8	.....	s.	0	0	cloudy.
8	29.38	746.2	29.54	750.3	16	— 8.9	100	ne.	54	24.2	.....	.....	10 8	.....	ne.	0	0	cloudy.
9	28.19	716.0	28.35	720.1	— 5	—20.6	100	ne.	16	7.2	.....	0	2 8	.....	n.	0	0	clear.
10	28.92	734.6	29.08	738.6	6	—14.4	100	sw.	7	3.1	.....	0	0	.....	.....	0	0	clear.
11	29.19	741.4	29.35	745.5	—11	—23.9	100	sw.	8	3.6	.....	0	0	.....	.....	0	0	clear.
12	29.74	755.4	29.90	759.4	—14	—25.6	100	sw.	13	5.8	.....	0	0	.....	.....	0	0	clear.
13	29.80	756.9	29.96	761.0	—16	—26.7	100	w.	4	1.8	.....	.....	10 8	.....	w.	0	0	cloudy.
14	29.93	760.2	30.09	764.3	—12	—24.4	100	calm	0	0	.....	.....	10 8	.....	nw.	0	0	cloudy.
15	30.02	762.5	30.18	766.6	—13	—25.0	100	n.	18	8.0	.....	.....	10 8	.....	nw.	0.06	1.5	cloudy.
16	30.20	767.1	30.36	771.1	—18	—27.8	100	nw.	7	3.1	.....	.....	10 8	.....	nw.	0	0	cloudy.
17	30.24	768.1	30.40	772.1	—14	—25.6	100	w.	11	4.9	.....	.....	10 8	.....	sw.	0	0	cloudy.
18	30.15	765.8	30.31	769.9	—18	—27.8	100	calm	0	0	.....	0	0	.....	.....	0.03	0.8	clear.
19	30.08	764.0	30.24	768.1	—14	—25.6	100	s.	4	1.8	.....	0	0	.....	.....	0	0	clear.
20	29.90	759.4	30.06	763.5	—12	—24.4	100	sw.	15	6.7	.....	0	0	.....	.....	0	0	clear.
21	29.73	755.1	29.89	759.2	— 8	—22.2	100	nw.	8	3.6	.....	.....	10 8	.....	sw.	0	0	cloudy.
22	29.36	745.7	29.52	749.8	— 5	—20.6	100	s.	34	15.2	.....	.....	10 n	.....	s.	0.09	2.3	light snow.
23	28.80	731.5	28.96	735.6	— 8	—22.2	100	sw.	48	21.5	.....	.....	10 8	.....	sw.	0.46	11.7	cloudy.
24	29.10	739.1	29.26	743.2	—10	—23.3	100	se.	20	8.9	.....	.....	10 8	.....	e.	0	0	cloudy.
25	29.60	751.8	29.76	755.9	—18	—27.8	100	ne.	14	6.3	.....	.....	10 8	.....	ne.	0	0	cloudy.
26	30.05	763.3	30.21	767.3	—20	—28.9	100	n.	17	7.6	.....	.....	10 8	.....	nw.	0.06	1.5	cloudy.
27	30.02	762.5	30.18	766.6	—16	—26.7	100	nw.	14	6.3	.....	0	5 8	.....	w.	0	0	fair.
28	30.04	763.0	30.20	767.1	— 9	—22.8	100	sw.	12	5.4	.....	0	0	.....	.....	0	0	clear.
29	29.83	757.7	29.99	761.7	— 6	—21.1	100	s.	14	6.3	.....	.....	10 8	.....	s.	0	0	cloudy.
30	29.48	748.8	29.64	752.8	0	—17.8	100	se.	5	2.2	.....	.....	10 8	.....	se.	0	0	cloudy.
31	29.52	749.8	29.68	753.9	— 1	—18.3	100	sw.	4	1.8	.....	.....	10 8	.....	sw.	0	0	cloudy.
Mean	29.68	753.9	29.84	757.9	— 7.9	—22.2	100	.....	13.4	6.0	.....	.....	6.3	.....	.....	0.70	17.8	
1883.																		
January 1	29.64	752.8	29.80	756.9	—10	—23.3	100	s.	7	3.1	.....	6 ck	4 8	se.	s.	0	0	cloudy.
2	29.61	752.1	29.77	756.1	3	—16.1	100	nw.	18	8.0	.....	.....	10 8	.....	nw.	inap.	inap.	cloudy.
3	29.94	760.5	30.10	764.5	—13	—25.0	100	w.	32	14.3	.....	.....	10 8	.....	w.	inap.	inap.	cloudy.
4	29.59	751.6	29.75	755.6	— 9	—22.8	100	nw.	34	15.2	.....	.....	10 8	.....	w.	0	0	cloudy.
5	29.87	758.7	30.03	762.7	—10	—23.3	100	w.	38	17.0	.....	.....	10 8	.....	w.	0	0	cloudy.
6	29.97	761.2	30.13	765.3	—16	—26.7	100	w.	11	4.9	.....	0	7 8	.....	w.	0	0	fair.
7	29.87	758.7	30.03	762.7	—24	—31.1	100	s.	2	0.9	.....	.....	10 8	.....	s.	0	0	cloudy.
8	29.53	750.0	29.69	754.1	—20	—28.9	100	s.	2	0.9	.....	0	0	.....	.....	inap.	inap.	clear.
9	29.56	750.8	29.72	754.9	—25	—31.7	100	sw.	18	8.0	.....	0	0	.....	.....	0	0	clear.
10	29.28	743.7	29.44	747.8	— 5	—20.6	100	e.	8	3.6	.....	.....	10 8	.....	se.	0.01	0.3	cloudy.
11	29.10	739.1	29.26	743.2	— 5	—20.6	100	sw.	21	9.4	.....	.....	10 n	.....	sw.	0.09	2.3	light snow.
12	29.08	738.6	29.24	742.7	— 7	—21.7	100	calm	0	0	.....	0	0	.....	.....	0.02	0.5	clear.
13	29.26	743.2	29.42	747.3	—12	—24.4	100	s.	3	1.3	.....	0	0	.....	.....	0	0	clear.
14	29.43	747.5	29.59	751.6	—18	—27.8	100	calm	0	0	.....	.....	10 8	.....	sw.	0	0	cloudy.
15	29.58	751.3	29.74	755.4	—18	—27.8	100	sw.	5	2.2	.....	0	3 8	.....	sw.	0	0	clear.
16	29.83	757.7	29.99	761.7	—18	—27.8	100	sw.	16	7.2	.....	0	0	.....	.....	0	0	clear.
17	29.78	756.4	29.94	760.5	—13	—25.0	100	sw.	16	7.2	.....	0	6 8	.....	sw.	0	0	fair.
18	29.87	758.7	30.03	762.7	—20	—28.9	100	sw.	14	6.3	.....	0	0	.....	.....	0	0	clear.
19	30.11	764.8	30.27	768.8	—16	—26.7	100	sw.	4	1.8	.....	0	0	.....	.....	0	0	clear.
20	30.51	774.9	30.67	779.0	—20	—28.9	100	s.	15	6.7	.....	0	0	.....	.....	0	0	clear.
21	29.41	747.0	29.57	751.1	7	—13.9	100	se.	8	3.6	.....	.....	10 8	.....	se.	0	0	cloudy.
22	28.38	720.8	28.54	724.9	— 9	—22.8	100	sw.	38	17.0	.....	.....	10 8	.....	sw.	0.29	7.4	cloudy.
23	29.09	738.9	29.25	742.9	—16	—26.7	100	sw.	26	11.6	.....	0	0	.....	.....	0	0	clear.
24	29.47	748.5	29.63	752.6	—17	—27.2	100	sw.	17	7.6	.....	4 c	0	sw.	.....	0	0	fair.
25	29.56	750.8	29.72	754.9	—20	—28.9	100	sw.	23	10.3	.....	10 c	0	sw.	.....	0	0	cloudy.
26	29.46	748.3	29.62	752.3	—20	—28.9	100	sw.	12	5.4	.....	0	0	.....	.....	0	0	clear.
27	29.84	757.9	30.00	762.0	—25	—31.7	100	calm	0	0	.....	0	0	.....	.....	0	0	clear.
28	29.87	758.7	30.03	762.7	—19	—28.3	100	sw.	3	1.3	.....	0	0	.....	.....	0	0	clear.
29	29.93	760.2	30.09	764.3	—20	—28.9	100	calm	0	0	.....	0	0	.....	.....	0	0	clear.
30	29.81	757.2	29.97	761.2	— 2	—18.9	100	calm	0	0	.....	10 ck	0	s.	.....	0	0	cloudy.
31	29.57	751.1	29.73	755.1	—14	—25.6	100	e.	1	0.4	.....	0	0	.....	.....	0	0	clear.
Mean	29.61	752.1	29.77	756.1	—13.9	—25.5	100	.....	12.6	5.6	.....	1	3.9	.....	.....	0.41	10.2	

FORT CHIMO, UNGAVA.—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Mill.	Reduced to sea-level. Inch.	Mill.	Temperature of the air. Fah.	Cent.	Relative Humidity Per cent.	Wind. Direction. From	Velocity. Miles per hour	Metrs prsec.	Force 0-10	Clouds. Amount. Upper. 0-10	Lower. 0-10	Direction. Up'er From	Lo'er From	Rainfall in past 24 hours. Inch.	Mill.	WEATHER.
1883.																		
February 1	28.95	735.3	29.10	739.1	6	—14.4	100	n.	22	9.8	.....	.....	10 n	.....	w.	0.04	1.0	light snow.
2	29.56	750.8	29.72	754.9	—22	—30.0	100	w.	40	17.9	.....	0	0	.....	.....	0.12	3.0	clear.
3	30.01	762.3	30.17	766.3	—23	—30.6	100	sw.	37	16.5	.....	.....	10 s	.....	sw.	0	0	cloudy.
4	30.17	766.3	30.33	770.4	—25	—31.7	100	sw.	12	5.4	.....	.....	10 s	.....	s.	0	0	cloudy.
5	29.80	756.9	29.96	761.0	—26	—32.2	100	calm	0	0	.....	0	0	.....	.....	0	0	clear.
6	29.64	752.8	29.80	756.9	—28	—33.3	100	calm	0	0	.....	0	0	.....	.....	0	0	clear.
7	29.28	743.7	29.44	747.8	—14	—25.0	100	s.	4	1.8	.....	.....	10 s	.....	s.	0	0	cloudy.
8	29.45	748.0	29.61	752.1	—30	—34.4	100	s.	18	8.0	.....	0	0	.....	.....	0	0	clear.
9	29.55	750.6	29.71	754.6	—28	—33.3	100	sw.	18	8.0	.....	0	0	.....	.....	0	0	clear.
10	29.83	757.7	29.99	761.7	—26	—32.2	100	sw.	28	12.5	.....	0	0	.....	.....	0	0	clear.
11	29.70	754.4	30.86	758.4	—27	—32.8	100	sw.	11	4.9	.....	0	0	.....	.....	0	0	clear.
12	29.73	755.1	29.89	759.2	—10	—20.7	100	sw.	10	4.5	.....	0	0	.....	.....	0	0	clear.
13	29.80	756.9	29.96	761.0	—18	—27.8	100	sw.	13	5.8	.....	7 c	3 s	sw.	sw.	0	0	cloudy.
14	29.99	761.7	30.15	765.8	—18	—27.8	100	w.	27	12.1	.....	0	0	.....	.....	0	0	clear.
15	30.26	768.6	30.42	772.7	—23	—30.6	100	sw.	26	11.6	.....	0	0	.....	.....	0	0	clear.
16	30.01	762.2	30.17	766.3	—11	—23.9	100	s.	16	7.2	.....	10 c	0	s.	.....	0	0	cloudy.
17	29.11	739.4	29.27	743.4	2	—16.7	100	calm	0	0	.....	.....	10 s	.....	s.	0.06	1.5	cloudy.
18	29.11	739.4	29.27	743.4	—24	—31.1	100	nw.	38	17.0	.....	.....	10 s	.....	w.	blank	blank	cloudy.
19	29.61	752.1	29.77	756.1	—24	—31.1	100	sw.	18	8.0	.....	10 c	0	sw.	.....	0	0	cloudy.
20	29.72	754.9	29.88	758.9	—25	—31.7	100	s.	18	8.0	.....	.....	10 s	.....	s.	0	0	cloudy.
21	29.57	751.1	29.73	755.1	—28	—33.3	100	calm	0	0	.....	10 c	0	.....	.....	0	0	cloudy.
22	29.83	757.7	29.99	761.7	—30	—34.4	100	s.	4	1.8	.....	10 c	0	se.	.....	0	0	cloudy.
23	29.94	760.5	30.10	764.5	—20	—28.9	100	sw.	22	9.8	.....	.....	10 s	.....	sw.	0	0	cloudy.
24	30.33	770.4	30.49	774.4	—14	—25.6	100	s.	17	7.6	.....	0	0	.....	.....	0	0	clear.
25	29.83	757.7	29.99	761.7	—11	—23.9	100	s.	1	0.4	.....	0	0	.....	.....	0	0	clear.
26	29.70	754.4	29.85	758.2	8	—13.3	100	ne.	44	19.7	.....	.....	10 s	.....	ne.	blank	blank	cloudy.
27	29.67	753.6	29.83	757.7	—24	—31.1	100	nw.	10	4.5	.....	0	0	.....	.....	0	0	clear.
28	29.80	756.9	29.96	761.0	—29	—33.9	100	w.	8	3.6	.....	0	0	.....	.....	0	0	clear.
Mean	29.69	754.1	29.84	757.9	—19.6	—28.7	100	.....	16.5	7.4	.....	2.0	3.3	.....	.....	0.22	5.5	
March 1	29.77	756.1	29.93	760.2	—29	—33.9	100	s.	11	4.9	.....	0	0	.....	.....	0	0	clear.
2	29.81	757.2	29.97	761.2	—27	—32.8	100	sw.	10	4.5	.....	0	0	.....	.....	0	0	clear.
3	29.87	758.7	30.03	762.7	—27	—32.8	100	s.	11	4.9	.....	10 c	0	se.	.....	0	0	cloudy.
4	30.04	763.0	30.20	767.1	—31	—35.0	100	s.	5	2.2	.....	5 ck	0	.....	.....	0	0	fair.
5	29.94	760.5	30.10	764.5	—36	—37.8	100	s.	4	1.8	.....	.....	10 s	.....	.....	0	0	cloudy.
6	30.18	766.6	30.34	770.6	—41	—40.6	100	calm	0	0	.....	0	0	.....	.....	0	0	clear.
7	30.14	765.5	30.30	769.6	—44	—42.2	100	calm	0	0	.....	0	0	.....	.....	0	0	clear.
8	29.90	759.4	30.06	763.5	—12	—24.4	100	n.	41	18.3	.....	.....	10 s	.....	n.	0	0	cloudy.
9	28.57	725.7	28.73	729.7	—12	—24.4	100	se.	38	17.0	.....	.....	10 n	.....	e.	.....	.....	light snow.
10	29.40	746.7	29.56	750.8	—20	—28.9	100	s.	34	15.2	.....	10 c	0	s.	.....	0	0	cloudy.
11	28.92	734.6	29.08	738.6	— 8	—22.2	100	calm	0	0	.....	.....	10 n	.....	ne.	.....	.....	light snow.
12	28.70	729.0	28.86	733.0	—18	—27.8	100	sw.	12	5.4	.....	10 cs	0	s.	.....	blank	blank	cloudy.
13	29.11	739.4	29.27	743.4	—16	—26.7	100	sw.	8	3.6	.....	10 cs	0	sw.	.....	0	0	cloudy.
14	29.40	746.7	29.56	750.8	— 8	—22.2	100	sw.	14	6.3	.....	10 cs	0	s.	.....	0	0	cloudy.
15	29.43	747.5	29.59	751.6	—14	—25.6	100	sw.	2	0.9	.....	10 ck	0	w.	.....	.....	.....	cloudy.
16	29.47	748.5	29.63	752.6	— 5	—20.6	100	sw.	16	7.2	.....	.....	10 s	.....	w.	0	0	cloudy.
17	29.48	748.8	29.64	752.8	—10	—23.3	100	calm	0	0	.....	5 ck	5 s	s.	se.	0	0	cloudy.
18	29.10	739.1	29.26	743.2	—10	—23.3	100	ne.	17	7.6	.....	10 ck	0	se.	.....	blank	blank	cloudy.
19	28.95	735.3	29.11	739.4	—20	—28.9	100	sw.	18	8.0	.....	.....	10 s	.....	sw.	blank	blank	cloudy.
20	29.73	755.1	29.89	759.2	—10	—23.3	100	s.	4	1.8	.....	0	0	.....	.....	blank	blank	clear.
21	29.83	757.7	29.99	761.7	—15	—26.1	100	calm	0	0	.....	0	0	.....	.....	0	0	clear.
22	30.10	764.5	30.26	768.6	—13	—25.0	100	calm	0	0	.....	7 c., ck	0	se.	.....	0	0	fair.
23	29.10	739.1	29.26	743.2	5	—15.0	100	s.	38	17.0	.....	.....	10 s	.....	se.	blank	blank	cloudy.
24	30.45	773.4	30.61	777.5	0	—17.8	100	calm	0	0	.....	.....	10 s	.....	se.	blank	blank	cloudy.
25	30.05	763.3	30.19	766.8	35	1.7	100	se.	28	12.5	.....	.....	10 s	.....	se.	0.07	1.8	cloudy.
26	30.02	762.5	30.16	766.1	26	— 3.3	100	calm	0	0	.....	.....	9 s	.....	sw.	0	0	cloudy.
27	30.33	770.4	30.49	774.4	2	—16.7	100	se.	4	1.8	.....	.....	10 s	.....	s.	0	0	cloudy.
28	29.75	755.6	29.89	759.2	35	1.7	100	se.	11	4.9	.....	.....	10 n	.....	se.	0.07	1.8	light rain.
29	29.59	751.6	29.73	755.1	34	1.1	100	se.	4	1.8	.....	.....	10 s	.....	se.	0	0	cloudy.
30	29.60	751.8	29.74	755.4	26	— 3.3	100	ne.	18	8.0	.....	.....	10 s	.....	e.	0	0	cloudy.
31	29.87	758.7	30.03	762.7	5	—15.0	100	n.	12	5.4	.....	.....	10 s	.....	nw.	0	0	cloudy.
Mean	29.63	752.6	29.79	756.7	— 8.3	—22.4	100	.....	11.6	5.2	.....	2.8	5.0	.....	.....	.....	.....	
April 1	29.80	756.9	29.96	761.0	3	—16.1	100	nw.	22	9.8	.....	10 ck	0	se.	.....	0	0	cloudy.
2	29.80	756.9	29.95	760.7	0	—14.4	100	w.	18	8.0	.....	.....	10 s	.....	nw.	0	0	cloudy.
3	29.80	756.9	29.96	761.0	2	—16.7	100	nw.	26	11.6	.....	.....	10 s	.....	w.	0	0	cloudy.
4	29.92	760.0	30.08	764.0	— 8	—22.2	100	sw.	3	1.3	.....	0	0	.....	.....	0	0	clear.
5	29.78	756.4	29.94	760.5	— 2	—18.9	100	s.	8	3.6	.....	10 c	0	se.	.....	0	0	cloudy.
6	29.04	737.6	29.19	741.4	16	— 8.9	100	ne.	8	3.6	.....	.....	10 n	.....	ne.	.....	.....	light snow.
7	29.80	756.9	29.96	761.0	0	—17.8	100	w.	26	11.6	.....	.....	10 s	.....	w.	0.13	3.3	cloudy.
8	29.57	751.1	29.73	755.1	—12	—24.4	100	calm	0	0	.....	0	0	.....	.....	0	0	clear.
9	29.51	749.5	29.67	753.6	—17	—27.2	100	ne.	6	2.7	.....	.....	10 n	.....	ne	.....	.....	light snow.
10	29.83	757.7	29.99	761.7	— 3	—19.4	100	sw.	18	8.0	.....	.....	10 s	.....	sw.	0	0	cloudy.
11	30.09	764.3	30.25	768.3	— 5	—20.6	100	calm	0	0	.....	0	0	.....	.....	0	0	clear.
12	29.35	745.5	29.50	749.3	21	— 6.1	100	calm	0	0	.....	.....	10 n	.....	.....	0.11	2.8	light snow.
13	30.10	764.5	30.26	768.6	3	—16.1	100	sw.	17	7.6	.....	0	0	.....	.....	0	0	clear.
14	30.42	772.7	30.58	776.7	3	—16.1	100	s.	11	4.9	.....	3 c	0	s.	.....	0	0	clear.
15	29.92	760.0	30.07	763.8	22	— 5.6	100	ne.	31	13.9	.....	.....	10 n	.....	ne.	0.07	1.8	light snow.
16	29.80	756.9	29.95	760.7	23	— 5.0	100	ne.	18	8.0	.....	.....	10 n	.....	ne.	0.05	1.3	light snow.
17	29.55	750.6	29.69	754.1	27	— 2.8	100	calm	0	0	.....	.....	10 s	.....	ne.	0.12	3.0	cloudy.
18	29.72	754.9	29.87	758.7	10	—12.2	100	calm	0	0	.....	10 c	0	.....	sw.	0	0	cloudy.
19	29.70	754.4	29.86	758.4	1	—17.2	100	calm	0	0	.....	.....	10 s	.....	w.	blank	blank	cloudy.
20	29.90	759.4	30.05	763.3	11	—11.7	100	n.	8	3.6	.....	.....	10 n	.....	ne.	.....	.....	light snow.
21	30.12	765.0	30.27	768.8	13	—10.6	100	nw.	4	1.8	.....	.....	10 n	.....	n.	.....	.....	light snow.
22	30.27	768.8	30.42	772.7	15	— 9.4	100	ne.	19	8.5	.....	.....	10 n	.....	ne.	.....	.....	cloudy.
23	29.77	756.1	29.92	760.0	25	— 3.9	100	ne.	11	4.9	.....	.....	10 s	.....	ne.	.....	.....	cloudy.
24	29.75	755.6	29.89	759.2	35	1.7	100	calm	0	0	.....	.....	10 s	.....	se.	0.02	0.5	cloudy.
25	29.72	754.9	29.86	758.4	25	— 3.9	100	calm	0	0	.....	0	0	.....	.....	0	0	clear.
26	29.65	753.1	29.80	756.9	18	— 7.8	100	calm	0	0	.....	10 c	0	.....	.....	0	0	cloudy.
27	29.41	747.0	29.56	750.8	18	— 7.8	100	sw.	17	7.6	.....	.....	10 n	.....	sw.	0.14	3.6	heavy snow.
28	29.72	754.9	29.87	758.7	19	— 7.2	100	ne.	2	0.9	.....	3 c	0	s.	.....	0	0	clear.
29	29.78	756.4	29.92	760.0	31	— 0.6	88	e.	31	13.9	.....	10 c	0	se.	.....	0	0	cloudy.
30	29.58	751.3	29.72	754.9	33	0.6	100	ne.	11	4.9	.....	.....	10 n	.....	he.	0.01	0.3	light snow.
Mean	29.77	756.1	29.92	760.0	11.1	—11.6	99.6	.....	10.5	4.7	.....	1.9	6.0	.....	.....	.....	.....	

FORT CHIMO, UNGAVA.—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount. Upper.	Clouds. Amount. Lower.	Clouds. Direction. Up'er	Clouds. Direction. Lo'er	Rainfall or melted snow in past 24 hours.		WEATHER.
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles perhour	Metrs pr sec.	0-10	0-10	0-10	From	From	Inch.	Mill.	
1883.																		
May 1	29.75	755.6	29.89	759.2	25	— 3.9	100	w.	18	8.0	.....	.....	10 n	.....	w.	0.10	2.5	light snow.
2	30.04	763.0	30.18	766.6	28	— 2.2	88	sw.	14	6.3	.....	.....	10 s	.....	w.	0.04	1.0	cloudy.
3	29.99	761.7	30.14	765.5	22	— 5.6	100	calm.	0	0	.....	0	0	.....	.....	inap.	inap.	clear.
4	30.26	768.6	30.41	772.4	18	— 7.8	100	calm.	0	0	.....	0	0	.....	.....	0	0	clear.
5	30.36	771.1	30.51	774.9	19	— 7.2	80	calm.	0	0	.....	0	0	.....	.....	0	0	clear.
6	30.06	763.5	30.20	767.1	35	1.7	79	se.	11	4.9	.....	.....	10 s	.....	se.	0	0	cloudy.
7	29.90	759.4	30.04	763.0	35	1.7	100	n.	8	3.6	.....	.....	10 n	.....	e.	0.02	0.5	light snow.
8	29.54	750.3	29.68	753.9	38	3.3	89	e.	13	5.8	.....	0	7 s	.....	se.	inap.	inap.	fair.
9	29.66	753.4	29.80	756.9	37	2.8	89	n.	12	5.4	.....	.....	10 s	.....	ne.	0.13	3.3	cloudy.
10	30.05	763.3	30.19	766.8	35	1.7	100	n.	6	2.7	.....	.....	10 s	.....	ne.	0.04	1.0	cloudy.
11	30.23	767.8	30.37	771.4	37	2.8	89	calm.	0	0	.....	.....	10 s	.....	ne.	0	0	cloudy.
12	29.84	757.9	29.98	761.5	41	5.0	82	se.	6	2.7	.....	.....	10 s	.....	se.	0	0	cloudy.
13	29.67	753.6	29.81	757.2	39	3.9	100	calm.	0	0	.....	.....	fog	.....	s.	0.02	0.5	foggy.
14	29.55	750.6	29.69	754.1	33	0.6	100	nw.	8	3.6	.....	.....	10 n	.....	nw.	0.07	1.8	light snow.
15	29.51	749.5	29.65	753.1	35	1.7	100	nw.	6	2.7	.....	.....	10 n	.....	nw.	0.08	2.0	light snow.
16	29.72	754.9	29.86	758.4	32	0.0	100	sw.	8	3.6	.....	.....	10 s	.....	w.	0.06	1.5	cloudy.
17	29.84	757.9	29.99	761.7	24	— 4.4	100	calm.	0	0	.....	0	0	.....	.....	inap.	inap.	clear
18	30.11	764.8	30.25	768.3	29	— 1.7	100	nw.	3	1.3	.....	.....	10 s	.....	w.	inap.	inap.	cloudy.
19	30.01	762.2	30.15	765.8	36	2.2	100	s.	2	0.9	.....	10 ck	0	s.	.....	inap.	inap.	cloudy.
20	29.21	741.9	29.35	745.5	34	1.1	100	nw.	21	9.4	.....	.....	10 n	.....	nw.	0.16	4.1	light rain.
21	29.58	751.3	29.72	754.9	29	— 1.7	100	nw.	43	19.2	.....	.....	10 s	.....	nw.	0.20	5.1	cloudy.
22	30.01	762.2	30.15	765.8	26	— 3.3	100	w.	15	6.7	.....	.....	10 s	.....	w.	0	0	cloudy.
23	30.15	765.8	30.29	769.4	27	— 2.8	100	sw.	8	3.6	.....	0	0	.....	.....	0	0	clear.
24	30.06	763.5	30.20	767.1	30	2.2	79	se.	2	0.9	.....	0	0	.....	.....	0	0	clear.
25	29.97	761.2	30.11	764.8	30	— 1.1	78	calm.	0	0	.....	0	0	.....	.....	inap.	inap.	clear.
26	29.97	761.2	30.11	764.8	34	1.1	100	calm.	0	0	.....	.....	10 s	.....	.....	inap.	inap.	cloudy.
27	29.60	751.8	29.74	755.4	36	2.2	89	n.	17	7.6	.....	.....	10 s	.....	n.	0	0	cloudy.
28	29.45	748.0	29.59	751.6	41	5.0	100	calm.	0	0	.....	.....	10 s	.....	.....	0.11	2.8	cloudy.
29	29.41	747.0	29.55	750.6	37	2.8	100	calm.	0	0	.....	.....	10 s	.....	s.	0.12	3.0	cloudy.
30	29.67	753.6	29.81	757.2	41	5.0	92	n.	7	3.1	.....	.....	10 s	.....	ne.	0.05	1.3	cloudy.
31	30.01	762.2	30.15	765.8	33	0.6	88	nw.	27	12.1	.....	.....	10 s	.....	nw.	inap.	inap.	cloudy.
Mean	29.84	757.9	29.99	761.7	32.3	0.2	94.3	.....	8.2	3.7	.....	0.3	7.0	.....	.....	1.09	27.7	
June 1	29.92	760.0	30.06	763.5	40	4.4	65	w.	18	8.0	.....	10 cs	0	se.	.....	inap.	inap.	cloudy.
2	29.72	754.9	29.86	758.4	42	5.6	82	s.	3	1.3	.....	0	0	.....	.....	0	0	clear.
3	29.78	756.4	29.92	760.0	35	1.7	100	s.	14	6.3	.....	0	3 s	.....	sw.	0.13	3.3	clear.
4	29.99	761.7	30.13	765.3	40	4.4	73	sw.	10	4.5	.....	6 ck	0	s.	.....	0	0	fair.
5	30.11	764.8	30.25	768.3	36	2.2	79	ne.	26	11.6	.....	0	8 s	.....	ne.	0	0	cloudy.
6	30.14	765.5	30.28	769.1	32	0.0	78	calm.	0	0	.....	0	0	.....	.....	0	0	clear.
7	29.42	747.3	29.56	750.8	44	6.7	100	calm.	0	0	.....	.....	10 n	.....	s.	0.04	1.0	light rain.
8	29.37	746.0	29.51	749.5	35	1.7	100	n.	18	8.0	.....	.....	10 s	.....	n.	0.29	7.4	cloudy.
9	29.72	754.9	29.86	758.4	34	1.1	78	nw.	23	10.3	.....	.....	10 s	.....	w.	0	0	cloudy.
10	29.95	760.7	30.09	764.3	38	3.3	72	w.	27	12.1	.....	.....	10 s	.....	sw.	0	0	cloudy.
11	29.89	759.2	30.03	762.7	44	6.7	52	calm.	0	0	.....	0	0	.....	.....	0	0	clear.
12	29.62	752.3	29.76	755.9	46	7.8	60	calm.	0	0	.....	0	0	.....	.....	0	0	clear.
13	29.00	736.6	29.14	740.1	36	2.2	100	ne.	25	11.2	.....	.....	10 n	.....	ne.	0.18	4.6	light rain.
14	29.48	748.8	29.62	752.3	41	5.0	82	sw.	37	16.5	.....	.....	10 s	.....	sw.	0.16	4.1	cloudy.
15	29.68	753.9	29.82	757.4	36	2.2	79	w.	34	15.2	.....	0	8 ks	.....	w.	0	0	cloudy.
16	29.70	754.4	29.84	757.9	38	3.3	89	calm.	0	0	.....	.....	10 ks	.....	s.	.....	.....	cloudy.
17	29.82	757.4	29.96	761.0	39	3.9	82	ne.	2	0.9	.....	0	6 ks	.....	se.	0	0	fair.
18	29.90	759.4	30.04	763.0	38	3.3	89	sw.	10	4.5	.....	0	8 ks	.....	sw.	0	0	cloudy.
19	29.85	758.2	29.99	761.7	41	5.0	82	w.	8	3.6	.....	.....	10 ks	.....	w.	0	0	cloudy.
20	29.78	756.4	29.92	760.0	40	4.4	82	calm.	0	0	.....	0	8 ks	.....	w.	0	0	cloudy.
21	29.72	754.9	29.86	758.4	41	5.0	92	ne.	8	3.6	.....	0	8 ks	.....	n.	0	0	cloudy.
22	29.62	752.3	29.76	755.9	44	6.7	100	se.	7	3.1	.....	.....	10 n	.....	se.	1.40	35.6	light rain.
23	29.77	756.1	29.91	759.7	48	8.9	77	s.	7	3.1	.....	.....	10 ks	.....	s.	0.03	0.8	cloudy.
24	29.98	761.5	30.12	765.0	48	8.9	63	sw.	11	4.9	.....	5 c	0	s.	.....	0	0	fair.
25	30.07	763.8	30.21	767.3	46	7.8	83	sw.	4	1.8	.....	.....	10 s	.....	sw.	0	0	cloudy.
26	30.18	766.6	30.32	770.1	42	5.6	82	w.	7	3.1	.....	0	0	.....	.....	0	0	clear.
27	29.96	761.0	30.10	764.5	47	8.3	48	calm.	0	0	.....	0	0	.....	.....	0	0	clerr.
28	29.62	752.3	29.76	755.9	50	10.0	100	sw.	41	18.3	.....	.....	10 n	.....	sw.	1.32	33.5	light rain.
29	29.82	757.4	29.96	761.0	48	8.9	93	nw.	16	7.2	.....	.....	10 s	.....	nw.	0.09	2.3	cloudy.
30	29.87	758.7	30.01	762.2	41	5.0	100	sw.	23	10.3	.....	.....	10 n	.....	sw.	0.04	1.0	light rain.
Mean	29.78	756.4	29.92	760.0	41.0	5.0	82.1	.....	12.6	5.6	.....	0.7	6.3	.....	.....	3.76	95.5	
July 1	29.73	755.1	29.87	758.7	51	10.6	72	calm.	0	0	.....	0	4 ks	.....	sw.	0.15	3.8	fair.
2	29.90	759.4	30.04	763.0	51	10.6	93	sw.	18	8.0	.....	.....	10 ks	.....	w.	inap.	inap.	cloudy.
3	29.81	757.2	29.95	760.7	54	12.2	74	w.	19	8.5	.....	.....	10 ks	.....	w.	inap.	inap.	cloudy.
4	29.86	758.4	30.00	762.0	56	13.3	67	se.	8	3.6	.....	0	0	.....	.....	0	0	clear.
5	29.93	760.2	30.07	763.8	59	15.0	75	sw.	14	6.3	.....	.....	10 ks	.....	sw.	0.23	5.8	cloudy.
6	29.88	758.9	30.02	762.5	51	10.6	100	w.	18	8.0	.....	.....	10 n	.....	w.	0.03	0.8	light rain.
7	29.69	754.1	29.83	757.7	53	11.7	100	sw.	12	5.4	.....	.....	10 n	.....	w.	0.76	19.3	light rain.
8	29.63	752.6	29.77	756.1	54	12.2	80	sw.	10	4.5	.....	.....	10 ks	.....	sw.	0.08	2.0	cloudy.
9	29.28	743.7	29.42	747.3	48	8.9	100	w.	15	6.7	.....	.....	10 n	.....	w.	0.61	15.5	light rain.
10	29.54	750.3	29.68	753.9	40	4.4	89	n.	8	3.6	.....	.....	10 s	.....	n.	0.12	3.0	cloudy.
11	29.48	748.8	29.62	752.3	43	6.1	74	sw.	31	13.9	.....	.....	10 s	.....	sw.	0.89	22.6	cloudy.
12	29.63	752.6	29.77	756.1	46	7.8	83	sw.	17	7.6	.....	.....	10 s	.....	sw.	0.10	2.5	cloudy.
13	29.74	755.4	29.88	758.9	38	3.3	73	calm.	0	0	.....	0	0	.....	.....	0	0	clear.
14	30.01	762.2	30.15	765.8	50	10.0	64	calm.	0	0	.....	0	0	.....	.....	0	0	clear.
15	29.80	756.9	29.94	760.5	56	13.3	69	se.	8	3.6	.....	.....	10 s	.....	se.	0	0	cloudy.
16	29.70	754.4	29.84	757.9	63	17.2	100	se.	4	1.8	.....	.....	10 n	.....	s.	0.04	1.0	light rain.
17	29.90	759.4	30.04	763.0	63	17.2	90	sw.	9	4.0	.....	.....	10 ks	.....	s.	0.78	19.8	cloudy.
18	30.05	763.3	30.19	766.8	62	16.7	60	w.	3	1.3	.....	.....	10 ks	.....	sw.	0	0	cloudy.
19	30.13	765.3	30.27	768.8	70	21.1	66	calm.	0	0	.....	10 c	0	s.	.....	0	0	cloudy.
20	29.91	759.7	30.05	763.3	69	20.6	100	calm.	0	0	.....	.....	10 n	.....	w.	0.12	3.0	light rain.
21	29.89	759.2	30.03	762.7	65	18.3	73	w.	10	4.5	.....	.....	10 ks	.....	w.	0.07	1.8	cloudy.
22	29.94	760.5	30.08	764.0	59	15.0	93	calm.	0	0	.....	.....	10 s	.....	sw.	0	0	cloudy.
23	29.90	759.4	30.04	763.0	46	7.8	54	sw.	3	1.3	.....	0	0	.....	.....	0	0	clear.
24	29.95	760.7	30.09	764.3	54	12.2	62	w.	3	1.3	.....	0	0	.....	.....	0	0	clear.
25	30.03	762.7	30.17	766.3	56	13.3	57	calm.	0	0	.....	6 ck	0	se.	.....	0	0	fair.
26	29.99	761.7	30.13	765.3	56	13.3	57	se.	5	2.2	.....	0	0	.....	.....	0	0	clear.
27	29.82	757.4	29.96	761.0	61	16.1	65	s.	9	4.0	.....	10 ck	0	s.	.....	0	0	cloudy.
28	29.63	752.6	29.77	756.1	69	20.6	57	s.	23	10.3	.....	10 ck	0	sw.	.....	0	0	cloudy.
29	29.73	755.1	29.87	758.7	66	18.9	68	sw.	10	4.5	.....	7 ck	0	se.	.....	0	0	fair.
30	29.82	757.4	29.96	761.0	56	13.3	80	e.	21	9.4	.....	.....	10 ks	.....	e.	0	0	cloudy.
31	29.79	756.7	29.93	760.2	55	12.8	69	e.	17	7.6	.....	.....	10 s	.....	e.	0	0	cloudy.
Mean	29.81	757.2	29.95	760.7	55.5	13.1	76.3	.....	9.5	4.2	.....	1.4	6.3	.....	.....	3.98	101.1	

FORT CHIMO, UNGAVA.—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity. Per cent.	Wind. Direction. From.	Wind. Velocity. Miles per hour	Wind. Velocity. Metrs pr sec.	Wind. Force 0-10	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0-10	Clouds. Direction. Upper From	Clouds. Direction. Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Rainfall or melted snow in past 24 hours. Mill.	WEATHER
1883.																		
August 1	29.71	754.6	29.85	758.2	49	9.4	100	ne.	12	5.4	.....	.....	10 8	.....	ne.	0.27	6.9	cloudy.
2	29.95	760.7	30.09	764.3	45	7.2	93	ne.	11	4.9	.....	10 ck	0	ne.	.....	0.32	8.1	cloudy.
3	30.04	763.0	30.18	766.6	46	7.8	54	ne.	18	8.0	.....	8 ck	0	e.	.....	0	0	cloudy.
4	30.00	762.0	30.14	765.5	49	9.4	71	n.	8	3.6	.....	0	0	.....	.....	0	0	clear.
5	29.85	758.2	29.99	761.7	46	7.8	83	ne.	17	7.6	.....	.....	10 8	.....	e.	0.01	0.3	cloudy.
6	29.74	755.4	29.88	758.9	39	3.9	100	ne.	1	0.4	.....	.....	10 8	.....	ne.	0	0	cloudy.
7	29.84	757.9	29.98	761.5	41	5.0	92	n.	11	4.9	.....	.....	10 8	.....	ne.	0	0	cloudy.
8	29.92	760.0	30.06	763.5	46	7.8	93	calm	0	0	.....	0	0	.....	.....	0	0	clear.
9	29.89	759.2	30.03	762.7	45	7.2	68	sw.	5	2.2	.....	0	0	.....	.....	0	0	clear.
10	29.94	760.5	30.08	764.0	51	10.6	100	sw.	10	4.5	.....	.....	10 n	.....	sw.	0.27	6.9	heavy rain.
11	29.96	761.0	30.10	764.5	52	11.1	93	nw.	18	8.0	.....	.....	9 n	.....	nw.	inap.	inap.	light rain.
12	29.94	760.5	30.08	764.0	52	11.1	72	calm	0	0	.....	.....	10 8	.....	w.	0	0	cloudy.
13	29.83	757.7	29.97	761.2	49	9.4	100	sw.	23	10.3	.....	.....	10 k8	.....	sw.	0	0	cloudy.
14	29.91	759.7	30.05	763.3	41	5.0	82	nw.	8	3.6	.....	.....	10 8	.....	nw.	0.48	12.2	cloudy.
15	29.83	757.7	29.97	761.2	46	7.8	83	w.	23	10.3	.....	.....	10 k8	.....	w.	0.49	12.4	cloudy.
16	29.63	752.0	29.77	756.1	50	10.0	93	w.	17	7.6	.....	.....	10 k8	.....	w.	0.42	10.7	cloudy.
17	29.67	753.6	29.81	757.2	43	6.1	93	e.	4	1.8	.....	6 ck	4 k8	sw.	sw.	0.99	25.1	cloudy.
18	29.67	753.6	29.81	757.2	38	3.3	89	n.	19	8.5	.....	.....	10 8	.....	n.	0	0	cloudy.
19	29.87	758.7	30.01	762.2	40	4.4	100	ne.	11	4.9	.....	.....	10 n	.....	ne.	inap.	inap.	light rain.
20	29.71	754.6	29.85	758.2	45	7.2	93	n.	31	13.9	.....	0	0	.....	.....	inap.	inap.	clear.
21	29.49	749.0	29.63	752.6	44	6.7	93	n.	26	11.6	.....	.....	fog	.....	n.	0	0	d. fog.
22	29.73	755.1	29.97	761.2	38	3.3	100	n.	7	3.1	.....	.....	fog	.....	n.	0	0	d. fog.
23	29.79	756.7	29.93	760.2	36	2.2	100	ne.	8	3.6	.....	.....	fog	.....	ne.	0.19	4.8	d. fog.
24	29.70	754.4	29.84	757.9	40	4.4	100	ne.	7	3.1	.....	.....	fog	.....	ne.	0.11	4.8	d. fog.
25	29.80	756.9	29.94	760.5	40	4.4	100	ne.	2	0.9	.....	.....	fog	.....	ne.	0	0	d. fog.
26	29.80	756.9	29.94	760.5	37	2.8	100	n.	9	4.0	.....	0	0	.....	.....	0	0	clear.
27	29.80	756.9	29.94	760.5	37	2.8	89	ne.	4	1.8	.....	0	2 8	.....	ne.	0	0	clear.
28	29.81	757.2	29.95	760.7	47	8.3	77	sw.	11	4.9	.....	.....	10 8	.....	sw.	inap.	inap.	cloudy.
29	29.71	754.6	29.85	758.2	46	7.8	100	sw.	19	8.5	.....	.....	10 n	.....	sw.	0.09	2.3	light rain.
30	29.76	755.9	29.90	759.4	50	10.0	100	w.	28	12.5	.....	.....	10 k8	.....	w.	0.17	4.3	cloudy.
31	29.85	758.2	29.99	761.7	46	7.8	100	sw.	36	16.1	.....	.....	10 k8	.....	w.	0.35	8.9	cloudy.
Mean	29.81	757.2	29.95	760.7	44.3	6.8	90.7	.....	13.0	5.8	.....	0.8	5.6	.....	.....	4.16	105.7	
September 1	29.33	745.0	29.47	748.5	45	7.2	93	sw.	12	5.4	.....	.....	10 8	.....	w.	0.12	3.0	cloudy.
2	29.18	741.2	29.32	744.7	47	8.3	100	sw.	26	11.6	.....	.....	10 8	.....	sw.	0.40	10.2	cloudy.
3	29.63	752.6	29.77	756.1	39	3.9	89	sw.	14	6.3	.....	.....	10 8	.....	w.	0.10	2.5	cloudy.
4	29.55	750.6	29.69	754.1	43	6.1	100	se.	11	4.9	.....	.....	10 8	.....	ne.	0.03	0.8	cloudy.
5	29.24	742.7	29.38	746.2	39	3.9	100	ne.	7	3.1	.....	.....	10 n	.....	ne.	0.08	2.0	light rain.
6	29.22	742.2	29.36	745.7	39	3.9	89	n.	9	4.0	.....	.....	10 8	.....	sw.	0.17	4.3	cloudy.
7	29.20	741.7	29.34	745.2	39	3.9	100	sw.	18	8.0	.....	4 ck	6 8	s.	sw.	0.04	1.0	cloudy.
8	29.60	751.8	29.74	755.4	36	2.2	100	n.	26	11.6	.....	.....	10 8	.....	sw.	0.10	2.5	cloudy.
9	29.90	759.4	30.04	763.0	33	0.6	100	nw.	11	4.9	.....	.....	10 n	.....	w.	0.13	3.3	light rain.
10	29.90	759.4	30.04	763.0	31	— 0.6	100	n.	14	6.3	.....	.....	10 8	.....	w.	0.22	5.6	cloudy.
11	30.04	763.0	30.18	766.6	29	— 1.7	88	calm	0	0	.....	0	0	.....	.....	0	0	clear.
12	29.96	761.0	30.10	764.5	34	— 1.1	60	calm	0	0	.....	0	0	.....	.....	0	0	clear.
13	29.74	755.4	29.88	758.9	42	5.6	83	nw.	11	4.9	.....	0	0	.....	.....	0.07	1.3	clear.
14	30.07	763.8	30.21	767.3	43	6.1	74	calm	0	0	.....	0	0	.....	.....	0	0	clear.
15	29.62	752.3	29.76	755.9	51	10.6	100	w.	26	11.6	.....	.....	10 n	.....	w.	0.21	5.3	heavy rain.
16	29.63	752.6	29.77	756.1	48	8.9	77	se.	5	2.2	.....	10 c	0	.....	sw.	0.07	1.8	cloudy.
17	29.06	738.1	29.20	741.7	47	8.3	100	sw.	35	15.6	.....	.....	10 n	.....	sw.	0.54	13.7	light rain.
18	29.32	744.5	29.46	748.3	39	3.9	100	w.	2	0.9	.....	.....	10 n	.....	w.	0.40	10.2	light rain.
19	29.93	760.2	30.07	763.8	41	5.0	59	n.	10	4.5	.....	4 ck	0	nw.	.....	0.09	2.3	clear.
20	30.05	763.3	30.19	766.8	36	2.2	86	calm	0	0	.....	10 c	0	sw.	.....	0	0	cloudy.
21	30.10	764.5	30.24	768.1	46	7.8	86	n.	1	0.4	.....	.....	10 8	.....	n.	0	0	cloudy.
22	30.15	765.8	30.29	769.4	41	5.0	100	n.	7	3.1	.....	.....	10 8	.....	n.	0	0	cloudy.
23	29.81	757.2	29.95	760.7	42	5.6	100	sw.	17	7.6	.....	3 ck	7 k8	sw.	sw.	0	0	cloudy.
24	29.44	747.8	29.58	751.3	42	5.6	93	sw.	18	8.0	.....	.....	10 8	.....	w.	0.33	8.4	cloudy.
25	29.36	745.7	29.50	749.3	38	3.3	100	sw.	11	4.9	.....	.....	10 8	.....	w.	0	0	cloudy.
26	29.55	750.6	29.69	754.1	40	4.4	83	sw.	10	4.5	.....	.....	10 8	.....	w.	0	0	cloudy.
27	29.74	755.4	29.88	758.9	37	2.8	83	w.	18	8.0	.....	.....	10 8	.....	w.	0	0	cloudy.
28	29.81	757.2	29.95	760.7	32	0.0	100	w.	30	13.4	.....	.....	10 8	.....	nw.	0.22	5.6	cloudy.
29	29.36	745.7	29.50	749.3	28	— 2.2	100	w.	31	13.9	.....	.....	10 n	.....	w.	0.74	18.8	light rain.
30	29.49	749.0	29.63	752.6	30	— 1.1	82	w.	19	8.5	.....	.....	10 8	.....	w.	0.84	21.3	cloudy.
Mean	29.63	752.6	29.77	756.1	39.2	4.0	92.1	.....	13.3	5.9	.....	1	7.4	.....	.....	4.90	124.5	
October 1	29.68	753.9	29.83	757.7	28	— 2.2	88	calm	0	0	.....	0	0	.....	.....	0	0	clear.
2	29.85	758.2	30.00	762.0	26	— 3.3	88	n.	11	4.9	.....	0	0	.....	.....	0	0	clear.
3	29.87	758.7	30.01	762.2	31	— 0.6	88	ne.	11	4.9	.....	0	0	.....	.....	0	0	clear.
4	29.62	752.3	29.76	755.9	36	2.2	89	sw.	11	4.9	.....	.....	10 n	.....	sw.	0.01	0.3	light rain.
5	29.43	747.5	29.57	751.1	39	3.9	100	sw.	4	1.8	.....	.....	10 n	.....	sw.	0.54	13.7	light rain.
6	29.61	752.1	29.75	755.6	37	2.8	89	calm	0	0	.....	.....	10 8	.....	sw.	0	0	cloudy.
7	29.65	753.1	29.79	756.7	39	3.9	89	calm	0	0	.....	.....	10 8	.....	sw.	0	0	cloudy.
8	29.37	746.0	29.51	749.5	38	3.3	100	sw.	12	5.4	.....	.....	10 8	.....	sw.	0.47	11.9	cloudy.
9	29.54	750.3	29.68	753.9	32	0.0	88	sw.	3	1.3	.....	.....	10 8	.....	w.	0.09	2.3	cloudy.
10	29.71	754.6	29.85	758.2	35	1.7	79	calm	0	0	.....	.....	10 8	.....	w.	0.04	1.0	cloudy.
11	29.78	756.4	29.92	760.0	30	— 1.1	88	w.	3	1.3	.....	.....	10 8	.....	w.	0	0	cloudy.
12	29.75	755.6	29.89	759.2	27	— 2.8	88	calm	0	0	.....	.....	10 8	.....	nw.	0	0	cloudy.
13	29.55	750.6	29.69	754.1	25	— 3.9	100	calm	0	0	.....	.....	10 8	.....	sw.	0	0	cloudy.
14	29.28	743.7	29.42	747.3	24	— 4.4	100	sw.	18	8.0	.....	.....	10 n	.....	sw.	0.17	4.3	heavy sleet.
15	29.57	751.1	29.71	754.6	26	— 3.3	100	sw.	26	11.6	.....	.....	10 8	.....	sw.	0.31	7.9	cloudy.
16	29.75	755.6	29.89	759.2	32	0.0	88	sw.	18	8.0	.....	.....	10 n	.....	sw.	0.47	11.9	light snow.
17	29.92	760.0	30.06	763.5	33	0.6	100	w.	28	12.5	.....	.....	10 n	.....	sw.	0.35	8.9	light snow.
18	29.62	752.3	29.78	756.4	34	1.1	100	sw.	19	8.5	.....	.....	10 n	.....	sw.	0.30	7.6	light rain.
19	29.66	753.4	29.80	756.9	30	— 1.1	88	sw.	16	7.2	.....	.....	10 8	.....	sw.	0.55	14.0	cloudy.
20	29.95	761.0	30.11	764.8	26	— 3.3	88	sw.	17	7.6	.....	.....	10 8	.....	sw.	0	0	cloudy.
21	30.37	771.4	30.52	775.2	29	— 1.7	77	sw.	26	11.6	.....	.....	10 8	.....	sw.	0	0	cloudy.
22	30.26	768.6	30.41	772.4	27	— 2.8	64	sw.	28	12.5	.....	.....	10 8	.....	sw.	0	0	cloudy.
23	30.13	765.3	30.28	769.1	29	— 1.7	67	sw.	18	8.0	.....	10 c	0	.....	sw.	0	0	cloudy.
24	29.83	757.7	29.97	761.2	36	— 2.2	100	sw.	18	8.0	.....	.....	10 8	.....	sw.	.....	.....	cloudy.
25	30.19	766.8	30.34	770.6	26	— 3.3	88	sw.	8	3.6	.....	.....	10 8	.....	sw.	.....	.....	cloudy.
26	29.88	758.9	30.03	762.7	28	— 2.2	100	ne.	11	4.9	.....	.....	10 n	.....	ne.	0.04	1.0	light snow.
27	30.24	768.1	30.39	771.9	19	— 7.2	100	nw.	16	7.2	.....	.....	10 8	.....	n.	0.03	0.8	cloudy.
28	30.38	771.6	30.53	775.4	13	—10.6	100	se.	2	0.9	.....	.....	fog	.....	s.	0	0	foggy.
29	30.02	762.5	30.17	766.3	9	—12.8	100	calm	0	0	.....	0	0	.....	.....	0	0	clear.
30	29.50	749.3	29.65	753.1	9	—12.8	100	calm	0	0	.....	6 c	0	e.	.....	0	0	fair.
31	29.39	746.5	29.54	750.3	15	— 9.4	100	calm	0	0	.....	10 c	0	.....	.....	0	0	cloudy.
Mean	29.78	756.4	29.93	760.2	28.0	— 2.2	91.4	.....	10.5	4.7	.....	0.8	7.4	.....	.....	3.37	85.6	

FORT CHIMO, UNGAVA.—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Mill.	Reduced to sea-level. Inch.	Mill.	Temperature of the air. Fah.	Cent.	Relative Humidity. Per cent.	Wind. Direction. From.	Velocity. Miles per hour	Metrs pr sec.	Force 0-10	Clouds. Amount. Upper. 0-10	Lower. 0-10	Direction. Up'er From	Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Mill.	WEATHER.
1883. November 1	29.86	758.4	30.01	762.2	18	— 7.8	100	calm	0	0	.....	.....	10 8	.....	sw.	0	0	cloudy.
2	29.76	755.9	29.91	759.7	20	— 6.7	100	sw.	1	0.4	.....	.....	10 8	.....	sw.	0	0	cloudy.
3	29.42	747.3	29.57	751.1	28	— 2.2	100	sw.	24	10.7	.....	.....	10 8	.....	sw.	inap.	inap.	cloudy.
4	29.47	748.5	29.62	752.3	24	— 4.4	100	s.	2	0.9	.....	.....	10 8	.....	sw.	inap.	inap.	cloudy.
5	29.46	748.3	29.61	752.1	24	— 4.4	88	s.	8	3.6	.....	.....	10 8	.....	sw.	0	0	cloudy.
6	29.69	754.1	29.84	757.9	21	— 6.1	84	nw.	6	2.7	.....	.....	10 8	.....	nw.	0.01	0.3	cloudy.
7	29.98	761.5	30.13	765.3	18	— 7.8	83	sw.	16	7.2	.....	.....	10 8	.....	sw.	0	0	cloudy.
8	29.55	750.6	29.70	754.4	24	— 4.4	88	sw.	19	8.5	.....	.....	10 n	.....	sw.	inap.	inap.	light snow.
9	29.72	754.9	29.87	758.7	20	— 6.7	84	w.	22	9.8	.....	.....	10 8	.....	w.	0	0	cloudy.
10	29.75	755.6	29.90	759.4	18	— 7.8	84	nw.	11	4.9	.....	.....	10 8	.....	nw.	0	0	cloudy.
11	29.71	754.6	29.86	758.4	8	—13.3	100	se	1	0.4	.....	.....	10 8	.....	e.	0	0	cloudy.
12	29.51	749.5	29.66	753.4	8	—13.3	100	ne.	3	1.3	.....	.....	10 8	.....	ne.	0	0	cloudy.
13	29.36	745.7	29.41	747.0	18	— 7.8	100	n.	46	20.6	.....	.....	10 n	.....	n.	inap.	inap.	light snow.
14	29.64	752.8	29.79	756.7	10	—12.2	100	nw.	17	7.5	.....	.....	10 8	.....	n.	inap.	inap.	cloudy.
15	29.76	755.9	29.91	759.7	— 2	—18.9	100	s.	4	1.8	.....	0	0	.....	.....	0	0	clear.
16	29.89	759.2	30.04	763.0	8	—13.3	100	sw.	14	6.3	.....	.....	10 8	.....	sw.	0	0	cloudy.
17	29.82	757.4	29.97	761.2	7	—13.9	100	sw.	5	2.2	.....	.....	10 8	.....	sw.	0	0	cloudy.
18	29.52	749.8	29.07	753.6	— 2	—18.9	100	e.	3	1.3	.....	.....	10 n	.....	sw.	.....	.....	light snow.
19	29.89	759.2	30.04	763.0	15	— 9.4	100	sw.	17	7.6	.....	.....	10 8	.....	w.	0.01	0.3	cloudy.
20	30.07	763.8	30.22	767.6	7	—13.9	100	s.	2	0.9	.....	.....	10 8	.....	sw.	0	0	cloudy.
21	29.64	752.8	29.79	756.7	17	— 8.3	100	ne.	31	13.9	.....	.....	10 8	.....	ne.	0	0	cloudy.
22	29.58	751.3	29.73	755.1	25	— 3.9	100	nw.	7	3.1	.....	.....	10 8	.....	n.	0.29	7.4	cloudy.
23	29.79	756.7	29.94	760.5	18	— 7.8	100	nw.	34	15.2	.....	.....	10 8	.....	n.	0	0	cloudy.
24	30.08	764.0	30.23	767.8	— 7	—21.7	100	calm	0	0	.....	.....	10 8	.....	.....	0.10	2.5	cloudy.
25	30.01	762.2	30.16	766.1	18	— 7.8	100	nw.	29	13.0	.....	.....	10 8	.....	nw.	0.03	0.8	cloudy.
26	30.50	774.7	30.65	778.5	— 9	—22.8	100	calm	0	0	.....	.....	10 8	.....	nw.	0	0	cloudy.
27	29.39	746.5	29.54	750.3	26	— 3.3	100	sw.	53	23.7	.....	0	3 8	.....	sw.	0	0	clear.
28	29.84	757.9	29.99	761.7	0	—17.8	100	sw.	38	17.0	.....	0	0	.....	.....	0	0	clear.
29	29.92	760.0	30.07	763.8	— 2	—18.9	100	n.	16	7.2	.....	.....	10 8	.....	s.	0	0	cloudy.
30	29.86	758.4	30.01	762.2	—16	—26.7	100	sw.	28	12 5	.....	0	0	.....	.....	0	0	clear.
Mean	29.75	755.6	29.90	759.4	12.1	—11.1	97.0	.....	15 2	6.8	.....	.....	8.8	.....	.....	0.44	11.2	
December 1	30.08	764.0	30.24	768.1	—20	—28.9	100	s.	20	8.9	.....	0	0	.....	.....	0	0	clear.
2	29.65	753.1	29.81	757.2	0	—17.8	100	se.	22	9.8	.....	.....	10 8	.....	se.	0	0	cloudy.
3	29.80	756.9	29.96	761.0	—10	—23.3	100	sw.	52	23.3	.....	.....	10 8	.....	sw.	0	0	cloudy.
4	30.00	762.0	30.16	766.1	—16	—26.7	100	s.	16	7.2	.....	0	0	.....	.....	0	0	clear.
5	29.81	757.2	29.97	761.2	— 9	—22.8	100	s.	3	1.3	.....	.....	10 8	.....	se.	0	0	cloudy.
6	30.13	765.3	30.29	769.4	—15	—26.1	100	sw.	22	9.8	.....	0	0	.....	.....	0	0	clear.
7	30.08	764.0	30.24	768.1	—12	—24.4	100	se.	10	4.5	.....	0	4 k8	.....	se.	0.10	2.5	fair.
8	29.62	752.3	29.78	756.4	5	—15.0	100	ne.	12	5.4	.....	.....	10 n	.....	ne.	0.05	1.3	light snow.
9	30.00	762 0	30.16	766.1	— 9	—22.8	100	sw.	18	8.0	.....	10 c k	0	se.	.....	0.08	2.0	cloudy.
10	30.11	764.8	30.27	768.8	—18	—27.8	100	s.	8	3.6	.....	0	0	.....	.....	0	0	clear.

FORT SAINT MICHAEL, ALASKA.—(N. 63° 48′, W. 162° 00.)

DATE.	Corrected Inch.	Corrected Mill.	Reduced Inch.	Reduced Mill.	Fah.	Cent.	Relative Humidity	Direction. From.	Velocity. Miles per hour	Metrs pr sec.	Force	Upper.	Lower.	Up'er From	Lo'er From	Inch.	Mill.	WEATHER.
1883. August 1	29.77	756.1	29.80	756.9	47	8.3	93	sw.	10	4.5	.....	.....	fog	.....	.....	inap.	inap.	dense fog.
2	29.81	757.2	29.85	758.2	50	10.0	86	se.	10	4.5	.....	.....	10 8	.....	.....	0.03	0.8	cloudy.
3	29.77	756.1	29.81	757.2	52	11.1	86	se.	14	6.3	.....	.....	10 8	.....	.....	0	0	cloudy.
4	29.59	751.6	29.62	752.3	52	11.1	86	e.	12	5.4	.....	0	8 8	.....	e.	0.05	1.3	cloudy.
5	29.46	748.3	29.50	749.3	54	12.2	80	e.	8	3.6	.....	0	5 k8	.....	e.	0	0	fair.
6	29.73	755.1	29.70	755.9	52	11.1	86	s.	6	2.7	.....	.....	10 8	.....	.....	0	0	cloudy.
7	29.88	758.9	29.91	759.7	54	12.2	80	se.	12	5.4	.....	.....	10 8	.....	.....	0.03	0.8	cloudy.
8	29.94	760.5	29.97	761.2	54	12.2	93	se.	5	2.2	.....	.....	10 n	.....	.....	0.17	4.3	light rain.
9	29.81	757.2	29.84	757.9	55	12.8	86	se.	5	2.2	.....	.....	10 n	.....	.....	0.14	3.6	light rain.
10	29.76	755.9	29.80	756.9	49	9.4	93	s.	5	2.2	.....	.....	10 8	.....	.....	inap.	inap.	cloudy.
11	29.70	754.4	29.73	755.1	45	7.2	93	se.	9	4.0	.....	.....	10 8	.....	.....	0	0	cloudy.
12	29.65	753.1	29.69	754.1	48	8.9	93	s.	11	4.9	.....	.....	10 n	.....	.....	0.08	2.0	light rain.
13	29.48	748.8	29.52	749.8	48	8.9	100	s.	17	7.6	.....	.....	10 n	.....	.....	0.29	7.4	heavy rain.
14	29.72	754.9	29.75	755.6	41	5.0	92	sw.	4	1.8	.....	0	4 k8	.....	sw.	0.16	4.1	fair.
15	29.80	756.9	29.83	757.7	45	7.2	100	s.	12	5.4	.....	.....	10 n	.....	.....	0.02	0.5	light rain.
16	29.47	748.5	29.50	749.3	48	8.9	100	s.	6	2.7	.....	.....	10 n	.....	.....	0.27	6.9	light rain.
17	29.55	750.6	29.58	751.3	43	6.1	93	n.	28	12.5	.....	.....	10 n	.....	.....	0.53	13.5	light rain.
18	29.84	757.9	29.88	758.9	44	6.7	83	sw.	12	5.4	.....	0	5 8	.....	sw.	0.06	1.5	fair.
19	29.73	755.1	29.76	755.9	44	6.7	100	se.	22	9.8	.....	.....	10 n	.....	.....	0.25	6.3	light rain.
20	29.79	756.7	29.82	757.4	46	7.8	93	sw.	33	14.8	.....	.....	10 n	.....	.....	0.76	19.3	light rain.
21	29.95	760.7	29.98	761.5	45	7.2	93	sw.	10	4.5	.....	.....	10 n	.....	.....	0.20	5.1	light rain.
22	30.00	762.0	30.03	762.7	41	5.0	92	nw.	8	3.6	.....	0	9 k8	.....	nw.	0.05	1.3	cloudy.
23	30.14	765.5	30.18	766.6	43	6.1	93	nw.	11	4.9	.....	0	5 8	.....	nw.	0	0	fair.
24	30.16	766.1	30.19	766.8	45	7.2	100	sw.	16	7.2	.....	.....	fog	.....	.....	0	0	dense fog.
25	30.12	765.0	30.15	765.8	44	6.7	93	s.	7	3.1	.....	.....	10 8	.....	.....	0	0	cloudy.
26	29.96	761.0	30.00	762.0	47	8.3	93	s.	16	7.2	.....	.....	10 8	.....	.....	0.04	1.0	cloudy.
27	29.86	758.4	29.89	759.2	47	8.3	93	sw.	9	4.0	.....	.....	10 n	.....	.....	0.05	1.3	light rain.
28	29.85	758.2	29.88	758.9	48	8.9	100	s.	28	12.5	.....	.....	10 n	.....	.....	0.14	3.6	light rain.
29	29.71	754.6	29.74	755.4	43	6.1	100	s.	19	8.5	.....	.....	10 n	.....	.....	0.24	6.1	light rain.
30	30.02	762.5	30.05	763.3	42	5.6	92	s.	20	8.9	.....	.....	10 n	.....	.....	0.16	4.1	light rain.
31	29.90	759.4	29.94	760.5	48	8.9	86	e.	2	0.9	.....	.....	10 8	.....	.....	0.08	2.0	cloudy.
Mean	29.80	756.9	29 84	757.9	47.2	8.4	92.0	.....	12.5	5.6	.....	0	8.6	.....	.....	3.80	96.5	

NOTE.—The above observations, taken at 7 a. m., Washington time, were received too late for publication in the DAILY BULLETIN, and are given here in full; for continuation of the same, see DAILY BULLETIN.

REVIEW.

INTERNATIONAL METEOROLOGY FOR DECEMBER, 1883.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following description refers to chart ii. for the month of December, 1883, issued with this SUMMARY. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and prevailing wind-direction over the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich, mean time.

The area of least mean pressure is enclosed by the isobar for 29.5 (749.3) and extends from about N. 63°, W. 30° northeastward to, and including northern Scandinavia; within this region the lowest barometric means are 29.41 (747.0) and 29.43 (747.5) at Stykkisholm, Iceland, and Gjæsvær, Finmark, respectively. In southern Greenland the mean pressure is about 29.7 (754.4) An area of low pressures, within which the means range from 29.55 (750.6) to 29.68 (753.9), occupies Behring Sea and the Aleutian archipelago. In the North American continent the mean pressure is least in the Canadian Maritime Provinces, where the means vary from 29.94 (760.5) to 30.0 (762.0). In Europe the pressure is least in Scandinavia and in Russia, the means ranging from 29.55 (750.6) in the former to 29.95 (760.7) in the northern and central districts of the latter country. Throughout Asia the pressure exceeds 30.0 (762.0).

Four distinct areas of barometric maxima are exhibited on the chart; the first, 30.4 (772.1) occupies Central Asia, the means at Irkutsk, Siberia, and at Zi-Ka-Wei, China, being 30.5 (774.7) and 30.41 (772.4), respectively; the pressure decreases rapidly in a northwesterly direction until it reaches 30.0 (762.0) in the extreme northwestern part of Siberia; elsewhere the decrease is gradual. The second area of high pressures is indicated by the isobar for 30.3 (769.6) and is situated over the Bay of Biscay, northern Spain, and the Atlantic ocean between N. 42° and 48° and westward to the eighteenth meridian. The isobar for 30.2 (767.1) encloses the greater part of the Iberian peninsula, France, and the southernmost counties of England and Ireland; it then stretches westward over the Atlantic to W. 30°, and from N. 35° to N. 52°. In the Azores the mean pressure is 30.27 (768.8). The remaining areas occupy the United States; the first, and more extensive area extending from the northwestern boundary of the United States southward to Mexico, and from about the ninety-fifth meridian westward to the hundred and twentieth; within this region the means range from 30.2 (767.1) to 30.25 (768.3) The other area is also indicated by the isobar for 30.2 (767.1) and covers the country from the Mississippi river eastward to the Carolina coasts, and from N. 35° southward to Florida; to the northward of this area and between it and the one first referred to, the mean pressure ranges from 30.05 (763.3) to 30.19 (766.6).

Compared with the chart for the preceding month (November, 1883), there has been a slight decrease in pressure over that part of the United States lying between N. 42° and Florida, and from the Mississippi river eastward to the coast line; there has also been a decrease in New England and the Maritime Provinces. Over the region west of the Mississippi there has been a slight increase of pressure. Over the Atlantic ocean from about N. 50°, W. 40°, southwestward to N. 30°, W. 70°, there has been a slight decrease, but elsewhere over the Atlantic area the pressure has increased. In Europe the pressure has increased in all sections of the continent except Russia, Sweden and in Italy, in which countries it is less than during November, 1883. In British India the pressure has increased about .15 inch, but in other parts of Asia there has been a decrease. The pressure over Behring Sea is about .15 inch less than in the preceding month.

Compared with the corresponding month of previous years, the mean atmospheric pressure in December, 1883, differed but slightly from the normal over the United States, except on the Pacific coast, where it was .07 to .10 inch above normal. In Canada it was slightly above the normal. In Europe it was below normal in Russia and the northern peninsulas, and above the normal elsewhere.

The following table gives the mean pressure and mean temperature, with corresponding departures for December, 1883, in the several countries of the northern hemisphere, compared with the means as determined from observations taken during the last six years:

Countries.	Mean pressure.			Mean temperature.		
	Dec. mean of 6 (1877-'82) years.	Dec., 1883.	Departure.	Dec. mean of 6 (1877-'82) years.	Dec., 1883.	Departure.
				°	°	°
Algeria	30.12	30.14	+ 0.02	57.3	54.8	— 2.5
Austria	30.06	30.06	normal	33.8	34.6	+ 0.8
British Isles	29.89	30.15	+ 0.26	39.7	43.0	+ 3.3
Denmark	29.85	29.84	— 0.01	34.5	37.4	+ 2.9
France	30.07	30.22	+ 0.15	42.2	41.8	— 0.4
Germany	29.98	30.01	+ 0.03	33.9	35.3	+ 1.4
India	30.00	30.07	+ 0.07	69.3	68.2	— 1.1
Italy	30.03	30.03	normal	48.3	46.6	— 1.7
Norway	29.74	29.64	— 0.10	30.9	33.8	+ 2.9
Portugal	30.20	.....	.....	56.3	.....	.....
Russia	30.04	29.90	— 0.14	26.3	28.5	+ 2.2
Spain *	30.12	30.23	+ 0.11	50.8	49.6	— 1.2
Sweden	29.81	29.67	— 0.14	25.1	28.4	+ 3.3

* Means for five years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of December, 1883, as compared with the means for six years:

Stations.	Mean pressure.			Mean temperature.		
	Dec. mean of 6 (1877-'82) years.	Dec., 1883.	Departure.	Dec. mean of 6 (1877-'82) years.	Dec., 1883.	Departure.
				°	°	°
Gibraltar *	30.16	30.16	normal	59.3	59.1	— 0.2
Malta, Mediterranean Sea	30.00	30.01	+ 0.01	62.0	58.9	— 3.1
Sandwick Manse, Orkney Islands	29.70	29.87	+ 0.18	38.4	41.8	+ 3.4
Bridgetown, Barbadoes	.....	30.01	.....	.....	80.9	.....
Cape Town, Cape of Good Hope	.....	.....	.....	.....	71.7	.....
Fort Napier, Natal, South Africa	29.79	29.78	— 0.01	76.5	79.4	+ 2.9
Freetown, Sierra Leone	29.89	29.89	normal	85.8	82.8	— 3.0
Mauritius, Indian Ocean	29.97	29.95	— 0.02	79.9	79.8	— 0.1
Melbourne, New South Wales	29.91	29.86	— 0.05	59.6	60.4	+ 0.8
Nassau, Bahamas	30.12	30.19	+ 0.07	71.8	71.9	+ 0.1
Godthaab, Greenland	29.61	29.69	+ 0.08	19.3	6.6	—12.7
Stykkisholm, Iceland	29.58	29.41	— 0.17	27.1	30.9	+ 3.8
Thorshavn, Färöe Islands	29.69	29.72	+ 0.03	39.1	39.7	+ 0.6
Zi-Ka-Wei, China	30.36	30.41	+ 0.05	39.4	37.4	— 2.0
Athens, Greece	30.04	29.95	— 0.09	55.3	52.9	— 2.4
Cagliari, Sardinia, Italy	29.97	30.00	+ 0.03	56.0	53.2	— 2.8
Tokei, Japan	30.02	29.99	— 0.03	39.7	38.5	— 1.2
Angra, Azores	30.10	.....	.....	60.5	60.1	— 0.4
Funchal, Madeira Islands	30.18	30.15	— 0.03	66.2	63.0	— 3.2
Ponta Delgado, Azores	30.15	30.27	+ 0.12	63.1	62.6	— 0.5
Archangel, Russia	29.80	29.60	— 0.20	15.0	20.8	+ 5.8
Tiflis, Russia	30.20	30.12	— 0.08	42.7	46.8	+ 4.1
Astrakhan, Russia	30.23	30.14	— 0.09	28.5	29.1	+ 0.6
Ekaterinburg, Russia	30.26	30.07	— 0.19	8.0	13.6	+ 5.6
Tashkend, Toorkistan, Asia	30.38	30.24	— 0.14	33.9	41.5	+ 7.6
Barnaul, Siberia, Asia	30.40	30.30	— 0.10	— 0.5	8.2	+ 8.7
Yeniseisk, Siberia, Asia	30.53	30.41	— 0.12	—10.5	4.5	+15.0
Pekin, China	30.40	30.34	— 0.06	24.6	28.6	+ 4.0
Nikolaevsk on the Amoor, Asia	.....	.....	.....	— 0.6	— 3.8	+ 2.8
San Juan de Puerto Rico, W. I.	30.03	30.04	+ 0.01	75.9	75.7	— 0.2
Beirut, Turkey in Asia	30.02	30.02	normal	64.8	63.5	— 1.3
Mexico, Mexico	30.32	.....	.....	45.4	.....	.....
Havana, Cuba, W. I.	30.09	30.13	+ 0.04	70.7	66.9	— 3.8
Paramaribo, D. Guiana, S. A.	30.00	30.03	+ 0.03	79.5	77.6	— 1.9
York Factory, B. A.	30.03	30.08	+ 0.05	—15.0	—25.7	—10.7

* Means for five years only.

In the United States the mean air temperature was below the normal on the Pacific coast north of San Francisco, along the northern boundary of the United States and in New England; in all other districts it was above the normal. In Canada the temperature was below the normal except in southern Ontario. In Europe it was above the normal except in the southern peninsulas. In British India the highest mean temperature reported was 79°.0 Fahr. (26°.1 Cent.) at Trichinopoly, and the lowest was 59°.7 Fahr. (15°.4 Cent.) at Lahore.

The following are some of the extreme mean temperatures reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Africa	82.8	28.2	York Factory, B. A	−25.7	−32.1
Bridgetown, Barbadoes	80.9	27.2	Fort Chimo, B. A	−19.3	−28.5
Colon, U. S. Colombia, S. A	79.0	26.1	Nikolaevsk on the Amoor, Asia	− 3.8	−19.9
Puerto Berrio, U.S.Colombia, S.A	77.9	25.5	Jacobshavn, Greenland	− 3.1	−19.5
Paramaribo, Dutch Guiana, S. A	77.7	25.3	Fort Saint Michael's, Alaska	3.7	−15.7

In the United States and Canada the prevailing winds were from sw., through w. to nw. and n. Over the Atlantic Ocean north of the thirtieth parallel they were w. and nw. from the coasts of the American continent eastward to W. 40°; from that meridian eastward they were from s. to. w. South of 30° N. they were easterly. In Europe they were from sw. to w. and nw. In Japan they were w. and nw.

The rainfall during December, 1883, was less than the average in the Atlantic sea-board states; in the central valleys and over the region west of the hundred and tenth meridian, except on the Pacific coast, where the deficiencies exceeded 2.50 inches, the departures were not marked. In other sections of the United States the rainfall was slightly greater than the average. In the Canadian Maritime Provinces it was above the average; in other parts of the Dominion it was less than the average. In Europe the rainfall was below the average in the British Isles and France, and normal or above in central Europe.

STORM-TRACK CHART FOR DECEMBER, 1883.

Chart iii. is published for the month of December, 1883, and shows the paths of the depressions that have appeared in the northern hemisphere during that month. The data are charted for each day of the month on the maps accompanying each issue of the "International Bulletin," and from these charts and additional miscellaneous data, are traced the movements of the centres of barometric minima. This chart continues the series of international charts begun in November, 1877.

The paths of fifty depressions are shown on the chart and are distributed, geographically, as follows: Thirteen are traced in the continent of North America; of this number, five moved from the Northwest Territory of British America southeastward to the Mississippi and Missouri valleys, and thence northeastward over the lake regions to the Canadian maritime provinces and the Atlantic; five passed eastward along the northern boundary of the United States; one appeared in Kansas and one moved over the Southern states, while the remaining disturbance moved from Alaska southeastward over British America but did not enter the United States.

Sixteen depressions are traced over the North Atlantic; of these, seven are continuations of storms which entered the Atlantic from the American coast; two prevailed in the vicinity of the Bermudas, that charted as xxiii. pursuing a path contrary to the usual course of storms in that latitude; two disturbances apparently developed in mid-ocean, and the remaining four depressions are charted over the region lying north of the sixtieth parallel from Greenland eastward to the Norwegian coast. The general direction of movement of the minima traced over the Atlantic was northeasterly or north-northeasterly; there were two exceptions, viz: number xxiii., above referred to, and number xlii., which was apparently forced to the southeastward.

Of the depressions traced in Europe, thirteen, several of which were subsidiary disturbances, developed over the continent or near the coasts, while six approached the Scandinavian coast from the Atlantic and Arctic oceans, and with one exception (number xv.), they traversed that part of Europe lying north of the sixtieth parallel. The depression referred to moved from the neighborhood of Iceland southeastward over southern Scandinavia to the Baltic and thence eastward into central Russia. The depressions which originated near the coasts moved in an easterly or southeasterly direction and exhibited great energy during their passage; they covered a large area of territory, extending, in the case of low areas xv., xxvi. and xxviii., from the Baltic to the Mediterranean and from the Gulf of Finland to the Black Sea. The depressions which appeared over the Mediterranean were accompanied by steep barometric gradients which produced high winds to gales.

Seven depressions are traced in Japan and the Sea of Okhotsk, their movements being from sw. to ne. Over the north Pacific Ocean the pressure remained low from the 6th to 11th and from the 17th to 20th, both inclusive.

December, 1883, opened with an area of high pressure central to the southwestward of the British Isles and covering the region from Newfoundland eastward to the meridian of Greenwich; at the centre of greatest pressure the barometer read 30.65 (778.5). By the 4th this high area extended from Iceland, where the barometer read 30.36 (771.1), southward to Madeira, while low area xv., at the centre of which the barometer read 28.9 (734.0), had moved southeastward along the northeastern edge of the high-pressure, and on the 4th occupied the greater part of central and eastern Europe, causing high winds to gales and generally stormy weather from the Baltic southward to the Mediterranean. The low area moved eastward, but the general distribution of pressure and the weather conditions remained unchanged until the 6th, when the area of high barometer began to move eastward over the British Isles and western Europe and the pressure gave way over Iceland, but increased in the Scandinavian peninsula. On the 7th and 8th the high area gradually spread eastward, while depressions passed over the extreme northern districts of Europe. From the 6th to the 9th an area of barometric maxima moved from the United States and Canada eastward over the ocean to the Azores; the high area in Europe continued its easterly movement, while low area xviii., which had been slowly passing over Greenland, was central on the 9th near Iceland, where the pressure was 28.8 (731.5); at the centre of the high area, in the Azores, the barometer read 30.52 (775.2). During the 10th and 11th the pressure within the high area increased to 30.65 (778.5), while that at the centre of the low area decreased to 28.65 (727.4), and a period of stormy weather prevailed over the Atlantic and northern Europe during these days. On the 12th low area xviii., had moved northeastward to the Arctic regions and a subsidiary disturbance, number xxvi., which had developed great energy, now occupied Denmark, where the barometer read 28.82 (732.0); during its passage this depression caused great damage to property and some loss of life, especially in the British Isles.

The centre of high barometer was off the coast of Portugal, and over the Atlantic ocean from N. 20° W. 40° northeastward to the southwestern part of the British Isles and over the greater part of France, the pressure ranged from 30.05 (763.3) to 30.3 (769.6); at the same time a zone of low pressures, 29.0 (736.6), extended from the Norwegian coast southwestward to N. 50°, W. 45°. During the 13th, 14th and 15th, the area of high pressures maintained its former position, but the pressure was slowly decreasing, and low area xxvii. was moving slowly eastward north of the British Isles, with barometer at the centre of depression below 28.7 (729.0), causing strong winds to gales from w. and sw. with rain or snow over those islands and over central and northern Europe. During the 15th low area xxviii. passed southeastward over northern Scotland and the North Sea, and by the 16th an area of low pressures, enclosed by the isobar for 29.4 (746.4), extended from the White Sea southwestward over the Gulf of Bothnia, Sweden, and the Baltic to Germany. On the same date an area of high pressures appeared over the ocean and extended from Iceland southward to the thirtieth parallel, at the centre of this area, in about N. 53° W. 25°, the pressure was 30.7 (779.8), while very steep gradients were shown on its northwestern side, the pressure in western Greenland being 28.71

(729.2). On the 17th the pressure decreased in the vicinity of Iceland, caused by the passage of low area xxix, but the pressure at the centre of the high area increased, while the area diminished in size; from the 17th until the 22d the area of barometric maxima appeared to gradually withdraw toward the southwest, and during this time disturbances passed eastward over northern Europe, causing unsettled weather in the Scandinavian districts.

During the 21st an area of high barometer began to form over southern Europe, and by the 22d, the isobar for 30.2 (767.1), stretched from the Ægean Sea westward over the Adriatic, Italy, and to the French coast; at the same time a deep depression, 28.8 (732.5) was central near the eastern coast of Newfoundland, displacing the high area which had previously occupied the ocean south of the fortieth parallel. On the 23d and 24th the European area of maxima spread northward and westward over the continent, and now included the British Isles and the adjacent ocean area westward to the twentieth meridian west of Greenwich. Another area of high pressures, 30.8 (782.3), formed over the eastern half of the American continent during the 23d, and moved eastward during that and the following day, so that, between these two high areas there existed over the ocean an extensive region of low pressures, extending from Iceland, where the barometer read 28.58 (725.9), southward to about 40° N. The pressure within the high area from America decreased to about 30.3 (769.6), while the centre of the high area over Europe appeared to move slowly eastward, but the general distribution of pressure remained materially unchanged until the 28th, on which date a deep depression, 28.8 (731.5), occupied the Canadian Maritime Provinces. This depression moved slowly eastward while the high area in front of it also moved in an easterly direction; by the 30th the high area from the Atlantic had apparently joined that central over Europe, the combined system forming an extensive area of high pressures, which covered the region lying between the parallels of 40° and 65° north, and extending from about 30° W. to 50° E. of Greenwich; the centre of this high pressure area, where the barometer read 30.7 (779.8), occupied central Russia, On the 30th another anti-cyclone was shown over the northern part of North America, with its centre over Labrador, while the trough of low pressures existed over mid-ocean and extended from Iceland southward. At the close of the month the pressure was increasing over the Atlantic north of the fiftieth parallel, and the depression above referred to was apparently forced to the southward; the chart for 31st showed the region of least pressure in about N. 39°, W. 37°, where the barometer read 29.38 (746.2).

Special barometric observations in connection with the depressions which moved over the Atlantic ocean during December, 1883, will be found under the heading "North Atlantic Storms," in the MONTHLY WEATHER REVIEW for that month.

Of the depressions which appeared in Japan, those traced as numbers xliv., xlv., xlix., and l., were the most severe. In the first the barometer fell to 29.32 (744.7) on the 3d, and strong winds to gales from w. and nw. occurred during its passage; in number xlv. the barometric minimum, 29.45 (748.0), occurred on the 10th, with sw. to w. gales. With number xlix. the highest winds were from nw. to n., attaining the force of a moderate gale, and the barometer fell to 29.57 (751.1) on the 24th; during the passage of number l. the barometer reached 29.38 (746.2), and moderate to strong gales from w. and nw., prevailed during the 29th and 31st.

STORM-TRACKS FOR MAY, 1882.

The paths of thirty-two atmospheric disturbances are shown on the chart for May, 1882. They are distributed, geographically, as follows: nine depressions are traced in the North American continent; of these, three passed from the regions west of the Rocky Mountains eastward or southeastward to about W. 85°, where two of them filled in, while the other moved northeastward to the Maritime Provinces; one appeared in northern Dakota and moved into the Hudson Bay territory; one, number iv., pursued a somewhat abnormal course, having moved from Texas northward to Dakota, and thence southeastward to Tennessee and then eastward, passing into the Atlantic from the Capes of Virginia. The remaining depressions appeared in eastern Canada.

Six depressions are traced over the north Atlantic ocean; of these, two only, numbers xviii. and xxi., were continuations of storms which developed in the American continent. One appeared in southern Greenland; one in the vicinity of the Bermudas, and the remaining two in mid-ocean. The general direction of movement of these depressions was to the northeastward; that charted as xxi. was remarkable on account of the unusual track of the centre, and its long continuance (8 days) over the region between W. 25° and the British Isles.

Eight depressions are traced in Europe; of these, two originated near the British coasts and passed in a northeasterly direction; three appeared in the territory north of the sixtieth parallel; two occupied the southern districts and one the Black Sea region.

Three depressions are traced in western Siberia and five in China and Japan.

The depressions which appeared in the northern hemisphere during May, 1882, presented no abnormal features; it is therefore sufficient to briefly refer to the more important disturbances: In the United States the depression charted as iv. was the most severe of the month; during its passage the barometer fell to 29.2 (741.7) on the 8th; on reaching the ocean it was attended by strong winds to gales along the coast, and during its passage over the Atlantic (as low area xxi.), it developed some energy. It was joined by a subsidiary disturbance, xxi.*a*, on the 20th; during that and the following day the barometer read 29.3 (744.2), and moderate to strong gales occurred over the Atlantic.

During the period (May 22–28th), in which the disturbance lingered between W. 20° and the British Isles, the barometer fell to 29.2 (741.7) on the 24th, and the minimum, 29.15 (740.4), was attained on the 26th; on these days moderate to strong gales prevailed over the above-mentioned region, and throughout the entire period the weather remained unsettled and rainy over the southwestern and western districts of the British Isles.

In the depression traced as x., the minimum pressure was 29.22 (742.2) on the 1st, off the northwest coast of Ireland. That traced as number xviii., over the Atlantic, caused moderate to fresh gales during the 10th, 11th and 12th, the barometric minimum, 29.3 (744.2), occurring on the last-mentioned date.

Referring to the depressions traced in Japan, in that charted as number xxvii., the barometer fell to 29.45 (748.0) in eastern Niphon on the 5th, and to 29.37 (746.0), the minimum, at Hakodate, on the 6th. In number xxix., the lowest reading of the barometer was 29.54 (750.3), in the Yellow Sea on the 17th; during the passage of low area xxx., the barometer fell to 29.54 (750.3), on the 21st, at stations in western Niphon; these disturbances were not attended by violent winds, the wind-force rarely exceeding that of a strong breeze. The depression numbered xxviii. has been traced partly over the Pacific by the aid of the observations made on board the s. s. "Oceanic," J. Metcalfe, commanding, which vessel appears to have moved eastward with the disturbance and in its western semi-circle.

GENERAL REMARKS.

DAILY BULLETIN.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or

near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations.

On February 1, 1883, the following change was made in publishing marine data in the "Daily International Bulletin":

All marine data are classified as to districts, which are designated as follows: District No. 1, North Atlantic; District No. 2, South Atlantic, &c., under which headings the respective reports are printed.

BOUNDARIES OF DISTRICTS.

District No. 1 comprises the Atlantic ocean, its arms and tributaries, from the equator northward to the pole, and in the Arctic from 100° E., westward to 100° W., of Greenwich.

District No. 2 comprises the Atlantic ocean, its arms and tributaries, from the equator southward to the pole, and in the Antarctic from 20° E., westward to 70° W., of Greenwich.

District No. 3 comprises the Pacific ocean, its arms and tributaries, from the equator northward to the pole, and in the Arctic from 100° W., westward to 100° E., of Greenwich.

District No. 4 comprises the Pacific ocean, its arms and tributaries, from the equator southward to the pole, and in the Antarctic from 70° W., westward to 145° E., of Greenwich.

District No. 5 comprises the Indian ocean, its arms and tributaries, from the Asiatic continent southward to the pole, and in the Antarctic from 20° E., eastward to 145° E., of Greenwich.

The following remarks relate to the individual peculiarities in the *methods* of recording, and the *times* of taking, the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of Brig. General Béziat, Commandant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. Adelaide, furnished by co-operation of Charles Todd, C. M. G., F. R. A. S. The observations are taken at 9 p. m., local time.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemberg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind-direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army. At St. John's, N. F., the barometer appears read about .10 inch too high, which correction has been applied from August 1st, 1883.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Saint Francis Lighthouse, the original gives barometer reduced to freezing, but not to sea-level. The kind of clouds is given, but no distinction is made between upper and lower. Weather in general terms.

CHILIAN SERIES (by authority of the Secretary of Public Instruction, furnished by co-operation of Francisco Vidal Gormáz, President of the Central Meteorological Office at Santiago).—Observations are taken mostly at lighthouses on the coast; the originals give barometer as read off; temperature in Centigrade; humidity is not given but is computed at this office from the hygrometrical observations.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted. At Jacobshavn the observations are taken at 8 a. m., local time.

EGYPTIAN SERIES (Furnished by the co-operation of Albert Ismalun, Director of the Laboratoire Khédivial du Caire).—Original gives barometer reduced to zero, but not to sea-level, temperature in Centigrade. The velocity is the mean for past 24 hours. Rainfall in millimetres.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Montlouis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Montlouis and Perpignan.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only, and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by the co-operation of the Geographical Bureau, Department of the Interior, through I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (furnished by co-operation of the respective observers).—The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys-Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and

the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred. At Batavia the elevation is stated to be "a few meters."

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Astrakhan, Ashurada and Baku, the barometer-cistern is below sea-level. On December 7th, 1883, the barometer at Archangel was "deranged," and the corrections to the aneroid used in its place are not exact.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 10 a. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of the Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of F. Nimr, B. A., Director of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms. At Samakov, the barometer is reduced to freezing, but not to sea-level; temperature in Fahrenheit. The kind of clouds is given, also the distinction between upper and lower.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Puerto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind-direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind-direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operations of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date.

In the above charts broken lines indicate that the lines so drawn are doubtful. Arrows show direction of, and fly with, the wind. Force is shown as follows:

SYMBOLS.	FORCE.	VELOCITY. MILES PER HOUR.	VELOCITY. METRES PER SECOND.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

NOTES.

Fort Chimo, Ungava Bay, Labrador, N. 59° 00′, W. 68° 00′. Elevation of barometer cistern above sea-level 126? feet.

Auxiliary International Polar Station, furnished by the co-operation of Mr. L. W. Turner, through Brig. and Brevet Major General W. B. Hazen, Chief Signal Officer, U. S. A., on behalf of the International Polar Commission.

From November 1st, 1882, to August 1st, 1883, all barometer readings are from an aneroid, and the correction applied for instrumental error is not wholly reliable for readings below 29.00 inches (736.6 mm.).

In the rainfall column where the word "blank" is used, it means that owing to the drifting of the snow, it was impossible to tell whether snow was falling or not.

The following is an index of reports received too late for publication in the Daily Bulletin during the year, and which were published in full in the several monthly summaries of 1883:

Station.	Period.	Published in Summary of 1883.
Bogota, U. S. C.	June, 1883	September.
Cape Horn, S. A. (International Polar)	October 1, 1882, to August 31, 1883	August.
Fort Chimo, Ungava, Labrador	November 1, 1882, to January 10, 1884	December.
Fort Conger (International Polar)	August 5, 1881, to July 31, 1883	November.
Fort Rae, B. A. (International Polar)	September 1, 1882, to August 31, 1883	May.
Godthaab, Greenland	September, 1883	September.
Gratz, Austria	September 1 to October 14, 1883	October.
Irkutsk, Siberia	August 1, 1882, to January 7, 1883	February.
Ivigtut, Greenland	May 1 to September 30, 1883	September.
Jacobshavn, Greenland	July 1 to September 30, 1883	September.
Nikolaievsk on the Amoor, Siberia	July 1, 1882, to January 7, 1883	January.
Spitzbergen (International Polar)	August 15, 1882, to August 23, 1883	April.
Upernavik, Greenland	May and June, 1883	June.
Upernavik, Greenland	July 1 to August 31, 1883	September.
Vladivostock, Siberia	January 1 to October 31, 1883	October.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The position of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact infor-

mation is furnished. The elevation of stations is obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least, this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the alphabet of the letter so used.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

ERRATA.

DAILY BULLETIN, December 8th, 1883, page 1, Canadian, Hamilton, actual barometer, 29.87 inches, 758.7 mm., should read 29.58 (751.3)

12th, page 2, Cape Colony, Springbokfontein, temperature 9°.9 Fah., should read 99°.

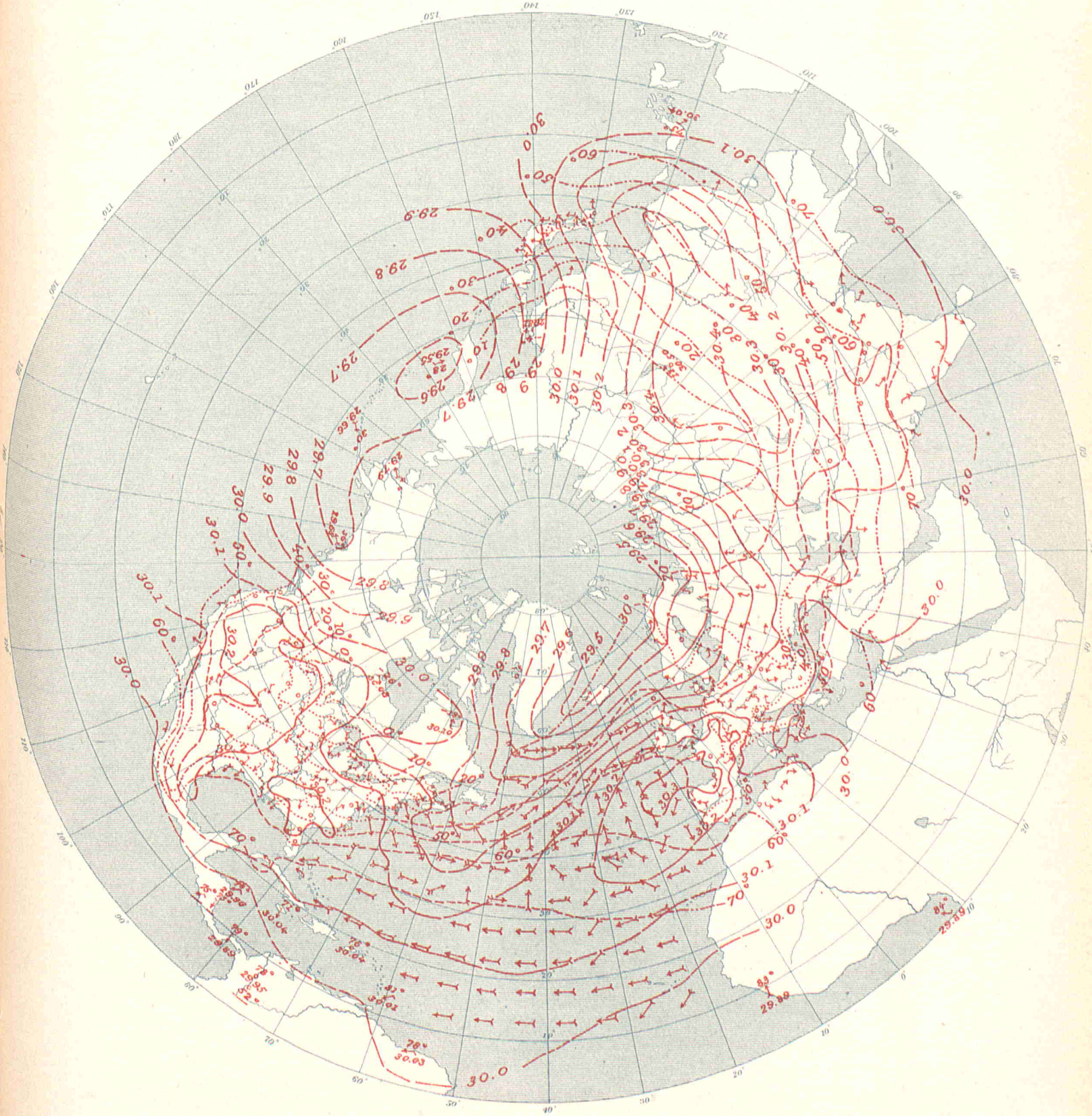
United States Series, Buffalo, New York, from November 1st, to December 12th, 1883, inclusive, barometer readings are too low by .026 of an inch; Cape Mendocino, California, from April 1st to December 1st, 1883, inclusive, all barometer readings are too low by .015 of an inch.

Portuguese Series, Angra, Azores, velocity from November 1st to 25th, inclusive, is in kilometers per hour and not meters per second as published, and should be converted to miles per hour accordingly.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

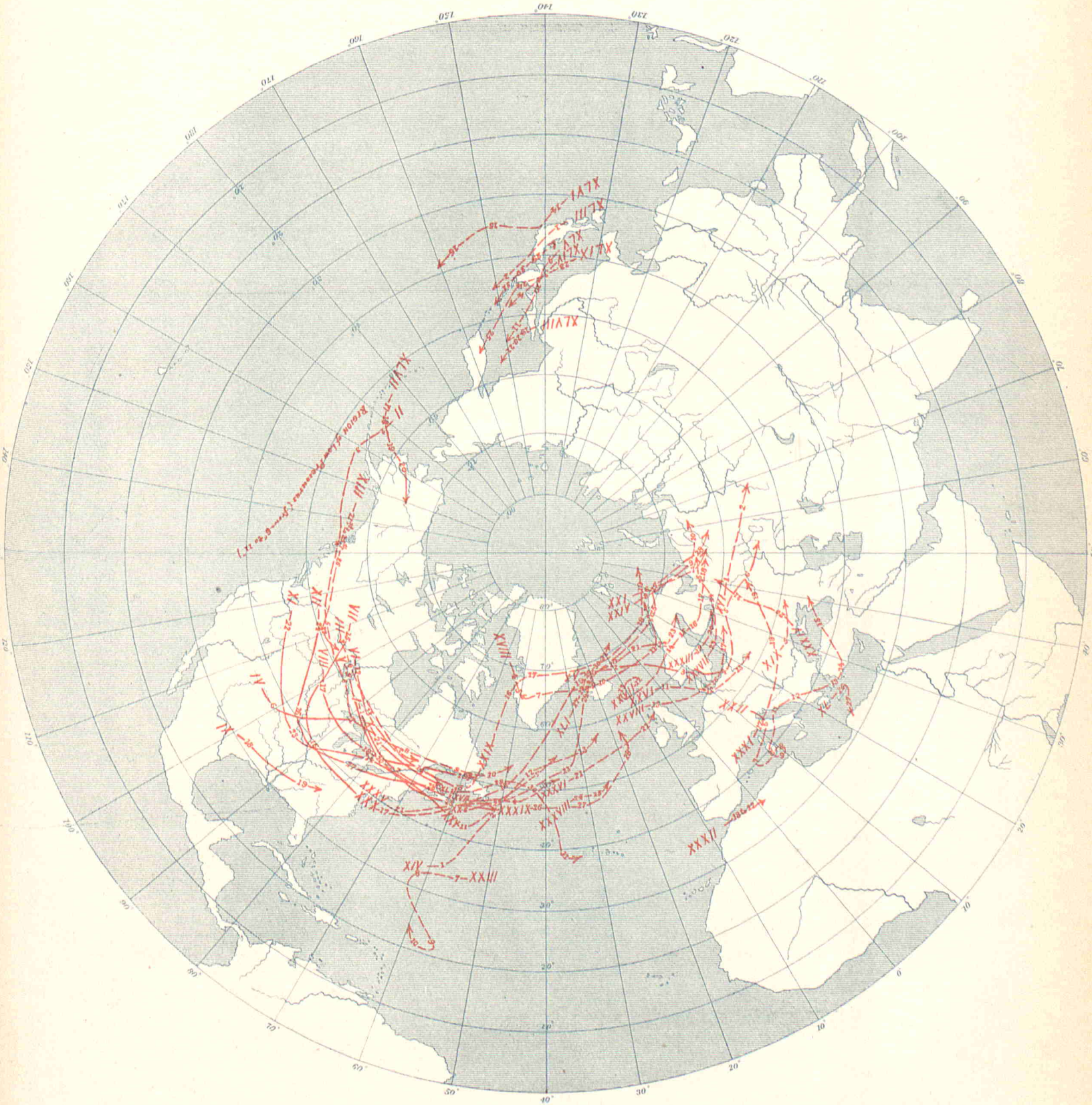
International Chart II. December, 1883. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.
Signal Office Lith.

International Chart III. December, 1883, Storm-Tracks.



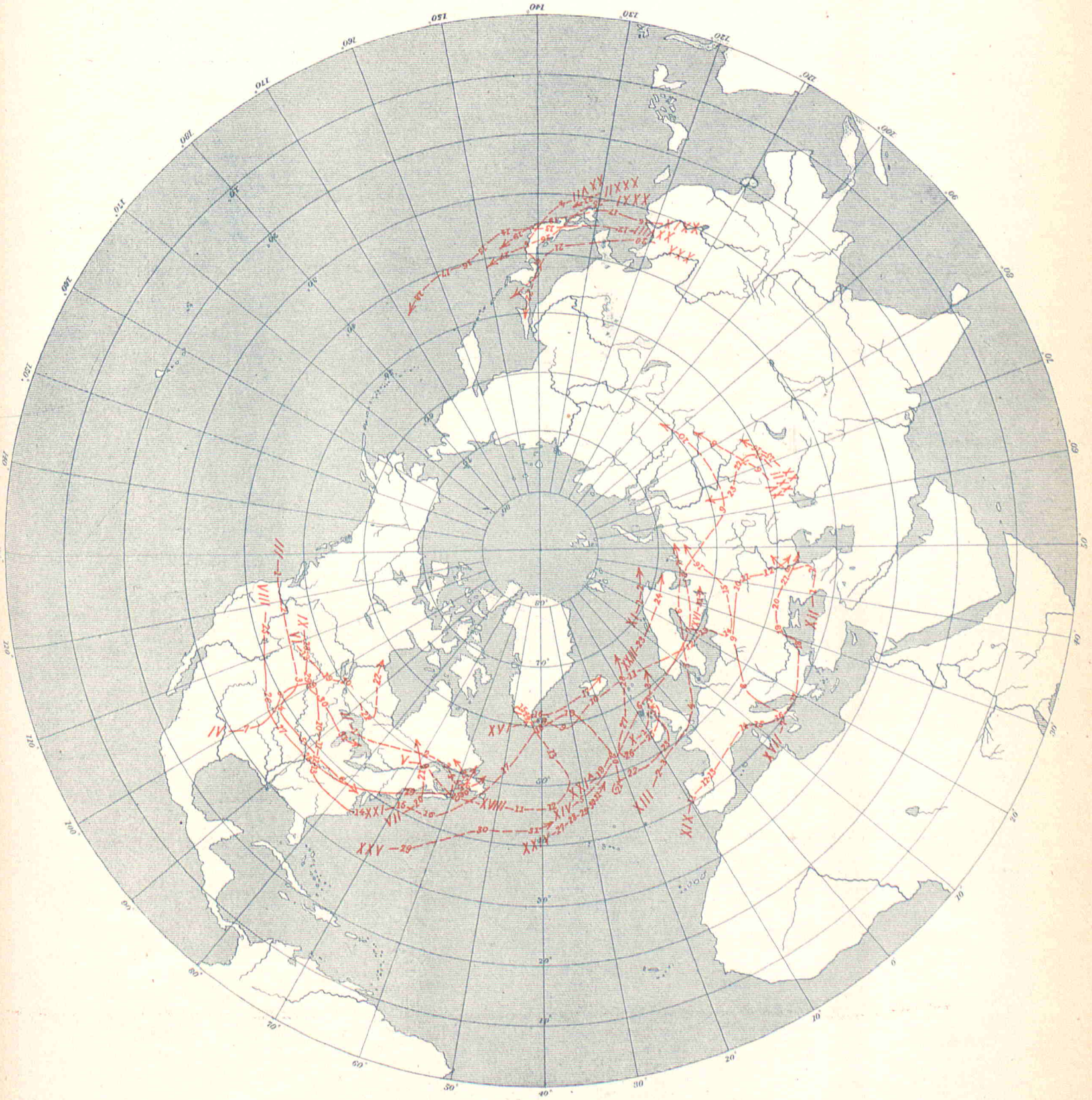
UNITED STATES OF AMERICA.

By Order of the Secretary of War.

W. B. Hazen, Chief Signal Officer.

Signal Office Lith.

International Chart III. May, 1882. Storm-Tracks.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.

W.B. Hazen, Chief Signal Officer.

Signal Office Lith.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE YEAR 1883.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
JUNE, 1886.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

FOR THE YEAR 1883.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for the year 1883. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.07	763.8	68.4	20.2	77.4	94	6	4	2	82	50	108	19	.....	.....	.....	0.9	5.73	145.5
Algiers	N. 36 47	E. 3 05	0.20 p m.	72	22	.....	.....	30.06	763.5	67.5	19.7	66.0	70	41	88	44	9	10	25	68	10	.....	.....	3.0	32.91	835.9
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.02	762.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.03	762.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.10	764.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	65.9	18.8	32.5	69	118	46	36	32	27	9	27	1	.....	.....	1.8	15.14	384.6
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2549	777	.....	.....	30.08	764.0	70.5	21.4	41.4	66	64	16	26	39	39	65	50	.....	.....	.....	1.3	4.38	111.2
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.06	763.5	75.7	24.3	37.9	22	75	57	18	9	70	30	8	76	.....	.....	2.1	2.52	64.0
AUSTRALIAN.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.92	760.0	30.01	762.2	56.2	13.4	78.4	64	29	34	47	55	77	26	29	4	.....	.....	5.5	23.67	601.2
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.45	748.0	30.01	762.2	55.5	13.1	60.2	5	10	23	99	35	43	39	111	.....	.....	.....	6.1	32.81	833.4
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.21	741.9	29.98	761.5	54.3	12.4	71.3	13	38	70	67	14	11	44	71	.....	.....	.....	6.6	24.94	633.5
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.10	739.1	29.97	761.2	46.9	8.3	77.4	70	29	2	.....	71	15	.....	1	162	.....	.....	6.9	24.27	616.4
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.76	730.5	30.01	762.2	53.0	11.7	71.1	17	54	33	70	71	46	40	19	15	.....	.....	5.8	35.36	898.2
Hermannstadt	N. 45 47	E. 24 43	1.45 p.m.	1352	412	28.54	724.9	29.97	761.2	54.4	12.4	67.8	16	88	45	18	48	108	35	7	.....	.....	.....	6.1	29.26	743.2
Kremsmunster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.65	727.7	30.00	762.0	50.0	10.0	75.7	8	39	85	40	3	5	32	96	57	.....	.....	6.8	35.90	911.8
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.98	736.1	29.97	761.2	49.1	9.5	68.5	16	49	50	35	55	78	24	58	.....	.....	.....	6.8	25.44	646.2
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.85	758.2	29.96	761 0	60.7	15.9	66.6	13	40	63	44	42	45	54	61	3	.....	.....	4.4	29.85	758.2
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.49	749.0	29.95	760.7	55.0	12.8	64.3	51	29	69	52	52	31	65	16	.....	.....	.....	5.5	21.01	533.6
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.70	754.4	29.98	761.5	55.6	13.1	66.5	37	48	43	27	74	27	8	15	77	.....	.....	6.3	20.66	524.8
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.90	759.4	30.00	762.0	60.2	15.7	56.9	11	35	51	64	5	12	32	101	54	.....	.....	5.2	32.16	816.8
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.30	744.2	30.02	762.5	52.4	11.3	64.3	32	60	94	13	11	79	26	21	29	.....	.....	6.1	18.16	461.3
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.74	755.4	29.84	757.9	48.4	9.1	72.1	17	45	56	44	80	71	29	23	.....	.....	.....	6.2	33.92	861.6
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.67	753.6	29.90	759.4	50.3	10.2	76.4	41	31	35	91	80	41	21	22	.....	.....	.....	6.6	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.91	759.7	51.3	10.7	73.4	12	48	107	59	28	55	38	18	.....	.....	.....	6.5	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.36	745.7	29.90	759.4	50.2	10.1	76.8	19	39	55	69	78	29	33	26	.....	.....	.....	7.4	.....	.....
Bradford	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.50	749.3	29.89	759.2	51.1	10.6	73.5	3	70	35	91	7	44	4	58	.....	.....	.....	7.1	34.39	873.5
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	.....	.....	54.5	12.5	72.4	46	68	84	69	30	20	18	30	.....	.....	.....	7.2	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	160	49	.....	.....	29 96	761 0	53.5	11.9	75.0	31	28	37	103	28	7	27	39	64	.....	.....	7.0	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.77	756.1	30.00	762.0	53.2	11.8	74.7	24	55	71	50	52	54	41	18	.....	.....	.....	6.6	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2205	672	27.65	702 3	29.87	758.7	74.6	23.7	52.1	26	16	22	4	16	47	149	78	7	.....	.....	4.7	.....	.....
Freetown	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.66	753.4	29.89	759.2	82.8	28.2	82.6	77	27	56	41	68	25	46	22	3	.....	.....	4.1	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.84	757.9	29.87	758 7	51.3	10.7	79.0	22	41	80	113	35	15	26	30	.....	.....	.....	6.0	43.44	1103.4
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.02	762.5	30.08	764.0	67.1	19.5	90.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.9	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.65	753.1	29.85	758.2	49.9	9.9	70.9	21	15	95	102	43	19	22	48	.....	.....	.....	7.0	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.79	756.7	29.96	761.0	54.9	12.7	71.8	41	42	34	108	57	22	27	32	2	.....	.....	7.1	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.71	754.6	30.01	762.2	52.5	11.4	79.9	48	51	60	76	40	30	27	31	2	.....	.....	6.6	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.93	760.2	29.97	761.2	53.5	11.9	68.1	49	38	71	83	51	15	23	35	.....	.....	.....	6.7	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.66	753.4	29.92	760 0	52.2	11.2	72.5	23	48	48	133	13	25	6	49	4	.....	.....	7.1	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.90	759.4	29.98	761.5	67.9	19.9	77.2	12	130	32	36	4	55	14	82	.....	.....	.....	3.5	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.06	763.5	30.11	764.8	78.4	25.8	74.5	19	15	2	35	38	94	76	86	.....	.....	.....	5.7	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.72	751.9	29.95	760.7	53.0	11.7	72.9	29	48	43	93	60	26	12	40	14	.....	.....	6.8	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.91	759.7	29.98	761.5	54.2	12.3	79.3	11	59	43	77	57	33	30	29	26	.....	.....	7.3	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.69	754.1	29.79	756.7	47.2	8.4	82.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.3	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	2.04 p.m.	60	18	29.87	758.7	29.93	760.2	64.2	17.9	64.2	63	12	11	72	42	8	6	131	15	.....	.....	5.7	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.65	753.1	29.92	760 0	53.6	12.0	76.5	16	34	28	101	73	13	8	54	38	.....	.....	6.3	29.96	761.0
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.85	758.2	29.88	758.9	51.8	11.0	77.7	34	32	96	99	19	22	45	13	5	.....	.....	6.3	33.11	841.0
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.92	760.0	50.3	10.2	71.9	30	21	105	65	42	12	25	48	1	.....	.....	8.3	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m	23	7	29.91	759.7	29.94	760.5	52.8	11.6	76.9	34	60	62	63	47	57	26	16	.....	.....	.....	7.7	.....	.....
CANADIAN.																										
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.94	760.5	29.98	761.5	38.0	3.3	83.9	44	41	76	73	49	34	15	12	21	76861	123693	6.3	42.11	1069.6
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.94	760.5	30.00	762.0	33.0	0.6	84.2	33	60	69	122	12	14	13	24	18	41807	67280	5.6	36.06	915.9
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.81	757.2	30.01	762.2	34.8	1.6	88.0	24	86	144	40	1	14	66	19	1	.....	.....	6.1	32.12	815.8
Dalhousie	N. 48 04	W. 66 22	7.32 a.m.	45	14	29.93	760.2	29.98	761.5	31.6	— 0.2	.....	5	19	196	5	2	1	56	2	59	.....	.....	5.0	25.13	638.3
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.94	760.5	29.96	761.0	30.8	— 0.7	87.2	32	88	63	55	35	8	6	38	40	.....	.....	6.7	17.43	442.7
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.20	741.7	30.06	763 5	22.5	— 5.3	86.1	86	58	33	34	59	35	11	29	19	97416	156774	5.1	18.65	473.7
Fredericton	N. 45 57	W. 66 38	7.41 a.m.	59	18	29.97	761.2	30.04	763.0	34.0	1.1	82.5	14	135	39	23	16	28	36	28	46	.....	.....	5.3	37.13	943.1
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	28 93	734.8	30.07	763.8	36.2	2.3	95.1	26	43	36	49	41	21	23	16	110	.....	.....	5.8	40.07	1017.8
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.90	759.4	30.03	762.7	39.2	4.0	87.9	40	72	87	30	40	36	11	20	29	.....	.....	5.1	57.51	1460.7
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	372	113	29.62	752.3	30.02	762.5	40.4	4.7	80.8	3	16	17	221	1	4	13	90	.....	.....	.....	5.8	29.23	742.4
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.70	754 4	30.05	763.3	37.8	3.2	82.8	52	30	59	68	63	13	11	64	5	70523	113493	6.3	37.08	941.8
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.92	760.0	29.96	761.0	43.6	6.4	81.3	20	54	44	118	49	30	11	24	5	.....	.....	.....	.....	.....
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.82	757.4	30.02	762.5	36.2	2.3	79.5	41	25	96	58	58	23	19	35	9	.....	.....	6.3	37.06	941.3
Ottawa	N. 45 26	W. 75 41	7.05 a.m.	200	61	29.78	756.4	30.02	762.5	33.0	0.6	87.1	46	55	52	55	35	13	25	41	42	.....	.....	5.7	27.17	690.1
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.32	744 7	30.03	762 7	34.0	1.1	83.9	49	17	43	29	64	49	60	34	20	.....	.....	6.3	42.97	1091.4
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.35	745.5	30.06	763.5	39.6	4.2	91.0	34	31	64	62	31	5	10	67	61	71195	114574	6.4	39.27	997.4
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.40	746.7	30.06	763.5	38.3	3.5	87.6	38	35	120	35	7	16	77	31	6	.....	.....	5.9	36.24	920.5
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.68	753.9	30.01	762.2	32.7	0.4	87.6	42	22	78	37	33	2	19	33	99	.....	.....	6.6	42.86	1088.6
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.54	750.3	30.03	762.7	30.0	— 1.1	85.2	11	88	45	2	5	50	42	5	117	.....	.....	5.6	33.96	862.6
Saint Andrews	N. 45 04	W. 67 06	7.40 a.m.	47	14	29.95	760 7	30.00	762.0	36.8	2.7	86.1	47	98	23	38	24	42	19	37	37	.....	.....	4.4	37.72	958.1
Saint John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	130	40	29.86	758.4	30.02	762.5	37.1	2.8	88.4	67	46	43	48	50	16	25	45	9	.....	.....	5.3	44.07	1119.4
Saint Pierre	N. 46 47	W. 56 08	8.21 a.m.	?	?	.....	.....	.....	.....	40.5	4.7	.....	38	76	62	67	16	32	16	33	12	.....	.....	.....	38.44	976.4
Saugeen	N 44 30	W. 81 21	6.42 a.m.	656	200	29.30	744.2	30.02	762.5	37.5	3.1	87.4	35	33	48	67	51	47	31	28	25	103964	167311	6.8	38.31	973.0
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	28.75	730.2	30.06	763.5	35.3	1.8	89.0	13	39	74	51	30	46	27	15	70	.....	.....	6.3	42.56	1081.0
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.93	760.2	29.99	761.7	38.7	3.7	86.1	32	30	52	117	35	19	11	20	49	85682	137888	6.9	60.64	1537.7
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.68	753.9	30.07	763.8	38.8	3.8	82.5	51	45	73	52	15	7	34	53	35	87713	141156	6.4	33.78	858.0
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	28.99	736.3	30.08	764.0	38.5	3.6	84.9	44	16	61	73	53	26	34	35	12	.....	.....	6.3	43.58	1106.9
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.96	761.0	30.03	762.7	40.9	4.9	85.3	44	67	29	32	34	32	68	25	34	.....	.....	5.3	43.19	1097.0
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	8	30.00	762.0	30.03	762.7	66.9	19.4	81.0	7	9	74	138	12	33	42	35	15	.....	.....	4.5	21.33	541.8
Springbok	S. 29 45	E. 17 43	1.19 p.m.	?	?	27 89	708.4	.....	.....	71.5	21.9	42.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
CHINESE.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	30.06	763.5	30.08	764.0	56.8	13.8	85.5	72	35	22	11	46	60	89	51	11	.....	.....	6.3	43.88	1114.5
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.86	758.4	29.91	759.7	49.0	9.4	73.2	37	56	44	47	51	66	35	20	9	.....	.....	6.5	.....	.....
Fanoe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.88	758.9	29.90	759.4	49.3	9.6	78.9	14	41	98	73	37	43	40	19	.....	.....	.....	6.1	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for the Year 1883. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
DANISH.—Cont'd.	° ′	° ′																								
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.61	752.1	29.65	753.1	25.9	— 3.4	85.7	83	27	6	25	97	12	13	80	22	.....	.....	7.3	.....	.....
Jacobshavn	N. 69 13	W. 50 55	8.44 a.m.	42	13	29.65	753.1	29.70	754.4	22.3	— 5.4	.....	17	4	11	23	41	36	99	1	133	.....	.....	6.3	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.54	750.3	29.59	751.6	39.0	3.9	84.1	10	14	20	26	39	62	69	82	43	.....	.....	6.9	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.70	754.4	29.73	755.1	45.9	7.7	81.3	45	18	53	77	40	40	21	47	24	.....	.....	7.1	.....	.....
Ivigtut	N. 61 12	W. 48 —	8.56 a.m.	16	5	29.61	752.1	29.63	752.6	29.6	— 1.3	.....	22	26	6	7	20	39	1	9	234	.....	.....	7.1	.....	.....
Upernavik	N. 72 47	W. 56 00	8.24 a.m.	42	13	29.66	753.4	29.71	754.6	18.6	— 7.4	.....	37	4	3	62	3	15	109	29	103	.....	.....	6.2	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.79	756.7	29.88	758.9	56.4	13.6	79.4	16	46	67	67	35	37	45	35	17	.....	.....	5.6	.....	.....
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.48	748.8	30.13	765.3	58.0	14.4	79.9	15	61	67	26	27	58	12	10	89	.....	.....	.....	27.86	707.6
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.52	749.8	30.06	763.5	53.5	11.9	85.0	37	29	15	99	80	18	5	72	10	.....	.....	.....	21.52	546.6
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	29.94	760.5	30.02	762.5	62.8	17.1	57.6	101	152	17	28	16	34	10	12	.....	.....	.....	3.7	25.04	636.0
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.47	748.5	30.03	762.7	55.1	12.8	65.6	11	28	23	79	62	68	44	50	.....	.....	.....	6.9	27.57	700.3
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.75	755.6	30.02	762.5	55.0	12.8	65.8	18	44	72	57	41	34	51	48	.....	.....	.....	6.9	23.53	597.7
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.10	739.1	30.00	762.0	55.5	13.1	73.3	26	7	10	74	102	23	14	109	.....	.....	.....	.....	45.38	1152.6
Bordeaux	N. 44 50	W. 0 32	0.06 p.m.	243	74	29.80	756.9	30.05	763.3	58.6	14.8	66.9	30	59	61	65	28	51	36	35	.....	.....	.....	6.1	31.14	790.9
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.48	748.8	30.03	762.7	56.6	13.7	69.6	50	23	70	87	37	20	31	47	.....	.....	.....	.....	24.55	623.6
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.82	757.4	30.06	763.5	57.1	13.9	78.8	44	37	50	103	21	20	19	52	19	.....	.....	6.8	65.71	1669.0
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.92	760.0	30.00	762.0	55.5	13.1	74.6	41	69	68	54	49	29	13	41	1	.....	.....	.....	30.63	778.0
Châlons sur Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.67	753.6	29.99	761.7	55.3	12.9	77.2	32	22	37	80	87	43	13	19	29	.....	.....	5.4	29.33	745.0
Charleville	N. 49 46	E. 4 43	0.27 p.m.	476	145	29.49	749.0	30.01	762.2	54.3	12.4	67.4	29	30	49	44	56	50	64	41	1	.....	.....	6.0	31.45	798.8
Clermont-Fer'and	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.68	728.5	30.03	762.7	56.6	13.7	58.8	105	46	68	40	27	30	12	37	.....	.....	.....	6.2	21.09	535.7
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.20	741.7	30.05	763.3	56.1	13.4	63.9	54	42	55	51	43	30	18	65	7	.....	.....	.....	35.06	890.5
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.17	740.9	30.03	762.7	52.9	11.6	72.6	12	42	128	41	21	21	70	30	.....	.....	.....	.....	41.11	1044.2
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.48	698.0	30.00	762.0	55.8	13.2	54.4	45	12	16	17	71	14	17	42	131	.....	.....	3.8	28.62	726.9
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.83	733.5	29.99	761.7	62.2	16.8	52.0	30	83	13	29	57	65	48	40	.....	.....	.....	4.3	21.25	539.7
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.26	743.2	30.03	762.7	56.8	13.8	67.0	21	124	39	27	20	33	68	32	1	.....	.....	.....	43.17	1096.5
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.46	722.9	30.05	763.3	53.9	12.2	69.0	26	42	36	145	20	26	22	45	3	.....	.....	.....	35.82	909.8
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.79	756.7	30.06	763.5	55.7	13.2	75.6	40	71	66	53	49	42	19	24	1	.....	.....	.....	23.14	587.7
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.57	751.1	30.05	763.3	60.8	16.0	63.9	16	22	149	61	13	16	48	40	.....	.....	.....	5.0	40.34	1024.6
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.95	760.7	30.05	763.3	58.1	14.5	67.6	36	41	48	76	67	23	19	42	13	.....	.....	6.4	29.45	748.0
Lyon	N. 45 41	E. 4 47	0.25 p.m.	981	299	28.99	736.3	30.05	763.3	55.0	12.8	63.6	79	82	22	6	56	48	43	29	.....	.....	.....	.....	29.29	744.0
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.74	755.4	30.05	763.3	54.5	12.5	77.4	44	46	69	67	29	39	33	38	.....	.....	.....	5.5	27.09	688.1
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.73	755.1	30.00	762.0	63.0	17.2	59.1	3	69	110	86	27	27	32	10	.....	.....	.....	.....	17.18	436.4
Montlouis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.84	630.9	29.68	753.9	48.6	9.2	48.1	39	43	64	106	12	19	53	29	.....	.....	.....	4.3	24.40	619.7
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.88	758.9	29.99	761.7	63.9	17.7	70.5	77	62	35	15	20	60	43	45	8	.....	.....	2.8	24.22	615.2
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.92	760.0	30.08	764.0	58.4	14.7	65.5	36	40	66	70	42	21	40	50	.....	.....	.....	7.3	31.66	804.1
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.93	760.2	30.04	763.0	63.3	17.4	53.8	44	126	18	14	11	48	42	59	3	.....	.....	5.1	13.71	348.2
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.21	538.7	.....	.....	31.8	— 0.1	.....	8	72	82	90	11	11	12	54	25	.....	.....	.....	61.92	1572.7
Privas. [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.97	735.8	30.03	762.7	58.4	14.7	.....	161	15	13	8	100	21	7	14	25	.....	.....	.....	36.36	923.5
Puy de Dôme	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.13	638.3	.....	.....	38.9	3.8	85.5	28	49	93	56	27	39	23	50	.....	.....	.....	6.5	74.34	1888.2
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.00	762.0	30.03	762.7	60.1	15.6	71.0	23	19	39	71	32	19	17	60	82	.....	.....	4.7	59.64	1514.8
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.81	757.2	30.03	762.7	57.9	14.4	74.2	27	51	53	71	36	48	35	44	.....	.....	.....	.....	32.46	824.5
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.91	708.9	30.05	763.3	54.1	12.3	70.3	12	137	31	13	8	68	41	12	43	.....	.....	.....	32.44	824.0
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.98	761.5	30.02	762.5	55.6	13.1	73.5	40	50	66	60	32	44	29	41	2	.....	.....	5.9	29.54	750.3
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.86	758.4	30.03	762.7	55.6	13.1	67.2	48	32	38	86	52	25	22	44	17	.....	.....	6.8	22.58	573.5
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.38	746.2	30.11	764.8	60.3	15.7	67.0	35	82	74	31	16	89	24	14	.....	.....	.....	5.2	21.93	557.0
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	29.85	758.4	30.04	763.0	57.8	14.3	65.2	60	31	56	75	59	17	19	48	.....	.....	.....	.....	29.32	744.7
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.53	750.0	30.02	762.5	54.5	12.5	.....	40	49	88	56	30	26	34	39	3	.....	.....	.....	23.81	604.8
Sub-Series.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	0.03 p.m.	131	40	29.94	760.5	30.09	764.3	60.4	15.8	68.5	43	63	100	45	16	17	48	31	2	.....	.....	6.0	61.04	1550.4
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.56	725.4	30.02	762.5	51.4	10.8	65.8	6	34	79	71	18	32	34	60	31	.....	.....	6.2	22.92	682.2
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.15	740.4	29.99	761.7	52.8	11.6	65.0	14	45	67	45	29	50	18	37	60	.....	.....	5.5	21.06	534.9
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.82	757.4	29.97	761.2	52.6	11.4	64.2	14	78	78	37	30	47	32	25	24	.....	.....	7.7	17.91	454.9
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.48	748.8	30.01	762.2	50.8	10.4	63.1	26	48	94	41	36	51	44	18	7	.....	.....	6.9	21.4	543.6
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.58	751.3	30.03	762.7	54.8	12.7	64.8	16	8	10	176	18	11	30	91	5	.....	.....	6.9	34.54	877.3
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.25	742.9	29.96	761.0	53.0	11.7	66.3	32	55	33	61	116	24	24	20	.....	.....	.....	6.4	21.22	539.0
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.63	752.6	29.99	761.7	55.2	12.9	62.1	32	27	53	91	51	28	39	36	8	.....	.....	6.4	21.15	562.6
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.60	726.4	30.03	762.7	52.3	11.3	72.2	8	7	67	163	38	9	9	64	.....	.....	.....	7.1	42.99	1091.9
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.87	758.7	29.96	761.0	50.8	10.4	76.0	16	50	50	99	18	49	49	27	7	.....	.....	6.8	23.06	585.7
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.91	759.7	29.93	760.2	50.0	10.0	72.2	26	34	64	72	24	31	40	44	30	.....	.....	7.0	28.64	727.4
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.57	751.1	29.99	761.7	52.3	11.3	62.8	16	53	53	75	55	34	34	45	.....	.....	.....	6.8	22.82	579.6
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.77	756.1	29.96	761.0	53.4	11.9	65.2	18	38	92	56	33	40	47	35	6	.....	.....	6.4	19.00	484.1
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.92	760.0	29.97	761.2	47.6	8.7	76.5	25	65	70	49	47	53	20	36	.....	.....	.....	6.8	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.18	715.8	30.04	763.0	50.6	10.3	65.3	36	96	46	29	2	11	51	62	32	.....	.....	6.5	35.31	896.8
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.95	760.7	29.97	761.2	49.2	9.6	72.8	40	39	58	60	29	56	33	49	1	.....	.....	7.1	21.83	554.5
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.46	748.3	29.99	761.7	54.6	12.6	65.8	22	17	106	44	36	12	21	35	69	.....	.....	6.9	23.04	585.2
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.05	737.9	29.95	760.7	53.9	12.2	62.3	80	24	92	51	21	4	54	39	.....	.....	.....	6.2	25.68	652.3
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.93	760.2	29.96	761.0	49.1	9.5	78.1	42	18	63	85	24	59	35	39	.....	.....	.....	7.5	20.81	528.6
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.57	751.1	29.95	760.7	68.1	20.1	.....	82	7	23	58	107	8	6	74	.....	.....	.....	5.1	35.12	892.0
INDIAN.																										
Kurrachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.75	755.6	29.80	756.9	81.4	27.4	62.1	2	17	122	183	14	4	12	11	.....	.....	.....	3.6	5.74	145.8
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.29	744.0	29.76	755.9	88.4	31.3	31.3	37	44	79	123	28	16	8	28	1	.....	.....	2.9	17.01	432.0
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.78	756.4	29.82	757.4	81.7	27.6	72.7	28	157	120	41	9	4	1	5	.....	.....	.....	5.0	88.18	2239.7
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	29.76	755.9	29.80	756.9	82.1	27.8	43.4	2	84	98	68	1	29	48	34	1	.....	.....	5.0	38.62	980.9
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.29	693.2	29.82	757.4	76.7	24.8	60.1	12	7	106	65	12	28	68	63	4	.....	.....	5.3	53.31	1354.0
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.00	736.6	29.74	755.4	82.3	27.9	42.8	30	23	65	5	.....	3	48	19	172	.....	.....	2.8	21.38	543.0
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.83	732.3	29.73	755.1	80.6	27.0	46.8	9	20	113	5	11	17	27	4	159	.....	.....	3.0	40.12	1019.0
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.18	741.2	29.74	755.4	85.8	29.9	36.1	5	95	105	45	17	20	37	28	13	.....	.....	3.2	19.26	489.2
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.71	729.2	29.74	755.4	85.7	29.8	42.9	11	42	60	45	15	14	13	18	147	.....	.....	4.7	61.45	1560.8
Jubbulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.42	721.9	29.77	756.1	82.7	28.2	45.0	28	89	40	10	13	16	10	48	111	.....	.....	4.2	48.28	1226.3
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.38	746.2	29.75	755.6	82.0	27.8	52.0	25	53	56	20	2	12	22	21	154	.....	.....	2.3	36.06	915.9
Allahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.43	747.5	29.74	755.4	81.3	27.4	54.8	8	68	9	12	2	9	15	41	200	.....	.....	3.2	28.59	726.2
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.56	750.8	29.75	755.6	80.8	27.1	55.8	15	82	71	16	6	22	65	54	34	.....	.....	3.8	39.29	998.0
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.74	704.6	29.70	755.9	76.2	24.6	52.5	71	128	35	14	17	31	25	17	27	.....	.....	5.0	50.74	1288.8
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.68	753.9	29.76	755.9	81.8	27.7	67.7	7	26	50	32	49	24	11	54	112	.....	.....	4.4	58.10	1475.7
Calcutta	N. 22 33	E. 88 21	6.01 p.m	21	6	29.74	755.4	29.76	755.9	78.8	26.0	70.7	44	52	34	79	74	33	16	16	17	.....	.....	4.7	52.58	335.5
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.65	753.1	29.76	755.9	77.7	25.4	73.0	13	12	.....	31	10	12	38	50	198	.....	.....	3.5	70.31	1785.8
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.72	754.9	29.81	757.2	76.8	24.9	79.8	5	37	59	51	62	56	11	7	77	.....	.....	4.9	6.45	163.8
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.46	748.3	29.80	756.9	75.0	23.9	80.6	1	8	.....	74	1	36	15	224	6	.....	.....	5.3	85.44	2170.1
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.33	719.6	29.76	755.9	83.8	28.8	40.3	36	141	68	33	18	22	13	27	7	.....	.....	3.5	21.94	557.3
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.33	719.6	.....	.....	86.8	30.4	39.4	12	48	110	28	2	70	68	27	.....	.....	.....	5.3	1.06	26.9
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.56	750.8	.....	.....	88.2	31.2	50.8	5	47	78	20	14	21	81	74	25	.....	.....	6.1	30.96	786.4
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.59	751.6	30.00	762.0	59.7	15.4	54.4	7	1	6	56	36	42	81	28	108	.....	.....	5.9	54.54	1385.3
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.49	749.0	30.01	762.2	58.6	14.8	58.6	14	40	54	86	29	69	32	41	.....	.....	.....	5.7	34.09	865.9
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.88	758.9	29.99	761.1	59.1	15.1	57.8	73	27	32	36	34	43	47	65	8	.....	.....	5.1	27.22	691.4
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.09	738.9	30.00	762.0	57.0	13.9	63.0	63	100	12	11	28	30	51	70	.....	.....	.....	5.6	34.12	866.6
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157?	48?	29.79	756.7	29.99	761.7	60.9	16.1	58.1	92	12	.....	101	23	68	12	46	11	.....	.....	5.3	50.82	1290.8
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.94	760.5	29.99	761.7	58.9	14.9	72.5	71	49	23	35	6	66	40	72	3	.....	.....	5.8	18.73	475.7
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.72	754.9	29.98	761.5	62.3	16.8	54.7	28	27	64	69	27	9	29	112	.....	.....	.....	5.7	23.62	599.9
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.84	757.9	29.93	760.2	62.3	16.8	62.6	20	22	92	58	46	5	38	83	.....	.....	.....	5.3	26.55	674.4
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.79	756.7	29.96	761.0	65.9	18.8	49.1	94	25	75	83	48	8	7	11	13	.....	.....	5.2	30.55	776.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for the year 1883. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
	° ′	° ′																								
ITALIAN—Con.																										
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.71	754.6	29.96	761.0	65.8	18.8	54.8	80	44	31	32	41	31	33	73	.....	.....	.....	3.9	27.54	699.5
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.09	738.9	29.97	761.2	66.0	18.9	69.4	7	45	103	94	64	45	7	.....	.....	.....	.....	4.9	46.56	1182.6
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.75	755.6	30.00	762.0	66.4	19.1	56.8	28	42	55	28	1	1	19	170	21	.....	.....	4.7	36.66	931.1
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.91	759.7	29.95	760.7	68.0	20.0	63.4	44	8	44	51	58	15	65	74	6	.....	.....	5.8	22.54	572.5
Sub-Series.																										
Naples	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.46	748.3	29.98	761.5	63.7	17.6	62.8	28	31	39	117	27	30	28	59	1	.....	.....	5.2	31.35	821.7
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8313	2543	22.11	561.6	.....	.....	31.8	— 0.1	70.1	4	3	72	81	11	51	33	110	.....	.....	.....	5.4	56.48	1434.6
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	22.14	562.3	.....	.....	34.6	1.4	73.3	61	60	43	29	6	38	81	46	.....	.....	.....	5.8	60.67	1541.0
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	29.95	760.7	29.98	761.5	48.6	9.2	86.6	22	49	28	10	3	19	30	3	201	.....	.....	6.5	60.54	1537.7
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.92	760.0	29.96	761.0	45.9	7.7	81.5	43	35	75	60	66	20	30	15	21	71319	114773	6.0	39.72	1008.9
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	29.95	760.7	29.96	761.0	44.2	6.8	86.8	82	43	69	13	5	12	77	16	48	71521	115098	5.8	29.31	744.5
Hamamtsu	N. 34 43	E. 137 43	9.19 p.m.	92	28	29.95	760.7	30.00	762.0	56.9	13.8	79.8	18	41	63	9	14	8	42	12	158	.....	.....	4.7	57.90	1470.6
Kazo-hima	N. 31 35	E. 130 33	8.50 p.m.	14	4	30.02	762.5	30.04	763.0	60.2	15.7	80.2	109	52	9	10	9	6	35	44	91	.....	.....	5.0	80.78	2051.8
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	29.92	760.0	30.02	762.5	53.6	12.0	83.9	19	31	22	35	23	101	88	22	24	51271	82510	6.8	94.73	2406.1
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	30.84	757.9	30.02	762.5	55.0	12.8	80.0	158	41	54	13	36	10	20	26	7	.....	.....	5.8	45.60	1158.2
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	30.00	762.0	30.03	762.7	59.7	15.4	79.3	43	93	106	13	13	10	50	35	2	62155	100261	5.5	83.66	2124.9
Miasaki	N. 31 56	E. 131 26	8.54 p.m.	26	8	30.01	762.2	30.04	763.0	59.7	15.4	83.2	68	13	106	6	21	13	52	26	45	.....	.....	5.1	88.54	2248.9
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.83	757.7	30.03	762.7	59.0	15.0	79.2	76	24	13	22	12	12	19	62	125	37038	59605	4.9	71.32	1811.5
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	29.96	761.0	29.99	761.7	53.3	11.8	81.5	67	11	60	37	10	88	17	70	5	65976	106175	6.8	73.80	1874.5
Nobiru	N. 38 23	E. 141 11	9 32 p.m.	15	5	29.96	761.0	29.98	761.5	50.0	10.0	85.5	135	56	14	6	56	14	37	30	14	81890	131785	5.8	33.86	860.0
Numadza	N. 35 06	E. 138 51	9.23 p.m.	32	10	29.95	760.7	29.98	761.5	56.8	13.8	78.6	29	7	35	28	32	9	128	37	60	.....	.....	6.3	49.14	1248.1
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	30.00	762.0	30.02	762.5	56.6	13.7	79.6	86	26	89	15	5	2	31	111	.....	74685	120195	5.6	42.53	1080.2
Sakai	N. 35 33	E. 133 14	9.00 p.m.	10	3	30.02	762.5	30.03	762.7	56.4	13.6	79.7	70	16	83	20	12	6	46	69	42	.....	.....	6.1	52.55	1334.8
Supporo	N. 43 04	E. 141 23	9.33 p.m.	60	18	.....	.....	.....	.....	42.2	5.7	85.4	25	60	23	29	33	105	11	7	72	63554	102278	5.7	36.80	936.2
Shimonoseki	N. 33 58	E. 130 56	8.52 p.m.	134	41	29.97	759.4	30.04	763 0	57.8	14.3	79.1	7	10	32	21	6	6	31	13	239	.....	.....	5.2	55.44	1408.2
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.92	760.0	29.99	761.7	54.4	12.4	80.9	114	20	17	9	81	20	81	15	8	.....	.....	5.5	58.04	1474.2
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.96	761.0	30.01	762.2	58.2	14.6	76.9	48	41	9	24	49	6	28	94	66	46284	74485	5.3	47.18	1198.4
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.84	757.9	30.03	762.7	76.7	24.8	68.2	13	13	14	14	4	63	179	65	.....	.....	.....	6.0	47.69	1211.3
MEXICAN.																										
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24.34	618.2	30.06	763.5	54.5	12.5	85.1	56	123	38	41	15	18	13	13	47	.....	.....	6.1	35.29	896.4
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.98	761.5	29.98	761.5	53.5	11.9	.....	36	30	71	71	50	33	42	32	.....	.....	.....	.....	27.85	707.4
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.89	759.2	29.94	760 5	50.1	10.1	.....	39	64	38	71	61	20	43	29	.....	.....	.....	.....	25.65	651.5
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.97	761.2	29.97	761.2	53.9	12.2	72.7	20	32	79	83	23	17	54	28	21	.....	.....	.....	28.61	726.7
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.93	760.2	29.98	761.5	53.9	12.2	71.4	41	35	55	75	56	39	34	30	.....	.....	.....	5.8	23.97	608.8
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7.15 p.m.	?	?	29.87	758.7	.....	.....	79.2	26.2	82.2	139	39	25	12	13	9	12	116	.....	.....	.....	6.1	78.95	2005.3
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.75	755.6	29.81	757.2	48.2	9.0	67.9	22	62	36	25	134	53	16	7	9	.....	.....	6.5	74.07	1881.4
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.72	754.9	29.76	755.9	45.9	7.7	67.6	60	19	24	85	50	36	20	19	54	.....	.....	6.4	38.15	969.0
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.70	754.4	29.85	758.2	47.0	8.3	66.8	30	17	29	96	60	27	45	51	10	.....	.....	6.5	26.74	679.2
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.71	754.6	29.73	755.1	39.7	4.3	.....	28	19	44	52	43	46	19	54	60	.....	.....	7.2	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.69	754.1	29.74	755.4	43.4	6.3	69.9	38	10	21	83	31	18	17	60	86	.....	.....	6.2	44.08	1119.6
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	.....	.....	.....	.....	63.3	17.4	79.4	43	47	66	36	15	64	58	30	6	.....	.....	4.6	49.38	1254.2
Campo	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.07	738.4	30.06	763.5	66.0	18.9	55.9	35	17	76	52	53	21	49	48	9	.....	.....	4.8	22.54	572.5
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.07	763.8	30.16	766.1	67.8	19.9	64.0	10	6	12	199	18	55	28	26	11	.....	.....	5.6	30.42	772.7
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	312	95	29.77	756.1	30.11	764.8	62.0	16.7	61.4	85	46	16	55	51	13	16	79	3	.....	.....	4.3	25.41	645.4
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.13	765.3	30.20	767.1	66.0	18.9	70.1	45	31	39	44	25	25	35	59	62	.....	.....	4.6	39.53	1004.0
St. P'l de Loando	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.73	755.1	29.93	760.2	77.8	25.4	88.0	32	69	186	46	5	2	.....	10	.....	.....	.....	6.1	20.22	513.6
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.33	643.4	30.08	764.0	47.5	8.6	68.4	12	72	65	27	18	49	93	19	10	.....	.....	5.5	117.45	2983.2
RUSSIAN																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	1004?	306?	28.90	734.0	30.00	762.0	39.0	3.9	59.7	19	31	55	84	31	29	40	54	18	.....	.....	5.4	5.11	129.8
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.85	758.2	29.87	758.7	38.8	3.8	74.1	27	57	59	48	52	48	34	21	19	.....	.....	7.7	14.12	358.6
Ashurada	N. 36 54	E. 53 55	3.44 p.m.	79	24	30.09	764.3	30.00	762.0	66.5	19.2	73.5	64	124	99	14	1	4	21	29	9	.....	.....	4.9	.....	.....
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.14	765.5	30.06	763.5	55.9	13.3	54.9	31	36	41	35	34	77	65	31	15	.....	.....	5.7	5.79	147.1
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	30.07	763.8	30.03	762.7	61.4	16.3	69.1	124	16	.....	34	99	33	7	25	27	.....	.....	3.5	6.61	167.9
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.58	751.3	30.10	764.5	35.8	2.1	64.8	23	38	33	112	19	13	6	46	75	.....	.....	5.9	17.42	442.7
Bielosersk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.47	748.5	29.94	760.5	41.8	5.4	77.0	30	60	49	37	57	45	20	22	45	.....	.....	7.2	24.90	634.0
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.68	753.9	29.93	760.2	45.4	7.4	76.2	24	24	58	79	68	32	34	35	11	.....	.....	7.5	20.76	679.7
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	29.02	737.1	30.01	762.2	38.9	3.8	65.8	29	33	88	67	33	56	14	17	23	.....	.....	7.2	9.72	246.9
Elisavetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.57	751.1	30.03	762.7	52.8	11.6	59.9	36	58	49	39	31	50	57	30	15	.....	.....	6.6	14.81	376.2
Irkutsk	N. 52 16	E. 104 16	7.05 p.m.	1536	468	28.46	722.9	30.16	766.1	33.4	0.8	72.4	28	42	1	4	11	38	15	11	215	.....	.....	4.9	13.05	331.5
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.73	755.1	30.01	762.2	44.0	6.7	63.0	27	29	56	61	63	60	28	28	13	.....	.....	7.4	9.35	237.5
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	29.82	757.4	29.87	758.7	39.2	4.0	74.6	18	28	62	65	38	21	35	61	37	.....	.....	7.3	11.68	296.7
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	29.96	761.0	29.98	761.5	55.3	12.9	70.8	37	28	11	3	21	31	45	15	128	.....	.....	4.9	13.71	348.2
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.33	745.0	29.97	761.2	49.3	9.6	66.2	41	38	55	42	43	66	31	44	4	.....	.....	6.7	19.79	502.7
Koslov	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.47	748.5	30.00	762.0	45.9	7.7	72.6	32	35	50	66	55	38	29	34	19	.....	.....	7.0	22.03	559.6
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	29.91	759.7	29.93	760.2	46.7	8.2	74.8	19	45	72	75	37	54	34	23	6	.....	.....	5.9	24.01	609.8
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.78	759.4	29.98	761.5	53.7	12.1	54.8	17	38	47	70	30	37	64	61	1	.....	.....	6.7	13.32	338.3
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.43	748.8	29.97	761.2	44.8	7.1	67.0	32	52	51	52	70	30	16	24	38	.....	.....	6.8	18.47	469.1
Nikolajev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.94	760 5	30.02	762.5	56.0	13.3	65.3	31	27	17	45	55	23	36	70	61	.....	.....	4.3	8.83	224.3
Nikolaievsk	N. 53 08	E. 140 45	9.31 p.m.	59	18	.....	.....	.....	.....	26.6	— 3.0	77.9	9	20	58	2	9	23	43	14	176	.....	.....	5.1	.....	.....
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	29.92	760.0	30.06	763 5	53.2	11.8	60.2	5	45	.....	50	16	39	.....	9	201	.....	.....	3.2	38.74	984.0
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.68	753 9	29.88	758.9	41.2	5.1	73.8	27	70	30	67	27	67	22	35	20	.....	.....	7.0	31.01	787.6
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.48	748.8	29.98	761.5	49.2	9.6	70.6	33	50	59	42	51	62	32	21	15	.....	.....	6.9	26.97	685.0
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	29.94	760.5	29.97	761.2	65.2	18.4	78.0	8	53	37	92	27	6	117	.....	25	.....	.....	5 2	50.57	1284.5
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	29.90	759.4	29.92	760.0	43.3	6.3	69.5	23	71	53	38	65	45	31	37	2	.....	.....	6.8	24.82	630.4
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.46	748.3	30.14	765.5	40.2	4.6	58.1	52	51	39	28	26	22	55	22	69	.....	.....	5.2	8.20	208.3
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	138?	42?	29.76	755.9	29.95	761.0	59.2	15.1	61.8	52	78	49	66	40	6	10	57	7	.....	.....	5.1	17.74	450.6
Staroi Bykhov	N. 53 31	E. 30 16	2.09 p.m.	512	156	29.49	749.0	30.00	762.0	48.2	9.0	67.8	20	28	33	27	45	118	32	55	7	.....	.....	8.0	24.86	631.4
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.60	726.4	30.00	762.0	63.2	17.3	47.0	30	69	11	8	57	107	30	2	51	.....	.....	4.8	15.55	395.0
Viatka	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.32	744.7	29.97	761.2	40.4	4.7	.....	26	44	59	43	49	44	20	16	61	.....	.....	6.4	15.29	388.4
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	29.96	761.0	30.02	762.5	38.5	3.6	72.4	62	45	13	5	11	88	31	26	83	.....	.....	4.3	17.63	447.8
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.55	750.6	29.97	761.2	49.5	9.7	68.1	49	43	65	50	68	40	21	24	5	.....	.....	6.8	22.50	571.5
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.84	757.9	30.14	765.5	28.6	— 1.9	74.2	10	33	145	38	17	25	37	12	49	.....	.....	5.8	16.33	414.8
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	98	30	29.92	760.0	30.03	762.7	64.8	18.2	64.9	2	27	48	83	80	52	55	17	1	.....	.....	3.3	17.64	448.0
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.05	763.3	30.11	764.8	64.4	18.0	64.2	12	182	10	14	21	81	6	7	32	22714	36554	5.8	44.66	1134.3
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.12	688.8	30.09	764.3	55.3	12.9	62.9	64	7	28	92	51	4	9	105	5	55719	89670	4.5	20.25	514.3
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.85	707.4	30.06	763.5	62.8	17.1	52.3	17	21	32	109	49	40	37	53	7	79824	128462	4.1	16.37	415.8
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.91	759.7	30.05	763.3	64.1	17.8	65.8	3	49	15	62	52	61	59	61	3	21009	33810	4.8	11.61	294.9
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	203	29.15	740.4	30.04	763.0	59.4	15.2	71.9	62	23	31	81	31	16	11	65	45	81182	130646	6.2	65.10	1653.5
Sub-Series.																										
Manila	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.86	758.4	29.92	760.0	79.3	26.3	80.8	41	13	19	58	20	59	75	77	3	.....	.....	4.5	99.03	2515.3
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	30.01	762.2	30.10	764.5	67.1	19.5	63.8	22	46	109	28	26	26	87	12	9	.....	.....	3.8	30.76	781.3
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.96	761.0	30.05	763.3	78.3	25.7	87.3	8	.....	4	1	13	96	40	20	183	.....	.....	3.4	79.11	2009.4
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.81	757.2	29.85	758.2	39.9	4.4	78.3	55	12	11	65	101	31	14	49	27	.....	.....	6.2	16.41	416.8
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.80	756.9	29.85	758.2	43.3	6.3	75.2	30	44	15	125	38	18	22	44	23	.....	.....	6.7	23.99	609.3
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.79	756.7	29.84	757.9	44.7	7.1	71.8	32	26	0	38	72	19	19	42	111	.....	.....	5.9	22.41	569.2
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.70	754 4	29.88	758.9	47.2	8.4	68.7	44	21	57	69	75	23	30	33	13	.....	.....	7.2	20.66	524.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for the Year 1883. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
SWEDISH—Cont'd	° ′	° ′																								
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.81	757.2	29.87	758.7	47.2	8.4	77.5	33	37	87	68	40	33	30	36	.....	.....	.....	5.7	24.60	624.8
Sub-Series.																										
Upsala	N 59 51	E. 17 37	1.19 p.m.	79	24	29.77	756.1	29.86	758.4	46.0	7.8	75.5	60	52	22	79	65	30	23	34	.....	.....	.....	6.7	24.21	614.9
Swiss.																										
Geneva	N. 46 12	E 6 08	0.33 p m.	1338	408	28.62	726.9	30.05	763 3	53.7	12.1	64.8	163	23	21	31	85	17	10	15	.....	.....	.....	6.6	32.74	831.6
TURKISH.																										
Constantinople	N 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.98	761.5	61.7	16.5	64.2	138	24	6	48	23	20	13	93	....	.....	.....	5.9	33.32	846.3
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.05?	763.3?	66.9	19.4	.....	14	104	57	86	31	14	9	50	.....	.....	.....	4.2	36.81	935.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.93	760.2	73.4	23.0	62.6	35	44	60	168	8	9	2	37	2	.....	.....	4.2	51.69	1312.9
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	30.01	762.2	30.10	764.5	45.6	7.6	69.3	75	53	54	32	116	6	8	17	4	53894	86732	6.3	39.37	1000.0
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.36	745 7	30.04	763.0	35.4	1.9	79.1	19	59	129	39	34	31	27	11	16	82906	133421	5.8	35.32	897.1
Apache, Fort	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	25.05	636.3	29.97	761.2	39.0	3.9	73.2	1	1	1	21	2	52	166	103	18	58954	94874	2.5	21.65	549.9
Assinaboine, Fort	N. 48 32	W. 109 42	4.49 a.m.	2710	826	27.18	690.4	30.09	764.3	32.2	0.1	68.0	9	22	22	176	29	5	35	52	15	94903	152727	4.4	15.10	383.5
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1129	344	28.96	735.6	30.15	765.8	56.1	13.4	80.2	23	88	54	24	24	35	61	28	28	68962	110980	4.3	51.53	1308.8
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	30.08	764.0	30.09	764.3	49.0	9.4	79.9	94	50	38	41	35	25	18	48	16	80769	129982	5.4	44.64	1133.8
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	29.96	761.0	30.16	766.1	59.5	15.3	80.4	30	39	34	15	26	28	19	48	125	30345	48834	5.5	39.90	1013.4
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.08	764.0	30.13	765.3	51.3	10.7	72.0	78	54	47	31	37	14	30	55	19	49989	80448	5.0	40.52	1029.2
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	22	7	30.07	763.8	30.09	764.3	49.9	9.9	80.1	77	48	49	53	20	13	49	49	7	128939	207501	5.5	42.96	1091.2
Bennett, Fort	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.46	722.9	30.09	764.3	34.0	1.1	82.2	21	95	8	10	5	77	7	45	97	67307	108317	5.3	16.91	429.5
Benton, Fort	N. 47 50	W. 110 40	4.45 a.m.	2700	823	27.24	691.9	30.12	765.0	36.0	2.2	62.5	8	4	16	54	14	8	6	42	212	52370	84279	4.4	13.01	330 4
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.20	716.3	30.08	764.0	31.2	— 0.4	81.4	45	77	32	9	15	41	65	40	36	77982	125496	4.8	15.66	397.8
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	30.05	763.3	30.08	764.0	47.2	8.4	80.7	88	51	31	65	16	18	13	77	5	130575	210134	4.6	39.69	1008.1
Boisé City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.24	691.9	30.10	764 5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	32901	52948	.....	.....	.....
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.91	759.7	30.07	763 8	44.8	7.1	74.7	31	100	82	71	24	17	9	24	6	83079	133699	4.8	35.48	901.2
Brownsville	N. 25 53	W. 97 26	5.38 a.m.	57	17	29.97	761.2	30.03	762.7	67.8	19.9	89.8	71	5	2	11	111	55	24	15	71	70441	113361	5.2	31.02	787.9
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	690	210	29.30	744.2	30.06	763.5	42.4	5.8	78.7	17	18	41	90	69	35	23	72	.....	98809	159014	6.4	38.07	967.0
Buford, Fort	N. 48 00	W. 103 56	5.12 a.m.	1930	588	27.99	710.9	29.97	761.2	28.8	— 1.8	82.1	29	43	76	17	29	20	63	46	27	72687	116976	3.9	10.82	274.8
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.73	755 1	30.14	765.5	52.7	11.5	80.0	29	19	14	77	58	24	22	60	12	74299	119569	5.2	52.54	1334.5
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.10	764.5	30.12	765.0	55.7	13.2	80.8	68	36	23	73	63	17	15	63	7	113354	182421	5.4	57.26	1454.4
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.07	763.8	30.10	764.5	51.4	10.8	79.3	61	45	25	41	56	23	30	65	3	128330	206521	4.8	52.62	1336.5
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.36	745.7	30.05	763.3	48.5	9.2	85.8	48	161	1	3	1	71	.....	17	45	.....	.....	2.5	19.17	486.9
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.10	764.5	30.12	765.0	69.0	20.6	82.4	65	20	33	17	42	39	50	93	6	72529	116721	3.7	33.58	852.9
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	30.06	763.5	30.11	764 8	63.0	17.2	85.3	57	27	51	87	3	4	20	86	30	68916	110906	4.8	51.35	1304.3
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.27	743.4	30.13	765.3	55.4	13.0	77.1	44	46	13	89	33	13	28	92	7	44637	71834	5.1	57.09	1450.1
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.32	744.7	30.15	765.8	55.4	13.0	79.8	37	51	43	63	40	21	21	57	32	50500	81270	5.2	54.16	1375.6
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6105	1861	24.01	609 8	30.03	762 7	34.8	1.6	63.3	53	149	75	33	19	9	6	11	10	82100	132124	3.3	19.24	488.7
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.34	745.2	30.06	763.5	43.0	6.1	73.9	29	47	60	96	30	37	26	27	12	74140	119313	5.2	45 86	1164.8
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	18	5	30.08	764 0	30.10	764.5	52.4	11.3	82.9	66	56	19	22	73	19	30	74	6	94680	152369	5.1	42.35	1075.7
Cincinnati	N. 39 06	W. 84 30	6.30 a.m.	620	189	29.45	748.0	30.12	765.0	50.7	10.4	77.8	41	45	39	50	33	56	30	60	11	49710	79999	5.6	52.35	1329.7
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.32	744.7	30.08	764.0	44.1	6.7	75.4	27	21	53	48	75	90	19	30	2	80648	129787	6.4	41.13	1044.7
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.22	742 2	30.09	764 3	46.2	7.9	76.8	39	56	56	39	83	33	25	33	.....	67723	108986	5.7	48.88	1241.5
Concho, Fort	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.16	715 3	30.10	764.5	54.4	12 4	80.7	31	20	28	25	92	15	7	56	91	77478	124685	5.2	32.64	829.0
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.39	746 5	30.06	763.5	42.9	6.1	73.9	27	79	51	60	25	25	44	52	2	79068	127244	5.4	34.59	878.6
Davis, Fort	N. 30 38	W. 103 56	5.12 a.m.	4940	1506	25.23	640.8	30.04	763.0	50.1	10.1	68.8	48	5	6	57	14	30	5	13	187	47938	77147	2.7	14.22	361.2
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1667	508	28.31	719.1	30.09	764.3	39.9	4.4	74.8	26	7	5	145	58	5	28	69	22	50377	81072	4.2	21.44	544.6
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.35	643.9	30.05	763.3	35.4	1.9	80.4	16	20	24	41	41	14	17	59	132	22992	37001	3.7	29.74	755.4
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.09	764.3	30.11	764.8	51.0	10.6	84.3	64	46	20	76	45	22	18	74	.....	139698	224816	5.1	33.84	859.5
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.74	628.4	30.02	762.5	40.6	4.8	67.6	38	29	18	23	162	24	5	13	52	54066	87008	3.1	19.49	495.0
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.16	740.7	30.09	764.3	40.4	4.7	75.6	93	46	36	39	33	38	23	35	22	58397	93978	5.3	39.69	1008.1
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.35	745.5	30.07	763.8	43.7	6.5	80.9	38	41	67	67	35	29	36	30	20	84944	136700	5.4	32.57	827.3
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2517	767	27.43	696.7	30.07	763.8	42.9	6.1	78.7	37	59	48	49	31	54	30	34	20	104192	167677	3.8	28.50	723.9
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.34	745.2	30.07	763.8	39.8	4.3	71.2	34	75	47	40	47	31	22	21	48	44848	72174	5.4	39.57	1005.1
Duluth	N. 46 48	W. 92 06	0.00 a.m.	687	209	29.28	743 7	30.05	763.3	33.8	1.0	78.0	28	59	68	56	24	2	14	45	69	73952	119010	5.6	23.20	589.3
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.95	760.7	30.02	762.5	38.4	3.6	77.4	57	69	45	41	65	10	20	30	28	82398	132604	4.9	53.18	1350.8
Elliott, Fort	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.28	692.9	30.07	763.8	44.8	7.1	67.9	49	44	9	32	70	50	6	41	64	97413	156767	3.7	28.21	716.5
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3764	1147	26.31	668.3	30.05	763 3	52.7	11.5	60.2	10	73	45	8	3	21	48	17	140	44670	71887	2.8	12.92	328.2
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.33	745.0	30.07	763.8	45.0	7.2	77.5	16	36	30	84	93	32	16	38	20	81747	131555	6.7	44.81	1138.2
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	612	186	29.35	745.5	30.03	762.7	33.7	0.9	80.1	88	60	58	34	57	13	14	7	34	76864	123697	5.4	30.02	762.5
Fort Smith	N. 35 22	W. 94 24	5.50 a.m.	451	137	29.64	752 8	30.12	765.0	52.7	11.5	82.2	36	18	21	5	14	7	145	5	112	44668	71884	4.8	46.65	1184.9
Galveston	N. 29 18	W. 94 47	5.49 a.m.	40	12	30.03	762.7	30.07	763.8	67.9	19.9	81.6	40	13	16	48	86	53	43	58	8	93213	150008	6.0	41.11	1044.2
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.36	745.7	30.04	763 0	41.8	5.4	81.5	37	35	43	44	48	27	43	69	19	100060	161027	6.6	44.84	1138.9
Grant, Fort	N. 32 39	W. 109 57	4.48 a.m.	4860	1481	.....	.....	.....	.....	50.2	10.1	56.4	58	47	10	7	20	42	85	76	20	62858	101158	2.7	15.48	393.2
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	12	4	30.10	764.5	30.11	764.8	59.7	15.4	84.6	48	34	30	71	19	21	20	115	7	136054	218952	5.7	76.96	1954.8
Helena	N. 46 34	W. 112 04	4.40 a.m.	4100	1250	25.81	655.6	30.07	763.8	37.8	3.2	73.3	33	20	24	180	5	4	7	29	65	45556	73313	3.9	.....	.....
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.64	727 4	30.08	764.0	34.1	1.2	75.3	44	108	18	16	25	104	29	19	2	87569	140925	5.0	23.25	590.5
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.26	743.2	30.08	764.0	46.8	8.2	74.8	34	44	35	48	61	29	17	54	43	46927	75520	5.6	54.12	1374.6
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	30.03	762.7	30.06	763 5	67.1	19.5	87.2	69	7	14	16	127	53	22	44	12	115051	185151	4.8	30.69	779.5
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.08	764 0	30.12	765.0	66.4	19.1	83.6	40	30	18	59	47	30	22	63	56	49006	78866	4.1	53.34	1354.8
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.40	746.7	30.07	763.8	44.4	6.9	77.4	36	61	45	53	33	36	48	33	19	74901	120538	4.4	38.63	981.2
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.06	763.5	30.08	764.0	76.7	24.8	79.8	19	7	2	17	20	63	98	102	37	77272	124354	4.5	48.24	1225.3
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.11	764.8	30.13	765.3	57.4	14.1	81.2	36	33	39	76	18	16	19	125	3	.....	.....	5.1	72.86	1850.6
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.10	739.1	30.14	765.5	51.8	11.0	85.5	45	14	27	70	6	9	26	117	51	49842	80211	5.1	50.67	1287.0
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.25	742 9	30.05	763.3	38.7	3.7	73.1	76	40	38	35	122	29	6	13	6	70599	113615	5.0	33.69	855.7
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.19	741.4	30.10	764.5	45.4	7.4	77.4	58	67	8	8	89	34	20	17	64	61992	99763	4.4	41.94	1065.3
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.24	742.7	30.09	764 3	43.0	6.1	71.6	1	8	17	20	8	66	69	44	131	23415	37682	4.0	15.83	402.1
Little Rock	N. 34 45	W. 92 06	6.00 a.m	298	91	29.78	756.4	30.10	764.5	56.4	13.6	80.6	51	46	14	27	43	22	23	36	103	44280	71260	4.9	55.62	1412.7
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	371	113	29.64	752.8	30.03	762.7	53.5	11.9	79.2	21	12	55	4	12	21	32	152	56	52489	84471	4.0	14.14	359.2
Louisville	N. 38 15	W 85 45	6.25 a.m.	530	162	29.51	749 5	30.08	764.0	51.7	10.9	76.2	66	29	49	42	79	18	22	47	13	73221	117834	5.9	51.54	1309.1
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.42	747.3	30.12	765.0	52.7	11.5	70.6	18	33	45	69	31	12	24	67	56	31893	51325	4.9	39.85	1012.2
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.36	745.7	30.03	762.7	36.6	2.6	76.8	26	65	63	50	47	33	50	19	12	89566	144139	6.4	.....	.....
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.10	764 5	30.11	764.8	59.3	15.2	86.1	78	60	41	61	24	17	13	64	7	113779	183105	5 8	67.45	1713.2
Maginnis, Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1323	25.56	649 2	30.07	763.8	34.7	1.5	52.1	17	80	123	44	8	33	22	38	.....	99279	159770	4.8	13.29	337.6
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.27	743 4	30.02	762.5	35.3	1.8	71.7	39	88	111	40	34	22	7	10	14	79506	127949	6.0	30.50	774.7
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.76	755.9	30.10	764.5	56.1	13.4	81.8	27	54	28	30	40	60	14	61	51	50345	81020	5.1	57.14	1451.3
Milwaukee	N. 43 02	W. 87 54	5.16 a.m.	697	212	29.29	744.0	30.05	763.3	40.0	4.4	73.0	54	81	75	58	20	24	20	31	2	108250	174206	5.8	29.47	748.5
Mobile	N. 30 41	W. 88 02	6.16 a.m.	41	12	30.07	763.8	30.11	764.8	63.2	17.3	83.7	148	32	28	28	34	25	19	37	14	50535	81326	4.7	58.50	1485.9
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	67	29.89	759.2	30.13	765.3	60.3	15.7	82.6	31	41	17	34	25	59	26	49	83	41915	67454	4.8	39.71	1008.6
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	29.03	737.3	30.06	763.5	26.6	— 3.0	86.5	92	39	30	20	66	55	16	25	20	.....	.....	4.6	24.96	634.0
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.64	600.4	30.00	762.0	22.8	— 5.1	90.0	14	203	55	34	18	12	15	13	1	307148	494296	3.2	76.71	1948.4
Nashville	N. 36 10	W. 86 47	6.21 a.m.	549	167	29.53	750.0	30.11	764.8	53.7	12.1	83.2	31	63	44	30	35	59	62	38	3	56847	91484	5.8	57.90	1470.6
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	29.97	761.2	30.08	764 0	43.8	6.6	77.8	104	52	28	59	22	13	8	62	17	65245	104998	5.1	39.46	1002.3
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	30.06	763 5	30.11	764.8	46.6	8.1	76.5	78	55	45	39	21	14	16	46	51	55659	89573	4.9	51.37	1381.0
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	30.03	762.7	30.09	764.3	67.2	19.6	79.8	42	29	25	18	47	72	53	56	23	59879	96364	4.5	69.85	1774.2
New York City	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.93	760.2	30.11	764 8	47.5	8.6	76.9	37	26	71	60	29	13	27	57	45	62700	100904	5.1	38.83	986.3
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.08	764.0	30.11	764.8	56.7	13.7	78.5	61	25	28	83	25	16	22	77	27	64505	103808	4.6	54.30	1379.2
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.10	688.3	30.06	763 5	38.8	3.8	79.1	16	49	65	14	16	49	46	21	84	83382	134187	4.7	30.01	762.2
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	30.05	763.3	30.09	764.3	43.3	6.3	84.2	25	4	9	23	78	1	1	4	219	20872	33589	5.5	41.61	1056.9
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.90	734.0	30.10	764.5	42.2	5.7	77.6	80	44	27	21	58	46	11	16	62	58345	93894	4.7	48.92	1242.6
Oswego	N. 43 29	W. 76 35	7.02 a.m	304	93	29.72	754.9	30.05	763.3	43.0	6.1	74.2	24	37	60	35	97	67	12	29	4	80578	129674	6.9	34.49	876.0
Palestine	N. 31 45	W. 95 40	5.45 a.m.	533	162	29.55	750.6	30.11	764.8	59.4	15.2	82.1	52	25	9	24	121	22	31	65	11	78372	126124	5.8	43.49	1104.6
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.08	764.0	30.11	764.8	64.6	18.1	82.3	79	39	28	44	33	26	34	73	9	63642	102419	4.7	61.55	1563.3
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	92	28	30.02	762.5	30.12	765.0	49.8	9.9	82.0	52	70	21	79	26	15	15	72	15	63714	102535	4.9	39.17	994.9

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for the year 1883.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. States—Con.	° ′	° ′																								
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.78	451.6	30.06	763.5	15.9	— 8.9	80.8	32	79	81	107	4	4	2	54	2	.....	.....	2.6	18.17	461.5
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	766	233	29.27	743.4	30.10	764.5	47.0	8.3	80.0	34	55	41	43	49	17	21	54	51	49149	79096	6.0	43.17	1096.5
Port Huron	N. 43 00	W. 82 26	6.38 a.m	633	193	29.34	745.2	30.04	763.0	39.4	4.1	84.3	36	38	50	68	71	21	25	41	15	83849	134938	5.7	36.98	939.3
Portland	N. 43 39	W. 70 15	7.27 a.m.	45	14	29.99	761.7	30.04	763.0	42.8	6.0	71.2	80	73	65	46	30	10	14	41	5	68302	110240	4.7	31.99	812.5
Portland,	N. 45 32	W. 122 43	3.57 a.m	67	20	30.02	762.5	30.09	764.3	46.2	7.9	84.5	44	43	17	17	88	7	17	6	124	42368	68183	5.0	51.45	1305.8
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5340	1628	24.78	629.4	29.98	761.5	41.1	5.1	69.1	5	10	39	134	121	6	11	5	34	57356	92303	2.2	16.13	409.7
Provincetown	N. 42 03	W. 70 11	7.27 a.m.	26	8	30.03	762.7	30.06	763.5	46.5	8.1	77.8	40	72	61	59	34	21	28	42	8	87530	140862	5.1	40.39	1025.9
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	332	101	29.68	753.9	30.05	763.3	52.1	11.2	70.6	167	72	2	1	73	6	12	6	26	54948	87428	1.9	13.76	349.5
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.55	750.6	30.11	764.8	44.2	6.8	83.5	30	25	11	21	29	27	53	49	120	26286	42302	4.4	22.48	571.0
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	65	20	29.95	760.7	30.03	762.7	50.9	10.5	81.6	37	43	5	12	73	156	15	5	18	52637	84709	1.6	13.48	342.4
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	583	178	29.48	748.8	30.11	764.8	48.4	9.1	85.0	54	60	45	35	72	40	21	32	6	95970	154445	5.1	40.10	1018.5
Ft. St. Michael's	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.79	756.7	29.82	757.4	26.3	— 3.2	93.7	49	30	19	36	65	57	26	62	21	.....	.....	7.5	21.73	551.9
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	801	244	29.16	740.7	30.04	763.0	35.3	1.8	77.7	37	64	44	41	43	45	19	14	58	62525	100622	5.4	26.70	678.2
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.16	740.7	30.07	763.8	24.1	— 4.4	88.2	31	124	6	48	51	54	4	19	28	68763	110660	4.2	17.88	454.1
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.66	651.8	30.05	763.3	44.9	7.2	52.1	24	31	9	6	8	63	25	20	176	41716	67133	3.9	14.24	361.7
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.93	760.2	30.00	762.0	56.5	13.6	77.3	77	56	30	31	24	14	32	87	11	54157	87155	4.4	8.01	203.5
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	30.07	763.8	30.10	764.5	48.6	9.2	78.3	31	83	56	63	21	22	31	58	.....	128933	207492	4.9	440.9	11119.9
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.98	761.5	30.06	763.5	51.4	10.8	86.2	41	40	86	114	25	22	4	9	21	81480	131126	5.3	15.43	391.9
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	30.04	763.0	30.13	765.3	63.8	17.7	77.1	97	46	48	64	41	18	20	27	3	60605	97532	4.3	48.43	1230.1
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.38	670.0	30.08	764.0	32.5	0.3	73.2	13	29	157	93	2	2	21	30	18	75977	112270	4.1	12.64	321.0
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.88	758.9	30.12	765.0	59.1	15.1	82.4	43	36	26	23	100	42	24	50	21	47503	76543	5.6	43.11	1095.0
Sitka	N. 57 03	W. 135 19	3.07 a m.	63	19	29.84	757.9	29.90	759.4	42.1	5.6	77.4	2	22	44	15	12	19	164	54	33	72530	116723	7.2	102.37	2600.2
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.08	764.0	30.12	765.0	59.9	15.5	83.3	96	29	66	47	22	14	16	73	2	85953	138324	4.8	46.67	1185.4
Springfield	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.40	746.7	30.09	764.3	46.1	7.8	76.9	45	59	41	49	72	29	33	32	5	80852	130115	4.7	48.79	1239.2
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1906	581	28.03	711.9	30.10	764.5	38.8	3.8	76.4	48	14	18	78	44	7	21	24	111	37086	59682	3.5	14.37	365.0
Stockton, Fort	N. 30 53	W. 102 53	5.16 a.m.	3010	917	27.03	686.5	30.07	763.8	52.4	11.3	76.6	19	22	14	105	62	66	11	13	53	74079	119215	3.4	27.39	695.7
Thomas, Fort	N. 33 04	W. 110 02	4.48 a.m.	2710	826	.....	.....	.....	.....	49.4	9.7	66.7	6	26	21	12	31	65	25	4	175	.....	.....	2.7	10.85	275.6
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.35	745.5	30.06	763.5	45.2	7.3	72.7	46	33	69	78	56	15	32	30	6	82221	132319	6.0	34.24	869.7
Unalashka	N. 53 53	W. 166 32	1.02 a.m.	13	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	108681	174900	.....	90.12	2289.0
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.86	758.4	30.12	765.0	60.0	15.6	81.0	62	24	5	24	53	90	32	33	40	49423	79537	4.8	63.75	1619.2
Washington City	N. 38 54	W. 77 02	7.00 a.m.	106	32	30.02	762.5	30.14	765.5	49.5	9.7	79.7	44	60	16	46	41	13	10	58	77	38684	62254	5.3	45.71	1161.0
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.05	661.7	30.00	762.0	37.8	3.2	74.0	40	48	131	32	15	13	42	29	15	77989	125508	3.9	11.12	282.4
Wilmington	N. 34 14	W. 77 57	6.56 a.m	52	16	30.07	763.8	30.12	765.0	60.0	15.6	81.9	41	39	52	57	20	18	26	93	19	58854	94713	5.6	64.00	1625.6
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.74	730.0	30.08	764.0	37.6	3.1	74.8	70	63	51	24	30	35	27	31	34	.....	.....	4.3	35.21	894.3
Sub-Series.																										
Bogota	N. 4 36	W. 74 14	7.11 a.m	8655	2638	22.03	559.6	.....	.....	53.2	11.8	74.7	35	24	19	38	38	13	10	27	161	.....	.....	7.5	40.05	1017.2
Chimo, Fort	N. 59 00	W. 68 00	7.36 a.m.	126?	38?	29.75	755.6	29.90	759.4	16.9	— 8.4	93.6	30	26	33	100	42	22	9	32	71	.....	.....	6.8	.....	.....
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	.....	.....	30.03	762.7	75.7	24.3	81.2	181	11	2	.....	.....	6	15	2	135	34904	56171	4.7	30.10	764.5
Paramaribo	N. 5 50	W. 55 13	8.27 a.m	6	2	30.03	762.7	30.03	762.7	78.2	25.7	84.5	3	.....	.....	1	5	158	156	37	5	.....	.....	5.4	75.27	1911.8
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	.....	.....	.....	.....	77.3	25.2	88.8	26	1	.....	.....	63	1	.....	4	270	.....	.....	8.8	75.73	1923.5
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	30.04	763.0	30.11	764.8	10.5	—11.9	86.6	43	118	80	66	27	5	11	15	.....	105510	169798	3.9	22.98	583.7

OCEAN SQUARE DATA FOR THE YEAR 1883.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W. 22.5°	30.01	762.2	78.1	25.6	4			1	3	8	48	246		55	2.6
12.5 27.5	30.03	762.7	78.3	25.7	5			2	4	4	53	241	1	55	2.7
12.5 32.5															
12.5 37.5															
12.5 42.5															
12.5 47.5															
12.5 52.5															
17.5 22.5	30.05	763.3	76.0	24.4	9	1		1	3	7	49	244	1	50	2.7
17.5 27.5	30.07	763.8	76.2	24.6	8		1	1	7	6	62	230		50	2.8
17.5 32.5															
17.5 37.5															
17.5 42.5															
17.5 47.5															
17.5 52.5	30.09	764.3	78.3	25.7	5				8	46	149	96		61	2.9
17.5 57.5	30.06	763.5	79.3	26.3	1	1	2	3	11	50	167	113	2	15	2.8
22.5 22.5	30.10	764.5	73.8	23.2	22		3	2	7	14	61	214	1	41	2.8
22.5 27.5	30.12	765.0	74.1	23.4	9	4	3	4	9	14	70	214		38	2.8
22.5 32.5	30.14	765.5	74.9	23.8	11	8	1	6	13	15	110	152	1	48	2.8
22.5 37.5	30.15	765.8	75.3	24.1	14	10	1	4	12	38	120	126	2	38	2.7
22.5 42.5	30.15	765.8	75.9	24.4	16	6	1	2	10	51	135	103		41	2.9
22.5 47.5	30.14	765.5	76.2	24.0	13	9	2	3	18	70	121	91		38	2.9
22.5 52.5	30.14	765.5	77.4	25.2	10	4		1	23	77	138	78		34	2.9
22.5 57.5	30.12	765.0	77.7	25.4	7	5	1	9	33	66	141	91		12	2.8
22.5 62.5	30.10	764.5	78.0	25.6	19	6	1	15	25	94	121	82		2	2.8
22.5 67.5	30.09	764.3	78.2	25.7	17	9	4	11	35	80	120	85	1	3	2.7
22.5 72.5															
27.5 22.5	30.15	765.8	71.1	21.7	42	7	4	7	11	29	49	187	1	28	2.8
27.5 27.5	30.16	766.1	71.7	22.1	34	14	9	9	21	23	62	168		25	2.8
27.5 32.5	30.18	766.6	72.6	22.6	36	12	5	15	15	23	98	130		31	2.9
27.5 37.5	30.19	766.8	73.5	23.1	30	20	8	9	15	37	107	109		30	2.9
27.5 42.5	30.19	766.8	73.5	23.1	25	17	8	16	25	59	107	83	1	24	2.8
27.5 47.5	30.18	766.6	74.1	23.4	22	19	8	16	39	77	92	65	1	26	2.9
27.5 52.5	30.17	766.3	75.0	23.9	24	14	11	20	47	73	99	59		18	2.8
27.5 57.5	30.15	765.8	75.1	23.9	23	17	10	20	71	84	73	55	1	11	2.8
27.5 62.5	30.12	765.0	75.5	24.2	29	21	2	32	75	79	63	58	3	3	2.8
27.5 67.5	30.12	765.0	75.9	24.4	30	19	13	26	71	78	52	66	2	2	2.9
27.5 72.5	30.11	764.8	75.9	24.4	43	20	9	24	70	66	61	66	5	1	2.8
27.5 77.5	30.11	764.8	74.9	23.8	49	26	4	25	50	83	61	67			2.3
32.5 12.5	30.12	765.0	67.3	19.6	67	33	16	36	17	21	39	129		7	2.3
32.5 17.5	30.15	765.8	67.5	19.7	39	26	20	59	16	40	34	128	1	2	1.8
32.5 22.5	30.18	766.6	68.5	20.3	43	34	13	32	26	38	32	134		13	2.9
32.5 27.5	30.19	766.8	69.0	20.6	35	39	21	24	31	32	61	108		14	2.8
32.5 32.5	30.19	766.8	70.0	21.1	42	34	21	39	26	56	42	88	1	16	3.0
32.5 37.5	30.20	767.1	70.8	21.6	39	42	35	32	35	47	50	72		13	3.0
32.5 42.5	30.20	767.1	70.9	21.6	30	49	23	36	61	44	54	55	1	12	3.1
32.5 47.5	30.18	766.6	70.7	21.5	36	40	41	43	71	44	33	45		12	3.0
32.5 52.5	30.16	766.1	71.3	21.8	17	46	29	53	85	48	37	44	1	5	3.0
32.5 57.5	30.13	765.3	71.2	21.8	25	49	31	57	80	53	32	35		3	3.2
32.5 62.5	30.10	764.5	71.2	21.8	39	45	22	57	93	53	25	30		1	3.0
32.5 67.5	30.10	764.5	71.4	21.9	49	38	32	70	75	34	16	48	2	1	3.2
32.5 72.5	30.11	764.8	70.4	21.3	78	32	5	52	81	38	15	62	2		3.2
32.5 77.5	30.11	764.8	65.6	18.7	84	30	22	69	36	25	11	87	1		2.6
37.5 12.5	30.12	765.0	63.5	17.5	92	50	24	46	39	13	23	75	1	2	2.8
37.5 17.5	30.15	765.8	64.3	17.9	62	59	32	48	29	17	18	96	1	3	2.9
37.5 22.5	30.18	766.6	65.4	18.6	60	60	17	47	37	31	30	79	2	2	2.8
37.5 27.5	30.19	766.8	65.3	18.5	50	54	40	43	38	44	34	60		2	2.7
37.5 32.5	30.17	766.3	65.9	18.8	56	53	32	62	50	42	25	40		5	3.1
37.5 37.5	30.16	766.1	66.4	19.1	45	61	45	53	62	38	20	31	1	9	3.2
37.5 42.5	30.14	765.5	66.1	18.9	45	60	32	67	84	24	16	32		5	3.4
37.5 47.5	30.13	765.3	65.2	18.4	45	58	46	49	85	32	19	25	1	5	3.5
37.5 52.5	30.11	764.8	64.9	18.3	35	51	36	70	85	33	23	30		2	3.6
37.5 57.5	30.08	764.0	64.7	18.2	47	57	30	65	82	35	16	31		2	3.7
37.5 62.5	30.07	763.8	63.9	17.7	55	48	25	74	66	34	23	39		1	3.7
37.5 67.5	30.07	763.8	61.9	16.6	73	50	30	53	63	25	23	48			3.7
37.5 72.5	30.09	764.3	58.8	14.9	97	36	17	48	59	23	13	72			3.5
42.5 12.5	30.08	764.0	60.6	15.9	79	61	31	58	40	11	14	68	2	1	3.0
42.5 17.5	30.09	764.3	60.9	16.1	59	77	41	61	36	19	16	54	1	1	3.5
42.5 22.5	30.10	764.5	61.2	16.2	49	76	47	63	44	30	16	37	1	2	3.5
42.5 27.5	30.11	764.8	61.1	16.2	39	66	43	82	49	35	22	28		1	3.7
42.5 32.5	30.09	764.3	61.6	16.4	30	83	36	74	60	36	18	27		1	4.0
42.5 37.5	30.07	763.8	61.1	16.2	32	87	36	75	61	32	15	27			4.0
42.5 42.5	30.06	763.5	59.0	15.0	39	86	42	70	68	25	11	23	1		4.0
42.5 47.5	30.05	763.3	54.5	12.5	56	69	35	60	86	24	9	24	1	1	3.9
42.5 52.5	30.04	763.0	53.0	11.7	47	64	26	63	76	39	20	28	1	1	3.9
42.5 57.5	30.03	762.7	52.9	11.6	54	73	33	63	60	32	19	31			4.0
42.5 62.5	30.03	762.7	49.5	9.7	52	72	34	62	50	29	22	42	1	1	3.8
42.5 67.5	30.04	763.0	46.3	7.9	72	64	29	51	55	29	28	35	1	1	3.2
47.5 12.5	30.00	762.0	56.8	13.8	61	52	59	67	42	20	21	42		1	3.9
47.5 17.5	30.00	762.0	56.9	13.8	51	68	66	56	58	23	18	25			4.0
47.5 22.5	30.00	762.0	56.1	13.4	44	73	65	71	61	13	10	28			4.2
47.5 27.5	29.99	761.7	55.8	13.2	39	80	64	58	63	32	10	18		1	4.4
47.5 32.5	29.96	761.0	55.3	12.9	39	81	53	71	49	41	15	15		1	4.4
47.5 37.5	29.95	760.7	54.0	12.2	37	99	62	60	53	22	12	19		1	4.3
47.5 42.5	29.95	760.7	50.0	10.0	34	94	44	80	67	16	13	17			4.0
47.5 47.5	29.95	760.7	44.0	6.7	41	73	55	83	54	29	10	19		1	3.8
52.5 12.5	29.90	759.4	53.0	11.7	48	60	60	70	56	32	17	22			4.0
52.5 17.5	29.88	758.9	52.4	11.3	41	75	66	75	48	27	11	22			4.1
52.5 22.5	29.86	758.4	51.7	10.9	40	71	68	70	58	26	9	23			4.3
52.5 27.5	29.85	758.2	50.1	10.1	31	84	67	69	59	26	13	16			4.3
52.5 32.5	29.84	757.9	48.5	9.2	30	78	61	76	59	30	10	19	1	1	4.1
52.5 37.5	29.83	757.7	46.5	8.1	30	95	59	67	66	16	12	17	1	2	4.0
52.5 42.5	29.81	757.2	42.8	6.0	30	104	46	69	56	26	9	16	1	8	3.9
52.5 47.5	29.81	757.2	38.3	3.5	41	96	43	70	44	27	8	16	1	19	3.6
57.5 12.5	29.77	756.1	48.2	9.0	50	40	50	94	53	29	18	31			4.0
57.5 17.5	29.74	755.4	47.1	8.4	48	54	49	84	48	34	18	29		1	4.1
57.5 22.5	29.71	754.6	45.9	7.7	34	55	62	74	43	36	19	38	1	3	4.1
57.5 27.5	29.70	754.4	44.2	6.8	46	66	62	65	43	33	23	23		4	4.1
57.5 32.5	29.69	754.1	42.7	5.9	40	74	43	77	48	34	8	29		12	4.1
57.5 37.5	29.69	754.1			51	78	41	56	64	21	15	18		21	3.9
57.5 42.5	29.70	754.4			52	80	30	48	54	33	10	24		34	3.8
57.5 47.5	29.70	754.4			68	83	19	46	41	26	10	19	1	52	3.6

REVIEW.

INTERNATIONAL METEOROLOGY FOR 1883.

This publication continues the series of international charts and tables published in reports of the Chief Signal Officer for 1883 and 1884.

The accompanying chart exhibits the mean pressures, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from one simultaneous observation taken each day at 7 a. m., 75th meridian, or noon, Greenwich, mean time.

The area of lowest pressure during the year is located over the north Atlantic Ocean, extending from N. 62° 30′ over the ocean to the northward, the line of lowest pressure, 29.60 (751.7), cutting the southeast coast of Greenland and the northwest coast of Iceland.

The line of 29.70 (754.3) passes through Disco Island, on the western coast of Greenland, circles to N. 57°, and is traced into the Arctic Ocean off the coast of Lapland. An additional region of low mean pressure, bounded by a line of 29.80 (757.0), extends over British India, including means ranging from 29.73 (755.1), at Roorkee, to 29.80 (757.0), at Kurrachee.

As compared with the annual mean maps for 1881 and 1882, the low area over the north Atlantic is more clearly defined and exhibits a slight decrease in pressure at the central point. A slight movement to the southward and eastward is observed in connection with the pressure line of 29.70 (754.3). The limits and mean readings embraced in the low area over British India are almost identical with those charted for 1881 and 1882.

Three areas of high mean pressure appear on the chart for 1883. One, embracing the middle, southern, and eastern portions of the United States, extends eastward across the Atlantic Ocean, between N. 23° to 32° in W. 64°, and N. 17° to 40° in W. 40°, touching the coasts of Africa and Spain. This area is bounded by a pressure line of 30.10 (764.5) and exhibits readings of 30.20 (767.1) within its limits.

The second area of high pressure embraces territory including portions of China and Siberia within N. 45° to about 63°, and E. 78° to 120°. The highest mean within this area is 30.16 (766.0), at Irkutsk.

The third area of high pressure is limited in extent and is located over Oregon and Washington Territory, with the highest mean, 30.11 (764.8), at Roseburg, Oregon.

A comparison of high mean pressures with those exhibited in charts for 1881 and 1882 shows marked differences in location and extent.

In 1881 the area of high over the north Atlantic ocean, bounded by a line of 30.10 (764.4), was contracted, extending from N. 27° to 38°, and W. 15° to 34°. In 1882, located as in 1881, the area of high exhibits a pressure line of 30.20 (767.1), while the line of 30.10 (764.5) corresponds closely to the line of similar pressure in the chart for 1883.

In 1881 two areas of high, bounded by a line of 30.10 (764.5), were located within the limits of the United States, one in the southeast portion, the other covering a moderate sized area in the Northwest. In 1882 this area is extended somewhat to the eastward and southward, while in 1883 it occupies a more contracted area to the northwestward of its former position.

A comparison of lines exhibiting the yearly mean temperature with those charted for 1881 and 1882 shows the following variations:

In 1883 the isotherm of 30° crosses the continent of North America between N. 46° and 53°; the southernmost point in its course being about 1° south of Moorhead, Minnesota. From the North American coast it assumes a northeasterly course to Ivigtut, Greenland, from thence continuing a northeasterly course along the coast. The line is next taken up in Siberia in N. 60°, E. 86°, and passes eastward, reaching a southernmost point in N. 51°, E. 120°, from thence passing north of east into the Sea of Okhotsk.

In 1882 this line is traced over the portion of the North American continent, lying between W. 85° and 103°; the southernmost point reached being about 3° north of the southern limit for 1883. This line is not traced over other portions of the chart for 1882.

On the chart for 1881 the line of 30° is confined to the continent of North America, and extends 1° further south than in 1882. In each instance the southernmost point reached was in W. 96°.

On the mean map for 1883 the line of 40° is charted from N. 51°, near the Pacific coast of North America, from which point it assumes a southeasterly course to N. 33°, W. 110° in Arizona. It then follows a wavering course north of east, passing north of the fortieth parallel in W. 100°, through Lakes Michigan, Erie, and Ontario, northern New York, Nova Scotia, southeastern Newfoundland, and Iceland; following a direction north of east it is traced through Bossekop and Gjaesvaer, Lapland, from whence it courses south to Haparanda, south of east to Viatka, passes 1° south of Akmolinski and ends as a broken line in N. 50°, E. 85°. It is again taken up in N. 45°, E. 112°, and enters the Sea of Japan in N. 42°.

In 1882 this line pursues a course more to the northward after passing east of the Rocky Mountains, being traced through Lakes Superior and Huron, passing 2° south of Newfoundland, touching the southeast coast of Iceland, and striking the Scandinavian Peninsula about 2° further south than in 1883. It then follows a course somewhat more southerly than in 1883, and enters the Sea of Japan in the same latitude, N. 42°.

In 1881 the line of 40° follows more closely the corresponding line of 1883 across the North American continent and the ocean, but strikes the Scandinavian coast about 7° further to the southward, in N. 65°, from whence it follows a uniform course south of east to N. 51° E. 90°.

The line of 50°, as charted on the mean map for 1883, enters the Pacific coast of the North American continent in N. 40°, circles to the southeastward, in close proximity to the coast, passes through southern Arizona, New Mexico, southern Illinois, and Indiana, to Cincinnati, Ohio, from whence it is traced southeastward to N. 38°, W. 82°, curving to the northeastward it is charted through Washington City and Philadelphia, Pennsylvania; from the latter point it dips slightly to the southward. Passing in a generally north of east direction over the Atlantic Ocean it is traced through Glasgow, Scotland, to Groningen, Netherlands; slightly to the southward of Hamburg, through Warsaw to Eperies, south of Kneiff and passing eastward to N. 47°, E. 67°. The line is again taken up in N. 38°, E. 111°; passing 2° north of Pekin, it is traced through Cheefoo, eastward to Nobiru, Japan.

In 1882 the line of 50° enters the Pacific coast of North America in the same latitude as in 1883, and dips considerably further to the southward, to N. 25° in Mexico. It is then traced west of north, to N. 32°, and in its course to the Atlantic coast follows a more northerly track than in 1883. Leaving the Atlantic coast at the same point as in 1883, it is traced north of east across the Atlantic, through the northern portion of Ireland and Scotland, and passes to the northward of the 1883 track through Copenhagen. As traced through Europe and Asia slight deviations are observed, as compared with the corresponding line for 1883.

In 1881 the line of 50° enters the Pacific coast of North America in the same latitude as in 1882 and 1883, descends to N. 28° in Mexico, and follows a course across North America, medium between those of the two succeeding years; strikes the northern coast of Ireland, and is traced across the continents of Europe and Asia as in 1883.

The line of 60°, as charted for 1883, crosses the Rio Grande River, from the south, in N. 28°, W. 100°, passes through the central portion of the Gulf States, and enters the Atlantic Ocean at Cape Hatteras, North Carolina. Entering Spain in N. 39°, W. 9°, it is traced northeastward to Rochfort, France, from thence, closely following the northern coast of the Mediterranean, it passes between N. 40° and 45° to E. 60°. The line

is again taken up in N. 30°, E. 120°, and skirts the south and southeast coasts of Japan.

In 1882 the line of 60° enters the western coast of North America in N. 30°, passes southeastward, through Mexico, to N. 18°, from thence pursuing a course across the United States, the Atlantic Ocean, Europe and Asia, almost identical with that of 1883. The line of 60° for 1881 corresponds to that of 1882, save that it enters the west coast of Europe at a point about 4° further north.

The isotherm of 70° for 1883 is traced through the northern portion of the Gulf of Mexico, entering the Atlantic Ocean in N. 29°, and striking the coast of Africa in N. 28°. It is then charted between E. 22° and 78° in about N. 35°.

In 1882 the line of 70° is almost identical with that of 1883, but is continued off the eastern coast of Asia, in N. 24°.

In 1881 this line follows a more southerly course in the western hemisphere, entering the Pacific coast of North America in N. 25°, it passes southeastward to N. 17°, crosses the Gulf of Mexico in N. 27°, and strikes the Atlantic coast in N. 28°. Reaching the west coast of Africa 3° further north than in 1882 and 1883, it is traced northeastward through the southeast portion of Spain, touches the northern coast of Africa in E. 5°, and passes eastward to E. 76° in N. 35° to 37°, and descends to N. 24° on the eastern coast of Asia.

On the mean chart for 1883 the line of 80° is traced in British India, only, from N. 32°, E. 73°, to N. 21°, E. 90°.

In 1882 a similar line of 80° is traced through the northern portion of British India, and an additional one is charted on the southwestern coast between N. 13° and 18°.

In 1881 a coast line of 80° strikes the west coast of Africa in N. 16°, passes through the northern portion of British India, and through the Philippine Islands in N. 16°.

From these comparisons the following results are deduced:

A permanent area of low mean pressure is located between the coasts of Greenland and Iceland, with a mean of about 29.60 (751.8). Another low area, with mean pressures ranging from 29.73 (755.1) to 29.80 (756.9), extends over British India.

An area of high mean pressure embraces territory including the Atlantic Ocean from the northwestern coast of Africa westward to the eastern coast of the North American continent, between N. 25° and 43°, the middle and southern portions of the United States, to W. 100°, and an area extending northwestward over Oregon and Washington Territory, with maximum mean readings of 30.20 (767.1) in the mid-Atlantic ocean.

A second area of high extends over central Asia, with a maximum pressure of about 30.16 (766.1).

A comparison of lines of annual mean temperature, while showing a decided dip to lower latitudes in the interior after leaving the western coast of North America, also shows a corresponding rise on the eastern coast of the continent.

The mean temperature of the southern coast states of the United States, which ranges from 60° to 70°, corresponds to that of northern Africa, the southern portions of Portugal, Spain, France, the Mediterranean, and portions of western and central Asia lying between N. 30° and 40°. On the eastern coast of Asia the corresponding lines of 60° and 70° dip to the southward about 10°.

The mean temperature lines of 60° and 50° are charted to include N. 34° 30′ to 40° on the eastern coast of North America, N. 39° to 56° on the western coast of Europe, and N. 30° to 40° on the eastern coast of Asia.

The temperature lines of 50° and 40° include N. 40° to 45° on the eastern coast of North America, N. 53° to about 70° on the western coast of Europe, and N. 39° to 44° on the eastern coast of Asia.

The lines of 40° and 30° embrace N. 45° to 50° on the eastern coast of North America, the southern point of Greenland, Iceland, part of the Arctic Ocean north of Scandinavia, northern Europe from E. 33° to about 50°, descending to N. 43° to 52° on the eastern coast of Asia.

North of the line of 30° is included a small portion of the United States between W. 93° and 108°, British America, Greenland, and the Arctic Ocean west of about E. 70°. The line veers to the southward in Asia, through southern Siberia to N. 52° on the eastern coast.

The following table shows the number of areas of low barometer occurring during the year, as traced on charts published with the MONTHLY WEATHER REVIEW, together with similar data for the corresponding months of 1881 and 1882:

Month.	1881.	1882.	1883.	Month.	1881.	1882.	1883.
January	32	31	49	July	28	28	*
February	24	40	36	August	25	30	*
March	26	34	45	September	17	30	*
April	28	37	*	October	29	38	36
May	23	32	*	November	36	39	42
June	22	32	*	December	30	49	50

* Missing.

ERRATA IN MONTHLY SUMMARIES OF 1883.

January: Tours, actual barometer, 28.85, should read 29.85; Nobiru, actual barometer, 29.91 (759.7), should read 29.97 (761.2).

February: Truro, reduced barometer, 29.08, should read 30.08; Murcia, calms, 2, should read 0.

March: Stratford, actual barometer, 29.66 (753.4), should read 28.66 (728.0).

April: Rouen, reduced barometer, 29.93 (760.1), should read 30.00 (762.1); York Factory, ne., 16, should read ne., 1; Saint Andrews, instead of barometer and temperature given, should read, actual barometer, 29.90 (759.4); reduced, 29.95 (760.7); temperature, 34.2 (1.2); the humidity, wind direction, total movement, clouds, and precipitation credited to Saugeen and Saint Andrews should be reversed.

May: Stratford, actual barometer, 29.67, (753.6), should read 28.67 (728.2); Madrid, total movement, 71,726 miles, should read 7,173 miles.

June: Gibraltar, actual barometer, 29.95 (760.7), should read 29.98 (761.5); Baku, the actual and reduced barometer as given should be reversed, as barometer is below sea-level.

August: Rockliffe, actual barometer, 29.47 (748.5), should read 29.55 (750.6); Santiago, total movement, 674 miles, 1,084 kil., should read 6,736 miles, 10,841 kil.; Geneva, actual barometer, 28.95 (735.2), should read 28.71 (729.3) Szathmore, reduced barometer, 30.01 (762.3), should read 29.93 (760.3).

September: Rouen, reduced barometer, 29.87 (758.7), should read 29.90 (759.4); Nantes, reduced barometer, 29.93 (760.3), should read 29.99 (761.7).

October: Châlons-sur-Marne, actual barometer, 29.73 (755.2), should read 29.70 (754.3); reduced barometer, 30.14 (765.5), should read 30.01 (762.3); Montlouis, actual barometer, 28.85 (732.9), should read 24.92 (632.9).

November: Stratford, actual barometer, 29.75 (755.6), should read 28.75 (730.2); Granton, actual barometer, 29.94 (760.5), should read 28.94 (735.1); Mauritius, actual barometer, 29.92 (760.0), should read 29.79 (756.7); Nassau, actual barometer, 30.13 (765.3), should read 30.03 (762.7); Springbok, actual barometer, 29.91 (759.7), should read 27.91 (708.9).

December: Toulouse, reduced barometer, 30.08, should read 30.28; Szathmar, reduced barometer, 30.14 (765.5), should read 30.02 (762.6); Lamballe, reduced barometer, 30.10 (764.6), should read 30.32 (770.1).

From January to July, inclusive, the height of barometer at Sevastopol, 423 feet, should read 138 feet.

From August to December, inclusive, the height of barometer at Staroi Bykhov, 433 feet, 129 meters, should read 512 feet, 156 meters.

During the year the following changes in the elevations of stations have occurred:

Hamilton, Canada, from January to June, inclusive, 338 feet; from July to October, inclusive, 350 feet; during November and December, 372 feet.

Ottawa, Canada, from January to September, inclusive, 223 feet; after September, 200 feet.

Saint John, New Brunswick, from January to June, inclusive, 150 feet; after June, 116 feet.

Commercy, France, during August, 820 feet.

Hamamatsu, Japan, until September 15th, 26 feet; after, 92 feet.

Lisbon, Portugal, until May 1st, 335 feet; after, 312 feet.

Staroi Bykhov, Russia, until August 1st, 423 feet; after, 512 feet.

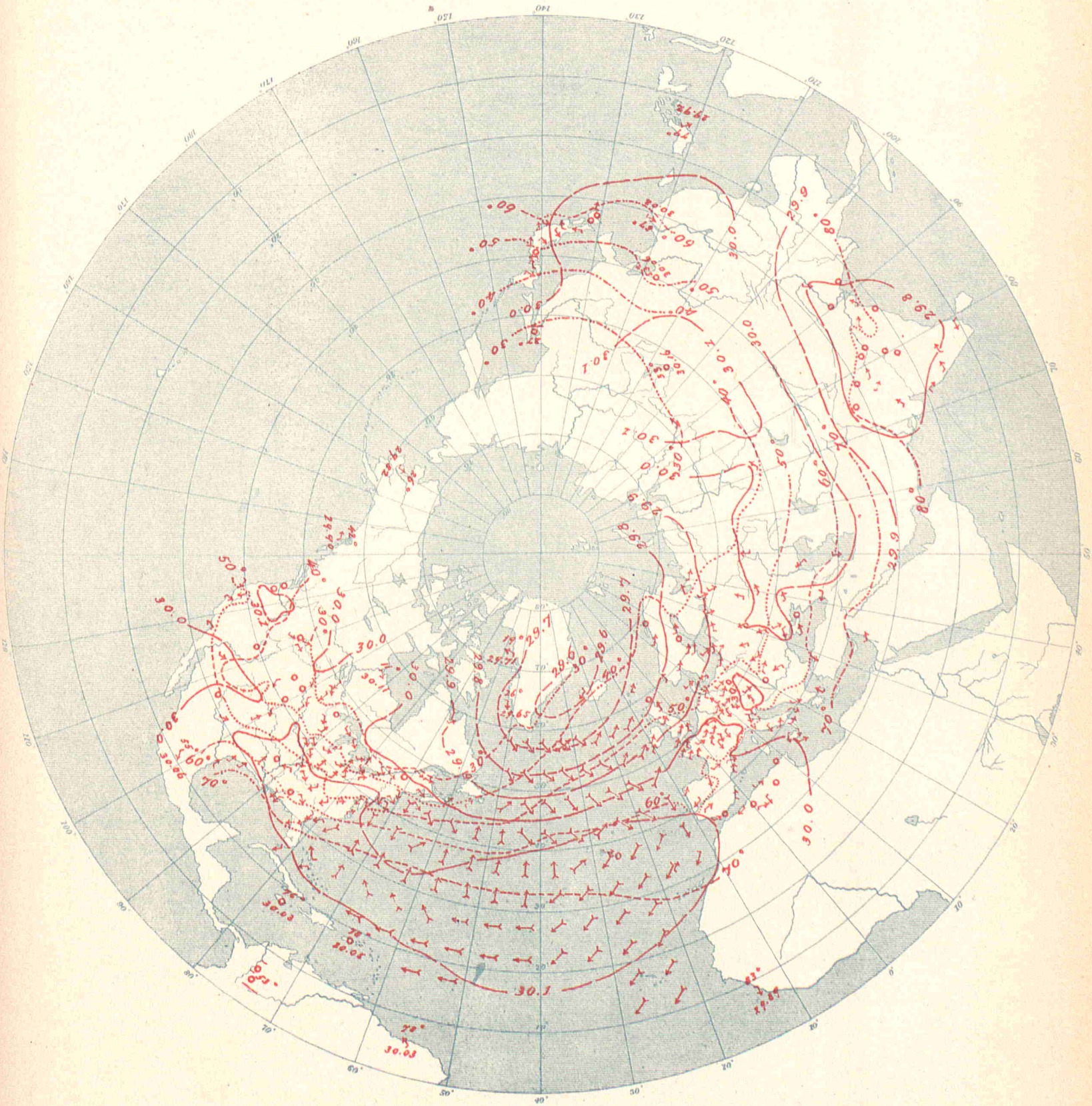
Saint Louis, Missouri, until September 1st, 568 feet; after, 583 feet.

Chatham, England, until August 1st, 120 feet; after, 160 feet.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

Annual Mean Map for 1883.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B.Hazen, Chief Signal Officer.
Signal Office, U.S.A.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF JANUARY, 1884.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
FEBRUARY, 1885.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

JANUARY, 1884.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for January, 1884. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	30.28	769.2	30.34	770.7	60.4	15.8	81	.....	5	12	1	2	5	5	1	.....	.....	.....	1	0	0
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	30.29	769.4	30.34	770.7	56.5	13.6	73	6	3	12	1	.....	1	4	2	2	.....	.....	5	0	0
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	30.21	767.2	30.28	769.0	59.5	15.3	72	9	9	5	1	1	1	3	2	.....	.....	.....	3	0	0
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	30.21	767.4	30.28	769.1	56.3	13.5	67.9	0	12	6	3	1	.....	.....	3	.....	.....	.....	3	0	0
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	27.27	692.6	30.26	768.7	49.3	9.6	84.7	11	2	3	3	5	2	3	2	.....	.....	.....	3	0	0
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4281	1305	25.92	658.4	.....	.....	50.9	10.5	49	12	9	.....	2	.....	2	.....	6	.....	.....	.....	1	0	0
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2454	748	27.68	703.1	30.38	771.7	56.7	13.7	72.9	3	2	.....	2	1	.....	1	1	21	.....	.....	1	0	0
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	29.87	758.8	30.34	770.5	55.4	13.0	55	14	5	1	.....	.....	.....	.....	.....	11	.....	.....	1	0	0
AUSTRALIAN.																										
Adelaide	S. 34 57	E. 138 35	9.22 p.m.	140	42	.....	.....	29.97	761.2	65.5	18.6	60.0	.....	.....	.....	6	11	5	1	1	7	.....	.....	4	.....	.....
Hobart Town	S. 42 53	E. 147 20	9.57 p.m.	190	58	29.56	750.8	29.75	755.6	56.4	13.6	75.0	1	6	6	4	7	4	1	.....	2	.....	.....	6	3.53	89.7
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.80	756.8	29.89	759.3	60.9	16.0	73.0	3	1	4	3	10	9	.....	1	.....	.....	.....	6	4.75	120.7
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.67	753.6	30.23	767.9	37.4	3.0	56.9	.....	3	7	10	.....	3	1	7	.....	.....	.....	6	0.31	7.9
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.27	743.4	30.07	763.7	35.6	2.0	81.0	1	4	12	7	2	1	.....	4	.....	.....	.....	7	1.70	43.3
Eperies	N. 48 58	E. 21 15	1.33 p.m.	846	258	29.22	742.1	30.13	765.4	27.0	−2.8	87.6	1	3	.....	.....	2	7	.....	.....	18	.....	.....	7	0.74	18.8
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.92	734.5	30.22	767.6	36.3	2.4	64.5	3	7	4	2	3	4	4	4	.....	.....	.....	3	0.18	4.5
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.69	728.6	30.20	767.0	31.5	−0.3	89.1	3	4	11	1	.....	11	1	.....	.....	.....	.....	7	0.27	6.8
Kremsmunster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.82	732.1	30.22	767.7	36.1	2.3	82.7	.....	5	13	3	.....	.....	1	4	5	.....	.....	7	2.59	65.7
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	29.01	736.9	30.04	763.1	32.4	0.2	76.0	1	5	8	6	2	4	2	3	.....	.....	.....	6	1.57	39.9
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	30.10	764.4	30.21	767.3	46.9	8.3	66.2	1	7	8	3	.....	3	4	5	.....	.....	.....	3	0.45	11.4
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.66	753.3	30.15	765.8	38.5	3.6	86.0	3	4	4	5	6	2	7	.....	.....	.....	.....	5	1.20	32.8
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	279	86	29.90	759.5	30.20	767.0	35.8	2.1	70.3	4	7	5	6	5	1	.....	.....	3	.....	.....	6	0.98	24.8
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	30.16	766.0	30.26	768.5	45.9	7.7	58.8	1	.....	1	2	2	.....	5	3	17	.....	.....	3	1.01	25.6
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.45	747.9	30.19	766.7	43.9	6.6	60.4	.....	5	16	1	1	3	.....	1	4	.....	.....	5	1.05	26.7
BELGIAN																										
Arlon	N. 49 40	E. 5 48	0.32 p.m.	?	?	28.55*e*	725.1*e*	29.97*e*	761.3*e*	37.9	3.3	97.5*a*	1	2	5	17	.....	.....	1	5	.....	.....	.....	5	4.34	110.2
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	29.95	760.8	30.17	766.2	43.9	6.6	84.8	.....	.....	8	18	2	1	1	.....	1	.....	.....	8	2.35	59.7
Furnes	N. 51 04	E. 2 40	0.19 p.m.	20	6	30.11	764.7	30.13	765.2	46.2	7.9	85.8	.....	7	8	5	6	.....	.....	.....	.....	.....	.....	8	2.21	56.1
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	30.03	762.8	30.16	766.0	44.6	7.0	81.4*a*	.....	8	7	8	6	.....	2	.....	.....	.....	.....	10	2.07	52.6
BRITISH.																										
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.96	761.0	45.4	7.4	83.2*a*	.....	.....	8	14	2	5	2	.....	.....	.....	.....	8	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.41	747.0	29.95	760.7	42.8	6.0	89.0	.....	.....	8	7	9	4	1	2	.....	.....	.....	9	.....	.....
Bradford *d*	N. 53 48	W. 1 47	0.01 p.m.	306	111	29.56	750.8	29.95	760.7	45.0	7.2	82.9	.....	8	3	10	2	1	1	2	.....	.....	.....	9	4.81	122.2
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	30.04	763.0	30.07	763.8	80.7	27.1	70.1	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	.....	4	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	29.95	760.7	30.07	763.8	44.1	6.7	88.0	.....	4	14	10	1	1	1	.....	.....	.....	.....	8	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	160	49	29.93	760.2	30.11	764.8	45.5	7.5	84.8	.....	5	12	8	1	.....	2	.....	3	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.93	760.2	30.16	766.1	48.8	9.3	82.7	.....	3	11	7	8	.....	2	.....	.....	.....	.....	9	.....	.....
Fort Napier *e*	S. 30 00	E. 31 00	2.12 p.m.	2205	672	27.59	700.8	29.90	759.4	78.8	26.0	65.2	.....	2	1	.....	.....	5	4	16	.....	.....	.....	7	.....	.....
Freetown	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.03	752.0	29.86	758.4	86.7	30.4	62.7	8	.....	2	5	9	1	5	1	.....	.....	.....	2	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.88	758.9	29.91	759.7	44.9	7.2	86.4	.....	1	9	15	3	.....	2	1	.....	.....	.....	8	5.41	137.4
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.31	769.9	30.36	771.1	60.6	15.9	89.4	.....	7	.....	1	.....	.....	18	5	.....	.....	.....	7	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.92	760.0	30.10	764.5	45.9	7.7	84.6	.....	2	3	18	5	.....	2	.....	1	.....	.....	8	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.91	759.7	30.22	767.6	47.5	8.6	88.8	2	5	7	8	5	1	2	1	.....	.....	.....	8	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	30.07	763.8	30.11	764.8	46.3	7.9	79.8	.....	3	11	11	4	.....	2	.....	.....	.....	.....	8	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.74	755.4	30.01	762.2	45.8	7.7	82.3	.....	3	5	20	1	2	.....	.....	.....	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	1.00 p.m.	70	21	30.10	764.5	30.18	766.6	56.6	13.7	68.2	.....	15	2	3	.....	4	.....	7	.....	.....	.....	5	2.74	69.6
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.17	766.3	30.21	767.3	69.8	21.0	77.7	3	1	.....	1	1	9	4	12	.....	.....	.....	6	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.85	758.2	30.08	764.0	46.1	7.8	83.9	.....	2	4	19	2	2	.....	2	.....	.....	.....	8	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	30.07	763.8	30.14	765.5	48.1	8.9	89.5	.....	3	3	14	2	.....	2	1	6	.....	.....	9	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.52	749.8	29.62	752.3	41.5	5.3	86.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	.....	.....
Scutari Cemet'y	N. 41 00	E. 29 03	2.04 p.m.	60	18	30.03	762.7	30.10	764.5	43.2	6.2	76.3	12	.....	1	8	5	.....	1	3	1	.....	.....	7	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.64	752.8	29.96	761.0	45.8	7.7	83.5	.....	1	3	18	3	1	1	.....	4	.....	.....	7	3.89	98.8
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.83	757.7	29.87	758.7	43.8	6.6	93.4	.....	2	10	11	1	2	5	.....	.....	.....	.....	8	0.21	157.7
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.95	760.7	43.3	6.3	87.2	2	1	13	10	2	.....	2	1	.....	.....	.....	9	.....	.....
Strathfield	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	46.7	8.2	85.9	.....	7	10	8	3	1	1	.....	1	.....	.....	8	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.99	761.7	30.02	762.5	48.7	9.3	80.3	1	3	6	11	6	2	2	.....	.....	.....	.....	9	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.82	757.4	30.21	767.3	55.1	12.8	65.5	3	10	6	3	.....	.....	6	3	.....	5089	8190	6	2.03	51.5
CANADIAN.																										
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	35	11	29.98*e*	761.5*e*	30.02*e*	762.5*e*	1.3	−17.1	.....	.....	2	.....	12	.....	2	.....	.....	15	.....	.....	6	1.39	35.3
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.99	761.7	30.04	763.0	9.3	−12.6	89.7	3	5	5	7	2	2	.....	4	3	6200	9978	5	2.38	60.5
Chatham*	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.99	761.7	30.06	763.5	−1.0	−18.3	94.5	4	1	10	9	.....	.....	1	3	3	3410	5488	4	2.04	51.8
Cornwall	N. 45 04	W. 74 43	7.09 a.m.	175	53	29.84	757.9	30.05	763.3	4.4	−15.3	93.6	.....	4	13	1	.....	.....	11	2	.....	.....	.....	6	3.54	89.9
Dalhousie	N. 48 04	W. 66 22	7.32 a.m.	45	14	30.01*e*	762.2*e*	30.08*e*	764.0*e*	−2.0*b*	−18.9*b*	.....	*b*	.....	18	.....	.....	.....	3	.....	8	.....	.....	4*a*	1.80*a*	*a*45.7
Father Point*	N. 48 31	W. 68 28	7.34 a.m.	20	6	30.00	762.0	30.02	762.5	−0.8	−18.2	83.3	1	4	3	5	10	2	.....	6	.....	.....	.....	8	3.27	83.1
Fort Garry*	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.30	744.2	30.21	767.3	−13.1	−25.1	90.2*a*	11	7	2	2	8	1	.....	.....	.....	7584	12205	.....	0.53	13.5
Fredericton	N. 45 57	W. 66 38	7.41 a.m.	59	18	30.03	762.7	30.11	764.8	1.3	−17.1	89.5	1	4	8	4	.....	.....	2	2	10	.....	.....	5	3.00	77.7
Grand Manan	N. 44 46	W. 66 45	7.41 a.m.	49	15	30.03	762.7	30.09	764.3	18.6	−7.4	84.3	6	5	8	4	1	1	2	3	1	*a*:0650	*a*17149	8	4.95	125.7
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	29.94	760.5	30.15	765.8	10.9	−11.7	95.3	1	3	4	0	4	1	2	2	8	.....	.....	8	1.20	30.5
Halifax*	N. 44 39	W. 63 30	7.53 a.m.	122	37	29.95	760.7	30.09	764.3	16.4	−8.7	90.6*a*	6	4	10	6	2	.....	1	.....	2	.....	.....	9	4.47	113.5
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	372	113	29.64	752.8	30.08	764.0	13.4	−10.3	85.5	.....	1	2	20	.....	.....	.....	8	.....	.....	.....	8	5.10	129.5
Kingston*	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.72	754.9	30.08	764.0	10.7	−11.8	76.7	5	3	10	3	.....	2	3	3	2	7138	11487	7	5.48	139.2
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.99*b*	761.7*b*	30.03*b*	762.7*b*	19.3*b*	−7.1*b*	89.2*b*	5	8	4	10	.....	.....	1	2	1	.....	.....	6	2.70	68.6
London	N. 43 00	W. 81 15	6.43 a.m.	832	254	29.16	740.7	30.15	765.8	11.8	−11.2	89.5	2	2	2	8	3	.....	3	1	10	.....	.....	7	4.73	120.1
Medicine Hat	N. 50 01	W. 110 37	4.46 a.m.	2136	651	27.72	704.1	30.22	767.6	11.6	−11.3	89.5*a*	3	4	4	8	9	.....	2	.....	1	.....	.....	6	0.10	2.5
Minnedosa*	N. 50 13	W. 99 48	5.29 a.m.	1796	545	28.06	712.7	30.26	768.6	11.6	−11.3	98.7*e*	2	15	5	3	2	.....	1	2	1	.....	.....	3	0.68	17.3
Montreal*	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.86	758.4	30.08	764.0	4.9	−15.1	89.1	4	3	9	5	3	1	3	3	.....	.....	.....	8	4.36	110.7
Ottawa	N. 45 26	W. 75 41	7.05 a.m.	200	61	29.84	757.9	30.09	764.3	−0.7	−18.2	86.5	2	8	11	4	1	.....	2	3	.....	.....	.....	7	4.24	107.7
Parry Sound*	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.31	744.5	30.06	763.5	3.9	−15.6	78.9	10	.....	5	2	7	2	5	.....	.....	8275	13317	7	4.04	102.6
Peterboro	N. 44 17	W. 78 18	6.54 a.m.	675	206	29.28	743.7	30.09	764.3	9.6	−12.4	75.5	1	4	6	11	.....	1	3	3	2	.....	.....	7	2.05	52.1
Port Arthur	N. 48 27	W. 89 12	6.11 a.m.	642	196	29.39	746.5	30.18	766.6	−3.5	−19.7	83.9	1	7	8	3	5	.....	.....	1	6	3739	6017	3	0.80	20.3
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.36	745.7	30.12	765.0	13.7	−11.2	97.6	4	1	8	9	3	.....	2	1	3	8740	14065	7	5.16	131.1
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.44	747.8	30.14	765.5	13.9	−10.1	87.3	3	2	13	5	.....	.....	5	2	1	.....	.....	8	1.67	42.4
Qu Appelle	N. 50 44	W. 103 42	5.13 a.m.	2115	646	27.72	704.1	30.28	769.1	−7.4	−21.9	.....	.....	9	2	3	2	.....	.....	2	13	.....	.....	3	0.05	1.3
Quebec*	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.67	753.6	30.02	762.5	1.7	−16.8	78.1	5	.....	2	8	1	.....	.....	1	14	.....	.....	8	5.65	143.5
Rockliffe*	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.59	751.6	30.09	764.3	−4.6	−20.3	86.3*a*	.....	5	4	1	.....	7	1	1	12	.....	.....	6	2.97	75.4
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	30.01	762.2	30.07	763.8	12.9	−10.6	91.2	5	8	7	3	1	1	1	2	3	.....	.....	4	3.54	89.9
Saint John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	130	40	29.93	760.2	30.09	764.3	12.1	−11.1	84.7	6	8	4	5	2	.....	.....	3	3	.....	.....	5	2.45	62.2
Saint Pierre *b*	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.90	759.5	24.3	−4.3	.....	3	12	4	6	1	2	1	.....	.....	.....	.....	.....	.....	.....
Saugeen*	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.29	744.0	30.05	763.3	13.2	−10.4	93.7	2	2	4	7	3	4	2	5	2	11816	19016	8	3.62	91.9
Stratford *h*	N. 43 23	W. 81 00	6.44 a.m.	1186	361	28.73	729.7	30.15	765.8	11.6	−11.3	84.9	.....	2	7	3	1	3	2	.....	5	.....	.....	7	2.67	67.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
CANADIAN —Con.	° ′	° ′																								
Sydney*	N. 46 08	W. 60 10	8.07 a.m.	37	11	30.00	762.0	30.04	763.0	14.2	—9.9	90.9	6	2	5	8	4	2	1	.....	3	8491	13665	6	4.62	117.3
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.70	754.4	30.11	764.8	14.4	—9.8	87.2	5	2	11	6	1	.....	1	5	.....	9981a	16063a	9	3.30	83.8
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	28.99	736.3	30.16	766.1	11.2	—11.6	85.6	4	2	5	12	2	3	.....	2	1	.....	.....	8	4.95	125.7
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.98	761.5	30.05	763.3	22.0	—5.6	79.0	5	4	6	4	..	.....	7	5	.....	.....	.....	9	3.45	87.6
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	29.96	761.0	29.99	761.7	72.8	22.7	89.8	1	.....	1	12	2	7	2	6	.....	.....	.....	4	1.52	38.6
Cape Town b	S. 34 02	E. 18 29	1.22 p.m.	?	?	29.87	758.7	.....	.....	76.5	24.7	50.7	4	7	.....	1	5	7	2	3	.....	.....	.....	2	0.06	1.5
Springbok a	S. 29 45	E. 17 43	1.19 p.m.	?	?	27.85	707.4	.....	.....	82.2	27.9	43.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.32	8.1
CHILIAN.																										
Coquimbo	S. 29 56	W. 71 21	7.22 a.m.	72	22	29.91	759.6	29.98	761.6	63.5	17.5	88.9	17	2	5	3	.....	.....	2	2	.....	.....	.....	9	.....	.....
Iquiqued	S. 20 12	W. 70 11	7.27 a.m.	26	8	29.91	759.7	29.93	760.3	71.4	21.9	76.0	.....	.....	.....	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Niebla	S. 39 53	W. 73 25	7.14 a.m.	98	30	29.56	750.7	29.66	753.4	61.7	16.5	77.5	2	1	3	.....	.....	.....	25	.....	.....	.....	.....	2	2.66	67.6
Punta Caldera	S. 27 03	W. 70 53	7.25 a.m.	82	25	29.86	758.5	29.95	760.7	68.0	20.0	73.5	.....	5	.....	15	.....	8	1	1	1	.....	.....	6	.....	.....
Punta Corona	S. 41 47	W. 73 53	7.12 a.m.	174	53	29.89	759.3	30.08	764.1	.....	.....	.....	3	3	8	1	.....	1	5	1	9	.....	.....	7	4.85	123.2
Valparaiso	S. 33 02	W. 71 39	7.22 a.m.	131	40	29.80	756.9	29.94	760.5	64.2	17.9	81.7	4	2	2	10	2	3	3	5	.....	.....	.....	5	.....	.....
CHINESE. (Sub).																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	30.34	770.7	30.37	771.3	39.4	4.1	80.3	10	5	2	.....	.....	4	8	1	1	.....	.....	6	3.69	93.7
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.77	756.2	29.82	757.4	38.7	3.7	86.3	.....	6	9	8	3	3	.....	2	.....	.....	.....	8	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.83	757.6	29.85	758.1	38.8	3.8	90.0	.....	5	8	12	1	3	1	1	.....	.....	.....	8	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.45	757.9	29.49	749.0	5.9	-14.5	93.5e	9	4	.....	1	1	4	.....	12	.....	.....	.....	8	.....	.....
Jacobshavn	N. 69 13	W. 50 55	8.44 a.m.	42	13	29.55	750.5	29.60	751.7	-14.8	-26.0	.....	1	.....	.....	.....	2	.....	2	1	25	.....	.....	3	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.29	744.0	29.34	745.1	28.4	—2.0	86.4	.....	1	1	11	.....	4	7	6	1	.....	.....	7	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.50	749.2	29.52	749.8	38.1	3.4	81.1	2	1	9	4	3	2	1	5	4	.....	.....	8	.....	.....
Upernavik	N. 72 47	W. 56 00	8.24 a.m.	39	12	29.58	751.3	29.63	752.5	-14.8	-26.0	.....	.....	.....	.....	3	.....	.....	18	.....	10	.....	.....	3	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.65	753.1	29.74	755.5	38.7	3.7	94.2	.....	2	9	14	1	4	1	.....	.....	.....	.....	8	.....	.....
Ivigtut	N. 61 12	W. 48 00	8.56 a.m.	16	5	29.39	746.5	29.41	747.0	11.5	-11.4	.....	.....	2	.....	.....	.....	5	.....	.....	24	.....	.....	7	.....	.....
Egyptian.																										
Cairo	N. 30 03	E. 31 21	2.14 p.m.	?	?	29.96	761.0	.....	.....	59.9	15.5	.....	2	6	7	6	3	.....	3	4	.....	.....	.....	5	0.30	7.6
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.77	756.2	30.44	773.2	45.3	7.4	90.7	4	6	4	1	4	9	1	.....	2	.....	.....	9	0.68	17.2
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.80	757.0	30.35	771.0	44.1	6.7	92.9	3	1	3	14	5	.....	1	4	.....	.....	.....	9	1.04	26.4
Arras	N. 50 18	E. 2 46	0.19 p.m.	223	68	.....	.....	30.17	766.2	43.9	6.6	86.5	.....	4	7	11	4	3	2	.....	.....	.....	.....	5	2.31	58.6
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	30.22	767.7	30.30	769.7	49.5	9.7	63.1	6	21	.....	.....	.....	1	3	.....	.....	.....	.....	3	0.26	6.6
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.73	755.2	30.31	769.8	43.0	6.1	83	.....	3	3	6	10	4	4	1	.....	.....	.....	8	1.21	30.7
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.84	758.0	30.12	765.1	45.0	7.2	79.8	2	4	4	12	2	3	3	1	.....	.....	.....	8	1.91	48.6
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.37	746.0	30.32	770.1	44.1	6.7	79.9	2	2	.....	8	11	.....	.....	8	.....	.....	.....	.....	1.63	41.4
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	30.09	764.2	30.39	772.0	46.9	8.3	82.4	4	1	7	1	2	9	2	5	.....	.....	.....	6	1.37	34.7
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.79	756.7	30.31	769.9	45.1	7.3	84	2	4	9	8	1	.....	5	2	.....	.....	.....	.....	1.51	38.3
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	30.03	762.8	30.28	769.0	50.5	10.3	87.9	2	1	5	11	4	1	2	2	3	.....	.....	7	6.74	171.2
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	30.13	765.3	30.21	767.4	47.5	8.6	98.2	3	3	8	7	5	.....	4	1	.....	.....	.....	6	3.04	77.3
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.95	760.6	30.28	769.0	43.7	6.5	84	.....	1	2	12	9	5	1	1	.....	.....	.....	7	1.41	35.8
Charleville a	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.71	754.7	30.22	767.5	41.0	5.0	79.7	3	.....	10	2	4	4	5	2	.....	.....	.....	.....	2.89	73.4
Clermont-Ferrand	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.94	735.0	30.34	770.6	44.4	6.9	73.3	5	7	8	1	7	2	.....	1	.....	.....	.....	3	0.94	23.9
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.17	748.6	30.34	770.7	43.9	6.6	78.4	3	2	9	7	5	2	.....	3	.....	.....	.....	7	0.91	23.2
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.39	746.6	30.40	772.2	41.5	5.3	86.5	.....	3	15	4	2	1	5	1	.....	.....	.....	.....	0.53	13.4
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.69	703.2	30.28	769.2	44.2	6.8	50.0	5	.....	4	.....	.....	1	4	2	15	.....	.....	2	1.20	30.5
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	29.11	739.4	30.26	768.6	50.5	10.3	59	12	12	1	.....	.....	3	2	1	.....	.....	.....	3	0.42	10.7
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.56	750.7	30.35	771.0	41.4	5.2	78.7	2	7	1	1	4	4	9	3	.....	.....	.....	.....	0.95	24.1
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1480	453	28.69	728.6	30.34	770.6	41.7	5.4	77.7	1	6	2	11	.....	5	.....	6	.....	.....	.....	.....	1.58	40.2
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.79	756.6	30.37	771.5	51.8	11.0	63.8	3	1	5	3	2	1	4	12	.....	.....	.....	.....	1.81	46.0
Lorient	N. 47 45	W. 3 21	11.55 a.m.	80	26	30.20	767.0	30.30	769.6	50.4	10.2	70.1	.....	3	4	9	3	7	2	2	1	.....	.....	6	1.45	36.9
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	29.26	743.2	30.35	771.0	42.4	5.8	77.5	8	4	2	.....	5	5	4	3	.....	.....	.....	.....	0.70	17.9
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	30.00	761.9	30.31	769.8	43.9	6.6	96.0	2	4	5	6	6	.....	1	6	1	.....	.....	.....	2.01	51.0
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.98	761.4	30.24	768.2	53.6	12.0	56.0	.....	9	9	5	.....	2	4	2	.....	.....	.....	4	0.24	6.0
Montlouis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	25.04	635.9	29.85	758.2	42.8	6.0	51	2	4	5	14	1	1	2	2	.....	.....	.....	3	0.98	24.9
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	30.15	765.8	30.26	768.6	52.0	11.1	77	10	7	7	1	.....	1	2	3	.....	.....	.....	3	4.61	117.0
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.47	718.6	30.28	769.2	41.9	5.5	86.3	.....	3	4	14	8	.....	.....	2	.....	.....	.....	.....	1.82	46.2
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	30.18	766.6	30.34	770.7	47.3	8.5	83.4	1	3	7	7	5	1	3	4	.....	.....	.....	9	1.58	40.1
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	30.21	767.4	30.33	770.3	53.2	11.8	58	2	14	1	1	5	2	2	1	3	.....	.....	4	0.08	2.0
Pic du Midi (Sum-[mit.)	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.36	542.6	.....	.....	27.0	—2.8	.....	1	4	10	1	.....	.....	2	8	5	.....	.....	4	5.51	140.8
Privas	N. 44 45	E. 4 36	0.26 p.m.	997	304	29.23	742.4	30.33	770.4	45.7	7.6	75.5	13	3	3	1	11	.....	.....	.....	.....	.....	.....	.....	0.65	16.4
Puy de Dôme	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.31	642.8	.....	.....	32.7	0.4	81.1	6	3	4	6	3	.....	.....	7	.....	.....	.....	2	4.46	113.2
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.32	770.2	30.35	771.0	48.0	8.9	83.5	1	4	1	8	2	1	2	4	8	.....	.....	5	7.13	181.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	30.10	764.6	30.31	769.9	46.8	8.2	86.0	4	2	3	8	3	3	8	.....	.....	.....	.....	6	1.96	49.8
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	28.13	714.5	30.35	771.0	41.7	5.4	69.0	.....	18	4	.....	.....	3	2	.....	4	.....	.....	.....	1.09	27.6
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	30.19	766.9	30.27	768.9	46.4	8.0	87.5	6	4	4	6	2	6	3	.....	.....	.....	.....	6	2.37	60.3
St. Lô c	N. 49 06	W. 1 05	0.04 p.m.	134	41	.....	.....	30.27	768.8	49.1	9.5	80	3	3	12	3	4	1	1	1	.....	.....	.....	6	2.17	55.0
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	30.11	764.7	30.27	768.9	44.4	6.9	81.2	3	5	2	11	7	1	1	1	.....	.....	.....	7	0.82	20.9
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.50	749.2	30.22	767.6	46.4	8.0	81.9	.....	13	3	1	1	8	4	1	.....	.....	.....	7	1.14	28.9
Tours	N. 47 24	E. 0 41	0.11 p.m.	107	51	30.13	765.4	30.31	769.8	46.2	7.9	84.7	2	2	5	7	5	4	1	5	.....	.....	.....	.....	1.43	36.3
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.76	756.0	30.26	768.5	43.7	6.5	83.7	6	2	8	8	4	.....	1	1	1	.....	.....	.....	0.85	21.7
Sub-Series.																										
St. Martin du Hinx	N. 43 35	W. 1 16	0.03 p.m.	131	40	30.23	767.8	30.38	771.6	51.1	10.6	74.2	2	4	4	4	5	2	6	4	.....	.....	.....	2	1.83	46.5
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.74	729.9	30.25	768.4	37.9	3.3	79.8	.....	5	7	8	2	.....	1	.....	8	.....	.....	8	2.04	51.8
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.32	744.6	30.14	765.6	39.4	4.1	69.3	.....	3	16	2	.....	.....	1	1	8	.....	.....	7	1.80	45.7
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.86	758.4	30.01	762.3	39.7	4.3	82.4	1	0	13	5	4	1	1	.....	.....	.....	.....	8	2.12	53.8
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.52	749.8	30.05	763.3	38.1	3.4	77.3	1	4	11	6	5	3	1	.....	.....	.....	.....	8	1.37	34.8
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.78	756.4	30.26	768.6	41.7	5.4	79.0	.....	2	1	21	2	.....	1	2	2	.....	.....	8	3.00	76.2
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.37	746.0	30.08	764.1	39.9	4.4	81.8	.....	7	2	2	20	.....	.....	.....	.....	.....	.....	8	0.45	11.4
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.82	757.5	30.20	767.1	41.2	5.1	81.3	1	3	3	12	8	1	2	1	.....	.....	.....	9	1.88	47.8
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.83	732.3	30.31	769.9	38.3	3.5	81.3	1	1	9	14	3	1	.....	2	.....	.....	.....	7	2.49	63.3
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.89	759.2	29.98	761.5	39.7	4.3	86.2	.....	6	8	13	.....	2	2	.....	.....	.....	.....	8	3.48	88.5
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.83	759.0	29.90	759.5	40.3	4.6	84.2	1	3	6	16	1	1	1	.....	2	.....	.....	8	4.46	113.3
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.66	753.3	30.09	764.3	40.5	4.7	80.6	.....	8	6	9	6	.....	2	.....	.....	.....	.....	8	1.51	38.4
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.84	757.9	30.03	762.8	41.2	5.1	78.4	.....	2	12	9	3	3	.....	1	1	.....	.....	8	1.59	40.4
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.77	756.1	29.82	757.3	34.2	1.2	84.7	5	9	5	5	5	1	.....	.....	.....	.....	.....	9	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.37	720.7	30.25	768.3	39.0	3.9	71.6	1	10	10	1	.....	.....	.....	1	8	.....	.....	6	1.51	38.4
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.85	758.1	29.86	758.5	36.5	2.5	82.3	1	7	7	8	6	1	.....	...	1	.....	.....	7	1.10	27.8
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.67	753.5	30.19	766.9	43.0	6.1	74.0	.....	3	13	10	3	.....	.....	.....	2	.....	.....	8	2.67	67.9
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.27	743.4	30.18	766.5	41.9	5.5	72.3	2	3	10	10	3	1	2	.....	.....	.....	.....	8	1.13	28.7
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.85	758.5	29.88	759.0	38.3	3.5	87.4	3	3	5	12	4	3	1	.....	.....	.....	.....	8	1.52	38.5
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m	361	110	29.74	755.5	30.14	765.5	49.1	9.5	.....	22	1	1	2	3	.....	.....	2	.....	.....	.....	5	2.41	61.1
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	30.00	762.0	30.05	763.4	71.8	22.1	59	1	2	6	16	1	1	1	3	.....	.....	.....	2	0.03	0.8
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.54	750.3	30.02	762.5	77.7	25.4	25	6	7	6	6	1	1	.....	4	.....	.....	.....	2	0	0
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.96	761.0	30.00	762.0	76.5	24.7	66	6	21	4	.....	.....	.....	.....	.....	.....	.....	.....	1	0.03	0.8
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	28.12	714.2	30.98	761.6	78.4	25.8	29	.....	6	5	1	1	1	10	7	.....	.....	.....	1	0.20	5.1
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.42	695.5	29.97	761.2	76.2	24.6	31	.....	.....	1	5	1	2	9	9	4	.....	.....	1	0.19	4.8
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.29	744.0	30.07	763.7	62.8	17.1	59	1	3	1	.....	.....	.....	3	3	20	.....	.....	4	0.31	7.9
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	29.11	739.4	30.04	763.1	65.7	18.7	48	.....	1	10	.....	.....	.....	.....	.....	20	.....	.....	2	0	0
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.47	748.5	30.06	763.4	70.3	21.3	44	.....	6	9	.....	.....	2	5	2	7	.....	.....	1	0.16	4.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for January, 1884. Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
INDIAN—Cont'd.	° ′	° ′																								
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.96	735.6	30.02	762.5	74.4	23.6	39	.....	1	.....	.....	4	2	1	1	22	.....	.....	1	1.25	31.8
Jubbulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.66	728.1	30.00	763.5	69.0	20.6	48	1	.....	2	.....	.....	.....	.....	.....	28	.....	.....	2	0.76	19.3
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.67	753.7	30.07	763.7	67.4	19.7	48	...	2	1	4	.....	1	.....	2	21	.....	.....	1	0	0
Allahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.72	755.0	30.05	763.2	66.0	18.9	63	.....	.....	.....	.....	.....	.....	.....	4	27	.....	.....	1	0	0
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.86	758.4	30.05	763.3	67.5	19.7	55	.....	6	9	3	.....	3	1	4	5	.....	.....	1	0	0
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.98	710.6	30.06	763.5	65.1	18.4	41	8	13	2	1	.....	1	1	1	4	.....	.....	2	0	0
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.95	760.8	30.04	763.0	73.0	22.8	60	5	5	.....	...	.....	2	8	.....	11	.....	.....	2	0.05	1.5
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	30.01	762.2	30.03	762.8	67.4	19.7	66	3	4	2	3	2	.....	.....	1	16	.....	.....	1	0.02	0.5
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.92	759.0	30.04	763.0	66.6	19.2	65	3	.....	.....	1	.....	1	3	4	19	.....	.....	1	0.24	6.1
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.95	760.8	30.05	763.2	67.6	19.8	73	.....	3	9	3	.....	.....	.....	1	15	.....	.....	2	0	0
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.72	754.9	30.07	763.9	59.3	15.2	83	1	.....	.....	1	..	.....	.....	27	2	.....	.....	3	0.59	15.0
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.58	725.9	30.06	763.6	69.1	20.6	42	.....	12	6	2	1	4	2	1	3	.....	.....	3	0.07	1.8
Zanzibar	S. 6 10	E. 39 11	2 45 p.m.	23	7	29.84	758.0	29.87	758.6	84.1	28.9	62	2	.....	.....	1	.....	1	5	20	2	.....	.....	1	1.35	34.3
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.48	723.4	.....	.....	79.6	26.4	34.5	1	1	1	.....	.....	4	20	4	.....	.....	.....	2	0	0
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.72	754.9	.....	.....	81.6	27.6	53 7	3	.....	1	.....	.....	.....	3	22	2	.....	.....	5	1.03	26.2
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.81	757.2	30.24	768 0	44.2	6.8	49	3	..	.....	.....	....	1	1	6	20	.....	.....	4	0.41	10.5
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.73	755.1	30.27	768 8	40.8	4.9	66	1	9	6	6	1	5	1	2	.....	.....	.....	4	0.08	1.9
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	30.12	765.1	30.24	768.0	40.3	4.6	64	8	6	1	1	1	1	1	4	8	.....	.....	3	0.10	2.5
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.33	745.0	30.28	769.1	40.8	4.9	68	12	3	.....	.....	4	3	6	3	.....	.....	.....	3	0	0
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157	48	30.02	762.5	30.22	767.5	51.8	11.0	55	5	1	....	1	1	10	2	4	7	.....	.....	4	0.76	19.3
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	30.19	766.7	30.24	768.0	43.7	6.5	72	15	8	4	2	.....	.....	.....	2	.....	.....	.....	5	2.69	68.3
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.94	760.5	30.21	767.2	44.4	6.9	68	.....	...	1	2	2	1	6	19	.....	.....	.....	4	2.21	56.2
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	30.08	763 9	30.16	766.1	51.4	10.8	67	.....	.....	5	3	2	1	2	18	.....	.....	.....	5	1.34	33.9
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	30.01	762.3	30.19	766.9	51.6	10.9	53	21	1	.....	1	4	.....	.....	4	.....	.....	.....	4	2.25	57.2
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.89	759 3	30.15	765.9	52.0	11.1	60	11	5	1	2	2	2	.....	8	.....	.....	.....	4	0.08	17.2
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.28	743.7	30.21	767.2	46.2	7.9	72	.....	5	11	1	6	7	1	.....	.....	.....	.....	5	2.30	58.4
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	30.01	762.3	30.21	767.3	55 0	12.8	60	1	19	1	3	.....	2	1	1	3	.....	.....	4	0.79	20.0
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.95	760.7	30.21	767.2	55.4	13.1	63	8	3	5	4	..	.....	1	8	2	.....	.....	6	1.34	34.0
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	30.11	764.8	30.15	765.9	55.0	12.8	62	9	4	5	.....	2	3	3	5	.....	.....	.....	6	2.86	72.7
Sub-Series.																										
Naples	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.67	753.5	30.21	767.3	51.1	10.6	63.1	4	5	3	6	3	2	2	6	.....	.....	.....	4	2.99	76.0
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	30.03	762 8	30.06	763.7	28.2	—2.1	85	3	8	2	.....	.....	3	6	2	7	.....	.....	9	6.61	167.8
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.97	761.3	30.01	762.2	25.4	—3.7	78.9	.....	3	11	6	8	.....	.....	.....	3	6387e	10279e	7	3.51	89.1
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	29.98	761.5	29.99	761.8	25.6	—3.6	81.4	6	7	13	.....	.....	.....	.....	.....	5	9315	14991	5	2.28	57.9
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	92	28	30.00	762.1	30.10	764.6	37.4	3.0	78	1	2	18	.....	.....	.....	.....	1	9	.....	.....	2	2.37	60.3
Hiroshima	N. 34 23	E. 132 27	8.58 p.m.	14	4	30.20	767.2	30.22	767.9	36.6	2.6	82	15	1	2	1	1	2	1	8	.....	3374	5430	5	1.69	43.0
Kagoshima	N. 31 35	E. 130 33	8.50 p.m.	14	4	30.24	768.1	30.25	768.4	43.0	6.1	80.4	14	5	.....	1	.....	.....	.....	3	8	.....	.....	5	1.94	49.1
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	30.04	763.1	30.15	765.8	33.8	1.0	85.5	1	3	2	1	6	7	9	2	.....	5182	8338	8	12.83	325.6
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.99	761.9	30.17	766.3	33.7	0.9	86.4	14	4	6	2	2	.....	.....	.....	3	2308	3714	5	3.01	76.3
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	30.17	766 4	30.20	766 9	40.1	4.5	77.4	3	4	19	.....	1	1	1	2	.....	5151	8290	4	1.64	41.7
Miasaka	N. 31 56	E. 131 26	8.54 p.m.	26	8	30.21	767.3	30.24	768.0	41.6	5.3	76	8	2	21	...	.....	.....	.....	.....	.....	.....	.....	3	1.20	30.5
Miyako	N. 39 38	E. 141 59	9.36 p.m.	98	30	29.99	759.4	30.01	762.2	29.2	—1.6	65	2	1	22	5	1	.....	.....	.....	.....	2641	4232	3	0.94	24.0
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	30.05	763 2	30.20	768.6	41.2	5.1	79.5	2	5	1	.....	1	.....	1	4	17	3207	5160	6	3.49	88.4
Nemuro	N. 43 20	E. 145 35	9.50 p.m.	43	13	29.80	758.3	29.91	759 6	23.7	—4.6	69 0	.....	8	5	3	.....	.....	.....	1	14	7398	11901	4	0.46	11.7
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	30.00	763.0	30.10	764.5	45.0	7.2	83.4	6	4	5	6	2	7	1	.....	.....	6013	9677	9	7.95	201.9
Nobiru	N. 38 23	E. 141 11	9.32 p.m	15	5	30.02	762.6	30.04	763.0	30.1	—1.1	85.6	14	10	1	.....	1	.....	.....	.....	5	8037	12934	4	0.63	15.4
Numadza	N. 35 06	E. 138 51	9.23 p.m.	32	10	30.02	762.5	30.03	763.4	38.9	3.8	71	4	.....	2	2	1	1	13	7	1	.....	.....	4	3.20	81.3
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	30.16	766 2	30.18	766.6	35.5	1.9	79.8	4	3	7	1	2	.....	6	8	.....	6841	11010	4	2.03	51.2
Sakai	N. 35 01	E. 133 13	9.01 p.m.	10	3	30.17	766.4	30.18	766.6	37.9	3.3	79	2	2	14	5	1	1	2	3	1	.....	.....	8	5.88	149.3
Sapporo	N. 43 04	E. 141 23	9.33 p.m.	60	18	29.9	759.5	29.97	761.3	20.2	—6.6	78.3	.....	7	5	6	6	2	1	.....	4	4941	7955	6	2.56	64.9
Shimonoseki	N. 33 58	E. 130 56	8.52 p.m.	134	41	30.08	764.1	30.23	767.8	40.9	4.9	75	4	1	4	6	2	.....	7	5	2	.....	.....	7	2.62	66.5
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.99	761.7	30.07	763.8	35.6	2.0	69.0	19	.....	1	.....	5	1	4	1	.....	8937	5553	3	1.25	31.6
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.13	765.2	30.18	766.6	38.6	3.7	73.4	4	8	2	.....	2	.....	...	7	8	4162	6698	4	1.26	32.2
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.70	754.4	29.88	759.0	80.9	27.2	68.4	1	.....	1	2	...	10	13	4	.....	.....	.....	7	5.68	144.3
MEXICAN.																										
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24 37	619.0	30.25	768.3	44.1	6.7	81.9	6	14	1	.....	1	1	.....	.....	8	.....	.....	3	0.27	6.9
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.82	757.5	30.09	764.2	66.1	18.9	74.1	9	9	2	.....	1	.....	6	4	.....	.....	.....	2	3.88	98.5
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.13	765.3	30.13	765.3	44.8	7.1	.....	.....	3	7	14	5	2	.....	.....	.....	.....	.....	.....	1.68	42.6
Groningen, *a*	N. 53 12	E. 6 34	0.34 p.m.	?	?	30.02	762.0	30.08	764.1	40.3	4.6	.....	1	6	2	14	4	1	2	.....	.....	.....	.....	.....	2.51	63.8
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	30.01	762.3	30.01	762.3	42.1	5.6	.....	.....	2	9	12	2	5	1	.....	.....	.....	.....	.....	2.86	72.6
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	30.10	764.5	30.10	764.5	47.7	8.7	88.2	.....	1	11	14	1	1	1	1	1	.....	.....	.....	1.60	40.7
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	30.03	763.3	30.10	764.0	43.7	6.5	87.2	.....	1	8	13	5	1	3	.....	.....	.....	.....	8	3.38	85.9
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7.15 p.m.	?	?	29.88	759 0	.....	.....	77.7	25.4	87.8	9	11	7	2	1	.....	...	1	.....	.....	.....	8	8.15	207.0
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.51	749.6	29.58	751.2	38.7	3.7	83.0	2	5	2	3	10	9	.....	.....	.....	.....	.....	9	10.00	253.9
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.31	744.4	29.35	745.4	33.1	0 6	79.8	4	5	3	5	6	4	1	2	1	.....	.....	8	5.94	150.8
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.43	747.5	29.58	751.4	28.9	—1.7	85.0	1	2	3	2	3	3	9	4	4	.....	.....	7	1.29	32.7
Gjesvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.20	741.6	29.22	742.2	23.5	—4.7	.....	2	2	2	5	4	6	2	4	4	.....	.....	7	2.48	62.9
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.22	742.3	29.27	743.5	28.9	—1.7	74.5	1	5	5	3	6	4	.....	4	3	.....	.....	8	6.28	159.4
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.21	767.4	30.30	769.6	63.3	17.4	70.2	4	.....	1	4	.....	7	9	4	2	.....	.....	8	4.94	125.5
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	312	95	30.03	762.7	30.37	771.5	53.1	11.7	75.2	7	1	1	3	5	.....	1	13	.....	.....	.....	5	2.64	67.0
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.15	765.7	30.22	767.5	61.9	16.6	77.5	1	3	5	2	2	7	1	3	7	.....	.....	3	6.78	172.3
Saint Vincent *a*	N. 16 37	W. 25 02	10.28 a.m.	34	10	30.04	763 1	30.08	764.0	70.3	21.3	75.5	3	.....	.....	.....	.....	.....	7	14	6	.....	.....	4	0.16	4.1
San Salvador	S. 6 17	E. 14 53	1.07 p.m.	1834	559	28.07	713.0	29.89	759.2	81.7	27.6	05.2	3	7	9	6	1	1	1	1	2	.....	.....	8	4.53	115.0
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.52	648.2	30.34	770.6	44.4	0.9	60.0	.....	2	5	1	7	5	7	1	3	.....	.....	4	27.00	687.2
RUSSIAN																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.91	734.2	30.10	764.4	5.5	-14.7	88.9	.....	....	6	11	5	5	3	1	.....	.....	.....	6	0.35	9.0
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.48	748.7	29.50	749.2	8.1	-13.3	90.0	....	2	2	4	7	7	9	.....	.....	.....	.....	8	0.95	24.1
Ashuyada	N. 36 54	E. 53 55	3.44 p.m.	79	24	30.19	766.9	30.10	764.5	49.8	9.9	78.7	7	6	1	2	..	1	8	6	.....	.....	.....	6	2.03	51.6
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.18	766 6	30.10	764.6	25.7	—3.5	81.2	1	4	8	5	2	7	2	.....	2	.....	.....	8	0.51	12.9
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	30.14	765.5	30.09	764 3	42.1	5.6	72.4	9	2	1	5	6	.....	...	1	7	.....	.....	5	0.59	15.0
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.72	751.8	30.27	768.8	6.6	-14.1	83.8	.....	1	1	20	1	.....	....	4	4	.....	.....	6	2.08	52.7
Bieloserskk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.17	740.9	29.97	753.6	13.1	-10.5	87.1	2	3	3	5	7	5	.....	2	4	.....	.....	8	0.95	24.2
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.39	746.5	29.65	753 0	27.5	—2.5	87.6	1	5	9	6	6	.....	1	1	2	.....	.....	9	1.98	50.3
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.80	733.0	29.90	759.5	8.8	-12.9	83.4	2	1	7	8	2	5	.....	1	5	.....	.....	8	0.10	2.5
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.56	750.7	30.04	762.9	26.6	—3.0	84.2	3	7	7	7	3	.....	.....	.....	4	.....	.....	8	0.09	2.3
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.55	750.0	29.84	758.0	12.0	-11.1	91.9	.....	2	1	5	9	5	3	2	4	.....	.....	8	0.13	3 4
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	29.46	748.4	29.52	749.7	13.5	-10.3	84.9	1	3	7	4	3	6	1	.....	6	.....	.....	8	0.68	17.2
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	30.02	762.6	30.05	763.2	32.0	0.0	85.0*g*	....	5	3	1	.....	.....	.....	2	20	.....	.....	8	1.18	30.1
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.24	742.7	29.91	759.7	28.0	—2.2	83.4	2	8	10	7	3	.....	.....	.....	1	.....	.....	8	0.50	12.6
Kos ov	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.29	743.9	29.83	757 6	18.0	—7.8	83.0	4	5	4	7	8	.....	1	2	.....	.....	.....	8	2.34	59.4
Lgov	N. 51 41	E. 35 17	2 29 p m.	535?	163?	29.28	743.8	29 91	759.6	22.8	—5.1	87.5	1	2	8	12	2	1	1	1	3	.....	.....	9	0.57	14.4
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	29.72	754.9	29.74	755.4	34.7	1.5	83.6	4	4	8	6	5	2	1	1	.....	.....	.....	8	2.25	57.2
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.70	755.8	29.97	761.3	24.8	—4.0	70.1	1	1	7	14	4	2	2	.....	.....	.....	.....	8	0.49	12.5
Moscow	N. 55 46	E. 37 40	2.39 p.m.	44?	13?	29.23	742.5	29.75	755.6	17.2	—8.2	82.1	5	3	2	5	9	1	.....	2	4	.....	.....	7	1.15	29.2
Nert hinsk	N. 51 19	E. 119 37	8.07 p.m.	?	?	27.92	709.1	30.57	776.4	-15.5	-26.4	81.6	.....	5	1	2	.....	.....	.....	.....	23	.....	.....	2	0	0
Nikolajev	N. 46 58	E. 31 58	2.16 p.m.	62	19	30.00	761 9	30.07	763 7	28.0	—2.2	84.3	4	3	2	7	7	.....	.....	.....	1	7	.....	7	0.39	9.9
Nikolaievsk *a*	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.99	761.8	30.08	764.0	-11.0	-23.9	77.7	.....	3	14	.....	.....	.....	.....	1	12	.....	.....	3	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for January, 1884. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
RUSSIAN—Cont'd	° ′	° ′																								
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	30.24	768.0	30.38	771.6	26.2	—3.2	59.7	.....	6	.....	1	1	2	.....	1	20	.....	.....	3	0.04	1.0
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.12 p.m.	328	100	29.82	757.4	30.19	766.9	33.1	0.6	74.9	1	1	3	3	1	2	4	7	9	.....	.....	8	.....	.....
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.36	745.8	29.57	751.1	14.7	—9.5	81.4	1	6	2	5	7	5	...	1	4	.....	.....	7	2.89	73.4
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.41	747.0	29.93	760.2	30.0	—1.1	83.1	2	7	12	4	4	.....	.....	.....	2	.....	.....	8	1.17	29.7
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	30.06	763.4	30.09	764.2	45.3	7.4	79.7	1	5	1	3	2	2	15	1	1	.....	.....	7	5.13	130.2
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	29.58	751.4	29.61	752.0	21.2	—6.0	84.7	2	5	6	4	6	5	2	1	.....	.....	.....	9	1.30	32.9
Samarkand	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.64	702.1	30.19	766.7	41.0	5.0	73.7	.....	1	2	2	1	2	2	.....	21	.....	.....	7	.....	.....
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.62	752.2	30.35	770.8	6.8	—14.0	84.5	.....	.....	6	4	2	4	4	.....	11	.....	.....	6	0.41	10.5
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	138?	42?	29.86	758.3	30.08	761.9	37.0	2.8	74.1	5	.....	4	5	3	1	.....	12	1	.....	.....	7	1.99	50.6
Staroi Bykhov	N. 53 31	E. 30 16	2.09 p.m.	423?	129?	29.24	742.6	29.82	757.4	25.3	—3.7	83.8	2	5	4	3	4	9	1	2	1	.....	.....	8	1.61	40.9
Tashkend	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.45	722.7	30.20	767.0	36.3	2.4	74.1	4	6	1	2	1	.....	.....	1	16	.....	.....	6	0.78	19.7
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1313	409	28.67	728.2	30.15	765.7	37.4	3.0	63.8	9	8	.....	.....	2	4	.....	.....	8	.....	.....	6	.....	.....
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.50	699.9	30.23	767.8	21.4	—5.9	75.5	.....	1	.....	4	1	.....	.....	3	22	.....	.....	6	.....	.....
Viatka	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.09	738.8	29.77	756.2	8.4	—13.1	94.1	.....	2	4	3	14	2	1	.....	5	.....	.....	9	0.59	15.1
Vladivostock *a*	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	30.17	766.2	30.23	767.9	8.1	—13.3	67.5	18	3	1	.....	.....	1	1	5	1	.....	.....	2	0.01	0.4
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.53	750.1	29.97	761.3	34.2	1.2	82.8	2	4	12	6	4	.....	.....	.....	3	.....	.....	8	1.69	42.9
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.97	761.2	30.29	769.4	0.3	—17.6	82.5	.....	1	10	3	4	2	1	2	8	.....	.....	4	.....	.....
Sub-Series.																										
Petrowsky Ac'y	N. 55 50	E. 37 38	2.39 p.m.	508	155	29.12	739.6	29.69	754.1	16.4	—8.7	79.8	2	3	9	2	7	4	.....	1	3	.....	.....	8	0.86	21.8
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	98	30	30.17	766.2	30.28	769.1	55.8	13.2	69	1	3	7	8	1	1	3	7	.....	.....	.....	4	0.57	14.4
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.32	770.2	30.38	771.7	54.0	12.2	75	.....	4	.....	4	2	15	1	.....	5	2522	4059	7	2.85	72.4
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.36	695.0	30.43	772.9	45.0	7.2	68	4	.....	1	6	7	2	.....	11	.....	4472	7197	4	0.56	14.3
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	28.11	714.1	30.41	772.4	49.1	9.5	68.0	5	.....	2	4	3	4	3	10	.....	5178	8333	7	0.69	17.5
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	30.20	767.1	30.35	770.9	57.7	14.3	75	.....	3	7	15	3	1	1	1	.....	3146	5063	4	0.63	16.0
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	203	29.36	745.8	30.28	769.0	52.7	11.5	74	5	1	1	2	5	6	1	7	3	6958	11198	5	3.74	94.9
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	30.10	764.4	30.16	766.1	66.7	19.3	83.9	9	.....	.....	.....	1	7	12	1	1	.....	.....	3	3.21	81.5
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	30.01	762.3	30.07	763.8	74.0	23.3	77.5	1	1	.....	.....	.....	6	12	11	.....	2774	5137	2	0.02	0.5
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	30.28	769.0	30.38	771.6	59.0	15.0	70.7	2	3	4	.....	.....	6	12	3	1	.....	.....	3	1.06	27.1
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	30.02	762.5	30.11	764.8	74.3	23.5	85.0	2	.....	.....	1	3	5	5	2	13	.....	.....	3	3.49	88.6
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.42	747.3	29.46	748.3	15.4	—9.2	94	4	1	4	3	6	4	2	.....	7	.....	.....	6	3.15	79.9
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.45	748.0	29.50	749.3	21.7	—5.7	87	4	6	2	8	1	1	.....	2	7	.....	.....	6	2.32	59.0
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.44	747.7	29.49	749.0	26.6	—3.0	84	2	1	3	1	4	1	1	1	17	.....	.....	5	1.04	26.3
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.43	747.5	29.61	752.0	31.3	—0.4	81	3	5	9	10	3	.....	.....	1	.....	.....	.....	6	0.79	20.1
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.61	752.1	29.67	753.6	35.8	2.1	84	3	3	9	11	2	.....	.....	3	.....	.....	.....	7	1.49	37.8
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.48	748.9	29.57	751.1	29.1	—1.6	85.9	.....	7	5	9	9	.....	.....	1	.....	.....	.....	7	1.39	35.2
TURKISH.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.13	765.4	42.8	6.0	74.0	13	4	.....	8	2	.....	1	3	.....	.....	.....	7	6.23	158.3
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.16	766.0	53.6	12.0	.....	.....	15	.....	1	2	4	.....	9	.....	.....	.....	4	2.60	66.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	30.04	763.1	57.9	14.4	65.8	3	3	.....	15	1	2	1	6	.....	.....	.....	7	10.64	270.3
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	30.07	763.8	30.16	766.1	19.8	—6.8	64.2	6	3	3	3	8	.....	2	6	.....	4610	7419	8	2.98	75.7
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.37	746.0	30.08	764.0	10.0	—12.2	75.3	3	3	9	8	4	2	.....	1	1	7474	12028	8	3.07	78.0
Apache, Fort	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	25.07	636.8	30.19	766.8	25.2	—3.8	77.2	2	.....	.....	3	1	8	9	8	.....	4053	6522	4	0.68	17.3
Assiniboine, Ft.	N. 48 32	W. 109 42	4.49 a.m.	2710	826	27.23	691.6	30.27	768.8	9.9	—12.3	76.0	2	8	1	12	.. ..	.....	4	3	1	8838	14215	4	0.16	4.1
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1129	344	29.03	737.3	30.26	768.6	30.9	—0.6	81.2	2	13	5	1	3	4	3	.....	.....	8745	14073	5	5.20	132.1
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	30.11	764.8	30.12	765.0	26.9	—2.8	76.8	7	5	3	5	3	.....	5	3	.....	7362	11848	7	7.17	182.1
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	30.08	764.0	30.28	769.1	37.4	3.0	79.5	3	.....	10	.....	3	2	.....	6	7	2893	4656	6	4.34	110.2
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.15	765.8	30.20	767.1	28.9	—1.7	67.0	6	5	8	1	1	2	1	6	1	4609	7417	6	4.81	122.2
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	22	7	30.14	765.5	30.16	766.1	26.6	—3.0	79.4	8	2	6	5	2	2	3	3	.....	13173	21199	6	5.25	133.3
Bennett, Fort	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.58	725.9	30.32	770.1	5.0	—15.0	70.0	2	7	.....	.....	.....	5	.....	3	14	4526	7284	4	0.31	7.9
Benton, Fort	N. 47 50	W. 110 40	4.45 a.m.	2700	823	27.31	693.7	30.29	769.4	12.5	—10.8	62.0	1	.....	1	9	.....	.....	.....	2	18	4455	7170	7	0.56	14.2
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.29	718.0	30.29	769.4	0.3	—17.6	89.6	3	13	2	.....	2	...	5	2	4	5441	8756	5	0.38	9.7
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	30.10	764.5	30.13	765.3	27.5	—2.5	81.5	9	4	4	4	1	2	4	3	.....	14115	22715	5	6.43	163.3
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.39	695.7	30.32	770.1	17.0	—8.3	88.7	3	3	16	2	.....	5	2	.....	.....	2432	3914	3	1.75	44.4
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.95	760.7	30.12	765.0	20.2	—6.6	73.5	1	14	7	7	.....	1	1	.	.....	8674	13959	6	6.27	159.3
Brownsville	N. 25 53	W. 97 26	5.38 a.m.	57	17	30.18	766.0	30.24	768.1	47.4	8.6	80.8	12	2	1	.....	5	1	7	1	2	6983	11238	4	1.10	27.9
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	690	210	29.34	745.2	30.13	765.3	16.7	—8.5	87.1	3	2	6	12	4	1	2	1	.....	12259	19729	9	3.36	85.3
Buford, Fort	N. 48 00	W. 103 50	5.12 a.m.	1930	588	28.05	712.5	30.28	769.1	2.1	—16.6	91.7	5	3	8	5	3	1	3	2	1	6989	11248	5	0.11	2.8
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.89	759.2	30.31	769.9	24.0	—4.4	81.1	7	2	3	6	4	... ..	1	5	3	7119	11457	6	2.32	58.9
Canby, Fort	N. 46 16	W. 124 04	3.52 a.m.	179	54	29.89	759.2	30.09	764.3	41.6	5.3	82.6	5	...	1	.....	3	12	8	2	.....	11562	16998	5	6.45	163.8
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.16	766.1	30.18	766.6	33.6	0.9	82.9	6	6	1	7	7	1	1	2	.....	11509	16912	8	8.43	214.1
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.14	765.5	30.17	766.3	30.1	—1.1	80.1	4	7	3	6	3	2	3	3	.....	14311	23308	6	5.56	141.2
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.38	746.2	30.08	764.0	45.9	7.7	84.4	7	3	.....	.....	1	16	.....	3	1	.....	.....	6	1.27	32.3
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.24	768.1	30.26	768.6	46.9	8.3	85.6	9	5	1	1	3	1	4	7	.....	6859	11038	4	5.08	129.0
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	30.15	765.8	30.21	767.3	42.5	5.8	85.6	4	7	4	9	.....	.....	1	5	1	6252	10061	6	5.89	149.6
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.33	745.0	30.22	767.6	33.8	1.0	77.2	5	3	2	10	2	2	1	6	.....	3977	6400	7	7.60	193.0
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.42	747.3	30.28	769.1	30.3	—0.9	70.7	2	6	4	7	2	1	2	6	1	5066	8153	7	5.88	149.4
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6105	1861	23.96	608.6	30.23	767.8	20.4	—6.4	63.2	4	17	6	1	1	.....	1	1	.....	10751	17302	2	0.76	19.3
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.41	747.0	30.16	766.1	16.6	—8.6	71.5	1	3	12	10	1	1	1	2	.....	6713	10803	6	1.39	35.3
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	18	5	30.15	765.8	30.17	766.3	30.6	—0.8	84.3	6	9	1	3	4	1	1	5	1	9686	15588	6	4.89	124.2
Cincinnati	N. 39 06	W. 84 30	5.30 a.m.	620	189	29.56	750.8	30.25	768.3	22.8	—5.1	81.7	1	5	2	10	3	3	3	3	1	4542	7310	6	2.21	56.1
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.37	746.0	30.15	765.8	16.6	—8.6	81.9	4	1	3	9	9	2	1	2	.....	9017	14511	7	1.55	39.4
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.30	744.2	30.20	767.1	16.5	—8.6	80.3	3	5	1	8	10	3	1	.....	. ....	6457	10391	7	2.25	57.1
Concho, Fort	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.33	719.6	30.35	770.9	30.0	—1.1	85.3	5	4	3	6	6	.....	.....	3	4	7186	11565	5	1.26	32.0
Custer, Fort	N. 45 42	W. 107 34	4.58 a.m.	3040	926	26.90	683.2	30.28	769.1	8.9	—12.8	77.5	6	.....	7	1	.....	7	6	2	2	4525	7282	5	2.85	72.4
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.51	749.5	30.22	767.6	13.9	—10.1	69.2	6	9	5	6	1	1	1	2	.....	6991	10773	5	0.75	19.0
Davis, Fort	N. 30 38	W. 103 50	5.12 a.m.	4940	1506	25.31	642.9	30.29	769.4	27.9	—2.3	75.8	7	1	.....	3	3	4	.....	.....	13	4471	7195	3	0.48	12.2
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1667	508	28.44	722.4	30.25	768.3	28.1	—2.2	85.0	5	.....	6	8	2	1	4	2	3	3001	4830	4	3.14	79.8
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.34	643.6	30.29	769.4	18.2	—7.7	83.1	4	1	1	13	7	1	1	1	2	3155	5077	4	0.85	21.6
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.16	766.1	30.18	766.6	28.9	—1.7	83.1	3	7	1	7	3	2	3	5	.....	14214	22875	5	4.19	106.4
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.73	628.1	30.25	768.3	24.7	—4.1	62.3	3	1	3	2	15	2	.....	1	4	5650	9093	2	0.22	5.6
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.29	744.0	30.26	768.6	10.9	—11.7	65.2*a*	13	5	4	2	4	.....	1	1	1	5507	8872	4	0.85	21.6
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.40	746.7	30.16	766.1	19.2	—7.1	72.6	2	3	9	8	2	.....	.....	1	6	7719	12422	7	2.08	52.8
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2517	767	27.53	699.2	30.28	769.1	18.3	—7.6	73.3	2	6	13	4	.....	4	1	1	.....	9133	14698	2	0.08	2.0
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.45	748.0	30.22	767.6	9.4	—12.6	59.2	4	9	7	4	6	1	.....	.....	.....	4278	6885	6	0.99	25.1
Duluth	N. 46 48	W. 92 06	6.00 a.m.	644	184	29.39	746.5	30.20	767.1	—0.4	—18.0	85.2	2	6	5	8	3	.....	.....	2	5	5342	8597	5	0.67	17.0
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	30.01	762.2	30.08	764.0	14.6	—9.7	75.0	7	5	2	10	1	.....	2	2	2	9137	14704	6	4.37	111.0
Elliott, Fort	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.37	695.2	30.30	769.6	23.6	—4.7	80.2	4	5	4	3	4	3	.....	5	3	9713	15931	3	0.61	15.5
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3764	1147	26.40	670.5	30.28	769.1	31.2	—0.4	71.6	.....	6	2	.....	.....	4	2	1	16	2823	4543	3	0.55	14.0
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.37	746.0	30.14	765.5	18.3	—7.6	84.6	.....	4	1	12	7	3	.....	4	.....	7376	11870	9	4.59	116.6
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	612	186	29.40	746.7	30.12	765.0	3.1	—16.1	77.3	5	5	9	5	6	1	.....	.....	.....	7100	11426	6	0.55	14.0
Fort Smith	N. 35 22	W. 94 24	5.50 a.m.	451	137	29.80	756.9	30.30	769.6	24.3	—4.3	81.3	5	2	3	1	.....	1	12	1	6	4687	7543	5	1.35	34.3
Galveston	N. 29 18	W. 94 47	5.49 a.m.	40	12	30.20	767.1	30.24	768.1	43.5	6.4	79.6	11	2	3	.....	5	4	.....	6	.....	8958	14416	6	5.11	129.8
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.40	746.7	30.11	764.8	18.6	—7.4	80.5	8	2	4	5	6	1	4	1	.....	9738	15671	9	2.83	71.9
Grant, Fort	N. 32 39	W. 109 57	4.48 a.m.	4860	1481	25.28	642.1	30.18	766.6	33.4	0.8	64.6	5	4	.....	1	2	4	7	8	.....	5395	8682	4	1.12	28.4
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	12	4	30.17	766.3	30.18	766.6	41.0	5.0	83.7	6	9	.....	6	1	2	.....	7	.....	11024	17741	7	7.64	195.1
Helena	N. 46 34	W. 112 04	4.40 a.m.	4044	1232	25.93	658.6	30.31	769.9	.....	.....	.....	8	8	5	.....	.....	.....	.....	2	8	2850	4586	6	3.75	95.2
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.78	731.0	30.32	770.1	2.9	—16.2	79.5	7	11	.....	1	5	5	.....	.....	2	7379	11875	3	0.09	2.3
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.34	745.2	30.18	766.6	18.4	—7.6	72.7	4	5	4	7	4	.....	3	3	1	5057	8138	6	1.05	26.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for January, 1884.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metrs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																									
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	30.24	768.1	30.27	768.8	42.3	5.7	81.7	14	2	3	1	6	3	1	1	.....	11715	18853	4	0.71	18.0
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.21	767.3	30.26	768.6	46.4	8.0	87.2	7	7	6	1	4	1	1	.....	4	3060	4924	5	4.78	121.4
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.54	750.3	30.21	768.1	15.0	−9.4	77.8a	4	9	2	6	2	2	.....	1	5	4403	7086	4	0.85	21.6
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.17	766.3	30.19	766.8	66.4	19.1	83.5	4	1	.....	2	1	5	2	16	.....	9343	15035	5	1.82	46.2
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.19	766.8	30.21	767.3	36.7	2.6	81.4	1	8	4	5	.....	2	.....	11	.....	12730	20106	6	6.50	165.1
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.19	741.4	30.27	768.8	25.5	−3.6	86.8	4	2	5	5	.....	2	.....	11	2	4989	8029	6	6.66	169.2
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.36	745.7	30.20	767.1	6.0	−14.1	78.7	6	3	9	3	8	1	.....	1	.....	6259	10073	5	0.53	13.5
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.34	745.2	30.30	769.6	16.6	−8.6	75.8	10	5	.....	1	11	2	1	.....	1	5586	8990	5	0.97	24.6
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.42	747.3	30.29	769.4	29.0	−1.7	71.5	.....	.....	.....	2	.....	4	.....	7	18	826	1329	6	2.15	54.6
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.97	761.2	30.30	769.6	30.3	−0.9	79.5	2	5	1	2	4	.....	2	5	10	4035	6493	4	3.45	87.6
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	371	113	29.74	755.4	30.14	765.5	46.9	8.3	67.9	1	.....	1	.....	.....	2	7	18	2	5166	8314	3	3.15	80.0
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.61	752.1	30.20	767.1	21.8	−4.0	77.4	6	2	5	7	5	3	.....	3	.....	6971	11218	7	1.91	49.3
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.46	748.3	30.18	766.6	29.6	−1.3	70.6	.....	6	2	6	3	1	2	5	6	2763	4146	7	8.48	215.4
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.38	746.2	30.08	764.0	11.1	−11.6	78.4	3	4	11	4	3	1	2	3	.....	7820	12585	8	8.09	205.5
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.20	767.1	30.21	767.3	39.4	4.1	81.2	10	7	4	4	4	1	.....	1	.....	12271	19748	7	5.73	145.5
Maginnis, Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.80	655.3	30.35	770.9	17.3	−8.2	54.6	1	11	6	6	.....	1	.....	6	.....	10302	17061	6	1.47	37.3
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.31	745.2	30.12	765.0	7.4	−13.7	67.3	3	5	15	1	2	4	.....	1	.....	7067	11373	6	0.91	23.1
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.92	760.0	30.28	769.1	28.4	−2.0	85.5	2	5	4	1	3	7	1	3	5	5150	8298	7	5.66	143.8
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.35	745.5	30.15	765.8	11.2	−11.6	79.2	6	11	5	6	2	1	.....	.....	.....	10085	17195	5	1.69	42.7
Mobile	N. 30 41	W. 88 02	6.16 a.m.	35	11	30.23	767.8	30.27	768.8	38.3	3.5	81.2	19	3	.....	.....	2	1	2	1	3	5143	8276	7	7.40	188.0
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	30.05	763.3	30.29	769.4	35.4	1.9	82.9	7	6	2	1	1	3	2	1	8	3891	6146	6	4.82	122.4
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	29.13	739.9	30.24	768.1	−9.4	−23.0	91.0	10	3	3	.....	7	3	.....	1	4	7413	11930	4	0.55	14.0
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.38	593.8	30.01	762.2	4.2	−15.4	80.8e	.....	16	7	4	.....	2	.....	.....	2	.....	.....	4	2.45	62.2
Nashville	N. 36 10	W. 86 47	6.21 a.m.	549	167	29.66	753.4	30.27	768.8	25.7	−3.5	85.2	4	10	1	3	6	4	1	2	.....	5320	8562	8	7.20	182.9
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	30.02	762.5	30.14	765.5	19.8	−6.8	78.9	6	3	5	7	2	.....	.....	6	2	6809	10958	5	4.63	117.6
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	30.12	765.0	30.17	766.3	22.9	−5.1	77.1	5	9	7	3	.....	2	.....	5	.....	6782	10914	5	6.12	155.4
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	30.20	767.1	30.26	768.6	43.4	6.3	78.0	8	3	.....	.....	2	8	2	5	3	6817	10971	5	4.35	110.5
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.98	761.5	30.17	766.3	23.5	−4.7	80.9	2	4	8	5	2	1	.....	7	2	6203	9983	7	6.07	154.2
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.16	766.1	30.18	766.6	34.9	1.6	78.3	11	1	2	9	1	2	1	4	.....	5482	8822	7	5.94	150.9
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.17	690.1	30.29	769.4	13.0	−10.0	79.9	1	9	11	.....	.....	2	.....	1	7	5983	9938	4	0.10	2.5
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	30.08b	764.0b	30.12b	765.0b	37.8	3.2	86.7	2	.....	.....	1	9	.....	.....	.....	19	1320	2124	7	5.47	138.9
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	29.04	737.6	30.31	769.9	11.8	−11.2	73.3e	10	4	2	4	5	3	.....	2	1	7214	11610	4	0.73	18.5
Oswego	N. 43 29	W. 76 35	7.02 a.m.	304	93	29.75	755.6	30.10	764.5	20.7	−6.3	66.6	2	2	3	4	7	8	1	4	.....	8806	14172	10	6.49	164.8
Palestine	N. 31 45	W. 95 40	5.45 a.m.	533	162	29.72	754.9	30.30	769.6	34.9	1.6	75.0	3	7	1	2	10	.....	3	5	.....	5861	9432	5	2.31	58.7
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.24	768.1	30.27	768.8	41.9	5.5	77.4	11	7	.....	.....	1	2	4	6	.....	6510	10477	6	3.09	93.7
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	92	28	30.07	763.8	30.18	766.6	25.4	−3.1	75.5	3	8	.....	11	.....	.....	2	6	1	6093	9806	5	5.46	138.7
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.57	446.3	30.27	768.8	−0.4	−18.0	80.5	7	9	8	3	1	.....	.....	3	.....	20868	33583	2	0.10	2.5
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	766	233	29.32	744.7	30.17	766.3	21.8	−5.7	84.4	1	7	5	7	6	2	1	2	.....	5993	9500	7	4.82	122.4
Poplar, River h	N. 48 08	W. 105 10	5.07 a.m.	2030	619	.....	.....	.....	.....	−5.3	−20.7	89.0	1	1	11	.....	.....	2	3	5	.....	.....	.....	5	0.31	7.9
Port Huron	N. 43 00	W. 82 26	6.38 a.m.	633	193	29.35	745.5	30.08	764.0	12.7	−10.7	83.6	3	3	4	9	6	2	.....	3	1	9391	14968	7	1.63	41.4
Portland, Maine	N. 43 39	W. 70 15	7.27 a.m.	45	14	30.03	762.7	30.08	764.0	18.2	−7.7	77.9	7	5	5	8	1	.....	1	4	.....	6806	10953	6	4.51	115.3
Portland, Oreg.	N. 45 32	W. 122 43	3.57 a.m.	67	20	30.06	763.5	30.13	765.3	36.4	2.4	84.5	4	2	1	2	7	1	4	1	9	3662	5893	5	3.70	94.0
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5340	1628	24.83	630.7	30.21	767.3	28.6	−1.9	73.2	1	.....	4	11	4	3	5	1	2	4269	6870	3	0.25	6.3
Provincetown	N. 42 03	W. 70 11	7.27 a.m.	26	8	30.08	764.0	30.11	764.8	26.7	−2.9	80.2	6	6	6	3	2	2	2	2	2	8919	14354	7	6.58	167.1
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	332	101	29.81	757.2	30.18	766.6	41.2	5.1	82.3	23	.....	1	.....	3	.....	1	.....	3	5168	8317	4	3.55	90.2
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	30.08	764.0	30.33	770.4	44.2	6.8	78.1	4	11	.....	.....	1	5	4	3	3	5612	9032	4	0.47	11.9
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.40	746.7	30.11	764.8	17.3	−8.2	84.4	.....	3	12	6	3	3	1	3	.....	11714	18851	9	5.13	130.3
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.58	751.3	30.14	765.5	30.5	2.5	85.9	3	1	.....	1	7	3	6	5	4	2017	3246	6	3.66	93.0
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	65	20	30.09	764.3	30.17	766.3	41.3	5.2	89.1	6	3	.....	1	3	11	2	1	4	4279	6886	4	3.43	87.1
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	583	178	29.62	752.3	30.28	769.1	22.6	−5.2	77.6	7	6	2	6	7	3	.....	.....	.....	10630	17197	4	0.79	20.1
Saint Michael, Ft	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.70	754.4	29.73	755.1	0.8	−17.3	97.3	3	.....	3	2	4	2	2	14	1	.....	.....	6	0.57	14.5
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	801	244	29.27	743.4	30.21	767.3	2.9	−16.2	92.2b	.....	7	8	1	1	4	.....	1	9	4253	6844	5	0.48	12.2
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.29	744.0	30.27	768.8	−11.0	−23.9	91.1	4	11	2	2	8	3	.....	1	.....	7341	11814	3	0.14	3.6
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.78	654.8	30.35	770.9	24.6	−4.1	58.6	.....	5	.....	1	.....	8	4	.....	13	3257	5242	4	0.71	18.0
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	30.04	763.0	30.11	764.8	49.0	9.4	67.3	4	2	.....	1	.....	2	5	17	.....	4343	6999	2	1.34	34.0
Sandusky	N. 41 25	W. 82 40	6.37 a.m.	639	195	29.43	747.5	30.15	765.8	18.5	−7.5	72.5	5	2	3	18	1	1	1	.....	.....	8075	13961	7	1.25	31.7
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	30.14	765.5	30.17	766.3	25.5	−3.6	72.2	3	6	6	6	2	.....	3	5	.....	15215	24486	5	6.76	171.7
Sanford	N. 28 48	W. 81 23	6.42 a.m.	50	15	30.16	766.1	30.22	767.6	50.0	10.0	88.4	7	12	.....	5	2	1	.....	3	1	5972	9611	5	0.91	23.1
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	30.08	764.0	30.15	765.8	47.6	8.7	87.2	5	4	1	1	7	5	1	5	2	4498	7239	5	3.94	100.1
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	30.14	765.5	30.24	768.1	41.6	5.3	74.8	5	9	7	6	1	.....	.....	3	.....	5589	8994	5	3.89	98.8
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.42	671.1	30.28	769.1	19.6	−6.9	71.4	.....	1	7	15	.....	1	2	4	1	8345	13398	5	0.80	21.8
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	30.09	764.3	30.34	770.6	32.2	0.1	75.9	3	8	.....	.....	8	4	3	4	1	4770	7676	6	4.55	115.6
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.80	750.9	29.87	758.7	37.8	3.2	73.2	.....	1	2	.....	.....	2	23	3	.....	8889	14305	7	14.01	355.8
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.17	766.3	30.21	767.3	39.8	4.3	85.5	10	5	8	2	2	1	1	2	.....	7279	11714	6	3.44	87.4
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	28.11e	714.7e	30.28e	769.1e	19.8e	−6.8e	77.7e	7	2	2	3	1	.....	1	1	14	1900	3067	5e	1.79e	45.5e
Springfield, Ill	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.51	749.5	30.24	768.1	18.2	−7.7	81.7	6	5	3	5	6	1	1	2	2	6678	10747	5	1.51	38.4
Stockton, Fort	N. 30 53	W. 102 53	5.16 a.m.	3010	917	27.15	689.6	30.29	769.4	30.6	−0.8	77.9	7	.....	1	5	6	.....	.....	1	11	4639	7466	4	0.21	5.3
Tatoosh Id	N. 48 23	W. 124 44	3.21 a.m.	86	20	29.97	761.2	.....	.....	39.9	4.4	87.9	.....	.....	.....	3	4	1	20	2	1	12136	19531	7	13.32	338.3
Thomas, Camp	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.42	696.5	30.25	768.3	30.2	−1.0	76.6	.....	1	2	.....	4	2	3	.....	19	.....	.....	4	0.45	11.4
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.40	746.7	30.14	765.5	16.6	−8.6	80.8	2	.....	14	8	3	1	.....	3	.....	6232	10029	7	2.61	66.3
Unalashka	N. 53 53	W. 166 32	1.02 a.m.	13	4	29.44	747.8	29.46	748.3	33.1	0.6	82.4	2	2	1	5	11	5	3	.....	2	9620	15482	8	11.93	303.0
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	30.03	762.7	30.30	769.6	35.5	1.9	77.4	5	5	1	1	3	9	5	2	.....	5710	9238	6	8.20	208.3
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	30.09	764.3	30.21	767.3	25.4	−3.7	83.2	8	9	.....	5	4	1	.....	4	.....	4148	6676	6	5.89	142.0
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.10	662.9	30.23	767.8	13.1	−10.5	85.7	.....	5	16	3	.....	1	3	3	.....	5372	8645	3	0.26	6.6
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	30.16	766.1	30.22	767.6	40.6	4.8	79.1	8	4	6	7	1	1	.....	4	.....	5737	9233	6	5.22	132.6
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.89	733.8	30.31	769.9	7.0	−13.9	76.3	9	2	7	1	1	1	1	3	6	5923	9532	4	0.25	6.3
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.98	761.5	30.12	765.0	47.5	8.6	51.0	8	2	.....	.....	1	3	2	10	5	4582	7374	4	inap.	inap.
Sub-Series.																											
Behring Island	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.57	751.1	29.59	751.6	26.0	−3.3	84.9	10	.....	.....	1	1	2	2	14	1	12233a	19687a	9	0.94	23.9
Bluefields	N. 12 00	W. 83 43	6.31 a.m.	?	?	.....	.....	.....	.....	75.1	23.9	.....	8	16	.....	.....	.....	.....	.....	7	.....	.....	.....	6	10.25	260.4
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.01	558.9	.....	.....	51.1	10.6	84.2	3	3	.....	1	3	.....	3	7	11	.....	.....	.....	2.94	74.7
Chimo, Ft.	N. 59 00	W. 68 00	7.36 a.m.	126?	38?	29.78	756.4	29.94	760.5	−23.5	−30.8	100.	.....	.....	.....	9	10	.....	1	2	9	7017	11293	3	0.78	19.8
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	.....	.....	30.10	764.5	69.4	20.8	85.3	23	.....	.....	.....	.....	.....	2	.....	6	2992	4815	3	0.75	19.0
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.07	763.8	30.07	763.8	76.9	24.9	88.0	.....	.....	.....	.....	.....	1	26	4	.....	.....	.....	9	6.50	165.1
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.41	747.0	29.97	761.2	78.3	25.7	87.2	2	.....	.....	.....	9	.....	.....	.....	20	.....	.....	2	1.15	29.2
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	73.9	23.3	90.3	.....	1	...	.....	.....	.....	.....	30	.....	.....	.....	2	0.59	15.0
York Factory	N. 57 02	W. 92 20	5.58 a.m.	55	17	30.00	762.0	30.07	763.8	−30.6	−34.8	.....	4	9	11	6	.....	1	.....	.....	.....	11000	17702	4	1.23	31.2
U. S. Columbia. *Sub-Series.*																											
Colon	N. 9 22	W. 79 55	6.50 a.m.	7	2	29.95	760.6	29.96	760.9	78.4	25.8	85.0	27	1	.....	.....	2	.....	.....	.....	.....	.....	.....	6	.....	.....
Naôs	N. 8 55	W. 79 32	6.50 a.m.	39	12	29.90	759.5	29.97	761.2	74.3	23.5	89.9	17	13	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....

OCEAN SQUARE DATA FOR JANUARY, 1884.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W. 22.5°	30.02	762.5	74.7	23.7	1					1	6	23			4.4
12.5 27.5	30.06	763.5	75.0	23.9	2						8	20	1		4.4
12.5 32.5	30.08	764.0	75.8	24.3	1						11	14		5	4.8
12.5 37.5	30.10	764.5	76.2	24.6							10	12		9	4.6
12.5 42.5	30.11	764.8	76.0	24.4							13	8		10	4.6
12.5 47.5	30.12	765.0	76.0	24.4							14	7		10	4.4
12.5 52.5	30.11	764.8	76.5	24.7							22	9			4.2
17.5 22.5	30.09	764.3	71.4	21.9	1					1	15	9	5		4.0
17.5 27.5	30.10	764.5	71.6	22.0	2						15	7	6	1	3.8
17.5 32.5	30.13	765.3	72.9	22.7	2	1				1	10	10		7	4.6
17.5 37.5	30.15	765.8	74.0	23.3	4						11	9	2	5	4.4
17.5 42.5	30.17	766.3	74.3	23.5	2					1	15	6		7	4.4
17.5 47.5	30.17	766.3	74.7	23.7	4					2	17	2		6	4.6
17.5 52.5	30.15	765.8	75.6	24.2	1					3	16	10		1	4.1
17.5 57.5	30.13	765.3	77.4	25.2	1						15	15			4.3
22.5 22.5	30.15	765.8	69.5	20.8			1		2	2	10	8	2		3.5
22.5 27.5	30.10	766.1	69.6	20.9	1		1		2	3	14	4	2	4	3.9
22.5 32.5	30.17	766.3	70.8	21.6	2	3	2	1	1	2	12	3		5	4.5
22.5 37.5	30.19	766.8	71.8	22.1	7	2	1		1		12	4	1	3	4.4
22.5 42.5	30.20	767.1	72.3	22.4	7	2		1		1	10	7	1	2	4.5
22.5 47.5	30.21	767.3	72.7	22.6	4	2				2	14	6	1	2	4.1
22.5 52.5	30.22	767.6	73.8	23.2	6					6	13	3		3	4.1
22.5 57.5	30.20	767.1	75.0	23.9	2			1		4	17	6	1		4.1
22.5 62.5	30.19	766.8	74.8	23.8		1				5	18	6	1		4.0
22.5 67.5	30.18	766.6	75.1	23.9	5					6	10	7	3		3.5
22.5 72.5	30.18	766.6	74.4	23.6	2		1			2	17	7	1	1	3.8
27.5 22.5	30.22	767.6	67.0	19.4	1	1		4	1	7	10	5	2		3.6
27.5 27.5	30.19	766.8	66.9	19.4		1	2	2	5	4	11	3	2	1	3.6
27.5 32.5	30.19	766.8	68.1	20.1	3	1	5		5	4	10	3			4.5
27.5 37.5	30.22	767.6	68.6	20.3	7	6	2	1		5	5	3	1	1	4.8
27.5 42.5	30.24	768.1	69.1	20.6	7	4	2	1	2	3	7	4		1	4.7
27.5 47.5	30.24	768.1	69.7	20.9	5	4	1	2	3	2	9	3		2	4.6
27.5 52.5	30.24	768.1	70.8	21.6	2	4	1		5	4	7	5	2	1	3.8
27.5 57.5	30.24	768.1	71.5	21.9	2	6	1		4	6	8	1	2	1	3.5
27.5 62.5	30.22	767.6	71.3	21.8	4	4	2	2	5	5	6	1	2		3.8
27.5 67.5	30.22	767.6	71.4	21.9	3	4	4	2	4	5	3	4	2		4.0
27.5 72.5	30.23	767.8	70.5	21.4	6	3		3	3	5	4	6		1	4.0
27.5 77.5	30.18	766.6	66.7	19.3	7		2		6	6	4	6			3.9
32.5 12.5	30.33	770.4	64.5	18.1	1			2	4	4	12	7	1		2.9
32.5 17.5	30.30	769.6	63.5	17.5	3		1	3	3	8	7	4	2		2.5
32.5 22.5	30.25	768.3	64.4	18.0	1	1	3	3	6	5	9	2	1		4.0
32.5 27.5	30.22	767.6	65.1	18.4	1	3	3	3	5	6	3	4	2	1	4.0
32.5 32.5	30.19	766.8	65.0	18.3	2	4	2	3	6	4	3	4	1	2	4.5
32.5 37.5	30.20	767.1	67.3	19.6	6	8	3		5	2	3	2	1	1	4.5
32.5 42.5	30.25	768.3	64.5	18.1	5	6	4	1	7	3	2	2	1		4.5
32.5 47.5	30.25	768.3	65.1	18.4	4	5	5	6	2	3	4	2			5.1
32.5 52.5	30.24	768.1	65.7	18.7	7	2	3	6	3	2	5	2	1		4.3
32.5 57.5	30.23	767.8	65.8	18.8	2	1	10	3	2	3	5	3	1	1	4.2
32.5 62.5	30.16	766.1	64.3	17.9	2	1	10	5	3	1	7	2			4.5
32.5 67.5	30.17	766.3	65.0	18.3	3	4	6	5	5	2	2	3	1		4.5
32.5 72.5	30.19	766.8	62.9	17.2	3	7	4	4	5	1	1	4		2	5.5
32.5 77.5	30.21	767.3	51.0	10.6	6	2	8	4	2	1	2	4			5.2
37.5 12.5	30.34	770.6	57.9	14.4	2	1	4	4	3	6	7	4			3.7
37.5 17.5	30.28	769.1	60.5	15.8		4	3	6	5	5	5	2	1		3.8
37.5 22.5	30.24	768.1	61.7	16.5	1	4	3	5	4	4	4	3	3		3.8
37.5 27.5	30.21	767.3	62.0	16.7	1	3	5	5	2	4	1	3	7		2.9
37.5 32.5	30.17	766.3	62.0	16.7	4	6	5	5	4	1	4		2		4.5
37.5 37.5	30.17	766.3	60.8	16.0	3	6	6	7	1	1	2	4	1		4.5
37.5 42.5	30.19	766.8	58.7	14.8	3	6	9	5	2	3		2		1	4.9
37.5 47.5	30.19	766.8	57.6	14.2	5	7	7	4	4		2	1	1		4.9
37.5 52.5	30.18	766.6	56.9	13.8	7	4	9	3	3	2	1	2			4.7
37.5 57.5	30.14	765.5	57.1	13.9	4	3	10	6	2	2		3		1	5.4
37.5 62.5	30.12	765.0	55.6	13.1	4	6	6	7		3	2	2	1		5.2
37.5 67.5	30.11	764.8	52.9	11.6	7	8	4	4	4	2	1	1			5.4
37.5 72.5	30.14	765.5	44.1	6.7	12	5	4	4	3	2	1				6.2
42.5 12.5	30.25	768.3	55.3	12.9	3	4	3	7	4	3	5		2		4.2
42.5 17.5	30.19	766.8	57.5	14.2		3	8	9	3	7	1				5.1
42.5 22.5	30.13	765.3	58.2	14.6	1	4	5	9	5	3	3		1		4.8
42.5 27.5	30.09	764.3	58.1	14.5	1	5	7	7	5	3	2		1		4.8
42.5 32.5	30.08	764.0	57.4	14.1	1	6	11	6	3	1	2	1			5.2
42.5 37.5	30.08	764.0	55.0	12.8	1	8	10	6	2	3		1			5.3
42.5 42.5	30.08	764.0	51.2	10.7	2	12	7	3	4	1	1			1	5.2
42.5 47.5	30.10	764.5	45.9	7.7	3	8	8	2	5	1	1	2	1		5.5
42.5 52.5	30.08	764.0	43.6	6.4	5	4	8	4	7	1			1	1	5.1
42.5 57.5	30.05	763.3	41.8	5.4	3	10	7	5	3	1	1	1			5.6
42.5 62.5	30.08	764.0	34.4	1.3	7	2	10	4	1	2	1	4			5.5
42.5 67.5	30.09	764.3	28.6	−1.9	9	4	5	5		3	1	2	2		4.7
47.5 12.5	30.12	765.0	53.0	11.7		2	7	10	6	4	2				5.9
47.5 17.5	30.06	763.5	54.1	12.3		2	11	6	9	2	1				6.2
47.5 22.5	29.99	761.7	53.7	12.1		3	7	11	7	2				1	6.1
47.5 27.5	29.96	761.0	52.2	11.2		3	11	7	8	2					5.9
47.5 32.5	29.89	759.2	50.9	10.5	2	7	11	5	4	1			1		5.6
47.5 37.5	29.88	758.9	47.3	8.5	3	6	11	5	4	1		1			6.1
47.5 42.5	29.90	759.4	39.7	4.3	2	7	12	5	4	1					5.9
47.5 47.5	29.92	760.0	32.4	0.2	2	8	13	2	4	1			1		5.8
52.5 12.5	29.99	761.7	49.2	9.6		2	15	6	5	2	1				5.6
52.5 17.5	29.88	758.9	49.1	9.5		3	10	9	5	3		1			6.2
52.5 22.5	29.80	756.9	47.6	8.7	1	3	8	11	3	4	1				5.9
52.5 27.5	29.75	755.6	44.6	7.0	3	3	12	7	3	2	1				6.4
52.5 32.5	29.73	755.1	41.2	5.1	3	4	12	6	3	2	1				5.8
52.5 37.5	29.70	754.4	37.3	2.9	2	6	12	7	3			1			5.5
52.5 42.5	29.70	754.4	32.1	0.1	2	5	12	7	3			2			6.1
52.5 47.5	29.72	754.9	24.6	−4.1	6	8	7	6	3				1		5.5
57.5 12.5	29.67	753.6	43.3	6.3	1	5	13	6	1	4		1			6.2
57.5 17.5	29.63	752.6	42.3	5.7	2	4	11	7	4	1	2				6.4
57.5 22.5	29.58	751.3	42.4	5.8	2	4	9	9	2	1	3	1			5.8
57.5 27.5	29.55	750.6	36.7	2.6	2	5	9	10	1	1	3				6.1
57.5 32.5	29.55	750.6	33.2	0.7	2	5	11	7	1	1	2	1	1		5.8
57.5 37.5	29.51	749.5	28.7	−1.8	5	4	7	9	1	2	1	2			5.8
57.5 42.5	29.53	750.0	23.2	−4.9	4	7	6	7	2	1	1	3			5.4
57.5 47.5	29.56	750.8	17.7	−7.9	7	10	2	6	3		1	2			5.1

BEHRING ISLAND, KAMCHATKA (N. 55° 12′, E. 165° 55′).

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Mill.	Reduced to sea-level. Inch.	Mill.	Temperature of the air. Fah.	Cent.	Relative Humidity Per cent.	Wind. Direction. From.	Velocity. Miles per hour	Metrs pr sec.	Force 0-10	Clouds. Amount. Upper. 0-10	Lower. 0-10	Direction. Up'er From	Lo'er From	Rainfall in past 24 hours. Inch.	Mill.	WEATHER.
1883.																		
October 1	30.10	764.5	30.12	765.0	42.2	5.7	99	sw.	12	5.4	.....	0	4 k	.....	.....	0	0	fair.
2	29.76	755.9	29.78	756.4	45.0	7.2	99	sw.	14	6.3	.....	.....	10 n	.....	.....	0.02	0.5	cloudy.
3	28.88	733.5	28.90	734.0	42.0	5.6	96	se.	7	3.1	.....	0	8 n	.....	.....	0.30	7.6	light rain.
4	29.71	754.6	29.73	755.1	36.5	2.5	74	nw.	12	5.4	.....	0	4 k	.....	.....	0.04	1.0	fair.
5	29.59	751.6	29.61	752.1	43.0	6.1	93	s.	4	1.8	.....	.....	10 n	.....	.....	0	0	cloudy.
6	29.72	754.9	29.74	755.4	32.0	0.0	100	calm	0	0	.....	0	fog	.....	.....	0.17	4.3	clear.
7	29.48	748.8	29.50	749.3	41.0	5.0	65	sw.	30	13.4	.....	0	5 k	.....	sw.	0.21	5.3	fair.
8	29.81	757.2	29.83	757.7	40.2	4.6	82	nw.	12	5.4	.....	.....	10 kn	.....	.....	0.10	4.1	cloudy.
9	29.86	758.4	29.88	758.9	39.7	4.3	97	sw.	7	3.1	.....	0	2 k	.....	.....	0	0	clear.
10	29.45	748.0	29.47	745.8	34.5	1.4	95	w.	2	0.9	.....	0	1 k	.....	.....	inap.	inap.	clear.
11	29.63	752.6	29.65	753.1	39.0	3.9	73	sw.	8	3.6	.....	5 ck	3 k	.....	.....	0	0	cloudy.
12	29.11	739.4	29.13	739.9	40.0	4.4	98	nw.	22	9.8	.....	.....	10 n	.....	.....	0.10	2.5	light rain.
13	29.51	749.5	29.53	750.0	37.0	2.7	79	s.	7	3.1	.....	0	9 k	.....	sw.	0.03	0.8	cloudy.
14	29.21	741.9	29.23	742.4	30.9	— 0.6	99	n.	35	15.6	.....	.....	10 k;n	.....	n.	0.11	2.8	cloudy.
15	29.38	746.2	29.40	746.7	33.0	0.6	84	nw.	43	19.2	.....	0	8 k	.....	nw.	0	0	cloudy.
16	29.24	742.7	29.26	743.2	33.5	0.8	96	nw.	19	8.5	.....	.....	10 n	.....	.....	inap.	inap.	sleeting.
17	29.48	748.8	29.50	749.3	33.9	1.1	80	w.	4	1.8	.....	0	8 k;n	.....	sw;w.	0	0	cloudy.
18	29.60	751.8	29.62	752.3	39.0	3.9	85	s.	9	4.0	.....	.....	10 k;n	.....	s.	0	0	cloudy.
19	29.15	740.4	29.17	740.9	32.9	0.5	99	nw.	25	11.2	.....	.....	10 n	.....	.....	0.32	8.1	sleeting.
20	29.82	757.4	29.84	757.9	39.9	4.4	65	w.	17	7.6	.....	0	9 k	.....	sw.	0	0	cloudy.
21	29.96	761.0	29.98	761.5	42.0	5.6	95	sw.	6	2.7	.....	.....	10 n;fg	.....	sw.	0	0	cloudy.
22	29.82	757.4	29.84	757.9	34.9	1.6	84	n.	11	4.9	.....	.....	10 n	.....	.....	0.06	1.5	cloudy.
23	29.94	760.5	29.96	761.0	32.0	0.0	99	ne.	7	3.1	.....	.....	10 n	.....	.....	0	0	cloudy.
24	29.14	740.1	29.16	740.7	41.0	5.0	82	sw.	23	10.3	.....	0	4 n	.....	.....	0.38	9.7	fair
25	29.51	749.5	29.53	750.0	35.0	1.7	69	sw.	29	13.0	.....	0	8 n	.....	w.	0.02	0.5	cloudy.
26	29.03	752.6	29.05	753.1	34.9	1.6	79	sw.	13	5.8	.....	0	4 k	.....	.....	0	0	fair.
27	29.90	759.4	29.92	760.0	32.9	0.5	87	calm	0	0	.....	0	7 k	.....	.....	inap.	inap.	fair.
28	30.09	764.3	30.11	764.8	35.7	2.1	80	sw.	7	3.1	.....	0	4 k	.....	sw.	0	0	fair.
29	29.86	758.4	29.88	758.9	41.0	5.0	92	s.	14	6.3	.....	.....	10 n	.....	s.	0	0	threatening.
30	29.43	747.5	29.45	748.0	32.0	0.0	99	nw.	35	15.6	.....	.....	10 n	.....	.....	0.60	15.2	snowing.
31	30.01	762.2	30.03	762.7	29.9	— 1.2	73	nw.	12	5.4	.....	0	8 k;n	.....	.....	inap.	inap.	cloudy.
Mean	29.61	752.1	29.63	752.6	37.0	2.8	87.0	.....	14.4	6.4	.....	.....	7.3	.....	.....	2.52	64.0	
November 1	30.08	764.0	30.10	764.5	35.5	1.9	64	sw.	10	4.5	.....	0	8 n	.....	sw.	0	0	cloudy.
2	29.44	747.8	29.46	748.3	39.0	3.9	100	sw.	4	1.8	.....	.....	fog	.....	.....	0.42	10.7	foggy.
3	29.30	744.2	29.32	744.7	35.9	2.2	88	s.	6	2.7	.....	.....	fog	.....	.....	0.20	5.1	light rain.
4	30.04	763.0	30.06	763.5	27.9	— 2.3	87	sw.	5	2.2	.....	0	0	.....	.....	0.11	2.8	clear.
5	29.89	759.2	29.91	759.7	36.2	2.3	97	s.	14	6.3	.....	.....	10 n	.....	.....	0.03	0.8	cloudy.
6	30.02	762.5	30.04	763.0	29.2	— 1.6	75	nw.	24	10.7	.....	0	4 k	.....	nw.	0.17	4.3	fair.
7	30.05	763.3	30.07	763.8	28.2	— 2.1	89	s.	11	4.9	.....	0	5 k	.....	s.	0	0	fair.
8	30.21	767.3	30.23	767.8	24.0	— 4.4	85	nw.	10	4.5	.....	0	2 k	.....	.....	inap.	inap.	clear.
9	30.48	774.2	30.50	774.7	23.0	— 5.0	87	ne.	5	2.2	.....	.....	10 n	.....	.....	0	0	cloudy.
10	30.24	768.1	30.26	768.6	37.0	2.8	87	sw.	30	13.4	.....	.....	10 s;n	.....	w;sw.	0.01	0.3	cloudy.
11	29.93	760.2	29.95	760.7	34.9	1.6	98	ne.	6	2.7	.....	.....	fog	.....	.....	0.05	1.3	cloudy.
12	30.09	764.3	30.11	764.8	24.0	— 4.4	73	n.	23	10.3	.....	.....	10 n	.....	.....	0.04	1.0	cloudy.
13	30.32	770.1	30.34	770.6	18.0	— 7.8	98	n.	17	7.6	.....	.....	10 n	.....	.....	0	0	cloudy.
14	30.15	765.8	30.17	766.3	22.8	— 5.1	100	calm	0	0	.....	.....	10 n	.....	.....	0	0	cloudy.
15	29.75	755.6	29.77	756.1	32.0	0.0	99	se.	6	2.7	.....	3 ck	4 k	sw.	.....	0.04	1.0	fair.
16	28.76	730.5	28.78	731.0	32.0	0.0	99	ne.	38	17.0	.....	.....	10 n	.....	.....	0.01	0.3	snowing.
17	29.13	739.9	29.15	740.4	28.0	— 2.2	94	nw.	18	8.0	.....	.....	10 n	.....	.....	0.15	3.8	cloudy.
18	29.45	748.0	29.47	748.5	25.1	— 3.8	87	n.	12	5.4	.....	.....	10 n	.....	.....	inap.	inap.	cloudy.
19	29.82	757.4	29.84	757.9	28.8	— 1.8	73	w.	12	5.4	.....	0	5 k	.....	w.	inap.	inap.	fair.
20	30.01	762.2	30.03	762.7	20.3	— 3.2	83	se.	8	3.6	.....	1 cs	5 k;n	.....	.....	0	0	fair.
21	29.94	760.5	29.96	761.0	35.3	1.8	85	se.	6	2.7	.....	0	8 n	.....	.....	0.01	0.3	cloudy.
22	30.07	763.8	30.09	764.3	36.1	2.3	78	se.	11	4.9	.....	.....	10 n	.....	.....	0.02	0.5	sleeting.
23	30.13	765.3	30.15	765.8	41.0	5.0	72	s.	13	5.8	.....	0	9 n	.....	.....	0.16	4.1	cloudy.
24	29.75	755.0	29.77	756.1	35.0	1.7	84	se.	4	1.8	.....	.....	10 n	.....	.....	0.10	2.5	sleeting.
25	29.67	753.6	29.69	754.1	34.0	1.1	60	sw.	14	6.3	.....	.....	10 n	.....	.....	0.14	3.6	cloudy.
26	29.77	756.1	29.79	756.7	29.1	— 1.6	85	sw.	23	10.3	.....	0	4 k	.....	sw.	0	0	fair.
27	29.95	760.7	29.97	761.2	29.1	— 1.6	86	ne.	1	0.4	.....	.....	10 n	.....	.....	0.06	1.5	snowing.
28	29.54	750.3	29.56	750.8	33.4	0.8	83	ne.	16	7.2	.....	.....	fog	.....	.....	0.27	6.9	snowing.
29	29.34	745.2	29.36	745.7	33.1	0.6	86	ne.	28	12.5	.....	.....	10 n	.....	.....	0.08	2.0	sleeting.
30	29.45	748.0	29.47	748.5	32.9	0.5	85	ne.	31	13.9	.....	.....	10 n	.....	.....	0.09	2.3	light snow.
Mean	29.83	757.7	29.85	758.2	30.9	— 0.6	85.6	.....	13.5	6.0	.....	.....	6.8	.....	.....	2.16	54.9	
December 1	29.95	760.7	29.97	761.2	28.1	— 2.2	88	ne.	20	8.9	.....	0	8 n	.....	.....	0	0	cloudy.
2	29.99	761.7	30.01	762.2	26.4	— 3.1	84	ne.	12	5.4	.....	0	4 k	.....	.....	0.01	0.3	fair.
3	30.16	766.1	30.18	766.6	14.8	— 9.6	61	ne.	6	2.7	.....	0	3 k	.....	.....	0	0	clear.
4	30.02	762.5	30.04	763.0	16.0	— 8.9	83	ne.	2	0.9	.....	0	3 n	.....	.....	inap.	inap.	clear.
5	29.77	756.1	29.79	756.7	28.0	— 2.2	77	ne.	8	3.6	.....	0	7 n	.....	.....	0	0	fair.
6	29.60	751.8	29.62	752.3	30.0	— 1.1	86	ne.	16	7.2	.....	.....	10 n	.....	.....	inap.	inap.	snowing.
7	29.54	750.3	29.56	750.8	29.1	— 1.6	71	e.	8	3.6	.....	0	5 n	.....	.....	0.04	1.0	fair.
8	29.88	758.9	29.90	759.4	28.1	— 2.2	77	e.	7	3.1	.....	3 ck	4 k	.....	.....	0.02	0.5	fair.
9	29.94	760.5	29.96	761.0	29.6	— 1.3	73	e.	8	3.6	.....	0	8 k	.....	.....	0.12	3.0	cloudy.
10	30.10	764.5	30.12	765.0	23.1	— 4.9	85	e.	4	1.8	.....	0	3 k	.....	.....	0	0	clear.
11	29.72	754.9	29.74	755.4	32.3	0.2	85	se.	18	8.0	.....	.....	10 n	.....	.....	0.01	0.3	cloudy.
12	29.27	743.4	29.29	744.0	34.1	1.2	86	s.	14	6.3	.....	.....	10 n	.....	s.	0.49	12.4	sleeting.
13	29.35	745.5	29.37	746.0	32.0	0.0	98	se.	7	3.1	.....	0	9 k;n	.....	sw;s.	0.10	2.5	cloudy.
14	29.47	748.5	29.49	749.0	33.1	0.6	76	sw.	16	7.2	.....	0	6 k	.....	sw.	0.07	1.8	fair.
15	29.68	753.9	29.70	754.4	15.1	— 9.4	83	e.	5	2.2	.....	6 k	3 n	sw.	.....	0.02	0.5	cloudy.
16	29.56	750.8	29.58	751.3	28.0	— 2.2	80	n.	12	5.4	.....	0	9 k;n	.....	n.	0.01	0.3	cloudy.
17	29.64	752.8	29.66	753.4	30.2	— 1.0	74	n.	14	6.3	.....	0	9 k;n	.....	n.	inap.	inap.	cloudy.
18	29.73	755.1	29.75	755.6	21.6	— 5.8	77	e.	5	2.2	.....	1 cs	3 k	sw.	.....	0	0	fair.
19	29.29	744.0	29.31	744.5	32.0	0.0	86	ne.	25	11.2	.....	.....	10 n	.....	.....	0.01	0.3	snowing.
20	29.84	757.9	29.86	758.4	30.0	— 1.1	68	sw.	32	14.3	.....	0	8 k;n	.....	sw.	0.08	2.0	cloudy.
21	30.00	762.0	30.02	762.5	34.2	1.2	59	e.	17	7.6	.....	0	5 n	.....	.....	0.02	0.5	fair.
22	29.23	742.4	29.25	742.9	36.9	2.7	94	e.	18	8.0	.....	.....	10 n	.....	.....	0.13	3.3	cloudy.
23	29.20	741.7	29.22	742.2	32.3	0.2	96	nw.	8	3.6	.....	.....	10 n	.....	.....	0.45	11.4	snowing.
24	29.39	746.5	29.41	747.0	30.0	— 1.1	98	e.	2	0.9	.....	0	4 k	.....	.....	0	0	fair.
25	29.24	742.7	29.26	743.2	26.0	— 3.3	85	e.	2	0.9	.....	0	5 k	.....	.....	0.04	1.0	fair.
26	28.66	728.0	28.68	728.5	34.1	1.2	74	sw.	37	16.5	.....	0	7 k	.....	sw.	0.07	1.8	fair.
27	28.90	734.0	28.92	734.6	19.2	— 7.1	96	e.	2	0.9	.....	0	5 k	.....	ne.	0.02	0.5	fair.
28	28.72	729.5	28.74	730.0	31.2	— 0.4	96	n.	42	18.8	.....	.....	10 n	.....	.....	.....	.....	snowing.
29	29.03	737.3	29.05	737.9	29.2	— 1.6	83	n.	30	13.4	.....	.....	10 n	.....	n.	0	0	cloudy.
30	29.21	741.9	29.23	742.4	30.0	— 1.1	79	ne.	23	10.3	.....	.....	10 n	.....	.....	inap.	inap.	cloudy.
31	29.25	742.9	29.27	743.4	22.6	— 5.2	82	n.	11	4.9	.....	.....	10 n	.....	.....	inap.	inap.	cloudy.
Mean	29.53	750.0	29.55	750.6	28.0	— 2.2	82.3	.....	13.9	6.2	.....	.....	7.0	.....	.....	1.71	43.4	

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UPERNAVIK, GREENLAND (N. 72° 47′, W. 56° 00′).

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount. Upper.	Clouds. Amount. Lower.	Clouds. Direction. Upper	Clouds. Direction. Lo'er	Rainfall or melted snow in past 24 hours.		WEATHER
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles perhour	Metrs pr sec.	0–10	0–10	0–10	From	From	Inch.	Mill.	
1883.																		
September 1	29.85	758.3	29.90	759.5	38.7	3.7	87	ne.			2		0					
2	29.70	754.3	29.74	755.5	34.7	1.5	82	n.			2		10					hazy.
3	29.50	749.2	29.54	750.4	34.5	1.4	82	calm			0		8					snowing.
4	29.48	748.9	29.53	750.1	34.5	1.4	76	ne.			2		8					
5	29.22	742.2	29.27	743.4	36.9	2.7	82	calm			0		10					
6	29.54	750.2	29.58	751.4	36.3	2.4	84	calm			0		8					
7	29.17	740.9	29.22	742.1	34.5	1.4	82	n.			4		8					
8	29.16	740.7	29.21	741.9	36.5	2.5	75	e.			4		3					
9	29.34	745.3	29.39	746.5	36.5	2.5	75	e.			2		6					
10	29.43	747.5	29.48	748.7	35.4	1.9	82	n.			2		8					
11	29.56	750.9	29.61	752.1	34.5	1.4	82	n.			6		1					
12	29.63	752.7	29.68	753.9	32.7	0.4	100	n.			2		3					
13	29.15	748.0	29.50	749.2	31.8	— 0.1	100	ne.			2		9					
14	29.72	757.4	29.87	758.6	32.9	0.5	92	e.			2		9					
15	29.99	761.8	30.04	763.0	36.5	2.5	100	e.			4		2					
16	29.93	760.2	29.98	761.4	36.9	2.7	94	e.			2		0					
17	30.02	762.4	30.06	763.6	40.1	4.5	90	e.			4		0					
18	29.91	759.6	29.95	760.8	36.5	2.5	82	e.			2		2					
19	29.93	760.1	29.97	761.3	41.2	5.1	89	sw.			6		9					raining.
20	30.10	764.6	30.15	765.8	38.7	3.7	95	sw.			4		10					
21	29.88	758.9	29.93	760.1	42.6	5.9	88	sw.			7		10					raining.
22	29.82	757.5	29.87	758.7	35.4	1.9	86	w.			2		9					
23	29.66	753.3	29.71	754.5	32.7	0.4	87	n.			2		3					
24	29.55	750.6	29.60	751.8	28.6	— 1.9	96	e.			2		2					
25	29.56	750.8	29.61	752.0	29.7	— 1.3	84	e.			2		8					snowing.
26	29.51	749.6	29.56	750.8	31.5	— 0.3	89	e.			2		8					
27	29.05	738.0	29.10	739.2	30.9	— 0.6	100	calm			0		3					
28	29.54	750.4	29.59	751.6	39.9	4.4	100	se.			4		9					
29	29.88	759.0	29.93	760.2	39.7	4.3	74	calm			0		5					
30	29.86	758.5	29.91	759.7	36.3	2.4	82	sw.			6		8					
Mean	29.63	752.7	29.68	753.9	35.6	2.0	87						6.0					
October 1	29.93	760.2	29.98	761.4	33.6	0.9	96	n.			2		10					snowing.
2	30.08	764.1	30.13	765.3	31.8	— 0.1	90	n.			2		10					
3	29.26	743.3	29.31	744.5	25.7	— 3.5	98	e.			2		3					
4	29.28	743.7	29.33	744.9	36.1	2.3	82	sw.			6		10					raining.
5	29.32	744.8	29.37	746.0	30.9	— 0.6	81	ne.			4		4					
6	29.46	748.2	29.50	749.4	32.2	0.1	89	sw.			4		10					snowing.
7	29.62	752.4	29.67	753.6	31.1	— 0.5	96	se.			2		10					
8	29.65	753.0	29.69	754.2	21.0	— 6.1	100	e.			2		0					
9	29.95	760.8	30.00	762.0	21.0	— 6.1	100	e.			2		10					snowing.
10	30.07	763.7	30.11	764.9	21.9	— 5.6	100	e.			2		8					
11	29.80	757.0	29.85	758.2	21.9	— 5.6	100	e.			2		6					
12	29.84	758.0	29.89	759.2	21.9	— 5.6	100	e.			2		6					
13	29.84	757.8	29.88	759.0	22.1	— 5.5	100	e.			2		6					
14	29.56	750.7	29.60	751.9	21.9	— 5.6	100	calm			0		8					
15	29.43	747.4	29.47	748.6	23.7	— 4.6	100	e.			4		9					
16	29.27	743.5	29.32	744.7	22.1	— 5.5	100	e.			2		7					
17	29.56	750.9	29.61	752.1	19.6	— 6.9	100	e.			2		5					
18	29.65	753.1	29.70	754.3	16.7	— 8.5	88	e.			2		0					
19	29.43	747.5	29.48	748.7	22.8	— 5.1	64	e.			4		8					
20	28.99	736.4	29.04	737.6	29.1	— 1.6	100	sw.			7		10					snowing.
21	29.33	741.9	29.37	746.1	25.3	— 3.7	91	sw.			4		10					snowing.
22	29.64	752.8	29.69	754.0	24.3	— 4.3	95	sw.			4		9					snowing.
23	29.67	753.6	29.72	754.8	20.3	— 6.5	73	e.			2		0					
24	29.47	748.6	29.52	749.8	27.9	— 2.3	75	e.			2		8					
25	29.50	749.2	29.54	750.4	22.8	— 5.1	90	e.			2		3					
26	29.58	751.4	29.63	752.6	22.1	— 5.5	61	ne.			2		9					
27	29.75	755.7	29.80	756.9	19.6	— 6.9	84	ne.			2		8					
28	30.02	762.6	30.07	763.8	20.7	— 6.3	93	e.			2		9					
29	29.79	756.7	29.84	757.9	15.6	— 9.1	100	e.			2		4					
30	29.40	746.8	29.45	748.0	20.3	— 6.5	73	calm			0		0					
31	29.39	746.5	29.44	747.7	23.9	— 4.5	86	sw.			4		4					
Mean	29.60	751.8	29.65	753.0	24.3	— 4.3	90						6.6					
November 1	29.34	745.1	29.38	746.3	20.3	— 6.5		calm			0		7					
2	29.00	751.8	29.05	753.0	22.1	— 5.5		calm			0		8					
3	29.31	744.4	29.35	745.6	13.8	—10.1		e.			2		0					
4	29.36	745.8	29.41	747.0	19.2	— 7.1		e.			2		2					
5	29.33	745.0	29.38	746.2	18.9	— 7.3		e.			2		6					
6	29.17	740.8	29.21	742.0	16.5	— 8.6		e.			2		0					
7	29.40	746.8	29.45	748.0	19.9	— 6.7		n.			4		6					
8	29.62	752.4	29.67	753.6	14.9	— 9.5		n.			2		10					snowing.
9	29.95	761.0	30.01	762.2	10.9	—11.7		e.			2		0					
10	29.46	748.2	29.50	749.4	16.5	— 8.6		e.			2		9					
11	29.46	748.2	29.50	749.4	25.5	— 3.6		sw.			4		10					snowing.
12	29.60	751.7	29.64	752.9	20.1	— 6.6		wsw.			4		9					snowing.
13	29.24	742.6	29.28	743.8	17.8	— 7.9		calm			0		9					
14	29.37	746.1	29.42	747.3	17.8	— 7.9		n.			6		10					snowing.
15	29.37	745.9	29.41	747.1	21.7	— 5.7		ne.			2		8					
16	28.95	735.4	29.00	736.6	21.0	— 6.1		n.			4		10					snowing.
17	29.24	742.7	29.29	743.9	19.9	— 6.7		n.			6		10					snowing.
18	29.00	736.5	29.04	737.6	17.4	— 8.1		calm			0		9					
19	29.33	745.0	29.38	746.2	17.4	— 8.1		e.			2		8					
20	29.61	752.1	29.66	753.3	13.5	—10.3		e.			4		7					
21	29.80	757.0	29.85	758.2	10.6	—11.9		e.			2		10					snowing.
22	29.71	754.7	29.76	755.9	10.2	—12.1		e.			2		10					
23	29.72	754.9	29.77	756.1	9.1	—12.7		ne.			2		7					
24	29.78	756.5	29.83	757.7	5.9	—14.5		ne.			2		6					
25	29.97	761.2	30.02	762.4	1.2	—17.1		e.			2		2					
26	30.09	764.3	30.14	765.5	4.1	—15.5		e.			2		8					
27	30.22	767.5	30.26	768.7	3.9	—15.6		e.			2		0					
28	29.44	747.7	29.48	748.9	26.1	— 3.3		e.			4		10					
29	29.47	748.5	29.52	749.7	24.6	— 4.1		e.			4		2					
30	29.54	750.2	29.58	751.4	15.6	— 9.1		nw.			4		10					snowing.
Mean	29.52	749.7	29.56	750.9	15.8	— 9.0							6.8					

UPERNAVIK, GREENLAND—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount. Upper.	Clouds. Amount. Lower.	Clouds. Direction. Up'er	Clouds. Direction. Lo'er	Rainfall in past 24 hours.		WEATHER.
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles perhour	Metrs prsec.	0-10	0-10	0-10	From	From	Inch.	Mill.	
1883																		
December 1	29.43	747.5	29.48	748.7	6.3	—14.3		wsw.			6		10					snowing.
2	30.07	763.7	30.11	764.9	5.2	—14.9		n.			2		7					
3	30.17	766.4	30.22	767.6	3.9	—15.6		e.			4		0					
4	29.63	752.5	29.67	753.7	28.2	— 2.1		e.			2		10					snowing.
5	29.73	755.1	29.78	756.3	14.7	— 9.6		nw.			2		10					snowing.
6	29.15	740.3	29.19	741.5	32.7	0.4		se.			6		10					snowing.
7	29.35	745.5	29.40	746.7	16.0	— 8.9		sw.			6		8					snowing.
8	29.57	751.1	29.62	752.3	— 0.2	—17.9		n.			4		10					snowing.
9	29.63	752.7	29.68	753.9	— 2.4	—19.1		ne.			2		10					hazy.
10	29.44	747.7	29.48	748.9	— 8.9	—22.7		calm			0		0					
11	29.62	752.3	29.67	753.5	—11.4	—24.1		calm			0		0					
12	29.85	758.2	29.90	759.4	— 9.6	—23.1		calm			0		2					
13	29.48	748.8	29.53	750.0	—10.5	—23.6		calm			0		0					
14	29.63	752.7	29.68	753.9	— 7.1	—21.7		n.			2		9					
15	29.94	760.4	29.98	761.6	— 6.7	—21.5		calm			0		4					
16	29.02	737.0	29.66	738.2	3.9	—15.6		calm			0		2					
17	29.12	739.7	29.17	740.9	10.2	—12.1		sw.			6		10					snowing.
18	29.89	759.3	29.94	760.5	1.9	—16.7		sw.			6		10					snowing.
19	29.14	740.2	29.19	741.4	— 9.2	—22.9		e.			2		0					
20	29.65	753.1	29.70	754.3	— 8.5	—22.5		e.			2		2					
21	29.56	750.7	29.60	751.9	— 9.2	—22.9		calm			0		0					
22	29.72	754.9	29.77	756.1	— 9.6	—23.1		sw.			2		2					
23	29.63	752.5	29.67	753.7	—17.1	—27.3		calm			0		0					
24	29.56	750.8	29.61	752.0	—19.5	—28.6		calm			0		0					
25	29.84	757.8	29.88	759.0	—17.5	—27.5		calm			0		0					
26	30.20	767.0	30.24	768.2	—16.1	—20.7		calm			0		2					
27	30.18	766.5	30.22	767.7	—22.2	—30.1		e.			2		0					
28	30.05	763.2	30.10	764.4	—25.8	—32.1		calm			0		0					
29	30.18	766.6	30.23	767.8	—25.8	—32.1		calm			0		0					
30	30.08	764.1	30.13	765.3	—26.5	—32.5		e.			2		0					
31	30.75	768.4	30.30	769.6	—23.9	—30.9		e.			2		0					
Mean	29.70	754.4	29.75	755.6	— 5.3	—20.7							3.8					
1884.																		
January 1	30.45	773.3	30.49	774.5	—14.1	—25.6		e.			4		0					
2	30.44	773.2	30.49	774.4	—16.1	—26.7		calm			0		0					
3	30.42	772.6	30.47	773.8	—20.4	—29.1		e.			2		0					
4	30.09	764.2	30.13	765.4	—21.3	—29.6		e.			4		1					
5	29.26	743.3	29.31	744.5	—16.8	—27.1		e.			2		1					
6	28.94	735.1	28.99	736.3	— 3.1	—19.5		e.			2		2					
7	29.13	740.0	29.18	741.2	14.2	— 9.9		sw.			4		10					snowing.
8	28.67	728.3	28.72	729.5	— 5.1	—20.6		calm			0		3					
9	29.09	738.8	29.13	740.0	— 8.7	—22.6		e.			2		7					hazy.
10	29.94	760.5	29.99	761.7	—15.0	—26.1		sw.			2		4					
11	29.50	749.2	29.54	750.4	—13.9	—25.5		e.			2		2					
12	29.05	737.8	29.10	739.0	— 2.4	—19.1		calm			0		10					hazy.
13	28.98	736.2	29.03	737.4	5.7	—14.6		calm			0		6					hazy.
14	29.58	751.4	29.63	752.6	— 2.7	—19.3		e.			2		8					
15	29.84	757.8	29.88	759.0	— 4.2	—20.1		e.			4		9					hazy.
16	29.41	746.9	29.45	748.1	—12.8	—24.9		e.			2		0					
17	29.50	749.2	29.54	750.4	—16.4	—26.9		e.			2		0					
18	29.35	745.4	29.39	746.6	—20.4	—29.1		calm			0		0					
19	29.48	748.7	29.52	749.9	—21.3	—29.6		e.			2		0					
20	29.70	754.3	29.74	755.5	—18.2	—27.9		e.			2		0					hazy.
21	29.71	754.5	29.75	755.7	—26.3	—32.4		e.			2		0					
22	29.61	752.0	29.65	753.2	—25.4	—31.9		e.			2		0					hazy.
23	29.76	756.0	29.81	757.2	—28.5	—33.6		e.			2		0					
24	29.70	754.4	29.75	755.6	—33.0	—36.1		calm			0		0					
25	29.72	754.8	29.76	756.0	—29.4	—34.1		e.			2		0					
26	29.61	752.2	29.66	753.4	—30.1	—34.5		calm			0		0					
27	29.69	754.1	29.74	755.3	—28.5	—33.0		calm			0		0					
28	29.85	758.1	29.89	759.3	—22.2	—30.1		calm			0		0					
29	29.74	755.3	29.78	756.5	—22.5	—30.3		e.			2		2					
30	29.49	749.1	29.54	750.3	— 4.5	—20.3		calm			0		8					hazy.
31	29.24	742.7	29.29	743.9	6.6	—14.1		sw.			6		10					snowing.
Mean	29.58	751.3	29.63	752.5	—14.8	—26.0							2.7					

JACOBSHAVN, GREENLAND (N. 69° 13′, W. 50° 55′).

DATE.	Corrected for instrumental error and temperature. Inch.	Mill.	Reduced to sea-level. Inch.	Mill.	Fah.	Cent.	Per cent.	Direction. From.	Miles perhour	Metrs prsec.	Force 0-10	Upper. 0-10	Lower. 0-10	Up'er From	Lo'er From	Inch.	Mill.	WEATHER.
1884.																		
January 1	30.35	770.8	30.39	772.0	—22.5	—30.3		calm			0		0					
2	30.21	767.3	30.26	768.5	—26.3	—32.4		calm			0		3					
3	30.13	765.3	30.18	766.5	—14.8	—26.0		calm			0		5					
4	29.72	754.9	29.77	756.1	9.1	—12.7		calm			0		2					
5	29.00	736.6	29.05	737.8	31.6	— 0.2		calm			0		6					
6	28.98	736.2	29.03	737.4	6.4	—14.2		calm			0		3					
7	29.49	749.1	29.54	750.3	8.1	—13.3		e.			4		5					
8	28.89	733.8	28.94	735.0	— 1.1	—18.4		e.			4		7					
9	29.87	758.7	29.92	759.9	—10.5	—23.6		calm			0		2					
10	29.96	761.0	30.01	762.2	—21.6	—29.8		calm			0		1					
11	29.04	737.7	29.09	738.9	8.8	—12.9		ne.			4		5					
12	29.13	739.9	29.18	741.1	23.4	— 4.8		s.			4		10					
13	29.04	737.6	29.09	738.8	4.1	—15.5		s.			4		9					
14	29.55	750.6	29.60	751.8	— 4.4	—20.2		calm			0		5					
15	29.64	752.9	29.69	754.1	— 0.1	—17.8		calm			0		2					
16	29.04	737.7	29.09	738.9	—15.3	—20.3		n.			4		4					
17	29.44	747.8	29.49	749.0	—14.1	—25.0		calm			0		3					
18	29.35	745.6	29.40	746.8	—21.3	—20.6		calm			0		2					
19	29.45	747.9	29.49	749.1	—31.0	—35.0		calm			0		0					
20	29.74	755.3	29.78	756.5	—22.7	—30.4		calm			0		3					
21	29.67	753.6	29.72	754.8	—32.8	—36.0		calm			0		0					
22	29.61	752.2	29.66	753.4	—37.3	—38.5		calm			0		0					
23	29.74	755.3	29.78	756.5	—37.3	—38.5		calm			0		1					
24	29.71	754.6	29.76	755.8	—38.2	—39.0		calm			0		0					
25	29.62	752.4	29.67	753.6	—37.3	—38.5		calm			0		0					
26	29.59	751.6	29.64	752.8	—39.1	—39.5		calm			0		3					
27	29.65	753.1	29.70	754.3	—34.6	—37.0		calm			0		0					
28	29.82	757.4	29.87	758.6	—38.2	—39.0		calm			0		0					
29	29.58	751.3	29.63	752.5	—40.0	—40.0		calm			0		2					
30	29.56	750.8	29.61	752.0	—16.2	—26.8		calm			0		4					
31	29.38	746.2	29.43	747.4	5.7	—14.6		calm			0		9					
Mean	29.55	750.5	29.60	751.7	—14.8	—26.0							3.1					

SAINT PAUL DE LOANDO (S. 8° 49′, E. 13° 07′).

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount. Upper.	Clouds. Amount. Lower.	Clouds. Direction. Up'er	Clouds. Direction. Lo'er	Rainfall or melted snow in past 24 hours.		WEATHER.
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles perhour	Metrs prsec.	0–10	0–10	0–10	From	From	Inch.	Mill.	
1883.																		
July 1	29.83	757.6	30.03	762.8	74.3	23.5	89	SSW.			1		2	SE.		0	0	
2	29.82	757.5	30.03	762.7	74.7	23.7	83	S.			1		2	SW.		0	0	
3	29.83	757.7	30.04	762.9	73.4	23.0	95	NE.			1		8			0	0	
4	29.82	757.4	30.02	762.6	74.1	23.4	88	NW.			1		0			0	0	
5	29.79	756.6	29.99	761.7	73.8	23.2	88	NW.			2		1			0	0	
6	29.76	756.0	29.97	761.1	71.8	22.1	90	NW.			1		0			0	0	
7	29.82	757.4	30.02	762.5	74.7	23.7	81	W.			1		0			0	0	
8	29.85	758.2	30.05	763.3	75.2	24.0	82	WNW.			1		0			0	0	
9	29.87	758.8	30.08	764.0	73.4	23.0	90	WNW.			1		0			0	0	
10	29.87	758.7	30.07	763.8	73.4	23.0	89	NNW.			1		2	SE.		0	0	
11	29.83	757.6	30.03	762.7	74.5	23.6	87	NE.			2		10			0	0	
12	29.85	758.1	30.05	763.3	73.4	23.0	88	NW.			1		10			0	0	
13	29.81	757.2	30.02	762.4	70.0	21.1	94	NNW.			2		0			0	0	
14	29.82	757.5	30.03	762.7	75.2	24.0	87	WNW.			1		0			0	0	
15	29.83	757.7	30.04	762.9	74.5	23.6	87	NW.			2		7			0	0	
16	29.84	758.0	30.05	763.2	71.1	21.7	92	NW.			2		2	SE.		0	0	
17	29.87	758.6	30.07	763.8	72.7	22.6	91	WSW.			2		10			0	0	
18	29.84	757.9	30.04	763.1	71.4	21.9	92	NW.			1		8			0	0	
19	29.83	757.7	30.04	762.9	69.1	20.6	91	NE.			1		10			0	0	
20	29.85	758.2	30.06	763.4	72.0	22.2	93	NNW.			1		4	SE.		0	0	
21	29.86	758.5	30.07	763.7	71.8	22.1	94	NNW.			1		2	SE.		0	0	
22	29.88	759.0	30.09	764.2	67.3	19.6	99	W.			2		10			0	0	
23	29.84	758.0	30.05	763.3	68.0	20.0	98	NNW.			1		10			0	0	
24	29.81	757.2	30.02	762.4	71.4	21.9	93	N.			1		10			0	0	
25	29.80	756.9	30.00	762.1	74.5	23.6	92	W.			2		1	SE.		0	0	
26	29.80	756.8	30.00	762.0	71.2	21.8	93	NW.			2		1	SSE.		0	0	
27	29.80	756.8	30.00	762.0	69.1	20.6	98	WNW.			1		10			0	0	
28	29.76	756.0	29.97	761.2	72.1	22.3	92	NW.			1		9			0	0	
29	29.76	756.0	29.97	761.2	72.7	22.6	89	W.			1		3	SE.		0	0	
30	29.82	757.3	30.02	762.5	72.0	22.2	86	NE.			1		10			0	0	
31	29.80	756.8	30.00	762.0	72.5	22.5	92	NE.			1		10			0	0	
Mean	29.82	757.5	30.03	762.7	72.3	22.4	90.4				1.3		4.9			0	0	
August 1	29.77	756.1	29.97	761.3	74.1	23.4	88	N.			1		2	SE.		0	0	
2	29.76	755.8	29.90	760.9	72.3	22.4	93	W.			2		0			0	0	
3	29.77	756.2	29.97	761.3	72.0	22.2	94	NW.			1		10			0	0	
4	29.80	756.8	30.00	762.0	71.6	22.0	91	NNE.			1		10			0	0	
5	29.78	756.4	29.98	761.5	75.6	24.2	90	NW.			1		10			0	0	
6	29.79	756.7	29.99	761.8	74.1	23.4	95	WNW.			1		10			0	0	
7	29.82	757.5	30.03	762.7	71.2	21.8	95	NNW.			1		10			0	0	
8	29.82	757.3	30.02	762.5	71.4	21.9	97	N.			1		10			0	0	
9	29.81	757.2	30.01	762.3	71.1	21.7	92	N.			1		10			0.016	0.4	
10	29.77	756.2	29.98	761.4	68.7	20.4	97	NW.			1		10			0	0	
11	29.78	756.5	29.99	761.7	71.4	21.9	90	W.			1		9			0	0	
12	29.84	757.8	30.04	763.0	72.1	22.3	88	NW.			1		10			0	0	
13	29.84	757.9	30.04	763.1	69.8	21.0	94	W.			1		10			0	0	
November 1	29.72	754.8	29.91	759.6	78.8	26.0	92	W.			2		3	SE.		0	0	
2	29.70	754.4	29.90	759.5	77.7	25.4	96	W.			2		3	S.		0	0	
3	29.74	755.3	29.94	760.4	75.7	24.3	96	W.			2		10			0	0	
4	29.73	755.2	29.93	760.3	78.1	25.6	92	W.			2		9			0	0	
5	29.71	754.5	29.91	759.6	80.6	27.0	87	W.			1		7			0	0	
6	29.71	754.6	29.91	759.7	76.5	24.7	97	WSW.			2		10			0	0	
7	29.73	755.2	29.93	760.3	82.2	27.9	83	WNW.			2		6	SSE.		0	0	
8	29.72	754.9	29.92	760.0	79.5	26.4	93	W.			3		6	SE.		0	0	
9	29.73	755.1	29.93	760.2	78.3	25.7	88	W.			2		10			0	0	
10	29.74	755.3	29.93	760.3	78.6	25.9	92	WNW.			2		5	SSE.		0	0	
11	29.72	755.0	29.93	760.1	80.4	26.9	90	NW.			2		7			0	0	
12	29.69	754.1	29.89	759.2	79.2	26.2	92	NNW.			1		9			0	0	
13	29.68	753.9	29.88	759.0	80.2	26.8	91	WNW.			2		4	SSE.		0	0	
14	29.71	754.6	29.91	759.7	78.6	25.9	92	W.			3		10			0	0	
15	29.69	754.0	29.89	759.1	79.3	26.3	92	WNW.			2		2	SE.		0	0	
16	29.65	753.0	29.84	758.0	81.3	27.4	85	WNW.			3		3	SE.		0	0	
17	29.61	752.2	29.82	757.3	79.2	26.2	91	WNW.			3		2	SE.		0	0	
18	29.63	752.6	29.83	757.7	79.2	26.2	93	W.			3		3	E.		0	0	
19	29.67	753.5	29.87	758.6	80.1	26.7	88	NW.			4		10			0	0	
20	29.67	753.6	29.87	758.7	78.6	25.9	96	W.			3		9			0	0	
21	29.63	752.6	29.83	757.6	80.6	27.0	87	W.			4		3	SE.		0	0	
22	29.60	751.7	29.79	756.7	79.5	26.4	78	W.			3		2	SSE.		0	0	
23	29.62	752.3	29.82	757.4	81.0	27.2	67	W.			3		8			0	0	
24	29.59	751.5	29.79	756.6	81.0	27.2	68	W.			4		7			0	0	
25	29.59	751.6	29.79	756.7	78.8	26.0	80	WNW.			3		3	S.		0	0	
26	29.66	753.4	29.86	758.5	78.8	26.0	79	W.			1		10			0	0	
27	29.67	753.6	29.87	758.8	76.6	24.8	90	W.			4		7			0	0	
28	29.68	753.8	29.88	758.9	79.0	26.1	84	W.			4		9			0.031	0.8	
29	29.74	755.3	29.94	760.4	73.8	23.2	96	W.			3		10			0	0	
30	29.73	755.2	29.93	760.3	78.6	25.9	83	WNW.			2		8			0.150	3.8	
Mean	29.68	753.9	29.88	759.0	79.0	26.1	87.9				2.6		6.5			0.181	4.6	

NOTE.—The above observations, taken at 7 a. m., Washington time, were received too late for publication in the DAILY BULLETIN, and are given here in full; for continuation of the same, see DAILY BULLETIN.

REVIEW.

INTERNATIONAL METEOROLOGY FOR JANUARY, 1884.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following description refers to chart ii. for the month of January, 1884, issued with this SUMMARY. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and prevailing wind-direction over the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich, mean time.

The area of least mean pressure is indicated by the isobar for 29.3 (744.2) and occupies the extreme northern part of Scandinavia, extending thence westward over the Arctic ocean to the longitude of Greenwich. To the westward of the area of barometric minima the mean pressure increases slowly, the isobar for 29.6 (751.8) enclosing Greenland and the ocean southward to the fifty-fifth parallel; this isobar runs eastward along the parallel just mentioned to southern Scandinavia, and thence northeastward over Finland and northwestern Russia to the mouth of the Petchora. The mean pressure increases rapidly over the regions south of 55° north, both over the Atlantic and the European continent. In the North American continent the mean pressure is least over Labrador and Newfoundland, where it ranges from 29.9 (759.4) to 30.0 (762.0); over the lake region, Canada, and the Gulf of Saint Lawrence it ranges from 30.0 (762.0) to 30.1 (764.5). In Asia the mean pressure is least over northwestern Siberia, southern Hindostan, and eastern Japan.

Six distinct areas of barometric maxima are shown on the chart; the first of these is the area of maximum pressure which occupies eastern Siberia, the highest mean being 30.57 (776.5) at Nertschinsk. In the Chinese empire the mean pressure varies from 30.5 (774.7) in the northern districts to 30.15 (765.8) at Amoy, Hong-Kong, and stations on the shores of the China Sea. The next in importance is the high area which occupies the European continent south of the fiftieth parallel and part of northern Africa; the centre of this area appears in the Iberian peninsula, where the mean pressure is 30.4 (772.1). The isobar for 30.3 (769.6) encloses the western part of the Mediterranean, Algeria, Morocco, and the Madeira islands, and thence northeastward over the Bay of Biscay to western and central France, while that for 30.2 (767.1) embraces the Italian peninsula, Austria, the northern districts of France and the Atlantic westward to the Azores. The third area of barometric maxima occupies the Atlantic ocean and is indicated by the isobar for 30.2 (767.1) and stretches from the West Indies eastward along the parallel of 24° north latitude, to about the thirty-fifth meridian west of Greenwich and northward to 35° N., the pressure gradually decreasing in a southwesterly direction from 35° to 30° N. The remaining areas of high pressure (three) are shown in the United States; each of these is enclosed by the isobar for 30.3 (769.6); one covers Louisiana, Arkansas, and the greater part of Texas; one the Missouri valley, and the other the territories of Wyoming, Montana, Idaho, and Utah. In all other parts of the United States the mean pressure ranges from 30.1 (764.5) to 30.29 (769.4).

Compared with the chart for the preceding month, (December, 1883) there has been a general increase of pressure over the United States, the increase being greatest over that part of the country from the Rio Grande valley northward to Dakota. At Cape Mendocino, California; Roseburg, Oregon; Deadwood, Dakota, and Fort Saint Michael's, Alaska, there has been a slight decrease of pressure. On the summit of Mount Washington, New Hampshire, the mean pressure was .05 less than in the preceding month. In Canada there has been an increase of pressure. In Europe, there has been an increase of pressure in France, Germany, Austria and the southern peninsulas, the greatest increase occurring over Italy and Spain. Over the northern peninsulas, the British Isles, and Russia, the pressure has decreased, the greatest departure being in Scandinavia, where it averaged .15 inch. In Algeria there was an increase of about .18 inch. In Asia there has been a general increase except in Hindostan where the pressure was about .03 less than in December. Over the Atlantic ocean south of 50° N., the pressure has increased; north of that parallel there has been a decrease.

Compared with the corresponding month of previous years, the mean atmospheric pressure in January, 1884, was slightly below normal in the north Pacific coast region, New England, and the middle Atlantic States; elsewhere it was above normal, the departures being greatest in the Rio Grande valley. In Canada the mean pressure was above the normal in eastern Quebec and the Maritime Provinces and normal or below in other parts of the Dominion. In Europe the mean pressure was above the normal in the western, (including the British Isles) and southern districts of the continent, and was much below the normal in Russia and in the Scandinavian and Danish peninsulas.

The following table gives the mean pressure and mean temperature, with corresponding departures for January, 1884, in the several countries of the northern hemisphere, compared with the means as determined from observations taken during the last seven years:

Countries.	Mean pressure.			Mean temperature.		
	Jan. mean of 7 (1877–'83) years.	Jan., 1884.	Departure.	Jan. mean of 7 (1877–'83) years.	Jan., 1884.	Departure.
				°	°	°
Algeria	30.18	30.32	+ 0.14	56.9	55.5	− 1.4
Austria	30.18	30.18	normal	33.0	37.4	+ 4.4
British Isles	30.01	30.03	+ 0.02	40.7	45.8	+ 5.1
Denmark	30.04	29.80	− 0.24	32.1	38.7	+ 6.6
France	30.14	30.30	+ 0.16	42.0	46.1	+ 4.1
Germany	30.12	30.08	− 0.04	32.4	39.5	+ 7.1
India*	29.96	30.04	+ 0.08	72.4	70.6	− 1.8
Italy	30.10	30.21	+ 0.11	48.5	47.8	− 0.7
Norway	29.83	29.45	− 0.38	30.1	32.4	+ 2.3
Portugal	30.19	.....	.....	51.9	.....	.....
Russia	30.12	29.85	− 0.27	21.4	24.0	+ 2.6
Spain	30.37	30.36	+ 0.19	52.3	53.3	+ 1.0
Sweden	29.91	29.55	− 0.36	25.1	26.6	+ 1.5

* Means for six years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of January, 1884, as compared with the means for seven years:

Stations.	Mean pressure.			Mean temperature.		
	Jan. mean of 7 (1877–'83) years.	Jan. 1884.	Departure.	Jan. mean of 7 (1877–'83) years.	Jan. 1884.	Departure.
				°	°	°
Gibraltar	30.17	30.36	+ 0.19	59.6	60.6	+ 1.0
Malta, Mediterranean Sea	30.06	30.18	+ 0.12	59.2	56.6	− 2.6
Sandwick Manse, Orkney Islands	29.89	29.62	− 0.27	39.2	41.5	+ 2.3
Bridgetown, Barbadoes	30.01	30.07	+ 0.06	79.9	80.7	+ 0.8
Cape Town, Cape of Good Hope*	.....	.....	.....	79.2	76.5	− 2.7
Fort Napier, Natal, South Africa	29.80	29.90	+ 0.10	78.1	78.8	+ 0.7
Freetown, Sierra Leone*	29.89	29.86	− 0.03	86.0	86.7	+ 0.7
Mauritius, Indian Ocean	29.94	29.88	− 0.06	81.5	80.9	− 0.6
Melbourne, New South Wales	29.97	29.89	− 0.08	62.9	60.9	− 2.0
Nassau, Bahamas*	30.17	30.21	+ 0.04	71.3	69.8	− 1.5
Godthaab, Greenland	29.46	29.49	+ 0.03	15.3	5.9	− 9.4
Stykkisholm, Iceland	29.53	29.34	− 0.19	28.6	28.4	− 0.2
Thorshavn, Färöe Islands	29.73	29.52	− 0.21	38.7	38.1	− 0.6
Zi-Ka-Wei, China	30.38	30.37	− 0.01	34.7	39.4	+ 4.7
Athens, Greece	30.10	30.14	+ 0.04	52.3	49.1	− 3.2
Cagliari, Sardinia, Italy	30.08	30.21	+ 0.13	51.8	55.0	+ 0.2
Tokei, Japan	30.06	30.07	+ 0.01	35.4	35.6	+ 0.2
Angra, Azores	.....	.....	.....	.....	.....	.....
Funchal, Madeira Islands	30.20	30.30	+ 0.10	64.8	63.3	− 1.5
Ponta Delgado, Azores	30.11	30.22	+ 0.11	60.5	61.9	+ 1.4
Archangel, Russia	29.81	29.50	− 0.31	8.6	8.1	− 0.5
Tiflis, Russia	30.20	30.15	− 0.05	38.6	37.4	− 1.2
Astrakhan, Russia	30.22	30.10	− 0.12	24.1	25.7	+ 1.6
Ekaterinburg, Russia	30.11	29.90	− 0.21	5.0	8.8	+ 3.8
Tashkend, Toorkistan, Asia	.....	30.20	.....	.....	36.3	.....
Barnaul, Siberia, Asia	30.41	30.27	− 0.14	1.6	6.6	+ 5.0
Yeniseisk, Siberia, Asia	30.39	30.29	− 0.10	− 7.3	0.3	+ 7.6
Pekin, China	30.40	30.38	− 0.02	22.6	26.2	+ 3.6
Nikolaevsk on the Amoor, Asia	.....	.....	.....	− 8.1	−11.0	− 2.9
San Juan de Puerto Rico, W. I.*	30.08	30.11	+ 0.03	75.3	74.3	− 1.0
Beirut, Turkey in Asia	30.10	30.04	− 0.06	59.9	57.9	− 2.0
Mexico, Mexico	.....	.....	.....	.....	.....	.....
Havana, Cuba, W. I.*	30.11	30.16	+ 0.05	70.9	66.7	− 4.2
Paramaribo, D. Guiana, S. A	30.01	30.07	+ 0.06	78.4	76.9	− 1.5
York Factory, B. A	30.01	30.07	+ 0.06	−25.8	−30.6	− 4.8

* Means for six years only.

In the United States the mean temperature of the air was slightly above the normal in California, on the eastern slope of the Rocky mountains, except the southern district, and in Utah; in all other districts of the United States it was much below the normal, the greatest departures (6° to 8°) occurring in the lake region, the Gulf states and in the Ohio valley and Tennessee. In Canada the mean temperature was below the average, the departures being greatest in the province of Ontario. Throughout the continent of Europe the mean temperature of the air was considerably above the normal, the means for January, 1884, ranking amongst the highest on record in the British Isles, France and Germany. In British India the temperature was about 1°.8 below the six year mean. In Siberia it was above the normal.

The following are some of the extreme mean temperatures reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
			York Factory, B. A	−30.6	−34.8
Freetown, Africa	86.7	30.4	Fort Chimo, B. A	−23.5	−30.8
Bridgetown, Barbadoes	80.7	27.1	Nertschinsk, Siberia	−15.5	−26.4
Colon, U. S. Colombia, S. A	78.4	25.8	Upernavik, Greenland	−14.8	−26.0
Puerto Berrio, U.S.Colombia, S.A	78.3	25.7	Jacobshavn, Greenland	−14.8	−26.0
Paramaribo, Dutch Guiana, S. A	76.9	24.9	Nikolaevsk on the Amoor, Asia	−11.0	−23.9

Over that part of the United States lying between W. 90° and the Atlantic and south of the thirty-fifth meridian, the prevailing winds were mostly from northwest and north. In Canada, and in the United States, north of 35° N. and east of 90° W., they were mostly southwesterly and westerly. In other parts of the country they were mostly northerly and northwesterly. Over the north Atlantic ocean, north of 30° and from the American, eastward to the European coasts, the winds were westerly and southwesterly; south of 30° N., they were easterly. In Europe the winds were from southwest to west and northwest; in Japan they were northerly and westerly.

The precipitation during January, 1884, was excessive in the Atlantic seaboard states, Tennessee, and the lake region; elsewhere it was less than the average, the deficiencies being greatest on the Pacific coast. In Canada it was less than the average. In the British Isles and France the precipitation was deficient; in other parts of western and central Europe it was above the average.

STORM-TRACK CHART FOR JANUARY, 1884.

Chart iii. for January, 1884, shows the paths of the depressions that have appeared in the northern hemisphere during that month. The data are charted for each day of the month on the maps accompanying each issue of the "International Bulletin," and from these charts, together with abstracts of ships' logs and other miscellaneous data received at this office, are traced the movements of the centres of barometric minima. Chart iii. continues the series of international charts begun in November, 1877.

The paths of forty-two depressions are shown on the chart for January, 1884, and are distributed geographically as follows: Thirteen are traced in the North American continent; of this number, four entered the United States from the Northwest Territories of British America, five originated in Texas or the Gulf states, one appeared off the California coast, one in Texas, one in the lake region, and one in the Hudson Bay district. The depressions which developed in the northwestern part of the continent moved first southeastward to the lake region and then eastward over northern Canada to the Gulf of Saint Lawrence, while those which originated in the southwest moved eastward over the Gulf of Mexico to the east Gulf states, and thence northeastward, passing into the Atlantic ocean from the Carolina and Virginia coasts. The disturbance charted as ii. moved from Utah southeastward to the Gulf of Mexico, and thence northeastward over the Atlantic seaboard states and Canada to Labrador.

Eleven depressions are traced over the Atlantic ocean; of this number, five are continuations of depressions which entered the Atlantic from the North American coast, one occupied the neighborhood of Bermuda, two appeared in mid-ocean, one of these, number xiv., being a continuation of a disturbance which occupied the ocean at the close of December, 1883, two depressions originated in the region north of the sixty-fifth parallel, and one appeared off the Irish coast at the close of the month. The general direction of movement of the above depressions was to the northeastward, those which entered the Atlantic from the United States having passed off the coast at unusually low latitudes, while only one well-defined depression passed into the Atlantic from the Gulf of Saint Lawrence or Maritime Provinces.

Of the ten depressions charted in Europe, five first appeared near the coasts of the British Isles and Scandinavia, three developed in the northern districts, near or north of the fifty-eighth parallel of latitude, while the remaining disturbances are shown over the Mediterranean districts. With one or two exceptions, noted below, the European storms have moved from the Scandinavian peninsula by a southeasterly course to central and southern Russia, two of them continuing their easterly movement into Asia. The exceptions referred to were numbers xxxi. and xxxii.; the former passed over northern Scotland and the North Sea, finally disappearing in the Baltic, while the latter disturbance, which exhibited great violence, moved from the Irish coast in a northeasterly direction, along the Norwegian coast.

Five depressions are charted in Japan, their general direction of movement being to the northeastward, and three are shown over the Pacific ocean; one of these appeared over the Aleutian archipelago; one near Kamtchatka, and one off the eastern coast of Japan. The course of this latter was somewhat unusual; it remained off the coast of Japan for several days, during which time it materially affected the weather in that country.

As interesting features of the storm-track chart for January, 1884, may be mentioned, 1st, the low latitude at which the storms from the American continent have entered the Atlantic, and the almost entire absence of well-defined disturbances from the Gulf of Saint Lawrence; 2d, the numerous depressions which have appeared in northern and eastern Europe, and their pronounced southeasterly direction of movement; 3d, the absence of well-defined or violent storms in the southern and western districts of Europe; 4th, the stormy period which occurred in northwestern Europe during the closing days of the month in connection with low area number xxxii.

Of the depressions which appeared in the North American continent, those traced as numbers ii. and vi. were the most violent, although high winds to gales accompanied nearly all of the depressions charted. Number ii. developed great energy during its passage over the Atlantic States on the 9th and 10th, the barometer falling to 29.0 (736.6). Number vi. was very severe over the lake region and New England, the barometer falling to 29.1 (739.1) on the 13th.

An area of high barometer occupied the Atlantic ocean south of 50° N., from the European to the American coasts during the first half of the month, and during this period deep depressions passed eastward over the regions north of the sixtieth parallel. On the 16th the pressure began to give way, especially over the ocean between W. 40° and the American coast, and continued fluctuating until the 21st, when an area of high pressures again formed and spread over the entire region between N. 20° and 50°; during this period several depressions passed northeastward, attended by more or less stormy weather. On the 25th and 26th, the pressure again gave way, and on the 27th the high area was pushed to the southward during the continuance of the storm traced as low area xxxii; at the close of the month, however, the pressure began to rise again. Some of the depressions which passed over the Atlantic were deep, notably so those that moved north of the sixtieth parallel.

Many of the storms which traversed northern Europe were very severe, the barometer falling below 29.0 (736.6) during the passage of low areas xiv., xv., xx., xxi., xxx., and below 28.5 (723.9) during the progress of number xxxi. But by far the most important and disastrous storm of the month was that which prevailed over the British Isles and northwestern Europe from the 26th to the 29th, charted as low area xxxii. In this storm the depression attained a depth of 27.3 (693.4), which is the lowest barometer reading, reduced to sea-level, ever recorded. In connection with this storm the following interesting article is taken from "SYMONS'S MONTHLY METEOROLOGICAL MAGAZINE," for March, 1884:

THE GREAT STORM OF JANUARY 26, 1884.

By William Marriott, F. R. M. S.

This storm was remarkable for its violence and large area, as well as for the unprecedently low barometer reading at its centre. * * * The centre of the depression appeared to have first reached the northwest coast of Ireland at noon, and passed in a northeasterly direction over the north of Ireland and across the middle of Scotland, reaching Aberdeen about midnight. Its rate of progress was therefore about 30 miles an hour. A violent gale was experienced all over the British Isles, the greatest hourly velocity of the wind being 68 miles at Valencia at 11 a. m.; 70 miles at Holyhead at 2 p. m.; 63 miles at Falmouth at 3 p. m.; 69 miles at Armagh, and 59 miles at Aberdeen at 5 p. m.; 58 miles at Greenwich from 5 to 7 p. m., and 76 miles at Alnwick at midnight. Thunder-storms occurred on the southeastern side of the depression, and travelled across the south of Ireland and England at the rate of about 30 miles an hour. The lowest readings of the barometer (reduced to sea level) yet reported were 27.26 inches (from an aneroid barometer, which is believed to be nearly correct), at Kilcreggan at 8.30 p. m., and 27.332 inches at Ochtertyre, near Crieff, at 9.45 p. m. In the southern part of England, directly after the minimum had occurred, there was a very sudden rise in the reading of the barometer, in some cases amounting to .08 inch in five minutes. From an examination of previous records it appears that there has never before been so low a barometer reading as 27.26 inches, so that this storm may be considered as one of the most remarkable that has occurred in the British Isles.

The lowest readings on record apparently are: December 25, 1821, 28.016 at Greenwich. January 7, 1839, 27.695 at Aberdeen. December 27, 1852, 27.984 at Culloden. December 31, 1865, 27.63 at the Hoy Lowlight, Orkney.

On February 5, 1870, the reading of 27.33 inches was recorded on the Cunard steamer "Tarifa" in the Atlantic in lat. 51° N. and long. 24° W.

Of the depressions charted in Japan that numbered xxxvii. caused strong westerly to northerly gales during its passage, the barometer falling to 29.55 (750.6) in northern Niphon, while at the centre of disturbance in the Pacific, the pressure was less than 29.0 (736.6).

STORM-TRACKS FOR JUNE, 1882.

The chart for June, 1882, shows the tracks of thirty-two depressions that have appeared in the northern hemisphere. They are distributed geographically as follows: Ten are traced in the United States and Canada; of these three developed in the central valleys of the United States and passed eastward over the lake region and Canada to the Gulf of Saint Lawrence, two appeared in northern Canada, and one in the Saint Lawrence valley, the latter being a continuation of a storm shown on the chart for the preceding month; that charted as number ix. followed an irregular course, moving slowly over the Gulf of Saint Lawrence and then southward and westward to the coast of Nova Scotia, when it apparently recurved and moved off to the eastward. One depression developed in the northwest and passed eastward to the lakes and thence northeastward along the Saint Lawrence valley. Three depressions are shown over the region west of the Rocky mountains; these disturbances had some progressive movement within the stationary area of low pressure which occupied this region throughout the month. No disturbances were sufficiently well-defined after leaving the American continent to admit of their being traced as continuous storms over the Atlantic, although several depressions appeared over the region east of the twentieth meridian. Thirteen disturbances are traced in Europe; these moved slowly and in erratic paths, principally over the northwestern districts of the continent. Five moved eastward and northeastward from the ocean between W. 20° and 10°, where they first appeared, to the British Isles and southern Scandinavia; number xxi. developed near Iceland and remained for several days off the western coasts of the British Isles, causing unsettled weather in those districts. Three are charted over the Italian peninsula, whence they passed eastward and northeastward into Russia; one is shown in central Russia, two in the Black Sea region, and one is charted in Germany and the Netherlands.

Seven depressions are traced in Asia; two of these occupied eastern Siberia and the remaining five are shown on the eastern coast of China and over Japan. Two disturbances are traced in the north Pacific ocean.

The noteworthy features of the chart are: the absence of disturbances over the north Atlantic, and the irregular paths of the depressions traced in Europe and also those in America; and the comparatively few depressions that appeared in Scandinavia. None of the disturbances exhibited marked energy, although some were unusually deep for summer depressions, especially those in Europe. In the depression charted as number i. over the United States, the barometer fell to 29.3 (744.2) on the 1st; in the case of number ii. it read 29.5 (749.3) on the 3d and 4th; and in numbers vii. and ix. the minima were 29.25 (742.9) and 29.28 (743.7) on the 18th and 27th, respectively. In the depressions traced in Europe the lowest barometer readings were as follows: number xi., 29.4 (746.7) on the 3d; xiii., 29.11 (739.4) on the 7th; xiv., 29.17 (740.9) on the 5th and 6th; xvii., 29.17 (740.9) on the 11th; xix., 29.28 (743.7) on the 14th. In the storms which occurred in eastern China and Japan, the barometer fell to 29.5 (749.3) during the passage of low areas xxiv., xxviii., and xxx.; in numbers xxvi. and xxix., which moved over the Pacific ocean, the lowest pressures recorded were, 29.15 (740.4) on the 12th, in the former; and 29.0 (736.6) on the 20th, in the latter.

GENERAL REMARKS.

DAILY BULLETIN.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations.

On February 1, 1883, the following change was made in publishing marine data in the "Daily International Bulletin":

All marine data are classified as to districts, which are designated as follows: District No. 1, North Atlantic; District No. 2, South Atlantic, &c., under which headings the respective reports are printed.

BOUNDARIES OF DISTRICTS.

District No. 1 comprises the Atlantic ocean, its arms and tributaries, from the equator northward to the pole, and in the Arctic from 100° E., westward to 100° W., of Greenwich.

District No. 2 comprises the Atlantic ocean, its arms and tributaries, from the equator southward to the pole, and in the Antarctic from 20° E., westward to 70° W., of Greenwich.

District No. 3 comprises the Pacific ocean, its arms and tributaries, from the equator northward to the pole, and in the Arctic from 100° W., westward to 100° E., of Greenwich.

District No. 4 comprises the Pacific ocean, its arms and tributaries, from the equator southward to the pole, and in the Antarctic from 70° W., westward to 145° E., of Greenwich.

District No. 5 comprises the Indian ocean, its arms and tributaries, from the Asiatic continent southward to the pole, and in the Antarctic from 20° E., eastward to 145° E., of Greenwich.

The following remarks relate to the individual peculiarities in the *methods*

of recording, and the *times* of taking, the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of M. Thévenet, Director of the Meteorological service at the College of Science of Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. Adelaide, furnished by co-operation of Charles Todd, C. M. G., F. R. A. S. The observations are taken at 9 p. m., local time. Hobart Town, furnished by Commander J. Shortt, R. N. Observations are taken at 9 p. m., local time.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemberg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BELGIAN SERIES (furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade; weather by the Vienna symbols, and occasionally in general terms. At Arlon the observations are taken at 1 p. m., local time.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind-direction is given to 32 points and weather by the Beaufort notation. At Bradford no observations are taken on Sunday except rainfall.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army. At St. John's, N. F., the barometer appears read about .10 inch too high, which correction has been applied from August 1st, 1883.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Saint Francis Lighthouse, the original gives barometer reduced to freezing, but not to sea-level. The kind of clouds is given, but no distinction is made between upper and lower. Weather in general terms.

CHILIAN SERIES (by authority of the Secretary of Public Instruction, furnished by co-operation of Francisco Vidal Gormáz, President of the Central Meteorological Office at Santiago).—Observations are taken mostly at lighthouses on the coast; the originals give barometer as read off; temperature in Centigrade; humidity is not given but is computed at this office from the hygrometrical observations.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation.

DANISH SERIES (furnished by co-operation of Adam Paulsen, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted. At Jacobshavn the observations are taken at 8 a. m., local time.

EGYPTIAN SERIES (Furnished by the co-operation of Albert Ismalun, Director of the Laboratoire Khédivial du Caire).—Original gives barometer reduced to zero, but not to sea-level, temperature in Centigrade. The velocity is the mean for past 24 hours. Rainfall in millimetres.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Montlouis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Montlouis and Perpignan.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only, and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by the co-operation of the Geographical Bureau, Department of the Interior, through I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (furnished by co-operation of the respective observers).—The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys-Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred. At Batavia the elevation is stated to be "a few meters."

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Astrakhan, Ashurada and Baku, the barometer-cistern is below sea-level. On December 7th, 1883, the barometer at Archangel was "deranged," and the corrections to the aneroid used in its place are not exact.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 10 a. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of the Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of F. Nimr, B. A., Director of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms. At Samakov, the barometer is reduced to freezing, but not to sea-level; temperature in Fahrenheit. The kind of clouds is given, also the distinction between upper and lower.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Puerto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind-direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind-direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operations of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date.

In the above charts broken lines indicate that the lines so drawn are doubtful. Arrows show direction of, and fly with, the wind. Force is shown as follows:

SYMBOLS.	FORCE.	VELOCITY.	
		MILES PER HOUR.	METRES PER SECOND.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The position of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevation of stations is obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least, this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the alphabet of the letter so used.

BRITISH SERIES, Bradford: a letter placed opposite the name of station, refers to all the data except rainfall.

On January 1st, 1884, the following changes occur in the elevation of stations: Chilian Series, Valpariso, from 25 to 40 meters; Japanese, Nemuro, from 18 to 13 meters; Austrian, Eperies, from 250 to 258 meters; Szegedin, from 78 to 86 meters; United States, Helena, Montana, from 4,100 to 4,044 feet.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

ERRATA.

MONTHLY SUMMARY, November, 1883, page 25, Fort Conger, Grinnell Land (Lady Franklin Bay), in place of latitude and longitude as published, read latitude N. 81° 44′, longitude W. 64° 45′.

DAILY BULLETIN, January 4th, 1884, page 1, Canadian, London, Ontario, reduced barometer 29.14, 740.1, should read 30.14, 765.5.

5th, page 1, Canadian, London, Ontario, actual barometer 30.36, 771.1, should read 29.36, 745.7.

20th, page 1, Canadian, Medicine Hat, N. W. T., actual barometer 29.92, 760.0, should read 27.92, 709.2.

24th, page 1, Australian, Adelaide, reduced barometer 29.07, 738.4, should read 30.07, 763.8.

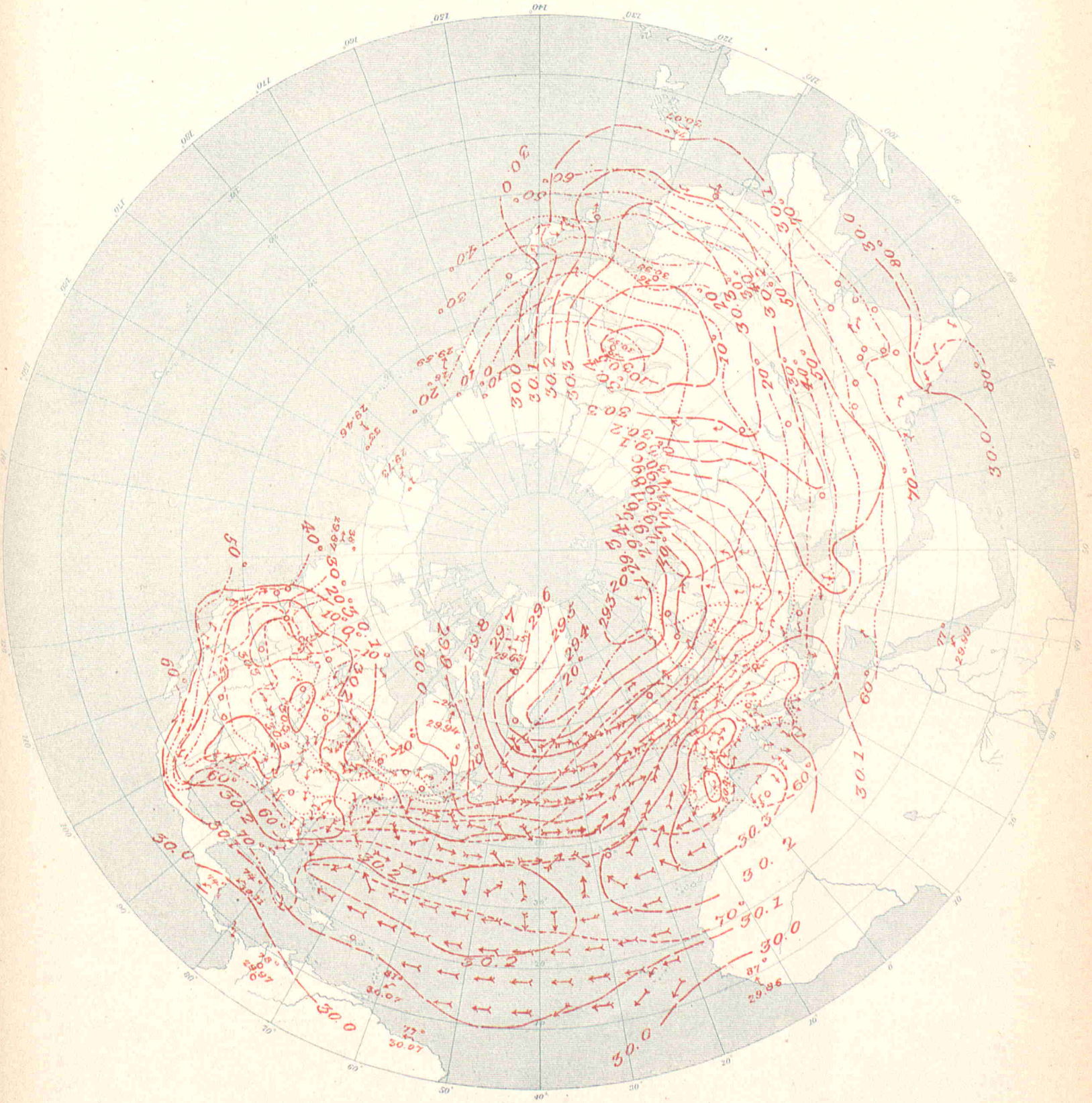
25th, page 1, Australian, Adelaide, reduced barometer 29.06, 738.1, should read 30.06, 763.5.

26th, page 1, Australian, Adelaide, reduced barometer 29.16, 740.7, should read 30.16, 766.1.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

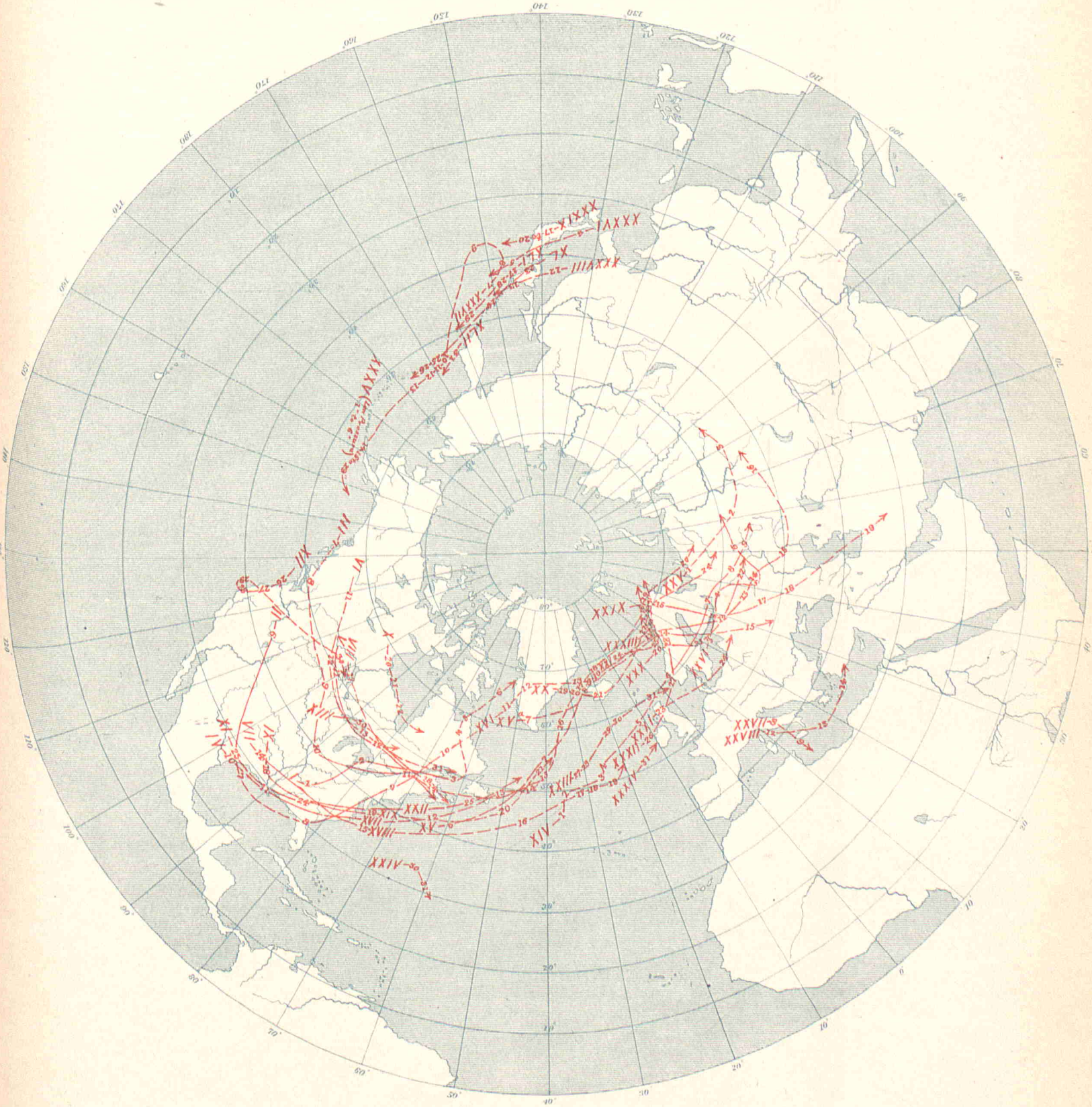
International Chart II. January, 1884. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B. Hazen, Chief Signal Officer.
Signal Office Lith.

International Chart III. January, 1884. Storm-Tracks.

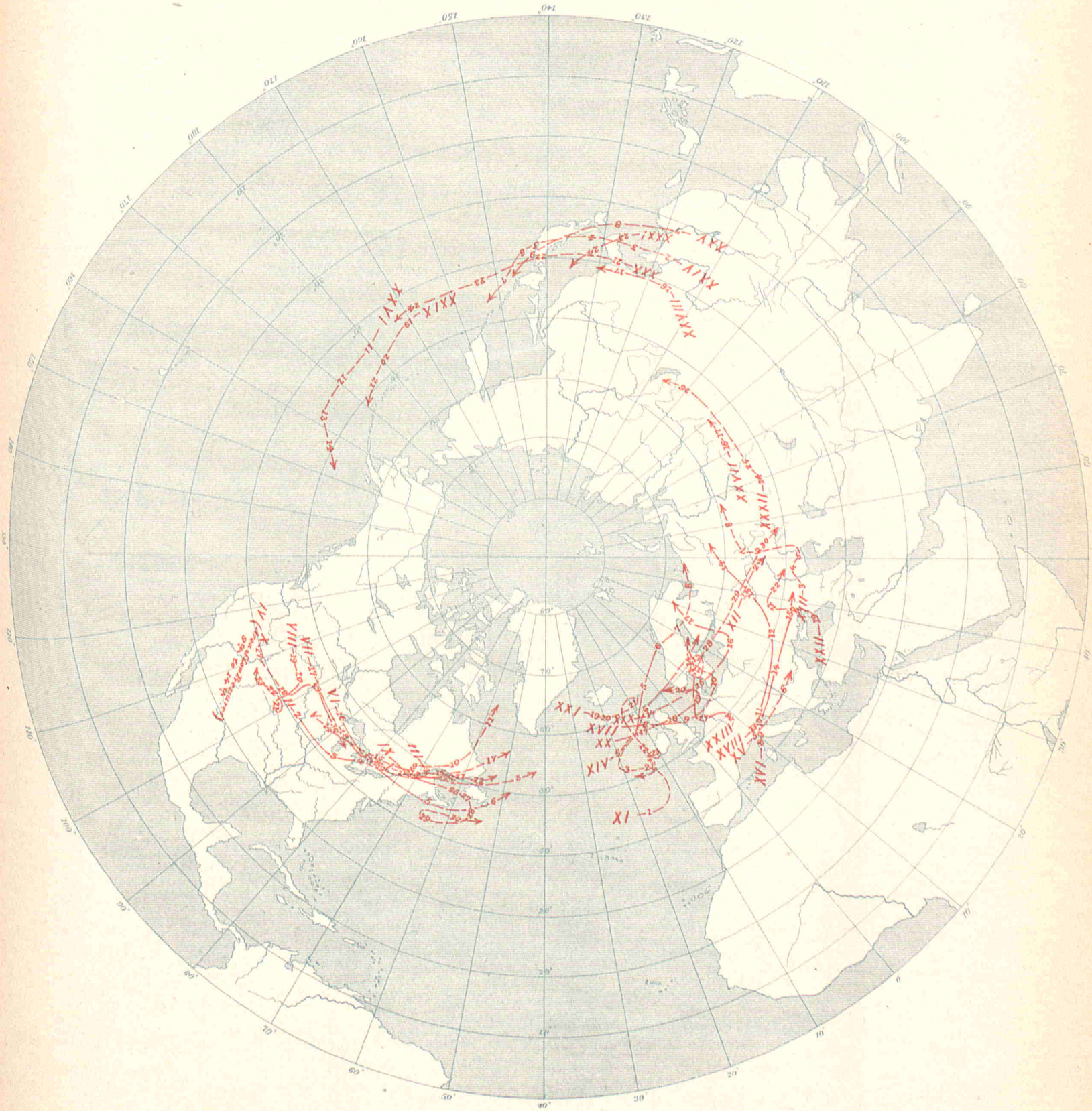


UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W.B.Hazen, Chief Signal Officer.

Signal Office Lith.

International Chart III. June, 1882. Storm-Tracks.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.
Signal Office Lith.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF FEBRUARY, 1884.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
MARCH, 1885.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

FEBRUARY, 1884.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.10	764.4	65.7	18.7	80.2	5	.....	5	2	2	12	1	2	.....	.....	.....	3	0.85	21.5
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	30.11	764.8	62.6	17.0	65.5	2	2	7	6	3	2	2	4	1	.....	.....	5	1.49	37.8
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.13	765.3	62.2	16.8	76.0	3	8	2	.....	1	1	6	8	.....	.....	.....	3	0.31	8.0
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.10	766.1	56.5	13.6	67.1	5	12	5	3	.....	.....	1	3	.....	.....	.....	3	0	0
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4281	1305	.....	.....	.....	.....	55.2	12.9	38.7	4	7	2	6	3	6	1	.....	.....	.....	.....	2	0.47	12.0
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2454	748	.....	.....	30.25	768.3	65.3	18.5	79.9	1	6	2	1	4	4	1	1	9	.....	.....	1	1.48	37.7
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.24	768.0	63.5	17.5	69.6	.....	.....	3	1	.....	.....	5	1	19	.....	.....	2	1.11	28.2
AUSTRALIAN.																										
Adelaide	S. 34 57	E. 138 35	9.22 p.m.	140	42	.....	.....	30.01	762.2	67.4	19.7	52.4	.....	.....	.....	1	6	5	6	2	9	.....	.....	4	0.12	3.0
Hobart Town	S. 42 53	E. 147 20	9.57 p.m.	190	58	29.73a	755.1a	29.93a	760.2a	56.3c	13.5c	79.0e	4	2	3	4	11	3	.....	.....	2	.....	.....	6a	1.07a	a27.2
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.90	759.4	29.99	761.7	61.8	16.6	78.0	1	.....	3	6	8	7	1	3	.....	.....	.....	5	1.94	49.3
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.61	752.0	30.12	765.0	42.6	5.9	54.5	.....	.....	1	5	4	2	6	11	.....	.....	.....	5	0.94	23.8
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.33	744.9	30.12	765.0	39.2	4.0	76.1	1	1	5	13	.....	.....	3	6	.....	.....	.....	7	0.54	13.7
Eperies	N. 48 58	E. 21 15	1.33 p.m.	846	258	29.25	742.9	30.15	765.9	34.0	1.1	80.9	5	.....	.....	.....	4	4	.....	.....	10	.....	.....	8	0.30	7.7
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.89	733.7	30.18	766.6	40.3	4.6	65.3	.....	2	5	9	9	2	2	.....	.....	.....	.....	4	0.70	17.7
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.68	728.4	30.15	765.8	41.5	5.3	65.0	1	6	5	2	4	9	2	.....	.....	.....	.....	4	1.08	27.3
Kremsmunster	N. 48 03	E. 14 08	1.04 p.m.	1200	384	28.74	730.1	30.13	765.4	38.3	3.5	79.6	1	2	3	4	.....	.....	9	5	5	.....	.....	6	0.44	11.3
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	29.10	739.2	30.13	765.3	36.7	2.6	77.4	4	4	1	.....	5	8	2	5	.....	.....	.....	8	2.48	63.1
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	30.05	763.3	30.17	766.3	48.0	8.9	76.2	.....	4	10	2	1	4	3	4	1	.....	.....	4	0.33	8.4
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.65	753.0	30.14	765.5	40.5	4.7	70.0	5	2	5	5	5	2	4	1	.....	.....	.....	5	1.11	28.1
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	279	87	29.87	758.7	30.16	766.0	43.0	6.1	66.2	3	4	2	3	9	1	2	.....	5	.....	.....	5	0.40	10.2
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	30.11	764.7	30.21	767.2	45.9	7.7	72.0	1	5	2	2	.....	.....	1	3	15	.....	.....	6	0.65	16.4
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.37	745.9	30.11	764.7	38.5	3.6	61.9	1	5	5	.....	1	12	.....	.....	3	.....	.....	5	0.26	6.6
BELGIAN																										
Arlon	N. 49 40	E. 5 48	0.32 p.m.	?	?	28.63	727.1	30.06	763.4	39.6	4.2	92.6	.....	.	1	12	3	6	6	1	.....	.....	.....	3	4.42	112.4
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	29.81	757.2	30.02	762.4	44.1	6.7	76.2	1	.....	3	8	8	2	5	2	.....	.....	.....	6	1.69	42.9
Furnes	N. 51 04	E. 2 40	0.19 p.m.	20	6	29.96	760.9	29.98	761.5	45.3	7.4	79.9	1	2	3	6	9	1	4	3	.....	.....	.....	7	1.47	37.3
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	29.95	700.6	30.07	763.7	45.9	7.7	73.4	.....	2	7	6	4	4	5	1	.....	.....	.....	7	2.41	61.1
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.68	753.9	29.78	756.4	41.7	5.4	74.8	1	1	3	3	6	14	.....	1	.....	.....	.....	6	1.96	49.8
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.81	757.2	43.4	6.3	76.5	1	1	2	7	2	6	10	.....	.....	.....	.....	7	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.28	743.7	29.83	757.7	41.4	5.2	80.3	2	1	2	3	9	6	5	1	.....	.....	.....	9	.....	.....
Bradford a	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.42	747.3	29.82	757.4	43.0	6.1	78.5	.....	3	3	8	3	6	3	2	.....	.....	.....	8	3.13	79.5
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	30.03	762.7	30.06	763.5	79.4	26.3	70.2	.....	.....	.....	.....	.....	.....	11	18	.....	.....	.....	4	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	.....	.....	43.2	6.2	80.4	2	2	3	10	2	6	2	2	.....	.....	.....	7	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	160	49	29.76	755.9	29.94	760.5	45.4	7.4	77.2	1	.....	6	8	4	1	5	.....	4	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.67b	753.6b	29.91b	759.7b	47.3	8.5	81.8	2	.....	2	9	6	3	5	2	.....	.....	.....	8	.....	.....
Fort Napier m	S. 30 00	E. 31 00	2.12 p.m.	2205	672	27.57	700.3	29.88	758.9	78.1	25.6	64.6	1	2	1	.....	.....	3	2	7	.....	.....	.....	5	.....	.....
Freetown n	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.71	754.0	29.94	760.5	83.2	28.4	78.8	3	1	.....	3	2	1	1	4	.....	.....	.....	2	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.64	752.8	29.68	753.9	43.7	6.5	86.7	1	.....	1	9	3	10	3	2	.....	.....	.....	7	4.16	105.7
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.01	762.2	30.09	764.3	60.6	15.9	90.6	.....	9	8	.....	.....	1	10	1	.....	.....	.....	6	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.75	755.6	29.93	760.2	45.2	7.3	75.7	2	2	2	10	4	1	6	2	.....	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.62	752.3	29.92	760.0	46.4	8.0	86.3	1	1	1	7	7	4	6	2	.....	.....	.....	8	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.89	759.2	29.93	760.2	44.8	7.1	72.1a	1	3	1	10	5	.....	6	3	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.62	752.3	29.87	758.7	44.3	6.8	75.1	2	1	2	15	1	2	6	.....	.....	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	30.05	763.3	30.12	765.0	60.4	15.8	70.8	1	4	2	8	1	4	2	7	.....	.....	.....	4	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.12	765.0	30.17	766.3	72.1	22.3	76.8	1	2	.....	2	8	5	5	6	.....	.....	.....	4	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.07	753.6	29.90	759.4	44.6	7.0	76.5	2	3	.....	8	6	2	6	1	1	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.79	756.7	29.88	758.9	46.9	8.3	84.6	.....	1	2	5	6	2	7	2	4	.....	.....	9	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.56	750.8	29.66	753.4	41.2	5.1	73.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	2 04 p.m.	60	18	30.07	763.8	30.14	765.5	46.1	7.8	64.6	3	.....	.....	8	2	.....	1	14	1	.....	.....	6	.....	.....
Sheffield	N. 53 23	W. 1 28	0 02 p.m.	260	79	29.58	751.3	29.80	758.4	44.8	7.1	75.0	.....	2	1	10	5	3	3	2	3	.....	.....	6	.....	.....
Stilloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.75	755.0	29.78	756.4	43.7	6.5	87.3	1	3	1	6	9	2	7	.....	.....	.....	.....	6	2.89	73.4
Stonyhurst m	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.90	759.4	42.4	5.8	80.6	1	.....	4	2	7	.....	2	.....	.....	.....	.....	9	2.48	63.0
Strathfield	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	45.5	7.5	78.1	.....	4	4	10	1	7	1	2	.....	.....	.....	7	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m	23	7	29.67	753.6	29.70	754.4	47.8	8.8	76.6	2	1	3	9	4	6	3	1	.....	.....	.....	9	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.77	756.1	30.15	765.9	58.3	14.6	71.1	.....	3	4	9	2	1	9	1	.....	3392	5458	6	0.48	12.2
CANADIAN.																										
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	35	11	30.14b	765.5b	30.16b	761.1b	1.3	-17.1	.....	.....	2	1	1	.....	1	.....	.....	24	.....	.....	7	3.28	83.3
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	30.05	763.3	30.10	764.5	16.0	—8.9	90.4	4	7	5	1	1	3	5	2	1	6248	10055	7	4.28	108.7
Chatham*	N. 47 03	W. 65 29	7.45 a.m.	56	17	30.07	763.8	30.14	765.5	6.8	-14.0	95.7b	2	4	8	5	.....	3	2	2	3	3448	5549	6	4.30	109.2
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.80	756.9	30.04	763.0	15.1	—9.4	93.0	.....	8	3	.....	1	2	10	5	.....	.....	.....	8	4.10	104.1
Dalhousie	N. 48 04	W. 66 22	7.32 a.m.	45	14	30.09	764.3	30.14	765.5	5.5	-14.7	.....	.....	1	15	.....	.....	1	7	1	4	.....	.....	5	3.90	99.1
Father Point*	N. 48 31	W. 68 28	7.34 a.m.	20	6	30.08	764.0	30.10	764.5	0.5	-14.2	83.6	1	7	.....	2	7	1	3	5	3	.....	.....	7	4.04	102.6
Fort Garry*	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.27	743.4	30.24	768.1	-17.0	-27.2	90.7	5	8	.....	3	8	.....	1	.....	4	5838	9395	4	1.34	34.0
Fredericton	N. 45 57	W. 66 38	7.41 a.m.	59	18	30.08	764.0	30.15	765.8	11.6	-11.3	90.2	1	5	2	.....	1	1	4	4	11	.....	.....	7	6.26	159.0
Grand Manan	N. 44 46	W. 66 45	7.41 a.m.	49	15	30.06	763.5	30.11	764.8	24.4	—4.2	85.3	4	3	3	1	4	4	.....	7	3	9758	15704	6	6.16	156.5
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	29.89	759.2	30.06	763.5	20.1	—6.6	96.2	1	4	4	1	1	3	1	2	12	.....	.....	9	.....	.....
Halifax*	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.98	761.5	30.12	765.0	23.9	—4.5	91.7	5	3	8	4	2	1	5	1	.....	.....	.....	7	6.33	160.8
Hamilton a	N. 43 16	W. 79 53	6.49 a.m.	372	113	29.57	751.1	30.00	762.0	23.8	—4.6	87.7	1	.....	2	14	.....	..	2	8	1	.....	.....	8	2.94	74.7
Kingston*	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.71	754.6	30.06	763.5	19.0	—7.2	86.0	2	6	4	2	2	3	.....	5	5	d4837	d7784	8	2.71	68.8
Little GlaceBay	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.96	761.5	30.02	762.5	22.7	—5.2	93.1	2	5	6	5	1	2	3	5	.....	.....	.....	6	1.10	27.9
London	N. 43 00	W. 81 15	6.43 a.m.	832	254	29.10	739.1	30.06	763.5	21.5	—5.8	92.3	4	.....	5	1	3	1	2	3	10	.....	.....	9	4.69	119.1
Medicine Hat	N. 50 01	W. 110 37	4.46 a.m.	2136	651	27.61	701.3	30.27	768.8	—2.3	-19.1	87.2	4	8	1	5	4	.....	1	5	1	5892	9482	8	0.50	12.7
Minnedosa*	N. 50 13	W. 99 48	5.29 a.m.	1796	545	30.03	762.7	30.26	768.6	—1.6	-18.7	99.1a	5	17	4	1	.....	.....	1	1	.....	.....	.....	3	0.48	12.2
Montreal*	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.84	757.9	30.06	763.5	15.0	—9.4	88.0	2	2	5	4	4	2	4	5	1	.....	.....	8	4.84	122.9
Ottawa	N. 45 26	W. 75 41	7.05 a.m.	200	61	29.80	756.9	30.04	763.0	11.0	-11.7	90.3	2	6	7	.....	1	.....	7	6	.....	.....	.....	3	0.99	25.1
Parry Sound*	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.30	744.2	30.05	763.3	11.3	-11.5	79.0	4	1	7	.....	3	3	9	.....	2	6978	11230	7	2.06	52.3
Peterboro	N. 44 17	W. 78 18	6.54 a.m.	675	206	29.23	742.4	30.03	762.7	17.4	—8.1	78.1	1	4	5	8	.....	2	3	4	2	.....	.....	8	2.31	58.7
Port Arthur	N. 48 27	W. 89 12	6.11 a.m.	642	196	29.37	746.0	30.22	767.6	—0.1	-17.8	82.5	4	4	4	4	7	1	.....	2	3	2934	4690	4	1.01	25.7
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.31	744.5	30.05	763.3	22.8	—5.1	86.5	3	4	4	5	2	.....	.....	5	6	5735	9229	8	3.50	88.9
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.36	745.7	30.05	763.3	23.2	—4.9	89.1	1	1	9	1	1	.....	10	6	.....	.....	.....	7	3.15	80.0
Qu Appelle	N. 50 44	W. 103 42	5.13 a.m.	2115	646	27.70	703.6	30.30	769.0	—1.3	-18.5	.....	1	6	4	5	.....	.....	1	.....	12	.....	.....	3	0.50	12.7
Quebec*	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.69	754.1	30.04	763.0	10.6	-11.9	85.3	7	.....	2	5	1	.....	1	4	9	.....	.....	8	4.55	115.6
Rockliffe*	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.54	750.3	30.04	763.0	5.6	-14.7	81.5	.....	5	4	.....	.....	7	5	1	7	.....	.....	7	3.59	91.2
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	30.04	763.0	30.10	764.5	20.9	—6.2	91.4	3	9	1	.....	2	4	2	6	2	.....	.....	5	6.11	155.2
Saint John, N.B	N. 45 17	W. 66 03	7.44 a.m.	130	40	29.96	761.0	30.12	765.0	12.1	-11.1	92.6	7	4	1	3	2	3	2	4	3	.....	.....	7	7.42	188.8
Saint Pierre b	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.99	761.8	24.3	—4.3	.....	3	8	8	3	4	1	.....	2	.....	.....	.....	.....	.....	.....
Saugeen*	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.26	743.2	30.02	762.5	18.0	—7.8	89.3	7	2	4	.....	2	4	2	5	3	7614	12253	10	2.94	74.7
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1186	361	28.68	728.5	30.07	763.8	18.7	—7.4	85.0	.....	1	6	2	1	2	.....	1	16	.....	.....	9	4.70	119.4

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for February, 1884. Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill
CANADIAN.—Con.	° ′	° ′																								
Sydney*	N. 46 08	W. 60 10	8.07 a.m.	37	11	30.01	762.2	30.05	763.3	19.4	—7.0	89.3	3	4	4	3	2	2	.....	2	9	6932	11156	7	5.72	145.3
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.65	753.1	30.06	763.5	21.8	—5.7	86.9	5	2	8	.....	1	4	5	4	.....	7940	12779	8	3.27	83.1
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	28.94	735.1	30.04	763.0	20.5	—6.4	90.0	1	2	7	5	3	3	1	6	1	.....	.....	9	1.95	49.5
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	30.01	762.2	30.08	764.0	27.6	—2.4	82.5	4	5	1	1	3	3	8	2	2	.....	.....	7	7.46	189.5
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	29.99	761.7	30.02	762.5	72.4	22.4	a84.6	.....	.....	.....	14	2	4	.....	8	1	.....	.....	3	1.05	26.7
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	?	?	29.80	756.9	.....	.....	76.8	24.9	49.7	3	2	.....	.....	6	8	.....	10	.....	.....	.....	2	0.42	10.7
Springbok	S. 29 45	E. 17 43	1.19 p.m.	?	?	27.83	706.9	.....	.....	84.1	28.9	43.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
CHILIAN.																										
Coquimbo	S. 29 56	W. 71 21	7.22 a.m.	72	22	29.89	759.2	29.97	761.1	62.6	17.0	88.2	11	3	1	7	1	.....	2	4	.....	.....	.....	8	.....	.....
Iquique	S. 20 12	W. 70 11	7.27 a.m.	26	8	29.89	759.1	29.91	759.8	70.0	21.1	79.5	.....	4	1	22	1	.....	.....	.....	.....	.....	.....	2	.....	.....
Niebla	S. 39 53	W. 73 25	7.14 a.m	98	30	29.59	751.6	29.70	754.3	57.2	14.0	79.5	1	3	3	.....	.....	.....	22	.....	.....	.....	.....	3	1.60	40.6
Punta Caldera	S. 27 03	W. 70 53	7.25 a.m.	82	25	29.87	758.6	29.95	760.8	66.4	19.1	81.7	.....	6	.....	10	.....	5	2	6	.....	.....	.....	8	.....	.....
Punta Corona	S. 41 47	W. 73 53	7.12 a.m.	174	53	29.91	759.6	30.09	764.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	4.21	107.0
Valparaiso	S. 33 02	W. 71 39	7.22 a.m.	131	40	29.82	757.3	29.95	760.8	63.0a	17.2a	86.4a	5	.....	2	11	7	3	1	.....	.....	.....	.....	4	.....	.....
CHINESE. (*Sub*).																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	30.34	770.6	30.36	771.2	36.0	2.2	81.3	8	3	4	1	1	2	7	3	.....	.....	.....	6	2.52	64.0
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.98	761.4	30.02	762.6	38.5	3.6	88.1	1	3	3	6	3	7	5	1	.....	.....	.....	8	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.97	761.1	29.98	761.6	39.0	3.9	87.6	1	.....	4	8	2	5	6	3	.....	.....	.....	8	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.47	748.5	29.51	749.6	1.0	—17.2	98	7	11	1	1	2	2	1	4	.....	.....	.....	9	.....	.....
Ivigtut	N. 61 12	W. 48 00	8.56 a.m.	16	5	29.43	747.4	29.45	747.9	7.7	—13.5	.....	1	2	.....	.....	.....	2	.....	5	19	.....	.....	8	.....	.....
Jacobshavn	N. 69 13	W. 50 55	8.44 a.m.	42	13	29.52	749.9	29.57	751.1	—11.9	—24.4	.....	.....	.....	.....	2	2	2	2	.....	21	.....	.....	4	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.22	742.2	29.26	743.3	31.3	—0.4	86	.....	1	1	5	2	7	4	6	3	.....	.....	8	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.54	750.3	29.56	750.9	41.0	5.0	85	1	1	4	1	3	14	2	3	.....	.....	.....	8	.....	.....
Upernavik	N. 72 47	W. 56 00	8.24 a.m.	39	12	29.54	750.4	29.59	751.6	—13.4	—25.2	.....	1	.....	.....	3	1	.....	14	4	6	.....	.....	3	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.85	758.1	29.94	760.4	38.5	3.6	84	1	.....	2	7	3	4	8	4	.....	.....	.....	7	.....	.....
Egyptian.																										
Cairo	N. 30 03	E. 31 21	2.14 p.m.	?	?	29.95	760.8	.....	.....	63.0	17.2	.....	6	3	3	11	.....	.....	1	5	.....	.....	.....	6	0.28	7.0
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.44	747.7	30.10	764.4	50.9	10.5	86	2	.....	1	1	5	15	4	1	.....	.....	.....	.....	2.16	54.9
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.44	747.8	29.99	761.8	45.9	7.7	78.1	.....	3	.....	4	5	3	.....	4	10	.....	.....	5	1.05	26.6
Arras	N. 50 18	E. 2 46	0.19 p.m	223	68	.....	.....	.....	.....	44.6	7.0	78.2	4	.....	8	1	6	1	7	2	.....	.....	.....	4	0.09	2.4
Avignon	N. 43 57	E. 4 48	0.27 p.m	65	20	30.05	763.3	30.13	765.3	54.3	12.4	61.4	3	8	.....	.....	1	7	10	.....	.....	.....	.....	6	0.59	15.1
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.50	749.2	30.07	763.7	45.5	7.5	73.0	.....	1	2	2	6	16	2	.....	.....	.....	.....	7	1.74	44.3
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.75	755.6	30.02	762.6	45.0	7.2	71.9	1	.....	1	4	9	5	6	3	.....	.....	.....	6	2.01	51.0
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.12	739.6	30.04	762.9	49.6	9.8	72.5	2	.....	.....	11	4	1	.....	11	.....	.....	.....	.....	2.24	56.9
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.75	755.7	30.02	762.4	52.7	11.5	73.4	.....	1	4	2	3	10	7	2	.....	.....	.....	7	2.28	57.9
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.51	749.5	30.07	763.7	48.7	9.3	92.0	1	1	2	8	2	5	3	7	.....	.....	.....	.....	2.10	53.4
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.72	755.0	29.97	761.2	50.0	10.0	83.8	1	1	3	10	3	5	2	2	2	.....	.....	6	10.15	257.8
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.89	759.3	29.97	761.2	48.6	9.2	93.0	.....	2	5	1	7	7	5	2	.....	.....	.....	6	1.71	43.4
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.72	754.8	30.03	762.7	44.1	6.7	84.0	1	.....	2	4	5	8	4	3	2	.....	.....	5	1.98	50.2
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.52	749.9	30.04	763.1	43.2	6.2	77.1	.....	.....	5	1	4	9	6	4	.....	.....	.....	7	2.83	72.0
Clermont-Fer'and	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.67	728.2	30.04	763.0	50.2	10.1	63.1	4	5	4	4	7	4	.....	1	.....	.....	.....	6	1.91	48.6
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.24	742.6	30.08	764.0	47.8	8.8	72.5	3	.....	1	4	6	7	3	4	1	.....	.....	6	2.11	53.7
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.21	741.8	30.09	764.2	42.3	5.7	76.0	1	1	6	5	4	2	4	6	.....	.....	.....	4	1.70	43.1
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.56	700.0	30.14	765.6	45.9	7.7	63.4	3	1	1	2	5	1	2	3	11	.....	.....	4	0.48	12.2
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.98	736.1	30.12	765.1	52.2	11.2	65.0	3	3	.....	2	5	10	5	1	.....	.....	.....	7	0.87	22.1
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.30	744.3	30.09	764.3	48.6	9.2	72.2	1	5	2	2	2	.....	11	6	.....	.....	.....	.....	1.72	43.8
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.47	723.1	30.02	762.5	47.8	8.8	78.0	.....	1	3	16	4	4	1	.....	.....	.....	.....	.....	2.46	62.4
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.47	748.4	30.00	762.0	58.1	14.5	62.0	1	2	7	1	1	3	9	5	.....	.....	.....	4	2.31	58.7
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.86	758.5	29.97	761.1	51.3	10.7	68.7	.....	.....	3	6	5	5	5	4	1	.....	.....	7	2.66	67.7
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	29.01	736.8	30.09	764.3	47.8	8.8	69.1	3	1	2	1	13	3	3	3	.....	.....	.....	.....	1.30	33.0
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.80	757.0	30.00	762.0	45.9	7.7	82.0	.....	1	7	3	9	3	5	1	.....	.....	.....	6	1.74	44.2
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.84	757.9	30.11	764.8	56.1	13.4	63.2	.....	3	1	4	.....	8	13	.....	.....	.....	.....	.....	0.58	14.6
Montlouis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.80	629.9	29.64	752.9	41.9	5.5	57.0	1	3	5	14	1	.....	3	2	.....	.....	.....	5	2.65	67.2
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.97	761.3	30.08	764.1	52.7	11.5	82.2	6	2	2	.....	3	7	5	4	.....	.....	.....	6	1.02	26.0
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.28	743.8	30.08	764.1	42.6	5.9	72.6	5	1	3	5	11	3	.....	1	.....	.....	.....	.....	2.32	58.9
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.86	758.4	30.02	762.5	50.4	10.2	71.9	.....	1	2	5	5	6	5	5	.....	.....	.....	4	2.17	55.2
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.98	761.5	30.09	764.3	55.6	13.1	67.0	2	5	.....	1	1	10	4	6	.....	.....	.....	8	4.65	118.0
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.13	536.8	.....	.....	25.5	—3.6	.....	.....	3	6	16	.....	.....	.....	1	3	.....	.....	5	2.30	58.5
Privas. ..... [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	29.05	737.9	30.13	765.2	48.9	9.4	73.8	5	2	1	1	14	2	.....	.....	4	.....	.....	.....	0.78	19.9
Puy de Dôme	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.10	637.6	.....	.....	34.2	1.2	89.2	1	2	2	13	7	4	.....	.....	.....	.....	.....	6	3.87	98.3
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.00	761.9	30.03	762.7	52.9	11.6	73.8	.....	.....	2	4	9	6	3	3	2	.....	.....	4	7.40	188.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.77	756.2	30.00	762.1	51.4	10.8	77.2	.....	2	2	8	2	8	5	2	.....	.....	.....	.....	2.01	51.0
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	28.00	711.2	30.11	764.7	45.7	7.6	86.0	.....	6	2	1	4	8	1	2	5	.....	.....	.....	0.88	22.4
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.96	761.0	30.01	762.2	46.6	8.1	80.0	2	.....	3	2	5	7	7	3	.....	.....	.....	5	1.54	39.0
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.87	758.6	30.03	762.8	45.3	7.4	74.8	3	1	2	6	5	5	6	1	.....	.....	.....	7	1.65	41.9
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.35	745.6	30.08	764.0	52.9	11.6	76.3	.....	4	2	1	1	18	1	2	.....	.....	.....	6	1.44	36.7
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	29.84	757.9	30.04	762.9	49.6	9.8	75.0	4	1	3	1	7	2	3	8	.....	.....	.....	4	2.62	66.5
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.53	750.0	30.02	762.6	44.8	7.1	74.2	1	1	4	8	5	5	3	2	.....	.....	.....	.....	1.49	37.9
Sub-Series.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	0.03 p.m.	131	40	29.89	759.3	30.04	763.1	54.9	12.7	69.3	3	2	4	5	4	2	5	4	.....	.....	.....	7	3.79	96.3
GERMAN.																										
Ansbach	N. 45 18	E. 10 36	0.50 p.m.	1358	414	28.63	727.3	30.13	765.3	41.4	5.2	63.1	1	.....	4	8	2	3	2	4	5	.....	.....	5	0.61	15.5
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.23	742.4	30.07	763.7	40.8	4.9	65.2	2	1	1	2	1	8	4	.....	10	.....	.....	6	1.00	25.4
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.93	760.2	30.07	763.8	42.3	5.7	68.7	.....	1	6	6	6	2	5	3	.....	.....	.....	7	0.92	23.5
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.60	751.8	30.13	765.4	40.1	4.5	70.4	1	3	9	3	2	4	6	.....	1	.....	.....	7	0.31	8.0
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.63	752.7	30.11	764.8	43.9	6.7	66.4	.....	.....	2	9	1	2	3	7	5	.....	.....	7	2.20	56.0
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.34	745.1	30.04	763.1	41.7	5.4	72.3	1	2	.....	3	17	1	1	4	.....	.....	.....	6	0.79	20.1
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.71	754.5	30.09	764.3	42.3	5.7	70.6	1	1	1	5	12	1	7	1	.....	.....	.....	8	1.24	31.6
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.67	728.1	30.13	765.3	40.1	4.5	78.0	2	1	2	15	2	1	.....	6	.....	.....	.....	6	2.50	63.5
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.97	761.2	30.00	763.6	40.8	4.9	82.1	1	.....	2	10	3	6	5	2	.....	.....	.....	6	1.13	28.8
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	30.00	762.1	30.02	762.5	41.0	5.0	79.1	2	.....	3	10	3	1	8	2	.....	.....	.....	7	1.98	50.3
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.67	753.7	30.11	764.8	42.1	5.6	73.4	.....	1	3	9	5	3	3	5	.....	.....	.....	7	0.41	10.4
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.88	759.0	30.08	764.0	43.5	6.4	71.5	.....	.....	5	7	6	2	6	3	.....	.....	.....	6	0.66	16.7
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	30.06	763.4	30.11	764.7	34.7	1.5	89.5	1	7	5	3	3	3	2	5	.....	.....	.....	9	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.25	717.5	30.12	765.0	42.8	6.0	60.3	3	7	1	2	.....	1	6	3	6	.....	.....	5	0.80	20.3
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	30.07	763.8	30.09	764.2	37.8	3.2	85.3	1	3	7	3	5	5	4	1	.....	.....	.....	9	1.46	37.1
Neustadt a.	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.54	750.3	30.07	763.7	43.7	6.5	70.0	.....	4	5	3	5	.....	3	1	7	.....	.....	8	1.39	35.3
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.11	739.3	30.04	763.0	44.6	7.0	65.3	9	.....	2	7	2	.....	6	3	.....	.....	.....	6	1.02	25.9
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	30.01	762.2	30.03	762.7	39.0	3.9	85.0	2	.....	2	6	4	8	5	2	.....	.....	.....	9	1.51	38.3
GREEK.																										
Athens g	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.71	754.7	30.10	764.6	53.8	12.1	.....	11	1	.....	2	3	.....	1	4	.....	.....	.....	5	0.63	15.9
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.92	760.0	29.97	761.2	75.2	24.0	59	.....	2	10	12	1	.....	1	3	.....	.....	.....	6	0.45	11.4
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.46	748.2	29.93	760.2	82.7	28.2	20	5	6	11	4	.....	1	.....	2	.....	.....	.....	2	0.02	0.5
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.90	759.4	29.94	760.4	77.8	25.4	68	3	20	6	.....	.....	.....	.....	.....	.....	.....	.....	1	0	0
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	28.05	712.5	29.89	759.2	84.5	29.2	21	1	10	7	6	.....	2	1	2	.....	.....	.....	1	0	0
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.37	695.2	29.89	759.3	80.2	26.8	38	.....	.....	10	10	1	1	2	2	3	.....	.....	2	0.07	1.8
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.91	759.8	29.98	761.5	66.1	18.9	46	9	3	3	.....	1	.....	1	2	10	.....	.....	4	1.64	41.7
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	29.01	736.8	29.93	760.2	69.7	20.9	33	.....	2	18	.....	.....	1	.....	.....	8	.....	.....	3	0.19	4.8
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.38	746.1	29.95	760.7	75.4	24.1	28	.....	10	14	2	.....	1	1	1	.....	.....	.....	2	0.08	2.0
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.86	733.1	29.90	759.5	82.3	27.9	28	.....	1	2	4	3	2	2	1	14	.....	.....	2	0	0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for February, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
INDIAN—Cont'd.	° ′	° ′																								
Jubbulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.58	726.0	29.95	760.8	75.4	24.1	34	.....	4	3	1	.....	2	2	4	13	.....	.....	3	1.50	38.1
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.56	750.7	29.94	760.5	71.2	21.8	32	3	7	7	1	.....	1	.....	2	8	.....	.....	1	0	0
Allahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.62	752.4	29.94	760.5	73.3	22.9	46	2	5	1	.....	.....	.....	.....	1	20	.....	.....	2	0.18	4.6
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.74	755.4	29.93	760.2	72.6	22.6	37	.....	13	8	2	.....	2	1	2	1	.....	.....	2	0	0
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.89	708.4	29.94	760.5	69.3	20.7	30	2	16	8	1	.....	.....	.....	.....	2	.....	.....	2	0.67	17.0
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.86	758.5	29.94	760.6	78.9	26.1	51	.....	8	4	5	6	1	1	.....	3	.....	.....	3	0.72	18.3
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.92	759.9	29.94	760.5	72.7	22.6	56	2	4	4	6	6	2	.....	.....	5	.....	.....	1	0.29	7.4
Diabri	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.83	757.7	29.95	760.8	68.6	20.3	57	2	.....	.....	2	.....	.....	2	3	20	.....	.....	2	0.34	8.6
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.89	759.2	29.98	761.6	70.8	21.6	69	.....	2	13	7	4	.....	.....	.....	3	.....	.....	2	0	0
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.66	753.2	30.01	762.2	60.6	15.9	86	...	2	...	1	.....	3	2	21	.....	.....	.....	6	2.29	58.2
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.49	723.7	29.96	761.0	73.5	23.1	35	5	15	3	3	.....	.....	2	1	.....	.....	.....	4	0.06	1.5
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	29.86	758.3	29.88	758.9	85.0	29.4	63	2	3	2	2	.....	1	5	13	1	.....	.....	3	0	0
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.41	721.6	.....	.....	87.9	31.1	25.8	3	3	.....	1	3	5	11	3	.....	.....	.....	2	0	0
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.67	753.6	.....	.....	87.1	30.6	34.4	.....	.....	.....	.....	.....	.....	7	22	.....	.....	.....	2	0	0
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.77	756.1	30.19	766.8	46.6	8.1	59	1	...	3	3	3	3	4	1	11	.....	.....	6	0.34	8.7
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.67	753.5	30.20	767.0	45.1	7.3	67	2	7	.....	7	3	1	5	4	.....	.....	.....	7	1.00	25.4
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	30.05	763.3	30.17	766.2	44.4	6.9	66	6	2	1	4	.....	.....	.....	10	6	.....	.....	6	0.32	8.1
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.24	742.7	30.17	766.4	45.0	7.2	67	7	10	.....	1	3	.....	5	3	.....	.....	.....	6	0.27	6.8
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157	48	29.95	760.7	30.15	765.7	51.3	10.7	63	10	.....	.....	1	7	6	.....	4	1	.....	.....	7	4.00	101.5
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	30.12	765.1	30.17	766.4	46.6	8.1	76	15	1	1	4	.....	2	1	5	.....	.....	.....	6	1.02	26.0
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.89	759.1	30.15	765.7	50.5	10.3	63	1	.....	2	4	2	2	6	12	.....	.....	.....	6	0.12	3.1
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	30.00	762.0	30.07	763.8	53.2	11.8	64	3	1	3	3	5	2	4	8	.....	.....	.....	6	0.24	6.1
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.95	760.8	30.13	765.3	54.7	12.6	53	13	.....	5	1	5	1	2	2	.....	.....	.....	5	1.42	36.0
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.87	758.6	30.13	765.2	54.3	12.4	60	9	6	.....	3	4	2	2	3	.....	.....	.....	5	1.56	39.5
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.24	742.7	30.16	766.0	50.2	10.1	74	.....	5	7	3	3	11	.....	.....	.....	.....	.....	4	1.94	49.2
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.88	758.9	30.13	765.4	57.9	14.4	62	.....	1	3	.....	.....	.....	1	24	.....	.....	.....	5	0.80	20.4
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	30.07	763.8	30.12	765.0	57.0	13.9	66	5	1	5	.....	4	1	5	8	.....	.....	.....	6	1.29	32.8
Sub-Series.																										
Naples *a*	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.62	752.4	30.16	766.0	53.2	11.8	63.6	3	3	2	6	1	3	5	5	.....	.....	.....	5	0.59	15.0
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	30.01	762.1	30.04	763.0	29.8	—1.2	88	5	10	5	.....	.....	.....	.....	9	.....	.....	.....	8	2.35	59.7
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.96	761.0	30.00	761.9	27.1	—2.7	76.9	1	3	6	9	6	1	3	.....	.....	7191	11570	7	2.91	73.7
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	29.98	761.5	29.99	761.8	26.1	—3.3	79.6	15	6	5	.....	1	.....	2	.....	.....	7446	11983	6	0.83	21.2
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	92	28	29.99	761.6	30.09	764.1	37.6	3.1	71	.....	1	23	.....	.....	.....	1	1	3	.....	.....	1	2.14	51.7
Hiroshima	N. 34 23	E. 132 27	8.58 p.m.	14	4	30.20	767.0	30.21	767.4	36.3	2.4	81.1	15	2	6	.....	.....	.....	2	4	.....	3192	5136	5	2.80	71.0
Kagoshima	N. 31 35	E. 130 33	8.50 p.m.	14	4	30.22	767.5	30.23	767.8	41.2	5.1	75.5	16	3	.....	.....	.....	.....	1	3	6	.....	.....	5	4.75	120.7
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	30.04	762.9	30.13	765.7	34.1	1.2	82	1	2	6	2	3	4	10	1	.....	5560	8947	8	7.78	197.3
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.98	761.5	30.15	765.9	34.0	1.1	85	6	7	4	4	2	.....	.....	2	4	2134	3431	5	2.68	67.9
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	30.15	765.7	30.17	766.2	40.3	4.6	74.9	3	3	8	2	.....	1	6	5	1	5049	8125	4	2.66	67.4
Miasaka	N. 31 56	E. 131 26	8.54 p.m.	26	8	30.19	766.7	30.21	767.4	41.0	5.0	75	8	3	16	...	1	.....	1	.....	.....	.....	.....	4	4.98	126.4
Miyako	N. 39 38	E. 141 59	9.36 p.m.	98	30	29.89	759.2	30.00	762.0	29.5	—1.4	68	3	1	10	4	.....	.....	2	1	8	1395	2245	4	4.19	105.1
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	30.04	762.9	30.25	768.3	38.6	3.7	77	5	4	1	.....	.....	.....	1	3	15	2732	4397	5	3.77	95.7
Nemuro	N. 43 20	E. 145 35	9.50 p.m.	43	13	29.88	759.0	29.93	760.2	18.7	—7.4	66	1	10	2	3	1	.....	1	1	10	6195	9970	4	0.48	12.2
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	30.04	762.9	30.07	763.9	34.7	1.5	80.9	4	3	10	4	1	5	1	1	.....	6978	11230	10	3.64	92.6
Nobiru	N. 38 23	E. 141 11	9.32 p.m.	15	5	29.98	761.6	30.01	762.0	31.3	—0.4	87.5	13	10	1	2	1	.....	.....	.....	2	7407	11952	6	1.37	34.8
Numadza	N. 35 06	E. 138 51	9.23 p.m.	32	10	30.01	762.2	30.04	763.1	37.6	3.1	74.2	2	.....	1	3	1	2	16	4	.....	.....	.....	4	2.78	70.6
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	30.15	765.8	30.17	766.2	35.1	1.7	73	5	3	7	.....	1	.....	4	9	.....	6319	10169	5	2.45	62.1
Sakai	N. 35 01	E. 133 13	9.01 p.m.	10	3	30.18	766.5	30.19	766.9	36.3	2.4	78	4	1	13	2	.....	.....	2	6	1	.....	.....	6	6.78	172.3
Sapporo	N. 43 04	E. 141 23	9.33 p.m.	60	18	29.91	759.7	29.98	761.4	21.9	—5.6	85	5	3	1	.....	1	4	2	1	12	3669	5907	7	2.67	68.0
Shimonoseki	N. 33 58	E. 130 56	8.52 p.m.	134	41	30.08	763.9	30.22	767.6	38.8	3.8	78	7	.....	7	5	1	1	4	3	1	.....	.....	6	3.55	90.2
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.11	764.8	30.16	766.2	37.2	2.9	75	2	7	.....	.....	.....	.....	1	4	15	2258	3633	5	3.11	79.1
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.75	755.6	29.94	760.4	80.9	27.2	69.6	.....	.....	1	.....	1	3	19	5	.....	.....	.....	7	3.78	96.0
MEXICAN.																										
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24.34	618.2	30.16	765.1	47.6	8.7	72.8	5	15	1	.....	1	1	1	.....	5	.....	.....	3	0.08	2.0
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.80	756.8	30.06	763.5	66.1	18.9	77.6	4	8	.....	.....	.....	.....	15	2	.....	.....	.....	3	0	0
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.00	762.0	30.00	762.0	44.4	6.9	.....	1	1	1	7	9	2	6	2	.....	.....	.....	.....	1.29	32.7
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	30.00	762.1	30.06	763.6	41.2	5.1	.....	2	1	2	9	9	2	4	.....	.....	.....	.....	.....	1.30	33.0
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.98	761.5	29.98	761.5	41.2	5.1	.....	1	.....	1	7	8	4	7	1	.....	.....	.....	.....	0.90	22.8
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.99	761.8	29.99	761.8	49.3	9.6	75.1	1	.....	3	14	1	2	6	2	.....	.....	.....	.....	1.08	27.4
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.97	761.3	30.02	762.6	44.2	6.8	71.1	.....	.....	2	8	8	5	3	3	.....	.....	.....	.....	0.90	22.9
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7.15 p.m.	?	?	29.89	759.1	.....	.....	77.7	25.4	87.9	9	8	8	2	.....	.....	.....	2	.....	.....	.....	7	13.31	338.1
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.80	757.0	29.87	758.6	40.1	4.5	67.7	2	2	2	2	10	1	.....	.....	10	.....	.....	6	7.68	195.0
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.74	755.4	29.78	756.4	36.7	2.6	69.3	.....	1	2	5	5	2	4	.....	10	.....	.....	5	0.95	24.2
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.82	757.5	29.98	761.4	33.1	0.6	77.3	4	2	5	2	6	2	2	4	2	.....	.....	7	0.92	23.3
Gjesvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.57	751.0	29.59	751.6	31.3	—0.4	.....	.....	1	6	6	9	3	1	.....	3	.....	.....	8	2.31	58.7
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.66	753.3	29.71	754.5	33.4	0.8	75.2	1	1	1	11	5	.....	4	1	5	.....	.....	7	2.78	70.7
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.03	762.7	30.12	765.0	60.8	16.0	59.5	.....	3	3	10	.....	2	4	1	6	.....	.....	6	3.79	96.2
Funchal	N. 38 42	W. 9 08	11.31 a.m.	312	95	29.74	755.3	30.08	763.9	53.2	11.8	74.4	0	1	1	6	8	1	2	4	.....	.....	.....	7	5.99	152.1
Lisbon	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.05	763.3	30.12	765.1	57.2	14.0	68.3	4	8	6	3	1	1	1	5	.....	.....	.....	4	4.28	108.8
Ponta Delgada	N. 16 37	W. 25 02	10.28 a.m.	34	10	30.11	764.7	30.14	765.6	69.1	20.6	72.0	3	.....	.....	.....	.....	.....	3	23	.....	.....	.....	6	0.46	11.8
Saint Vincent	S. 6 17	E. 14 53	1.07 p.m.	1834	559	28.04	712.2	29.85	758.2	83.1	28.4	63.6	1	5	5	10	2	.....	4	1	1	.....	.....	7	4.66	118.4
San Salvador	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.22	640.5	30.08	764.1	34.7	1.5	92.8	.....	3	4	2	6	7	7	.....	.....	.....	.....	9	8.89	225.8
Serra da Estrella																										
RUSSIAN																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.86	732.9	30.04	763.1	5.7	-14.6	91.9	.....	2	8	9	5	1	1	1	2	.....	.....	6	0.42	10.8
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.79	756.6	29.81	757.1	15.8	—9.0	87.3	2	1	5	8	3	2	8	.....	.....	.....	.....	8	0.58	14.7
Ashuruda	N. 36 54	E. 53 55	3.44 p.m.	79	24	30.20	767.2	30.11	764.8	49.3	9.6	76.8	9	9	4	1	.....	.....	3	3	.....	.....	.....	7	1.95	49.5
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.20	767.1	30.12	765.1	29.7	—1.3	74.4	1	6	8	5	4	.....	2	3	.....	.....	.....	8	0.31	7.8
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	30.19	760.9	30.15	765.7	41.5	5.3	77.0	12	1	.....	3	5	1	.....	2	5	.....	.....	6	0.80	20.3
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.67	753.6	30.22	767.5	9.5	-12.5	73.7	.....	.....	.....	16	3	1	1	1	7	.....	.....	7	1.04	26.3
Bielosersk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.49	749.1	29.99	761.7	19.4	—7.0	81.3	1	2	4	4	2	2	3	.....	11	.....	.....	8	0.86	21.9
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.80	756.8	30.05	763.3	27.3	—2.6	82.9	1	3	6	4	4	2	3	5	1	.....	.....	8	1.54	39.2
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.85	732.8	29.90	759.4	8.2	-13.2	80.7	1	2	10	6	1	2	2	2	3	.....	.....	8	0.39	10.0
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.70	754.3	30.17	766.3	33.1	0.6	77.4	2	6	6	4	3	2	2	2	2	.....	.....	8	0.46	11.6
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.66	753.4	29.95	760.8	13.1	-10.5	84.9	3	6	3	6	2	5	2	.....	2	.....	.....	7	0.16	4.1
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	29.84	757.9	29.89	759.2	21.9	—5.6	83.6	2	3	9	6	2	.....	.....	.....	7	.....	.....	9	0.22	5.6
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	30.12	764.9	30.14	765.5	36.1	2.3	80.5	3	3	3	1	1	2	.....	7	9	.....	.....	8	0.25	6.3
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.43	747.6	30.10	764.5	31.8	—0.1	79.2	3	8	4	1	4	3	1	5	.....	.....	.....	8	?	?
Koslov	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.46	748.2	29.99	761.8	21.6	—5.8	75.8	2	5	6	6	3	2	1	3	1	.....	.....	8	0.97	24.7
Lgov	N. 51 41	E. 35 17	2.29 p.m.	535?	163?	29.51	749.6	30.13	765.3	26.1	—3.3	83.2	2	4	9	5	2	.....	4	2	1	.....	.....	9	0.78	19.8
Liban	N. 56 31	E. 21 01	1.32 p.m.	20	6	30.04	763.1	30.07	763.7	34.7	1.5	83.4	1	3	6	3	2	6	4	2	2	.....	.....	8	1.55	39.3
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.88	758.9	30.09	764.3	29.8	—1.2	85.4	2	4	7	9	.....	2	2	3	.....	.....	.....	8	0.52	13.2
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.50	749.3	30.01	762.3	21.2	—6.0	77.9	7	7	4	3	3	1	1	2	1	.....	.....	7	0.74	18.7
Nert-hinsk	N. 51 19	E. 119 37	8.07 p.m.	?	?	27.93	709.3	30.49	774.5	—1.7	-18.7	74.1	1	4	.....	1	.....	.....	.....	.....	23	.....	.....	2	0.08	2.0
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	30.11	764.7	30.18	766.5	36.5	2.5	73.3	4	3	2	3	8	1	.....	5	3	.....	.....	6	0.80	20.3
Nikolaievsk *d*	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.96	760.9	30.04	763.1	—3.5	-19.7	76.0	.....	1	12	.....	.....	.....	1	.....	11	.....	.....	2	.....	.....
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	30.24	768.0	30.38	771.6	28.6	—1.9	45.1	1	7	.....	2	.....	2	.....	.....	17	.....	.....	2	0	0
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.12 p.m.	328	100	29.82	757.5	30.19	766.9	36.5	2.5	60.2	5	2	3	2	1	6	3	4	3	.....	.....	7	.....	.....
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.74	755.3	29.94	760.6	20.8	—6.2	79.3	1	8	5	3	.....	6	2	1	3	.....	.....	7	0.78	19.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for February, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
RUSSIAN.—Cont'd	° ′	° ′																								
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.61	752.1	30.13	765.3	34.5	1.4	80.0	2	6	5	2	3	3	5	3	.....	.....	.....	8	0.92	23.3
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	30.11	764.8	30.14	765.6	44.6	7.0	86.7	.....	3	.....	3	8		9	.....	0	.....	.....	6	4.08	103.6
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	30.00	762.0	30.02	762.6	22.8	—5.1	80.1	...	9	6	2	2	3	3	4	.....	.....	.....	7	0.74	18.7
Samarkand	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.62	701.5	30.15	765.9	41.9	5.5	67.2	.....	.....	1	3	.....	1	1	.....	23	.....	.....	6	.....	.....
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.56	750.7	30.28	769.1	9.5	—12.5	81.9	.....	.....	1	3	3	6	1	.....	15	.....	.....	6	0.48	12.1
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	138?	42?	29.94	760.4	30.16	766.1	40.6	4.8	64.3	5	3	4	5	3	.....	.....	9	...	.....	.....	7	0.99	25.1
Staroi Bykhov	N. 53 31	E. 30 16	2.09 p.m.	423?	129?	29.50	749.3	30.08	764.1	31.1	—0.5	75.0	3	5	4	2	3	6	4	2	.....	.....	.....	8	0.92	23.4
Tashkend	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.46	723.0	30.21	767.3	37.8	3.2	73.3	3	6	.....	.....	2	.....	...	5	13	.....	.....	7	.....	.....
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1313	409	28.69	728.8	30.16	766.1	39.4	4.1	57.8	7	9	.....	.....	...	2	3	.....	8	.....	.....	6	1.42	36.2
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.53	699.2	30.19	766.7	23.7	—4.6	71.3	1	...	.....	1	.....	1	.....	1	25	.....	.....	5	.....	.....
Viatka	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.17	741.0	29.86	758.3	11.1	—11.6	72.3	4	1	6	4	2	8	.....	1	2	.....	.....	7	0.44	11.1
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	30.08	763.9	30.14	765.6	14.7	—9.6	70.6	12	2	1	.....	.. ..	3	1	5	5	.....	.....	2	0.13	3.2
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.69	754.0	30.13	765.2	37.8	3.2	80.9	3	4	6	7	3	2	4	.....	.....	.....	.....	8	.....	.....
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	2627	80?	29.98	761.4	30.30	769.6	1.2	—17.1	76.6	1	1	9	5	.....	2	4	...	7		.....	3	0.29	7.3
Sub-Series.																										
Petrowsky Ac'y	N. 55 50	E. 37 38	2.39 p.m.	508	155	29.36	745.7	29.87	758.7	20.6	—6.3	74.5	2	5	9	2	3	2	2	3	1	.....	.....	7	1.03	26.1
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	98	30	29.95	760.8	30.07	763.7	56.1	13.4	78.3	.....	.....	6	5	2	4	9	3	.....	.....	.....	5	2.35	59.7
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	29.96	761.0	30.02	762.5	59.5	15.3	61	.....	5	1	5	5	9	.....	1	3	2510	4039	6	1.76	44.8
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.08	687.8	30.11	764.8	45.7	7.6	73	1	.....	7	11	5	2	.....	3	.....	5975	9615	7	2.67	67.8
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.84	707.2	30.11	764.7	50.2	10.1	69.4	1	2	6	4	2	7	1	6	.....	621	1000	8	1.44	36.6
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.93	760.3	30.08	764.0	54.5	12.5	75	.....	4	4	5	1	4	6	5	.....	1024	1649	7	1.50	38.0
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.04	737.7	29.95	760.7	51.3	10.7	78	1	1	1	8	9	8	.....	1	.....	671	1080	9	11.80	299.7
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	30.05	763.3	30.12	765.0	68.0	20.0	88.1	1	1	.....	.....	2	3	21	1	.....	.....	.....	2	1.90	48.3
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.99	761.6	30.04	763.1	76.3	24.6	77.0	1	.....	.....	2	.....	19	5	2	.....	.....	.....	2	0	0
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	30.01	762.3	30.11	764.8	58.3	14.6	73.2	5	4	9	.....	3	1	5	.....	2	.....		6	4.01	101.8
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	30.02	762.5	30.11	764.8	74.5	23.6	77	2	3	1	.....	2	11	4	3	3	.....	.....	3	3.37	85.5
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.86	758.4	29.90	759.4	17.8	—7.9	98	3	.....	1	7	8	.....	.....	.....	10	.....	.....	6	1.04	26.3
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.87	758.7	29.92	760.0	24.8	—4.0	89	3	5	.....	13	2	..	1	1	4	.....	.....	6	0.54	13.8
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.86	758.5	29.91	759.8	28.9	—1.7	80	3	.....	2	3	5	.....	.....	1	15	.....	.....	5	0.42	10.8
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.84	757.9	30.02	762.4	32.2	0.1	82	4	1	5	8	2	1	3	3	2	.....	.....	8	0.45	11.5
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.94	760.4	30.00	761.9	35.4	1.9	86	1	2	6	7	2	3	8	.....	.....	.....	.....	8	1.48	37.5
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.90	759.5	29.99	761.7	30.9	—0.6	87.0	2	5	2	10	4	2	2	2	.....	.....	.....	7	0.59	15.1
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.67	728.3	30.13	765.3	43.3	6.3	72.9	13	.....	.....	.....	14	.....	.....	2	.....	.....	.....	6	1.53	38.8
TURKISH.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.19	766.8	40.8	4.9	63.0	4	2	.....	7	1	2	.....	13	.....	.....	.....	6	1.50	38.2
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.17	766.3	57.7	14.3	.....	.....	15	1	2	.....	2	.....	9	.....	.....	.....	4	2.72	69.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	30.01	762.2	58.5	14.7	68.0	3	7	1	10	.....	3	.....	5	.....	.....	.....	.....	6.06	153.9
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	30.00	762.0	30.09	764.3	31.6	—0.2	72.5	6	3	4	5	5	1	1	1	3	4460	7178	8	3.85	97.8
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.36	745.7	30.07	763.8	12.0	—11.1	79.1	2	6	8	1	3	3	3	3	.....	6738	10844	8	2.78	70.6
Apache, Fort	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	24.98	634.5	30.08	764.0	31.9	—0.1	80.8	1	1	.....	8	1	6	3	9	.....	5016	8072	5	3.43	87.1
Assinaboine, Ft.	N. 48 32	W. 109 42	4.49 a.m.	2710	826	27.20	690.9	30.24	768.1	0.5	—17.5	85.9	2	3	.....	7	2	1	9	3	2	7057	11357	4	0.44	11.2
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1129	344	28.94	735.1	30.16	766.1	45.3	7.4	72.0	4	6	3	5	5	3	3	.....	.....	7711	12409	4	5.84	148.3
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	30.04	763.0	30.05	763.3	36.5	2.5	85.1	4	2	3	3	5	2	3	7	.....	6659	10716	6	7.44	189.0
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	29.98	761.5	30.18	766.6	48.8	9.3	81.5	.....	1	9	2	7	2	.....	1	7	2958	4760	5	3.98	101.1
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.06	763.5	30.11	764.8	40.3	4.6	72.8	9	4	4	1	3	.....	4	4	.....	4273	6877	7	6.69	169.9
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	22	7	30.04	763.0	30.06	763.5	37.1	2.8	90.6	4	5	2	6	1	2	7	2	.....	10721	17253	6	1.11	28.2
Bennett, Fort	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.50	723.9	30.23	767.8	0.7	—17.4	85.3	3	10	.....	.....	.....	3	1	5	7	.....	.....	6	0.57	14.5
Benton, Fort	N. 47 50	W. 110 40	4.45 a.m.	2700	823	27.25	692.1	30.25	768.3	2.8	—16.2	76.1	a	2	3	6	.....	.....	1	4	12	3532	5684	8	0.117	2.87
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.23	717.0	30.21	767.3	—3.8	—19.9	91.5	4	8	.....	.....	1	3	2	3	8	5352	8613	6	0.87	22.1
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	30.00	763.5	30.09	764.3	34.0	1.1	88.1	4	5	1	4	1	3	2	9	.....	11175	17984	7	7.31	185.7
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.18	690.4	30.14	765.5	25.0	—3.9	86.6	4	4	1	7	5	4	1	1	2	3151	5071	6	1.32	33.5
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.93	760.2	30.09	764.3	29.1	—1.6	86.7	2	9	3	5	1	1	3	5	.....	7590	12215	8	5.74	145.8
Brownsville	N. 25 53	W. 97 26	5.38 a.m.	57	17	29.98	761.5	30.04	763.0	59.7	15.4	89.4	5	.....	.....	1	4	14	2	2	1	8464	13621	4	inap.	inap.
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	690	210	29.27	743.4	30.06	763.5	25.2	—3.8	85.8	2	1	6	4	4	5	1	6	.....	8391	13504	9	4.03	102.4
Buford, Fort	N. 48 00	W. 103 56	5.12 a.m.	1930	588	28.01	711.4	30.22	767.0	—3.5	—19.7	87.2	3	3	7	1	2	.....	1	8	4	7180	11555	6	0.12	3.0
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.71	754.6	30.13	765.3	39.2	4.0	79.2	9	5	.....	5	8	...	1	1	.....	6946	11178	7	5.58	141.7
Canby, Fort	N. 46 16	W. 124 04	3.52 a.m.	179	54	29.83	757.7	30.03	762.7	35.1	1.7	79.8	9	.....	1	.....	6	5	4	4	.....	7714	12414	4	5.20	132.1
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.09	764.3	30.11	764.8	45.8	7.7	86.9	4	2	6	4	9	1	.....	2	1	8906	14331	6	3.31	84.1
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.06	763.5	30.08	764.0	37.9	3.3	84.8	3	6	2	1	6	3	5	3	.....	12396	19949	6	6.22	158.0
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.28	743.7	29.98	761.6	42.5	5.8	82.0	2	9	1	1	.....	9	2	4	1	.....	.....	4	1.95	49.5
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.15	765.8	30.17	766.3	59.4	15.2	86.0	3	4	.....	1	4	4	6	7	.....	6186	9955	3	1.56	39.6
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	30.06	763.5	30.12	765.0	54.5	12.5	86.2	1	3	5	8	.....	.....	1	6	5	5691	9159	4	4.29	109.0
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.24	742.7	30.14	765.5	45.6	7.6	83.8	2	2	2	14	1	.....	1	7	.....	4003	7408	6	6.43	163.3
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.30	744.2	30.16	766.1	43.5	6.4	78.6	4	7	2	3	2	2	6	1	.....	4570	7355	6	8.81	223.8
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6105	1861	23.84	605.5	30.11	764.8	19.4	—7.0	65.4	4	10	6	....	3	3	1	1	1	10247	16491	3	0.26	6.6
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.30	744.2	30.05	763.3	24.8	—4.0	71.7	1	7	6	2	5	1	.....	7	.....	5412	8710	7	3.27	83.1
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	18	5	30.06	763.5	30.08	764.0	40.7	4.8	90.1	4	5	.....	3	7	2	4	4	.....	8212	13216	5	5.84	148.3
Cincinnati	N. 39 06	W. 84 30	5.30 a.m.	620	189	29.41	747.0	30.10	764.5	37.9	3.3	82.7	3	4	4	4	2	5	2	3	2	4213	6780	6	8.87	225.3
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.28	743.7	30.08	764.0	27.7	—2.4	87.5	4	3	5	4	2	6	1	4	.....	6880	11072	8	5.27	133.9
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.17	740.9	30.07	763.8	33.1	0.6	79.5	1	6	4	4	4	4	3	3	.....	5920	9527	7	4.95	125.7
Concho, Fort	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.15	715.0	30.17	766.3	39.5	4.2	86.0	2	6	6	4	3	1	.....	6	1	7421	11943	6	0.48	12.2
Custer, Fort	N. 45 42	W. 107 34	4.58 a.m.	3040	926	26.81	681.0	30.17	766.3	2.8	—16.2	79.2	8	4	4	2	1	4	.....	2	4	4210	6775	6	1.29	32.8
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.37	746.0	30.07	763.8	22.4	—5.3	73.4	1	8	4	3	2	2	4	5	.....	6972	11220	8	0.98	24.9
Davis, Fort	N. 30 38	W. 103 56	5.12 a.m.	4940	1506	25.20	640.1	30.16	766.1	39.6	4.2	69.9	3	...	.....	3	4	12	.....	2	5	3888	6257	4	0	0
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1667	508	28.29	718.6	30.11	764.8	20.4	—6.4	83.6	1	2	5	12	.....	2	1	4	2	3974	6395	6	5.66	143.8
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.23	640.8	30.15	765.8	11.5	—11.4	80.3	.....	.....	5	13	2	... ..	.....	1	8	3033	4881	4	1.01	25.7
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.07	763.8	30.09	764.3	39.4	4.1	90.0	3	4	1	6	3	3	3	6	.....	11847	19066	7	6.14	156.0
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.60	624.8	30.12	765.0	24.2	—4.3	64.8	3	4	3	2	10	.....	.....	1	6	4762	7696	1	0.86	21.8
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.16	740.7	30.12	765.0	16.0	—8.9	67.3	10	2	2	1	4	3	1	5	1	5513	8872	7	1.92	48.8
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.33	715.0	30.08	764.0	28.2	—2.1	80.2	5	6	4	5	1	2	.....	4	2	6737	10812	8	3.39	86.1
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2517	767	27.41	696.2	30.15	765.8	22.1	—5.5	78.3	6	8	3	3	1	5	1	2	.....	9001	14485	4	0.28	7.1
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.33	745.0	30.09	764.3	17.3	—8.2	67.0	1	6	7	3	4	2	.....	5	1	4452	7165	7	2.19	55.6
Duluth	N. 46 48	W. 92 06	6.00 a.m.	644	184	29.32	744.7	30.13	765.3	2.9	—16.2	81.9	1	6	3	2	.....	.....	.....	7	10	5794	9324	6	2.71	68.8
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	30.03	762.7	30.10	764.5	22.3	—5.4	79.8	4	5	4	1	4	2	2	5	2	7858	12646	6	9.38	238.3
Elliott, Fort	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.23	691.6	30.13	765.3	27.2	—2.7	83.8	4	5	1	2	5	2	1	7	2	8939	14386	4	0.27	6.9
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3764	1147	26.27	667.2	30.15	765.8	42.0	5.6	63.4	a	7	9	.....	.....	1	2	1	8	3158	5082	2	0.84	21.3
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.30	744.2	30.07	763.8	28.7	—1.8	85.8	2	3	6	4	6	1	2	5	.....	7238	11648	9	5.88	149.4
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	612	186	29.37	746.0	30.09	764.3	3.3	—15.9	78.1	13	5	4	2	4	1	.....	.....	.....	6488	10441	6	2.75	69.8
Fort Smith	N. 35 22	W. 94 24	5.50 a.m.	451	137	29.58	751.3	30.08	764.0	37.4	3.0	83.1	3	2	6	.....	.....	.....	12	..	6	4222	6794	6	10.72	272.3
Galveston	N. 29 18	W. 94 47	5.49 a.m.	40	12	30.05	763.3	30.09	764.3	58.0	14.4	84.5	3	1	3	.....	14	3	3	2	.....	7560	12166	5	0.89	22.6
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.33	745.0	30.04	763.0	22.2	—5.4	82.1	4	4	4	1	1	4	2	8	1	7745	11981	9	2.72	69.1
Grant, Fort	N. 32 39	W. 109 57	4.48 a.m.	4860	1481	25.20	640.1	30.06	763.5	39.0	3.9	68.8	5	5	.....	.....	.....	4	6	9	.....	4317	6947	4	4.62	117.3
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	12	4	30.10	764.5	30.10	764.5	53.0	11.7	88.5	3	2	.....	8	2	2	5	7	.....	8839	14225	6	5.18	131.6
Helena	N. 46 34	W. 112 04	4.40 a.m.	4044	1232	25.78	654.8	30.13	765.3	11.3	—11.5	77.2	5	3	9	2	1	.....	.....	1	8	3789	6098	5	1.33	33.8
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.68	728.5	30.20	767.1	0.8	—17.3	79.2	9	11	1	2	1	2	2	1	.....	7661	12329	5	0.58	14.7
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.21	741.9	30.06	763.5	31.2	—0.4	75.4	2	6	2	5	3	4	6	1	.....	4636	7461	7	4.73	120.1
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	30.05	763.3	30.08	764.0	57.0	13.9	87.3	2	4	.....	1	11	5	1	5	.....	10853	17466	5	0.04	1.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for February, 1884.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																									
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.11	764.8	30.16	766.1	56.4	13.6	87.7	.....	4	3	6	3	4	2	1	6	4279	6886	4	2.45	62.2
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.38	746.2	30.08	764.0	23.3	—4.8	80.2	1	8	3	3	1	3	.....	4	6	4554	7329	6	1.88	47.8
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.11	764.8	30.13	765.3	70.5	21.4	81.2	4	1	2	3	2	2	7	8	.....	6079	9783	3	1.70	43.2
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.10a	764.5a	30.12a	765.0a	48.1	8.9	86.2	.....	4	.....	12	.....	1	1	9	2	10362	16670	6	4.32	109.7
Knoxville	N. 35 56	W. 83 58	6.32 a.m	980	299	29.08	738.6	30.16	766.1	41.4	5.2	85.5	3	5	1	6	2	.....	4	6	2	4725	7604	6	8.51	216.2
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.25	742.9	30.09	764.3	12.4	-10.9	75.6	5	7	1	2	10	.....	.....	4	.....	5689	9155	7	1.42	36.1
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.18	741.2	30.13	765.3	22.8	—5.1	69.2	9	7	.....	2	6	.....	.....	3	2	6021	9690	6	1.42	36.1
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.26	743.2	30.13	765.3	22.3	—5.4	72.2	.....	2	.....	2	.....	11	.....	1	13	940	1513	5	3.10	78.7
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.77	756.1	30.10	764.5	43.4	6.3	82.3	4	7	.....	1	7	2	2	3	3	3539	5695	6	9.79	248.7
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	371	113	29.63	752.6	30.03	762.7	49.7	9.8	78.4	1	.....	2	.....	1	.....	6	18	1	5183	8825	5	13.37	339.6
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.48	748.8	30.07	763.8	39.6	4.2	76.0	4	1	8	4	3	2	2	3	2	6041	9722	7	9.84	249.9
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.38	746.2	30.10	764.5	41.5	5.3	77.6	.....	5	2	5	4	.....	1	7	5	3154	5076	6	9.02	229.1
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.37	746.0	30.07	763.8	9.1	-12.7	81.8	2	6	6	2	2	1	6	2	2	5938	9556	7	5.10	129.5
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.11	764.8	30.12	765.0	50.2	10.1	89.2	7	3	3	13	1	1	.....	1	.....	10649	17138	6	2.34	59.4
Maginnis, Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.44	646.2	30.20	767.1	4.5	-15.3	51.6	7	11	2	4	.....	1	2	2	.....	7891	12699	5	0.69	17.5
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.33	745.0	30.11	764.8	6.6	-14.1	72.5	6	11	6	1	4	.....	.....	1	.....	5567	8959	7	2.05	52.1
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.74	755.4	30.09	764.3	43.5	6.4	84.6	1	7	3	1	2	9	.....	4	2	4462	7181	7	9.64	244.9
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.26	743.2	30.06	763.5	19.0	—7.2	79.7	2	9	4	2	4	1	3	4	.....	8536	13737	6	2.61	66.3
Mobile	N. 30 41	W. 88 02	6.16 a.m.	35	11	30.09	764.3	30.13	765.3	52.1	11.2	83.9	9	1	.....	.....	6	2	.....	1	10	4504	7345	5	5.01	127.3
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.91	759.7	30.15	765.8	48.4	9.1	83.1	3	5	.....	2	5	2	5	.....	7	4408	7094	6	4.80	121.9
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	29.10	739.1	30.20	767.1	—10.1	—23.4	95.3	13	5	.....	.....	5	4	.....	1	1	6680	10750	4	1.32	33.5
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.52	597.4	30.14	765.5	14.5	—9.7	85.7	.....	16	3	3	1	5	.....	.....	1	.....	.....	4	7.55	191.8
Nashville	N. 36 10	W. 86 47	6.21 a.m.	549	167	29.50	749.3	30.11	764.8	42.1	5.0	81.4	2	5	4	1	7	2	7	1	.....	5152	8291	7	8.18	207.8
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	29.96	761.0	30.08	764.0	29.9	—1.2	88.2	9	3	1	1	1	2	2	8	2	6036	9714	7	5.57	141.5
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	30.04	763.0	30.09	764.3	31.9	—0.1	87.8	3	7	3	2	2	.....	3	7	2	5585	8988	7	5.02	142.7
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	30.06	763.5	30.12	765.0	56.1	13.4	80.0	6	.....	1	2	6	6	1	3	4	5100	8090	3	3.16	80.3
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.90	759.4	30.10	764.5	33.9	1.1	85.6	2	3	5	1	2	2	1	7	6	5610	9028	7	5.09	129.3
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.06	763.5	30.09	764.3	47.1	8.4	85.5	5	3	2	4	5	.....	2	3	5	5206	8475	6	4.58	116.3
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.05	687.1	30.15	765.8	14.2	—9.9	76.7	.....	10	6	.....	.....	2	.....	5	6	5437	8750	5	0.23	5.8
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	30.02	762.5	30.06	763.5	30.2	—1.0	84.7	3	.....	1	1	5	.....	.....	3	16	1265	2036	5	4.17	105.9
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.90	731.0	30.18	766.6	14.1	—9.9	75.1	12	5	3	1	3	2	1	1	1	7313	11815	5	1.42	30.1
Oswego	N. 43 29	W. 76 35	7.02 a.m.	304	93	29.70	754.4	30.05	763.3	28.2	—2.1	75.1	4	2	3	.....	9	6	.....	5	.....	8007	12885	10	2.98	75.7
Palestine	N. 31 45	W. 95 40	5.45 a.m.	533	162	29.52	749.8	30.10	764.5	48.2	9.0	78.7	5	2	.....	1	12	2	1	6	.....	8467	13626	6	2.47	62.7
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.11	764.8	30.14	765.5	54.0	12.2	85.2	5	2	3	3	.....	9	3	4	.....	5800	9334	4	3.43	87.1
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	92	28	29.98	761.5	30.09	764.3	38.6	3.7	87.5	2	6	3	4	2	.....	2	10	.....	6239	10040	6	5.70	144.8
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.46	443.5	30.18	766.6	0.3	-17.6	80.7	3	7	9	5	3	.....	.....	2	.....	.....	.....	2	0.76	19.3
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	766	233	29.21	741.9	30.07	763.8	36.0	2.2	85.0	1	7	4	3	5	.....	2	7	.....	5125	8248	7	4.57	116.1
Poplar, River	N. 48 08	W. 105 10	5.07 a.m.	2030	619	.....	.....	.....	.....	—11.2	—21.0	89.6	2	1	8	3	1	...	9	3	2	.....	.....	6	0.41	10.4
Port Huron	N. 43 00	W. 82 26	6.38 a.m.	633	193	29.29	744.0	30.02	762.5	21.2	—6.0	85.4	3	3	6	2	4	2	1	5	3	6577	10584	8	3.16	80.3
Portland, Maine	N. 43 39	W. 70 15	7.27 a.m.	45	14	30.04	763.0	30.09	764.3	27.2	—2.7	73.7	5	5	1	4	2	1	.....	8	3	5880	9403	7	0.92	175.8
Portland, Oreg.	N. 45 32	W. 122 43	3.57 a.m	67	20	29.97	761.2	30.04	763.0	32.2	0.1	84.7	3	6	.....	2	3	.....	4	5	6	4141	6664	5	4.88	123.9
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5340	1628	24.73	628.1	30.09	764.3	31.5	-0.3	82.5	1	.....	4	11	9	1	.....	1	2	5534	8906	4	0.55	166.4
Provincetown	N. 42 03	W. 70 11	7.27 a.m.	26	8	30.05	763.3	30.08	764.0	33.2	0.7	85.9	.....	7	3	1	3	7	3	3	2	7749	12471	8	7.34	186.4
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	332	101	29.68	753.9	30.05	763.3	39.7	4.3	81.3	14	9	1	.....	5	.....	.....	.....	.....	5370	8652	3	2.21	56.1
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.85	758.2	30.10	764.5	57.7	14.3	83.5	9	.....	1	.....	2	14	3	.....	.....	6007	9667	2	0	0
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.35	745.5	30.06	763.5	25.4	—3.7	85.1	.....	4	8	2	5	4	3	3	.....	9841	15837	9	1.91	49.3
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.47	748.5	30.04	763.0	33.5	0.8	86.1	3	4	.....	4	4	2	5	.....	7	1916	3132	5	3.71	94.2
Sacramento a	N. 38 35	W. 121 30	4.02 a.m.	64	20	29.96	761.0	30.03	762.7	42.2	5.7	89.7	10	3	1	1	3	7	.....	2	1	5170	8320	3	4.46	113.3
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	583	178	29.44	747.8	30.10	764.5	33.0	0.6	81.2	1	9	5	1	2	5	2	4	.....	8826	14204	7	4.43	112.5
Saint Michael, Ft	N. 63 48	W. 162 00	1.20 a.m.	30	9	30.14	765.5	30.17	766.3	9.4	-12.6	91.8	5	.....	1	1	7	1	.....	9	5	.....	.....	5	0.17	4.3
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	801	244	29.17	740.9	30.10	764.5	7.2	-13.8	77.9	5	8	1	2	2	2	.....	.....	9	4401	7082	7	1.27	32.3
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.27	743.4	30.21	768.1	—13.6	-25.3	79.4	4	11	.....	2	7	3	.....	.....	2	5119	8238	5	0.24	6.1
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.59	650.0	30.15	765.8	27.3	—2.6	60.8	2	8	1	.....	1	5	1	.....	11	4075	6558	6	2.23	56.6
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.95	760.7	30.02	762.5	51.7	10.9	77.1	3	2	3	3	3	3	1	11	.....	4937	7945	6	9.05	229.9
Sandusky	N. 41 25	W. 82 40	6.37 a.m.	639	195	29.34	745.2	30.06	763.5	29.1	—1.0	77.2	.....	4	7	4	1	3	4	6	.....	7804	12559	8	5.48	139.2
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	30.07	763.8	30.10	764.5	31.7	1.5	83.8	2	5	5	1	2	1	4	7	2	10893	17530	6	4.72	119.9
Sanford	N. 28 48	W. 81 23	6.42 a.m.	50	15	30.08	764.0	30.13	765.3	59.9	15.5	88.3	1	7	1	3	3	7	1	3	3	4530	7290	4	4.40	111.8
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.95	760.7	30.02	762.5	47.0	8.3	83.1	5	5	4	3	2	4	2	3	1	5074	8166	5	0.65	108.9
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	30.05	763.3	30.14	765.5	52.5	11.4	80.3	4	4	5	2	8	3	1	1	1	5285	8505	4	3.44	87.4
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.36	669.5	30.21	767.3	6.1	-14.4	80.5	1	2	9	9	.....	1	1	5	1	6032	9707	6	0.82	20.8
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.86	758.4	30.10	764.5	49.1	9.5	79.5	4	3	1	2	10	2	3	3	1	5082	8178	6	5.49	139.4
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	30.03	762.7	30.10	764.5	29.3	—1.5	75.0	.....	1	.....	.....	.....	3	15	9	1	5009	8061	4	6.15	156.2
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.08	764.0	30.12	765.0	51.5	10.8	87.9	3	2	7	7	3	1	.....	6	.....	7613	12252	6	2.88	73.2
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	27.97	710.4	30.10	764.5	16.4	—8.7	81.1	.....	3	2	2	.....	1	3	5	13	1894	3048	6	3.04	77.2
Springfield, Ill.	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.36	745.7	30.09	764.3	29.6	—1.3	81.3	3	6	6	.....	6	3	2	3	.....	7403	11914	6	4.24	107.7
Stockton, Fort	N. 30 53	W. 102 53	5.16 a.m.	3010	917	20.99	685.5	30.12	765.0	42.5	5.8	69.4	5	.....	.....	3	4	4	.....	.....	13	5139	8270	5	0.88	22.4
Tatoosh Id	N. 48 23	W. 124 44	3.49 a.m.	86	26	29.92	760.0	.....	.....	35.3	1.8	84.6	.....	.....	2	3	2	2	17	.....	3	11705	18837	6	6.04	153.4
Thomas, Camp	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.30	693.4	30.13	765.3	37.1	2.8	79.2	.....	.....	4	1	5	1	1	.....	17	.....	.....	4	2.94	74.7
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.32	744.7	30.06	763.5	27.5	—2.5	83.6	1	6	5	3	3	2	.....	6	3	5520	8883	9	3.03	77.0
Unalashka	N. 53 53	W. 166 32	1.02 a.m.	13	4	29.77	756.1	29.79	756.7	39.0	2.2	83.8	3	1	.....	1	8	7	9	.....	.....	11621	18702	9	26.19	665.2
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.86	758.4	30.12	765.0	51.0	10.6	78.7	4	2	.....	1	4	13	2	2	1	5348	8607	5	6.73	170.9
Washington, D.C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	29.99	761.7	30.11	764.8	37.9	3.3	86.5	2	8	1	2	2	4	1	7	2	4054	6524	6	6.84	173.7
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	25.96	659.4	30.08	764.0	15.1	—9.4	87.0	3	3	11	2	3	.....	5	2	.....	5930	9543	4	0.50	12.7
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	30.07	763.8	30.13	765.3	51.9	11.1	82.9	2	3	5	6	3	2	2	4	2	5577	8975	6	3.80	96.5
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.78	731.0	30.20	767.1	7.3	-13.7	72.8	5	9	3	.....	2	1	2	4	3	6817	10961	5	1.80	45.7
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.87	758.7	30.02	762.5	51.5	10.8	66.9	8	1	.....	.....	.....	4	1	7	8	4780	7692	3	1.58	40.1
Sub-Series.																											
Behring Island	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.54	750.3	29.56	750.8	28.5	—1.9	86.1	7	.....	.....	4	1	4	6	7	.....	12614	20301	9	1.49	37.8
Bluefields	N. 12 00	W. 83 43	6.31 a.m.	?	?	.....	.....	.....	.....	75.3	24.1	.....	3	17	1	.....	.....	.....	.....	7	1	.....	.....	6	6.39	162.3
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.01	558.9	.....	.....	52.9	11.6	83.0	3	1	4	3	1	2	.....	.....	15	.....	.....	5	2.46	62.5
Chimo, Ft.	N. 59 00	W. 68 00	7.36 a.m	1267	387	29.86	758.4	30.02	762.5	—19.3	—28.5	100.0	1	.....	2	11	5	1	.....	.....	9	10241	16481	5	0.70	17.8
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	.....	.....	30.09	764.3	69.1	20.6	84.0	26	.....	.....	.....	.....	.....	1	.....	2	.....	.....	3	0.11	2.8
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.03	762.8	30.03	762.7	76.7	24.8	87.0	1	.....	.....	.....	.....	6	16	6	.....	.....	.....	6	8.70	221.0
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.38	746.2	29.94	760.5	78.8	26.0	86.7	4	.....	.....	.....	6	.....	.....	.....	19	.....	.....	9	1.94	49.3
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	74.0	23.3	89.8	.....	.....	.....	.....	.....	.....	3	26	.....	.....	.....	2	0.01	0.3
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	30.07	763.8	30.14	765.5	—31.1	—35.1	.....	.....	14	7	7	1	.....	.....	.....	.....	.....	.....	3	0.18	4.6
U. S. COLOMBIA.																											
Sub-Series.																											
Colon	N. 9 22	W. 79 55	6.50 a.m.	7	2	29.93	760.2	29.95	760.6	74.1	23.4	83.6	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	.....	.....
Naos	N. 8 55	W. 79 32	6.50 a.m.	39	12	29.91	759.8	29.98	761.5	72.5	22.5	88.0	28	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....

OCEAN SQUARE DATA FOR FEBRUARY, 1884.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W. 22.5°	30.00	762.0	72.9	22.7	2						6	20	1		3.9
12.5 27.5	30.03	762.7	73.6	23.1	1						5	23			4.3
12.5 32.5	30.05	763.3	75.1	23.9							10	17		2	4.6
12.5 37.5	30.07	763.8	76.1	24.5	1						10	11		7	4.5
12.5 42.5	30.07	763.8	76.5	24.7							12	4		13	4.7
12.5 47.5	30.08	764.0	76.2	24.6							11	6		12	5.1
12.5 52.5	30.08	764.0	76.4	24.7		1					15	7		6	4.8
17.5 22.5	30.05	763.3	69.2	20.7	3						12	14			4.3
17.5 27.5	30.07	763.8	70.6	21.4	2						10	17			4.4
17.5 32.5	30.0	764.5	70.1	21.2							12	15		2	4.9
17.5 37.5	30.12	765.0	73.8	23.2	1						13	9		6	4.9
17.5 42.5	30.13	765.3	74.5	23.6						1	13	6		9	4.9
17.5 47.5	30.14	765.5	75.0	23.9							15	4		10	5.1
17.5 52.5	30.13	765.3	75.0	23.9		1				2	15	7		4	4.8
17.5 57.5	30.10	764.5	76.7	24.8	1	2					18	8			4.5
22.5 22.5	30.09	764.3	66.9	19.4	8	1				1	12	7			4.3
22.5 27.5	30.13	765.3	68.4	20.2	8					1	7	12	1		4.3
22.5 32.5	30.10	766.1	70.6	21.4	7					2	5	12	1	2	4.7
22.5 37.5	30.18	766.6	71.9	22.2	2	2		1		1	12	9		2	4.7
22.5 42.5	30.19	766.8	72.5	22.5	2		1		1	2	14	7		2	4.6
22.5 47.5	30.18	766.6	72.7	22.6			1			4	14	6	1	3	4.5
22.5 52.5	30.15	765.8	72.7	22.6	1	1		2		5	13	4	1	2	4.5
22.5 57.5	30.14	765.5	73.6	23.1	3	1	1	1		5	14	2	2		4.2
22.5 62.5	30.14	765.5	74.1	23.4	1		1	1		1	15	8	1	1	4.2
22.5 67.5	30.14	765.5	74.2	23.4	3	1		1		3	13	7	1		4.3
22.5 72.5	30.13	765.3	74.5	23.6	1	1		1	1	7	14	4			4.2
27.5 22.5	30.14	765.5	64.5	18.1	4	5	2		2	2	4	8	1	1	4.1
27.5 27.5	30.17	766.3	66.0	18.9	7	5		1	1	4	5	5		1	4.5
27.5 32.5	30.19	766.8	67.6	19.8	7	4	1	1	1	3	9	3			4.7
27.5 37.5	30.22	767.6	69.2	20.1	7		3	2	1	3	5	5		3	4.7
27.5 42.5	30.24	768.1	69.3	20.7	4	1	3	1	2	4	8	4	1	1	4.5
27.5 47.5	30.23	767.8	69.5	20.8	2	1	3	1	2	5	8	3		4	4.8
27.5 52.5	30.21	767.3	69.7	20.9	5	2	1	3	4	1	12			1	4.3
27.5 57.5	30.19	766.8	70.0	21.1	4	1	2	3	2	4	10	1	2		3.9
27.5 62.5	30.18	766.6	69.8	21.0	3	4	1	1		4	9	4	3		3.7
27.5 67.5	30.17	766.3	70.9	21.6	4	2	1		3	7	6	4	2		4.0
27.5 72.5	30.18	766.6	71.8	22.1	1	3		2	8	2	5	7	1		4.3
27.5 77.5	30.15	765.8	70.0	21.1	1	1	1	2	12	3	7	2			3.9
32.5 12.5	30.11	764.8	60.8	16.0	2	2	3	4	7	3	2	1	4	1	3.0
32.5 17.5	30.12	765.0	60.7	15.9	3	2	4	9	2	2	3		4		2.0
32.5 22.5	30.15	765.8	61.6	16.4	4	3	7	4	1	3	1	5	1		3.9
32.5 27.5	30.17	766.3	62.9	17.2	4	6	5	3	2	1	4	2	2		4.2
32.5 32.5	30.20	767.1	64.1	17.8	5	8	3	4	1	1	2	4		1	4.8
32.5 37.5	30.23	767.8	65.1	18.4	6	8	5	2		4	1		1	2	4.5
32.5 42.5	30.26	768.6	64.7	18.2	5	5	5	2	2	3	2	3	1	1	4.7
32.5 47.5	30.26	768.6	64.5	18.1	2	4	5	1	3	2	4	5		3	5.3
32.5 52.5	30.23	767.8	64.9	18.3	3	2	3	4	1	4	7	1	3	1	4.4
32.5 57.5	30.21	767.3	65.5	18.6	2	3	4	6	4	3	6			1	4.2
32.5 62.5	30.18	766.6	65.6	18.7	2	3	5	4	3	4	3	3	2		3.6
32.5 67.5	30.18	766.6	66.0	18.9	5	1	3	2	6	4	4	3	1		4.2
32.5 72.5	30.15	765.8	64.9	18.3	2	4	1	5	7	3	4	1		2	4.3
32.5 77.5	30.13	765.3	60.0	15.6	5	1	6	2	7	1	3	3		1	4.7
37.5 12.5	30.05	763.3	56.0	13.3	2	3	4	10	3	2	1	2	2		3.7
37.5 17.5	30.05	763.3	57.3	14.1	1	10	7	5	1		3	2			4.3
37.5 22.5	30.09	764.3	57.9	14.4	2	10	7	3	1		1	5			4.3
37.5 27.5	30.12	765.0	58.3	14.6	4	5	11	1	2		1	5			4.2
37.5 32.5	30.14	765.5	59.9	15.5	1	10	6	5	2	3	1	1			5.1
37.5 37.5	30.16	766.1	59.2	15.1	3	8	10	3	1	3				1	5.4
37.5 42.5	30.19	766.8	58.4	14.7	6	6	7	3	3	1		2		1	5.7
37.5 47.5	30.21	767.3	57.2	14.0	5	2	8	4	2	1	3	2	1	1	5.2
37.5 52.5	30.20	767.1	56.7	13.7	3	4	5	6	3	2	1	5			5.6
37.5 57.5	30.17	766.3	58.0	14.4	4	4	5	8	2	3	2	1			5.4
37.5 62.5	30.15	765.8	57.9	14.4	2	7	1	8	2	6		2	1		5.4
37.5 67.5	30.14	765.5	55.4	13.0	4	5	3	5	6	1	2	3			5.5
37.5 72.5	30.11	764.8	48.7	9.3	5	4	1	6	3	2	2	5	1		4.7
42.5 12.5	29.93	760.2	53.7	12.1	1	1	8	13	4		1	1			4.6
42.5 17.5	29.90	759.4	56.1	13.4	3	3	14	5				3	1		5.3
42.5 22.5	29.92	760.0	55.4	13.0	3	9	10	4	1			2			5.7
42.5 27.5	29.96	761.0	54.0	12.2	4	6	9	7	1			1	1		5.7
42.5 32.5	29.96	761.0	53.4	11.9	3	12	7	6	1						5.8
42.5 37.5	30.02	762.5	52.8	11.6	2	13	5	3	2		2	2			5.9
42.5 42.5	30.09	764.3	48.7	9.3	6	8	7	4	2	1		1			5.7
42.5 47.5	30.11	764.8	43.7	6.5	2	11	4	3	4	1		2		2	5.4
42.5 52.5	30.12	765.0	40.5	4.7	2	8	4	5	3	1	3	3			5.3
42.5 57.5	30.10	764.5	42.7	5.9	2	5	8	3	2	2	4	1	1	1	5.3
42.5 62.5	30.07	763.8	38.4	3.0	4	5	4	4	2	4	2	4			4.9
42.5 67.5	30.09	764.3	33.5	0.8	5	4	3	2	2	7	3	1		2	4.4
47.5 12.5	29.75	755.6	51.3	10.7	1	3	4	10	9			2			5.7
47.5 17.5	29.70	754.4	50.8	10.4	2	5	9	6	5	1		1			6.2
47.5 22.5	29.68	753.9	48.7	9.3	1	9	8	5	6						6.3
47.5 27.5	29.71	754.6	48.1	8.9	1	12	8	5	3						6.6
47.5 32.5	29.73	755.1	47.1	8.4	1	15	8	3	2						6.7
47.5 37.5	29.83	757.7	44.2	6.8		18	8	1	2						6.3
47.5 42.5	29.92	760.0	37.9	3.3	4	12	6	6	1						5.7
47.5 47.5	29.95	760.7	29.9	−1.2	1	13	8	5	2						5.4
52.5 12.5	29.64	752.8	47.4	8.6	1	1	10	6	7	3		1			6.1
52.5 17.5	29.54	750.3	46.6	8.1	1	5	7	5	8	2	1				6.4
52.5 22.5	29.50	749.3	44.4	6.9	2	9	3	6	6	2			1		6.3
52.5 27.5	29.48	748.8	42.3	5.7	4	8	7	6	3	1					6.7
52.5 32.5	29.52	749.8	39.0	3.9	3	9	8	6	1	2					6.3
52.5 37.5	29.55	750.6	34.9	1.6	2	13	11	2		1					6.3
52.5 42.5	29.67	753.6	29.5	−1.4	1	15	8	4			1				6.1
52.5 47.5	29.75	755.6	21.9	−5.6		11	10	4	2	1		1			5.7
57.5 12.5	29.49	749.0	42.7	5.9	3	1	3	8	5	7		2			6.3
57.5 17.5	29.40	746.7	41.3	5.2	4	2	5	6	4	7		1			6.6
57.5 22.5	29.34	745.2	38.8	3.8	4	3	1	10	2	7	2				6.7
57.5 27.5	29.31	744.5	36.0	2.2	6	3	4	7	1	4	2	1		1	6.9
57.5 32.5	29.36	745.7	31.2	−0.4	5	7	4	3	1	3	3	3			6.6
57.5 37.5	29.38	746.2	26.2	−3.2	7	10	5	2	1	2	1	1			6.1
57.5 42.5	29.45	748.0	20.7	−6.3	7	12	3	2		2	1	1		1	5.9
57.5 47.5	29.53	750.0	15.0	−9.4	4	13	3	2	2		1	1	1	2	5.0

ANGRA, AZORES.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Mill.	Reduced to sea-level. Inch.	Mill.	Temperature of the air. Fah.	Cent.	Relative Humidity Per cent.	Wind. Direction. From.	Velocity. Miles perhour	Metrs prsec.	Force 0-10	Clouds. Amount. Upper. 0-10	Lower. 0-10	Direction. Up'er From	Lo'er From	Rainfall in past 24 hours. Inch.	Mill.	WEATHER.
1884.																		
January 1					59.7	15.4	81	s.	16.8	7.5			6			0.394	10.0	
2					57.2	14.0	91	nw.	15.0	6.7			4			0.748	19.0	
3					50.0	10.0	76	wnw.	22.4	10.0			4			0.134	3.4	
4					58.3	14.6	80	wnw.	10.5	4.7			4			0.260	6.6	
5					59.4	15.2	83	calm	0	0			2			0	0	
6					60.1	15.6	75	ne.	5.6	2.5			2			0	0	
7					56.8	13.8	86	e.	6.3	2.8			5			0	0	
8					61.5	16.4	92	se.	8.7	3.9			6			0	0	
9					60.4	15.8	85	e.	11.2	5.0			4			0	0	
10					60.8	16.0	87	se.	9.8	4.4			3			0	0	
11					60.6	15.9	85	ese.	15.0	6.7			2			0	0	
12					61.3	16.3	87	ese.	18.6	8.3			7			0	0	
13					61.5	16.4	87	ese.	22.4	10.0			4			0	0	
14					60.3	15.7	90	ese.	16.8	7.5			7			1.142	29.0	
15					61.5	16.4	96	se.	11.2	5.0			8			0.276	7.0	
16					62.2	16.8	90	se.	8.1	3.6			4			0.098	2.5	
17					62.6	17.0	90	se.	1.8	0.8			3			0	0	
18					62.1	16.7	87	calm	0	0			4			0	0	
19					60.6	15.9	87	w.	8.7	3.9			4			0	0	
20					61.2	16.2	91	ssw.	3.1	1.4			5			0	0	
21					62.6	17.0	78	sw.	4.9	2.2			3			0	0	
22					61.7	16.5	83	wsw.	4.3	1.9			3			0	0	
23					62.2	16.8	85	wnw.	8.1	3.6			4			0	0	
24					61.5	16.4	83	wnw.	9.8	4.4			3			0	0	
25					60.3	15.7	94	nw.	13.6	6.1			5			0	0	
26					62.1	16.7	85	w.	9.8	4.1			3			0	0	
27					61.5	16.4	92	wnw.	9.4	4.2			5			0	0	
28					61.5	16.4	77	sw.	16.8	7.5			4			0	0	
29					57.6	14.2	93	w.	11.2	5.0			10			0	0	
30					61.0	16.1	69	wsw.	13.0	5.8			6			0.535	13.6	
31					53.4	11.9	57	wnw.	17.4	7.8			7			0.689	17.5	
Mean					60.1	15.6	84.8		10.5	4.7			4.5			4.276	108.6	
February 1					55.6	13.1	77	wnw.	12.5	5.6			4			0.496	12.6	
2					50.7	13.7	82	ese.	9.8	4.4			4			0	0	
3					56.5	13.6	67	ese.	9.4	4.2			5			0	0	
4					55.8	13.2	66	e.	6.9	3.1			4			0	0	
5					55.6	13.1	79	ne.	7.4	3.3			3			0	0	
6					57.2	14.0	86	w.	5.6	2.5			4			0	0	
7					54.0	12.2	70	nne.	13.6	6.1			3			0.299	7.6	
8					58.1	14.5	89	nw.	12.5	5.6			4			0	0	
9					59.7	15.4	76	nw.	9.4	4.2			5			0	0	
10					55.4	13.0	73	nne.	5.6	2.5			4			0	0	
11					59.7	15.4	85	wnw.	13.6	6.1			4			0.217	5.5	
12					55.2	12.9	79	nw.	18.1	8.1			4			0.157	4.0	
13					54.3	12.4	76	w.	16.1	7.2			5			0.197	5.0	
14					46.8	8.2	70	nnw.	22.4	10.0			5			0.669	17.0	
15					48.6	9.2	71	n.	12.5	5.6			3			0.252	6.4	
16					53.1	11.7	95	w.	10.5	4.7			10			0.118	3.0	
17					55.0	12.8	70	wnw.	28.0	12.5			3			0.417	10.6	
18					47.3	8.5	72	n.	24.2	10.8			4			0.315	8.0	
19					53.2	11.8	67	wsw.	13.6	6.1			3			0.118	3.0	
20					57.0	13.9	95	wsw.	24.8	11.1			9			0	0	
21					59.4	15.2	89	wsw.	16.1	7.2			8			0.197	5.0	
22					55.4	13.0	73	n.	6.3	2.8			3			0.177	4.5	
23					53.8	12.1	76	se.	8.7	3.9			4			0	0	
24					58.8	14.9	91	s.	8.1	3.6			7			0	0	
25					56.1	13.4	77	n.	28.0	12.5			5			0.354	9.0	
26					57.2	14.0	91	wnw.	11.2	5.0			7			0	0	
27					54.0	12.2	72	wnw.	13.0	5.8			4			0.157	4.0	
28					57.4	14.1	93	w.	8.1	3.6			5			0	0	
29					55.4	13.0	79	w.	15.0	6.7			9			0.197	5.0	
Mean					55.2	12.9	78.8		13.4	6.0			4.9			4.339	110.2	

IVIGTUT, GREENLAND (N. 61° 12′, W. 48° 00′).

DATE.	Corrected Inch.	Corrected Mill.	Reduced Inch.	Reduced Mill.	Temp. Fah.	Temp. Cent.	Relative Humidity	Wind Direction	Velocity Miles	Metrs	Force	Cloud Amount Upper	Lower	Direction Up'er	Lo'er	Rainfall Inch.	Mill.	WEATHER.
1883.																		
October 1	30.17	766.2	30.19	766.7	32.9	0.5		n.			2		3					
2	29.55	750.6	29.57	751.1	32.2	0.1		calm			0		10					
3	29.10	739.1	29.12	739.6	40.0	4.8		se.			6-7		10					raining.
4	29.80	756.9	29.82	757.4	33.1	0.6		calm			0		7					
5	29.42	747.3	29.44	747.8	39.6	4.2		s.			4.6		10					raining.
6	29.56	750.9	29.58	751.4	33.3	0.7		calm			0		10					snowing.
7	29.60	751.8	29.62	752.3	32.9	0.5		calm			0		0					foggy.
8	29.69	754.1	29.71	754.6	33.6	0.9		calm			0		10					snowing.
9	30.07	763.7	30.09	764.2	30.7	— 0.7		calm			0		9					
10	29.68	753.8	29.70	754.3	36.1	2.3		se.			4		10					snowing.
11	29.43	747.6	29.45	748.1	33.4	0.8		calm			0		9					
12	29.84	758.0	29.86	758.5	32.4	0.2		calm			0		1					
13	29.76	756.0	29.78	756.5	24.4	— 4.2		calm			0		1					
14	29.41	747.1	29.43	747.6	24.4	— 4.2		calm			0		9					
15	29.34	745.2	29.36	745.7	20.3	— 6.5		calm			0		6					
16	29.22	742.1	29.24	742.6	25.0	— 3.9		ne.			2		9					
17	29.32	744.6	29.34	745.1	19.2	— 7.1		ne.			2		1					
18	29.66	753.3	29.68	753.8	23.5	— 4.7		ne.			6		1					
19	29.92	759.9	29.94	760.4	28.0	— 1.9		calm			0		10					
20	29.85	758.1	29.87	758.6	36.1	2.3		calm			0		10					
21	29.60	751.8	29.62	752.3	32.0	0.0		nw.			7		9					
22	29.87	758.8	29.89	759.3	29.3	— 1.5		n.			6		9					
23	29.74	755.3	29.76	755.8	25.5	— 3.6		n.			2		6					
24	29.65	753.2	29.67	753.7	20.6	— 3.0		n.			2		9					
25	29.47	748.5	29.49	749.0	28.0	— 2.2		calm			0		10					
26	29.49	749.1	29.51	749.6	22.5	— 5.3		calm			0		5					
27	29.57	751.1	29.59	751.6	23.5	— 4.7		calm			0		9					
28	29.69	754.0	29.71	754.5	23.0	— 5.0		calm			0		1					
29	29.26	743.1	29.28	743.6	23.4	— 4.8		calm			0		8					
30	29.39	746.4	29.41	746.9	21.7	— 5.7		calm			0		2					
31	29.35	745.5	29.37	746.0	14.5	— 9.7		calm			0		0					
Mean	29.60	751.7	29.61	752.2	28.4	— 2.0							6.6					

IVIGTUT, GREENLAND—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity. Per cent.	Wind. Direction. From.	Wind. Velocity. Miles per hour	Wind. Velocity. Metrs per sec.	Wind. Force 0-10	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0-10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall in past 24 hours. Inch.	Rainfall in past 24 hours. Mill.	WEATHER.
1883.																		
November 1	29.28	743.6	29.30	744.1	20.1	— 6.6		calm			0		0					
2	29.71	754.7	29.73	755.2	19.4	— 7.0		calm			0		1					
3	29.42	747.3	29.44	747.8	19.8	— 6.8		calm			0		2					
4	29.72	755.0	29.74	755.5	28.2	— 2.1		calm			0		10					snowing.
5	29.41	747.1	29.43	747.6	32.2	0.1		calm			0		10					snowing.
6	29.44	747.8	29.40	748.3	27.1	— 2.7		calm			0		10					
7	29.48	748.7	29.50	749.2	15.1	— 9.4		calm			0		7					
8	29.83	757.6	29.85	758.1	17.8	— 7.9		calm			0		10					snowing.
9	29.86	758.5	29.88	759.0	17.1	— 8.3		calm			0		10					
10	29.43	747.5	29.45	748.0	30.9	— 0.6		calm			0		10					
11	29.50	749.4	29.52	749.9	21.7	— 5.7		calm			0		5					
12	29.18	741.2	29.20	741.7	17.1	— 8.3		calm			0		9					
13	28.95	735.3	28.97	735.8	19.8	— 6.8		calm			0		0					
14	28.70	729.0	28.72	729.5	29.5	— 1.4		se.			2		9					
15	29.06	738.1	29.08	738.6	27.9	— 2.3		calm			0		9					
16	29.10	739.2	29.12	739.7	28.9	— 1.7		nw.			6		10					
17	28.95	735.3	28.97	735.8	23.7	— 4.6		nw.			6		10					snowing.
18	28.90	734.0	28.92	734.5	22.8	— 5.1		calm			0		10					
19	29.33	745.0	29.35	745.5	21.7	— 5.7		calm			0		10					snowing.
20	29.50	749.2	29.52	749.7	24.3	— 4.3		nw.			6		10					snowing.
21	29.73	755.1	29.75	755.6	14.9	— 9.5		calm			0		2					
22	29.52	749.7	29.54	750.2	11.8	—11.2		n.			2		1					
23	29.38	746.2	29.40	746.7	16.5	— 8.6		calm			0		10					
24	29.51	749.5	29.53	750.0	22.3	— 5.4		nw.			2		10					
25	29.72	755.0	29.74	755.5	11.5	—11.4		calm			0		0					
26	29.85	758.2	29.87	758.7	9.7	—12.4		calm			0		4					
27	30.00	762.0	30.02	762.5	6.6	—14.1		calm			0		0					
28	29.70	754.3	29.72	754.8	31.6	— 0.2		se.			4-7		10					
29	29.72	754.9	29.74	755.4	22.8	— 5.1		calm			0		10					
30	28.69	728.6	28.71	729.1	33.4	0.8		se.			4-7		10					snowing.
Mean	29.42	747.2	29.44	747.7	21.6	— 5.8							7.0					
December 1	30.04	763.0	30.06	763.5	15.1	— 9.4		calm			0		4					
2	30.04	763.0	30.06	763.5	11.8	—11.2		calm			0		2					
3	29.32	744.6	29.34	745.1	35.2	1.8		se.			2-6		10					raining.
4	29.84	757.9	29.86	758.4	41.2	5.1		calm			0		7					
5	29.45	748.0	29.47	748.5	39.7	4.3		calm			0		10					raining.
6	29.45	747.9	29.47	748.4	31.1	— 0.5		calm			0		10					snowing.
7	29.63	752.7	29.65	753.2	24.1	— 4.4		n.			2		8					
8	29.75	755.7	29.77	756.2	10.4	—12.0		ne.			4		7					
9	29.31	744.5	29.33	745.0	8.2	—13.2		calm			0		9					
10	29.52	749.8	29.54	750.3	7.3	—13.7		calm			0		6					
11	29.72	754.8	29.74	755.3	5.2	—14.9		calm			0		10					snowing.
12	29.37	746.0	29.39	746.5	3.4	—15.9		calm			0		10					
13	29.44	747.7	29.46	748.2	7.3	—13.7		calm			0		10					
14	29.63	752.6	29.65	753.1	8.6	—13.0		calm			0		7					
15	29.65	753.0	29.67	753.5	27.1	— 2.7		se.			2-6		10					
16	28.98	736.1	29.00	736.6	40.8	4.9		se.			6-9		10					raining.
17	29.68	753.8	29.70	754.3	22.5	— 5.3		sw.			4-6		10					snowing.
18	30.22	767.6	30.24	768.1	15.6	— 9.1		e.			4		10					
19	29.55	750.5	29.57	751.0	22.5	— 5.3		nw.			6		10					
20	29.30	744.2	29.32	744.7	9.7	—12.4		calm			0		5					
21	29.48	748.7	29.50	749.2	13.5	—10.3		n.			4		9					
22	29.71	751.7	29.73	755.2	— 2.0	— 8.9		calm			0		0					
23	29.05	737.8	29.07	738.3	2.8	—16.2		calm			0		5					
24	29.51	749.6	29.53	750.1	— 4.9	—20.5		calm			0		2					
25	29.80	756.8	29.82	757.3	— 4.4	—20.2		calm			0		0					
26	29.96	760.9	29.98	761.4	— 4.2	—20.1		calm			0		2					
27	29.72	754.8	29.74	755.3	0.1	—17.7		calm			0		2					
28	29.74	755.5	29.76	756.0	— 0.6	—18.1		ne.			4		3					
29	29.55	750.0	29.57	751.1	— 2.9	—19.4		calm			0		5					
30	29.55	750.6	29.57	751.1	1.2	—17.1		calm			0		0					
31	29.95	760.6	29.97	761.1	6.8	—14.0		calm			0		0					
Mean	29.61	752.1	29.63	752.6	12.7	—10.7							6.2					
1884.																		
January 1	30.15	765.9	30.17	766.4	5.5	—14.7		calm			0		0					
2	29.90	759.5	29.92	760.0	16.2	— 8.8		calm			0		10					snowing.
3	29.94	760.5	29.96	761.0	42.8	6.0		se.			4		7					
4	29.10	739.2	29.12	739.7	44.4	6.9		se.			7-9		10					
5	28.93	734.9	28.95	735.4	22.1	— 5.5		calm			0		9					
6	29.18	741.1	29.20	741.6	19.4	— 7.0		se.			6		10					snowing.
7	28.72	729.6	28.74	730.1	16.3	— 8.7		calm			0		10					
8	28.74	729.9	28.76	730.4	9.0	—12.8		calm			0		5					
9	29.21	742.0	29.23	742.5	14.0	—10.0		nw.			0		9					
10	29.92	759.9	29.94	760.4	5.4	—14.8		calm			0		0					
11	29.10	739.2	29.12	739.7	35.8	2.1		se.			2		10					raining.
12	29.41	747.0	29.43	747.5	26.6	— 3.0		calm			0		10					snowing.
13	29.57	751.1	29.59	751.6	17.2	— 8.2		calm			0		7					
14	29.61	752.1	29.63	752.6	12.9	—10.6		calm			0		10					
15	29.59	751.5	29.61	752.0	11.7	—11.3		calm			0		8					
16	28.87	733.4	28.89	733.9	24.1	— 4.4		nw.			6		10					
17	29.20	741.6	29.22	742.1	0.1	—17.7		calm			0		1					
18	28.98	736.1	29.00	736.6	5.0	—15.0		calm			0		0					
19	29.35	745.6	29.37	746.1	2.8	—16.2		calm			0		2					
20	29.72	755.0	29.74	755.5	— 3.5	—19.7		calm			0		2					
21	29.53	750.1	29.55	750.6	—11.6	—24.2		calm			0		0					
22	29.34	745.2	29.36	745.7	—17.9	—27.7		calm			0		0					
23	29.56	750.8	29.58	751.3	— 8.1	—22.3		calm			0		10					
24	29.30	744.2	29.32	744.7	9.5	—12.5		calm			0		9					
25	29.48	748.9	29.50	749.4	— 6.9	—21.6		calm			0		9					
26	29.24	742.7	29.26	743.2	— 3.1	—19.5		calm			0		8					
27	29.38	746.3	29.40	746.8	— 0.2	—17.9		calm			0		10					
28	29.50	749.2	29.52	749.7	— 0.8	—18.2		calm			0		2					
29	29.40	746.7	29.42	747.2	27.1	— 2.7		calm			0		10					
30	29.71	754.5	29.72	755.0	11.8	—11.2		calm			0		9					
31	29.50	749.2	29.52	749.7	27.9	— 2.3		sse.			6		10					snowing.
Mean	29.39	746.5	29.41	747.0	11.5	—11.4							7.0					

CAMPO MAJOR (N. 39° 02′, W. 6° 59′).

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Force	Clouds. Amount. Upper.	Clouds. Amount. Lower.	Clouds. Direction. Upper	Clouds. Direction. Lo'er	Rainfall or melted snow in past 24 hours.		WEATHER
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles perhour	Metrs pr sec.	0–10	0–10	0–10	From	From	Inch.	Mill.	
1883.																		
September 1	28.97	735.7	29.93	760.3	72.7	22.6	53	w.	9.8	4.4	.....	.....	8	.....	.....	0	0	
2	29.02	737.1	30.15	765.9	71.1	21.7	45	sw.	8.1	3.6	.....	.....	8	.....	.....	0.020	0.5	
3	28.94	735.1	29.91	759.8	71.8	22.1	44	wnw.	8.7	3.9	.....	.....	2	.....	.....	0	0	
4	29.20	741.7	30.18	766.5	71.6	22.0	39	n.	9.4	4.2	.....	.....	2	.....	.....	0	0	
5	29.21	741.9	30.19	766.7	76.6	24.8	30	nnw.	4.9	2.2	.....	.....	2	.....	.....	0	0	
6	29.19	741.4	30.15	765.8	82.0	27.8	34	ese.	8.1	3.6	.....	.....	0	.....	.....	0	0	
7	29.03	737.4	29.97	761.3	87.8	31.0	26	ene.	6.3	2.8	.....	.....	0	.....	.....	0	0	
8	29.04	737.7	29.98	761.5	91.0	32.8	26	ssw.	1.3	0.6	.....	.....	0	.....	.....	0	0	
9	29.00	736.7	29.94	760.5	90.1	32.3	38	wnw.	1.3	0.6	.....	.....	0	.....	.....	0	0	
10	29.01	737.7	30.00	762.0	81.0	27.2	56	sw.	5.6	2.5	.....	.....	2	.....	.....	0	0	
11	29.11	739.5	30.07	763.7	85.1	29.5	50	wnw.	3.8	1.7	.....	.....	4	.....	.....	0	0	
12	29.08	738.6	30.04	762.9	80.2	26.8	46	n.	8.1	3.6	.....	.....	4	.....	.....	0	0	
13	29.03	737.3	29.98	761.6	80.2	26.8	39	e.	7.4	3.3	.....	.....	3	.....	.....	0	0	
14	28.92	734.6	29.87	758.7	82.2	27.9	43	sw.	3.1	1.4	.....	.....	4	.....	.....	0	0	
15	28.95	735.4	29.93	760.1	72.1	22.3	66	sw.	7.4	3.3	.....	.....	6	.....	.....	0	0	
16	29.14	740.1	30.11	764.7	76.1	24.5	50	wnw.	1.8	0.8	.....	.....	1	.....	.....	0	0	
17	29.21	742.0	30.18	766.6	79.0	26.1	48	sw.	2.5	1.1	.....	.....	7	.....	.....	0	0	
18	29.15	740.4	30.10	764.5	85.5	29.7	49	ssw.	1.8	0.8	.....	.....	5	.....	.....	0	0	
19	29.04	737.5	30.00	761.9	79.2	26.2	59	ssw.	7.4	3.3	.....	.....	9	.....	.....	0	0	
20	29.08	738.6	30.05	763.2	74.8	23.8	62	sw.	2.5	1.1	.....	.....	8	.....	.....	0.039	1.0	
21	29.13	740.0	30.11	764.7	73.6	23.1	60	wnw.	4.9	2.2	.....	.....	8	.....	.....	0	0	
22	29.17	740.8	30.14	765.5	75.2	24.0	75	sw.	4.9	2.2	.....	.....	6	.....	.....	0	0	
23	29.19	741.5	30.16	766.1	76.6	24.8	63	wnw.	7.4	3.3	.....	.....	8	.....	.....	0	0	
24	29.17	741.0	30.14	765.6	77.0	25.0	61	sw.	7.4	3.3	.....	.....	4	.....	.....	0	0	
25	29.18	741.2	30.14	765.5	82.8	28.2	58	ssw.	2.5	1.1	.....	.....	4	.....	.....	0	0	
26	29.11	739.3	30.04	763.0	94.3	34.6	44	e.	2.5	1.1	.....	.....	2	.....	.....	0	0	
27	29.18	741.2	30.15	765.7	78.4	25.8	41	wnw.	6.9	3.1	.....	.....	6	.....	.....	0	0	
28	29.12	739.7	30.10	764.4	75.2	24.0	43	nw.	7.4	3.3	.....	.....	1	.....	.....	0	0	
29	29.03	737.4	30.01	762.3	69.8	21.0	73	sw.	11.2	5.0	.....	.....	8	.....	.....	0	0	
30	28.94	735.1	29.92	760.0	68.0	20.0	55	wnw.	12.5	5.6	.....	.....	5	.....	.....	0	0	
Mean	29.09	738.8	30.06	763.4	78.8	26.0	49.2	.....	5.8	2.6	.....	.....	4.2	.....	.....	0.059	1.5	
October 1	28.97	735.9	29.95	761.0	64.4	18.0	59	wnw.	11.2	5.0	.....	.....	9	.....	.....	0	0	
2	29.09	738.8	30.08	763.9	65.3	18.5	52	n.	17.4	7.8	.....	.....	2	.....	.....	0	0	
3	29.28	743.6	30.27	768.9	66.2	19.0	47	nne.	5.6	2.5	.....	.....	2	.....	.....	0	0	
4	29.07	738.4	30.06	763.6	64.6	18.1	74	wnw.	11.9	5.3	.....	.....	9	.....	.....	0	0	
5	29.20	741.7	30.19	766.7	68.0	20.0	62	ese.	6.9	3.1	.....	.....	7	.....	.....	0	0	
6	29.07	738.3	30.05	763.2	69.8	21.0	38	wnw.	3.1	1.4	.....	.....	4	.....	.....	0	0	
7	28.98	736.1	29.98	761.4	61.0	16.1	59	ne.	11.2	5.0	.....	.....	8	.....	.....	0	0	
8	28.94	735.0	29.92	760.0	65.5	18.6	60	ne.	11.9	5.3	.....	.....	7	.....	.....	0	0	
9	29.00	736.6	30.00	761.9	60.4	15.8	83	se.	9.4	4.2	.....	.....	9	.....	.....	0.421	10.7	
10	28.87	733.2	29.86	758.5	59.4	15.2	89	ssw.	13.0	6.1	.....	.....	10	.....	.....	0.453	11.5	
11	29.05	737.8	30.04	762.9	64.0	17.8	78	sw.	7.4	3.3	.....	.....	6	.....	.....	0.496	12.6	
12	29.08	738.6	30.07	763.8	63.9	17.7	72	se.	1.8	0.8	.....	.....	9	.....	.....	0	0	
13	29.15	740.5	30.14	765.6	68.0	20.0	92	se.	0.7	0.3	.....	.....	2	.....	.....	0	0	
14	29.12	739.6	30.10	764.6	69.8	21.0	48	ssw.	4.9	2.2	.....	.....	7	.....	.....	0	0	
15	29.11	739.3	30.09	764.3	69.3	20.7	57	sw.	3.1	1.4	.....	.....	7	.....	.....	0	0	
16	29.21	742.0	30.21	767.4	62.6	17.0	65	wnw.	4.3	1.9	.....	.....	9	.....	.....	0	0	
17	29.32	744.6	30.30	769.7	69.4	20.8	75	wnw.	2.5	1.1	.....	.....	10	.....	.....	0.039	1.0	
18	29.34	745.2	30.32	770.0	75.6	24.2	61	ne.	1.8	0.8	.....	.....	0	.....	.....	0	0	
19	29.28	743.8	30.26	768.5	77.7	25.4	57	nne.	4.3	1.9	.....	.....	1	.....	.....	0	0	
20	29.05	737.8	30.01	762.2	79.0	26.1	47	sw.	2.5	1.1	.....	.....	1	.....	.....	0	0	
21	28.98	736.1	29.97	761.2	64.4	18.0	44	wnw.	7.4	3.3	.....	.....	5	.....	.....	0	0	
22	29.14	740.2	30.14	765.6	59.5	15.3	47	n.	12.5	5.0	.....	.....	1	.....	.....	0	0	
23	29.32	744.7	30.32	770.0	65.7	18.7	41	ne.	2.5	1.1	.....	.....	2	.....	.....	0	0	
24	29.28	743.7	30.27	768.9	68.0	20.0	36	e.	3.1	1.4	.....	.....	0	.....	.....	0	0	
25	29.06	738.2	30.04	763.0	71.2	21.8	31	se.	3.8	1.7	.....	.....	0	.....	.....	0	0	
26	29.03	737.4	30.02	762.5	64.4	18.0	53	ese.	1.3	0.6	.....	.....	9	.....	.....	0.031	0.8	
27	29.04	737.6	30.02	762.5	68.4	20.2	68	ssw.	3.8	1.7	.....	.....	9	.....	.....	0	0	
28	28.94	735.0	29.92	759.9	67.6	19.9	72	ssw.	9.8	4.4	.....	.....	8	.....	.....	0.283	7.2	
29	29.01	736.9	30.00	761.9	65.5	18.6	77	e.	4.3	1.9	.....	.....	9	.....	.....	0.252	6.4	
30	29.06	738.2	30.06	763.4	64.8	18.2	74	ne.	4.9	2.2	.....	.....	6	.....	.....	0	0	
31	29.06	738.2	30.05	763.3	65.3	18.5	69	e.	8.0	3.6	.....	.....	5	.....	.....	0	0	
Mean	29.10	739.1	30.09	764.2	66.7	19.3	60.9	.....	6.3	2.8	.....	.....	5.6	.....	.....	1.976	50.2	
November 1	28.99	736.4	29.97	761.3	68.2	20.1	61	e.	6.3	2.8	.....	.....	6	.....	.....	0	0	
2	29.01	736.9	29.99	761.7	69.8	21.0	58	ene.	4.3	1.9	.....	.....	2	.....	.....	0	0	
3	28.99	736.3	29.98	761.4	63.7	17.6	68	nnw.	4.9	2.2	.....	.....	8	.....	.....	0	0	
4	29.12	739.6	30.10	764.6	68.7	20.4	53	ese.	12.5	5.6	.....	.....	2	.....	.....	0	0	
5	29.11	739.4	30.09	764.3	71.2	21.8	51	calm	0	0	.....	.....	8	.....	.....	0	0	
6	29.03	737.4	30.03	762.7	62.6	17.0	75	wnw.	7.4	3.3	.....	.....	10	.....	.....	0	0	
7	28.97	735.7	29.96	760.9	62.8	17.1	81	ssw.	6.3	2.8	.....	.....	10	.....	.....	0	0	
8	29.15	740.4	30.15	765.9	58.6	14.8	46	n.	7.4	3.3	.....	.....	1	.....	.....	0	0	
9	29.26	743.2	30.26	768.5	66.2	19.0	38	ne.	1.3	0.6	.....	.....	0	.....	.....	0	0	
10	29.22	742.3	30.22	767.0	64.0	17.8	53	n.	7.4	3.3	.....	.....	2	.....	.....	0	0	
11	29.20	741.6	30.20	767.0	63.0	17.2	54	nnw.	0.7	0.3	.....	.....	2	.....	.....	0	0	
12	29.12	739.7	30.13	765.3	57.2	14.0	67	calm	0	0	.....	.....	8	.....	.....	0	0	
13	29.03	737.3	30.03	762.8	58.1	14.5	72	sw.	1.8	0.8	.....	.....	8	.....	.....	0	0	
14	29.02	737.1	30.01	762.3	62.6	17.0	64	e.	1.3	0.6	.....	.....	7	.....	.....	0	0	
15	29.06	738.1	30.05	763.3	64.2	17.9	55	wnw.	4.9	2.2	.....	.....	0	.....	.....	0	0	
16	29.09	738.8	30.09	764.3	59.4	15.2	56	n.	8.1	3.6	.....	.....	4	.....	.....	0	0	
17	29.26	743.1	30.26	768.6	60.8	16.0	54	n.	7.4	3.3	.....	.....	4	.....	.....	0	0	
18	29.22	742.3	30.22	767.6	64.2	17.9	56	nnw.	8.7	3.9	.....	.....	9	.....	.....	0	0	
19	29.34	745.1	30.35	770.9	57.6	14.2	66	wnw.	2.5	1.1	.....	.....	2	.....	.....	0	0	
20	29.38	746.3	30.39	772.0	61.0	16.1	69	ene.	1.3	0.6	.....	.....	7	.....	.....	0	0	
21	29.33	744.9	30.34	770.5	60.6	15.9	69	ese.	1.8	0.8	.....	.....	7	.....	.....	0	0	
22	29.31	744.4	30.32	770.0	60.8	16.0	61	ene.	1.8	0.8	.....	.....	3	.....	.....	0	0	
23	29.25	743.0	30.28	769.0	53.8	12.1	74	wnw.	2.5	1.1	.....	.....	9	.....	.....	0	0	
24	29.24	742.8	30.27	768.8	52.5	11.4	100	ssw.	0.7	0.3	.....	.....	10	.....	.....	0	0	
25	29.05	737.9	30.07	763.8	49.8	9.9	100	ssw.	5.6	2.5	.....	.....	10	.....	.....	0.039	1.0	
26	28.97	735.8	29.97	761.3	56.1	13.4	80	wnw.	9.4	4.2	.....	.....	9	.....	.....	0.197	5.0	
27	29.28	743.7	30.32	770.0	49.1	9.5	92	ese.	1.3	0.6	.....	.....	7	.....	.....	0	0	
28	29.17	740.9	30.19	766.8	52.2	11.2	63	ene.	11.9	5.3	.....	.....	8	.....	.....	0	0	
29	29.28	743.8	30.30	769.7	55.8	13.2	57	ne.	6.9	3.1	.....	.....	8	.....	.....	0	0	
30	29.35	745.4	30.36	771.1	59.0	15.0	58	e.	9.8	4.4	.....	.....	1	.....	.....	0	0	
Mean	29.16	740.6	30.16	766.1	60.4	15.8	65.0	.....	4.9	2.2	.....	.....	5.7	.....	.....	0.236	6.0	

CAMPO MAJOR—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity. Per cent.	Wind. Direction. From.	Wind. Velocity. Miles perhour	Wind. Velocity. Metrs pr sec.	Wind. Force 0-10	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0-10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Rainfall or melted snow in past 24 hours. Mill.	WEATHER.
1883.																		
December 1	29.26	743.1	30.26	768.7	59.4	15.2	66	calm	0	0	.....	.....	.....	.....	.....	0	0	
2	29.31	744.5	30.33	770.3	56.8	13.8	43	n.	14.3	6.4	.....	.....	4	.....	.....	0	0	
3	29.31	744.4	30.33	770.4	52.3	11.3	50	e.	7.4	3.3	.....	.....	6	.....	.....	0	0	
4	29.21	742.7	30.26	768.6	51.0	12.2	54	sse.	0.7	0.3	.....	.....	0	.....	.....	0	0	
5	29.15	740.4	30.17	766.2	53.4	11.9	71	wnw.	5.6	2.5	.....	.....	2	.....	.....	0	0	
6	29.12	739.0	30.15	765.9	44.6	7.0	100	wsw.	3.8	1.7	.....	.....	10	.....	.....	0	0	
7	29.13	739.9	30.17	766.2	44.2	6.8	57	nne.	4.3	1.9	.....	.....	1	.....	.....	0	0	
8	29.15	740.4	30.19	766.8	43.5	6.4	43	n.	26.2	11.7	.....	.....	0	.....	.....	0	0	
9	29.21	741.8	30.24	768.1	45.5	7.5	50	nne.	6.3	2.8	.....	.....	0	.....	.....	0	0	

SAINT PAUL DE LOANDO (S. 8° 49′, E. 13° 07′).

DATE.	Corrected for instrumental error and temperature. Inch.	Corrected. Mill.	Reduced to sea-level. Inch.	Reduced. Mill.	Temperature. Fah.	Temperature. Cent.	Relative Humidity. Per cent.	Wind. Direction. From.	Velocity. Miles perhour	Velocity. Metrs pr sec.	Force 0-10	Amount. Upper. 0-10	Amount. Lower. 0-10	Direction. Up'er From	Direction. Lo'er From	Rainfall. Inch.	Rainfall. Mill.	WEATHER.
1884.																		
January 1	29.64	752.9	29.84	757.9	80.1	26.7	92	wnw.	.....	.....	4	.....	4	sse.	.....	0	0	
2	29.65	753.2	29.85	758.3	79.9	26.6	96	wnw.	.....	.....	4	.....	5	s.	.....	0	0	
3	29.66	753.4	29.85	758.4	80.2	26.8	92	nnw.	.....	.....	3	.....	9	.....	.....	0	0	
4	29.66	753.3	29.86	758.4	81.3	27.4	89	wnw.	.....	.....	4	.....	4	se.	.....	0	0	
5	29.65	753.1	29.85	758.3	76.3	24.6	100	nnw.	.....	.....	2	.....	10	.....	.....	0	0	
6	29.63	752.6	29.83	757.6	80.2	26.8	92	w.	.....	.....	3	.....	7	.....	.....	0	0	
7	29.64	752.9	29.84	758.0	78.1	25.6	95	wsw.	.....	.....	2	.....	10	.....	.....	0.252	6.4	
8	29.76	755.8	29.96	761.0	69.6	20.9	99	w.	.....	.....	2	.....	10	.....	.....	2.173	55.2	
9	29.74	755.5	29.95	760.6	81.1	27.3	84	nne.	.....	.....	2	.....	4	s.	.....	0	0	
10	29.71	754.7	29.91	759.8	80.6	27.0	84	nne.	.....	.....	2	.....	10	.....	.....	0	0	
11	29.73	755.1	29.93	760.1	82.9	28.3	82	nnw.	.....	.....	2	.....	3	sse.	.....	0	0	
12	29.73	755.2	29.93	760.3	79.0	26.1	89	w.	.....	.....	4	.....	7	.....	.....	0	0	
13	29.73	755.1	29.93	760.1	81.5	27.5	79	nnw.	.....	.....	3	.....	2	e.	.....	0	0	
14	29.76	756.0	29.93	760.1	79.3	26.3	86	wnw.	.....	.....	4	.....	9	.....	.....	0	0	
15	29.69	754.0	29.89	759.1	79.7	26.5	88	nnw.	.....	.....	3	.....	1	e.	.....	0	0	
16	29.72	755.0	29.93	760.1	80.6	27.0	74	n.	.....	.....	3	.....	4	s.	.....	0	0	
17	29.72	755.0	29.93	760.1	80.4	26.9	88	nnw.	.....	.....	3	.....	4	s.	.....	0	0	
18	29.73	755.2	29.93	760.3	72.0	22.2	95	n.	.....	.....	3	.....	3	s.	.....	0	0	
19	29.69	754.2	29.89	759.2	82.6	28.1	84	nw.	.....	.....	3	.....	3	sse.	.....	0	0	
20	29.72	754.9	29.92	759.9	81.0	27.2	89	nnw.	.....	.....	3	.....	3	s.	.....	0	0	
21	29.72	754.9	29.92	759.9	82.9	28.3	84	nw.	.....	.....	3	.....	5	sse.	.....	0	0	
22	29.74	755.5	29.95	760.6	82.2	27.9	86	nne.	.....	.....	3	.....	10	.....	.....	0	0	
23	29.70	754.3	29.90	759.4	83.3	28.5	86	nw.	.....	.....	3	.....	10	.....	.....	0	0	
24	29.71	754.5	29.90	759.5	81.0	27.2	83	wnw.	.....	.....	4	.....	4	sse.	.....	0	0	
25	29.71	754.5	29.90	759.5	81.0	27.2	81	w.	.....	.....	4	.....	3	.....	.....	0	0	
26	29.77	756.1	29.97	761.2	78.1	25.6	84	nw.	.....	.....	2	.....	10	.....	.....	0	0	
27	29.74	755.4	29.94	760.5	77.5	25.3	93	nw.	.....	.....	3	.....	10	.....	.....	0	0	
28	29.75	755.7	29.95	760.8	76.1	24.5	96	nw.	.....	.....	3	.....	10	.....	.....	0	0	
29	29.74	755.5	29.95	760.6	77.4	25.2	69	w.	.....	.....	1	.....	10	.....	.....	0	0	
30	29.71	754.6	29.91	759.7	78.3	25.7	81	wnw.	.....	.....	3	.....	10	.....	.....	0	0	
31	29.70	754.3	29.90	759.4	80.6	27.0	74	n.	.....	.....	2	.....	9	.....	.....	0.012	0.3	
Mean	29.71	754.6	29.91	759.6	79.5	26.4	86.9	.....	.....	.....	2.9	.....	6.5	.....	.....	2.437	61.9	
February 1	29.69	754.2	29.89	759.2	84.9	29.4	67	n.	.....	.....	2	.....	3	sse.	.....	0	0	
2	29.70	754.3	29.90	759.4	82.0	27.8	77	nnw.	.....	.....	3	.....	7	.....	.....	0	0	
3	29.66	753.4	29.86	758.5	81.5	27.5	80	nnw.	.....	.....	3	.....	5	sse.	.....	0	0	
4	29.65	753.0	29.85	758.1	82.0	27.8	77	nw.	.....	.....	3	.....	4	sse.	.....	0	0	
5	29.61	752.2	29.82	757.3	82.2	27.9	77	wnw.	.....	.....	3	.....	5	ne.	.....	0	0	
6	29.64	752.8	29.84	757.8	83.8	28.8	68	wnw.	.....	.....	3	.....	10	.....	.....	0	0	
7	29.69	754.0	29.88	759.0	84.6	29.2	72	nnw.	.....	.....	3	.....	10	.....	.....	0	0	
8	29.69	754.2	29.89	759.2	83.8	28.8	75	nw.	.....	.....	3	.....	4	s.	.....	0	0	
9	29.62	752.4	29.82	757.4	86.0	30.0	68	nnw.	.....	.....	3	.....	1	s.	.....	0	0	
10	29.66	753.4	29.86	758.4	86.9	30.5	68	ne.	.....	.....	3	.....	10	.....	.....	0.370	9.4	
11	29.62	752.3	29.82	757.3	82.8	28.2	82	wnw.	.....	.....	3	.....	4	s.	.....	0	0	
12	29.66	753.3	29.86	758.4	81.5	27.5	87	wsw.	.....	.....	3	.....	10	.....	.....	0.028	0.7	
13	29.72	754.9	29.92	760.0	80.6	27.0	87	nne.	.....	.....	3	.....	10	.....	.....	0	0	
14	29.67	753.5	29.87	758.6	84.0	28.9	80	nw.	.....	.....	3	.....	8	.....	.....	0	0	
15	29.67	753.5	29.87	758.6	83.7	28.7	82	nne.	.....	.....	2	.....	10	.....	.....	0	0	
16	29.66	753.3	29.86	758.4	83.1	28.4	83	n.	.....	.....	3	.....	4	sse.	.....	0	0	
17	29.66	753.4	29.86	758.4	81.5	27.5	80	nne.	.....	.....	3	.....	8	.....	.....	0	0	
18	29.66	753.3	29.85	758.3	84.9	29.4	82	nw.	.....	.....	3	.....	9	.....	.....	0	0	
19	29.69	754.1	29.89	759.2	84.9	29.4	82	wnw.	.....	.....	4	.....	6	sse.	.....	0	0	
20	29.65	753.1	29.85	758.1	87.3	30.7	80	nw.	.....	.....	3	.....	7	.....	.....	0	0	
21	29.63	752.7	29.84	757.8	83.3	28.5	79	w.	.....	.....	4	.....	3	sse.	.....	0	0	
22	29.63	752.6	29.83	757.6	83.8	28.8	78	nw.	.....	.....	3	.....	1	s.	.....	0	0	
23	29.68	753.9	29.88	758.9	84.2	29.0	82	nw.	.....	.....	3	.....	5	sse.	.....	0	0	
24	29.69	754.2	29.89	759.2	82.8	28.2	81	nne.	.....	.....	3	.....	7	.....	.....	0	0	
25	29.70	754.4	29.90	759.4	84.2	29.0	90	nw.	.....	.....	3	.....	9	.....	.....	0	0	
26	29.69	754.2	29.89	759.2	84.2	29.0	90	wnw.	.....	.....	4	.....	3	sse.	.....	0	0	
27	29.73	755.1	29.93	760.2	81.7	27.6	85	n.	.....	.....	3	.....	3	s.	.....	0	0	
28	29.68	753.9	29.88	759.0	82.9	28.3	87	nw.	.....	.....	3	.....	4	s.	.....	0	0	
29	29.67	753.5	29.86	758.5	84.2	29.0	85	nw.	.....	.....	3	.....	6	.....	.....	0	0	
Mean	29.67	753.6	29.87	758.6	83.5	28.6	79.9	.....	.....	.....	3.0	.....	6.1	.....	.....	0.398	10.1	

NOTE.—The above observations, taken at 7 a. m., Washington time, were received too late for publication in the DAILY BULLETIN, and are given here in full; for continuation of the same, see DAILY BULLETIN.

REVIEW.

INTERNATIONAL METEOROLOGY FOR FEBRUARY, 1884.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following description refers to chart ii. for the month of February, 1884, issued with this SUMMARY. This chart continues the series of international charts begun in February, 1877, and exhibits the mean pressure, mean temperature, and prevailing wind-direction over the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich, mean time.

Two areas of barometric minima appear on the chart; the first of these is indicated by the isobar for 29.3 (744.2) and occupies that part of the ocean lying between Greenland and Iceland, including the last-mentioned within its limits. The lowest mean pressure reported is 29.26 (743.2) at Stykkisholm, Iceland. The barometric gradient increases uniformly on the western, southern, and eastern sides of the low area, until the isobar for 30.0 (762.0) is reached. That line extends from Labrador southeastward to, and including Newfoundland, thence southeastward to the fortieth parallel to about 10° west of Greenwich; thence it trends northeastward along the western shores of Europe to the Gulf of Bothnia. The second area of low mean pressure is situated over Behring Sea, and is indicated by the isobar for 29.6 (751.8); the mean pressure at Behring Island being 29.56 (750.8). In the United States and Canada, the mean pressure is everywhere above 30.0 (762.0).

The areas of barometric maxima are four in number; one, 30.4 (772.1), occupies southern Siberia and northern China. To the southward and westward of this area the mean pressure decreases slowly, but towards the east the decrease is more rapid, the isobar for 30.0 (762.0) running north and south over Japan. The second area of high pressure is that of the Atlantic; it occupies the ocean between N. 25° and 37°, and from W. 58° eastward to W. 35°; within those limits the mean pressure ranges from 30.2 (767.1) to 30.26 (768.6 . In that part of the Atlantic south of N. 40°, and from the American coast eastward to the tenth meridian west of Greenwich, the mean pressure is above 30.1 (764.5), except over a small area from W. 20° to the Portuguese coast. The third area, which is indicated by the isobar for 30.2 (767.1), occupies the Northwest Territories of British America, and extends southeastward over Montana and Dakota and eastward to northern Minnesota. In the lake region, New England, and the western provinces of Canada the mean pressure ranges from 30.05 (763.3) to 30.1 (764.5). Within a narrow strip of territory extending from the Texas coast northward to Indian Territory and Arkansas, the pressure is also below 30.1 (764.5), but in other parts of the country it is above that amount. The fourth and last area of high pressure is enclosed by the isobar for 30.1 (764.5) and covers the Canadian Maritime Provinces; within this area the means vary from 30.10 (764.5) to 30.15 (765.8).

Compared with the chart for the preceding month (January, 1884), there has been a general decrease of pressure over the United States, except in northern Minnesota, Dakota, and Montana; the decrease being most marked in Texas, Louisiana, Mississippi, and Arkansas. In the Canadian Maritime Provinces there has been a slight increase of pressure. Over the north Atlantic ocean south of 40° N., and between the American coast and W. 30°, there has been no material change, but from W. 30° eastward to the coast line there has been a considerable decrease. Over the region north of the fortieth parallel the mean pressure was slightly lower than in the preceding month. In Europe the following changes have occurred, viz: a considerable increase of pressure is shown over Russia, Denmark, and Scandinavia, the increase amounting, in the last-mentioned district, to nearly .4 inch. In the British Isles, France, and the Iberian peninsula, there has been a decrease ranging from .15 to .30 inch; in Austria and Italy the decrease is only about .05 inch, while no change has occurred in Germany. In Hindostan there has been a decrease of about .10 inch; but in other parts of Asia there has been no change, the distribution of pressure remaining substantially the same as in the preceding month.

Compared with the corresponding month of previous years, the mean atmospheric pressure during February, 1884, was slightly above normal in the extreme northern sections of the United States; in all other parts of the country it was below the normal. In Canada it was slightly below normal in Ontario, and was above the normal in the Maritime Provinces and Quebec. In Europe the mean atmospheric pressure was above the normal, expect in Spain, France, and the British Isles, where there was a slight deficiency. The excess was greatest in the northern peninsulas.

The following table gives the mean pressure and mean temperature, with corresponding departures for February, 1884, in the several countries of the northern hemisphere, compared with the means as determined from observations taken during the last seven years:

Countries.	Mean pressure.			Mean temperature.		
	Feb'y mean of 7 (1877–'83) years.	Feb'y 1884.	Departure.	Feb'y mean of 7 (1877–'83) years.	Feb'y 1884.	Departure.
				°	°	°
Algeria	30.17	30.16	− 0.01	58.6	62.4	+ 3.8
Austria	30.07	30.15	+ 0.08	37.7	40.7	+ 3.0
British Isles	29.88	29.85	− 0.03	43.4	44.6	+ 1.2
Denmark	29.88	29.98	+ 0.10	34.2	38.7	+ 4.5
France	30.09	30.05	− 0.04	46.9	49.0	+ 2.1
Germany	30.00	30.08	+ 0.08	37.6	41.3	+ 3.7
India*	29.94	29.94	normal	74.7	75.8	+ 1.1
Italy	30.05	30.15	+ 0.09	50.5	50.7	+ 0.2
Norway	29.74	29.83	+ 0.09	32.2	35.8	+ 3.6
Portugal	30.20	.....	.....	55.0	.....	.....
Russia	30.03	30.05	+ 0.03	26.1	27.9	+ 1.8
Spain	30.14	30.05	− 0.08	54.9	53.7	− 1.2
Sweden	29.81	29.96	+ 0.15	24.8	28.3	+ 3.5

* Means for six years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of February, 1884, as compared with the means for seven years:

Stations.	Mean pressure.			Mean temperature.		
	Feb'y mean of 7 (1877–'83) years.	Feb'y 1884.	Departure.	Feb'y mean of 7 (1877–'83) years.	Feb'y 1884.	Departure.
				°	°	°
Gibraltar	30.18	30.09	− 0.09	60.5	60.6	+ 0.1
Malta, Mediterranean Sea	30.06	30.12	+ 0.06	58.7	60.4	+ 1.7
Sandwick Manse, Orkney Islands	29.71	29.68	+ 0.05	40.5	41.2	+ 0.7
Bridgetown, Barbadoes	30.01	30.06	+ 0.05	8 .1	79.4	− 0.7
Cape Town, Cape of Good Hope†	29.99	.....	.....	79.8	76.8	− 3.0
Fort Napier, Natal, South Africa	29.81	.....	.....	78.7	.....	.....
Freetown, Sierra Leone	29.81	.....	.....	82.2	.....	.....
Mauritius, Indian Ocean	29.94	29.94	+ 0.03	81.1	80.9	− 0.2
Melbourne, New South Wales	29.99	29.99	normal	64.3	61.8	− 2.5
Nassau, Bahamas*	30.16	30.17	+ 0.01	71.7	72.1	+ 0.4
Godthaab, Greenland	29.50	29.51	+ 0.01	12.6	1.0	−11.6
Stykkisholm, Iceland	29.45	29.26	− 0.19	28.2	31.3	+ 3.1
Thorshavn, Färöe Islands	29.64	29.56	− 0.08	39.5	41.0	+ 1.5
Zi-Ka-Wei, China	30.32	30.36	+ 0.04	38.6	36.0	− 2.6
Athens, Greece	30.07	30.10	+ 0.03	53.2	53.8	+ 0.6
Cagliari, Sardinia, Italy	30.04	.....	.....	59.9	.....	.....
Tokei, Japan	30.11	.....	.....	39.2	.....	.....
Angra, Azores	.....	.....	.....	57.7	.....	.....
Funchal, Madeira Islands	30.25	30.12	− 0.13	64.6	60.8	− 3.8
Ponta Delgado, Azores	30.21	30.12	− 0.09	60.2	57.2	− 3.0
Archangel, Russia	29.77	29.81	+ 0.04	12.4	15.8	+ 3.4
Tiflis, Russia	30.13	30.16	+ 0.03	42.3	39.4	− 2.9
Astrakhan, Russia	30.10	30.12	− 0.04	26.1	29.7	+ 3.6
Ekaterinburg, Russia	30.02	29.90	− 0.12	11.6	8.2	− 3.4
Tashkend, Toorkistan, Asia	30.32	30.21	− 0.11	35.5	37.8	+ 2.3
Barnaul, Siberia, Asia	30.32	30.22	− 0.10	4.8	9.5	+ 4.7
Yeniseisk, Siberia, Asia	30.30	30.30	normal	1.1	1.2	+ 0.1
Pekin, China	30.35	30.38	+ 0.03	28.3	28.6	+ 0.3
Nikolaevsk on the Amoor, Asia	.....	.....	.....	− 4.0	−3.5	+ 0.5
San Juan de Puerto Rico, W. I.	30.09	30.11	+ 0.02	74.4	74.5	+ 0.1
Beirut, Turkey in Asia	30.04	30.01	− 0.03	60.3	58.5	− 1.8
Mexico, Mexico	30.25	.....	.....	40.7	.....	.....
Havana, Cuba, W. I.	30.09	30.12	+ 0.03	70.8	67.8	− 3.0
Paramaribo, D. Guiana, S. A	30.02	30.03	+ 0.01	78.6	76.7	− 1.9
York Factory, B. A	30.08	30.14	+ 0.06	−21.6	−31.1	− 9.5

* Means for six years only. † Mean for five years only.

In the United States the mean temperature of the air was above the normal over the country from the lower lake region southwestward to Texas; in all other districts, excepting Arizona and New Mexico, it was below the normal, the greatest

departure occurring in the northern portions of Minnesota and Dakota, and in Wyoming, Montana and Nebraska. In Canada the temperature was generally above the normal. In Europe the mean temperature was everywhere above the normal, except in Spain, where there was a slight deficiency. In British India it was slightly above the seven years' mean; the highest mean temperature reported was 87°.9 Fahr. (31°.1 Cent.), at Bellary, and the lowest was 60°.6 Fahr. (15°.9 Cent.), at Sibsagar.

The following are some of the extreme mean temperatures reported at isolated stations:

Highest.	Fahr.	Cent	Lowest.	Fahr.	Cent.
	°	°		°	°
Bridgetown, Barbadoes, W. I.	79.4	26.3	York Factory, B. A.	—31.1	—35.1
Puerto Berrio, U.S. Colombia, S. A	78.8	26.0	Fort Chimo, B. A	—19.3	—28.5
Paramaribo, Dutch Guiana, S. A.	76.7	24.8	Upernavik, Greenland	—13.4	—25.2
Manila, Philippine Islands	76.3	24.6	Jacobshavn, Greenland	—11.9	—24.4
Bluefields, Nicaragua, C. A	75.3	24.1	Nikolaevsk on the Amoor, Asia	— 3.5	—19.7

In the United States south of 37° N. and east of 100° W. the winds were mostly southerly; along the New England and middle Atlantic coasts they were northeasterly; in all other parts of the country they were mostly from north to west. Over the north Atlantic the winds were as follows: near the coasts of the United States and south of 40° N., they were southerly; from W. 60° eastward to the European coasts and from 40° to 60° N. latitude, they were mostly west and northwest; south of 30° N. they were easterly and northeasterly. In Europe the prevailing winds were from east to southeast, south, and southwest. In Japan they were westerly and northerly.

The precipitation during February, 1884, in the United States was less than the average in Florida, the western part of the Gulf states, all of Texas and part of New Mexico, and in the north Pacific coast region; in the last-mentioned district the deficiency was unusually large. In all other parts of the United States the precipitation was above the average, the excess being greatest in southern California and in Tennessee. In Canada the rainfall was above the average. In Europe it was normal or slightly below normal.

STORM-TRACK CHART FOR FEBRUARY, 1884.

On chart iii. are shown the paths of the atmospheric depressions that have appeared in the northern hemisphere during the month of February, 1884. The data are charted for each day of the month on the maps accompanying each issue of the "International Bulletin," and from these charts, together with abstracts of ships' logs and other miscellaneous data received at this office, are traced the movements of the centres of barometric minima. This chart continues the series of international charts begun in November, 1877.

The paths of forty-one depressions are traced on the chart; they are distributed as follows: Fifteen appeared in the North American continent; of this number, three (numbers iv., vi., and viii.) were first noticed on the Pacific coast; the two first-mentioned disappeared in Utah and Nevada, while number viii. moved eastward over the Rocky mountains to the lake region and thence to the Gulf of Saint Lawrence. Five developed in the region south of the fortieth parallel and west of the Mississippi river; these, with one exception (number vii.), moved northeastward into the Atlantic from the coast line between N. 37° and 40°, and thence to the Banks of Newfoundland. Five depressions appeared in the northwest; four of these moved east-southeastward to the lake region and thence northeastward or eastward to the Gulf of Saint Lawrence and the New England coast, while one, number xii., passed southeastward from Montana to South Carolina and from there into the Atlantic. Of the remaining depressions, numbers i. and v., the former appeared in New England and moved northeastward over the Gulf of Saint Lawrence, and the latter originated in the lake region and passed eastward over Nova Scotia to the Atlantic.

Eleven depressions are traced over the Atlantic ocean; of these, six, (numbers xix., xxiii., xxiv., xxviii., xxxi., and xxxii.), are continuations of depressions which passed off the American coast and from the Gulf of Saint Lawrence into the ocean. Three depressions developed in Greenland, one passing northeastward to northern Scandinavia, one southeastward to the northwestern coasts of the British Isles, while the other dissipated in southern Greenland. Number xxx. developed in mid-ocean, and merged with number xxxi. on the 25th; number xxiv. *a* was subsidiary to number xxiv., and appeared off the southwestern coast of Ireland on the 19th.

Of the twelve depressions that are traced in Europe, three are continuations of storms (xvi., xxiv., xxxi.), which entered the continent from the Atlantic; xxiv. *b* was subsidiary to xxiv., and of the remainder, two appeared in the southern districts of Europe, one in the British Isles and the Netherlands; one in southern Scandinavia, the Baltic, and western Russia, two in northern Europe and two in eastern Russia.

Four depressions are shown in Japan; two of these moved northeastward along the southeastern coast of Niphon, and two passed eastward from the Sea of Japan over northern Niphon and Yesso. Three disturbances appeared in Behring Sea and over the Aleutian archipelago, and one over the eastern part of the Pacific ocean.

The general direction of movement of the low areas during February, 1884, was somewhat similar to that followed by the depressions charted in the preceding month (January, 1884), although these latter appear to have moved at slightly lower latitudes than the former. In point of numbers there was also but little difference, except in Scandinavia, where fewer disturbances are traced during the present than in the preceding month.

Several of the depressions exhibited great energy, especially during their progress over the ocean and when near the British and Scandinavian coasts, and were marked by extremely low barometric readings. The most important low area, on account of its violence, low pressures, and erratic track, was that traced as number xxiv. This disturbance remained for several days (from the 12th to the 19th) over the ocean between W. 30° and the British coasts, giving out during this period numerous subsidiary disturbances which caused unsettled weather and moderate gales over the British Isles.

On the 12th the barometric pressure at the centre of low area xxiv. was less than 28.0 (711.2), rising to 28.4 (721.3) by the 14th; it remained below 29.0 (736.6) until the 18th, when a slight rise set in and continued until the 21st, when the pressure again fell below 29.0 (736.6). During these dates the area affected by the disturbance extended over nearly the whole of the Atlantic north of the fortieth parallel. The easterly movement of this depression was retarded by an extensive and important area of high pressures which occupied northern and central Europe during the period from the 12th to the 20th. This area enclosed, at times, the British Isles, and its eastern limit reached the Ural region; from the 14th to the 16th the maximum pressure, near the centre of the high area, ranged from 30.6 (777.2) to 30.8 (782.3).

In low areas xvi. and xxii., the barometer fell below 28.9 (734.0) in the former, and to 28.2 (716.3) in the latter. The storms which were most violent near the American coasts were numbers xiv. and xxxi.; in the first the barometer fell to 28.6 (726.4) in the Maritime Provinces on the 29th, and in the case of the last-mentioned to 29.1 (739.1) on the 24th. In number viii., when on the Pacific coast, the barometer fell from 29.4 (746.7) on the 15th to 29.3 (744.2) on the 17th.

(For special barometric observations in connection with the depressions traced over the Atlantic, see chapter under NORTH ATLANTIC STORMS in the MONTHLY WEATHER REVIEW for February, 1884.)

The depressions which appeared in Japan were unimportant and presented no special features; in those over the Aleutian archipelago the barometer fell below 29.2 (741.7).

GENERAL REMARKS.

DAILY BULLETIN.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations.

On February 1, 1883, the following change was made in publishing marine data in the "Daily International Bulletin":

All marine data are classified as to districts, which are designated as follows: District No. 1, North Atlantic; District No. 2, South Atlantic, &c., under which headings the respective reports are printed.

BOUNDARIES OF DISTRICTS.

District No. 1 comprises the Atlantic ocean, its arms and tributaries, from the equator northward to the pole, and in the Arctic from 100° E., westward to 100° W., of Greenwich.

District No. 2 comprises the Atlantic ocean, its arms and tributaries, from the equator southward to the pole, and in the Antarctic from 20° E., westward to 70° W., of Greenwich.

District No. 3 comprises the Pacific ocean, its arms and tributaries, from the equator northward to the pole, and in the Arctic from 100° W., westward to 100° E., of Greenwich.

District No. 4 comprises the Pacific ocean, its arms and tributaries, from the equator southward to the pole, and in the Antarctic from 70° W., westward to 145° E., of Greenwich.

District No. 5 comprises the Indian ocean, its arms and tributaries, from the Asiatic continent southward to the pole, and in the Antarctic from 20° E., eastward to 145° E., of Greenwich.

The following remarks relate to the individual peculiarities in the *methods* of recording, and the *times* of taking, the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of M. Thévenet, Director of the Meteorological service at the College of Science of Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. Adelaide, furnished by co-operation of Charles Todd, C. M. G., F. R. A. S. The observations are taken at 9 p. m., local time. Hobart Town, furnished by Commander J. Shortt, R. N. Observations are taken at 9 p. m., local time.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemberg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BELGIAN SERIES (furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade; weather by the Vienna symbols, and occasionally in general terms. At Arlon the observations are taken at 1 p. m., local time.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind-direction is given to 32 points and weather by the Beaufort notation. At Bradford no observations are taken on Sunday except rainfall.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Saint Francis Lighthouse, the original gives barometer reduced to freezing, but not to sea-level. The kind of clouds is given, but no distinction is made between upper and lower. Weather in general terms.

CHILIAN SERIES (by authority of the Secretary of Public Instruction, furnished by co-operation of Francisco Vidal Gormáz, President of the Central Meteorological Office at Santiago).—Observations are taken mostly at lighthouses on the coast; the originals give barometer as read off; temperature in Centigrade; humidity is not given but is computed at this office from the hygrometrical observations.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation.

DANISH SERIES (furnished by co-operation of Adam Paulsen, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted. At all Greenland stations the observations are taken at 8 a. m., local time.

EGYPTIAN SERIES (Furnished by the co-operation of Albert Ismalun, Director of the Laboratoire Khédivial du Caire).—Original gives barometer reduced to zero, but not to sea-level, temperature in Centigrade. The velocity is the mean for past 24 hours. Rainfall in millimetres.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Montlouis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Montlouis and Perpignan.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES (furnished by co-operation of Prof. D. K. Kokkides, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only, and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by the co-operation of the Geographical

Bureau, Department of the Interior, through I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (furnished by co-operation of the respective observers).—The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys-Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht). —The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred. At Batavia the elevation is stated to be "a few meters."

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Astrakhan, Ashurada and Baku, the barometer-cistern is below sea-level. On December 7th, 1883, the barometer at Archangel was "deranged," and the corrections to the aneroid used in its place are not exact.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 10 a. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of the Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of F. Nimr, B. A., Director of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms. At Samakov, the barometer is reduced to freezing, but not to sea-level; temperature in Fahrenheit. The kind of clouds is given, also the distinction between upper and lower.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Puerto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind-direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind-direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operations of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date.

In the above charts broken lines indicate that the lines so drawn are doubtful. Arrows show direction of, and fly with, the wind. Force is shown as follows:

SYMBOLS.	FORCE.	VELOCITY.	
		MILES PER HOUR.	METRES PER SECOND.
○	0	0	0
	1, 2	0 to 9	0 to 4
	3, 4	9.1 to 22.5	4.1 to 10.1
	5, 6	22.6 to 40.5	10.1 to 18.1
	7, 8	40.6 to 67.5	18.1 to 30.2
	9, 10	67.6 up.	30.2 and over.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The position of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevation of stations is obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least, this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the alphabet of the letter so used.

BRITISH SERIES, Bradford: a letter placed opposite the name of station, refers to all the data except rainfall.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

ERRATA.

The following corrections should be applied to barometer readings from stations of the United States series, as follows:

Shreveport, Louisiana, from May 1st to August 31st, 1882, both inclusive, actual barometer .015 of an inch, or 0.38 mm., too low; from September 1st, 1882, to July 31st, 1883, both inclusive, actual barometer .020 of an inch, or 0.51 mm., too low; from August 1st to 31st, 1883, both inclusive, actual barometer .025 of an inch, or 0.64 mm., too low; from September 1st to 30th, 1883, both inclusive, actual barometer .062 of an inch, or 1.57 mm., too low; from October 1st to December 31st, 1883, both inclusive, actual barometer .065 of an inch, or 1.65 mm., too low; from January 1st to 31st, 1884, both inclusive, actual barometer .070 of an inch, or 1.78 mm., too low.

Saint Vincent, Minnesota, from September 4th, 1880, to December 1st, 1880, all barometric readings are too low by .034 of an inch, or 0.86 mm.; and from December 1st, 1880, to February 1st, 1884, are too low by .021 of an inch, or 0.53 mm.

Fort Canby, Washington Territory, from September 1st, 1883 to February 1st, 1884, all barometer readings are too low by .024 of an inch, or 0.61 mm.

Fort Concho, Texas, from December 1st, 1881, to December 31st, 1884, both inclusive, all barometer readings are too low by .030 of an inch, or 0.76 mm.

Key West, Florida, from May 4th, 1882, to January 31st, 1884, both inclusive, all barometer readings are too low by .021 of an inch, or 0.53 mm.

Yuma, Arizona, from November 1st, 1882, to June 30th, 1883, both inclusive, barometric readings are too low by .011 of an inch, or 0.28 mm.; from July 1st, 1883, to September 30th, 1883, both inclusive, barometric readings are too low by .015 of an inch, or 0.38 mm.; from October 1st, 1883, to December 31st, 1884, both inclusive, barometer readings are too low by .024 of an inch, or 0.61 mm.

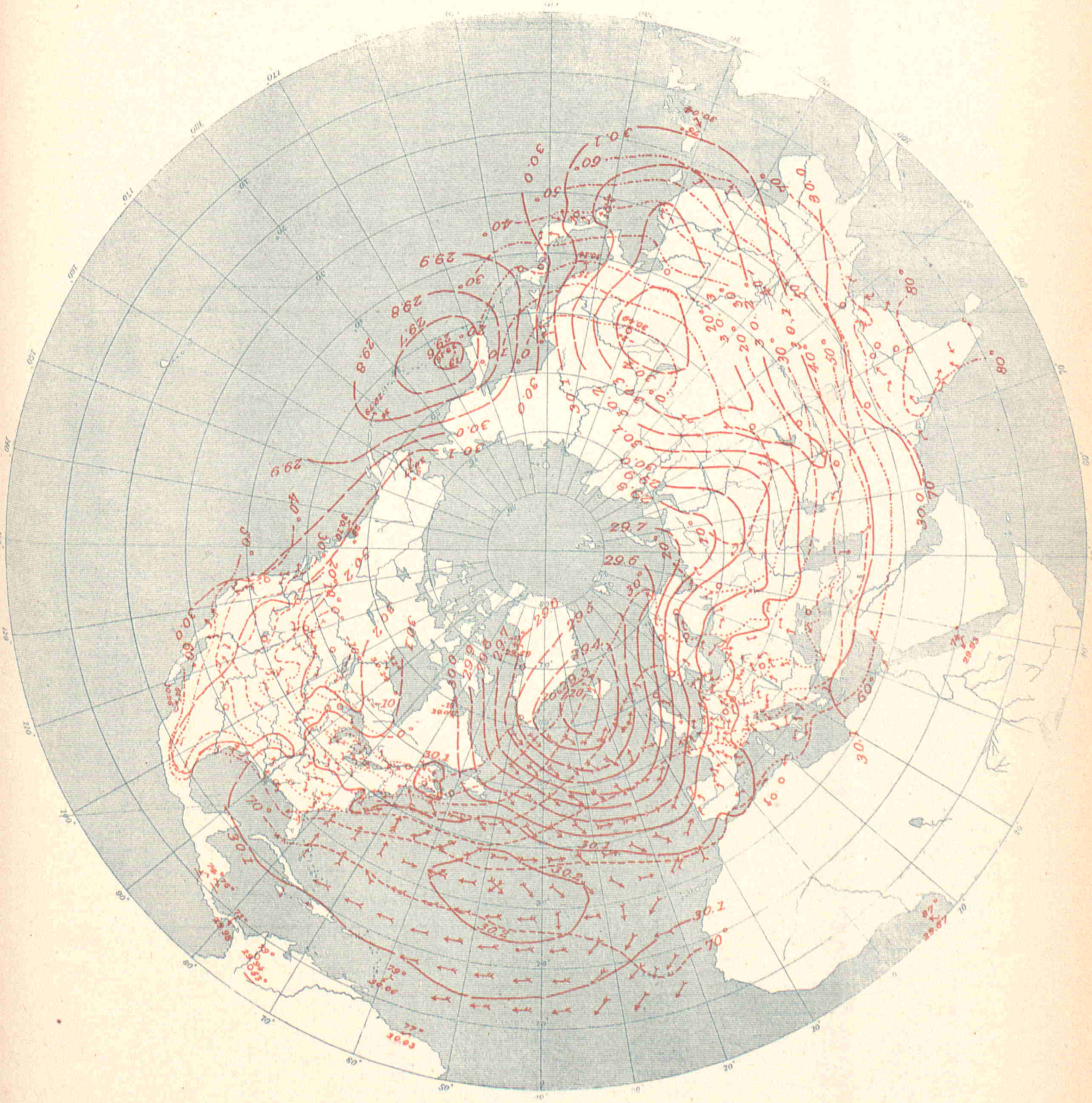
Port Huron, Michigan, from March 1st to 31st, 1883, both inclusive, barometric readings are too low by .010 of an inch, or 0.25 mm.; from April 1st to May 31st, 1883, both inclusive, barometric readings are too low by .015 of an inch, or 0.38 mm.; from June 1st to October 31st, 1883, both inclusive, barometric readings are too low by .020 of an inch, or 0.51 mm.; from November 1st to December 31st, 1883, both inclusive, barometric readings are too low by .025 of an inch, or 0.64 mm.

DAILY BULLETIN, February 7th, 1884, page 7, District No. 1. Bark "Fred W. Carlon," Progresso roads, C. A., should read Progresso roads, Yucatan, Mexico; same correction on 10th, 13th, 16th, 19th, 22d, 25th, 28th; and for s. s. "City of Alexandria," on 28th and 29th.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. February, 1884. Isobars, Isotherms, and Winds.



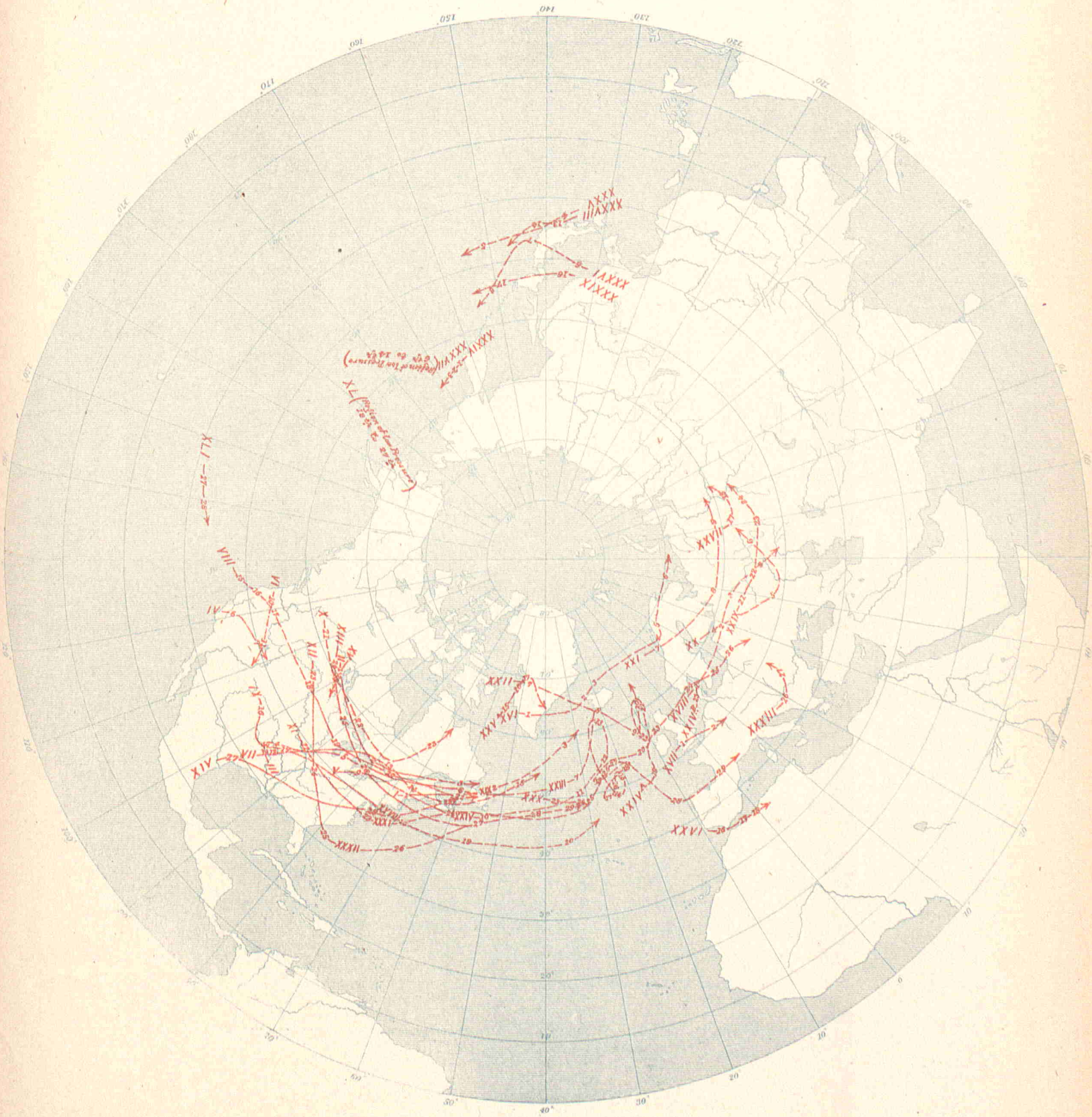
UNITED STATES OF AMERICA.

By Order of the Secretary of War.

W. B. Hazen, Chief Signal Officer.

Signal Office Lith.

International Chart III. February, 1884. Storm-Tracks.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.

W.B.Hazen, Chief Signal Officer.

Signal Office Lith.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF MARCH, 1884.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
APRIL, 1885.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

MARCH, 1884.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for March, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	29.92	760.0	63.0	17.2	75.3	4	4	3	2	2	11	4	1	.....	.....	.....	3	5.17	131.4
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	29.93	760.2	61.0	16.1	68.4	4	3	3	2	3	11	4	1	.....	.....	.....	3	4.06	103.0
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	29.93	760.1	63.0	17.2	76.1	2	4	3	2	10	2	2	6	.....	.....	.....	4	3.29	83.5
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	29.95	760.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4281	1305	.....	.....	29.98	761.5	50.5	10.3	66.6	6	8	.....	5	1	8	.....	3	.....	.....	.....	3	1.17	29.8
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2454	748	.....	.....	30.01	762.2	62.6	17.0	.....	2	5	2	.....	5	2	4	5	6	.....	.....	4	4.56	115.9
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	29.98	761.4	65.3	18.5	69.2	2	2	9	.....	.....	.....	10	1	7	.....	.....	4	2.92	74.2
AUSTRALIAN.																										
Adelaide	S. 34 57	E. 138 35	9.22 p.m.	140	42	.....	.....	30.11	764.8	67.9	19.9	55.1	1	.....	.....	2	3	8	3	1	13	.....	.....	3	1.74	44.2
Hobart Town *a*	S. 42 53	E. 147 20	9.57 p.m.	190	58	29.91	759.7	30.10	764.5	56.5	13.6	80.0	4	5	3	3	4	4	.....	1	7	.....	.....	5	0.36	9.1
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	30.04	762.9	30.13	765.2	60.8	16.0	77.0	2	.....	.....	3	6	16	2	2	.....	.....	.....	5	3.11	79.0
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.45	748.1	30.01	762.3	50.9	10.5	45.3	.....	.....	2	8	1	9	5	6	.....	.....	.....	7	1.76	44.7
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.23	742.5	30.02	762.4	43.5	6.4	68.1	2	4	3	1	.....	.....	10	5	.....	.....	.....	6	1.65	42.0
Eperies	N. 48 58	E. 21 15	1.33 p.m.	846	258	29.14	740.1	30.02	762.5	39.6	4.2	75.5	9	.....	.....	.....	5	.....	.....	.....	17	.....	.....	6	0.96	24.4
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.76	730.4	30.02	762.5	49.1	9.5	58.9	1	5	3	4	6	7	2	2	1	.....	.....	6	1.72	43.8
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.55	725.2	30.00	761.9	47.1	8.4	64.9	.....	6	2	.....	4	12	5	.....	.....	.....	.....	7	1.94	49.4
Kremsmunster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.63	727.1	29.98	761.0	44.8	7.1	75.3	.....	2	10	1	.....	1	7	6	4	.....	.....	6	1.78	45.3
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	29.07	738.3	30.09	764.3	37.9	3.3	74.0	3	1	1	.....	5	5	14	2	.....	.....	.....	8	1.32	33.6
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.87	758.8	29.99	761.7	53.8	12.1	72.6	1	6	5	2	4	4	5	4	.....	.....	.....	6	3.74	95.0
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.50	749.3	29.97	761.3	48.9	9.4	59.0	9	.....	6	.....	8	3	5	.....	.....	.....	.....	3	1.06	26.8
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	279	86	29.71	754.6	29.99	761.8	50.4	10.2	56.6	1	1	5	4	5	5	1	2	7	.....	.....	6	1.37	34.8
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.92	760.0	30.02	762.5	54.1	12.3	56.1	1	6	5	3	.....	2	6	7	1	.....	.....	5	1.22	31.1
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.23	742.5	29.95	760.7	51.4	10.8	55.5	.....	5	4	.....	.....	14	2	2	4	.....	.....	6	1.51	38.3
BELGIAN																										
Arlon	N. 49 40	E. 5 48	0.32 p.m.	?	?	28.56	725.4	29.91	759.8	47.7	8.7	70.1	.....	2	.....	13	1	7	8	.....	.....	.....	.....	2	1.32	33.5
Brussels *a*	N. 50 51	E. 4 22	0.26 p.m.	187	57	29.76	756.0	29.97	761.2	49.6	9.8	67.7	1	2	5	8	6	1	3	4	.....	.....	.....	7	1.36	34.5
Furnes	N. 51 04	E. 2 40	0.19 p.m.	20	6	29.94	760.5	29.96	761.0	50.5	10.3	69.3	2	5	2	4	11	2	1	4	.....	.....	.....	6	0.98	24.8
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	29.87	758.7	30.00	761.9	51.6	10.9	71.9*b*	3	3	7	5	5	2	2	4	...	.....	.....	7	1.17	29.7
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.73	755.1	29.83	757.7	43.7	6.5	72.4	.....	2	3	2	10	12	1	1	.....	.....	.....	7	3.29	83.6
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.87	758.7	46.5	8.1	68.5	.....	.....	4	5	5	11	4	2	.....	.....	.....	7	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.33	745.0	29.87	758.7	45.0	7.2	74.4	.....	1	3	3	10	8	5	1	.....	.....	.....	8	.....	.....
Bradford	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.47	748.5	29.86	758.4	46.1	7.8	70.2	1	2	3	6	6	6	3	4	.....	.....	.....	8	.....	.....
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	30.01	762.2	30.04	763.0	79.4	26.3	72.9	.....	.....	.....	.....	.....	.....	9	22	.....	.....	.....	4	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	.....	.....	47.2	8.4	74.9	2	1	7	8	4	.....	7	2	.....	.....	.....	7	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	160	49	29.78	756.4	29.96	761.0	49.3	9.6	75.7	2	3	3	7	3	.....	3	3	7	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.70	754.4	29.92	760.0	48.0	8.9	72.8	.....	2	3	2	10	8	3	3	.....	.....	.....	7	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2205	672	29.59	751.6	29.90	759.4	76.3	24.6	66.3	1	2	.....	.....	2	1	1	24	.....	.....	.....	5	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.70	754.4	29.74	755.4	46.2	7.9	83.2	.....	2	2	9	8	7	3	.....	.....	.....	.....	6	3.53	89.7
Gibraltar	N. 30 09	W. 5 21	11.47 a.m.	50	15	29.87	758.7	29.97	761.2	59.8	15.4	89.8	.....	6	8	1	.....	3	13	.....	.....	.....	.....	6	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.77	756.1	29.94	760.5	49.7	9.8	67.4	7	.....	4	5	8	3	1	3	.....	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.65	753.1	29.95	760.7	48.9	9.4	74.7	2	4	5	2	10	2	5	.....	1	.....	.....	6	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.91	759.7	29.90	761.0	48.2	9.0	65.2	4	2	6	3	9	.....	.....	7	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.65	753.1	29.71	754.6	49.0	9.4	65.3	1	3	4	10	5	.....	.....	7	1	.....	.....	6	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.84	757.9	29.92	760.0	59.6	15.3	73.2	1	7	1	5	1	4	4	8	.....	.....	.....	7	.....	.....
Nassau	N. 25 04	W. 77 22	0.58 a.m.	44	13	30.10	764.5	30.15	765.8	74.4	23.6	75.4	3	3	1	.....	4	13	2	5	.....	.....	.....	5	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.70	754.4	29.93	760.2	48.0	8.9	70.9	1	3	4	4	5	5	1	8	.....	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.84	757.9	29.91	759.7	49.2	9.0	77.1	.....	2	2	5	7	8	2	2	3	.....	.....	8	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.65	753.1	29.74	755.4	43.7	6.5	82.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Scutari Cemet' *a*	N. 41 00	E. 29 03	2 04 p.m.	60	18	29.95	760.7	30.02	762.5	50.4	10.2	71.1	11	.....	.....	6	4	2	.....	6	1	.....	.....	8	.....	.....
Sheffield	N. 53 23	W. 1 28	0 02 p.m.	260	79	29.63	752.6	29.90	759.4	48.4	9.1	67.0	.....	1	2	7	11	.....	1	8	1	.....	.....	5	.....	.....
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.81	757.2	29.84	757.9	46.1	7.8	84.0	3	1	2	11	4	3	6	1	.....	.....	.....	8	2.78	70.6
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.92	760.0	45.4	7.4	68.7	.....	1	5	4	6	6	6	3	.....	.....	.....	8	.....	.....
Strathfield	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	49.9	9.9	71.3	3	2	5	7	4	3	4	3	.....	.....	.....	7	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.75	755.6	29.77	756.1	48.5	9.2	75.8	1	3	2	6	10	5	3	1	.....	.....	.....	9	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.60	751.8	30.04	763.0	59.2	15.1	69.1	.....	4	5	2	3	2	11	3	1	2856	2987	7	1.77	45.0
Hong Kong	N. 22 18	E. 114 04	7.45 p.m.	110	33	29.90	759.4	30.02	762.5	62.6	17.0	92.0	1	.....	2	.....	.....	1	22	5	.....	.....	.....	9	5.74	145.8
CANADIAN.																										
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	35	11	29.88*g*	758.9*g*	29.92*g*	760.0*g*	19.2*a*	-7.1*a*	.....	2*a*	3	2	5	1	.....	1	1	15	.....	.....	6*a*	1.84*a*	46.7*a*
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.87	758.7	29.92	760.0	21.6	—5.8	87.8	1	6	7	4	4	3	1	5	.....	6742	10850	6	4.88	123.9
Chatham*	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.90	759.4	29.97	761.2	16.2	—8.8	92.2	4	5	9	5	.....	.....	2	6	.....	4307	6931	6	3.58	90.9
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.78	756.4	30.02	762.5	19.7	—6.8	93.3	2	8	8	.....	.....	.....	8	5	.....	.....	.....	6	2.86	72.6
Dalhousie *a*	N. 48 04	W. 66 22	7.32 a.m.	45	14	29.91	759.7	29.96	761.0	14.0	-10.0	.....	1	3	17	1	.....	.....	4	.....	4	.....	.....	5	2.66	67.6
Father Point*	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.95	760.7	29.97	761.2	13.7	-10.2	87.3	2	6	4	2	7	.....	.....	5	5	.....	.....	6	3.20	81.3
Fort Garry*	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.18	741.2	30.04	763.0	0.2	-17.7	96.7	3	3	9	.....	5	4	2	3	7339	11801	3	1.32	33.5
Fredericton	N. 45 57	W. 66 38	7.41 a.m.	59	18	29.92	760.0	29.99	761.7	18.0	—7.8	85.1	2	10	4	.....	1	.....	2	6	6	.....	.....	6	3.06	77.7
Grand Manan	N. 44 46	W. 66 45	7.41 a.m.	49	15	29.91	759.7	29.96	761.0	26.4	—3.1	84.3	4	6	4	3	.....	2	2	7	3	10554	16985	7	5.02	127.5
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	29.19	759.2	30.06	763.5	21.6	—5.8	96.9	.....	3	1	2	2	1	.....	3	19	.....	.....	6	2.05	52.1
Halifax*	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.81	757.2	29.95	760.7	25.6	—3.6	92.0	5	2	12	.....	5	.....	4	2	1	.....	.....	5	7.02	178.3
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	372	113	29.59	751.6	30.02	762.5	27.6	—2.4	86.4	.....	4	4	15	.....	.....	.....	7	1	.....	.....	5	2.94	74.7
Kingston*	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.67	753.6	30.02	762.5	23.2	—4.9	85.9	8	3	4	3	3	2	.....	5	3	5093	9162	6	2.93	74.4
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.81	757.2	29.85	758.2	26.1	—3.3	87.7	4	6	3	8	2	2	1	5	.....	.....	.....	7	2.50	63.5
London	N. 43 00	W. 81 15	6.43 a.m.	832	254	29.10	739.1	30.06	763.5	22.8	—5.1	87.8	2	1	..	.....	6	.....	1	2	19	.....	.....	8	2.68	68.1
Medicine Hat	N. 50 01	W. 110 37	4.46 a.m.	2136	651	27.57	700.3	30.00	762.0	13.5	-10.3	89.0	2	2	2	5	12	2	3	3	.....	5847	9410	4	0.86	21.8
Minnedosa*	N. 50 13	W. 99 48	5.29 a.m.	1796	545	27.98	710.7	30.10	764.5	3.4	-15.9	94.6	4	16	2	.....	2	.....	3	3	1	.....	.....	4	1.07	27.2
Montreal*	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.81	757.2	30.03	762.7	20.5	—6.4	84.3	4	4	8	2	1	5	1	5	1	.....	.....	6	3.43	87.1
Ottawa	N. 45 26	W. 75 41	7.05 a.m.	200	61	29.79	756.7	30.03	762.7	15.0	—9.4	90.5	3	6	5	9	2	1	..	5	.....	.....	.....	4	1.99	50.5
Parry Sound*	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.30	744.2	30.03	762.7	14.5	—9.7	82.1	7	2	8	2	3	3	3	1	2	6887	11083	5	2.60	66.0
Peterboro	N. 44 17	W. 78 18	6.54 a.m.	675	206	29.25	742.9	30.04	763.0	22.1	—5.5	75.8	3	7	7	4	.....	1	1	7	1	.....	.....	6	2.01	51.1
Port Arthur	N. 48 27	W. 89 12	6.11 a.m.	642	196	29.31	744.5	30.07	763.8	13.1	-10.5	84.6	4	3	8	3	4	.....	1	2	6	3399	5470	2	1.74	44.2
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.32	744.7	30.05	763.3	24.5	—4.2	94.8	6	5	3	5	3	.....	.....	6	3	6090	9801	6	2.20	57.4
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.37	746.0	30.05	763.3	23.5	—4.7	88.7	3	5	8	2	.....	2	5	5	1	.....	.....	7	2.49	63.2
Qu Appelle	N. 50 44	W. 103 42	5.13 a.m.	2115	646	.....	.....	30.06†	763.5†	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Quebec*	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.62	752.3	29.96	761.0	16.7	—8.5	91.5	5	.....	5	6	1	.....	.....	2	12	.....	.....	7	2.37	60.2
Rockliffe*	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.55	750.6	30.03	762.7	11.9	-11.2	83.3	2	11	5	.....	.....	5	3	1	4	.....	.....	4	1.92	48.8
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.89	759.2	29.94	760.5	23.8	—4.6	92.2	2	12	2	2	.....	2	1	8	2	.....	.....	6	4.78	121.4
Saint John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	130	40	29.81	757.2	29.96	761.0	23.1	—4.9	91.7	2	10	3	3	1	.....	4	2	6	.....	.....	5	4.14	105.2
Saint Pierre *g*	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.80	756.8	26.2	—3.2	.....	3	3	5	2	4	4	.....	3	.....	.....	.....	.....	.....	.....
Saugeen*	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.30	744.2	30.04	763.0	20.5	—6.4	90.5	5	.....	3	6	3	3	2	1	8	7104	11432	5	1.69	42.9
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1186	361	29.70	754.4	30.04	763.0	22.1	—5.5	80.5	2	1	6	2	2	2	2	.....	14	.....	.....	6	3.09	78.5

† Interpolated from 3 and 11 p. m. observations.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for March, 1884. Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill
CANADIAN.—Con.	° ′	° ′																								
Sydney*	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.86	758.4	29.90	759.4	23.0	—5.0	87.9	4	2	6	5	1	2	1	3	7	6508	4044	8	4.78	121.4
Toronto*	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.66	753.4	30.06	763.5	23.8	—4.6	84.3	10	4	5	4	1	1	2	4	.....	8350	5188	6	2.48	63.0
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	28.95	735.3	30.08	764.0	22.7	—5.2	82.4	a3	6	6	5	5	2	1	2	.....	.....	.....	7	1.34	34.0
Yarmouth*	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.84	757.9	29.91	759.7	28.9	—1.7	82.8	7	6	1	.....	3	2	9	1	2	.....	.....	6	4.28	108.7
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	29.99	761.7	30.02	762.5	67.7	19.8	90.8	.....	.....	.....	19	.....	2	1	9	.....	.....	.....	5	1.83	46.5
Cape Town a	S. 34 02	E. 18 29	1.22 p.m.	?	?	29.90	759.4	.....	.....	47.7	8.7	72.8	1	7	1	3	2	13	2	1	.....	.....	.....	2	0.18	4.6
Springbok	S. 29 45	E. 17 43	1.19 p.m.	?	?	27.90	708.6	.....	.....	79.2	26.2	51.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0
CHILIAN.																										
Niebla	S. 39 53	W. 73 25	7.14 a.m.	98	30	29.53	750.0	29.63	752.6	52.3	11.3	89.9a	1	2	4	.....	.....	.....	24	.....	.....	.....	.....	5	4.37	111.0
Quiriquina	S. 36 37	W. 73 03	7.25 a.m.	107	57	.....	.....	.....	.....	57.7	14.3	83.3	5	1	2	4	14	4	1	.....	.....	.....	.....	4	1.79	45.4
Valparaiso	S. 33 02	W. 71 39	7.22 a.m.	131	40	29.84	757.9	29.98	761.5	59.7	15.4	89.3	6	1	.....	4	14	3	1	2	.....	.....	.....	4	.....	.....
CHINESE. (Sub).																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	30.13	765.2	30.15	765.8	44.8	7.1	79.0	5	7	.....	.....	.....	7	7	5	.....	.....	.....	7	2.94	74.8
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	30.00	762.0	30.05	763.2	39.6	4.2	81.5	.....	.....	3	2	6	11	6	3	.....	.....	.....	7	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.97	761.3	29.99	761.8	41.4	5.2	81.5	.....	.....	5	5	3	4	7	7	.....	.....	.....	7	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.54	750.3	29.58	751.4	7.2	—13.8	97.0a	7	10	.....	3	2	1	.....	7	1	.....	.....	8	.....	.....
Ivigtut	N. 61 12	W. 48 00	8.56 a.m.	16	5	29.45	748.0	29.47	748.5	14.9	—9.5	.....	7	4	.....	.....	1	1	.....	4	14	.....	.....	7	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.38	746.3	29.43	747.4	35.6	2.0	80.6	.....	.....	.....	1	4	9	9	5	3	.....	.....	7	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.65	753.0	29.67	753.6	43.7	6.5	83.6	1	1	2	5	4	15	2	1	.....	.....	.....	8	.....	.....
Upernavik	N. 72 47	W. 56 00	8.24 a.m.	39	12	29.64	752.9	29.69	754.1	—9.8	-23.2	.....	.....	.....	.....	7	.....	2	7	.....	15	.....	.....	4	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.89	759.3	29.98	761.6	40.1	4.5	83.9	1	1	5	4	3	2	11	4	.....	.....	.....	6	.....	.....
Egyptian.																										
Cairo	N. 30 03	E. 31 21	2.14 p.m.	?	?	29.85	758.3	.....	.....	71.6	22.0	35.5	2	6	1	5	.....	1	2	14	.....	.....	.....	3	inap.	inap.
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.37	745.9	30.03	762.7	55.4	13.0	62.0	3	4	4	2	2	12	1	2	1	.....	.....	.....	0.05	1.3
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.34	745.1	29.97	761.2	47.7	8.7	84.1	9	4	1	4	9	.....	2	2	.....	.....	.....	4	1.17	29.7
Arras	N. 50 18	E. 2 46	0.19 p.m.	223	68	29.73	755.1	29.96	760.9	50.7	10.4	62.8	1	1	5	9	.....	4	5	6	.....	.....	.....	4	1.29	32.7
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	29.90	759.5	29.98	761.5	60.1	15.6	42.5	5	11	2	1	2	6	.....	4	.....	.....	.....	3	0.04	1.0
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.43	747.4	29.97	761.3	52.3	11.3	57.6	2	1	1	3	9	4	8	3	.....	.....	.....	5	1.01	25.6
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.72	754.8	29.99	761.7	50.7	10.4	58.9	1	3	4	2	4	5	8	4	.....	.....	.....	5	1.12	28.4
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.04	737.7	29.94	760.4	55.8	13.2	53.7	.....	.....	.....	1	8	.....	12	10	.....	.....	.....	.....	0.24	6.2
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.70	754.3	29.96	761.0	55.8	13.2	59.3	5	6	.....	2	1	8	6	3	.....	.....	.....	5	0.46	11.7
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.43	747.0	29.95	761.6	55.0	12.8	59.5	9	2	3	3	4	4	4	2	.....	.....	.....	4	0.33	8.4
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.75	755.6	29.99	761.8	54.5	12.5	71.9	1	1	5	8	5	2	3	4	2	.....	.....	5	1.60	42.2
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.86	758.5	29.93	760.3	53.6	12.0	93.2	3	7	5	3	8	.....	.....	5	.....	.....	.....	5	1.26	32.0
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.67	753.6	29.99	761.7	51.8	11.0	67.9	1	2	2	6	8	3	3	4	2	.....	.....	4	1.02	25.8
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.61	752.2	29.98	761.6	51.1	10.6	63.1	1	5	4	5	2	4	3	7	.....	.....	.....	6	0.43	11.0
Clermont-Fer'and	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.60	726.4	29.95	760.7	55.4	13.0	41.7	7	6	2	2	6	1	3	4	.....	.....	.....	5	0.29	7.4
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.13	739.9	30.01	762.2	53.4	11.9	53.0	7	1	3	1	6	5	.....	8	.....	.....	.....	4	0.21	5.4
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.13	740.0	30.01	762.3	49.1	9.5	63.1	1	5	4	6	3	2	2	8	.....	.....	.....	4	0.67	17.1
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.39	695.8	29.92	760.0	53.4	11.9	44.4	2	2	5	2	6	3	1	3	7	.....	.....	3	0.33	8.4
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.83	732.2	29.95	760.6	58.1	14.5	45.6	4	6	1	3	7	8	.....	2	.....	.....	.....	5	0.51	12.9
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.19	741.5	29.95	760.8	57.6	14.2	51.0	2	7	7	2	3	1	2	4	3	.....	.....	.....	0.35	9.0
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.39	721.1	29.98	761.4	50.4	10.2	60.9	.....	1	1	6	1	10	1	11	.....	.....	.....	.....	1.33	33.8
Lamb'lle h	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.66	753.4	29.94	760.4	52.9	11.6	69.2	3	4	.....	4	3	3	2	4	.....	.....	.....	.....	1.00	25.5
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.40	746.8	29.96	760.9	59.9	15.5	45.2	3	2	8	1	1	1	5	10	.....	.....	.....	.....	0.79	20.1
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.87	758.7	29.97	761.3	54.5	12.5	65.0	.....	2	1	3	9	8	3	5	.....	.....	.....	5	2.06	52.4
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	28.32	734.5	29.98	761.4	53.6	12.0	49.1	11	.....	...	1	11	3	3	2	.....	.....	.....	.....	0.18	4.7
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.68	753.9	30.02	762.4	50.4	10.2	67.1	2	2	5	4	5	3	5	5	.....	.....	.....	4	1.16	29.4
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.68	753.9	29.95	760.7	59.0	15.0	53.7	.....	5	5	10	2	4	5	.....	.....	.....	.....	.....	0.21	5.4
Montlouis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.71	627.7	29.56	750.7	41.2	5.1	58.7	3	3	4	9	1	2	4	5	.....	.....	.....	4	3.18	80.9
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.83	757.7	29.94	760.5	57.9	14.4	75.8	6	4	1	4	4	6	5	1	.....	.....	.....	3	0.70	17.8
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.19	741.5	29.98	761.6	51.1	10.6	57.9	k4	3	3	2	4	2	.....	2	.....	.....	.....	.....	0.35	9.0
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.85	758.2	30.01	762.3	54.5	12.5	59.4	4	3	2	4	3	6	2	7	.....	.....	.....	7	1.19	30.2
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.86	758.5	29.97	761.3	57.2	14.0	56.1	1	9	.....	4	1	7	7	.....	2	.....	.....	5	2.33	59.2
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.06	534.8	.....	.....	26.4	—3.1	.....	.....	1	3	9	1	4	1	6	6	.....	.....	.....	2.74	69.5
Privas. [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.96	735.6	29.99	761.7	55.4	13.0	44.5	8	1	.....	.....	7	6	1	.....	8	.....	.....	3	0.24	6.1
Puy de Dôme	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.05	636.2	.....	.....	35.2	1.8	77.9	4	2	4	6	5	3	3	4	.....	.....	.....	5	0.84	21.3
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	29.96	761.0	30.00	761.9	58.3	14.6	54.6	1	4	1	3	4	4	1	9	4	.....	.....	2	1.40	37.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.75	755.7	29.97	761.2	54.7	12.6	58.1	4	.....	7	4	5	6	3	2	.....	.....	.....	.....	0.91	23.1
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.83	706.8	30.00	761.9	51.1	10.6	71.0	1	10	4	2	1	6	5	.....	2	.....	.....	.....	0.28	7.0
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.95	760.6	29.99	761.8	51.8	11.0	67.5	4	8	2	1	5	7	3	1	.....	.....	.....	3	1.72	43.6
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	102	49	29.82	757.5	29.99	761.7	52.2	11.2	55.3	4	3	3	2	9	2	1	7	.....	.....	.....	5	0.68	17.3
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.27	743.5	29.99	761.8	56.3	13.5	60.9	1	9	2	3	1	11	2	2	.....	.....	.....	5	0.77	19.6
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	29.80	757.0	29.98	761.6	54.3	12.4	57.0	7	3	2	2	3	5	1	8	.....	.....	.....	.....	0.92	23.3
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.49	749.0	29.98	761.4	50.9	10.5	58.0	7	2	2	10	1	.....	5	4	.....	.....	.....	.....	0.74	18.8
Sub-Series.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	0.03 p.m.	131	40	29.82	757.5	29.97	761.3	58.5	14.7	56.0	4	3	4	5	2	4	7	2	.....	.....	.....	5	1.34	34.1
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.56	725.3	30.02	762.6	47.1	8.4	55.6	2	4	5	3	2	6	2	5	2	.....	.....	5	0.94	24.0
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.14	740.2	29.98	761.6	48.0	8.9	54.9	.....	8	4	1	1	7	1	5	4	.....	.....	6	1.16	29.4
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.87	758.8	30.02	762.5	46.8	8.2	64.9	1	.....	6	3	2	9	4	6	.....	.....	.....	7	1.11	28.3
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.53	750.1	30.06	763.5	44.2	6.8	65.4	.....	4	5	.....	2	8	8	3	1	.....	.....	7	1.82	46.3
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.55	750.5	30.01	762.2	45.5	7.5	59.0	2	1	1	15	.....	1	5	5	1	.....	.....	5	2.44	61.9
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.27	743.4	29.98	761.5	55.0	12.8	65.1	2	4	2	5	7	5	3	3	.....	.....	.....	6	0.93	23.7
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.63	752.5	30.00	762.1	51.1	10.6	59.0	5	1	2	7	4	1	8	3	.....	.....	.....	6	0.60	16.7
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.57	725.7	30.00	762.1	47.1	8.4	71.4	3	2	3	15	3	3	.....	2	.....	.....	.....	4	1.56	39.6
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.93	760.3	30.02	762.6	44.6	7.0	77.5	1	.....	5	2	2	8	8	4	1	.....	.....	8	1.17	29.7
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.98	761.6	30.00	762.1	43.2	6.2	76.9	.....	1	4	4	1	2	6	9	4	.....	.....	8	1.36	34.6
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.60	751.8	30.02	762.5	47.5	8.6	67.4	5	.....	4	4	5	5	5	3	.....	.....	.....	7	1.60	40.7
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.82	757.4	30.01	762.3	47.7	8.7	70.0	2	.....	5	2	2	6	7	7	.....	.....	.....	7	1.03	26.2
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	30.15	765.9	30.20	767.1	37.6	3.1	78.6	2	4	3	2	4	8	4	4	.....	.....	.....	7	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.17	715.4	30.02	762.6	46.8	8.2	60.9	4	7	3	.....	.....	1	2	3	11	.....	.....	6	1.06	27.0
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	30.11	764.9	30.13	765.3	40.5	4.7	75.4	3	3	1	4	4	11	1	4	.....	.....	.....	8	0.61	15.4
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.45	748.1	29.98	761.5	51.1	10.6	62.0	4	.....	7	3	5	1	1	6	4	.....	.....	6	0.63	16.1
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.04	737.5	29.95	760.6	50.9	10.5	56.7	12	.....	4	4	3	.....	1	7	.....	.....	.....	6	0.97	24.6
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	30.00	762.1	30.02	762.6	41.7	5.4	82.1	.....	.....	1	5	1	10	5	8	1	.....	.....	8	0.87	22.1
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.63	752.6	30.02	762.4	59.2	15.1	.....	8	1	.....	3	14	1	1	3	.....	.....	.....	6	0.67	17.1
INDIAN.																										
Kurrachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.83	757.6	29.88	758.9	79.7	26.5	65	.....	1	9	19	2	.....	.....	.....	.....	.....	.....	2	0.18	4.6
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.36	745.9	29.83	757.6	92.8	33.8	17	1	6	16	8	.....	.....	.....	.....	.....	.....	.....	1	0	0
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.82	757.3	29.85	758.3	81.7	27.6	69	1	25	4	1	.....	.....	.....	.....	.....	.....	.....	1	0	0
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.98	710.8	29.79	756.7	92.0	33.3	15	2b	7	6	5	2	1	4	2	.....	.....	.....	3	0.07	1.8
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27 31	693.7	29.81	757.1	86.5	30.3	41	.....	1	10	12	1	1	4	2	...	.....	.....	3	0.19	4.8
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.10	739.3	29.85	758.2	78.1	25.6	37	1	11	6	.....	.....	.....	4	2	7	.....	.....	3	0.16	4.1
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.90	734.0	29.79	756.7	82.9	28.3	22	.....	2	16	... ...	....	1	3	.....	9	.....	.....	2	0.46	11.7
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.26	743.2	29.82	757.3	89.1	31.7	19	....	12	15	.....	2	.....	.....	1	1	.....	.....	2	0.14	3.6
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28 75	730.3	29.77	756.1	94.1	34.5	19	1	3	2	1	1	1	1	2	19	.....	.....	3	0.11	2.8
Jubbulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.48	723.5	29.82	757.3	89.1	31.7	22	4	8	4	1	.....	1	1	1	11	.....	.....	3	0.35	8.9
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.43	747.5	29.80	757.0	87.9	31.1	24	1	6	14	5	.....	.....	.....	1	4	.....	.....	1	0.11	2.8
Allahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.48	748.9	29.79	756.7	89.6	32.0	23	5	15	2	.....	.....	.....	.....	3	6	.....	.....	2	0	0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for March, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
INDIAN—Cont'd.	° ′	° ′																								
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.59	751.6	29.77	756.2	88.0	31.1	23	3	13	12	.....	.....	.....	.....	3	...	.....	.....	1	0	0
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.80	706.1	29.79	756.7	82.9	28.3	20	7	15	7	1	.....	.....	.....	1	...	.....	.....	1	0	0
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.73	755.1	29.81	757.2	87.0	30.6	52	.....	1	1	10	3	5	10	1	...	.....	.....	2	1.16	29.5
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.77	756.2	29.79	756.7	85.1	29.5	48	2	4	4	5	12	3	...	.....	1	.....	.....	1	0.06	1.5
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.65	753.2	29.77	756.1	81.0	27.2	48	.....	.....	.....	.....	1	1	1	2	26	.....	.....	1	5.47	138.9
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.78	756.3	29.87	758.6	78.6	25.9	78	.....	.....	6	11	9	2	.....	.....	3	.....	.....	2	0.04	1.0
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.51	749.5	29.85	758.2	71.2	21.8	79	1	.....	.....	.....	.....	1	.....	29	.....	.....	.....	5	6.32	160.5
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.40	721.2	29.82	757.4	87.5	30.8	21	6	13	8	2	2	.....	.....	.....	.....	.....	.....	3	0.11	2.8
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	29.82	757.4	29.84	758.0	86.0	30.0	63	2	4	1	3	.....	1	8	12	.....	.....	.....	3	0.08	2.0
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.33	719.0	.....	.....	91.9	34.9	19.0	5	1	1	.....	3	6	14	1	...	.....	.....	1	0	0
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.59	751.6	.....	.....	93.7	34.3	34.6	2	.....	2	.....	.....	3	12	12	...	.....	.....	2	0	0
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.60	751.7	30.01	762.2	54.5	12.5	49	1	.....	1	5	4	1	2	12	5	.....	.....	6	1.04	26.3
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.49	749.0	30.01	762.2	55.2	12.9	58	2	2	4	0	1	8	3	5	.....	.....	.....	5	0.36	9.1
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.89	759.1	30.00	762.0	54.0	12.2	56	3	3	.....	4	2	6	6	6	1	.....	.....	5	1.34	34.0
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.08	738.5	29.98	761.6	55.6	13.1	50	4	5	1	3	7	2	9	.....	.....	.....	.....	5	0.98	24.8
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157?	48?	29.78	756.3	29.97	761.2	56.5	13.6	55	7	2	.....	9	7	3	1	1	1	.....	.....	5	1.12	28.5
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.95	760.6	29.99	761.8	51.6	10.9	77	9	4	.....	1	.....	2	6	9	.....	.....	.....	4	3.02	76.8
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.71	754.5	29.96	761.0	57.2	14.0	49	4	.....	5	9	1	.....	4	7	1	.....	.....	5	0.89	22.6
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.84	757.8	29.92	760.0	57.2	14.0	59	1	...	6	7	6	.....	4	7	.....	.....	.....	4	1.18	30.1
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.77	756.2	29.95	760.7	59.5	15.3	50	5	2	8	8	4	1	1	.....	2	.....	.....	6	1.62	41.2
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.71	754.7	29.97	761.3	58.3	14.6	59	8	.....	1	1	5	5	2	9	.....	.....	.....	5	3.26	82.9
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.08	738.5	29.97	761.3	56.7	13.7	76	1	3	8	10	5	2	1	1	.....	.....	.....	5	1.98	50.4
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.71	754.7	29.97	761.1	58.5	14.7	63	1	5	3	1	1	...	4	16	.....	.....	.....	6	1.54	39.1
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.90	759.5	29.95	760.6	61.7	16.5	67	2	2	3	1	4	2	11	6	.....	.....	.....	8	3.97	100.9
Sub-Series.																										
Naples	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.44	747.8	.....	.....	57.4	14.1	62.7	4	.....	.....	14	5	3	2	3	.....	.....	.....	6	2.53	64.3
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	22.00	568.8	.....	.....	26.2	−3.2	78.4	.....	.....	6	11	1	6	3	4	.....	.....	.....	4	0.59	14.9
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	22.10	561.3	.....	.....	27.3	−2.6	71.5	3	6	10	4	.....	2	5	1	.....	.....	.....	0	13.03	331.0
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	29.98	761.4	30.01	762.3	32.3	0.2	84.5	4	11	4	.....	1	1	1	.....	9	.....	.....	8	3.53	89.7
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.94	760.4	29.97	761.3	29.5	−1.4	81.8	.....	3	9	6	6	1	4	1	1	7903	12717	7	2.04	67.2
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	29.96	760.9	29.97	761.2	29.4	−1.4	80.6	15	2	5	.....	.....	.....	5	.....	4	8595	13087	0	2.14	54.3
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	92	28	29.91	759.7	30.01	762.2	43.9	6.6	75.5	1	1	13	.....	.....	.....	6	1	9	.....	.....	4	7.47	189.7
Hiroshima	N. 34 23	E. 132 27	8.58 p.m.	14	4	30.05	763.2	30.06	763.5	43.4	6.3	81.3	24	1	1	1	.....	1	2	1	.....	4030	6484	5	6.12	155.4
Kagoshima	N. 31 35	E. 130 33	8.50 p.m.	14	4	30.04	763.0	30.05	763.3	50.8	10.4	82.3	8	8	2	1	.....	.....	4	4	4	.....	.....	7	5.60	142.2
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	29.96	761.0	30.07	763.7	38.1	3.4	82.2	4	4	.....	3	1	3	11	5	.....	4684	7537	6	7.17	182.2
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.88	759.0	30.06	763.4	41.0	5.0	78.9	12	5	2	1	.....	1	1	6	3	2970	4780	5	0.91	175.2
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	30.02	762.4	30.04	762.9	49.5	9.6	76.2	6	5	9	2	2	1	4	2	.....	5715	9198	6	7.39	187.8
Miasaka	N. 31 56	E. 131 26	8.54 p.m.	26	8	30.01	762.4	30.04	763.1	50.3	10.1	82.0	11	4	10	1	.....	2	3	.....	.....	.....	.....	0	6.24	158.6
Miyako	N. 39 38	E. 141 59	9.36 p.m.	98	30	29.87	758.6	29.98	761.4	32.2	0.1	71.8	1	1	16	4	1	.....	2	1	5	3123	5127	5	4.41	111.9
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.86	758.4	30.07	763.7	40.7	8.2	81.3	7	2	2	1	.....	.....	.....	6	13	3908	6289	5	8.20	208.4
Nemuro	N. 43 20	E. 145 35	9.50 p.m.	43	13	29.85	758.3	29.90	759.6	24.6	−4.1	67.7	1	8	.....	1	4	2	2	2	11	5191	8354	5	1.12	28.3
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	30.00	762.0	30.04	763.0	37.4	3.0	80.2	4	3	10	2	.....	4	3	2	3	5719	8776	7	4.30	108.9
Nobiru	N. 38 23	E. 141 11	9.32 p.m.	15	5	29.98	761.4	29.99	761.8	35.1	1.7	79.1	16	7	.....	.....	5	.....	2	1	.....	10534	17004	5	2.04	51.8
Numadzu	N. 35 06	E. 138 51	9.23 p.m.	32	10	29.95	760.6	29.98	761.5	45.0	7.2	75.7	1	.....	2	7	3	1	14	3	...	.....	.....	0	8.90	226.1
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	30.04	763.0	30.06	763.4	42.5	5.8	80.1	4	2	3	1	1	2	6	12	.....	7145	11498	5	5.62	142.6
Sakai	N. 35 01	E. 133 13	9.01 p.m.	10	3	30.05	763.4	30.06	763.4	42.9	6.1	79.0	9	1	0	1	2	.....	7	4	1	.....	.....	7	8.58	217.9
Sapporo	N. 43 01	E. 141 23	9.33 p.m.	60	18	29.86	758.5	29.93	760.2	24.4	−4.2	81.3	3	8	1	3	4	3	.....	1	8	6891	11090	0	2.49	63.1
Shimonoseki	N. 33 58	E. 130 56	8.52 p.m.	134	41	29.92	759.9	30.06	763.6	45.1	7.3	78.9	6	3	8	2	1	.....	7	4	.....	.....	.....	6	6.33	160.9
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.92	760.0	30.00	762.0	42.1	5.6	75.2	15	.....	1	3	7	2	2	1	.....	6585	10596	6	5.98	151.0
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.99	761.7	30.04	763.1	44.7	7.1	75.5	4	2	.....	.....	1	1	.....	11	12	3195	5141	5	4.09	103.7
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.72	754.9	29.92	759.9	80.2	26.8	72.7	1	5	1	.....	1	3	14	6	.....	.....	.....	7	6.75	171.4
MEXICAN.																										
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24.32	617.7	30.08	763.9	51.9	11.2	69.0	5	20	2	1	.....	.....	.....	.....	3	.....	.....	3	map.	map.
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.69	754.2	29.96	760.9	65.3	18.5	80.7	8	10	.....	.....	1	.....	5	7	...	.....	.....	4	0	0
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.93	761.4	29.98	761.4	48.4	9.1	.....	2	5	2	6	7	3	4	2	.....	.....	.....	.....	0.89	22.6
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.92	760.0	29.98	761.4	45.5	7.5	.....	4	2	2	2	2	8	0	4	3	.....	.....	.....	0.86	21.9
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.96	761.0	29.96	761.0	44.2	6.8	.....	1	2	1	4	4	6	6	7	.....	.....	.....	.....	0.95	24.1
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.96	761.0	29.96	761.0	48.6	9.2	70.8	2	1	4	5	4	4	5	4	2	.....	.....	.....	0.97	24.7
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.94	760.4	29.98	761.6	48.7	9.3	67.6	1	3	4	4	4	9	1	5	.....	.....	.....	0	1.15	29.2
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7.15 p.m.	?	?	29.85	758.3	.....	.....	77.7	25.4	86.8	6	11	7	3	3	.....	.....	1	.....	.....	.....	8	6.53	165.8
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.87	758.7	29.93	760.3	42.8	6.0	62.9	2	4	.....	3	12	4	3	6	3	.....	.....	5	4.55	115.6
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.92	759.9	29.96	760.9	39.9	4.4	63.3	2	1	.....	2	9	8	6	.....	3	.....	.....	5	2.04	51.7
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.91	759.8	30.06	763.6	37.2	2.9	73.0	.....	1	1	7	4	3	9	6	.....	.....	.....	7	1.50	38.1
Gjesvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.87	758.7	29.89	759.3	34.9	1.6	.....	1	.....	3	8	4	3	1	4	7	.....	.....	7	2.01	66.3
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.90	759.5	29.95	760.7	35.8	2.1	70.2	1	.....	3	6	2	2	1	7	9	.....	.....	4	3.68	93.4
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	29.99	761.7	30.08	763.9	62.2	16.8	60.0	2	4	3	14	1	2	2	.....	3	.....	.....	6	3.35	85.2
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	312	95	29.60	751.9	29.94	760.4	57.2	14.0	65.0	10	3	1	1	5	4	1	6	.....	.....	.....	5	5.80	148.9
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.10	764.4	30.17	766.2	60.4	15.8	67.2	7	7	0	3	1	4	.....	3	.....	.....	.....	4	3.18	80.8
Saint Vincent	N. 16 37	W. 25 02	10.28 a.m.	34	10	30.00	762.1	30.04	763.0	68.7	20.4	67.0	1	.....	.....	2	.....	.....	7	21	.....	.....	.....	5	0	0
San Salvador	S. 6 17	E. 14 53	1.07 p.m.	1834	559	28.00	711.2	29.81	757.1	83.8	28.8	63.0	1	4	9	11	3	.....	1	.....	2	.....	.....	6	4.75	120.6
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.14	638.6	29.94	760.4	39.9	4.4	77.5	1	8	5	2	2	2	11	.....	.....	.....	.....	7	12.15	308.6
RUSSIAN																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	29.09	738.8	30.28	769.1	6.4	−14.2	87.7	2	1	6	4	2	3	4	7	2	.....	.....	4	0.06	1.5
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	30.09	764.2	30.11	764.7	25.2	−3.8	80.1	1	4	8	4	8	2	2	2	.....	.....	.....	7	0.29	7.4
Ashurada	N. 36 54	E. 53 55	3.44 p.m.	79	24	30.17	766.4	30.08	764.0	53.6	12.0	70.0	11	12	5	.....	.....	1	.....	2	.....	.....	.....	0	1.04	26.5
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.30	769.6	30.22	767.6	37.2	2.9	48.2	1	2	1	2	1	6	14	3	1	.....	.....	5	0	0
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	30.17	766.3	30.12	765.1	46.0	7.8	73.3	11	2	1	.....	7	4	.....	2	4	.....	.....	5	1.01	25.6
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.78	756.4	30.33	770.4	9.0	−12.8	72.0	2	3	1	14	3	.....	.....	1	7	.....	.....	5	1.40	35.5
Bielosersk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.79	757.7	30.29	769.3	27.1	−2.7	65.1	2	1	2	4	3	1	2	2	14	.....	.....	6	0.50	12.0
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.98	761.5	30.24	768.0	30.6	−0.8	70.2	2	1	1	3	4	4	10	4	2	.....	.....	5	0.53	13.5
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	29.21	742.0	30.24	768.1	23.0	−5.0	58.0	.....	3	10	7	4	7	.....	.....	.....	.....	.....	0	0.13	3.2
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.69	754.2	30.16	766.1	34.3	1.3	76.3	3	4	2	.....	1	7	6	7	1	.....	.....	9	0.65	16.5
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	30.05	763.4	30.35	770.8	22.3	−5.4	70.4	2	1	4	8	6	4	2	3	1	.....	.....	6	0.14	3.6
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	30.10	764.5	30.15	765.8	27.7	−2.4	73.8	1	1	8	7	5	1	.....	5	3	.....	.....	7	0.28	7.1
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	30.03	762.7	30.05	763.3	39.2	4.0	77.9	5	2	.....	.....	2	5	3	9	5	.....	.....	8	0.78	19.9
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.47	748.5	30.14	765.5	31.3	−0.4	77.1	5	3	1	1	1	9	5	6	.....	.....	.....	8	2.43	61.8
Kos'ov	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.74	755.3	30.28	769.1	22.1	−5.5	70.4	2	.....	1	2	2	5	7	7	5	.....	.....	6	0.21	5.3
Lgov	N. 51 41	E. 35 17	2.29 p.m.	535?	163?	29.65	753.0	30.27	768.9	25.5	−3.6	73.6	2	1	1	.....	1	0	12	5	3	.....	.....	7	0.97	24.7
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	30.14	765.6	30.17	766.2	37.2	2.9	71.4	.....	2	1	3	5	7	10	2	1	.....	.....	7	0.46	11.8
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.93	760.1	30.14	765.5	28.2	−2.1	70.6	1	...	2	3	.....	2	13	10	.....	.....	.....	8	0.55	14.0
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.80	756.8	30.31	769.8	27.0	−2.8	68.1	2	1	2	.....	6	1	4	1	14	.....	.....	4	0.26	6.7
Nertchinsk	N. 51 19	E. 119 37	8.07 p.m.	?	?	27.80	706.0	30.31	769.8	0.6	−14.1	50.9	1	7	1	...	.....	.....	.....	.....	22	.....	.....	2	0.24	6.2
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	30.04	763.0	30.11	764.8	40.3	4.6	73.2	5	2	1	1	6	2	4	7	3	.....	.....	8	0.37	9.3
Nikolaievsk *b*	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.95	760.7	30.04	762.9	4.1	−15.5	70.3	.....	3	6	1	.....	1	4	.....	14	.....	.....	3	.....	.....
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	30.02	762.6	30.17	766.2	38.7	3.7	56.5	2	4	.....	9	1	2	.....	.....	13	.....	.....	3	0.54	13.6
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.12 p.m.	328	100	29.82	757.5	30.19	766.7	45.5	7.5	39.6	8	1	3	.....	2	1	.....	14	2	.....	.....	5	.....	.....
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	30.02	762.4	30.22	767.7	26.6	−3.0	69.5	1	5	4	3	3	9	1	2	3	.....	.....	0	1.08	27.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for March, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
RUSSIAN—Cont'd	° ′	° ′																								
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.65	753.1	30.17	766.2	34.7	1.5	79.9	4	2	2	1	2	5	9	5	1	.....	.....	8	1.54	39.2
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	30.00	761.9	30.03	762.7	51.3	10.7	90.0	.....	2	2	14	6	1	3	.....	3	.....	.....	7	3.47	88.1
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	30.24	768.1	30.26	768.7	27.3	−2.6	69.8	2	3	3	4	8	3	1	7	.....	.....	.....	6	0.16	4.2
Samarkand	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.58	600.5	30.07	763.7	50.0	10.0	63.3	....	5	3	1	1	6	3	.....	12	.....	.....	6	.....	.....
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.67	753.5	30.40	772.1	7.5	−13.6	80.8	..	1	4	1	2	2	2	.....	19	.....	.....	6	0.30	7.6
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	138?	42?	29.82	757.4	30.04	762.9	46.8	8.2	61.7	14	1	3	1	3	2	.....	7	...	.....	.....	6	0.45	11.5
Staroi Bykhov	N. 53 31	E. 30 16	2.09 p.m.	423?	129?	29.63	752.5	30.21	767.4	31.6	−0.2	66.5	1	1	.....	2	1	7	9	10	.....	.....	.....	6	1.04	26.5
Tashkend	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.44	722.3	30.14	765.5	47.5	8.6	63.1	....	5	3	....	.....	.....	.....	1	22	.....	.....	7	.....	.....
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1313	409	28.65	727.8	30.10	764.4	48.0	8.9	50.7	2	4	.....	1	6	12	3	1	2	.....	.....	7	1.34	34.0
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.55	699.7	30.16	766.1	31.6	−0.2	68.7	1	1	3	2	....	.....	..	2	22	....	.....	6	.....	.....
Viatka *b*	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.01	752.0	30.28	769.0	24.3	−4.3	61.4	1		12	2	6	2	.....	.....	6	.....	.....	5	0.34	8.5
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	29.99	761.8	30.06	763.5	22.1	−5.5	68.2	11	2	1	.....	1	3	5	7	1	.....	.....	3	0.63	16.0
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.67	753.7	30.11	764.7	40.6	4.8	68.2	1	2	3	3	2	11	6	3	...	.....	.....	7	.....	.....
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.96	761.0	30.28	769.0	10.8	−11.8	64.3	1	2	8	6	....	1	.....	1	12		.....	3	0.05	1.2
Sub-Series.																										
Petrowsky Ac'y	N. 55 50	E. 37 38	2.39 p.m.	508	155	29.65	753.1	30.19	766.8	29.3	−1.5	59.6	2	2	6	2	6	6	2	5	..	.....	.....	6	0.29	7.4
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	98	30	29.78	756.3	29.88	758.9	55.9	13.3	75	....	....	1	9	3	6	5	7	.....	.....	.....	6	2.58	65.5
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	29.90	759.5	29.96	761.0	59.7	15.4	64	....	7	1	2	7	8	.....	2	4	1915	3082	6	3.75	95.2
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	26.98	685.4	30.06	763.6	48.7	9.3	65	4	..	1	6	1	3	10	6	.....	6007	9667	6	2.99	76.0
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.71	703.8	29.94	760.4	56.1	13.4	58	1	2	2	7	3	7	2	7	....	6772	10914	6	1.03	26.2
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.81	757.2	29.94	760.4	56.5	13.6	72.0	.....	5	1	1	5	2	9	8	.....	1826	2930	7	1.77	44.9
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	203	28.98	736.2	29.88	759.0	55.9	13.3	67.6	4	2	2	3	8	1	....	8	3	7580	12198	7	4.19	106.3
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	30.04	763.1	30.11	764.8	69.5	20.8	86.0	2	1	.....	....	....	12	14	1	1	.....	.....	2	2.15	54.6
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.90	759.4	29.96	761.0	79.6	26.4	68.7		.....	.....	1	3	18	8	1	.....	.....	.....	2	0.21	5.5
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.86	758.4	29.96	760.9	60.7	15.9	68.2	2	3	8	2	3	1	9	2	1	.....		6	3.64	92.5
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	30.01	762.3	30.10	764.6	74.1	23.4	79.0	.....	..	.....	....	3	8	4	.....	16	.....	.....	6	1.39	35.4
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	30.11	764.8	30.15	765.8	27.1	−2.7	90	7	1	1	4	7	2	.....	1	8	.....	.....	6	1.10	27.9
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	30.10	764.5	30.15	765.8	32.9	0.5	83	1	3	3	13	2	1	2	6	.....	.....	.....	6	1.22	31.0
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	30.06	763.6	30.11	764.9	34.9	1.6	76	1	1	2	4	7	2	3	2	9	.....	.....	7	0.80	20.3
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.97	761.1	30.14	765.6	37.6	3.1	72	3	....	4	2	4	6	5	6	1	.....	.....	7	0.91	23.0
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	30.04	762.9	30.10	764.4	37.9	3.3	77	.....	.....	4	4	1	7	7	6	2	.....	.....	5	1.10	28.0
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	30.08	763.9	30.12	765.1	36.9	2.7	76.1	5	1	1	2	6	5	6	5	.....	.....	.....	7	1.46	37.1
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.55	725.1	29.99	761.8	50.0	10.0	54.0	23	1	.....	2	4	.....	1	....	.....	.....	.....	4	0.02	0.5
TURKISH.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.06	763.4	50.7	10.4	66.0	13	....	...	7	4	2	....	5	....	.....	.....	8	1.47	37.3
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.05	763.3	60.6	15.9	.....	....	10	4	5	5	4	.....	3	.....	.....	.....	6	4.41	112.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.96	760.9	63.0	17.2	67.4	3	7	....	17	.....	.....	.....	4	.....	.....	.....	6	3.65	92.7
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	29.97	761.2	30.06	763.5	32.4	0.2	70.6	8	5	7	2	6	....	.....	3	....	4586	7380	7	4.00	101.6
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.36	745.7	30.06	763.5	17.7	−7.9	78.9	3	12	6	2	1	3	2	1	1	6460	10396	5	1.61	40.9
Apache, Fort	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	24.93	633.2	29.95	760.7	33.8	1.0	82.4	1	1	2	4	.....	7	10	6	.....	5336	8588	5	4.44	112.8
Assinaboine, Ft	N. 48 32	W. 109 42	4.49 a.m.	2710	826	27.08	687.8	30.10	764.5	16.5	−8.6	84.7	1	3	8	8	.. ..	.....	3	....	8	6143	9886	4	0.53	13.5
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1129	344	28.89	733.8	30.10	764.5	48.9	9.4	75.2	3	6	6	6	2	6	1	1	....	8544	13750	6	9.70	246.4
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	30.02	762.5	30.03	762.7	36.3	2.4	82.7	9	5	5	3	3	2	1	2	1	6419	10330	6	5.79	147.1
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	29.93	760.2	30.13	765.3	53.2	11.8	77.2	2	2	3	3	3	3	2	1	12	3341	5377	6	6.97	177.0
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.03	762.7	30.08	764.0	40.5	4.7	74.7	7	8	2	1	1	3	3	5	1	4615	7427	7	6.37	161.8
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	22	7	30.02	762.5	30.04	763.0	36.3	2.4	82.4	5	7	2	4	2	1	3	7	.....	11876	19112	6	2.38	60.5
Bennett, Fort	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.41	721.6	30.11	764.8	20.6	−6.3	83.4	1	11	.....	.....	.....	3	....	6	10	.....	.....	5	1.08	27.4
Benton, Fort	N. 47 50	W. 110 40	4.45 a.m.	2700	823	27.12	688.8	30.10	764.5	28.2	−2.1	77.7	2	1	...	4	.....	.....	.....	4	20	3058	4921	6	.....	.....
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.16	715.3	30.08	764.0	13.2	−10.4	82.0	5	7	1	..	.....	2	6	2	8	5269	8480	4	0.60	15.2
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	29.99	761.7	30.02	762.5	33.3	0.7	81.1	4	8	3	3	2	2	.....	6	3	11733	18882	6	6.40	162.6
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.07	687.6	29.99	761.7	37.9	3.3	79.8	2	7	4	2	2	6	2	2	4	4370	7033	6	2.78	70.6
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.85	758.2	30.01	762.2	29.4	−1.4	80.0	4	8	8	4	....	2	....	5	....	8754	14088	8	4.86	123.4
Brownsville	N. 25 53	W. 97 26	5.38 a.m.	57	17	29.91	759.7	29.97	761.2	64.2	17.9	93.2	5	3	1	2	9	4	1	4	2	8166	13142	7	0.07	1.8
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	690	210	29.26	743.2	30.04	763.0	27.1	−2.7	80.0	5	3	2	9	4	2	1	5	.....	8009	12889	6	2.84	72.1
Buford, Fort	N. 48 00	W. 103 56	5.12 a.m.	1930	588	27.93	709.4	30.09	764.3	12.2	−11.0	87.2	3	5	5	4	1	1	4	8	.....	6282	10110	5	0.10	2.5
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.67	753.6	30.09	764.3	42.9	6.1	75.9	6	5	.....	3	8	4	1	4	.....	7583	12202	7	4.2	106.7
Canby, Fort	N. 46 16	W. 124 04	3.52 a.m.	179	54	29.73	755.1	29.93	760.2	41.3	5.2	84.1	3	.....	5	1	6	3	10	2	1	5710	9189	4	2.18	55.4
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.05	763.3	30.07	763.8	44.7	7.1	84.8	3	7	4	5	4	5	.....	3	.....	10078	16218	5	7.65	191.3
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.02	762.5	30.05	763.3	37.9	3.3	84.6	2	10	4	1	2	4	1	7	.....	12690	20422	5	5.61	142.5
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.26	743.2	29.95	760.7	43.9	6.6	85.1	1	13	.....	.....	.....	11	1	2	3	.....	.....	7	3.52	89.4
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.11	764.8	30.13	765.3	62.3	16.8	83.9	3	5	2	2	6	6	3	4	.....	8620	12907	4	2.21	56.1
Charleston *a*	N. 32 47	W. 79 56	6.48 a.m.	52	16	30.02	762.5	30.08	764.0	55.3	12.9	83.2	2	3	4	11	.....	1	2	6	1	6539	10523	5	4.39	111.5
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.20	741.7	30.08	764.0	48.0	8.9	79.1	1	7	2	3	8	2	1	6	1	5115	8232	4	9.19	233.4
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.24	742.7	30.09	764.3	46.9	8.3	76.1	2	8	2	2	7	1	3	6	.....	5766	9279	7	10.19	258.8
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6105	1861	23.82	605.0	30.02	762.5	25.3	−3.7	68.3	5	11	5	2	2	3	1	2	.....	9974	16051	2	1.59	40.4
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.31	744.5	30.05	763.3	30.5	−0.8	72.5	5	6	6	2	3	2	4	2	1	6168	9926	7	5.10	131.1
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	18	5	30.03	762.7	30.05	763.3	40.0	4.4	85.6	2	12	1	.....	6	3	.....	7	....	9221	14840	4	7.81	198.4
Cincinnati	N. 39 06	W. 84 30	5.30 a.m.	620	189	29.38	746.2	30.08	764.0	40.6	4.8	78.3	..	7	3	.....	3	5	7	5	1	4682	7535	7	2.63	66.8
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.28	743.7	30.06	763.5	30.7	−0.7	82.3	5	3	5	5	4	3	2	4	.....	7006	11275	7	1.87	47.5
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.16	740.7	30.06	763.5	34.8	1.6	74.3	2	4	0	7	1	3	2	6	.....	6151	9899	8	3.59	91.2
Concho, Fort	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.09	713.5	30.06	763.5	45.7	7.6	78.5	...	3	5	1	12	..	2	6	2	8658	13934	5	0.76	19.3
Custer, Fort	N. 45 42	W. 107 34	4.58 a.m.	3040	926	26.74	679.2	30.07	763.8	19.1	−7.2	82.4	5	1	5	1	.....	10	5	4	.....	4702	7567	5	1.02	25.9
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.34	745.2	30.03	762.7	30.9	−0.6	69.8	1	4	4	3	.....	7	2	10	.....	7184	11561	6	3.27	83.3
Davis, Fort	N. 30 38	W. 103 56	5.12 a.m.	4928	1502	25.12	638.0	29.99	761.7	42.5	5.8	77.2	..	..	.....	21	2	.....	.....	2	6	7064	11368	4	0.28	7.1
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1667	508	28.18	715.8	30.00	762.0	33.5	0.8	82.6	2	..	2	8	3	5	3	7	1	4591	7388	6	1.79	45.5
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.23	640.8	30.07	763.8	22.8	−5.1	81.8	.....	4	4	3	2	2	7	6	3	3316	5336	5	2.61	66.3
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.04	763.0	30.06	763.5	37.8	3.2	87.5	6	8	2	2	4	2	1	6	.....	12976	20882	6	6.71	170.4
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.57	624.3	30.01	762.2	32.7	0.4	68.3	3	6	4	2	8	....	.....	....	8	5732	9225	4	0.93	23.6
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.08	738.6	30.04	763.0	29.5	−1.4	70.9	7	3	2	3	3	3	3	7	.....	5306	8539	7	2.24	56.9
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.32	744.7	30.07	763.8	31.9	−0.1	78.9	6	4	2	8	1	4	2	3	1	6639	10684	6	2.10	53.3
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2517	767	27.33	694.2	30.06	763.5	33.1	0.6	72.3	1	8	5	1	.....	8	4	4	.....	12316	19820	3	1.91	48.5
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.30	744.2	30.05	763.3	26.9	−2.8	68.8	6	7	3	2	3	3	4	3	.....	4132	6650	7	3.85	97.8
Duluth	N. 46 48	W. 92 06	6.00 a.m.	644	184	29.27	743.4	30.06	763.5	15.4	−9.2	75.3	1	2	5	4	.....	.....	1	7	11	5179	8335	5	1.32	33.5
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.88	758.9	29.95	760.7	24.7	−4.1	77.8	5	8	4	3	2	.....	3	5	1	8306	13367	7	3.74	95.0
Elliott, Fort	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.17	690.1	30.00	762.0	36.2	2.3	74.6	4	5	.....	4	4	7	.....	4	3	11127	17907	4	0.34	8.6
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3764	1147	26.21	665.7	30.01	762.2	44.2	6.8	55.2		4	13	1	.....	....	1	1	11	3981	6407	3	0.33	8.4
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.29	744.0	30.06	763.5	30.3	−0.9	81.9	3	2	2	5	8	1	1	5	4	6789	10926	6	3.84	97.5
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	613	187	29.35	745.5	30.06	763.5	11.5	−11.4	79.4*b*	13	5	2	1	7	1	1	1	.....	5750	9254	6	1.10	27.9
Fort Smith	N. 35 22	W. 94 24	5.50 a.m.	451	137	29.53	750.0	30.02	762.5	44.9	7.2	75.4	4	2	3	2	1	.....	16	.....	3	5629	9059	6	2.28	57.9
Galveston	N. 29 18	W. 94 47	5.49 a.m.	40	12	29.98	761.5	30.02	762.5	61.4	16.3	84.4	3	1	2	3	6	6	3	7	.....	8214	13219	6	4.84	122.9
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.35	745.5	30.05	763.3	27.7	−2.4	79.3	3	4	.....	2	3	1	5	8	5	7305	11756	7	3.86	98.0
Grant, Fort	N. 32 39	W. 109 57	4.48 a.m.	4856	1480	25.16	639.1	29.98	761.6	41.1	5.1	62.7	1	4	2	1	.....	5	8	10	.....	5304	8536	4	3.87	98.3
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	12	4	30.06	763.5	30.07	763.8	50.8	10.4	81.8	3	8	1	4	5	2	1	5	2	8956	14413	6	5.84	148.3
Helena	N. 46 34	W. 112 04	4.40 a.m.	4044	1232	25.72	653.3	30.04	763.0	24.2	−4.3	75.5	9	8	8	2	....	.....		2	2	3625	5834	5	0.59	15.0
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.59	726.2	30.07	763.8	20.7	−6.3	84.6	10	4	1	.....	2	7	1	5	1	6627	10665	6	1.53	38.9
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.20	741.7	30.04	763.0	35.1	1.7	71.9	5	7	1	1	2	6	3	5	1	5090	8191	6	3.01	76.5
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	29.98	761.5	30.01	762.2	61.7	16.5	85.7	8	1	.....	1	8	7	2	4	.....	10737	17279	7	1.91	48.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for March, 1884.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metrs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																									
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.08	764 0	30.12	765.0	61.1	16.2	84.4	2	3	4	6	7	3	2	3	1	5958	9588	4	2.63	66.8
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.34	745.2	30.03	762.7	32.1	0.1	79.7	6	2	5	1	4	4	3	3	3	5405	8698	5	3.37	85.0
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.09	764.3	30.11	764.8	72.3	22.4	79.0	4	2	1	2	3	10	5	4	.....	7919	12744	3	0.16	4.1
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.05	763.3	30.07	763.8	46.4	8.0	79.9	5	3	5	5	2	5	2	4	.....	10924	17580	4	9.17	232.9
Knoxville	N. 35 56	W. 83 58	6.32 a.m	980	299	29.02	737.1	30.08	764.0	42.8	6.0	82.2	4	.....	6	5	.....	....	4	8	4	4963	7987	6	11.93	303 0
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.22	742.2	30.04	763.0	23.5	−4.7	72.6	11	4	3	1	8	1	.....	3	...	5524	8890	6	1.11	28.2
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.10	739.1	30.04	763 0	34.9	1.6	76.9	4	6	.....	2	7	4	1	3	4	6822	10979	6	3.70	94.0
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.11	739.4	29.97	61 2	37.3	2.9	74.8	.....	4	2	1	.....	2	.....	3	19	1238	1992	4	1.25	31.7
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.73	755 1	30.00	763.5	47.8	8.8	77.9	5	3	2	4	4	4	2	4	3	4753	7649	4	4.67	118.0
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	371	113	29.61	752.1	30.01	762 2	48.9	9.4	84.7	2	1	1	1	2	1	7	16	.....	5681	9142	5	12.30	313.9
Louisville	N. 38 15	W 85 45	6.25 a.m.	530	162	29.46	748.3	30.05	763.3	41.7	5.4	74.7	3	3	7	1	6	3	2	5	1	6619	10652	7	3.76	95.5
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.34	745.2	30.06	763.5	42.4	5.8	72.9	1	5	5	2	4	1	1	5	7	3446	5546	7	8.14	206.8
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.37	746.0	30.07	763.8	17.0	−8.3	77.5	1	3	5	6	1	4	3	2	0	6431	10350	6	1.21	30.7
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.07	763.8	30.08	764.0	51.5	10.8	82.5	2	8	3	2	5	4	.....	7	.....	11625	18708	6	4.10	104.1
Maginnis, Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.46	646.7	30.06	763.5	22.3	−5.4	52.9	.....	6	8	4	.....	4	2	7	.....	6571	10580	5	0.56	14.2
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.28	743.7	30.07	763.8	17.2	−8.2	73.9	1	10	8	3	4	2	1	.....	2	5346	8603	5	0.74	18.8
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.69	754.1	30.04	763.0	47.6	8.7	73.9	4	4	6	2	.....	8	2	5	.....	4550	7322	6	5.08	129.0
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.26	743.2	30.05	763.3	25.8	−3.4	79.1	4	6	7	1	2	3	2	6	.....	9260	14902	7	2.77	70.4
Mobile	N. 30 41	W. 88 02	6.16 a.m.	35	11	30.04	763.0	30.08	764.0	50.6	13.7	82.8	9	1	2	5	6	.....	3	5	....	5061	8145	6	11.53	292.8
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.84	757.9	30.08	764.0	53.2	11.8	82.3	1	6	2	5	5	7	.....	5	.....	5127	8251	6	9.50	241.3
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	29.00	736.6	30.08	764.0	7.2	−13.8	87.4	7	3	5	1	7	3	.....	2	3	6055	9744	5	1.03	26.2
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.44	595.4	29.96	761.0	11.1	−11.6	83.1	1	15	5	4	1	1	2	1	1	.....	.....	5	4.16	105.7
Nashville	N. 36 10	W. 86 47	6.21 a.m.	549	167	29.46	748.3	30.06	763.5	43.7	6.5	79.9	3	7	4	1	2	3	6	5	.....	5485	8827	8	8.89	225.8
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	29.92	760.0	30.04	763.0	29.5	−1.4	80.4	5	6	4	1	.....	1	1	7	6	6179	9944	6	4.15	105.4
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	29.99	761.7	30.04	763.0	32.2	0.1	81.2	4	11	8	.....	2	1	...	3	2	6139	9880	6	5.53	140.5
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	29.99	761.7	30.05	763.3	60.4	15.8	80.4	0	2	1	4	5	6	4	2	1	6008	9669	6	8.21	209.3
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.87	758.7	30.05	763.3	33.6	0.9	78.7	2	4	6	2	.....	2	2	5	8	6347	10214	7	4.43	112.5
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.02	762.5	30.05	763.3	46.5	8.1	79.4	5	4	2	.....	3	5	.....	2	10	5340	8594	5	9.13	231.9
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	26.97	685.0	30.03	762.7	27.4	−2.6	80.1	2	8	4	1	.....	2	4	5	5	6723	10819	6	1.82	46.2
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	29.90	759.4	29.94	760.5	36.6	2.6	85.8	.....	1	1	1	5	.....	.....	1	22	1559	2509	6	1.57	39.9
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.82	732.0	30.07	763.8	29.8	−1.2	79.9	8	4	.....	3	5	3	1	4	3	5819	9365	6	4.91	124.7
Oswego	N. 43 29	W. 76 35	7.02 a.m.	304	93	29.69	754.1	30.03	762 7	29.7	−1.3	76.5	5	5	4	2	5	6	1	3	.....	7146	11503	7	3.81	96.8
Palestine	N. 31 45	W. 95 40	5.45 a.m.	533	162	29.47	748.5	30.04	763.0	53.1	11.7	78.3	4	3	1	2	8	4	1	8	.....	8056	12965	0	3.62	91.9
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.05	763.3	30.08	764.0	58.7	14.8	85.6	4	4	3	4	5	2	2	6	1	6552	10514	6	5.75	146.0
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	92	28	29.96	761.0	30.06	763.5	37.2	2.9	83.2	1	9	3	2	1	2	.....	13	....	6452	10382	7	4.70	119.4
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.51	444.7	30.10	764 5	2.2	−16.6	78.5	1	7	12	4	2	.....	.....	5	.....	19128	30783	4	0.39	9.9
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	766	233	29.20	741 7	30.05	763.3	35.8	2.1	83.2	1	10	7	2	3	....	2	6	.....	5215	8392	8	3.71	94.2
Poplar, River	N. 48 08	W 105 10	5.07 a.m.	2030	619	.....	.....	.....	....	20.5	−6.4	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	.....	4	0.34	8.6
Port Huron	N. 43 00	W. 82 26	6.38 a.m.	633	193	29.32	744.7	30.04	763 0	25.0	−3.9	86.0	7	3	2	3	7	1	1	5	2	7660	12327	6	1.84	46.7
Portland, Maine	N. 43 39	W. 70 15	7.27 a.m.	45	14	29.94	760.5	29.99	761.7	29.4	−1.4	71.9	10	5	1	5	.....	.....	.....	5	5	6468	10419	6	4.86	123.4
Portland, Oreg.	N. 45 32	W. 122 43	3.57 a.m	67	20	29.86	758.4	29.93	760.2	40.0	4.4	84.3	1	3	2	4	9	.....	3	1	8	3379	5438	7	2.25	57.1
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5389	1642	24.61	625.1	30.00	762.0	33.6	0.9	84.3	1	.....	2	12	6	2	1	3	4	6253	10063	5	5.51	140.0
Provincetown	N. 42 03	W. 70 11	7.27 a.m.	26	8	29.96	761.0	29.99	761.7	32.2	0.1	83.4	3	9	4	6	2	1	2	4	.....	8443	13587	7	6.77	172.0
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	332	101	29.60	751.8	29.97	761 2	45.3	7.4	85.4	12	9	.....	.....	9	.....	.....	.....	1	4974	8000	5	7.81	198.4
Rio Grande City	N 26 22	W. 98 45	5.33 a.m.	230	70	29.78	756.4	30.02	762.5	62.9	17.2	80.6	5	1	.....	.....	4	11	4	4	2	5838	9395	4	0.16	4.1
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.34	745.2	30.04	763.0	27.7	−2.4	81.1	2	7	8	5	3	4	2	.....	.....	9500	15288	7	3.30	83.8
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.38	746.2	29.94	760.5	39.5	4.2	86.2	.....	....	2	5	.....	1	5	.....	18	1732	2787	6	3.37	85.6
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	64	19	29.89	759.2	29.96	761.0	48.6	9.2	85.7	3	3	2	2	7	9	1	2	2	6787	10922	5	8.14	206.8
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	583	178	29.41	747.0	30.06	763 5	38.8	3.8	79.8	5	2	6	2	5	5	3	3	.....	9961	16030	6	3.00	76.2
Saint Michael, Ft	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.72	754.9	29.76	755.9	12.4	−10.9	93.2	14	.....	1	3	3	1	3	4	2	9965	16037	6	0.78	19.8
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	801	244	29.13	739 9	30.04	763.0	21.8	−5.7	74.5	2	6	6	2	2	7	1	1	4	5091	8193	6	1.34	34.0
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.14	740.1	30.08	764.0	3.0	−16.1	81.5	3	9	...	1	4	4	.....	.....	10	4659	7498	3	0.38	9.7
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.50	647.7	30.02	762.5	30.4	2.4	64.2	.....	1	1	1	2	9	1	6	10	4662	7503	0	3.09	93.7
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.93	760.2	30.00	762.0	52.4	11.3	82.9	1	1	5	.....	4	2	5	13	....	5480	8819	6	6.23	158.2
Sandusky	N 41 25	W. 82 40	6.37 a.m.	639	195	29.35	745.5	30.07	763.8	32.0	0.0	76.9	5	6	4	0	3	4	2	1	.....	9093	15599	6	3.20	82.8
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	30.03	762.7	30.06	763.5	34.9	1.6	77.5	4	6	5	1	4	1	3	7	.....	12011	19334	7	4 32	109.7
Sanford	N. 28 48	W. 81 23	6.42 a.m.	50	15	30.00	763.5	30.11	764.8	63.0	17.2	83.0	1	6	....	6	4	6	...	2	6	5451	8772	4	0.94	23.9
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.88	758.9	29.95	760.7	51.6	10.9	83.9	6	5	4	1	4	7	2	.....	2	6998	11262	6	8.24	209.3
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	30.01	762.2	30.10	764.5	56.6	13.7	76.4	4	4	4	5	9	1	3	1	.....	6349	10218	5	4.91	124.7
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.28	667.5	30.08	764.0	20.7	−8.3	77.6	1	3	11	13	.....	.....	.....	2	1	5472	8806	3	0.42	10.7
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.81	757.2	30.06	763 5	52.6	11.4	74.6	4	2	4	3	3	7	3	4	1	5156	8298	6	4.78	121.4
Sitka	N. 57 03	W. 135 19	3.07 a m.	63	19	29.70	754.4	29.77	756 1	35.1	1.7	75.9	.....	.....	.....	.....	1	1	19	6	4	6782	10914	7	11.05	274.7
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.04	763.0	30.08	764.0	52.5	11.4	83.1	5	3	6	4	5	2	2	3	1	8857	14253	5	2.80	71.1
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	27.86	707 6	29.99	761.7	29.3	−1.5	85.8	2	2	.....	4	.....	.....	3	2	18	2309	3802	4	1.54	39.1
Springfield, Ill	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.33	745 0	30.05	763.3	35.2	1.8	73.8	5	4	3	2	7	2	4	4	.....	7904	12720	4	3.70	94.0
Stockton, Fort	N. 30 53	W. 102 53	5.10 a.m.	3010	917	26.94	684.3	30.02	762.5	47.5	8.6	63.1	.....	2	.....	4	2	7	.....	.....	16	7591	12216	0	0.12	3.0
Tatoosh Id	N. 48 23	W. 124 44	3.49 a.m.	86	26	29.81	757.2	29.91	759.7	41.3	5.2	83.4	.....	3	1	2	2	4	11	2	6	8339	13420	6	2.41	61.2
Thomas, Camp	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.23	691.6	30.01	762.2	40.9	4.9	75.6	1	1	13	1	.....	.....	1	.....	14	.....	.....	4	3.21	81.5
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.31	744.5	30.04	763.0	31.0	−0.6	79.6	5	1	0	3	1	3	1	4	7	5620	9044	7	2.09	53.1
Unalashka	N 53 53	W. 166 32	1.02 a.m.	13	4	29.59	751.6	29.61	752.1	32.5	0.3	79.6	3	5	2	4	7	8	.....	1	1	10249	10491	8	9.44	239.8
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.79	756.7	30.05	763 3	54.0	12.2	73.3	7	1	2	3	6	4	6	1	1	5177	8331	6	8.29	210.6
Washington, D.C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	29.96	761.0	30.08	764.0	37.4	−3.0	82.0	2	10	1	2	2	4	3	6	1	5447	8766	6	7.24	183.9
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	25.89	657.6	29.96	761.0	27.9	−2.3	74.1	4	3	13	4	1	3	2	1	.....	8038	13032	4	1.19	30.2
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	30.02	762.5	30.08	764.0	53.3	11.8	77.1	5	4	4	5	5	3	1	3	1	6620	10654	6	6.07	154.2
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.68	728.5	30.07	763.8	24.8	4.0	78.1	8	2	4	.....	2	4	5	5	1	6141	9883	6	0.92	23.4
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.80	756 9	29.95	760.7	53.4	11.9	68.5	2	2	4	6	1	3	3	2	8	4364	7023	4	1.48	37.6
Sub-Series.																											
Behring Island	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.59	751.6	29.61	752.1	27.7	−2.4	88.5	9	2	1	3	2	2	8	4	.....	10957	17633	9	1.44	36.6
Bluefields	N. 12 00	W. 83 43	6.31 a.m.	?	?	.....	.....	.....	.....	79.3	26.3	.....	2	9	.....	...	.....	.	....	20	.....	.....	.....	5	3.21	81.5
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.02	559.4	.....	.....	54.7	12.6	87.7	6	2	.....	4	3	.....	2	1	13	.....	.....	7	4.24	107.6
Chimo, Ft.	N 59 00	W. 68 00	7.30 a m	1267	387	29.91	759 7	30.17	766.3	−12.7	−24.8	100.	2	2	1	5	11	...	.....	1	9	8802	14165	5	1.17	29.7
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	.....	.....	30.08	764.0	71.0	21.7	83.5	21	.....	.....	1	.....	.....	1	.....	8	2813	4527	2	1.14	29.0
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.04	763.0	30.04	763 0	76.3	24.6	88.0	.....	.....	.....	.....	.....	.....	15	16	.....	.....	.....	7	19.94	506.5
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.40	746.7	29.95	760.7	77.0	25.0	90.0	11	1	.....	.....	10	.....	.....	1	8	.....	.....	9	2.76	70.1
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	75.5	24.2	84.0	.....	.....	.....	.....	.....	.....	2	29	.....	.....	.....	1	0	0
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	30.01	762.2	30.08	764.0	−25.7	−32.1	72.0	11	9	4	2	.....	1	2	2	.....	.....	.....	4	0.17	4.3
U. S. COLOMBIA. *Sub-Series.*																											
Colon	N. 9 22	W. 79 55	6.50 a.m.	7	2	29.97	761.3	29.99	761.7	77.0	25.0	85.0	31	.....	.....	.....	.....	.....	.....	.....	.....	1189	1914	6	0.39	10.0
Naôs	N. 8 55	W. 79 32	6.50 a.m.	39	12	29.93	760.1	29.99	761.8	72.5	22.5	91.8	22	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	0	0

OCEAN SQUARE DATA FOR MARCH, 1884.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W. 22.5°	30.01	762.2	74.0	23.3	2						2	27			4.4
12.5 27.5	30.03	762.7	73.7	23.2	3						4	24			4.3
12.5 32.5	30.06	763.5	74.7	23.7	1						18	9		3	5.0
12.5 37.5	30.07	763.8	76.0	24.1	1						19	7		4	4.9
12.5 42.5	30.08	764.0	76.2	24.6							17	8		6	4.9
12.5 47.5	30.08	764.0	76.4	24.7							18	7		6	4.6
12.5 52.5	30.08	764.0	76.0	24.4							20	9		2	4.2
17.5 22.5	30.06	763.5	70.2	21.2	3						3	25			4.5
17.5 27.5	30.07	763.8	70.1	21.2	2						18	11			4.5
17.5 32.5	30.11	764.8	72.6	22.6	2						21	7		1	4.8
17.5 37.5	30.13	765.3	73.9	23.3	2						20	7		2	4.7
17.5 42.5	30.14	765.5	74.6	23.7	1						22	3		5	4.7
17.5 47.5	30.14	795.5	74.8	23.8	1					1	20	4		5	4.7
17.5 52.5	30.11	764.8	74.7	23.7						4	17	7	1	2	4.2
17.5 57.5	30.10	764.5	76.0	24.4							22	8	1		4.0
22.5 22.5	30.09	764.3	67.8	19.9	8	1	2				2	17		1	4.5
22.5 27.5	30.14	765.5	68.5	20.3	7	1					7	15		1	4.4
22.5 32.5	30.19	766.8	70.2	21.2	6						9	11		5	4.4
22.5 37.5	30.21	767.3	71.6	22.0	5						17	7		2	4.0
22.5 42.5	30.22	767.6	72.4	22.4	5		1			3	18	2		2	4.5
22.5 47.5	30.21	767.3	73.1	22.8	3	1			1	8	12	3	1	2	4.3
22.5 52.5	30.19	760.8	73.0	22.8	3				6	4	11	5	1	1	4.3
22.5 57.5	30.15	765.8	72.9	22.7	1	1	2		4	4	15	4			4.5
22.5 62.5	30.14	765.5	73.5	23.1	2		2		5	1	15	6			4.3
22.5 67.5	30.14	765.5	74.6	23.7	1	1	2		4	2	17	2	2		3.7
22.5 72.5	30.12	765.0	74.6	23.7	3	3			3	4	16	1	1		4.1
27.5 22.5	30.14	765.5	65.6	18.7	12	1	3	1			1	13			4.2
27.5 27.5	30.19	766.8	66.5	19.2	4	1	4				4	16		2	4.6
27.5 32.5	30.23	767.8	69.3	20.2	3	3	1				9	12		3	4.4
27.5 37.5	30.28	769.1	68.0	20.3	7	2				1	13	5		3	4.3
27.5 42.5	30.31	769.9	69.5	20.8	7	1	1		5	5	7	1	1	3	4.5
27.5 47.5	30.24	768.1	69.9	21.1	3	3	2	2	5	7	4	2		3	4.7
27.5 52.5	30.19	766.8	69.6	20.9	5	1	2	3	6	1	8	3	1	1	4.2
27.5 57.5	30.16	766.1	69.5	20.8	3		6	4	3	2	6	6		1	4.1
27.5 62.5	30.16	766.1	70.8	21.6	1	3	5	5		6	6	3	1	1	4.2
27.5 67.5	30.16	766.1	71.1	21.7	1	4	5	1	4	6	6	3	1		3.9
27.5 72.5	30.16	766.1	71.5	21.9	3	3	3	2	8	7	5				4.5
27.5 77.5	30.14	765.5	71.2	21.8	4	1	3	2	13	4	4				3.7
32.5 12.5	30.02	762.5	62.5	16.9	15	1	2	3	1	1	2	1	2		3.7
32.5 17.5	30.08	761.0	62.3	16.8	9	1	7	9	2		2		1		2.8
32.5 22.5	30.15	765.8	63.1	17.3	13	3	3	2	1			8		1	4.4
32.5 27.5	30.20	767.1	64.3	17.9	8	5	5	1			2	9		1	4.3
32.5 32.5	30.22	767.6	64.9	18.3	5	6	5	4			3	5		3	4.4
32.5 37.5	30.23	767.8	65.2	18.4	3	5	6	3	1	5	1	1	2	4	4.5
32.5 42.5	30.24	768.1	65.6	18.7	2	6	5	4	4	4	3	1		2	4.7
32.5 47.5	30.19	766.8	65.8	18.8	3	2	5	6	6	2		5		2	5.2
32.5 52.5	30.13	765.3	65.7	18.7	6	4	2	8	5	1		2		3	5.2
32.5 57.5	30.08	764.0	64.6	18.1	1	4	5	6	4	2	3	2	1	3	5.0
32.5 62.5	30.11	764.8	63.9	17.7	5	1	9	5	9		2				4.6
32.5 67.5	30.11	764.8	64.5	18.1	2	6	6	4	8			3	1	1	4.5
32.5 72.5	30.11	764.8	63.5	17.5	8	3	3	7	3	4	2		1		4.8
32.5 77.5	30.10	764.5	59.9	15.5	7	2	3	2	10	1	2	2		2	4.3
37.5 12.5	29.94	760.5	59.0	15.0	12	4	3	3	3		3	3			4.0
37.5 17.5	30.03	762.7	59.0	15.0	12	6	5	3		1	2	2			4.3
37.5 22.5	30.12	765.0	59.9	15.5	8	10	5	2	1	4		1			4.5
37.5 27.5	30.17	766.3	60.7	15.9	4	7	7	4	3		1	5			3.8
37.5 32.5	30.15	765.8	60.8	16.0		6	11	6	1	2	3	1	1		5.1
37.5 37.5	30.14	765.5	60.9	16.1	2	7	7	8	2	4	1				5.2
37.5 42.5	30.14	765.5	60.0	15.6	3	7	7	6	5	3					5.5
37.5 47.5	30.11	764.8	59.4	15.2	5	3	7	8	4	3		1			5.5
37.5 52.5	30.05	763.5	59.3	15.2	4	5	5	7	7	1	2				5.0
37.5 57.5	30.04	763.0	58.8	14.9	1	5	6	8	4	1	1	2			5.8
37.5 62.5	30.03	762.0	56.4	13.6	5	4	7	8	4	1	2				5.8
37.5 67.5	30.02	762.5	53.9	12.2	7	8	3	4	4	3		1	1		5.2
37.5 72.5	30.04	763.0	47.7	8.7	9	7	4		5	3	1	2			4.7
42.5 12.5	29.92	760.0	57.8	14.3	4	3	4	4	3	1	2	7	3		4.6
42.5 17.5	29.96	761.0	56.3	13.5	5	6	8	5	2	2		2	1		5.0
42.5 22.5	29.99	761.7	55.8	13.2	5	8	9	5	3			1			5.1
42.5 27.5	30.00	762.0	55.7	13.2	4	8	10	6	2				1		5.7
42.5 32.5	29.99	761.7	55.3	12.9	2	10	11	6	2						5.0
42.5 37.5	30.01	762.2	54.0	12.6	3	7	12	4	3	1	1				5.9
42.5 42.5	30.02	762.5	52.6	11.4	4	9	4	5	6	2		1			5.8
42.5 47.5	29.99	761.7	47.4	8.6	4	7	7	4	6	1	1	1			5.2
42.5 52.5	29.96	761.0	44.5	6.9	2	7	7	3	5	1	4	1	1		5.2
42.5 57.5	29.94	760.5	42.9	6.1	5	7	7	2	6	3	1				5.6
42.5 62.5	29.93	760.2	39.3	4.1	3	9	4	1	5	1	4	3	1		5.2
42.5 67.5	29.99	761.7	35.2	1.8	3	11	4		2	3	4	2	2		4.5
47.5 12.5	29.85	758.2	52.8	11.6	1	4	5	8	7		2	2	2		4.8
47.5 17.5	29.81	757.2	51.6	10.9	3	6	8	8	5			1			5.7
47.5 22.5	29.81	757.2	50.6	10.3	2	10	9	5	4				1		5.4
47.5 27.5	29.77	756.1	49.4	9.7	1	10	10	7	3						6.2
47.5 32.5	29.78	756.4	48.0	8.9	1	8	11	7	2	1	1				5.9
47.5 37.5	29.78	756.4	46.1	7.8	1	11	10	5	4						6.2
47.5 42.5	29.82	757.4	41.9	5.5		11	8	6	6						6.2
47.5 47.5	29.81	757.2	34.8	1.0	2	11	7	6	4					1	5.8
52.5 12.5	29.68	753.9	48.8	9.3	1	4	6	9	8	2	1				5.4
52.5 17.5	29.66	753.4	48.0	8.9	3	5	8	9	3	2			1		5.7
52.5 22.5	29.62	752.3	45.9	7.7	4	9	4	6	6						5.8
52.5 27.5	29.60	751.8	44.1	6.7	3	6	11	6	4	1					6.1
52.5 32.5	29.57	751.1	41.9	5.5	2	8	10	7	1	1		2			6.3
52.5 37.5	29.56	750.8	38.7	3.7	5	8	4	10	2	1				1	6.0
52.5 42.5	29.58	751.3	33.7	0.9	2	9	8	7	2	2		1			6.2
52.5 47.5	29.62	752.3	27.7	−2.4	4	10	6	5	4	2					6.0
57.5 12.5	29.61	752.1	45.2	7.3		3	5	7	11	2	2		1		5.3
57.5 17.5	29.55	750.6	44.0	6.7	2	5	4	9	6	4		1			6.0
57.5 22.5	29.49	749.0	41.4	5.2	1	3	8	8	5	4		2			6.3
57.5 27.5	29.46	748.3	38.3	3.5	3	5	6	7	0		2	2			6.3
57.5 32.5	29.47	748.5	33.9	1.1	4	4	6	6	5	1	1	4			6.5
57.5 37.5	29.46	748.3	29.2	−1.6	4	6	4	9	1			6		1	7.1
57.5 42.5	29.46	748.3	24.9	−3.9	5	4	6	4	4	1	1	6			6.4
57.5 47.5	29.50	749.3	21.2	−6.0	10	7	4	1	3	1	2	2	1		6.2

GENEVA, SWITZERLAND (N. 46° 12′, E. 6° 80′).

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity Per cent.	Wind. Direction. From.	Wind. Velocity. Miles perhour	Wind. Velocity. Metrs prsec.	Wind. Force 0-10	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0-10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall in past 24 hours. Inch.	Rainfall in past 24 hours. Mill.	WEATHER.
1884. January 1	28.91	734.4	30.40	772.1	35.6	2.0	84	e.			1		10			0	0	covered.
2	28.92	734.6	30.40	772.2	36.7	2.6	87	nne.			1		10			0	0	covered.
3	28.82	731.9	30.29	769.3	39.2	4.0	90	sw.			2		10			0	0	foggy.
4	28.85	732.9	30.32	770.2	40.3	4.6	93	sw.			1		10			0	0	misty.
5	28.91	734.2	30.38	771.6	38.5	3.6	100	e.			1		10			0.087	2.2	misty.
6	28.80	731.4	30.24	768.2	46.2	7.9	87	w.			2		10			0.157	4.0	covered.
7	28.72	729.6	30.17	766.3	48.2	9.0	77	ssw.			2		10			0.134	3.4	covered.
8	28 73	729.7	30.19	766.8	43.0	6.1	66	n.			4		4			0	0	fair.
9	29.04	737.7	30.51	774.9	40.8	4.9	84	n.			2		5			0	0	vapory.
10	29.14	740.2	30.60	777.3	43.2	6.2	71	sw.			1		0			0	0	clear.
11	28.91	734.3	30.35	770.8	50.4	10.2	50	e.			1		0			0	0	clear.
12	28.87	733.3	30.34	770.5	41.4	5.2	52	n.			2		0			0.071	1.8	clear.
13	29.03	737.4	30.51	775.0	37.2	2.9	76	ene.			1		10			0	0	covered.
14	29.00	736.5	30.46	773.6	42.4	5.8	69	s.			1		4			0	0	fair.
15	28.96	735 6	30.44	773.1	38.5	3.6	82	e.			1		7			0	0	fair.
16	29.00	736.6	30.46	773 6	46.0	7.8	67	ene.			2		0			0	0	clear.
17	29.03	737.4	30.50	774.8	39.2	4.0	81	s.			1		10			0	0	covered.
18	29.03	737.3	30.50	774.7	39.2	4.0	74	n.			1		10			0	0	covered.
19	29.15	740.5	30.63	778.1	36.7	2.6	79	n.			2		10			0	0	covered.
20	29.17	740.9	30.65	778.6	32.7	0.4	92	n.			1		10			0	0	covered.
21	29.18	741.1	30.67	779.1	31.6	— 0.2	91	s.			1		10			0	0	foggy.
22	29.11	739.4	30.61	777 4	32.0	0.0	92	e.			1		10			0	0	foggy.
23	28.83	732.3	30.28	769.2	45.7	7.6	57	s.			1		8			0	0	vapory.
24	28.63	727.1	30.09	764.2	41.7	5.4	57	nw.			2		9			0.102	2.6	covered.
25	28.64	727.4	30.11	764.9	36.9	2.7	67	n.			1		0			0	0	clear.
26	28.56	725.5	30.01	762.3	45.5	7.5	45	wsw.			2		7			0	0	fair.
27	28.31	719.0	29.76	756.0	43.5	6.4	54	s.			4		10			0.382	9.7	covered.
28	28.57	725.6	30.3	702.7	43.2	6.2	57	ssw.			1		10			0.189	4.8	snowing.
29	28.84	732.4	30.30	769.6	42.3	5.7	97	n.			1		10			0.039	1.0	raining.
30	28.94	735.1	30.39	771.9	46.4	8.0	82	nnw.			1		7			0.185	4.7	fair.
31	28.80	731.6	30.24	768.1	50.2	10.1	77	s.			1		3			0	0	vapory.
Mean	28.88	733.6	30.35	770.9	41.4	5.2	75.4				1.5		7.2			1.346	34.2	
February 1	28.58	725.8	30.01	762.3	50.4	10.2	61	s.			2		10			0.016	0.4	covered.
2	28.62	726.9	30.06	763.4	49.3	9.6	49	ssw.			2		10			0.311	7.9	covered.
3	28.90	734.0	30.34	770.5	49.5	9.7	57	s.			2		10			0	0	covered.
4	29.13	739.8	30.59	777.0	40.6	4.8	75	n.			1		3			0	0	
5	29.08	738.6	30.57	776.4	34.5	1.4	89	n.			1		2			0	0	clear.
6	28.93	734.8	30.43	772.8	30.0	— 1.1	100	ssw.			1		10			0	0	foggy.
7	28.87	733.2	30.37	771.5	28.9	— 1.7	100	s.			1		10			0	0	foggy.
8	28.72	729.4	30.21	767.4	31.8	— 0.1	97	s.			1		10					raining.
9	28.00	726.5	30.08	763.9	38.8	3.8	95	n.			1		10			0.004	0.1	foggy.
10	28.60	726.5	30.02	762.6	54.7	12.6	62	s.			2		9			0.028	0.7	covered.
11	28.63	727.2	30.08	764.0	48.6	9 2	82	ne.			1		10			0.020	0.5	raining.
12	28.84	732.4	30.28	769.2	46.8	8.2	89	n.			1		9			0.406	10.3	covered.
13	28.87	733.2	30.32	770.2	45.3	7.4	81	n.			1		8			0	0	covered.
14	28.78	731.1	30.24	768.1	44.2	6.8	77	n.			2		7			0	0	fair.
15	28.55	725.2	30.02	762.6	38.5	3.6	81	nne.			2		10			0	0	covered.
16	28.55	725.1	30.02	762.5	38.5	3.6	83	n.			2		8			0	0	covered.
17	28.58	725.8	30.06	763.2	39.7	4.3	78	n.			1		10			0.028	0.7	covered.
18	28.58	725.9	30.06	763.4	37.8	3.2	81	n.			1		10			0.008	0.2	covered.
19	28.67	728.2	30.12	765.0	47.1	8.4	60	n.			1		5			0	0	vapory.
20	28.76	730.4	30.21	767.4	43.9	6.6	75	n.			1		10			0	0	covered.
21	28.71	729.2	30.14	765.6	51.6	10.9	55	ssw.			1		9			0	0	covered.
22	28.60	726.5	30.02	762.6	54.9	12.7	54	s.			1		8			0	0	covered.
23	28.45	722.5	29.87	758.6	54.7	12.6	44	ssw			2		10			0	0	covered.
24	28.61	726.6	30.04	763.0	51.1	10.6	47	s.			2		7			0.193	4.9	fair.
25	28.58	725.8	30.05	763.2	39.7	4.3	87	s.			2		10			0.142	3.6	raining.
26	28.57	725.7	30.03	762.8	43.3	6.3	55	s.			2		10			0.175	4.4	covered.
27	28.54	724.8	30.00	762.0	40.6	4.8	55	n.			2		3			0.201	5.1	
28	28.43	722.1	29.90	759.5	38.8	3.8	71	n.			1		10			0	0	covered.
29	28.39	721.0	29.85	758.2	40.3	4.6	75	s.			1					0	0	
Mean	28.67	728.3	30.14	765.5	43.3	6.3	72.9				1.4		8.5			1.528	38.8	
March 1	28.39	721 1	29.85	758.2	43.3	6.3	74	n.			2		1			0	0	clear.
2	28.56	725.4	30.03	762.8	38.1	3.4	79	nw.			1		10			0	0	covered.
3	28.66	728.0	30.13	765.3	39.6	4.2	97	n.			1		1			0	0	clear.
4	28.60	726.4	30.05	763.2	45.3	7.4	58	n.			1		2			0	0	clear.
5	28.73	729.7	30.17	766.3	48.6	9.2	82	n.			1		9			0	0	covered.
6	28.63	727.3	30.08	764.1	45.3	7.4	67	n.			2		10			0	0	covered.
7	28.43	722.1	29.89	759.2	42.6	5.9	64	n			2		10			0	0	covered.
8	28.40	721.4	29.85	758.2	45.7	7.6	56	e.			1		4			0	0	vapory.

FORT CONGER, LADY FRANKLIN BAY (N. 81° 44′, W. 64° 45′).

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity Per cent.	Wind. Direction. From.	Wind. Velocity. Miles perhour	Wind. Velocity. Metrs prsec.	Wind. Force 0-10	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0-10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall in past 24 hours. Inch.	Rainfall in past 24 hours. Mill.	WEATHER.
1883. August 1			30.01	762.2	39.5	4.2		se.	9	4.0			3 k		sw.	0	0	
2			30.02	762.5	34.7	1.5		sw.	1	0.4			k8			blank	blank	
3			29.94	760.5	33.2	0.7		sw.	1	0.4			10 8			0.02	0.5	
4			29.86	758.4	33.1	0.6		sw.	2	0.9			10 8		calm	0	0	
5			29.73	755.1	32.4	0.2		s.	3	1.3			10 8		calm	inap.	inap.	
6			29.60	751.8	32.4	0.2		sw.	3	1.3			1 k		calm	inap.	inap.	
7			29.72	754.9	32.4	0.2		sw.	2	0.9		1 ck	1 k	calm	calm	0	0	
8			29.88	758.9	35.9	2.2		s.	13	5.8		3 c8	2 k			0	0	
9			29.85	758.2	35.4	1.9		se.	2	0.9			10 8		calm	0	0	

CAMPO MAJOR, PORTUGAL (N. 39° 02′, W. 6° 59′).

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity. Per cent.	Wind. Direction. From.	Wind. Velocity. Miles perhour	Wind. Velocity. Metrs pr sec.	Wind. Force 0–10	Clouds. Amount. Upper. 0–10	Clouds. Amount. Lower. 0–10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Rainfall or melted snow in past 24 hours. Mill.	Weather.
1884.																		
January 1	29.01	736.8	30.02	762.6	50.0	10.0	97	ne.	3.8	1.7	.....	.....	10	.....	.....	0	0	
2	29.13	739.8	30.14	765.6	54.1	12.3	98	ssw.	11.2	5.0	.....	.....	10	.....	.....	0.220	5.6	
3	29.09	738.9	30.11	764.8	52.5	11.4	97	ssw.	6.3	2.8	.....	.....	10	.....	.....	0.256	6.5	
4	29.21	741.9	30.22	767.7	54.3	22.4	83	ese.	5.6	2.5	.....	.....	10	.....	.....	0.327	8.3	
5	29.29	743.9	30.30	769.5	59.7	15.4	66	ene.	4.9	2.2	.....	.....	8	.....	.....	0	0	
6	29.30	744.1	30.30	769.7	60.4	15.8	62	ne.	7.4	3.3	.....	.....	4	.....	.....	0	0	
7	29.26	743.3	30.27	768.9	59.4	15.2	70	ene.	3.1	1.4	.....	.....	6	.....	.....	0	0	
8	29.42	747.2	30.44	773.2	56.3	13.5	58	ene.	9.8	4.4	.....	.....	5	.....	.....	0	0	
9	29.38	746.3	30.41	772.3	54.7	12.6	59	ene.	4.9	2.2	.....	.....	2	.....	.....	0	0	
10	29.36	745.7	30.37	771.5	57.2	14.0	55	se.	13.0	5.8	.....	.....	0	.....	.....	0	0	
11	29.48	748.9	30.52	775.2	51.1	10.6	60	ene.	11.2	5.0	.....	.....	0	.....	.....	0	0	
12	29.44	747.7	30.46	773.7	55.8	13.2	60	ene.	1.3	0.6	.....	.....	0	.....	.....	0	0	
13	29.34	745.2	30.36	771.2	53.6	12.0	57	ne.	0.7	0.3	.....	.....	2	.....	.....	0	0	
14	29.35	745.5	30.38	771.6	51.1	10.6	70	ne.	3.1	1.4	.....	.....	5	.....	.....	0	0	
15	29.37	745.9	30.39	772.0	51.1	10.6	70	ne.	2.5	1.1	.....	.....	0	.....	.....	0	0	
16	29.37	746.0	30.40	772.2	50.7	10.4	64	ene.	4.3	1.9	.....	.....	0	.....	.....	0	0	
17	29.38	746.3	30.41	772.3	53.8	12.1	65	calm	0	0	.....	.....	0	.....	.....	0	0	
18	29.41	747.1	30.45	773.5	48.6	9.2	73	ene.	0.7	0.3	.....	.....	0	.....	.....	0	0	
19	29.43	747.6	30.45	773.5	56.1	13.4	64	ese.	1.3	0.6	.....	.....	0	.....	.....	0	0	
20	29.49	749.1	30.52	775.1	57.6	14.2	51	ne.	2.5	1.1	.....	.....	0	.....	.....	0	0	
21	29.50	749.3	30.53	775.5	51.8	11.0	71	ne.	2.5	1.1	.....	.....	0	.....	.....	0	0	
22	29.51	750.2	30.56	776.3	54.1	12.3	63	e.	1.3	0.6	.....	.....	0	.....	.....	0	0	
23	29.48	748.7	30.50	774.7	56.5	13.6	56	se.	3.8	1.7	.....	.....	0	.....	.....	0	0	
24	29.26	743.3	30.28	769.2	53.6	12.0	88	wnw.	8.7	3.9	.....	.....	9	.....	.....	0	0	
25	29.10	739.2	30.13	765.4	47.3	8.5	100	se.	4.9	2.2	.....	.....	10	.....	.....	0.472	12.0	
26	29.30	744.2	30.35	770.8	43.2	6.2	97	ssw.	2.5	1.1	.....	.....	10	.....	.....	0.244	6.2	
27	29.21	741.9	30.22	767.7	55.8	13.2	98	sw.	11.2	5.0	.....	.....	10	.....	.....	0.039	1.0	
28	29.44	747.8	30.47	773.8	56.3	13.5	95	sw.	3.1	1.4	.....	.....	10	.....	.....	0	0	
29	29.46	748.3	30.48	774.2	56.3	13.5	84	se.	2.5	1.1	.....	.....	8	.....	.....	0.177	4.5	
30	29.38	746.2	30.41	772.4	51.1	10.6	93	ne.	3.8	1.7	.....	.....	2	.....	.....	0	0	
31	29.27	743.4	30.28	769.2	57.2	14.0	76	e.	3.1	1.4	.....	.....	3	.....	.....	0	0	
Mean	29.34	745.2	30.36	771.1	54.0	12.2	74.2	.....	4.7	2.1	.....	.....	4.3	.....	.....	1.735	44.1	

NOTE.—The above observations, taken at 7 a. m., Washington time, were received too late for publication in the DAILY BULLETIN, and are given here in full; for continuation of the same, see DAILY BULLETIN.

REVIEW.

INTERNATIONAL METEOROLOGY FOR MARCH, 1884.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0-10.]

The following description refers to chart ii. for the month of March, 1884, issued with this SUMMARY. This chart continues the series of international charts begun in February, 1877, and exhibits the mean pressure, mean temperature, and prevailing wind-direction over the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich, mean time.

Two distinct areas of low mean pressure are shown on the chart; the first is indicated by the isobar for 29.5 (749.3) and occupies southern Greenland, Iceland, and the ocean between W. 20° and 45°, and southward to N. 55°; within this area the mean pressures range from 29.43 (747.5) to 29.5 (749.3). The second area of barometric minima is that which occupies British India; it is indicated by the isobar for 29.8 (756.9), and covers the country from the province of Madras northeastward to the Himalayas; within this region the pressure ranges from 29.77 (756.1) to 29.8 (756.9); in other parts of the country it ranges from 29.8 (756.9) to 29.9 (759.4).

Four areas of barometric maxima appear on the chart and occupy, respectively, Asia, eastern Europe, the Atlantic, and the Hudson Bay region and Labrador. The first, 30.3 (769.6), covers that part of Siberia lying between the meridians of 75° and 105° E. and the parallels of 45° and 55° N; in other parts of Asia north of the thirty-second parallel, the mean pressure is not less than 30.0 (762.0 . In southwest Niphon it is above 30.0 (762.0), but in the rest of Japan it varies between that amount and 29.9 (759.4). The second area of high barometer extends from about 35° east of Greenwich, southeastward and eastward to the Ural region and is inclosed by the isobar for 30.3 (769.6); in other parts of Russia except the Black Sea region, the mean pressure is above 30.1 (764.5); in western Europe it is below 30.0 (762.0). The third area, 30.2 (767.1), covers the Atlantic between the meridians of 30° and 50° W. and the parallels of 20° and 35° N.; from Florida and the West Indies eastward to 20° W. the pressure exceeds 30.1 (764.5). The fourth area occupies Hudson's Bay and northern Labrador, the mean pressure over those regions exceeding 30.1 (764.5). In the United States, except the Pacific districts, Arizona, and New Mexico, the mean pressure ranges from 30.0 (762.0) to 30.08 (764.0); in the above-mentioned districts it ranges from 29.9 (759.4) to 29.98 (761.5). In eastern Canada it varies from 29.95 (760.7) to 30.0 (762.0).

On comparison with the chart for the preceding month, (February, 1884), it will be seen that the low area which occupied Greenland and Iceland has moved in a southwesterly direction, and, while there has been an increase of pressure over the regions to the eastward of the low area, the pressure has decreased to the southwestward. Over the Atlantic ocean south of N. 40° there has been no material change, except near the northwestern coast of Africa, where the pressure is less than in the preceding month. In the United States the high area which occupied the northwest in February has apparently moved northeastward with decreasing pressure, while a general decrease of pressure has occurred in all districts. In Canada there has been a marked decrease. In Europe the pressure has increased in the British Isles, the northern peninsulas, and Russia, the increase being greatest in Russia and Scandinavia, where it averaged .15 inch. In all other parts of Europe there has been a decrease of pressure, greatest in Austria, Italy and Spain, and least in France and Germany. In eastern Asia there has been a slight decrease of pressure, while an increase has occurred in the western part of the continent. In British India the pressure is about .13 inch less than in the preceding month.

Compared with the corresponding month of previous years, the mean atmospheric pressure was below the normal in that part of the United States lying west of the Mississippi river; in the eastern sections of the country it was slightly above the normal; in Canada it was also above the normal. In Europe it was greatly above the normal in the northern and eastern divisions of the continent; in France, Spain and the British Isles it was slightly below the normal.

The following table gives the mean pressure and mean temperature, with corresponding departures for March, 1884, in the several countries of the northern hemisphere, compared with the means as determined from observations taken during the last seven years:

Countries.	Mean pressure.			Mean temperature.		
	March mean of 7 (1877-'83) years.	March 1884.	Departure.	March mean of 7 (1877-'83) years.	March 1884.	Departure.
				°	°	°
Algeria	30.07	29.96	− 0.11	62.3	60.9	− 1.4
Austro-Hungary	29.94	30.01	+ 0.07	44.3	47.6	+ 3.3
British Isles	29.95	29.88	− 0.07	45.5	47.5	+ 2.0
Denmark	29.87	30.01	+ 0.14	36.0	40.4	+ 4.4
France	30.01	29.93	− 0.03	51.9	54.2	+ 2.3
Germany	29.96	30.02	+ 0.06	41.3	46.5	+ 5.2
India*	29.81	29.81	normal	84.3	86.1	+ 1.8
Italy	29.95	29.97	+ 0.02	54.6	56.7	+ 2.1
Norway	29.74	29.98	+ 0.24	34.9	38.9	+ 4.0
Portugal	30.06	.....	.....	58.8	.....	.....
Russia	29.86	30.20	+ 0.34	33.6	31.4	− 2.2
Spain	30.04	29.95	− 0.09	58.1	56.2	− 1.9
Sweden	29.75	30.13	+ 0.38	30.0	34.6	+ 4.6

* Means of six years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of March, 1884, as compared with the means for seven years:

Stations.	Mean pressure.			Mean temperature.		
	Mar. mean of 7 (1877-'83) years.	March 1884.	Departure.	Mar. mean of 7 (1877-'83) years.	March 1884.	Departure.
				°	°	°
Gibraltar	30.05	29.97	− 0.08	61.8	59.8	− 2.0
Malta, Mediterranean Sea	29.96	29.92	− 0.04	61.2	59.6	− 1.6
Sandwick Manse, Orkney Islands	29.80	29.74	− 0.06	39.9	43.7	+ 3.8
Bridgetown, Barbadoes	30.00	30.04	+ 0.04	80.8	79.4	− 1.4
Cape Town, Cape of Good Hope	.....	.....	.....	.....	47.7	.....
Fort Napier, Natal, South Africa	29.88	29.90	+ 0.02	77.2	76.3	− 0.9
Freetown, Sierra Leone	29.88	.....	.....	80.9	.....	.....
Mauritius, Indian Ocean	29.94	29.92	− 0.02	81.0	80.2	− 0.8
Melbourne, New South Wales	30.06	30.13	+ 0.07	62.5	60.8	− 1.7
Nassau, Bahamas	30.11	30.15	+ 0.04	72.0	74.4	+ 1.8
Godthaab, Greenland	29.70	29.58	− 0.18	18.4	7.2	−11.2
Stykkisholm, Iceland	29.67	29.43	− 0.24	27.4	35.6	+ 8.2
Thorshavn, Färöe Islands	29.76	29.67	− 0.09	38.4	43.7	+ 5.3
Zi-Ka-Wei, China	30.24	30.15	− 0.09	44.2	44.8	+ 0.6
Athens, Greece	29.98	30.02	+ 0.04	58.7	59.2	+ 0.5
Cagliari, Sardinia, Italy	29.93	.....	.....	58.8	.....	.....
Tokei, Japan*	30.03	30.00	− 0.03	42.3	42.1	− 0.2
Angra, Azores*	30.10	.....	.....	58.0	.....	.....
Funchal, Madeira Islands	30.13	30.08	− 0.05	63.6	62.2	− 1.4
Ponta Delgado, Azores	30.16	30.17	+ 0.01	60.7	60.4	− 0.3
Archangel, Russia	29.64	30.11	+ 0.47	22.5	25.2	+ 2.7
Tiflis, Russia	29.97	30.10	+ 0.13	52.8	48.0	− 4.8
Astrakhan, Russia	29.98	30.22	+ 0.24	40.7	37.2	− 3.5
Ekaterinburg, Russia	29.92	30.24	+ 0.32	26.4	23.0	− 3.4
Tashkend, Toorkistan, Asia	30.12	30.14	+ 0.02	54.3	47.5	− 6.8
Barnaul, Siberia, Asia	30.24	30.33	+ 0.09	23.8	9.0	−14.8
Yenisesk, Siberia, Asia	30.20	30.28	+ 0.08	23.5	10.8	−12.7
Pekin, China	30.20	30.17	− 0.03	42.8	38.7	− 4.1
Nikolaevsk on the Amoor, Asia	.....	.....	.....	8.3	4.1	− 4.2
San Juan de Puerto Rico, W. I*	30.07	30.10	+ 0.03	75.5	74.1	− 1.4
Beirut, Turkey in Asia	29.98	29.96	− 0.02	64.2	63.0	− 1.2
Mexico, Mexico*	30.19	.....	.....	56.1	.....	.....
Havana, Cuba, W. I	30.06	30.11	+ 0.05	72.2	69.5	− 2.7
Paramaribo, D. Guiana, S. A	30.02	30.04	+ 0.02	79.1	76.3	− 2.8
York Factory, B. A	30.13	30.08	− 0.05	−13.9	−25.7	−11.8

* Means for six years only.

In the United States the mean temperature of the air was slightly above normal in the districts from the Rio Grande river northeastward to New England, not including the lake region. In the lake region and in all other districts of the United States the temperature was below the normal. In Canada it was about normal. In the European continent the mean temperature was everywhere above the normal except in Russia and the Iberian peninsula, where there was a deficiency of about 2°. In British India the highest mean temperature reported was, 94°.9 Fahr. (34°.9 C.), at Bellary, and the lowest was, 71°.2 Fahr. (21°.8 C.), at Sibsagar.

The following are some of the extreme mean temperatures reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Manila, Philippine Islands	79.6	26.4	York Factory, B. A	—25.7	—32.1
Bridgetown, Barbadoes, W. I.	79.4	26.3	Fort Chimo, B. A	—12.7	—24.8
Bluefields, Nicaragua, C. A.	79.3	26.3	Upernavik, Greenland	— 9.8	—23.2
Puerto Berrio, U.S.Colombia, S.A	77.0	25.0	Akmolinski, Siberia	6.1	—14.2
Paramaribo, Dutch Guiana, S. A.	76.3	24.6	Nertschinsk, Siberia	6.6	—14.1

In the United States the prevailing winds were as follows: In the south Atlantic states and along the Gulf coasts they were from se. to sw.; in the other districts they were mostly from w. to n. In Canada they were mostly from w. to nw. Over the Atlantic ocean the prevailing winds were w. and nw. over the region north of 40° N., from the American coasts eastward to W. 15°; between that meridian and the European coasts they were sw. Between the parallels of 30° and 40° N., and from the American coast to W. 30° they were w. and sw.; east of W. 30° they were n. and ne., south of 30° N., they were e. and ne. In Europe the winds were mostly from e. to se. and s. In Japan they were mostly n.

The precipitation during March, 1884, was less than the average in the lake region, Florida, Ohio valley, the northwest and the north Pacific coast region; in all other districts of the United States it exceeded the average, the excess being greatest in the middle and south Pacific coast districts. In Canada it was greater than the average in the eastern and less than the average in the western parts of the Dominion. In Europe the rainfall was less than the average.

STORM-TRACKS FOR MARCH, 1884.

On chart iii. are shown the paths of the principal barometric depressions that have appeared in the northern hemisphere during the month of March, 1884. The data are charted for each day of the month on the maps accompanying each issue of the "INTERNATIONAL BULLETIN," and from these charts, together with abstracts of ship's logs and other miscellaneous data on file at this office, are traced the movements of the centres of barometric minima. This chart continues the series of international charts begun in November, 1877.

The paths of forty-three depressions are shown on the chart, and are distributed, geographically, as follows:

In the North American continent there appeared fourteen depressions; of these, six, viz.: numbers iii., v., vii., ix., x., and xiii., moved from the Pacific coast in an easterly or southeasterly direction to the central portions of the United States and thence northeastward over the region east of the Mississippi river, and over Canada, to the Atlantic. Two depressions appeared in the Gulf of Mexico, and moved northeastward over the south Atlantic states into the ocean; three developed in the United States east of the Rocky mountains, and passed eastward to the coast line; two appeared in the Northwest Territory of British America; one of these moved southeastward to the lake region, and thence eastward to the Gulf of Saint Lawrence, while the other passed eastward over Manitoba; one disturbance appeared in northern Labrador.

Fourteen depressions are traced over the north Atlantic ocean; of these, seven (numbers xvi., xix., xx., xxi., xxii., xxiii., and xxv.) are continuations of storms which entered the Atlantic from the American coasts. Number xv. was a depression which entered the Atlantic at the close of the preceding month; it moved north-northeastward and disappeared north of Iceland; the disturbances shown as xv*a*, and xv*b*. were subsidiary thereto and occupied the neighborhood of the British Isles. Numbers xvii. and xxiv. developed in Greenland and moved southeastward to the northwestern coasts of Europe; xviii. appeared near N. 55°, W. 40°, and moved to the British coasts; xx*a*. was subsidiary to low area xx. and moved northeastward over the British Isles, while the latter passed far to the northward.

Of the ten depressions that are traced in Europe, six are shown in the southern districts, south of 45° north latitude; one appeared over the North Sea and moved to Scandinavia, and three are shown in Russia.

Eight depressions are traced over Japan and the adjacent seas, the direction of movement of these depressions being northeasterly.

As noteworthy features of the storm-track chart for March, 1884, may be mentioned: 1st.—The unusual frequency of storms on the Pacific coast of North America and their southeasterly movement to the central valleys, where they curved to the northeastward.

2d.—The northerly tracks and slow erratic movements of the depressions that have traversed the North Atlantic, especially as regards those charted as numbers xvi., xix., xxi., and xxii.

3d.—The unusual number of disturbances that have appeared in the Mediterranean districts, with a corresponding decrease in the number of storms over the northern and central districts.

4th.—The frequency of depressions over Japan and the prevalence of low barometric readings in the Behring Sea.

The characteristics of the more important depressions were, briefly, as follows: low area xv. was shown on the 1st as a trough of low pressure extending from the Strait of Belle Isle northward to southern Greenland, with barometric readings below 28.8 (731.5) and attended by strong w. gales over the region south of Newfoundland and west of the forty-fifth meridian, with moderate ssw. and sw. gales to the eastward. On the 2d the low area became nearly circular in form and its centre occupied southern Greenland, the pressure remaining unchanged, while the w. gales moderated to strong variable breezes over the region to the westward of the fiftieth meridian, but increased to strong gales to the eastward of that meridian. The chart for the 3d showed number xv. near Iceland, where the pressure was 28.93 (734.8), and low area xvi., which had moved northeastward along the coast of the United States, now occupied the banks of Newfoundland, the combined systems forming a barometric trough which extended from Newfoundland northeastward to Iceland. During the 3d, subsidiary disturbances, xv*a*. and xv*b*. were formed to the southward of Iceland and caused unsettled, stormy weather in the British Isles. On the 4th, there was an increase of pressure over Iceland and the ocean between W. 15° and 40°, but, owing to the advance of low area xvi. the weather conditions remained unchanged over the region to the westward of the last-mentioned meridian. During the 5th and 6th, the region of least pressure, where the barometer read below 28.8 (731.5), occupied Greenland, while an area of high pressures, 30.4 (772.1) to 30.6 (777.2), occupied the ocean south of 45° N., this distribution of pressure causing a continuation of strong w. gales over the region to the northward. During the 7th and 8th, as low area xvi. remained in the vicinity of Iceland there was a slight increase of pressure, the barometer rising to 29.2 (741.7), but this increase was checked on the 9th when the pressure again fell to 28.7 (729.0), the decrease spreading to the northern and western districts of Europe, which had previously been occupied by an area of high barometer. On the 10th the pressure at the centre of the high area in northwestern Russia increased to 30.4 (772.1) and low area xvi. was apparently forced to the southward and westward, the high area of the Atlantic giving way before its advance.

From the 10th till the 17th, the pressure over the Atlantic ocean, in connection with the advance of low areas xix. and xx., remained below 29.0 (7 6.6) and during this period stormy and unsettled weather prevailed over the ocean; at the same time, an area of high barometer occupied eastern Europe, while small, subsidiary low areas traversed the western parts of the continent. On the 17th the high area referred to began to give way and was pushed southward in advance of low area xxxi., which had appeared in the district of Archangel, and the depressions which had occupied the Atlantic now moved towards the northern coasts of Europe. On the 20th an area

of relatively high pressures occupied the Bay of Biscay and during the succeeding days it spread northward, occupying Scandinavia on the 24th and 25th; from the latter date until the close of the month the high area occupied the northern districts of Europe, while the Mediterranean districts were traversed by moderate depressions, and the disturbances from the Atlantic were forced to the northward and westward. On the 31st, low area xxiv., which had moved from the Arctic regions by a course nearly due south, was off the western coast of Ireland, with pressure at the centre about 29.1 (739.1). The storms which passed over the United States are described under "Areas of low barometer," and special barometric observations in connection with those over the Atlantic ocean will be found under "North Atlantic storms" in the MONTHLY WEATHER REVIEW for March, 1884.

In the depressions which passed over Japan the barometer ranged from 29.3 (744.2) to 29.6 (751.8); strong winds to moderate gales with rain or snow accompanied these depressions, and as they moved northeastward the pressure generally decreased, frequently falling below 29.0 (736.6) over Behring Sea.

INTERNATIONAL POLAR OBSERVATIONS.

The following observations, August 9, 1883, to June 21, 1884, are furnished by the co-operation of 1st Lieut. A. W. Greely, 5th U. S. Cavalry, Acting Signal Officer and Assistant, commanding Lady Franklin Bay Expedition, through Brig. and Brevet Major General W. B. Hazen, Chief Signal Officer, U. S. Army, on behalf of the International Polar commission, being a series of observations taken after the abandonment of the station at Fort Conger, August 9, 1883, in the retreat of the party to Cape Sabine.

All barometer readings are corrected and reduced to sea-level; from August 9th to November 5th, 1883, an aneroid was used, at all other dates, a mercurial.

All time mentioned refers to Washington time.

During November and December, 1883, and January, 1884, the barometric readings were taken at 7 a. m., and balance of report at 11 a. m.

Date.	Hour.	Barometer.	Temperature.	Wind.	Velocity.	Weather.	Minimum.	Approximate position and remarks.
1883.								
Aug. 10	3 p. m.	29.77		ne.	light	cloudy		N. 81° 32′, W. 64° 30′.
11	12 m	30.01						
12								
13								
14								
15	9 a. m.	29.69	30.3	ne.	brisk	clear		
16	7 a. m.	29.48	28.0	ne.	brisk	snowing.		N. 80° 44′, W. 64° —′.
17	7 a. m.	29.45	28.0	ne.	fresh	l't snow.		Do.
18	7 a. m.	29.65	29.0	sw.	light	l't snow.		Do.
19	7 a. m.	29.69	30.3	ne.	light	cloudy		N. 80° 20′, W. 68° 40′.
20	7 a. m.	29.89	29.0	sw.	fresh	fair		N. 80° 17′, W. 69° 00′. *Interpolated.
21	7 a. m.	30.02	30.2	nw.	light	cloudy		N. 80° 07′, W. 70° 10′.
22	7 a. m.	29.91	33.0	sw.	light	cloudy		N. 80° 05′, W. 70° 30′.
23	7 a. m.	29.85	34.3	sw.	light	l't snow.		N. 79° 55′, W. 70° 40′.
24	10 a. m	29.92	36.8?	ne.	light	l't snow.		N. 79° 50′, W. 71° 00′.
25	7 a m.	29.75	35.0	sw.	fresh	foggy		N 79° 46′, W. 71° —′. *Interpolated.
26	7 a. m.	29.85	27.3	sw.	light	foggy		N. 79° 33′, W. 73° 20′.
27	8 a. m.	29.84	24.8	n.	light	clear		N. 79° 22′, W. 73° —′. *Interpolated.
28	7 a. m.	29.74	24.1	calm	0	cloudy		N. 79° 22′, W. 73° —′.
29	8 a. m.	29.91	29.3	calm	0	cloudy		Do.
30	8 a. m.	29.95	17.0	calm	0	clear		Do.
31	8 a. m.	30.00	28.2	ne.	light	l't snow.		Do.
Sept. 1	7 a. m.	30.00	29.0	calm	0	cloudy		N. 79° 19′, W. 73° 45′.
2	7 a. m	29.80	27.0	w.	light	cloudy		Do.
3	7 a. m.	29.58	27.8	calm	0	cloudy		N. 79° 10′, W. 74° —′.
4	7 a. m.	29.45	26.0	calm	0	cloudy		N. 79° 13′, W. 74° 40′.
5	7 a. m.	29.41	27.7	nw.	light	cloudy		N. 79° 10′, W. 74° 42′.
6	7 a. m.	29.29	24.8	se.	light	cloudy		N. 79° 07′, W. 74° 45′.
7	7 a. m.	29.15	22.5	ne.	high	cloudy		Do.
8	7 a. m.	29.41	12.0	ne.	light	clear		Do.
9	7 a. m.	29.59	17.5	ne.	gentle	l't snow.		Do.
10	7 a. m.	29.63	13.9	nw.	light	l't snow.		Do.
11	8 a. m.	29.41	13.5	n.	fresh	l't snow.		N. 78° 50′, W. 74° 45′.
12	8 a. m.	29.59	17.0	n.	light	cloudy		
13	7 a. m.	29.69	9.0	nw.	light	fair		Near Cape Sabine.
14	7 a. m.	29.69	18.5	nw.	gentle	cloudy		Do.
15	7 p. m.	30.07	27.2	s.	light	cloudy		Do.
16	10 a. m	30.08	17.0	calm	0	fair.		Do.
17	11 a. m	30.14	14.8	sw.	light	clear		Do.
18	6 a. m.	29.94	11.0	nw.	gentle	clear		Do.
19	8 p. m.	29.86	23.0	sw.	fresh	fair		Do.
1883.								
Sept. 20	10 a. m	30.03	21.5	nw.	fresh	foggy		Near Cape Sabine.
21	9 a. m.	29.52	24.0	calm	0	l't snow.		Do.
22	4 p. m.	29.80	10.8	n.	light	cloudy		Do.
23	12 m	29.86	16.0	ne.	fresh	l't snow.		Do.
24	9 a. m.	29.74	16.5	nw.	light	cloudy		Do.
25	10 a. m	29.83	12.5	ne.	brisk	cloudy		Do.
26	7 a. m.							N. 78° 28′, W. 75° 20′. Violent nw. gale all day; temperature about 15°.
27	7 a. m.							N. 78° 28′, W. 75° 20′. Violent nw. gale all day.
28	7 a. m.							N. 78° 28′, W. 75° 20′. Clear, high nw. wind abating in p. m.
29	9 a. m.		16.8	calm	0	clear		N. 78° 28′, W. 75° 20′.
30	11 a. m	30.12	23.0	sw.	fresh	fair		Do.
Oct. 1	9 a. m.	30.09	25.0	s.	brisk	cloudy	19.5	N. 78° 30′, W. 75° 20′.
2	11 a. m		24.0	calm	0	cloudy		Do.
3	11 a. m					cloudy		Do.
4	5 p. m.	29.98	9.7	n.	light	fair		Do.
5	9 a. m.	29.72	17.0	calm	0	cloudy	7.0	Do.
6	2 p. m.	29.01	16.0	nw.		cloudy	3.0	Do.
7	9 a. m.	30.02	15.0	sw.	light	cloudy	12.8	Do.
8	10 a. m	30.15	14.0	sw.	light	cloudy	12.5	Do.
9	9 a. m.	30.18	13.5	calm	0	cloudy	4.0	Do.
10	9 a. m.	30.31	1.2	nw.	light	l't snow.	3.0	Do.
11	6 a. m.	30.50	— 3.0	calm	0	fair	— 7.0	Do.
12	6 a m.	30 43	— 8.5	calm	0	clear	—12.5	N. 78° 48′, W. 74° 40′.
13								N. 78° 48′. W. 74° 40′. Cl'dy day, occasional snow.
14	6 a m.	29.90	9.0	sw.	light	cloudy	7.0	N. 78° 46′, W. 74° 20′.
15	6 a. m.		2.0	calm	0	fair	1.5	Camp Clay near Cape Sabine, Ellesmere Land (N. 78° 47′, W. 74° —′) until June 22, 1884.
16	7 a. m.		3.0	ne.	fresh	l't snow.	1.5	
17	11 a. m				brisk	cloudy	— 6.5	
18	9 a. m.		— 0.5	nw.	light	l't snow.	— 0.5	
19	8 a. m.		—11.0	calm	0		—11.0	
20	8 a. m.		2.5	nw.	fresh	cloudy	—13.0	
21	11 a. m			w.	light	fair	— 3.5	
22	11 a. m				fresh	snowy		
23	11 a. m			nw.	light	cloudy	—10.0	
24	11 a. m		— 1.5	nw.	fresh	snowy	— 5.5	
25	11 a. m		— 1.5	w.	light	snowy	— 4.0	
26	11 a. m	29.85		w.	light	cloudy	—15.0	
27	11 a. m	30.08	—16.0			foggy	—20.5	
28	12 m	29.91	— 2.0		fresh	h'y snow	—17.5	
29	11 a. m	30.09					5.0	
30	11 a. m	29.84		w.	light	cloudy	— 8.0	
31	11 a. m	29.85	2.0	calm	0	clear	2.0	
Nov. 1	11 a. m	29.70†	— 3.0	nw.	light	fair	— 4.0	†7 a.m.
2	11 a. m	29.74	— 8.0	nw.	light	cloudy	— 9.2	
3	11 a. m	29.70	—13.0	nw.	light	clear	—13.0	
4	11 a. m	29.61	—20.0	calm	0	clear	—25.7	
5	11 a. m	29.63	— 9.0	calm	0	clear	—20.0	
6	11 a. m	29.57	—11.0	nw.	fresh	clear	—21.0	
7	11 a. m	29.77	—20.3				—20.3	
8	11 a. m	29.85	—29.0	s.	light	cloudy	—31.5	
9	11 a. m	30.05	—23.5	calm	0	clear	—30.0	
10	11 a. m	30.04	—16.0	sw.	fresh	cloudy	—23.5	
11	11 a. m	29.92	—19.0	sw.	fresh	clear	—28.0	
12	11 a. m	29.78	—24.0	calm	0	clear	—34.5	
13	11 a. m	29.68	—27.0	calm	0	clear	—33.8	
14	11 a. m	29.63	—19.0	w.	fresh	cloudy	—30.0	
15	11 a. m	29.01	—35.0	w.	fresh	clear	—38.2	
16	12 m	29.19	—12.0		fresh	cloudy	—22.0	
17	12 m	29.01	—12.0	w.	light	cloudy	—28.0	
18	11 a. m	29.43	—12.0	w.	light	cloudy	—14.0	
19	11 a. m	29.48	—30.2	calm	0	cloudy	— 5.2	
20	11 a. m	29.86	—16.0	calm	0	cloudy	—37.0	
21	11 a. m	29.99	—14.0	w.	fresh	cloudy	—23.5	
22	11 a. m	29.98	—23.2	calm	0	clear	—28.0	
23	11 a. m	29.90	—24.0	calm	0	cloudy	—41.2	
24	11 a. m	30.01	—21.0	calm	0	cloudy	—26.0	
25	11 a. m	30.19	—23.0	calm	0	cloudy	—25.0	
26	11 a. m	30.27	—34.8	w.	light	clear	—36.5	
27	11 a. m	30.41	—32.5	w.	fresh	clear	—43.5	
28	11 a. m	30.86	—11.0	w.	light	clear	—34.0	
29	11 a. m	30.73	— 5.0	w.	light	cloudy	—15.0	
30	11 a. m	30.61	3.0			cloudy	— 5.0	
Dec. 1	11 a. m	29.24†	— 6.0	w.	light	cloudy	— 7.2	Violent easterly gale in evening. †7 a.m.
2	11 a. m	30.09		e.	gale	cloudy		
3	11 a. m	30.39		w.	brisk	cloudy		
4	11 a. m	29.97	— 8.0	w.	brisk	cloudy		
5	11 a. m	29.52	5.0	w.	brisk	cloudy		
6	11 a. m	29.54	—10.0	w.	brisk	cloudy		
7	11 a. m	29.50	—21.0	w.	brisk	clear		
8	11 a. m	29.75	—24.0	w.	brisk	clear		
9	11 a. m	29.95	—19.0	w.	brisk	clear		Strong westerly gale all day
10	11 a. m	29.86	—27.0	w.	fresh	clear		
11	11 a. m	29.92	—20.0	calm	0	clear		
12	11 a m	30.04	—25.0	w.	light	clear		
13	11 a. m	29.78	—23.0	w.	light			
14	11 a. m	29.90	—17.0	calm	0	clear		
15	11 a m	30.16	—17.0	w.	brisk	cloudy		Light snow.
16	11 a. m	29.83	—21.0		brisk			
17	11 a. m	29.46	—13.0	calm	0	cloudy		
18	11 a. m	30.03	—17.0	calm	0	clear		
19	11 a. m	29.97	—21.0	w.	brisk	clear		
20	11 a. m	29.75	—25.3	calm	0	clear		
21	11 a m	29.93	—29.0	calm	0	clear		
22	11 a. m	29.69	—29.0	calm	0	clear		
23	11 a. m	29.80	—24.5		fresh	cloudy		
24	11 a. m	29.78	—22.5	w.	light	clear		

Date.	Hour.	Barometer.	Temperature.	Wind.	Velocity.	Weather.	Minimum.	Remarks.
1883.								
Dec. 25	11 a. m	29.85	—35.5	calm	o	clear		
26	11 a. m		—34.8	calm	o			
27	11 a. m	30.21	—39.5	calm	o	clear		
28	11 a. m	30.06	—35.0	w.	light	clear		[night.
29	11 a. m	30.14	—31.5	calm	o	fair		Heavy westerly gale last
30	11 a. m	30.06	—21.2	e.	brisk	cloudy		Easterly gale began at noon
31	11 a. m	30.09	—20.5	e.	brisk	cloudy		
1884.								
Jan. 1	11 a. m	30.64†	—32.0	calm	o	clear		†7 a.m.
2	11 a. m	30.75	—28.0	w.	light	clear		
3	11 a. m	30.05	—31.0	w.	light	clear		
4	11 a. m	30.11	—34.0	w.	brisk	cloudy		
5	11 a. m	29.60	—25.2	w.	brisk	cloudy		
6	11 a. m		—24.0	w.	light	clear		
7	11 a. m	29.24	—31.0	w.	light	clear		
8	11 a. m	29.07	—28.0	w.	light	clear		
9	11 a. m	29.14	—29.1	calm	o	clear		
10	11 a. m	20.96	—28.5	calm	o	cloudy		
11	11 a. m	30.06	—21.0	w.	light	clear		
12	11 a. m	29.56	—18.5	w.	light	clear		
13	11 a. m	29.58	—21.0		fresh	cloudy		Light snow in evening.
14	11 a. m	29.87	—18.5		fresh	cloudy		
15	11 a. m	30.01	—27.5	w.	light	clear		
16	11 a. m	29.78	—21.3	w.	light	cloudy		
17	11 a m	29.55	—36.0	calm	o	cloudy		
18	11 a. m	29.55	—40.0	calm	o	clear		
19	11 a. m	29.54	—42.0	calm	o	clear		
20	11 a. m	29.69	—42.0	calm	o	cloudy		
21	11 a. m	29.95	—34.0	w.	light	clear		
22	11 a. m	29.96	—25.7	w.	light	clear		
23	11 a. m	29.93	—20.2		fresh	cloudy		
24	11 a. m	29.98	—20.2	w.	light	clear		
25	11 a. m	29.89	—22.0	w.	light	clear		
26	11 a. m	29.89	—25.0	calm	o	clear		
27	11 a. m	29.89	—35.0	calm	o	clear		
28	11 a. m	29.89	—38.2	calm	o	clear		
29	11 a. m	29.89	—32.0	calm	o	clear		
30	11 a. m	29.75	—35.0	calm	o	cloudy		
31	11 a. m	29.54	— 6.0		light	cloudy		
Feb. 1	7 a. m.	29.38	—15.5	w.	light	cloudy		
2	7 a. m.	29.30	—19.0	w.	light	cloudy		
3	7 a m.	29.38	—26.0	w.	brisk	fair		
4	7 a. m.	29.75		w.	light	cloudy		
5	7 a. m.	29.94	—20.0	calm	o	cloudy		
6	7 a. m.	29.95	—20.2	se.	fresh	cloudy		Snow at intervals.
7	7 a. m.	29.85	—27.5	w.	light	clear		
8	7 a. m.	29.79	—36.4	calm	o	clear		
9	7 a. m.	29.94	—38.5‡	calm	o	clear		‡9 a. m.
10	7 a. m.	29.91	—36.5‡		light	clear		
11	7 a. m.	29.67	—36.0	w.	light	cloudy		
12	7 a. m	29.62	—42.0	calm	o	clear		Below —42° all day.
13	7 a. m.	29.75	—34.0	w.	light	clear		
14	7 a. m.	29.60	—28.0§	calm	o	clear		§8 a. m.
15	7 a. m.	30.10	—25.3	w.	fresh	clear		
16	7 a. m.	29.56	—21.2	w.	fresh	clear		
17	7 a. m.	29.25	—12.5	w.	light	clear		
18	7 a. m.	29.37	— 6.5	calm	o	clear		
19	7 a. m.	29.51	8.5	s.	gale	clear		
20	7 a. m.	29.67	—11.2	w.	light	cloudy		
21	7 a. m.	29.95	— 4.0	calm	o	cloudy		
22	7 a. m.	29.37	—11.0	w.	fresh	cloudy		Light snow.
23	7 a. m.	29.95	— 4.5	s.	brisk	cloudy		Snowy.
24	7 a. m.	29.95	—11.2	w.	brisk	cloudy		Light snow.
25	7 a. m.	29.35	—16.1	w.	brisk	cloudy		
26	7 a. m.	29.79	—10.0	calm	o	cloudy		
27	7 a. m.	29.88	—22.0	calm	o	clear		
28	7 a. m.	29.79	—24.2	calm	o	cloudy		
29	7 a. m.	29.89	—30.5					
Mar. 1	7 a. m.	25.91	—35.0	w.	fresh	clear		
2	7 a. m.	29.55	—22.5	w.	brisk	clear		
3	7 a. m.	29.69	—27.5	w.	high	clear		Blinding drift.
4	7 a. m.	30.00	—21.5	w.	fresh	cloudy		
5	7 a. m.	29.87	—22.0	w.	fresh	fair		
6	7 a. m.	29.44	—20.8	w.	fresh	clear		
7	7 a. m.	29.40	—15.4	calm	o	clear		
8	7 a. m.	29.28	— 3.0	se.	gale			
9	7 a. m.	29.57	—10.0	se.	fresh			
10	7 a. m.	29.79	— 9.5	se.	fresh	fair		
11	7 a. m.	29.83	—19.1	calm	o	clear		Thermometer exposed to sun at noon indicated —12° Fahrenheit.
12	7 a. m.	29.86	—25.1‖	w.	light	cloudy		
13	7 a. m.	29.72	—23.0‖	calm	o	clear		
14	7 a. m.	39.80	—27.2	calm	o	clear		
15	7 a. m.	29.92	—30.8‖	calm	o	clear		‖6 a. m.
16	7 a. m.	30.09	—34.7‖	calm	o	clear		
17	7 a. m.	29.90	—25.0‖	w.	fresh	cloudy		
18	7 a. m.	29.53	—16.0‖	ne.	fresh	cloudy		
19	7 a. m.	29.73	—16.3‖	w.	fresh	cloudy		Snow at intervals.
20	7 a. m.	29.97	—20.0‖	w.	fresh	clear		
21	7 a. m.	29.97	—19.8‖	w.	fresh	cloudy		
22	7 a. m.	29.95	—14.0‖	w.	light	cloudy		Snow at intervals.
23	7 a. m.	29.79	—25.5‖	w.	light	clear		
24	7 a. m.	29.75	—23.0*	w.	light	clear		*5 a.m.
25	7 a. m.	29.71	—28.0‖	w.	light	clear		
26	7 a. m	29.78	—10.0	calm	o	cloudy		
27	7 a. m.	29.87	—12.0	calm	o	fair		
28	7 a. m.	20.85	—24.0	w.	light	clear		
29	7 a. m.	30.20	— 4.5		gale	cloudy		
30	7 a. m.	30.32			gale	cloudy		
31	7 a. m.	30.36			gale	cloudy		
Apr. 1	7 a. m.	30.26	— 5.5†	calm	o	cloudy		†5 a.m.
2	7 a. m.	30.47	—13.0	w.	brisk	clear		
3	7 a. m.	30.54	—16.5‡	w.	light	clear		‡6 a.m.
1884.								
Apr. 4	7 a. m.	30.53	8.0†	calm	o	cloudy		Snowy. †5 a.m.
5	7 a. m.	30.03	—10.0‡	w.	light	clear		‡6 a.m.
6	7 a. m.	30.24	— 5.0‡	calm	o	cloudy		Do.
7	7 a. m.	30.05	— 6.0	calm	o			Heavy snow.
8	7 a. m.	30.08	13.5		brisk	cloudy		Snow.
9	7 a. m.	30.05	— 7.0		brisk	cloudy		Do.
10	7 a. m.		3.0		fresh	cloudy		
11	7 a. m.	30.03	—20.5	calm	o	clear		
12	7 a. m.	29.81	—20.0	calm	o	clear		
13	7 a. m.	30.22	— 9.0	calm	o	clear		
14	7 a. m.	30.22	—15.2	calm	o	clear		
15	7 a. m.	30.07	—10.8	w.	light	clear		
16	7 a. m.	29.80	5.0	w.	light	cloudy		Heavy snowfall.
17	7 a. m.	30.05	5.2	calm	o	clear		
18	7 a. m.	30.40	— 1.5	sw.	brisk	fair		
19	7 a. m.	30.54	4.5	w.	light	cloudy		
20	7 a. m.	30.31	— 1.5	w.	light	cloudy		
21	7 a. m.	30.18	— 0.5	w.	light	l't snow		
22	7 a. m.	29.96	7.5	w.	brisk	cloudy		
23	7 a. m.	30.02	8.3	w.	light	fair		
24	7 a. m.	30.07	— 2.0	calm	o	clear		
25	7 a m.	29.80	2.0	w.	fresh	cloudy		Snow.
26	7 a. m.	29.87	10	w.	light	cloudy		Do.
27	7 a. m.	29.82	8.0	calm	o	clear		
28	7 a m.	29.87	5.3	calm	o	cloudy		
29	7 a. m.	29.97	2.0	s.	brisk	clear		
30	7 a. m.	30.04	3.0	w.	light	cloudy		
May 1	7 a. m.	30.26	10	w.	light	l't snow		
2	7 a. m.	30.21	8.0	w.	fresh	cloudy		
3	7 a. m.	30.20	0					
4	7 a. m.		5†	w.	light	clear		†5 a.m.
5	7 a. m.	30.37	11.0	w.	light	fair		[from 3 a.m. to 1 p.m.
6	7 a. m.	30.17	15.5§			h'y snow		§3 p.m. Strong east wind
7	7 a. m.	29.81	14.0					Storm, early a.m.
8	7 a. m.	30.34	15.0	n.	light	cloudy		
9	7 a. m.	30.12	6.5					
10	7 a. m.	30.24	6.2					
11	7 a. m.	30.26	18.0*					* In sun.
12	7 a. m.	30.28	16.0*					
13	7 a. m.	30.23	10.0					
14	7 a. m.	30.11	12.0					
15	7 a. m.	30.12	11.0					
16	7 a. m.	30.08	12†					†5 a.m.
17	7 a. m.	30.09	12†					
18	7 a. m.	30.16	21.0†	se.		stormy		
19	7 a. m.	30.17	21.0			stormy		
20	7 a. m.	29.91	23‖					‖10 a.m.
21	7 a. m.	29.77	29.0	calm		l't snow		
22	7 a m.	29.65	48*	w.	light			* In sun.
23	7 a. m.	†		w.	light	clear		†Barometer broken.
24	7 a. m.		24‡					‡6 a.m. [a.m.
25	7 a m.		26.0‖					Severe storm last night. ‖8
26	7 a. m.		26.0§	se.	fresh	cloudy		Stormy a.m. §3 p.m.
27	7 a. m.		24‖	se.	fresh	clear		Violent southerly gale in p.
28	7 a. m.			e.	light	cloudy		m. §3 p.m. [to 12 p. m.
29	7 a. m.			se.	gale	clear		High south wind from 12 m.
30	7 a. m.		29.0‖	se.	fresh	snowing		‖10 a.m. [day.
31	7 a. m.					h'y snow		Violent southerly gale all
June 1	7 a. m.		35‖			l't snow		‖10 a.m.
2	7 a. m.			se.	fresh	clear		Fine all day.
3	7 a. m.		31†	se.	fresh	fair		†8 p.m.
4	7 a. m.		36.0‡	se.	fresh	clear		‡10 a. m. Strong gale all
5	7 a. m.		31.0	calm	o	clear		last night.
6	7 a. m.		31.0	calm	o	clear		
7	7 a. m.		31.5	calm	o	clear		
8	7 a. m.		38.0	calm	o	clear		
9	7 a. m.		39.0	calm	o	cloudy		
10	7 a. m.		35.0	calm	o	cloudy		
11	7 a. m.		38.0	calm	o	clear		
12	7 a. m.		34.0	calm	o	clear		
13	7 a. m.		32.0	s.	gale	clear		
14	7 a. m.		37.0	calm	o	cloudy		
15	7 a. m.		30.0			l't snow		
16	7 a. m.		37.0	nw.	fresh	cloudy		Strong nw. gale during
17	7 a. m.		34.0	w.	fresh	fair		night.
18	7 a. m.		30.5	w.	fresh	cloudy		
19	7 a. m.		34.5	calm	o	clear		
20	7 a. m.		29.0	calm	o	clear		
21	7 a. m.		31.0	s.	gale	cloudy		

GENERAL REMARKS.

DAILY BULLETIN.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c., cirrus; k., cumulus; s., stratus; n., nimbus; d., scud; f., fracto; p., pallio; hz., haze; fg., fog; sk., smoke; inap., inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by

velocity in miles per hour, in metres per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometres per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations.

All marine data are classified as to districts, which are designated as follows: District No. 1, North Atlantic; District No. 2, South Atlantic, &c., under which headings the respective reports are printed.

BOUNDARIES OF DISTRICTS.

District No. 1 comprises the Atlantic ocean, its arms and tributaries, from the equator northward to the pole, and in the Arctic from 100° E., westward to 100° W., of Greenwich.

District No. 2 comprises the Atlantic ocean, its arms and tributaries, from the equator southward to the pole, and in the Antarctic from 20° E., westward to 70° W., of Greenwich.

District No. 3 comprises the Pacific ocean, its arms and tributaries, from the equator northward to the pole, and in the Arctic from 100° W., westward to 100° E., of Greenwich.

District No. 4 comprises the Pacific ocean, its arms and tributaries, from the equator southward to the pole, and in the Antarctic from 70° W., westward to 145° E., of Greenwich.

District No. 5 comprises the Indian ocean, its arms and tributaries, from the Asiatic continent southward to the pole, and in the Antarctic from 20° E., eastward to 145° E., of Greenwich.

The following remarks relate to the individual peculiarities in the *methods* of recording, and the *times* of taking, the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus.

ALGERIAN SERIES (furnished by co-operation of M. Thévenet, Director of the Meteorological Service at the College of Science of Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. Adelaide, furnished by co-operation of Charles Todd, C. M. G., F. R. A. S. The observations are taken at 9 p. m., local time. Hobart Town, furnished by Commander J. Shortt, R. N. Observations are taken at 9 p. m., local time.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemberg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BELGIAN SERIES (furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade; weather by the Vienna symbols, and occasionally in general terms. At Arlon the observations are taken at 1 p. m., local time.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind-direction is given to 32 points, and weather by the Beaufort notation. At Bradford no observations are taken on Sunday, except rainfall. Hong Kong, furnished by W. Doberck, Government Astronomer, rainfall is measured at midnight.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Saint Francis Lighthouse, the original gives barometer reduced to freezing, but not to sea-level. The kind of clouds is given, but no distinction is made between upper and lower. Weather in general terms.

CHILIAN SERIES (by authority of the Secretary of Public Instruction, furnished by co-operation of Francisco Vidal Gormáz, President of the Central Meteorological Office at Santiago).—Observations are taken mostly at lighthouses on the coast; the originals give barometer as read off; temperature in Centigrade; humidity is not given, but is computed at this office from the hygrometrical observations.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the original gives the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres, and measured at the moment of simultaneous observation.

DANISH SERIES (furnished by co-operation of the Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted. At all Greenland stations the observations are taken at 8 a. m., local time.

EGYPTIAN SERIES (furnished by the co-operation of Albert Ismalun, Director of the Laboratoire Khédivial du Caire).—Original gives barometer reduced to zero, but not to sea-level, temperature in Centigrade. The velocity is the mean for past twenty-four hours. Rainfall in millimetres.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Montlouis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dôme, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Montlouis and Perpignan.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES (furnished by co-operation of Prof. D. K. Kokkides, Director of the Royal Observatory at Athens).—The original gives the barometer corrected for temperature only, and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India, at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office, at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by the co-operation of the Geographical Bureau, Department of the Interior, through I. Arai, Director of the Imperial Meteorological Observatory, at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (furnished by co-operation of the respective observers).—The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys-Ballot, Director of the Royal Meteorological Institute of the Netherlands, at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred. At Batavia the elevation is stated to be "a few metres."

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute, at Christiania).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in metres per second, or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in metres per second. No distinction is made between upper and lower clouds; the

amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Astrakhan, Ashurada and Baku, the barometer-cistern is below sea-level.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 10 a. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m , local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Prof. E. Gautier, Director of the Observatory at Geneva).—The originals give the barom ter in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of F. Nimr, B. A., Director of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in metres per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms. At Samakov the barometer is reduced to freezing, but not to sea-level; temperature in Fahrenheit. The kind of clouds is given, also the distinction between upper and lower.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Puerto Berrio, is given as read off. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind-direction is generally given to 16 points, except 8 points for Bogota. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-op ration of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind-direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the baro eter in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operations of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date.

In the above charts broken lines indicate that the lines so drawn are doubtful. Arrows show direction of, and fly with, the wind. Force is shown as follows:

SYMBOLS.	FORCE.	VELOCITY.	
		MILES PER HOUR.	METRES PER SECOND.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The position of stations (latitude and longitude) are obtained from Keith Johnston's "Index Geographicus," except where more exact information is furnished. The elevation of stations is obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the orignal forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is belived for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least, this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the alphabet of the letter so used.

BRITISH SERIES, Bradford: a letter placed opposite the name of station, refers to all the data except rainfall.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude (2), the the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

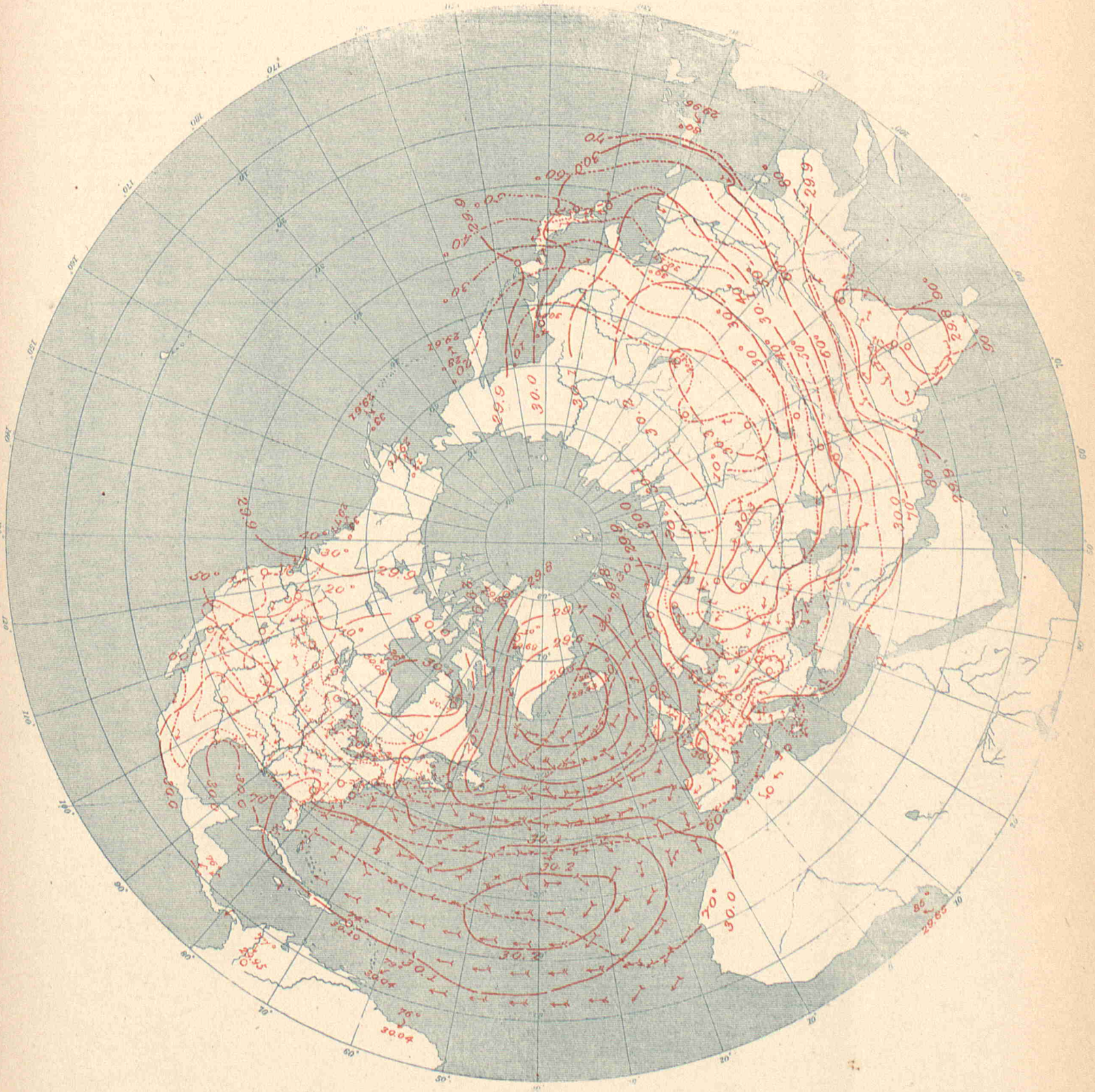
ERRATA.

DAILY BULLETIN, March 11, 1884, page 5, Montgomery, Alabama, actual barometer, 752.2 mm., should read, 758.2 mm.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. March, 1884. Isobars, Isotherms, and Winds.

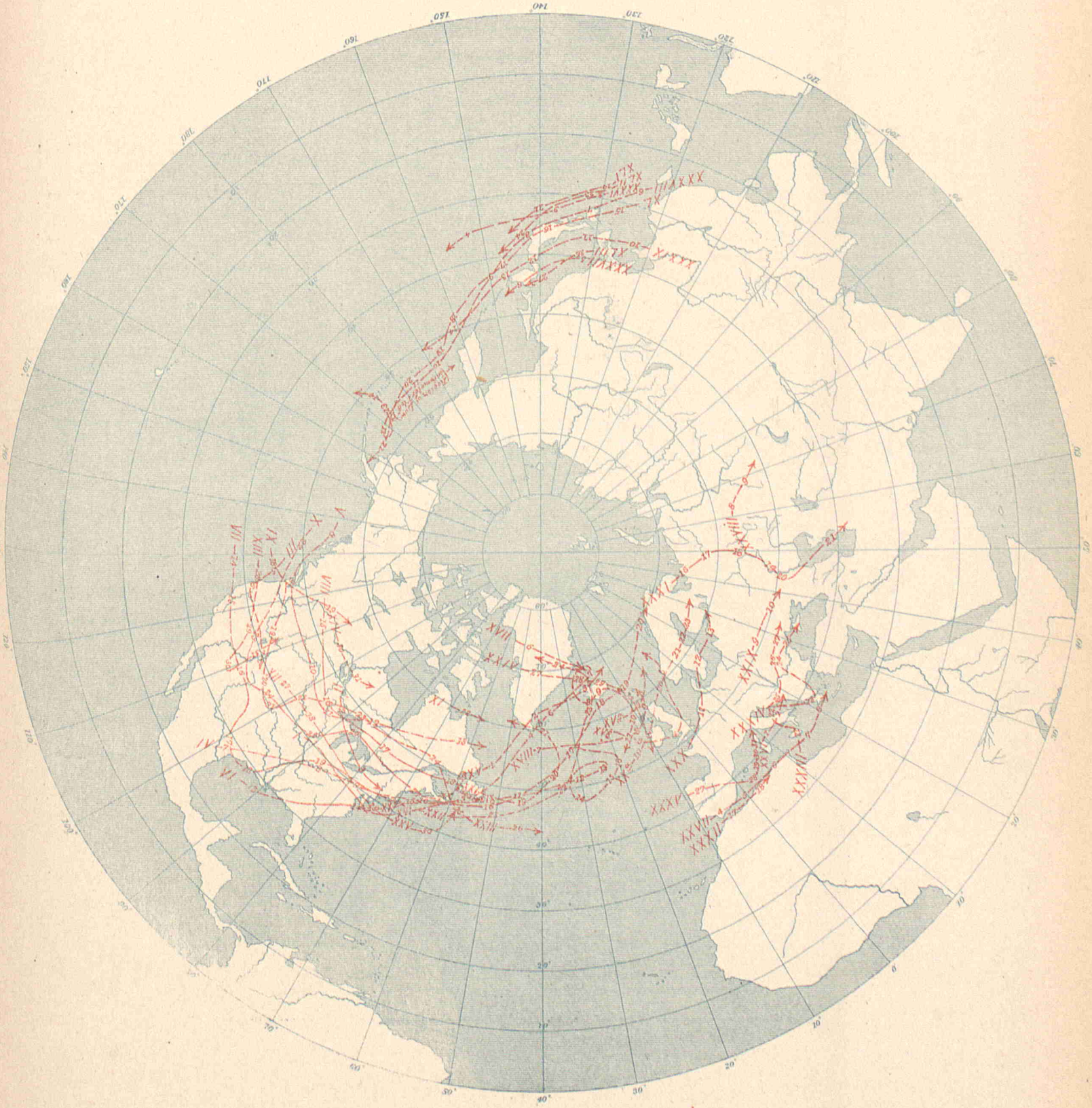


UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B.Hazen, Chief Signal Officer.

Signal Office Lith.

International Chart III. March, 1884. Storm-Tracks.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.

W. B. Hazen, Chief Signal Officer.

Signal Office Lith.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF APRIL, 1884.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
MAY, 1885.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

APRIL, 1884.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for April, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	29.88	759.0	66.2	19.0	63.4	1	2	7	.....	1	12	6	1	.....	.....	.....	4	2.32	58.9
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	29.84	757.9	64.8	18.2	61.2	2	.....	15	9	1	1	.....	2	.....	.....	.....	2	3.50	88.8
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	29.81	757.2	66.9	19.4	72.9	2	14	3	2	4	.....	2	3	.....	.....	.....	3	2.63	66.8
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	29.84	757.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4281	1305	.....	.....	29.93	760.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2454	748	.....	.....	29.93	760.1	71.6	22.0	.....	2	12	2	1	5	2	.....	6	.....	.....	.....	1	0.50	12.8
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	29.92	760.0	73.8	23.2	48.3	.....	8	11	.....	.....	.....	6	.....	5	.....	.....	1	0.06	1.5
AUSTRALIAN.																										
Adelaide	S. 34 57	E. 138 35	9.22 p.m.	140	42	.....	.....	30.20	767.1	60.1	15.6	66.5	3	3	2	3	5	7	5	.....	2	.....	.....	5	1.34	34.0
Hobart Town	S. 42 53	E. 147 20	9.57 p.m.	190	58	29.99*b*	761.7*b*	30.11*b*	764.8*b*	54.7*b*	12.6*b*	84.0*b*	4*a*	9	6	2	3	1	1	.....	3	.....	.....	5	0.29	7.4
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	30.07	763.6	30.16	765.9	57.3	14.1	80.0	5	1	3	1	3	12	1	4	.....	.....	.....	5	0.79	20.0
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.20	741.6	29.74	755.4	59.0	15.0	48.3	.....	2	1	4	1	8	6	8	.....	.....	.....	7	3.11	79.1
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.01	736.8	29.78	756.4	46.9	8.3	67.7	3	5	3	.....	.....	10	9	.....	.....	.....	.....	8	2.7[illegible]	68.9
Eperies	N. 48 58	E. 21 15	1.33 p.m.	846	258	28 90	734.1	29.78	759.3	45.9	7.7	74.4	14	.....	.....	.....	3	.....	.....	.....	13	.....	.....	8	2.87	72.8
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.53	724.6	29.77	756.1	54.0	12.2	61.2	.....	3	.....	6	5	6	9	.....	1	.....	.....	7	3.12	79.3
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.33	719.5	29.74	755 4	56.5	13.6	60.5	4	4	3	1	1	15	1	1	.....	.....	.....	8	1.33	33.7
Kremsmunster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.41	721.5	29.74	755.3	49.5	9.7	73.8	2	3	3	.....	.....	1	7	12	2	.....	.....	7	1.98	50.3
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.84	732.5	29.84	757.9	45.0	7.2	69.4	1	1	.....	1	2	10	9	6	.....	.....	.....	10	1.14	28.9
Polo	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.62	752.4	29.73	755 2	60.4	15.8	72.2	.....	.....	7	4	5	11	2	1	.....	.....	.....	5	1.92	48.7
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.25	742.9	29.71	754.6*a*	56.3	13.5	59.0	8	3	5	2	8	.....	3	1	.....	.....	.....	6	3.16	80.3
Szegedin ‡	N. 46 15	E. 20 10	1.29 p.m.	279	86	29.46	748.2	29.74	755.3	57.0	13.9	61.7	5	.....	2	5	13	.....	1	.....	3	.....	.....	7	3.96	100.6
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.60	753.4	29.76	755.9	60.3	15.7	63.0	2	7	3	9	1	2	1	3	2	.....	.....	6	3.94	100.0
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.02	737.2	29.74	755.3	47.8	8.8	68.6	3	8	2	.....	.....	7	3	4	3	.....	.....	8	3.10	78.8
BELGIAN																										
Arlon	N. 49 40	E. 5 48	0.32 p.m.	?	?	.....	.....	.....	.....	48.7	9.3	70.5	1	1	.....	5	2	2	9	10	.....	.....	.....	3	1.46	37.1
Brussels‡	N. 50 51	E. 4 22	0.26 p.m.	187	57	29 60	751.9	29.81	757.1	51.4	10.8	56.5	3	1	3	4	5	3	2	8	.....	.....	.....	8	0.41	10.5
Furnes*	N. 51 04	E. 2 40	0.19 p.m.	20	6	29.79	756.7	29.81	757.2	.....	.....	.....	2	.....	1	2	3	4	1	14	.....	.....	.....	6	1.32	33.5
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	29.70	754.4	29.84	757.8	54.1	12.3	64.7	9	2	2	4	2	1	5	5	.....	.....	.....	7	0.74	18.7
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.80	756.9	29.90	759.4	44.8	7.1	75.1	4	1	1	.....	2	12	5	5	.....	.....	.....	6	1.37	34.8
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.84	757.9	49.1	9.5	61.8	3	5	3	1	.....	3	9	6	.....	.....	.....	6	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.30	744.2	29.83	757 7	47.5	8.6	66.9	6	1	.....	2	1	5	8	7	.....	.....	.....	8	.....	.....
Bradford	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.45	748.0	29.84	757 9	47.1	8.4	70.1	2	1	.....	2	5	3	6	11	.....	.....	.....	8	2.06	52.3
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.98	761.5	30.01	762.2	81.7	27.6	71.6	.....	.....	.....	.....	.....	.....	10	20	.....	.....	.....	3	.....	.....
Cardington *o*	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	.....	.....	46.7	8.2	64.9	.....	.....	2	1	.....	2	5	5	.....	.....	.....	7	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	160	49	29.64	752.8	29.82	757.4	49.7	9.8	70.8	1	.....	.....	4	5	.....	8	9	3	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.57	751.1	29.81	757.2	49.1	9.5	66.9	2	3	.....	3	.....	11	5	6	.....	.....	.....	6	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2205	672	27.65	702.3	29.96	761.0	73.0	22.8	62.0	2	1	.....	.....	2	3	1	21	.....	.....	.....	5	.....	.....
Freetown	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.61	752.1	29.84	757.9	84.6	29.2	75.6*p*	3	1	2	2	2	2	3	.....	.....	.....	.....	3	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.73	755.1	29.77	756.1	50.3	10.2	70.9	3	2	2	2	1	6	5	9	.....	.....	.....	3	1.31	33.3
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	29.79	756.7	29.89	759.2	61.8	16.6	91.0	.....	14	12	3	.....	.....	1	.....	.....	.....	.....	7	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.65	753.1	29.82	757 4	51.1	10.6	67.4	7	1	.....	1	3	5	4	8	1	.....	.....	8	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.51	749.5	29.81	757.2	49.1	9.5	77.7	3	.....	5	1	3	2	6	10	.....	.....	.....	7	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.79	756.7	29.83	757.7	49.6	9.8	58.8	8	1	1	3	5	2	2	8	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.57	751.1	29.82	757.4	49.1	9.5	67.6	4	1	.....	4	3	1	1	15	1	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.71	754.6	29.78	756.4	64.7	18.2	68.2	.....	10	3	8	1	5	1	2	.....	.....	.....	5	0.45	11.4
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.01	762.2	30.06	763.5	74.3	23.5	67.3	3	4	1	4	5	4	2	7	.....	.....	.....	4	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.60	751.8	29.82	757.4	49.5	9.7	66 0	7	.....	1	2	5	3	.....	12	.....	.....	.....	8	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29 73	755.1	29.80	756.9	50.6	10.3	67.1	.....	1	.....	3	6	3	3	11	3	.....	.....	7	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.79	756.7	29.89	759.2	46.0	7.8	77.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	.....	.....
Scutari Cemet'*a*	N. 41 00	E. 29 03	2 04 p.m.	60	18	29.73	755.1	29.80	756.9	60.4	15.8	61.5	2	1	.....	12	4	1	.....	8	1	.....	.....	6	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.57	751.1	29.86	758 4	49.8	9.9	69.7	3	.....	.....	3	2	2	.....	20	.....	.....	.....	6	.....	.....
Stilloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.82	757.4	29.85	758.2	50.4	10.2	80.0	3	.....	4	2	2	4	10	5	.....	.....	.....	7	1.26	32.0
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.86	758.4	48.2	9.0	63.7	6	1	1	3	1	3	3	12	.....	.....	.....	8	1.01	25.6
Strathfield	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	50.9	10.5	69.2	3	3	.....	5	5	1	8	5	.....	.....	.....	7	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m	23	7	29.77	756.1	29.80	756.9	51.0	10.6	65.2	6	3	2	1	2	10	3	3	.....	.....	.....	7	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.48	748.8	29.86	758.4	64.8	18.2	64.5	1	9	4	5	3	5	3	.....	.....	5588	8985	4	0.24	6.1
CANADIAN.																										
Bathurst *a*	N. 47 39	W. 65 43	7.45 a m.	35	11	.....	.....	29.86	758.4	36.0	2.2	.....	5	.....	1	.....	.....	1	.....	2	20	.....	.....	8	3.42	86.9
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.75	755.6	29.80	756.9	35.4	1.9	86.5	10	1	1	1	3	7	5	1	6667	10729	9	4.81	122.2
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.80	756.9	29.86	758.4	34.4	1.3	88.7	3	1	1	3	.....	2	3	10	1	3794	6106	7	4.93	125.2
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	.....	.....	29.86	758 4	36.1	2.3	80.6	7	4	5	1	1	3	8	1	.....	.....	.....	7	1.22	31.0
Dalhousie *a*	N. 48 04	W. 66 22	7.32 a m.	45	14	.....	.....	29.86	758.4	34.9	1.6	.....	.....	.....	8	1	.....	1	8	.....	11	.....	.....	7	4.28	108.7
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.84	757.9	29.86	758.4	33.4	0.8	89.0	2	2	5	1	2	.....	.....	15	3	.....	.....	6	2.51	63.8
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.26	743.2	30.10	764.5	26.2	—3.2	90.7	7	9	1	1	3	5	2	2	.....	7855	12641	6	2.50	63.5
Fredericton	N. 45 57	W. 66 38	7.41 a.m.	59	18	.....	.....	29.84	757 9	36.7	2.6	81.7	4	6	3	1	.....	1	4	11	.....	.....	.....	7	4.00	101.6
Grand Manan	N. 44 46	W. 66 45	7.41 a.m.	49	15	29.72	754.9	29.79	756.7	37.8	3.2	84.9	10	5	1	.....	1	3	6	4	.....	7910	12734	4	5.02	127.5
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	.....	.....	29.95	760.7	35.1	1.7	90.5	4	6	1	.....	2	.....	5	2	10	.....	.....	6	1.51	38.4
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.64	752.8	29.78	756.4	37.9	3.3	87.1	7	4	5	.....	1	.....	9	4	.....	.....	.....	7	8.39	213.1
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	372	113	.....	.....	29.94	760 5	38.4	3.6	86.6	1	6	1	8	.....	.....	.....	14	.....	.....	.....	7	1.15	29.2
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.56	750.8	29.90	759.4	37.1	2.8	81.2	9	8	1	2	3	.....	1	5	1	4923	7923	8	0.95	24.1
Little GlaceBay	N. 46 12	W. 59 58	8.08 a.m.	34	10	.....	.....	29.78	756.4	34.9	1.6	92.4	3	1	1	.....	5	7	3	9	1	.....	.....	8	0.40	10.2
London	N. 43 00	W. 81 15	6.43 a.m.	832	254	.....	.....	29.97	761.2	35.6	2.0	81.4	3	4	1	.....	1	1	6	2	12	.....	.....	6	1.71	43.4
Medicine Hat	N. 50 01	W. 110 37	4.46 a.m.	2136	651	29.64	752.8	29.99	761.7	31.9	—0.1	93.4	3	3	2	3	9	1	5	4	.....	6065	9760	3	0.19	4.8
Minnedosa	N. 50 13	W. 99 48	5.29 a.m.	1796	545	28.09	713.5	30.10	764.5	26.0	—3.3	87.8	9	4	3	2	2	2	3	3	.....	.....	.....	5	1.25	31.7
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.66	753.4	29.87	758.7	36.5	2.5	78.2	7	4	7	2	.....	2	1	7	.....	.....	.....	7	2.33	59.2
Ottawa	N. 45 26	W. 75 41	7.05 a.m.	200	61	.....	.....	29.90	759.4	35.8	2.1	78.1	8	7	5	1	3	.....	1	5	.....	.....	.....	6	0.67	17.0
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	625	194	29.24	742.7	29.95	760.7	32.8	0.4	86.6	10	3	.....	2	1	1	6	5	1	6061	9754	6	0.75	19.0
Peterboro	N. 44 17	W. 78 18	6.54 a.m.	675	206	.....	.....	29.87	758.7	37.5	3.1	74.9	4	6	2	2	1	.....	4	11	.....	.....	.....	6	0.45	11.4
Port Arthur	N. 48 27	W. 89 12	6.11 a.m.	642	196	29.35	745.5	30.07	763.8	34.4	1.3	76.3*a*	6	6	3	.....	3	.....	1	6	5	3894	6267	5	1.57	39.9
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.22	742.2	29.94	760.5	36.9	2.7	88.1	5	7	1	3	1	.....	2	9	2	5543	8921	7	0.84	21.3
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.28	743.7	29.94	760.5	36.6	2.6	80.7	1	6	8	1	.....	.....	9	5	.....	.....	.....	6	1.22	31.0
Qu Appelle	N. 50 44	W. 103 42	5.13 a.m.	2115	646	27.74	704.6	30.07	763.8	32.6	0.3	.....	2	5	.....	.....	8	2	1	5	7	.....	.....	4	0.96	24.4
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.48	748.8	29.81	757.2	34.8	1.6	91.4	7	.....	2	2	3	.....	.....	6	10	.....	.....	6	2.32	58.9
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.47	748.5	29.94	760.5	31.7	—0.2	81.0*a*	.....	16	4	.....	.....	.....	4	2	4	.....	.....	4	0.91	23.1
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.72	754.9	29.77	756.1	37.5	3.1	89.2	6	5	2	.....	.....	2	5	9	1	.....	.....	5	4.38	111.2
Saint John, N.B	N. 45 17	W. 66 03	7.44 a.m.	130	40	.....	.....	29.80	756.9	37.3	2.9	88.2	8	5	.....	.....	.....	.....	3	7	7	.....	.....	8	5.51	140.1
Saint Pierre *g*	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.96?	760.9?	38.3	3.5	.....	2	3	.....	2	.....	.....	9	6	1	.....	.....	.....	.....	.....
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.22	742.2	29.95	760.7	34.8	1.6	87.6*a*	7	2	1	3	1	3	3	1	9	7474	12028	6	1.76	44.7
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1186	361	.....	.....	29.96	761.0	36.2	2.3	76.5	4	5	5	.....	2	2	8	3	1	.....	.....	6	1.80	45.7

‡ One day missing, except in rainfall.

* Three days missing, except in rainfall.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for April, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
CANADIAN—Con.	° ′	° ′																								
Sydney*	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.76	755.9	29.80	756.9	34.4	1.3	89.6	5	3	3	1	.....	3	1	9	5	4035	6493	8	4.59	116.6
Toronto*	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.56	750.8	29.95	760.7	37.4	3.0	70.4	10	6	2	1	1	.....	1	9	.....	9758	15702	6	0.94	23.9
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	.....	.....	29.96	761.0	36.4	2.4	76.8	7	5	5	1	3	.....	3	5	1	.....	.....	6	0.74	18.8
Yarmouth*	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.65	753.1	29.72	754.9	39.5	4.2	86.5	7	7	.....	.....	.....	.....	12	4	.....	.....	.....	5	3.02	76.7
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.02	762.5	30.05	763.3	66.3	19.1	92.3	.....	.....	.....	17	1	2	1	8	1	.....	.....	4	4.34	110.2
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	?	?	29.95	760.7	.....	.....	70.3	21.3	48.5	3	14	.....	2	.....	4	2	2	3	.....	.....	3	1.02	41.1
Springbok *a*	S. 29 45	E. 17 43	1.19 p.m.	?	?	27.87	707.9	.....	.....	73.2	22.9	54.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.50	12.7
CHILIAN.																										
Quiriquina	S. 36 37	W. 73 03	7.25 a.m.	187	57	.....	.....	.....	.....	56.5	13.6	87.0	5	4	7	.....	5	6	.....	3	.....	.....	.....	7	6.35	161.2
Valparaiso	S. 33 02	W. 71 39	7.22 a.m.	131	40	29.84	757.9	29.98	761.5	58.1	14.5	89.5	9	1	.....	3	8	4	3	2	.....	.....	.....	.....	5.20	132.0
CHINESE.																										
Hong Kong	N. 22 18	E. 114 04	7.45 p.m.	110	33	29.87	758.7	29.98	761.5	67.2	19.6	88.3	1	1	.....	1	2	.....	22	3	.....	.....	.....	8	5.26	133.6
Sub. Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	30.04	762.9	30.06	763.5	53.1	11.7	84.1	5	1	1	3	1	11	2	6	.....	.....	.....	5	2.54	64.6
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.90	759.5	29.95	760.7	43.7	6.5	67.8	3	.....	.....	2	5	9	6	5	.....	.....	.....	6	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.88	759.0	29.90	759.5	46.4	8.0	65.4	.....	3	5	2	.....	5	6	9	.....	.....	.....	5	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.85	758.1	29.89	759.2	26.6	−3.0	84.0*b*	9	3	2	.....	8	.....	3	3	2	.....	.....	8	.....	.....
Ivigtut	N. 61 12	W. 48 00	8.56 a.m.	16	5	29.85	758.1	29.87	758.6	32.2	0.1	.....	4	2	.....	2	2	1	.....	.....	19	.....	.....	8	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.79	756.7	29.84	757.8	39.0	3.9	80.9	.....	.....	2	1	5	7	7	5	3	.....	.....	6	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.89	759.2	29.91	759.8	46.2	7.9	79.9	7	2	.....	2	2	10	1	6	.....	.....	.....	7	.....	.....
Upernavik	N. 72 47	W. 56 00	8.24 a.m.	39	12	29.96	760.9	30.00	762.1	5.5	−14.7	.....	2	.....	.....	3	1	.....	7	.....	17	.....	.....	6	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.83	757.6	29.92	759.9	46.4	8.0	64.4	3	1	3	3	.....	4	7	9	.....	.....	.....	5	.....	.....
Egyptian.																										
Cairo	N. 30 03	E. 31 21	2.14 p.m.	?	?	29.77	756.2	.....	.....	85.1	29.5	.....	2	2	3	9	2	1	1	10	.....	.....	.....	2	0.08	2.0
FRENCH.																										
Agen *n*	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.31	744.4	29.79	756.6	57.9	14.4	67.0	1	.....	6	1	2	6	.....	.....	.....	.....	.....	.....	1.60	40.6
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.28	743.6	29.80	756.9	50.2	10.1	84.2	3	3	.....	.....	7	3	.....	14	.....	.....	.....	5	0.64	16.3
Arras	N. 50 18	E. 2 46	0.19 p.m.	223	68	29.56	750.7	29.81	757.2	52.5	11.4	55.8	3	7	2	1	2	4	2	9	.....	.....	.....	4	0.85	21.7
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	29.65	753.2	29.73	755.2	61.9	16.6	51.4	2	19	1	.....	....	6	2	.....	.....	.....	.....	.....	2.19	55.7
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.21	742.0	29.77	756.1	53.6	12.0	55.4	2	1	1	2	4	12	7	1	.....	.....	.....	8	1.59	40.4
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.53	750.1	29.80	756.8	52.9	11.6	52.1	2	1	2	2	2	3	5	13	.....	.....	.....	7	0.93	23.7
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	28.82	732.1	29.70	754.4	55.8	13.2	61.5	6	.....	.....	6	2	.....	4	12	.....	.....	.....	.....	1.82	46.3
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.48	748.7	29.74	755.3	54.9	12.7	65.7	8	4	5	1	2	3	5	2	.....	.....	.....	7	3.13	79.6
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.21	742.0	29.76	755.9	54.7	12.6	61.8	6	3	5	3	1	.....	7	5	.....	.....	.....	6	0.96	24.5
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.60	751.8	29.84	758.0	53.6	12.0	70.4	4	.....	1	8	4	.....	3	10	.....	.....	.....	6	8.12	206.2
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.68	753.9	29.76	756.0	53.4	11.9	86.6	1	7	1	3	5	...	.....	13	.....	.....	.....	5	0.83	21.0
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	292	89	29.42*g*	747.4*g*	29.74*g*	755.5*g*	53.4*b*	11.9*b*	75.0*b*	*b*2	4	2	2	7	1	.....	10	.....	.....	.....	5	1.60	40.7
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.26	743.2	29.78	756.4	52.7	11.5	70.8	4	2	2	3	2	6	6	5	.....	.....	.....	6	1.34	34.1
Clermont-Fer'and	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.38	720.8	29.72	755.0	54.7	12.6	53.9	11	5	2	.....	3	4	2	3	.....	.....	.....	8	1.61	40.8
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	28.91	734.2	29.76	755.9	55.8	13.2	53.3	4	2	3	2	5	4	1	9	.....	.....	.....	6	1.34	33.9
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	28.97	735.7	29.79	756.7	50.5	10.3	61.5	6	4	3	1	2	1	6	7	.....	.....	.....	.....	1.18	29.9
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.19	690.6	29.68	753.9	55.8	13.2	50.7	7	1	2	4	2	.....	4	4	6	.....	.....	6	2.10	53.4
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.60	726.5	29.71	754.7	58.8	14.9	57.4	3	9	2	4	4	7	1	.....	.....	.....	.....	5	3.51	89.2
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	28.97	735.7	29.72	754.9	59.0	15.0	53.0	.....	14	8	1	5	.....	2	.....	.....	.....	.....	.....	1.84	46.6
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.18	715.8	29.75	755.6	50.7	10.4	63.9	2	2	5	5	2	2	1	10	1	.....	.....	.....	1.88	47.8
Lambelle	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.51	749.5	29.78	756.5	50.9	10.5	67.9	6	1	4	2	3	2	3	9	.....	.....	.....	5	1.30	32.9
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.18	741.2	29.73	755.2	59.5	15.3	53.4	1	3	14	4	.....	3	2	3	.....	.....	.....	7	5.06	128.6
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.71	754.5	29.81	757.1	55.2	12.9	64.6	2	1	2	3	7	2	3	10	.....	.....	.....	7	1.11	28.2
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	28.69	728.8	29.74	755.4	54.7	12.6	53.1	6	8	.....	.....	7	5	1	3	.....	.....	.....	.....	0.98	24.9
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.46	745.3	29.79	756.6	51.4	10.8	68.1	4	1	.....	5	2	.....	10	8	.....	.....	.....	6	2.19	55.6
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.44	747.8	29.71	754.6	61.2	16.2	57.8	.....	3	10	6	1	5	4	1	.....	.....	.....	.....	4.16	105.6
Montlouis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.53	623.0	29.37	746.0	41.7	5.4	63.1	5	2	4	5	.....	.....	10	4	.....	.....	.....	7	6.36	161.5
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.59	751.5	29.71	754.6	60.3	15.7	79.6	4	2	6	1	10	4	1	2	.....	.....	.....	.....	4.91	124.7
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	28.98	736.0	29.76	756.0	51.8	11.0	60.3	*h*2	6	1	2	2	1	1	7	.....	.....	.....	.....	1.61	41.0
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.64	752.9	29.80	757.0	53.8	12.1	56.4	6	2	5	1	2	1	4	9	.....	.....	.....	7	1.49	37.8
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.63	752.5	29.74	755.3	58.6	14.8	59.8	2	11	1	2	2	5	2	4	1	.....	.....	7	4.89	124.2
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	20.89	530.7	.....	.....	26.6	−3.0	.....	.....	3	.....	14	.....	.....	1	2	10	.....	.....	.....	5.82	147.8
Privas. [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.68	728.5	29.73	755.1	57.6	14.2	47.9	13	.....	.....	1	13	1	1	.....	1	.....	.....	.....	1.89	47.9
Puy de Dôme	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	24.86	631.4	.....	.....	34.7	1.5	88.6	5	2	3	3	4	4	3	6	.....	.....	.....	8	2.66	67.7
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	29.74	755.3	29.76	756.0	57.4	14.1	58.6	9	2	.....	3	2	2	1	10	1	.....	.....	6	1.81	40.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.54	750.4	29.76	755.8	53.8	12.1	63.9	.....	.....	4	.....	5	4	1	16	.....	.....	.....	.....	1.82	46.1
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.61	701.3	29.75	755.6	52.9	11.6	65.4	10	3	1	1	3	2	7	1	2	.....	.....	7	3.26	82.7
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.76	755.8	29.80	757.0	53.6	12.0	64.2	4	5	3	.....	6	2	1	9	.....	.....	.....	4	1.78	45.2
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.62	752.4	29.79	756.6	53.1	11.7	54.5	7	4	2	1	5	2	.....	9	.....	.....	.....	.....	1.16	29.5
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.06	738.0	29.78	756.3	57.9	14.4	63.4	2	7	6	2	.....	9	3	1	.....	.....	.....	7	3.72	94.5
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	29.58	751.4	29.76	756.0	55.2	12.9	58.0	13	3	.....	4	2	3	2	3	.....	.....	.....	6	2.59	65.8
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.30	744.1	29.79	756.6	51.6	10.9	58.4	4	3	2	3	3	1	2	12	.....	.....	.....	.....	0.97	24.7
Sub-Series.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	0.03 p.m.	131	40	29.61	752.2	29.76	756.0	58.1	14.5	65.1	2	5	9	4	3	2	2	3	.....	.....	.....	7	5.63	143.0
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.34	719.9	29.79	756.7	50.2	10.1	50.4	5	2	1	3	.....	5	1	12	1	.....	.....	6	1.19	30.2
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	28.94	735.1	29.79	756.6	51.1	10.6	57.9	6	2	4	.....	.....	6	4	7	1	.....	.....	6	0.50	12.6
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.69	754.2	29.84	757.9	49.8	9.9	49.9	1	1	3	2	2	4	7	10	.....	.....	.....	7	1.63	41.5
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.34	745.1	29.80	758.5	46.6	8.1	63.6	3	6	3	.....	1	6	7	4	.....	.....	.....	7	1.57	40.0
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.35	745.4	29.80	757.0	52.5	11.4	58.2	3	1	.....	4	1	1	7	12	1	.....	.....	7	1.67	42.5
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.10	739.1	29.81	757.2	50.2	10.1	52.3	6	2	1	2	3	6	5	5	.....	.....	.....	6	1.08	27.3
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.43	747.4	29.79	756.6	54.1	12.3	50.3	11	.....	1	2	2	4	4	6	.....	.....	.....	7	1.09	27.7
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.34	719.7	29.74	755.5	52.7	11.5	67.1	1	1	6	13	1	.....	1	7	.....	.....	.....	6	3.57	90.6
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.80	756.8	29.88	759.0	48.0	8.9	64.1	5	1	2	3	1	5	7	6	.....	.....	.....	6	1.32	33.6
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.87	758.7	29.89	759.2	45.9	7.7	62.4	4	.....	1	1	1	1	10	11	1	.....	.....	7	1.10	27.9
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.42	747.2	29.85	758.1	49.1	9.5	61.7	8	4	1	.....	2	2	7	6	.....	.....	.....	7	1.35	34.2
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.65	753.1	29.84	757.8	50.9	10.5	54.6	4	4	3	1	.....	6	7	5	.....	.....	.....	7	1.28	32.6
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.97	761.1	30.01	762.2	43.9	6.6	67.6	3	6	1	1	3	6	5	5	.....	.....	.....	7	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	27.95	710.0	29.78	756.4	49.8	9.9	58.4	10	7	2	.....	.....	.....	3	3	5	.....	.....	7	3.53	89.6
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	26	8	29.93	760.2	29.96	760.9	41.7	5.4	78.3	5	.....	.....	1	.....	2	8	14	.....	.....	.....	6	3.12	79.3
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.23	742.4	29.75	755.7	53.1	11.7	59.0	3	.....	4	.....	3	1	3	13	3	.....	.....	7	1.52	38.5
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	28.82	732.0	29.71	754.6	52.2	11.2	57.7	13	2	2	.....	.....	.....	7	6	.....	.....	.....	7	1.73	44.0
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.87	758.7	29.89	759.3	46.0	7.8	73.0	3	1	1	1	.....	4	4	16	.....	.....	.....	8	0.97	24.6
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.44	747.8	29.82	757.4	69.6	20.9	57.4	2	1	5	5	13	1	.....	3	.....	.....	.....	5	1.11	28.1
INDIAN.																										
Kurrachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.75	755.7	29.80	757.0	82.9	28.3	70	.....	1	12	17	.....	.....	.....	.....	.....	.....	.....	3	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.29	743.8	29.74	755.5	97.2	36.2	16	... *a*	5	13	9	1	.....	.....	1	.....	.....	.....	1	0	0
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.78	756.3	29.82	757.3	84.1	28.9	68	1	23	0	.....	.....	.....	.....	.....	.....	.....	.....	2	0	0
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.95	710.0	29.76	755.8	93.1	33.9	18	1	16	8	2	.....	2	.....	1	.....	.....	.....	3	0.24	6.1
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.55	750.5	29.82	757.4	97.5	36.4	33	2	2	.....	1	.....	6	9	10	.....	.....	.....	4	0	0
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.29	718.5	29.70	754.4	98.0	36.7	20	.....	1	7	2	.....	5	12	3	.....	.....	.....	4	0	0
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.28	693.0	29.77	756.1	85.7	29.8	53	.....	.....	13	16	.....	1	.....	.....	.....	.....	.....	4	1.50	38.1
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.98	730.1	29.71	754.6	89.5	31.9	25	3	6	11	.....	.....	.....	1	1	8	.....	.....	4	0.58	14.7
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.79	731.3	29.66	753.5	92.2	33.4	15	1	.....	16	.....	.....	.....	1	.....	12	.....	.....	3	0	0
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.16	740.6	29.70	754.4	97.4	36.3	18	.....	3	24	3	...	.....	.....	.....	.....	.....	.....	3	0	0
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.68	728.6	29.69	754.1	99.1	37.3	14	1	3	11	2	.....	1	1	.....	11	.....	.....	4	0.01	0.3

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
INDIAN—Cont'd.	° ′	° ′																								
Jubbulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.39	721.2	29.70	754.4	96.5	35.8	14	4	7	11	5	.....	.....	...	.....	3	.....	.....	3	0.01	0.3
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.33	745.0	29.70	754.3	96.3	35.7	18	2	9	10	2	.....	2	2	.....	3	.....	.....	1	0	0
Allahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.38	746.2	29.68	753.8	97.6	36.4	16	.....	15	5	.....	.....	.....	.....	1	9	.....	.....	1	0	0
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.50	749.2	29.68	753.7	95.4	35.2	22	2	10	10	1	.....	.....	2	5	.....	.....	.....	1	0	0
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.72	704.1	29.68	753.9	89.4	31.9	15	6	16	3	2	.....	1	...	1	1	.....	.....	3	0	0
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.66	753.2	29.74	755.3	88.4	31.3	52	.....	8	14	5	.....	1	.....	2	.....	.....	.....	4	1.15	29.2
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.70	754.4	29.72	754.9	87.5	30.8	58	.....	2	1	8	15	3	1	.....	.....	.....	.....	4	1.38	35.0
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.72	754.8	29.81	757.1	81.2	27.3	79	.....	.....	1	15	10	2	1	.....	1	.....	.....	3	0	0
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.46	748.3	29.80	756.9	74.1	23.4	80	.....	.....	.....	7	.....	3	.....	20	..	.....	.....	5	4.29	109.0
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.31	719.0	29.71	754.6	91.5	34.7	13	1	14	12	2	.....	.....	.....	1	.....	.....	.....	2	0	0
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	29.86	758.4	.....	.....	82.6	28.1	74.6	.....	1		11	4	5	4	4	1	.....	.....	7	0	0
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.34	745.2	29.75	755.5	59.5	15.3	59	.....	2	.....	9	3	3	2	6	5	.....	.....	7	8.15	207.0
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.22	742.2	29.73	755.2	60.1	15.6	55	.....	3	7	6	2	6	2	4	.....	.....	.....	7	2.81	71.4
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.61	752.1	29.72	754.8	59.9	15.5	61	.....	6	1	5	4	3	4	5	2	.....	.....	7	3.89	98.7
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	28.82	732.1	29.72	754.8	57.4	14.1	63	2	9	2	2	4	4	7		.....	.....	.....	7	7.27	184.6
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157?	48?	29.54	750 2	29.73	755.1	59.0	15.0	63	4	2	.....	5	5	12	1	1	.....	.....	.....	7	4.94	125.5
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.69	754.2	29.74	755.4	58.5	14.7	72	7	1	2	2	2	2	8	6	.....	.....	.....	7	2.93	74.4
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.47	748.5	29.72	754.9	62.2	16.8	55	2	.....	5	11	2	2	1	7	.....	.....	.....	8	3.74	95.0
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.60	751.8	29.68	753.9	60.6	15.9	67	2	3	9	5	5	1	2	3	.....	.....	.....	7	4.38	111.3
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.58	751.4	29.76	755.8	64.4	18.0	53	2	.....	7	14	5	1	.....	1	...	.....	.....	8	4.33	109.9
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.52	749.7	29.76	756.0	64.6	18.1	58	6	2	2	9	6	2	2	1	.....	.....	.....	5	1.24	31.5
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	28.92	734.6	29.80	757.0	61.5	16.1	77	.....	2	14	4	5	5	.....	...	.....	.....	.....	7	4.83	122.6
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.57	751.1	29.82	757.4	65.7	18.7	52	...	2	9	5	.....	.....	.....	14	.....	.....	.....	6	2.69	68.3
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.73	755.1	29.77	756.2	69.4	20.8	65	3	1	7	2	5	2	4	6	.....	.....	.....	8	0.06	1.4
Sub-Series.																										
Naples *b.*	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.41	747.1	.....	.....	60.6	15.9	69.1	1	1	2	18	1	4	1	.....	.....	.....	.....	7	3.32	84.3
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	21.91	556.4	.....	.....	33.1	0.6	73.1	.....	1	10	9	1	.....	1	8	.....	.....	.....	8	3.38	85.8
Valdobbia	N. 45 17	E. 7 51	0.40 p.m.	8360	2548	21.89	555.1	.....	.....	32.5	0.3	72.0	.....	5	7	9	.....	1	7	1	.....	.....	.....	8	7.60	193.0
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	29.98	761.5	30.01	762.4	44.1	6.7	83	4	4	4	2	1	1	2	.....	12	.....	.....	7	4.76	121.0
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.95	760.7	29.99	761.7	39.7	4.3	82.1	1	5	5	4	3	3	3	1	5	5001	8047	5	1.98	50.1
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	29.98	761.5	29.99	761.8	39.3	4.1	80.2	2	2	9	3	1	.....	4	.....	9	7031	11315	5	2.03	51.8
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	92	28	29.94	760.3	30.04	762.8	52.6	11.4	79	1	.....	12	1	.....	...	3	.....	13	.....	.....	4	5.52	140.1
Hiroshima	N. 34 23	E. 132 27	8.58 p.m.	14	4	30.05	763.3	30.06	763.6	52.9	11.6	81.4	11	5	3	3	4	1	1	2	.....	3637	5852	5	7.16	189.1
Kagoshima	N. 31 35	E. 130 33	8.50 p.m.	14	4	30.06	763.6	30.07	763.9	56.9	13.9	79.9	6	5	3	1	1	.....	5	5	4	.....	.....	6	6.76	171.4
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	29.95	760.8	30.06	763.4	48.6	9.2	80.7	.....	.....	1	4	6	1	10	6	.....	4212	6777	6	5.82	147.8
Kioto[a]	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.89	759.2	30.06	763.6	51.0	10.6	79.6	17	4	2	.....	1	...	1	3	.....	2839	4569	6	5.32	134.8
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	30.04	763.0	30.06	763.5	57.5	14.2	76.8	4	4	6	4	.....	2	7	3	.....	5853	9418	6	6.14	156.0
Mitsaka	N. 31 56	E. 131 26	8.54 p.m.	26	8	30.05	763.1	30.07	763.8	57.3	14.1	81.0	4	.....	11	...	5	2	7	1	.....	.....	.....	5	6.57	167.0
Miyako	N. 39 38	E. 141 59	9.36 p.m.	98	30	29.90	759.5	30.01	762.3	41.3	5.1	82	2	.....	14	5	2	1	2	4	.....	2950	4750	5	3.94	100.1
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.86	758.4	30.06	763.6	55.1	12.8	78.4	5	2	5	2	1	2	3	2	8	3799	6113	5	5.13	130.3
Nemuro	N. 43 20	E. 145 35	9.50 p.m.	43	13	29.92	759.9	29.97	761.2	33.0	0.5	81.8	.....	6	1	4	3	4	1	.....	11	5735	9229	6	2.13	54.1
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	30.30	762.0	30.3	762.9	47.8	8.8	82.5	2	2	4	8	1	8	2	1	2	4097	7559	5	3.86	98.3
Nobiru	N. 38 23	E. 141 11	9.32 p.m.	15	5	29.99	761.8	30.01	762.2	45.1	7.3	85.6	8	2	1	3	10	3	2	1	.....	6793	10931	5	4.74	120.3
Numadza	N. 35 06	E. 138 51	9.23 p.m.	32	10	29.98	761.5	30.02	762.5	53.5	11.9	81.2	2	2	7	5	3	.....	8	2	1	.....	.....	8	6.81	172.9
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	30.04	763.1	30.06	763.5	52.1	11.2	81.4	5	2	6	1	1	2	7	6	.....	6517	10487	6	3.31	83.9
Saga	N. 33 12	E. 130 18	8.49 p.m.	23	7	30.02	762.7	30.05	763.3	54.6	12.5	82.2	3	6	5	1	4	1	2	6	2	1033	1662	4	4.53	115.1
Sakai	N. 35 01	E. 133 13	9.01 p.m.	10	3	30.04	763.0	30.05	763.2	50.5	10.3	81.0	6	2	7	2	3	.....	4	4	2	.....	.....	6	3.35	85.1
Sapporo	N. 43 04	E. 141 23	9.33 p.m.	60	18	29.89	759.1	29.96	760.8	37.5	3.1	77.1	2	6	1	1	9	8	.....	3	3	7175	11550	6	0.94	23.7
Shinonoseki	N. 33 58	E. 130 56	8.52 p.m.	134	41	29.91	759.8	30.06	763.5	53.5	11.9	78.1	7	2	5	3	.....	.....	11	2	.....	.....	.....	6	4.83	122.6
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.95	760.7	30.02	762.6	52.2	11.2	82.2	05	1	1	2	10	2	7	1	.....	6 23	9693	6	5.82	147.9
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.00	761.9	30.05	763.2	54.1	12.2	75.4	5	2	.....	.....	4	2	1	4	12	2091*b*	4331*b*	5	2.58	65.7
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.76	755.9	29.94	760.5	78.2	25.7	72.5	1	.....	.....	1	.....	9	17	2	.....	.....	.....	7	6.02	152.9
MEXICAN.																										
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24.30	617.3	30.00	761.9	55.8	13.2	64.0	7	17	.....	.....	.....	1	.....	1	4	.....	.....	4	0	0
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.68	753.9	29.94	760.5	65.8	18.8	82.8	2	13	3	.....	1	.....	5	6	.....	.....	.....	3	inap.	inap.
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.83	757.6	29.83	757.6	50.7	10.4	.....	7	4	3	.....	4	3	4	5	.....	.....	.....	.....	0.84	21.3
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.79	756.6	29.84	758.0	49.6	9.8	.....	4	1	1	.....	8	4	3	9	...	.....	.....	.....	1.13	28.6
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.84	758.0	29.84	758.0	47.3	8.5	.....	3	2	3	2	1	.....	5	14	.....	.....	.....	.....	1.09	27.6
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.83	757.6	29.83	757.6	51.6	10.9	57.3	6	1	2	1	3	2	9	4	2	.....	.....	.....	0.43	11.0
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.80	756.9	29.85	758.1	51.6	10.9	56.4	6	2	1	2	1	8	1	9	.....	.....	.....	6	0.73	18.6
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7.15 p.m.	?	?	29.86	758.5	.....	.....	79.5	26.4	83.9	7	3	9	2	1	.....	.....	8	.....	.....	.....	7	0.92	23.4
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.85	758.2	29.91	759.8	48.2	9.0	52	3	5	5	1	7	4	.....	.....	5	.....	.....	6	0.94	24.0
Bronno	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.95	760.8	29.99	761.8	42.6	5.9	57	7	1	3	3	3	7	.....	3	.....	.....	.....	5	0.68	17.2
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.85	753.2	30.00	762.0	46.0	7.8	52.0	2	.....	1	4	8	1	7	6	1	.....	.....	6	0.56	14.3
Gjesvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.98	761.4	30.00	762.0	29.8	—1.2	.....	4	4	3	3	2	.....	5	8	1	.....	.....	8	1.15	29.2
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10 19 a.m.	144	44	.....	.....	.....	.....	58.6	14.8	78.7	6	6	3	1	2	2	4	6	.....	.....	.....	.....	6.27	159.3
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	29.92	759.9	30.00	762.1	63.0	17.2	63.8	.....	1	6	15	.....	2	1	3	2	.....	.....	6	5.08	129.1
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	312	95	29.48	748.7	29.81	757.2	56.1	13.4	71.3	.....	7	1	10	8	2	2	.....	.....	.....	.....	8	8.50	215.8
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	29.93	760.1	30.00	761.9	60.6	15.9	69.8	8	4	2	5	1	.....	4	6	.....	.....	.....	4	3.73	94.8
Saint Vincent	N. 16 37	W. 25 02	10.28 a.m.	31	10	29.98	761.6	30.02	762.5	70.5	21.4	72.1	4	.....	.....	.....	.....	.....	1	25	.....	.....	.....	6	0	0
San Salvador	S. 6 17	E. 14 53	1.07 p.m.	1834	559	28.03	711.9	29.84	757.9	83.1	28.4	62.8	.....	3	5	14	1	1	1	4	.....	.....	.....	6	8.61	218.7
Serra du Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.00	635.0	29.51	757.2	36.1	2.3	96.9	..	5	8	6	1	6	2	2	.....	.....	.....	10	21.88	555.8
RUSSIAN																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.88	733.4	29.99	761.8	34.3	1.3	75.7	2	3	4	5	4	2	6	4	.....	.....	.....	6	0.31	7.8
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.95	760.8	29.97	761.3	28.9	—1.7	71.6	2	7	6	8	2	3	2	.....	.....	.....	.....	6	0.70	17.8
Ashuruda	N. 36 54	E. 53 55	3.44 p.m.	79	24	29.96	760.9	29.86	758.5	65.5	18.6	76.2	9	12	4	.....	.....	1	2	2	.....	.....	.....	6	0.87	22.0
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.00	762.0	29.93	760.2	55.0	12.8	48.3	.....	4	2	1	5	5	10	3	.....	.....	.....	5	1.15	29.1
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	29.94	760.6	29.90	759.4	55.0	12.8	75.3	11	1	.....	2	10	1	.....	1	4	.....	.....	4	.....	.....
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.62	752.3	30.14	765.6	32.4	0.2	63.4	1	2	4	9	3	.....	.....	7	4	.....	.....	5	0.65	16.6
Bielosersk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.60	751.7	30.08	764.0	38.1	3.4	53.2	5	8	3	2	2	1	1	7	.....	.....	.....	6	0.07	1.8
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.82	757.5	30.07	763.8	42.8	6.0	56.2	.....	3	4	1	4	3	8	7	.....	.....	.....	5	0.53	13.4
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.98	736.0	29.97	761.2	34.9	1.6	60.5	3	3	7	5	4	4	4	...	.....	.....	.....	7	1.24	31.5
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.45	748.0	29.90	759.5	50.4	10.2	58.2	3	3	2	4	2	6	8	1	1	.....	.....	8	0.78	19.7
Kasalinsk	N. 45 46	E. 62 07	4.16 p.m.	147	45	29.68	753.8	29.86	758.3	55.0	12.8	59.8	5	1	3	4	3	3	5	6	.....	.....	.....	.....	.....	.....
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.68	753.8	29.96	760.9	38.1	3.4	66.7	6	.....	4	7	3	2	2	4	2	.....	.....	8	1.08	27.5
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	29.99	761.8	30.04	763.1	31.8	—0.1	63.2	2	4	2	5	2	1	1	8	5	.....	.....	7	0.71	18.1
Kertcha	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	29.83	757.7	29.86	758.3	49.6	9.8	74.8	5	2	1	1	5	1	6	2	0	.....	.....	7	0.98	24.9
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.24	742.8	29.89	759.1	45.0	7.2	59.2	5	3	1	1	1	7	7	5	.....	.....	.....	8	1.68	42.7
Kosloy	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.44	747.9	29.95	761.1	36.9	2.7	76.7	3	1	3	3	2	4	6	7	1	.....	.....	6	2.21	56.1
Lgov	N. 51 41	E. 35 17	2.29 p.m.	535?	163?	29.40	746.8	30.00	762.0	40.6	4.8	72.0	2	5	1	1	1	4	12	3	1	.....	.....	7	1.17	29.8
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	29.98	761.6	30.01	762.2	43.2	6.2	61.8	2	2	6	3	2	2	8	5	.....	.....	.....	6	1.11	28.2
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.66	753.4	29.87	758.6	49.8	9.9	57.9	3	2	3	4	2	4	8	4	.....	.....	.....	8	3.00	76.1
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.53	750.1	30.02	762.6	38.5	3.6	56.8	4	6	2	.....	2	3	2	5	6	.....	.....	5	1.94	49.2
Nertchinsk	N. 51 19	E. 119 37	8.07 p.m.	?	?	27.61	701.3	29.98	761.6	29.1	—1.6	43.8	1	5	1	1	1	2	1	.....	18	.....	.....	4	0.42	10.6
Nikolajev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.80	756.8	29.87	758.6	52.3	11.3	68.0	5	.....	.....	1	7	3	2	6	6	.....	.....	5	2.49	63.2
Nikolaievsk a	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.79	756.6	29.88	758.8	22.5	—5.3	80.5	1	4	6	.....	.....	3	1	2	12	.....	.....	5	.....	.....
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	29.82	757.3	29.96	760.9	57.0	13.9	39.6	1	4	.....	5	1	8	1	.....	10	.....	.....	4	0.10	2.6

* One day missing, except in rainfall.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for April, 1884. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
RUSSIAN —Cont'd	° ′	° ′																								
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.12 p.m.	328	100	29.54	750.4	29.88	759.0	69.1	20.6	32.9	3	2	3	5	1	9	1	6	....	.....	.....	7	.....	.....
Petrozavodsk	N. 61 47	E. 34 23	2.26 p m.	180?	55?	29.86	758.4	30.06	763.5	36.5	2.5	53.4	3	7	3	4	.....	7	3	3	....	.....	.....	4	0.16	4.2
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.43	747.4	29.93	760.2	43.0	6.1	68.9	4	2	2	2	1	6	9	4	.....	.....	.....	9	1.94	49.3
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	29.83	757.6	29.86	758.4	60.8	16.0	86.0	.....	1	1	12	4	...	11	.....	1	.....	.....	6	3.28	83.3
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	30.08	763.9	30.10	764.5	38.8	3.8	48 1	1	5	5	4	4	1	1	9	.....	.....	.....	3	0.58	14.6
Samarkand *a*	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.46	697.5	29.86	758 3	67.8	19.9	52.0	.....	1	.....	4	2	1	7	2	12	.....	.....	5	.....	.....
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.47	748.5	30.15	765.9	36.0	2.2	66.1	1	2	2	1	1	2	4	4	13	.....	.....	6	0.21	5.3
Sevastopol	N. 44 37	E 33 31	2.22 p.m.	138?	42?	29.62	752.2	29.83	757.6	54.5	12.5	63.9	5	8	6	3	3	1	.....	2	2	.....	.....	6	1.55	39.3
Staroi Bykhov	N. 53 31	E. 30 16	2.09 p.m.	423?	129?	29.41	746.9	29.97	761.3	42.8	6.0	59.3	2	1	1	2	.....	10	7	7	.....	.....	.....	7	1.99	50.6
Tashkend	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.27	718.0	29.89	759.1	69.1	20.6	45.6	4	10	3	.....	.....	.....	.....	2	11	.....	.....	6	.....	.....
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.46	722.8	29.85	758.2	61.9	16.6	49.9	5	7	2	1	4	10	.....	.....	1	.....	.....	7	2.51	63.8
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.39	695.7	29.83	757.7	62.8	17.1	51.2	1	1	2	2	.....	3	2	3	16	.....	.....	5	.....	.....
Viatka	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.36	745.7	30.01	762.2	33.6	0.9	59.1	3	1	6	2	2	1	4	4	7	.....	.....	4	0.76	19.4
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	29.90	759.4	29.36	761.1	36.5	2.5	79.7	6	4	.....	.....	1	10	3	3	3	.....	.....	6	1.84	46.8
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.46	748.2	29.89	759.1	45.1	7.3	62.9	6	1	.....	2	2	10	4	5	.....	.....	.....	8	.....	.....
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.83	757.6	30.13	765.4	25.0	—3.9	56.2	1	3	13	2	3	2	2	.....	4	.....	.....	6	0.31	7.8
Sub-Series.																										
Petrowsky Ac'y	N. 55 50	E. 37 38	2.39 p.m.	508	155	29.39	746.5	29.93	760.2	38.1	3.4	60.8	5	2	4	2	2	5	4	5	1	.....	.....	5	1.24	31.5
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	98	30	29.64	752.9	29.75	755.7	57.7	14.3	77	1	.....	5	10	3	1	4	6	.....	807	1299	7	2.99	75.9
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	29.70	754.4	29.76	755.9	60.4	15.8	66	.....	16	1	.....	2	7	.....	.....	4	1473	2370	8	6.32	160.4
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	26.82	681.1	29.80	756.9	48.0	8.9	77	7	1	5	10	3	.....	2	2	.....	5855	9423	8	5.87	149.0
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.57	700.2	29.80	756.8	54.0	12.2	69.8	...	1	3	17	1	4	1	3	.....	6402	13044	8	7.49	190.3
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.64	752.9	29.76	756.0	59.4	15.2	64.0	1	7	5	.....	11	1	2	3	.....	1829	2942	8	2.65	67.2
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	28.81	731.8	29.71	754.5	54.9	12.7	71	5	4	1	6	6	2	.....	5	1	8591	11477	9	10.37	263.4
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.98	761.5	30.04	763.1	71.9	22.2	93.5	3	.....	.....	.....	1	16	10	.....	.....	.....	.....	2	0.68	17.3
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.90	759.4	29.95	760 8	82.0	27.8	69.8	...	.....	.....	4	2	19	5	.....	.....	.....	.....	1	0	0
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.82	757.5	29.92	760.0	60.1	15.6	73.5	.....	1	18	1	6	2	1	.....	1	.....	.	7	5.78	146.7
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.96	760.9	30.05	763.2	74.8	23.8	84.0	1	.....	.....	.....	.....	.....	.....	29	.....	.....	.....	4	2.62	66.5
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	30.04	762.9	30.08	763.9	34.3	1.3	81	13	.....	4	2	6	1	1	2	1	.....	.....	5	0.31	7.9
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	30.03	762.7	30.08	764.0	38.1	3.4	68	.....	2	1	12	3	...	8	4	.....	.....	.....	6	0.34	8.7
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	30.00	761.9	30.05	763.2	41.2	5.1	58	2	1	....	.....	10	2	2	7	6	.....	.....	5	0.26	6.5
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.87	758.8	30.05	763.3	43.0	6.1	52	3	2	2	3	6	5	5	4	.....	.....	.....	4	0.22	5.5
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.95	760.7	30.01	762.2	42.3	5.7	64	4	3	5	....	1	7	8	2	.....	.....	.....	3	0.50	12.7
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.95	760.6	30.03	762.8	44.1	6.7	52.8	1	2	3	3	7	2	5	7	.....	.....	.....	5	0.31	8.0
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p m.	1338	408	28.33	719.6	29.76	755.9	53.2	11.8	54.0	19	3	3	.....	4	.....	.....	1	.....	.....	.....	6	1.11	28.1
TURKISH.																										
Constantinople	N 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.84	757.9	60.1	15.6	56.0	9	3	1	9	3	4	1	...	.....	.....	.....	6	0.98	24.9
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	29.89?	759.3?	67.5?	19.7?	.....	..	...	4	18	8	.....	.....	.....	.....	.....	.....	6	4.76	121.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.88	758.9	70.0	21.1	68.0	2	2	1	16	.....	.....	1	8	.....	.....	.....	5	1.65	41.9
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	29.80	756.9	29.88	758.9	43.9	6.6	67.5	7	12	3	2	3	2	1	.....	.....	4807	7736	7	2.09	53.1
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.32	744.7	30.01	762.2	33.9	1.1	74.2	1	12	7	.....	.....	3	4	2	1	7505	12078	5	0.75	19.0
Apache, Fort	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	24.93	633.2	29.85	758 2	35.0	1.7	81.3	....	1	.....	4	2	2	11	10	.....	5303	8535	4	1.67	42.4
Assinaboine, Ft.	N. 48 32	W. 109 42	4.49 a.m.	2720	829	27.15	689.6	30.06	763.5	33.1	0.6	81.4	.....	4	1	7	...	1	6	5	6	6438	10361	3	0.25	6.3
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1129	344	28.81	731.8	30.00	762.0	52.5	11.4	70.4	...	12	4	1	1	7	4	1	.....	7356	11838	5	5.86	146.8
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	29.84	757.9	29.85	758.2	44.9	7.2	77.8	8	5	8	.....	2	.....	5	1	1	6096	9810	4	4.29	109.0
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	29.82	757.4	30.01	762.2	55.4	13.0	76.3	.....	3	8	2	1	3	2	2	9	2801	4508	6	3.68	93.5
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	29.88	759.9	29.93	760.2	48.1	8.9	64.4	9	10	1	2	1	2	2	3	.....	5139	8270	6	2.65	67.3
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	22	7	29.84	757.9	29.80	758.4	45.4	7.4	73.9	8	8	.....	3	....	4	3	3	1	10310	16602	5	0.97	24.0
Bennett, Fort	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.42	721.9	30.06	763.5	35.1	1.7	81.8	....	7	1	2	....	10	.....	7	3	8150	13116	6	2.35	59.7
Benton, Fort *a*	N. 47 50	W. 110 40	4.45 a.m.	2681	817	27.21	691.1	30.07	763.8	31.2	—0.4	75.5	1	3	4	5	....	.....	1	5	10	5100	8208	6	0.46?	11.7?
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.19	716.0	30.07	763.8	32.5	0.3	83.0	6	3	.....	.....	.....	5	7	3	6	6261	10076	6	2.20	55.9
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	29.79	756.7	29.82	757.4	40.7	4.8	85.6	11	6	.....	2	2	..	2	7	.....	9941	15998	6	4.10	104.1
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.08	687.8	29.92	760 0	43.8	6.6	71.7	3	8	2	2	4	5	3	....	3	3855	6204	4	0.78	19.8
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.65	753.1	29.81	757.2	40.3	4.6	86.9	5	11	3	1	.....	1	3	6	.....	7995	12866	6	4.76	120.9
Brownsville	N. 25 53	W. 97 26	5.38 a.m.	57	17	29.85	758.2	29.91	759.7	66.1	18.9	91.7	5	2	....	2	5	7	4	3	2	8201	13198	6	0.57	14.5
Buffalo	N. 42 53	W. 78 53	6.52 a.m	690	210	29.17	740.9	29.94	760.5	36.3	2.4	82.1	1	4	3	8	2	2	3	7	.....	6144	9888	6	1.56	39.6
Buford, Fort	N. 48 00	W. 103 56	5.12 a.m.	1930	588	27.98	710.7	30.08	764.0	30.1	—1.1	85.3	5	6	2	....	.....	1	5	10	1	7573	12187	6	1.30	33.0
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.58	751.3	29.99	761.7	51.7	10.9	76.0	2	8	1	4	2	6	2	4	1	7193	11576	7	3.65	92.7
Canby, Fort	N. 46 16	W. 124 04	3.52 a.m.	179	54	29.74	755.4	29.91	760.5	48.0	8.9	88.0	2	1	5	.....	7	4	5	2	4	7129	11473	4	2.98	75.7
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	29.90	759.4	29.92	760 0	49.7	9.8	78.6	2	8	2	2	5	3	.....	7	.....	9008	14642	5	2.89	73.4
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	29.85	758.2	29.88	758.9	46.0	7.8	79.1	1	11	6	1	.....	2	5	4	.....	11881	19120	5	2.34	59.4
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.27	743.4	29.96	761.0	46.0	7.8	86.9	.....	12	.....	.....	2	15	...	1	.....	15133	24354	8	3.30	85.3
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.00	762.0	30.02	762.5	65.0	18.3	77.0	5	6	5	3	5	2	2	2	.....	7530	12128	4	3.58	90.9
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	29.90	759.4	29.96	761.0	58.6	14.8	77.6	3	5	6	9	.....	.....	2	4	1	6076	9778	6	3.45	87.6
Charlotte	N. 35 13	W. 80 51	6.44 a.m	808	246	29.11	739.4	29.97	761.2	51.4	10.8	69.9	4	6	4	4	...	2	5	5	.....	4540	7306	6	5.40	137.2
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.16	740.7	29.99	761.7	51.6	10.9	77.6	4	2	5	7	1	3	4	3	1	4768	7673	6	5.95	151.1
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6105	1861	23.91	607.3	29.93	760.4	29.2	—1.6	71.9	7	14	2	1	4	1	.....	1	.....	8060	12971	4	1.33	33.8
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.24	742.7	29.97	761.2	41.1	5.1	74.6	3	6	4	1	1	1	9	5	.....	6304	10242	5	3.05	77.5
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	18	5	29.88	758.9	29.90	759.4	46.6	8.1	79.0	5	13	.....	1	2	2	4	3	.....	9243	14875	5	1.51	38.4
Cincinnati	N. 39 06	W. 84 30	5.30 a.m.	620	189	29.29	744.0	29.95	760 7	48.1	8.9	74.5	3	2	6	.....	3	3	9	2	2	4619	7433	6	3.02	76.7
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.20	741.7	29.96	761.0	40.3	4.6	75.1	1	6	3	4	1	5	1	8	1	6979	11231	6	1.75	44.4
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.07	738.4	29.94	760.5	43.0	6.1	73.1	5	3	6	3	2	2	5	4	.....	6424	10338	6	2.11	53.6
Concho, Fort	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.05	712.5	29.99	761.7	49.7	9.8	78.6	1	6	3	1	4	2	1	8	4	7140	11490	4	5.64	143.3
Custer, Fort	N. 45 42	W. 107 34	4.58 a.m.	3040	926	26.81	681.0	29.99	761 7	33.1	0.6	81.2	5	1	4	2	.....	7	5	4	2	5543	8920	5	0.77	19.6
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.28	743.7	29.96	761.0	43.4	6.3	71.9	3	7	1	3	2	1	5	8	.....	7779	12519	6	0.77	19.6
Davis, Fort	N. 30 38	W. 103 56	5.12 a.m.	4928	1502	25.17	639.3	29.95	760.7	44.3	6.8	82.8	4	.....	.....	15	1	.....	1	6	3	5851	9416	3	1.63	41.4
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1667	508	28.19	716.0	29.95	760.7	41.9	5.5	77.8	1	.....	..	9	1	2	10	7	.....	4022	7438	4	2.40	61.0
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25 32	643.1	30.01	762.2	30.7	—0.7	82.5	1	1	1	5	7	6	3	5	1	3932	6328	5	2.29	58.2
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	29.88	758.9	29.90	759.4	44.9	7.2	82.0	2	13	1	1	.....	3	2	8	.....	11484	18481	5	1.82	46.2
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.65	626.1	29.92	760.0	35.4	1.9	70.2	3	3	1	1	13	2	.....	1	6	4839	7787	4	3.33	84.6
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.04	737.6	29.97	761.2	42.3	5.7	70.3	8	5	2	1	2	6	2	2	2	5983	9628	6	2.97	75.4
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.25	742.9	29.98	761.5	40.5	4.7	71.5	8	5	4	3	.....	2	3	3	2	5582	8983	5	1.54	39.1
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2517	767	27.34	694.4	29.98	761.5	40.4	4.7	71.6	2	9	7	1	4	3	4	.....	.....	11533	18560	4	1.07	27.2
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.25	742.9	29.98	761.5	41.7	5.4	70.7	1	7	2	.....	3	.....	7	5	5	4905	7894	6	2.77	70.4
Duluth	N. 46 48	W. 92 06	6.00 a.m.	687	209	29.29	744.0	30.06	763.5	32.9	0.5	78.8	7	6	.....	....	.....	.....	.....	11	6	7330	11806	6	3.04	92.5
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.71	754.6	29.78	756.4	37.9	3.3	83.6	6	4	2	1	.....	.....	2	11	4	6263	10079	6	6.83	173.5
Elliott, Fort	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.18	690.4	29.96	761.0	42.6	5.9	70.1	10	4	1	3	5	2	2	1	2	10476	16859	6	1.08	27.4
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3764	1147	26.20	665.5	29.94	760.5	48.4	9.1	45.5	.....	1	15	1	...	1	4	1	7	4449	7160	2	0.91	23.1
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.20	741.7	29.95	760.7	40.1	4.5	77.7	3	1	5	5	2	3	2	6	3	6240	10042	6	1.99	50.5
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	613	187	29.33	745.0	30.02	762.5	31.2	—0.4	78.6	16	5	3	.....	3	....	2	1	.....	7377	11882	6	2.60	66.0
Fort Smith	N. 35 22	W. 94 24	5.50 a.m.	451	137	29.49	749.0	29.97	761.2	50.6	10.3	79.7	5	3	2	.....	4	.....	5	.....	11	.....	.....	7	2.62	66.5
Galveston	N. 29 18	W. 94 47	5.49 a.m.	40	12	29.93	760.2	29.97	761.2	64.7	18.2	82.8	3	4	1	3	6	7	4	2	.....	9382	15008	6	5.55	141.0
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.30	744.2	29.98	761.5	40.2	4.6	72.2	11	3	3	1	1	.....	3	6	2	8043	12944	6	3.83	97.3
Grant, Fort	N. 32 39	W. 109 57	4.48 a.m.	4856	1480	25.15	638.8	29.88	758.9	45.6	7.6	44.8	11	2	2	.....	.....	1	8	6	.....	5594	9002	2	0.47	11.9
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	12	4	29.91	759.7	29.92	760.0	53.4	11.9	78.7	3	9	1	2	2	1	....	12	.....	8803	14167	5	3.51	89.2
Helena	N. 46 34	W. 112 04	4.40 a.m.	4044	1232	25.80	655.3	30.01	762.2	35.1	1.7	71.9	4	8	6	2	1	1	1	4	3	4080	6566	5	1.06	26.9
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.59	726.2	30.04	763.0	34.8	1.6	84.3	8	6	1	1	2	6	4	2	.....	8341	13423	6	2.70	68.6

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for April, 1884.																						Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.												Average Cloudiness.		
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																									
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.12	739.6	29.94	760.5	44.8	7.1	66.1	3	4	5	1	3	6	3	4	1	5193	8357	7	2.89	73.4
Indianola	N. 28 32	W. 96 31	5.42 a.m.	20	8	29.92	760.0	29.95	760.7	63.9	17.7	88.7	3	4	.....	4	9	5	1	3	1	12257	19725	5	1.96	49.8
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	29.96	761.0	30.00	762.0	63.4	17.4	77.4	.....	6	5	8	6	1	1	1	2	5832	9386	4	2.32	58.9
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.29	744.0	29.95	761.0	44.2	6.8	77.1	3	4	4	1	2	2	6	3	5	5981	9625	6	1.31	33.3
Key West *a*	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.02	762.5	30.04	763.0	74.8	23.8	72.4	5	2	.....	1	4	8	2	6	1	7311	11766	5	0.98	24.9
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	29.90	759.4	29.92	760.0	50.1	10.1	78.1	4	8	.....	4	1	2	.....	11	.....	10283	16548	4	4.83	122.7
Knoxville	N. 35 56	W. 83 58	6.32 a.m	980	299	28.94	735.1	29.98	761.5	48.6	9.2	80.2	1	1	3	7	1	.....	1	11	5	4785	7700	5	4.44	112.8
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.18	741.2	29.98	761.5	40.8	4.9	70.0	9	1	2	2	5	4	3	4	.....	6687	10762	6	3.07	78.0
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.07	738.4	29.98	761.5	44.8	7.1	79.0	2	8	.....	1	2	5	3	2	7	6562	10560	5	4.74	120.4
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.14	740.1	29.99	761.7	44.5	6.9	77.5	.....	.....	.....	1	.....	3	.....	15	11	1073	2692	4	1.47	37.3
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.67	753.6	29.99	761.7	53.8	12.1	82.0	4	7	2	5	4	2	2	2	2	4528	7287	6	10.24	260.1
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	299	91	29.63	752.6	30.03	762.7	50.4	10.2	90.6	.....	1	1	1	1	1	7	15	3	4512	7261	5	3.58	90.9
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.37	746.0	29.94	760.5	49.6	9.8	71.3	3	3	5	3	.....	7	1	5	3	6341	10205	6	2.91	73.9
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.24	742.7	29.95	760.7	48.6	9.2	73.8	1	7	5	1	1	1	1	6	7	3391	5457	6	2.35	59.7
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.34	745.2	30.02	762.5	33.5	0.8	76.7	3	5	5	1	1	5	5	3	2	6694	10773	5	0.99	50.5
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	29.93	760.2	29.94	760.5	54.4	12.4	79.8	7	8	1	6	.....	1	1	6	.....	10790	17364	5	2.37	62.7
Maginnis, Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.52	648.2	30.02	762.5	30.6	-0.8	50.9	.....	10	7	2	.....	5	1	5	.....	6536	8909	6	0.62	15.7
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.31	744.5	30.06	763.5	33.0	0.6	73.0	6	11	3	2	1	.....	2	3	6	6119	10330	5	3.91	100.1
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.62	752.3	29.96	761.0	54.8	12.7	79.3	1	7	4	4	1	5	4	2	2	4067	6545	6	8.00	218.4
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.21	741.9	29.98	761.5	37.9	3.3	78.4	6	4	2	2	.....	4	1	11	.....	8870	14275	6	3.15	80.0
Mobile	N. 30 41	W. 88 02	6.16 a.m.	41	12	29.97	761.2	30.01	762.2	60.1	15.6	82.0	5	7	3	1	6	3	1	4	.....	4943	7955	5	5.51	140.7
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.77	756.1	30.00	762.0	56.8	13.8	73.7	3	6	4	6	4	3	2	1	1	4509	7353	5	3.08	78.2
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	29.02	737.1	30.05	763.3	33.2	0.7	79.2	11	1	.....	2	4	4	1	3	4	6413	10320	0	1.23	31.2
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.48	596.4	29.89	759.2	23.9	−4.5	90.7	2	13	1	.....	3	1	3	6	1	15970	25701	3	3.29	83.6
Nashville	N. 36 10	W. 86 47	6.21 a.m.	549	167	29.38	746.2	29.96	761.0	50.8	10.4	80.5	1	1	7	5	1	6	6	3	.....	5427	8734	0	3.51	89.2
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	29.74	755.4	29.86	758.4	42.1	5.6	74.7	13	6	1	1	.....	1	2	5	1	6778	10908	6	2.36	59.9
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	29.79	756.7	29.84	757.9	43.5	6.4	75.6	0	8	4	2	.....	.....	1	6	3	4978	8011	6	3.99	101.3
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	29.93	760.2	29.99	761.7	64.3	17.9	78.0	1	5	3	1	6	6	3	3	2	4313	6941	5	0.48	164.6
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.70	754.4	29.88	758.9	44.2	6.8	71.9	3	10	4	1	.....	1	4	2	5	5910	9511	0	2.66	67.6
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	29.88	758.9	29.91	759.7	51.4	10.8	73.7	4	7	3	3	1	2	1	6	3	4536	7300	6	1.95	49.5
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.00	685.8	29.96	761.0	37.8	3.2	77.2	6	3	4	1	2	5	2	.....	7	8907	14431	6	2.14	54.4
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	29.90	759.4	29.94	760.5	44.0	6.7	87.8	.....	.....	.....	2	6	.....	.....	.....	22	1574	2533	4	3.60	91.4
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.78	731.0	29.99	761.7	42.0	5.6	82.4	8	3	1	2	4	6	1	1	4	4870	7847	6	3.58	98.6
Oswego	N. 43 29	W. 76 35	7.02 a.m.	304	93	29.58	751.3	29.92	760.0	39.0	3.9	77.9	7	7	1	2	3	4	.....	4	2	6053	9741	6	0.88	22.4
Palestine	N. 31 45	W. 95 40	5.45 a.m.	533	162	29.43	747.5	29.99	761.7	55.6	13.1	87.0	2	6	1	2	8	3	1	7	.....	7412	11928	7	7.30	185.4
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	39	9	29.97	761.2	30.01	762.0	61.6	16.4	81.9	6	5	3	2	5	1	4	3	1	9325	16179	5	5.67	144.0
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	117	36	29.78	756.4	29.91	759.7	44.8	7.1	83.1	3	12	3	1	1	1	2	6	1	8012	12894	5	1.63	41.4
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.60	447.0	29.88	758.9	4.0	−15.6	81.2	5	10	6	6	.....	.....	.....	2	1	16765	26980	4	0.43	10.9
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	766	233	29.10	739.1	29.93	760.2	43.7	6.5	73.6	4	5	7	1	1	1	3	8	.....	5270	8491	6	1.11	28.2
Poplar, River *l*	N. 48 08	W. 105 10	5.07 a.m	2030	619	.....	.....	.....	.....	30.5	−0.8	85.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	0.91	23.1
Port Huron	N. 43 00	W. 82 26	6.38 a.m.	633	193	29.20	743.2	29.96	761.0	36.3	2.4	82.2	6	7	1	1	1	3	3	6	2	7867	12660	5	2.58	65.5
Portland, Maine	N. 43 39	W. 70 15	7.27 a.m.	45	14	29.75	755.6	29.80	756.9	42.3	5.7	75.6	9	3	3	.....	.....	1	2	10	2	6284	10113	6	6.12	155.4
Portland, Oreg.	N. 45 32	W. 122 43	3.57 a.m	67	20	29.87	758.7	29.94	760.5	47.5	8.6	82.8	4	4	2	.....	14	.....	.....	.....	6	3790	6099	7	3.57	90.7
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5389	1642	24.63	625.0	29.90	759.4	35.7	2.1	83.5	2	.....	.....	3	11	.....	.....	2	12	6275	10098	3	1.62	41.1
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	332	101	29.01	752.1	29.97	761.2	49.4	9.7	88.8	6	10	1	2	7	.....	.....	.....	4	6048	9733	4	4.31	109.5
Rio Grande City *b*	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.74	755.4	29.98	761.5	66.1	18.9	82.9	1	4	.....	.....	1	15	2	5	.....	6734	10837	2	0.93	23.0
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.25	742.9	29.94	760.5	37.5	3.1	77.7	2	9	6	5	1	1	2	3	1	8029	12921	7	0.94	23.9
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.41	747.0	29.97	761.2	45.2	7.3	86.1	2	3	.....	2	4	1	6	1	11	2158	3473	3	3.48	88.4
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	64	19	29.91	759.7	29.98	761.5	51.0	10.0	86.9	1	1	.....	5	10	10	2	.....	1	5609	9027	4	4.32	109.7
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	583	178	29.34	745.2	29.97	761.2	48.3	9.1	79.2	5	4	5	3	1	8	1	3	.....	10160	10351	7	4.15	105.4
Saint Michael, Ft	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.90	761.0	29.99	761.7	20.3	−6.5	91.9	5	.....	.....	3	6	4	4	6	2	9486	15266	6	0.26	6.6
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	801	244	29.11	739.4	29.99	761.7	39.8	4.3	71.2	7	6	1	1	1	10	1	3	.....	7470	12022	6	2.00	50.8
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.20	741.7	30.11	764.8	29.8	−1.2	85.5	7	4	.....	.....	6	3	1	2	7	4755	7652	6	0.80	20.3
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.52	648.2	29.89	759.2	42.6	5.9	62.4	1	3	.....	1	.....	6	2	3	14	4413	7150	7	2.89	73.4
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.93	760.2	30.00	762.0	53.5	11.9	88.4	9	3	1	2	1	1	5	6	2	4770	7676	6	2.84	72.1
Sandusky	N. 41 25	W. 82 40	6.37 a.m.	639	195	29.26	743.2	29.96	761.0	41.4	5.2	72.5	5	2	6	3	3	2	4	5	.....	10407	16748	6	1.50	38.1
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	29.85	758.2	29.88	758.9	44.3	6.8	80.9	7	10	3	.....	2	2	3	3	.....	12155	19561	6	3.15	80.0
Sanford	N. 28 48	W. 81 23	6.42 a.m.	50	15	29.95	760.7	30.00	762.0	65.1	18.4	79.2	.....	10	.....	11	3	4	.....	.....	2	5095	8151	3	1.90	48.3
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.92	760.0	29.99	761.7	51.9	11.1	85.7	.....	6	5	9	5	1	.....	.....	4	6033	10675	4	6.33	160.8
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	29.89	759.2	29.98	761.5	59.9	15.5	70.0	2	6	7	7	3	1	2	1	1	5554	8948	4	3.78	96.0
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.38	670.0	30.05	763.3	31.6	−0.2	80.0	.....	8	14	4	.....	.....	1	3	.....	5301	8531	4	0.59	15.0
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.76	755.9	30.00	762.0	59.5	13.6	80.5	1	4	1	1	7	6	2	4	4	4848	7802	5	6.60	167.6
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.90	759.4	29.96	761.0	40.3	4.6	68.3	.....	2	1	1	.....	4	13	7	2	6013	9677	5	2.76	70.1
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	29.90	759.4	29.94	760.5	55.5	13.1	77.7	8	7	4	3	2	1	1	4	.....	7650	12311	5	2.37	60.2
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	27.88	708.1	29.94	760.5	41.1	5.1	82.8	2	.....	.....	7	2	2	3	3	11	2845	4578	4	1.33	33.8
Springfield, Ill.	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.28	743.7	29.98	761.5	47.2	8.4	71.5	4	4	5	1	3	4	4	5	.....	7800	12562	7	2.49	63.2
Stockton, Fort	N. 30 53	W. 102 53	5.16 a.m.	3010	917	26.93	684.0	29.96	761.0	48.1	8.9	67.9	.....	7	3	4	3	5	1	1	6	7020	11297	4	0.91	23.1
Tatoosh Id	N. 48 23	W. 124 44	3.49 a.m.	86	26	29.83	757.7	29.92	760.0	47.2	8.4	85.7	.....	.....	.....	8	1	5	11	2	3	7444	11981	6	3.31	84.1
Thomas, Camp	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.21	691.1	29.94	760.5	42.0	5.6	65.2	.....	.....	9	1	1	.....	3	.....	16	.....	.....	2	0.72	18.3
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.23	742.4	29.94	760.5	41.2	5.1	72.5	4	5	5	.....	2	2	3	5	4	7182	11558	6	1.57	39.9
Unalaska	N. 53 53	W. 166 32	1.02 a.m.	13	4	29.77	756.1	29.79	756.7	34.4	1.3	81.5	1	6	.....	4	10	6	2	1	.....	8915	14347	8	14.00	355.6
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.75	755.6	30.01	762.2	58.2	14.6	74.4	3	3	2	3	6	6	3	.....	4	4518	7271	6	4.47	113.5
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	29.83	757.7	29.95	760.7	45.3	7.4	71.6	3	14	.....	2	2	..	.....	6	3	5601	9014	5	1.86	47.2
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	25.95	659.1	29.90	759.4	35.2	1.8	73.7	3	5	10	5	.....	4	2	.....	1	7540	12134	4	1.05	26.7
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	29.89	759.2	29.95	760.7	55.5	13.1	73.3	4	7	3	3	2	.....	4	3	4	4636	7461	5	2.45	62.2
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.67	728.2	30.01	762.2	37.3	2.9	84.5	10	7	1	.....	1	5	3	3	.....	8397	13514	6	5.73	145.5
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.76	755.9	29.99	761.7	56.0	13.7	64.3	.....	4	5	5	2	3	1	2	7	4458	7174	2	0.07	1.8
Sub-Series.																											
Behring Island	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.76	755.9	29.78	756.4	29.6	−1.3	92.6	3	4	1	2	6	6	3	5	.....	9119	14675	8	1.38	35.1
Bluefields	N. 12 00	W. 83 43	6.31 a.m.	?	?	.....	.....	.....	.....	82.8	28.2	.....	1	14	.....	.....	.....	.....	.....	15	.....	.....	.....	5	2.05	52.3
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.03	559.5	.....	.....	54.3	12.4	88.0	5	1	2	5	4	1	.....	.....	12	.....	.....	6	5.95	151.1
Chino, Ft.	N. 59 00	W. 68 00	7.36 a.m	1267	387	30.00	703.5	30.21	767.3	17.9	−7.8	96.3	2	4	.....	5	3	1	.....	5	10	4751*e*	7588*e*	8	0.84	21.3
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	30.04	763.0	.....	.....	75.5	24.2	81.9	11	.....	.....	.....	.....	1	1	.....	17	2158	3473	3	0.11	2.8
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.03	762.7	30.03	762.7	78.1	25.6	86.0	.....	.....	.....	.....	1	5	23	1	.....	.....	.....	5	8.73	233.1
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.54?	750.3?	30.10?	764.5?	77.0	25.0	91.0	9	1	.....	2	13	.....	.....	.....	5	.....	.....	8	10.19	258.8
Rivas *a*	N. 11 26	W. 85 47	6.25 a.m.	150	46	29.89?	759.2?	30.05?	763.3?	76.8	24.9	84.6	.....	.....	.....	.....	.....	2	.....	27	.....	.....	.....	3	2.03	51.6
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	30.06	763.5	30.13	765.3	−6.4	−21.3	83.3	5	10	8	5	2	.....	.....	.....	.....	.....	.....	4	0.22	5.6
U. S. COLOMBIA.																											
Sub-Series.																											
Colon	N. 9 22	W. 79 55	6.50 a.m.	7	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Naos	N. 8 55	W. 79 32	6.50 a.m.	39	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

OCEAN SQUARE DATA FOR APRIL, 1884.

Location of Centre of each Square.		Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
		Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5°	W. 22.5°	29.98	761.5	74.8	23.8	2						7	21			3.9
12.5	27.5	30.00	762.0	74.9	23.8	3						2	25			3.9
12.5	32.5	30.03	762.7	76.4	24.7	2						6	19		3	4.0
12.5	37.5	30.05	763.3	77.4	25.2		1				1	11	14		3	3.8
12.5	42.5	30.05	763.3	77.0	25.0	1						15	11		3	4.2
12.5	47.5	30.06	763.5	77.3	25.2							19	9		2	4.0
12.5	52.5	30.05	763.3	77.4	25.2	1				1		24	4			4.0
17.5	22.5	30.03	762.7	71.1	21.7	7						4	19			3.8
17.5	27.5	30.05	763.3	71.9	22.2	5						8	17			4.0
17.5	32.5	30.08	764.0	74.1	23.4	5					1	14	7		3	4.0
17.5	37.5	30.09	764.3	75.5	24.2	4		1		1	6	10	5		3	3.8
17.5	42.5	30.09	764.3	75.6	24.2	4				1	8	8	5	1	3	3.5
17.5	47.5	30.08	764.0	75.8	24.3	6				3	8	7	4		2	3.7
17.5	52.5	30.06	763.5	76.3	24.6	6		1		3	12	4	4			3.4
17.5	57.5	30.04	763.0	75.4	25.8	3	1			3	5	8	10			3.6
22.5	22.5	30.06	763.5	69.3	20.7	15	2	1			1	3	8			4.0
22.5	27.5	30.09	764.3	69.9	21.1	8	3			1	1	9	7		1	4.4
22.5	32.5	30.11	764.8	72.0	22.2	7	2	3	1	4	3	7	2	1		4.6
22.5	37.5	30.11	764.8	70.1	22.2	4	3	2		8	5	1	5	1	1	3.5
22.5	42.5	30.05	763.3	73.9	23.3	5	2	3	2	8	3	2	4	1		3.5
22.5	47.5	30.06	763.5	74.1	23.4	2	3	6	4	4	6	4	1			3.5
22.5	52.5	30.04	763.0	74.5	23.6	4	6	4	4	8	2		1	1		3.2
22.5	57.5	30.03	762.7	75.1	23.9	2	4	9	1	5	1	2	4	2		3.1
22.5	62.5	30.04	763.0	75.3	24.1	5	4	4	3	4	2	2	2	4		3.5
22.5	67.5	30.04	763.0	75.2	24.0	6	3	3	2	3	3	5	2	3		3.3
22.5	72.5	30.04	763.0	75.4	24.1	4	4	4	2	1	9	3	1	2		3.3
27.5	22.5	30.08	764.0	66.8	19.3	11	6	4		1		5	3			4.4
27.5	27.5	30.10	764.5	67.7	19.8	5	5	4	3	2	2	4	4		1	4.5
27.5	32.5	30.11	764.8	69.3	20.7	7	3	2	8	1	3	5	1			4.4
27.5	37.5	30.09	761.3	70.6	21.4	3	1	3	6	5	2	5	3	2		4.0
27.5	42.5	30.05	763.3	71.1	21.7	1	3	3	7	8	2	4	2			4.6
27.5	47.5	30.02	762.5	71.2	21.8		1	8	7	5	6	3				3.9
27.5	52.5	29.97	761.2	71.4	21.9	1	3	11	6	5	2	2				3.8
27.5	57.5	29.95	760.7	71.8	22.1	3	3	11	5	2	3	1	1	1		3.8
27.5	62.5	29.97	761.2	71.9	22.2	2	7	10	6			2	3			4.3
27.5	67.5	29.99	761.7	71.6	22.0	4	6	11	1	3	2	1	1	1		4.0
27.5	72.5	29.99	761.7	71.7	22.1	4	9	6	4	3	2	2				4.5
27.5	77.5	30.06	763.5	72.6	22.6	6	5	7	2	6	1	1	2			3.0
32.5	12.5	29.96	761.0	62.6	17.0	7	7	10	5				1			4.0
32.5	17.5	30.01	762.2	62.7	17.1	2	5	12	5		1	1	2	2		3.3
32.5	22.5	30.04	763.0	63.6	17.6	5	7	8	3	1		4	2			3.1
32.5	27.5	30.06	763.5	64.8	18.2	3	8	4	4	1	1	5	4			4.6
32.5	32.5	30.06	763.5	66.2	19.0	5	4	4	7		2	7	1			4.7
32.5	37.5	30.05	763.3	67.6	19.8	2	3	4	7	3	1	7	3			5.2
32.5	42.5	30.01	762.2	68.0	20.0	1	2	3	7	0	4	6	1			5.0
32.5	47.5	29.95	760.7	67.5	19.7		2	5	10	3	7	3				4.9
32.5	52.5	29.91	759.7	67.4	19.7	2	2	8	6	7	3		1		1	5.2
32.5	57.5	29.87	758.7	67.5	19.7	2	6	6	6	3	3		3		1	5.1
32.5	62.5	29.86	758.4	67.3	19.6	1	6	13	3	1	3	1	1	1		4.6
32.5	67.5	29.88	758.9	64.2	17.9	1	12	9	4	2		1		1		4.7
32.5	72.5	29.92	760.0	64.3	17.9	5	10	6	4	3			2			5.2
32.5	77.5	29.95	760.7	60.8	16.0	8	8	3	3	2	1	4	1			4.4
37.5	12.5	29.85	758.2	60.2	15.7	6	7	7	8	2						4.8
37.5	17.5	29.90	759.4	59.2	15.1	10	10	5	4	1						4.9
37.5	22.5	29.96	761.0	60.1	15.6	9	9	5	3			1	3			4.2
37.5	27.5	30.00	762.0	61.3	16.3	8	5	3	3	2	1	4	4			3.8
37.5	32.5	30.00	762.0	62.6	17.0	3	4	5	5	2	1	6	4			4.6
37.5	37.5	30.00	762.0	63.4	17.4	2	3	3	6	3	2	7	4			5.0
37.5	42.5	29.97	761.2	63.4	17.4	3	3	2	7	2	10	1	1	1		4.9
37.5	47.5	29.91	759.7	61.9	16.6	2	2	2	8	4	7	4	1			5.2
37.5	52.5	29.83	757.7	61.5	16.4	1	4	3	7	9	3	1	2			5.2
37.5	57.5	29.76	755.9	61.2	16.2	3	4	5	6	5	4	1	1	1		5.3
37.5	62.5	29.72	754.9	59.0	15.0	5	7	4	3	5	5		1			4.8
37.5	67.5	29.74	755.4	58.8	14.9	7	8	3	2	2	2	1	3	2		4.6
37.5	72.5	29.85	758.2	50.8	10.4	13	6		2	1	1	2	5			5.1
42.5	12.5	29.75	755.6	56.3	13.5	4	6	6	4	2		2	5	1		4.2
42.5	17.5	29.83	757.7	56.4	13.6	7	8	3	4			2	6			5.1
42.5	22.5	29.89	759.2	56.9	13.8	5	12	3	2		1	1	6			5.2
42.5	27.5	29.95	760.7	57.7	14.3	7	8	3	3	1		3	4		1	4.9
42.5	32.5	29.95	760.7	58.3	14.6	7	4	3	5	2	2	2	5			4.5
42.5	37.5	29.94	760.5	59.3	15.2	4	2	1	6	6	5	2	3	1		4.9
42.5	42.5	29.88	758.9	58.5	14.7		3	2	2	10	5	3	5			5.3
42.5	47.5	29.86	758.4	53.1	11.7	2	1	3	2	12	3	3	3	1		4.5
42.5	52.5	29.80	756.9	50.3	10.2	4	1		2	10	9	2	2			4.8
42.5	57.5	29.73	755.1	48.5	9.2	6	5	2	1	7	5	4				4.8
42.5	62.5	29.69	754.1	45.7	7.6	5	6	1		2	8	3	5			4.5
42.5	67.5	29.74	755.4	42.4	5.8	8	8			3	2	5	4			4.5
47.5	12.5	29.75	755.6	53.1	11.7	2	4	2	4	4	3	5	6			5.0
47.5	17.5	29.79	756.7	53.3	11.8	7	7	3	1	2	1	2	7			4.8
47.5	22.5	29.84	757.9	52.9	11.6	4	12	1	1	3	2	2	4	1		5.0
47.5	27.5	29.87	758.7	53.1	11.7	11	5	3	1	3	4	1	1	1		4.6
47.5	32.5	29.92	760.0	52.4	11.3	11	6	3	2	3	3	2				4.5
47.5	37.5	29.91	759.7	52.9	11.6	6	4	4	2	4	6	3	1			4.7
47.5	42.5	29.88	758.9	51.0	10.6	5	3	1	6	3	6	3	2		1	4.9
47.5	47.5	29.87	758.7	44.9	7.2	3	7	1	7	1	6	3	2			4.7
52.5	12.5	29.78	756.4	50.4	10.2	6	1	3		7	5	5	3			4.6
52.5	17.5	29.78	756.4	49.7	9.8	3	4	4	2	4	4	1	7	1		4.5
52.5	22.5	29.82	757.4	49.2	9.6	6	4	3	2	4	3	1	6	1		4.7
52.5	27.5	29.85	758.2	47.7	8.7	5	8	5		3	5		4			5.2
52.5	32.5	29.86	758.4	47.3	8.5	7	6	7		5	4	1				5.1
52.5	37.5	29.86	758.4	46.6	8.1	3	7	4	3	3	3	4	2	1		5.2
52.5	42.5	29.85	758.2	45.2	7.3	1	5	3	5	2	7	3	4			5.3
52.5	47.5	29.87	758.7	40.8	4.9	8	3	3	5		3	5	3			5.4
57.5	12.5	29.82	757.4	47.2	8.4	2	1	4	3	6	5	3	6			4.7
57.5	17.5	29.82	757.4	46.0	7.8		3	5	5	2	5	3	7			5.0
57.5	22.5	29.82	757.4	44.5	6.9	1	5	6	4	1	5		8			5.4
57.5	27.5	29.83	757.7	43.0	6.1	1	8	4	3	2	5	1	6			5.6
57.5	32.5	29.83	757.7	41.3	5.2	2	7	5	2	2	6	1	5			5.4
57.5	37.5	29.83	757.7	39.9	4.4	5	5	3	4	1	4	4	4			5.4
57.5	42.5	29.84	757.9	38.8	3.8	6	6	2	3	2	3	2	5	1		5.5
57.5	47.5	29.88	758.9	36.8	2.7	8	6	4		1	2	3	2	4		4.9

SAINT PAUL DE LOANDO, BENGUELA (S. 8° 49′, E. 13° 07′).

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Force	Clouds. Amount. Upper.	Clouds. Amount. Lower.	Clouds. Direction. Up'er	Clouds. Direction. Lo'er	Rainfall in past 24 hours.		WEATHER.
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles perhour	Metrs prsec.	0-10	0-10	0-10	From	From	Inch.	Mill.	
1884.																		
March 1	29.64	752.8	29.84	757.8	83.1	28.4	91	nw.			3		6	sse.		0	0	
2	29.63	752.5	29.82	757.5	82.8	28.2	88	w.			4		4	sse.		0	0	
3	29.68	753.9	29.88	758.9	80.6	27.0	98	nnw.			3		10			0	0	
4	29.65	753.1	29.85	758.2	78.8	26.0	99	wnw.			4		10			0	0	
5	29.63	752.7	29.84	757.8	81.3	27.4	97	w.			4		10			0	0	
6	29.65	753.1	29.85	758.1	83.3	28.5	92	nw.			3		10			0	0	
7	29.62	752.4	29.82	757.5	80.6	27.0	96	w.			4		10			0	0	
8	29.69	754.0	29.89	759.1	80.2	26.8	99	w.			4		10			0	0	
9	29.62	752.3	29.82	757.4	80.6	27.0	97	wnw.			3		5	sse.		0	0	
10	29.64	752.9	29.84	758.0	82.2	27.9	96	nw.			2		10			0	0	
11	29.63	752.6	29.83	757.6	79.7	26.5	96	wnw.			3		10			0	0	
12	29.69	754.0	29.89	759.1	80.6	27.0	98	wnw.			2		10			0	0	
13	29.69	754.1	29.89	759.1	81.3	27.4	74	nne.			2		9			0	0	
14	29.71	754.6	29.91	759.7	82.4	28.0	94	nw.			2		5	se.		0	0	
15	29.72	754.8	29.92	759.9	83.8	28.8	71	nnw.			2		8	se.		0	0	
16	29.66	753.4	29.86	758.5	83.1	28.4	86	wnw.			4		4	se.		0	0	
17	29.64	752.9	29.84	757.9	81.3	27.4	90	nw.			3		9			0	0	
18	29.65	753.0	29.84	758.0	82.4	28.0	91	wnw.			4		6	sse.		0	0	
19	29.68	753.8	29.88	759.9	80.2	26.8	100	wnw.			3		7			0	0	
20	29.68	753.9	29.88	758.9	83.1	28.4	98	wnw.			3		3	se.		0	0	
21	29.65	753.2	29.85	758.3	80.4	26.9	94	wnw.			4		3	s.		0	0	
22	29.60	751.7	29.79	756.7	80.6	27.0	93	wnw.			4		2	s.		0.165	4.2	
23	29.63	752.5	29.83	757.6	78.4	25.8	83	nw.			3		10			0	0	
24	29.59	751.6	29.79	756.7	80.6	27.0	95	wnw.			3		2	s.		0	0	
25	29.64	752.9	29.84	758.0	80.6	27.0	87	ene.			2		10			0	0	
26	29.61	752.2	29.81	757.2	83.7	28.7	94	nne.			3		4	s.		0	0	
27	29.57	751.0	29.76	756.0	83.7	28.7	92	w.			4		9	se.		0	0	
28	29.61	752.2	29.81	757.2	83.1	28.4	93	wnw.			4		4	s.		0	0	
29	29.63	752.5	29.83	757.6	82.0	27.8	95	nnw.			3		3	s.		0	0	
30	29.61	752.2	29.81	757.3	80.4	26.9	100	wnw.			4		7			0	0	
31	29.63	752.7	29.84	757.8	84.9	29.4	94	nnw.			3		7			0	0	
Mean	29.65	753.0	29.84	758.0	81.7	27.6	92.6				3.2		7.0			0.165	4.2	
April 1	29.66	753.3	29.85	758.3	81.9	27.7	84	w.			4		10			0.035	0.9	
2	29.67	753.5	29.86	758.5	82.4	28.0	02	nnw.			3		7			0	0	
3	29.68	753.9	29.88	759.0	82.9	28.3	89	nne.			2		10			0	0	
4	29.67	753.7	29.87	758.7	86.0	30.0	95	nnw.			3		10			0	0	
5	29.66	753.3	29.85	758.3	83.7	28.7	92	wnw.			4		7			0	0	
6	29.71	754.7	29.91	759.7	84.2	29.0	90	wnw.			3		7			0	0	
7	29.69	754.2	29.89	759.3	83.5	28.6	93	nne.			3		8			0	0	
8	29.70	754.3	29.90	759.4	83.3	28.5	92	nnw.			3		3	sse.		0	0	
9	29.60	754.1	29.89	759.2	81.1	27.3	99	nw.			3		5	se.		0	0	
10	29.68	753.8	29.87	758.8	84.9	29.4	89	nw.			3		3	s.		0	0	
11	29.67	753.7	29.87	758.7	85.1	29.5	88	nw.			3		3	s.		0	0	
12	29.67	753.7	29.87	758.7	85.3	29.6	92	wnw.			3		4	sse.		0	0	
13	29.64	752.9	29.84	757.9	84.9	29.4	91	wnw.			3		4	sse.		0	0	
14	29.69	754.2	29.89	759.2	80.0	27.0	99	nnw.			3		9			0.008	0.2	
15	29.67	753.5	29.87	758.6	81.3	27.4	100	nnw.			3		9			0	0	
16	29.66	753.4	29.86	758.5	82.4	28.0	99	nnw.			3		3	sse.		0	0	
17	29.65	753.2	29.85	758.2	86.4	30.2	87	nw.			3		3			0	0	
18	29.63	752.6	29.83	757.7	85.1	29.5	72	nw.			3		4			0	0	
19	29.60	751.9	29.80	756.8	80.0	30.0	74	nw.			3		3			0	0	
20	29.60	751.9	29.80	756.9	86.0	30.0	76	nw.			3		4	s.		0	0	
21	29.59	751.6	29.79	756.6	83.3	28.5	88	wnw.			4		5	sse.		0	0	
22	29.65	753.2	29.85	758.2	83.3	28.5	95	w.			4		6			0.028	0.7	
23	29.68	753.8	29.88	758.9	82.4	28.0	98	w.			4		9			0	0	
24	29.66	753.3	29.85	758.3	83.8	28.8	89	wnw.			3		5	sse.		0	0	
25	29.67	753.5	29.87	758.6	74.1	23.4	100	nw.			1		10			1.000	25.4	
26	29.66	753.3	29.85	758.4	82.4	28.0	100	nw.			3		6			0	0	
27	29.66	753.4	29.86	758.5	82.4	28.0	99	nw.			3		7			0	0	
28	29.64	752.8	29.84	757.9	81.0	27.2	95	nw.			3		8			0	0	
29	29.63	752.5	29.82	757.5	83.5	28.6	91	wnw.			3		6			0	0	
30	29.67	753.5	29.87	758.6	77.4	25.2	92				3		9			1.311	33.3	
Mean	29.66	753.4	29.86	758.4	82.9	28.3	91.0				3.1		6.2			2.382	60.5	
May 1	29.66	753.4	29.86	758.5	77.2	25.1	97	nw.			2		10			0.012	0.3	
2	29.67	753.6	29.87	758.6	83.8	28.8	89	ssw.			2		6			0.004	0.1	
3	29.65	753.2	29.85	758.3	77.0	25.0	97	wnw.			3		5	sse.		0	0	
4	29.69	754.1	29.89	759.1	81.0	27.2	87	nnw.			3		3	s.		0	0	
5	29.69	754.0	29.89	759.1	79.2	26.2	98	wnw.			3		4	se.		0	0	
6	29.71	754.7	29.91	759.8	82.4	28.0	95	nne.			2		8			0	0	
7	29.69	754.0	29.89	759.1	81.3	27.4	90	nw.			3		4	s.		0	0	
8	29.65	753.1	29.85	758.2	77.4	25.2	97	nw.			2		0			0	0	
9	29.68	753.8	29.88	758.9	81.1	27.3	89	wnw.			4		2	e.		0	0	
10	29.67	753.6	29.87	758.7	77.9	25.5	96	nnw			3		1	s.		0	0	
11	29.69	754.0	29.89	759.1	76.1	24.5	100	nne.			3		1	ne.		0	0	
12	29.71	754.5	29.91	759.6	80.4	26.9	93	nw.			3		0			0	0	
13	29.71	754.7	29.91	759.8	76.5	24.7	97	n.			2		0			0	0	
14	29.72	754.9	29.92	760.0	76.8	24.9	98	nw.			3		1	s.		0	0	
15	29.74	755.4	29.91	760.5	76.5	24.7	98	nnw.			3		2	se.		0	0	
16	29.75	755.7	29.95	760.8	73.4	23.0	100	n.			2		8			0	0	
17	29.69	754.2	29.89	759.3	75.2	24.0	98	nw.			3		0			0	0	
18	29.69	754.2	29.89	759.3	74.7	23.7	99	nw.			3		0			0	0	
19	29.70	754.3	29.90	759.4	74.8	23.8	99	nnw.			3		0			0	0	
20	29.70	754.3	29.90	759.4	73.4	23.0	100	n.			3		3	s.		0	0	
21	29.71	754.6	29.91	759.7	77.7	25.4	97	nw.			3		6			0	0	
22	29.69	754.2	29.89	759.3	79.2	26.2	96	nw.			3		3	sse.		0	0	
23	29.73	755.1	29.93	760.2	80.2	26.8	91	nnw.			2		2	se.		0	0	
24	29.74	755.3	29.94	760.4	80.4	26.9	92	nnw.			2		0			0	0	
25	29.74	755.4	29.94	760.5	78.8	26.0	96	nw.			3		0			0	0	
26	29.78	756.3	29.98	761.4	76.3	24.6	98	nw.			4		1	w.		0	0	
27	29.84	757.9	30.04	763.0	76.0	24.8	72	nnw.			1		10			0	0	
28	29.80	756.8	30.00	761.9	75.2	24.0	67	wnw.			4		2	se.		0	0	
29	29.78	756.5	29.99	761.7	73.4	23.0	78	nw.			3		10			0	0	
30	29.72	754.8	29.92	759.9	77.0	25.0	73	nw.			3		4	se.		0	0	
31	29.76	755.8	29.96	760.9	76.8	24.9	84	nnw.			2		5	s.		0	0	
Mean	29.71	754.7	29.91	759.8	77.7	25.4	89.7				2.7		3.3			0.016	0.4	

ANGRA, AZORES (N. 38° 39′, W. 27° 14′).

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Mill.	Reduced to sea-level. Inch.	Mill.	Temperature of the air. Fah.	Cent.	Relative Humidity Per cent.	Wind. Direction. From.	Velocity. Miles perhour	Metrs pr sec.	Force 0-10	Clouds. Amount. Upper. 0-10	Lower. 0-10	Direction. Up'er From	Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Mill.	WEATHER.
1884.																		
March 1					58.8	14.9	70	n.	8.7	3.9			3			0.157	4.0	
2					63.0	17.2	92	nw.	5.6	2.5			5			0.079	2.0	
3					60.3	15.7	93	w.	5.6	2.5			8			0	0	
4					57.6	14.2	80	wsw.	4.3	1.9			4			0.709	18.0	
5					62.2	16.8	92	w.	8.7	3.9			3			0.091	2.3	
6					63.7	17.6	86	nw.	6.9	3.1			3			0	0	
7					56.1	13.4	71	nne.	11.2	5.0			4			0	0	
8					59.4	15.2	85	w.	8.7	3.9			2			0	0	
9					59.7	15.4	81	nnw.	17.4	7.8			6			0	0	
10					54.7	12.6	86	n.	11.2	5.0			4			1.142	29.0	
11					54.3	12.4	70	nw.	11.2	5.0			3			0.059	1.5	
12					58.6	14.8	80	ssw.	23.7	10.6			10			0	0	
13					53.1	11.7	88	wnw.	13.6	6.1			6			0	0	
14					54.3	12.4	79	w.	14.3	6.4			5			0	0	
15					54.3	12.4	70	nnw.	13.0	5.8			6			0.334	9.0	
16					54.7	12.6	74	nw.	10.5	4.7			4			0.079	2.0	
17					59.0	15.0	80	wnw.	3.1	1.4			3			0	0	
18					60.4	15.8	87	w.	13.0	5.8			3			0	0	
19					59.7	15.4	73	e.	11.2	5.0			4			0	0	
20					59.0	15.0	91	se.	12.5	5.6			6			0	0	
21					60.3	15.7	91	s.	8.7	3.9			5			0	0	
22					59.4	15.2	89	s.	5.6	2.5			4			0.138	3.5	
23					59.9	15.5	83	sw.	4.9	2.			5			0.079	2.0	
24					57.9	14.4	82	ene.	9.4	4.2			4			0.126	3.2	
25					58.3	14.6	60	ese.	13.0	5.8			2			0	0	
26					57.2	14.0	69	e.	5.6	2.5			3			0	0	
27					57.0	13.9	78	n.	4.9	2.2			3			0	0	
28					58.8	14.9	85	nw.	11.2	5.0			4			0	0	
29					59.4	15.2	73	ne.	4.9	2.2			2			0	0	
30					59.0	15.0	66	n.	11.9	5.3			3			0	0	
31					57.0	13.9	76	wnw.	9.4	4.2			3			0	0	
Mean					58.3	14.6	80.0		9.6	4.3			4.2			3.013	76.5	
April 1					59.4	15.2	76	nw.	8.7	3.9			9			0.512	13.0	
2					57.9	14.4	72	nne.	4.3	1.9			4			0.157	4.0	
3					57.7	14.3	95	w.	3.1	1.4			10			0.453	11.5	
4					56.8	13.8	71	ne.	16.1	7.2			4			0.236	6.0	
5					56.5	13.6	73	nw.	11.2	5.0			6			0	0	
6					59.4	15.2	91	ssw.	6.9	3.1			9			0	0	
7					60.8	16.0	91	sw.	13.0	5.8			6			0.496	12.6	
8					61.5	16.4	89	w.	5.6	2.5			6			0.079	2.0	
9					58.3	14.6	91	w.	16.8	7.5			8			0.118	3.0	
10					56.5	13.6	89	nw.	17.4	7.8			4			0.339	8.6	
11					55.9	13.3	71	nw.	11.2	5.0			5			0.118	3.0	
12					62.1	16.7	87	nnw.	4.9	2.2			3	se.		0	0	
13					60.8	16.0	91	s.	11.9	5.3			0			0	0	
14					59.0	15.0	89	nw.	2.5	1.1			4			0.315	8.5	
15					59.7	15.4	83	n.	12.5	5.6			7			0	0	
16					60.1	15.6	73	ene.	11.2	5.0			3			0.236	6.0	
17					56.7	13.7	67	nne.	8.1	3.6			5			0	0	
18					58.8	14.9	76	ne.	7.4	3.3			3			0	0	
19					55.8	13.2	65	e.	16.8	7.5			7			0.339	8.6	
20					54.3	12.4	74	e.	28.0	12.5			10			0.256	6.5	
21					57.7	14.3	80	ne.	11.2	5.0			4	ese.		2.441	62.0	
22					54.0	12.2	88	nne.	5.6	2.5			5			0.157	4.0	
23					57.9	14.4	70	ne.	5.6	2.5			3			0	0	
24					59.4	15.2	76	nne.	9.4	4.2			3			0	0	
25					57.4	14.1	61	ese.	8.7	3.9			4			0	0	
26					58.5	14.7	72	ese.	15.4	6.9			6			0	0	
27					59.2	15.1	72	se.	19.9	8.9			6			0	0	
28					60.3	15.7	73	ene.	13.0	5.8			4			0	0	
29					62.2	16.8	75	nne.	13.6	6.1			3			0	0	
30					62.6	17.0	81	se.	4.3	1.9			4			0	0	
Mean					58.6	14.8	78.7		10.7	4.8			5.4			6.272	159.3	

SAN SALVADOR, CONGO (S. 6° 17′, E. 14° 53′).

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Mill.	Reduced to sea-level. Inch.	Mill.	Temperature of the air. Fah.	Cent.	Relative Humidity Per cent.	Wind. Direction. From.	Velocity. Miles perhour	Metrs pr sec.	Force 0-10	Clouds. Amount. Upper. 0-10	Lower. 0-10	Direction. Up'er From	Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Mill.	WEATHER.
1884.																		
April 1	28.00	711.1	29.80	757.0	84.7	29.3	63	calm			0		5			0	0	
2	28.03	712.0	29.84	757.9	84.4	29.1	62	sw.			2		6			0.752	19.1	
3	28.04	712.2	29.85	758.3	82.2	27.9	66	ne.			1		7			0	0	
4	28.04	712.2	29.85	758.2	84.0	28.9	67	wsw.			1		6			0	0	
5	28.06	712.6	29.87	758.8	81.5	27.5	71	w.			1		4			0.984	25.0	
6	28.07	712.9	29.87	758.7	85.5	29.7	58	sw.			1		2			0.551	14.0	
7	28.07	713.0	29.88	759.0	84.4	29.1	56	calm			0		6			0	0	
8	28.06	712.6	29.87	758.8	81.9	27.7	67	nw.			1		9			0	0	
9	28.05	712.5	29.86	758.5	83.3	28.5	62	wsw.			1		7			0	0	
10	28.04	712.1	29.84	757.0	87.1	30.6	52	wsw.			1		3			0	0	
11	28.05	712.5	29.87	758.7	82.2	27.9	63	wsw.			1		5			0	0	
12	28.03	712.0	29.84	757.8	86.2	30.1	50	sw.			1		1			0	0	
13	28.03	711.9	29.84	757.8	83.7	28.7	61	sw.			1		8			0	0	
14	28.10	713.8	29.97	761.1	69.6	20.9	97	sw.			2		10			0.945	24.0	Light rain.
15	28.04	712.3	29.85	758.3	84.6	29.2	62	w.			1		7			0	0	
16	28.06	712.7	29.88	758.9	81.7	27.6	63	w.			1		10			0	0	
17	28.03	712.0	29.85	758.2	81.5	27.5	64	sw.			1		9			0	0	
18	27.99	710.9	29.80	756.8	84.0	28.9	60	w.			3		6			0	0	
19	27.96	710.1	29.75	755.7	86.9	30.5	55	sw.			3		6			0	0	
20	27.98	710.6	29.79	756.7	81.3	27.4	70	sw.			2		10			0.921	23.4	
21	27.97	710.5	29.78	756.5	82.6	28.1	66	sw.			1		9			0	0	
22	28.02	711.8	29.83	757.6	85.6	29.8	57	s.			1		6			0	0	
23	28.05	712.5	29.86	758.4	84.2	29.0	58	se			1		5			0	0	
24	28.02	711.8	29.84	757.9	83.3	28.5	65	sw.			1		6			1.701	43.2	
25	28.02	711.6	29.84	757.8	80.4	26.9	66	w			2		9			0.866	22.0	
26	28.03	711.9	29.85	758.2	80.1	26.7	67	ese.			1		8			1.118	28.4	
27	28.02	711.8	29.84	758.0	81.1	27.3	64	calm			0		8			0	0	
28	28.00	711.1	29.80	757.0	85.1	29.5	60	nw.			4		5			0	0	
29	27.97	710.5	29.76	756.0	87.6	30.9	50	calm			0		5			0.276	7.0	
30	28.00	711.3	29.81	757.2	84.4	29.1	61	nw.			1		3			0.496	12.6	
Mean	28.03	711.9	29.84	757.9	83.1	28.4	62.8				1.2		6.4			8.610	218.7	
May 1	28.06	711.8	29.90	759.5	75.7	24.3	86	calm			0		10			0.409	10.4	
2	28.04	712.2	29.85	758.1	85.5	29.7	61	calm			0		6			0	0	

NOTE.—The above observations, taken at 7 a. m., Washington time, were received too late for publication in the DAILY BULLETIN, and are given here in full; for continuation of the same, see DAILY BULLETIN.

REVIEW.

INTERNATIONAL METEOROLOGY FOR APRIL, 1884.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following description refers to chart ii. for the month of April, 1884, issued with this SUMMARY. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and prevailing wind-direction over the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich, mean time.

Three prominent areas of barometric minima appear on the chart; the first is enclosed by the isobar for 29.7 (754.4), and occupies northern and central Hindostan; the second is a large area, enclosed by the isobar for 29.8 (756.9, which covers southern and central Europe and the Mediterranean, extending from the western shores of the Black Sea westward to the twentieth meridian west of Greenwich; at the centre of this area the mean pressure is 29.7 (754.4). The third area, 29.8 (756.9), is situated over the Atlantic ocean between W. 50° and 70° and N. 35° and 45°, including within its limits Nova Scotia and Maine. In the United States the mean pressure is least in Colorado, Utah, Arizona and New Mexico; where the means range from 29.85 (758.2) to 29.9 (759.4). In all other parts of the United States, excepting the south Pacific coast region, the extreme northwest, Missouri valley, upper lake region, Florida, and the east Gulf states, the mean pressure is less than 30.0 (762.0). In the districts above named the means ranged from 30.0 (762.0) to 30.05 (763.2). Over the Atlantic ocean north of a line running from Bermuda to the Azores, the mean pressure was less than 30.0 (762.0). Over the British Isles and the European countries lying between the fiftieth parallel and the Baltic, the mean pressure ranged from 29.8 (756.9) to 29.9 (759.4); in northwestern and central Russia it was above 30.0 (762.0); in other parts of that empire it was below 30.0 (762.0).

Three areas of high barometer, each of which is indicated by the isobar for 30.1 (764.5), are shown on the chart. The first of these occupies that part of Siberia lying between N. 50° and 60°, and E. 80° and 100°, the highest mean being 30.15 (765.8) at Semipalatinsk. The second area is situated over the Atlantic between the parallels of 20° and 30° north, and the meridians of 25° and 40° west. The third area occupies Manitoba and the Hudson Bay region, the highest means being 30.21 (767.3) at Fort Chimo, northern Labrador, and 30.13 (765.3), at York Factory.

Compared with the chart for the preceding month (March, 1884), there has been a decrease of pressure throughout the United States except on the Pacific coast and in northern Minnesota; the decrease averages .10 inch. There has also been a decrease in eastern Canada. Over the entire continent of Europe the pressure is less than in the preceding month, the differences being least in the British Isles and the northern peninsulas, and greatest in the Iberian peninsula, Russia, Italy, Austria and France, where the decrease averages .23 inch. Over the Atlantic ocean from the coast of the United States eastward to W. 50° there has been a decrease of pressure; over the region north of the fortieth parallel and between W. 50° and the European coast there has been an increase; in other parts of the Atlantic, south of 40° N. the pressure has decreased. Throughout Asia there has been a general decrease of pressure.

Compared with the corresponding month of previous years, the mean atmospheric pressure in the United States was slightly above normal in the northern districts of the country and on the eastern slope of the Rocky mountains; in all other parts of the country it was below the normal value, the deficiency being greatest along the Atlantic coast districts where it amounted to about .12 inch; in Canada it was below normal. In Europe the mean pressure was less than the normal in all countries except Russia and the northern peninsulas. In British India it was about normal.

The following table shows the mean pressure and mean temperature for April, 1884, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last seven years.

Countries.	Mean pressure.			Mean temperature.		
	April mean of 7 (1877–'83) years.	April 1884.	Departure.	April mean of 7 (1877–'83) years.	April 1884.	Departure.
				°	°	°
Algeria	29.98	29.88	− 0.10	67.0	68.7	+ 1.7
Austro-Hungary	29.83	29.76	− 0.07	55.6	53.3	− 2.3
British Isles	29.84	29.83	− 0.01	50.2	49.3	− 0.9
Denmark	29.91	29.92	+ 0.01	45.6	45.3	− 0.3
France	29.85	29.76	− 0.09	57.0	55.1	− 1.9
Germany	29.90	29.83	− 0.07	50.5	49.3	− 1.2
India*	29.72	29.73	+ 0.01	90.1	91.3	+ 1.2
Italy	29.86	29.75	− 0.11	61.2	61.3	+ 0.1
Norway	29.92	29.97	+ 0.05	43.8	45.6	+ 1.8
Portugal	29.98	30.81	− 0.17	60.8	60.6	− 0.2
Russia	29.94	29.96	+ 0.02	47.0	43.2	− 3.8
Spain	29.92	29.79	− 0.13	60.6	56.4	− 4.2
Sweden	29.94	30.05	+ 0.11	39.7	40.5	+ 0.8

* Means of six years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of April, 1884, as compared with the means for seven years:

Stations.	Mean pressure.			Mean temperature.		
	Apr. mean of 7 (1877–'83) years.	April 1884.	Departure.	Apr. mean of 7 (1877–'83) years.	April 1884.	Departure.
				°	°	°
Astrakhan, Russia	29.96	29.93	− 0.03	55.6	55.0	− 0.6
Archangel, Russia	29.95	29.97	+ 0.02	33.9	28.9	− 5.0
Angra, Azores†	30.08	.....	.....	60.8	58.6	− 2.2
Athens, Greece	29.90	29.82	− 0.08	66.5	69.6	+ 3.1
Beirut, Turkey in Asia	29.91	29.88	− 0.03	69.7	70.0	+ 0.3
Barnaul, Siberia, Asia	30.09	30.14	+ 0.05	37.3	32.4	− 4.9
Bridgetown, Barbadoes	30.02	30.01	− 0.01	82.8	81.7	− 1.1
Cape Town, Cape of Good Hope*	30.06	.....	.....	71.6	70.3	− 1.3
Cagliari, Sardinia, Italy	29.85	.....	.....	63.7	.....	.....
Ekaterinburg, Russia	30.00	29.97	− 0.03	40.9	34.9	− 6.0
Fort Napier, Natal, South Africa	29.91	29.96	+ 0.05	75.5	73.0	− 2.5
Freetown, Sierra Leone	29.88	29.84	− 0.04	87.2	84.6	− 2.6
Funchal, Madeira Islands	30.13	30.00	− 0.13	65.1	63.0	− 2.1
Gibraltar	30.00	29.89	− 0.11	65.7	61.8	− 3.9
Godthaab, Greenland	29.81	29.89	+ 0.08	27.8	26.6	− 1.2
Havana, Cuba, W. I.	30.02	30.04	+ 0.02	75.4	71.9	− 3.5
Malta, Mediterranean Sea	29.88	29.78	− 0.10	63.3	64.7	+ 1.4
Mauritius, Indian Ocean	30.00	29.94	− 0.06	79.1	78.2	− 0.9
Melbourne, New South Wales	30.12	30.16	+ 0.04	58.0	57.3	− 0.7
Mexico, Mexico	.....	.....	.....	.....	.....	.....
Nassau, Bahamas, W. I.	30.07	30.06	− 0.01	76.5	74.3	− 2.2
Nikolaevsk on the Amoor, Asia	.....	.....	.....	23.6	22.5	− 1.1
Paramaribo, D. Guiana, S. A	30.01	30.03	+ 0.02	80.1	78.1	− 2.0
Pekin, China	29.99	29.96	− 0.03	57.1	57.0	− 0.1
Ponta Delgado, Azores	30.11	30.00	− 0.11	63.4	60.5	− 2.8
Sandwick Manse, Orkney Islands	29.90	29.89	− 0.01	44.9	46.0	+ 1.1
San Juan de Puerto Rico, W. I.	30.04	30.05	+ 0.01	77.4	74.8	− 2.6
Stykkisholm, Iceland	29.80	29.84	+ 0.04	33.4	39.0	+ 5.6
Tashkend, Toorkistan, Asia	29.97	29.89	− 0.08	85.8	89.1	+ 3.3
Thorshavn, Färöe Islands	29.89	29.91	+ 0.02	43.6	46.2	+ 2.6
Tiflis, Russia	29.89	29.85	− 0.04	62.4	61.9	− 0.5
Tokei, Japan	30.04	30.02	− 0.02	52.9	52.2	− 0.7
Yeniseisk, Siberia, Asia	30.05	30.13	+ 0.08	32.5	25.0	− 7.5
York Factory, B. A	30.09	30.13	+ 0.04	8.3	−6.4	−14.7
Zi-Ka-Wei, China	30.04	30.06	+ 0.02	54.6	53.1	− 1.5

* Means for six years only. † Mean for five years only.

The following are some of the extreme mean temperatures reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Cairo, Egypt	85.1	29.5	York Factory, B. A	− 6.4	−21.3
Freetown, Sierra Leone	84.6	29.2	Upernavik, Greenland	5.0	−14.7
Bluefields, Nicaragua, C. A	82.8	28.2	Fort Chimo, B. A	17.9	− 7.8
Manila, Philippine Islands	82.0	27.8	Nikolaevsk on the Amoor, Asia	22.5	− 5.3
Bridgetown, Barbadoes, W. I	81.7	27.6	Yeniseisk, Siberia	25.0	− 3.9

The mean temperature of the air was below the normal in all parts of the United States except New England, the north Pacific coast district, and Idaho; in those districts it was slightly above the normal. In Canada the temperature was above the normal. In Europe it was below the normal except in Italy and the Scandinavian peninsula; in the former it was normal and in the latter it was slightly above normal. In

British India it was 1°.2 above the six years' mean; the highest monthly mean temperature reported was 99°.1 Fahr. (37°.3 Cent.), at Nagpur, and the lowest was 74°.1 Fahr. (23°.4 Cent.), at Sibsagar.

In the United States the prevailing winds were mostly northwesterly and northerly except along the Gulf coast and in the Pacific districts, where they were southerly; in Canada they were mostly from west to north and northeast. Over the Atlantic they were as follows: from the coast of the United States eastward to W. 50°, and between N. 20° and 40°, northwesterly and westerly; between W. 50° and 30° and N. 20° and 45° they were southerly and southwesterly; from W. 30° to the European and African coasts they were northwesterly and northerly, between N. 25° and 45°. North of the forty-fifth parallel they were mostly northwesterly, and south of the twentieth parallel they were easterly and northeasterly. In northern and central Europe the winds were principally from east and northeast; in the southern peninsulas they were south westerly.

During April, 1884, the rainfall in the United States was in excess of the average on the Pacific coast, on the eastern slope of the Rocky mountains, in the Missouri valley, Gulf states, and in New England; in the other parts of the country it was less than the average; in Canada it exceeded the average. In northern Europe the rainfall was somewhat less than the average; in the southern districts it was slightly above the average.

STORM-TRACKS FOR APRIL, 1884.

Chart iii. for April, 1884, shows the paths of the depressions which have appeared in the northern hemisphere during that month. The data are charted for each day of the month on the maps accompanying each issue of the "International Bulletin," and from these charts, together with abstracts of ship's logs and other miscellaneous data on file at this office, are traced the movements of the centres of barometric minima. This chart continues the series of international charts begun in November, 1877.

The paths of forty-one depressions are shown on the chart, and are distributed geographically, as follows: Nine are traced over the United States and Canada; of this number, one (iii.) appeared near the Alaskan coast and moved thence southeastward over the United States to the Gulf of Mexico; one moved eastward along the northern boundary of the United States; two occupied the Gulf of Mexico and adjacent land areas; one appeared near the mouth of the Saint Lawrence river, and the remaining four developed in the Rocky mountain regions. The general direction of movement of the above storms was east-northeasterly, those that reached the Atlantic passing off the coast line at or south of the fortieth parallel.

Ten depressions are traced over the Atlantic ocean; of these, two only, numbers xi. and xix., are continuations of storms which were first traced in the United States. The former passed into the Atlantic from the coast near N. 40°, and the latter moved from the Gulf of Mexico over the east Gulf states and into the Atlantic ocean from the South Carolina coast; neither of these depressions reached the European coasts, number xi. moved east-northeastward to about W. 20° where it dissipated and number xix. moved slowly northeastward and remained over the region between N. 37° and the Banks of Newfoundland, and W. 55° and 70° until the close of the month. Of the other depressions that appeared in the Atlantic, two, numbers xiii. and xv. originated near the coast of the United States between N. 35° and 40°; they moved slowly eastward and southeastward and disappeared before reaching the fortieth meridian, their further movement being apparently checked by an area of high barometer which occupied the ocean to the eastward. Three depressions appeared south of N. 40°; one of them, viz: number xvii. moved from the Azores to the coasts of the Iberian peninsula and thence to to the Mediterranean, while the other two moved northeastward and disappeared before reaching the coasts. Number x. was a continuation of the depression traced as xxiv. on the chart for March; it remained off the west coast of Ireland for several days, having moved southeastward from Iceland at the close of March; on April 4th its course changed to north and west and it again moved to Iceland where it disappeared on the 8th. Two disturbances occupied southern Greenland and Iceland during the last half of the month.

Eleven depressions are shown over Europe; three of these appeared over the northern districts (north of the sixtieth parallel), their direction of movement being southeasterly; one passed from the northwest coast of Ireland, southeastward over the British Isles and France to the Mediterranean; one moved northward from southern France to the North sea, while the remaining depressions occupied the continent south of N. 50°, their paths being to the eastward and northeastward.

Nine depressions are traced in Asia; two of these appeared in the southwestern part of the continent between 50° and 70° E.; three passed over Japan, one moving northeastward along the eastern coast, and four appeared in northeastern Asia.

One depression occupied the Aleutian archipelago and Behring Sea during the last decade of the month, and one disturbance is traced over the Pacific ocean between 140° W. and the California coast.

The noteworthy features of April, 1884, were: 1st, the prevalence of stormy weather over the Atlantic during the first half of the month, owing to the presence of several deep depressions which occupied the region between N. 55° and 30° and from the coasts of the United States to those of Europe; 2d, the unusually large number of depressions, mostly slight, however, which occupied the southern districts of Europe.

The depression charted as number x. continued for several days off the coasts of the British Isles, causing moderate to strong s. winds, with rainy weather and generally high temperatures over those islands and the western districts of central Europe. From the 1st to 6th the pressure at the centre of the primary depression ranged from 28.9 (734.0) to 29.2 (741.7), while numerous subsidiary disturbances traversed western Europe. The area of high barometer which occupied Scandinavia and northern Russia at the close of March gradually gave way and moved eastward during the period from April 1st to 5th, but after the last-mentioned date another high area formed over Russia, which continued with slight movement until the 11th, when the pressure began to give way in advance of low areas from the westward and northward.

On the 11th an area of high pressures formed over Iceland and the region north of the British Isles, and continued, gradually spreading over the Atlantic, until the 19th, when it was replaced by low area xvi. The depressions traced as low areas xi. and xii. displayed great energy, the stormiest period of the month having occurred over the Atlantic during the passage of those areas; they were also remarkable for the exceedingly low pressures that accompanied them, the barometer falling as low as 28.1 (713.7) on the 8th, and remaining below 28.8 (731.5) until the 10th. During the entire month, nearly, the atmospheric pressure was relatively low over the Banks of Newfoundland and southward to about N. 37°.

The storms which passed over the United States and the principal depressions over the Atlantic are described in detail in the MONTHLY WEATHER REVIEW for April, 1884, under the headings, "Areas of low barometer" and "North Atlantic Storms," respectively. Those which passed over Europe were generally slight and deserve no special mention; they produced high local winds and rainy weather.

In the depressions traced over eastern Asia, that charted as number xxxi. produced high winds along the eastern coast of Niphon, with barometer falling to 29.4 (746.7). Number xxvii. was also attended by high winds in Japan during its passage over the Sea of Japan; the pressure ranging from 29.45 (748.0) to 29.55 (750.6). In the depressions shown over the Sea of Okhotsk and Behring Sea the barometer ranged from 29.0 (736.5) to 29.5 (749.3).

STORM-TRACKS FOR JULY, 1882.

The chart for July, 1882, shows the paths of twenty-eight of the principal depressions that appeared over the northern hemisphere during the month. The data used in the preparation of this chart are obtained from the sources mentioned above (STORM-TRACKS FOR APRIL, 1884), the marine observations, however, are neither so numerous nor so complete as in that month.

The tracks of the twenty-eight depressions shown on the chart are distributed, geographically, as follows: Five appear in the United States and Canada; of these, four developed in the northwestern part of the United States, and one is a continuation of a depression which occupied the lake region at the close of June, 1882. Two of the depressions above referred to moved eastward to the neighborhood of Lake Superior whence they passed northeastward and disappeared in the Hudson bay region: one moved northeastward from Montana to Manitoba and thence eastward north of the United States to the Gulf of Saint Lawrence, where it dissipated; one passed by a southeasterly course from Minnesota to South Carolina, where it recurved to the northeastward and passed off the coast line, but it again entered the continent and moved north-northwestward to Ontario, Canada, and thence northeastward over Labrador to the Arctic regions. The remaining disturbance moved from the lakes to Nova Scotia and thence northeastward over Newfoundland.

Eight depressions are traced over the Atlantic; of these, three, numbers vi., viii., and xiii., appear to have originated in the vicinity of Newfoundland and the Gulf of Saint Lawrence; two of them (vi. and viii.) reached the European coast, and xiii. occupied the ocean at the close of the month. Three depressions appeared over the Atlantic east of the thirtieth meridian, and moved eastward and northeastward to the European continent; one developed south of Greenland and moved to the northward of Iceland, while the remaining depression (xi.) first appeared in Iceland and passed southeastward to Ireland, where its course changed to northeast, and the depression moved to the Scandinavian coast.

Nine depressions appeared in Europe; three of these are traced over Austria and the Black Sea region; two are shown over the Mediterranean near the French and Italian coasts; one in western Russia; one in western Europe; one in central Europe, and one in Scandinavia. The general direction of movement of these disturbances was easterly or northeasterly; to this, however, there are three notable exceptions, viz., numbers xvii., xix., and xxii., whose paths were abnormal; the first, number xvii. developed in southern Germany, and passed rapidly northward as a severe storm to the Baltic and the Gulf of Bothnia, and thence to the Arctic regions; the second (xix.) developed over the western part of the Black Sea, and moved northwestward to Austro-Hungary, where it curved abruptly, and moved to the eastward; number xxii. developed in western Russia, and moved northwestward over northeastern Germany to the Baltic and thence to Scandinavia.

Five depressions are shown in Asia; one of these occupied the western part of the continent; one passed over the Gulf of Pe-Chi-Li, Corea, and the Sea of Japan, and three appeared in northeastern Asia and the Sea of Okhotsk.

On this chart is shown the track of the first typhoon of the season of 1882; taken from "Les Typhons de 1882, première partie" by the Reverend Marc Dechevrens, S. J., Director of the Zi-Ka-Wei Observatory, Shanghai, China.

This typhoon, although not exhibiting the violence usually displayed by storms of this class, is especially noteworthy on account of its long duration and unusual track, and from its having divided into numerous subsidiary or secondary typhoons, some of which were attended by winds of hurricane force. A full and interesting discussion of this meteor is given by Mr. Dechevrens in the above-mentioned work.

As a noteworthy feature in connection with the storm-tracks for July, 1882, may be mentioned the frequency and long duration of depressions over and in the vicinity of the British Isles. From the 4th to the 25th, a large area of low pressure, within which the barometer ranged from 29.15 (740.4) to 29.7 (754.4), prevailed over the northern and western parts of the British Isles, and over the ocean to the northwestward, causing a long period of unsettled weather, with much rain and strong s. and sw. winds; over those islands thunderstorms were also of frequent occurrence during this period. On the 26th an area of high barometer approached from the Bay of Biscay and continued until the close of the month. Most of the depressions traced over the European continent were accompanied by unusually heavy rains, and violent and destructive thunderstorms, but their accompanying winds were not heavy, owing to the absence of steep gradients. The month of July, 1882, was remarkable for the number and violence of the thunder-storms that occurred.

GENERAL REMARKS.

DAILY BULLETIN.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c., cirrus; k., cumulus; s., stratus; n., nimbus; d., scud; f., fracto; p., pallio; hz., haze; fg., fog; sk., smoke; inap., inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in metres per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometres per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations.

All marine data are classified as to districts, which are designated as follows: District No. 1, North Atlantic; District No. 2, South Atlantic, &c., under which headings the respective reports are printed.

BOUNDARIES OF DISTRICTS.

District No. 1 comprises the Atlantic ocean, its arms and tributaries, from the equator northward to the pole, and in the Arctic from 100° E., westward to 100° W., of Greenwich.

District No. 2 comprises the Atlantic ocean, its arms and tributaries, from the equator southward to the pole, and in the Antarctic from 20° E., westward to 70° W., of Greenwich.

District No. 3 comprises the Pacific ocean, its arms and tributaries, from the equator northward to the pole, and in the Arctic from 100° W., westward to 100° E., of Greenwich.

District No. 4 comprises the Pacific ocean, its arms and tributaries, from the equator southward to the pole, and in the Antarctic from 70° W., westward to 145° E., of Greenwich.

District No. 5 comprises the Indian ocean, its arms and tributaries, from the Asiatic continent southward to the pole, and in the Antarctic from 20° E., eastward to 145° E., of Greenwich.

The following remarks relate to the individual peculiarities in the *methods* of recording, and the *times* of taking, the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus.

ALGERIAN SERIES (furnished by co-operation of M. Thévenet, Director of the Meteorological Service at the College of Science of Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. Adelaide, furnished by co-operation of Charles Todd, C. M. G., F. R. A. S. The observations are taken at 9 p. m., local time. Hobart Town, furnish d by Commander J. Shortt, R. N. Observations are taken at 9 p. m., local time.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemberg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BELGIAN SERIES (furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade; weather by the Vienna symbols, and occasionally in general terms. At Arlon the observations are taken at 1 p. m., local time.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not

given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind-direction is given to 32 points, and weather by the Beaufort notation. At Bradford no observations are taken on Sunday, except rainfall. Hong Kong, furnished by W. Doberck, Government Astronomer. Rainfall is measured at midnight.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with an * are telegraphed daily to the office of the Chief Signal Officer of the Army.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Saint Francis Lighthouse, the original gives barometer reduced to freezing, but not to sea-level. The kind of clouds is given, but no distinction is made between upper and lower. Weather in general terms.

CHILIAN SERIES (by authority of the Secretary of Public Instruction, furnished by co-operation of Francisco Vidal Gormáz, President of the Central Meteorological Office at Santiago).—Observations are taken mostly at lighthouses on the coast; the originals give barometer as read off; temperature in Centigrade; humidity is not given, but is computed at this office from the hygrometrical observations.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the original gives the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres, and measured at the moment of simultaneous observation.

DANISH SERIES (furnished by co-operation of the Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted. At all Greenland stations the observations are taken at 8 a. m., local time.

EGYPTIAN SERIES (furnished by the co-operation of Albert Ismalun, Director of the Laboratoire Khédivial du Caire).—Original gives barometer reduced to zero, but not to sea-level, temperature in Centigrade. The velocity is the mean for past twenty-four hours. Rainfall in millimetres.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Montlouis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dôme, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Montlouis and Perpignan.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES (furnished by co-operation of Prof. D. K. Kokkides, Director of the Royal Observatory at Athens).—The original gives the barometer corrected for temperature only, and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India, at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office, at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by the co-operation of the Geographical Bureau, Department of the Interior, through I. Arai, Director of the Imperial Meteorological Observatory, at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 32 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (furnished by co-operation of the respective observers).—The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys-Ballot, Director of the Royal Meteorological Institute of the Netherlands, at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred. At Batavia the elevation is stated to be "a few metres."

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute, at Christiania).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in metres per second, or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in metres per second. No distinction is made between upper and lower clouds: the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Astrakhan, Ashurada and Baku, the barometer-cistern is below sea-level.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 10 a. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Prof. E. Gautier, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of F. Nimr, B. A., Director of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in metres per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms. At Samakov the barometer is reduced to freezing, but not to sea-level; temperature in Fahrenheit. The kind of clouds is given, also the distinction between upper and lower.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Puerto Berrio, is given as read off. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind-direction is generally given to 16 points, except 8 points for Bogota. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind-direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is

computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operations of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The position of stations (latitude and longitude) are obtained from Keith Johnston's "Index Geographicus," except where more exact information is furnished. The elevation of stations is obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the orignal forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is belived for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least, this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the alphabet of the letter so used.

BRITISH SERIES, Bradford; a letter placed opposite the name of station, refers to all the data except rainfall.

On April 1st, 1884, the following changes occur in the elevation of the barometer cistern, at stations of the United States series: Benton, Fort, Montana, to 2681 feet or 817 metres; Los Angeles, California, to 299 feet or 91 metres; Philadelphia, Pennsylvania, to 117 feet or 36 metres.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude (2), the the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date.

In the above charts broken lines indicate that the lines so drawn are doubtful. Arrows show direction of, and fly with, the wind. Force is shown as follows:

SYMBOLS.	FORCE.	VELOCITY.	
		MILES PER HOUR.	METRES PER SECOND.
○	0	0	0
	1, 2	0 to 9	0 to 4
	3, 4	9.1 to 22.5	4.1 to 10.1
	5, 6	22.6 to 40.5	10.1 to 18.1
	7, 8	40.6 to 67.5	18.1 to 30.2
	9, 10	67.6 up.	30.2 and over.

ERRATA.

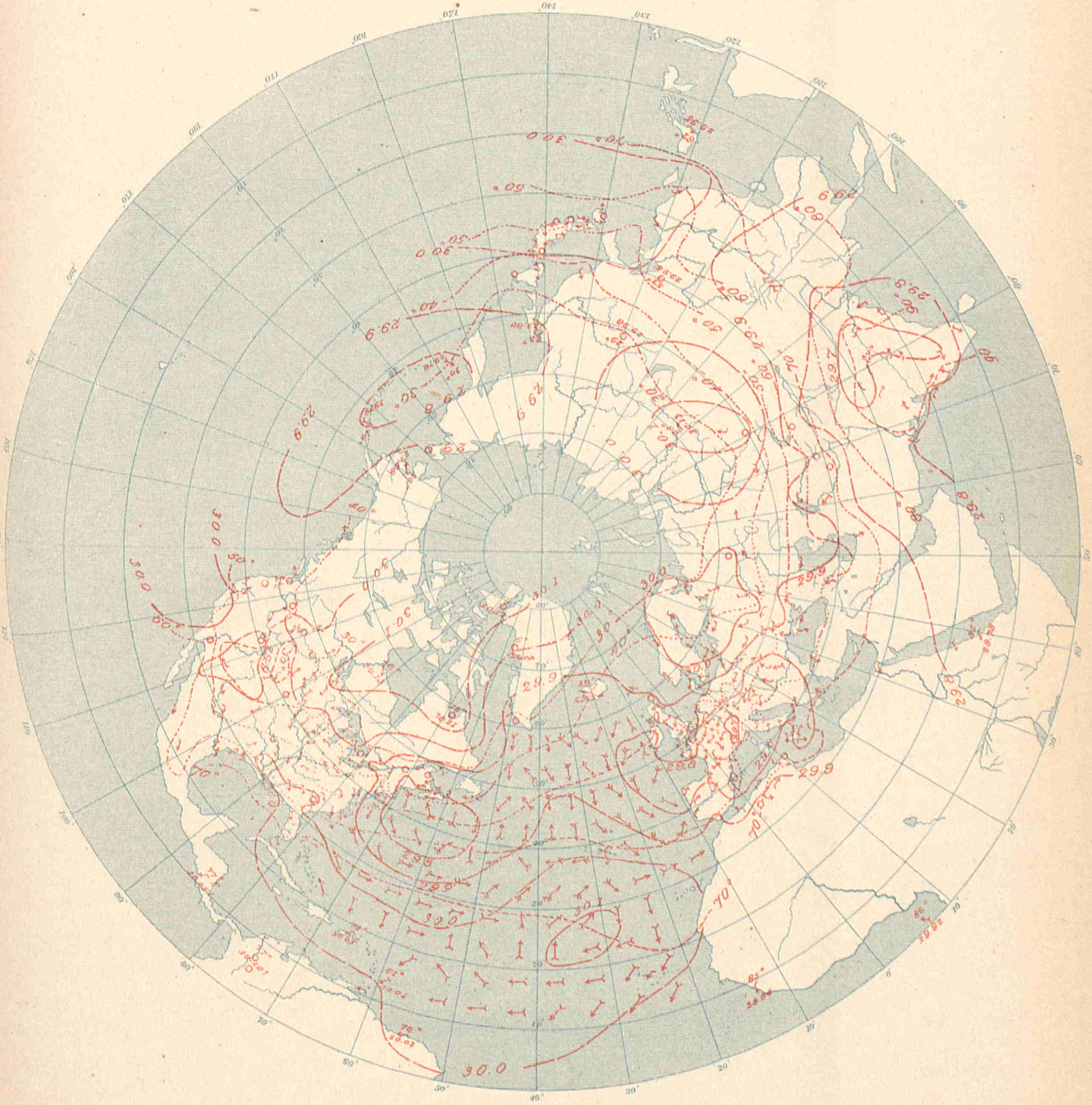
United States Series, Cincinnati, Ohio, from opening of station to May 1st, 1884, reduced barometer is too high by .01 of an inch (.25 mm).

DAILY BULLETIN, April 1st, 1884, page 2, Indian; transpose name of stations Bellary and Trichinopoly, so that Bellary will read 28.31 and Trichinopoly 29.54, &c.; same correction on 2d, 3d, 4th, 5th, and 6th.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. April, 1884. Isobars, Isotherms, and Winds.

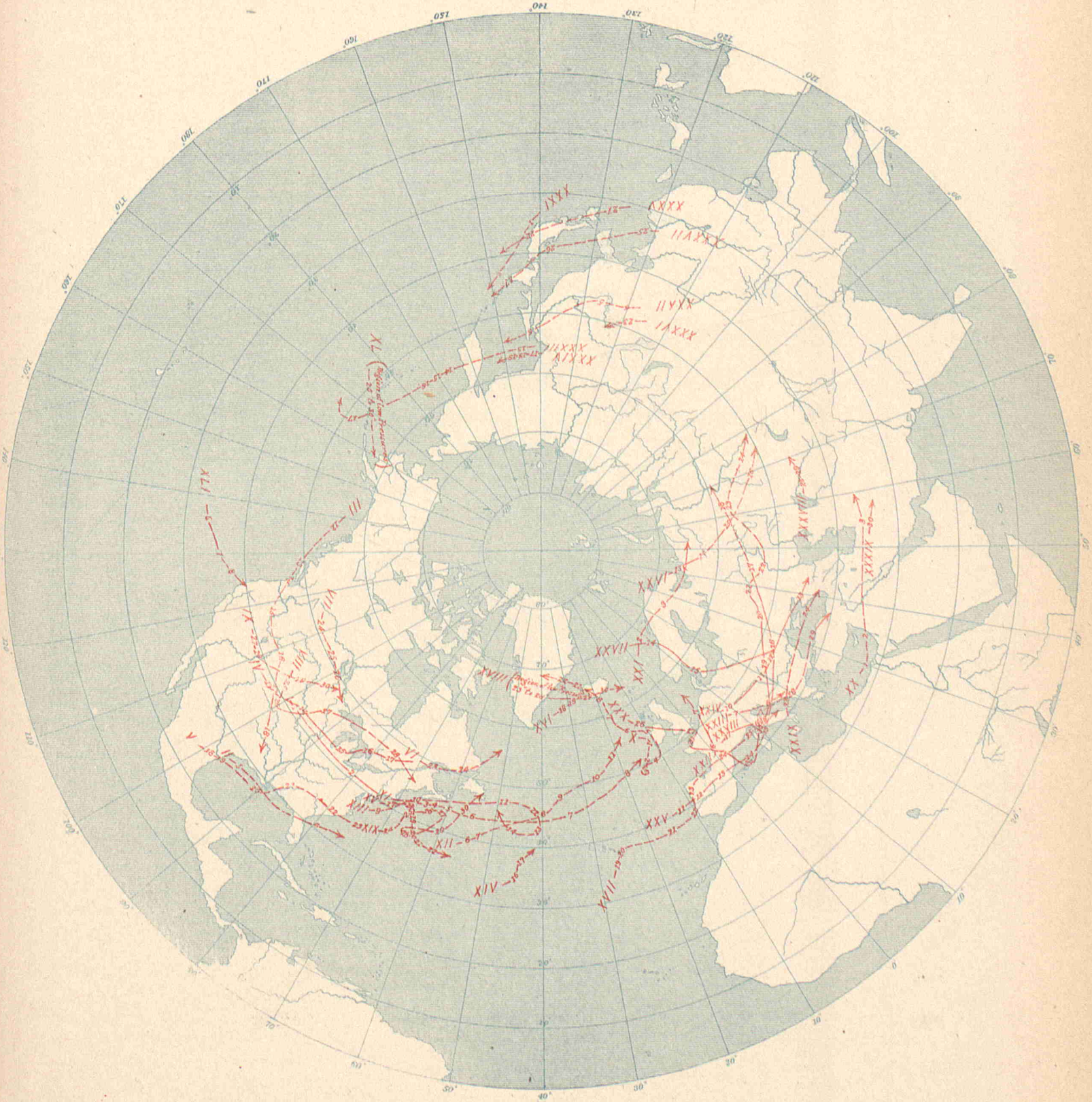


UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.

Signal Office Lith.

International Chart III. April, 1884. Storm-Tracks.

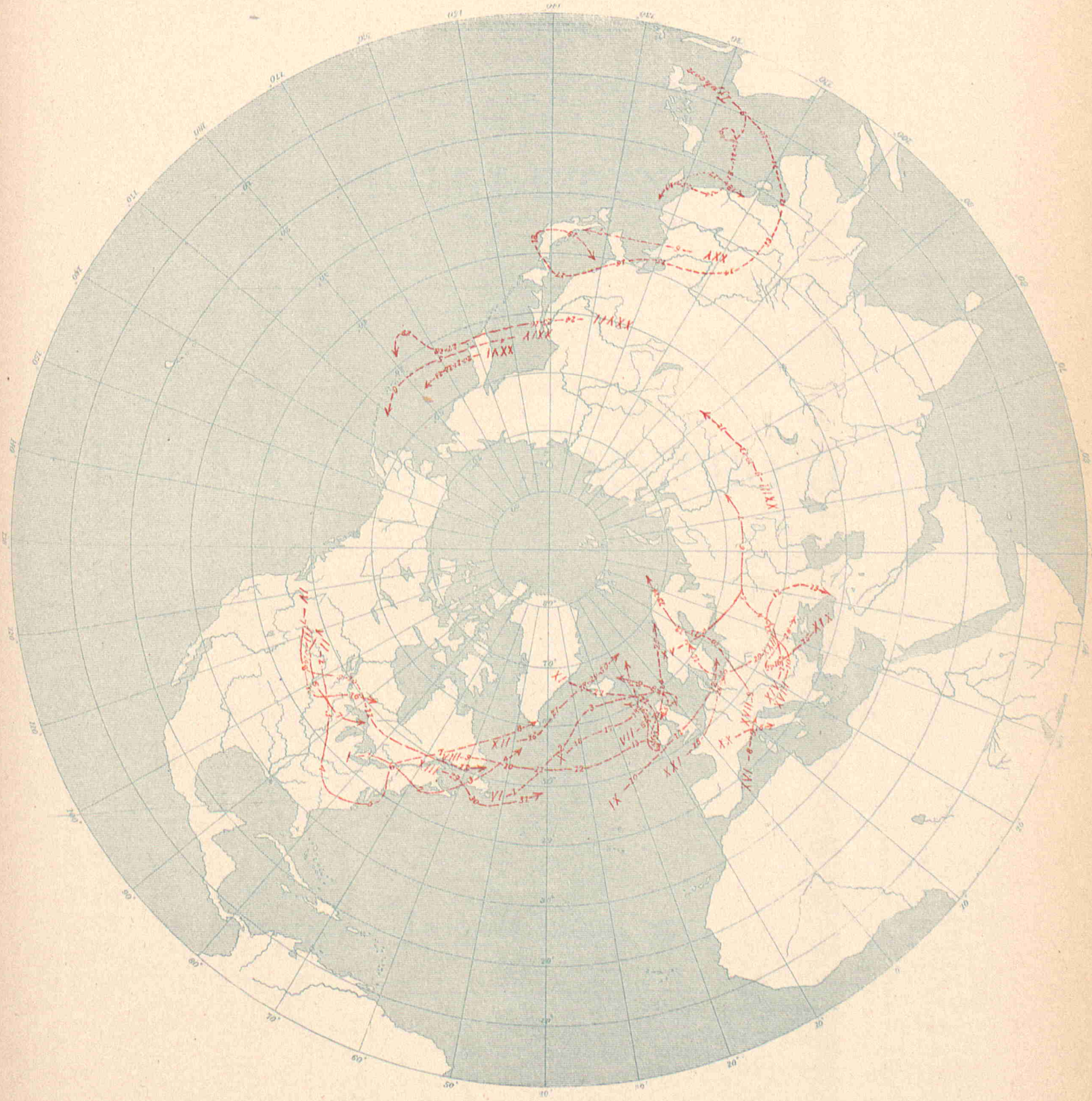


UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B.Hazen, Chief Signal Officer.

Signal Office 14th.

International Chart III. July, 1882. Storm-Tracks.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B.Hazen, Chief Signal Officer.

Signal Office Lith.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF MAY, 1884.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
JUNE, 1885.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

MAY, 1884.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for May, 1884. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	29.95	760.6	30.01	762.3	64.2	17.9	79.0	4	5	8	2	6	2	3	1	.....	.....	.....	4	0.17	4.3
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	29.95	760.6	30.02	762.0	66.2	19.0	68.8	7	.....	15	1	2	.....	2	4	.....	.....	.....	3	0.16	4.2
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	29.93	760.2	29.99	761.8	69.4	20.8	76.0	5	4	5	1	6	2	5	3	.....	.....	.....	2	2.57	65.3
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.01	762.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.07	763.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4282	1305	.....	.....	30.07	763.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2454	748	27.49	698.2	30.08	764.0	63.5	17.5	69.3	9	2	4	1	5	7	1	2	.....	.....	.....	1	1.13	28.6
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	29.56	750.8	30.06	763.4	74.7	23.7	56.0	1	8	3	4	.....	3	5	4	3	.....	.....	2	0.49	12.4
AUSTRALIAN.																										
Adelaide	S. 34 57	E. 138 35	9.22 p.m.	140	42	.....	.....	30.20	767.1	55.0	12.8	76.2	.....	.....	5	3	7	2	6	8	.....	.....	.....	6	2.37	60.2
Hobart Town	S. 42 53	E. 147 20	9.57 p.m.	190	58	29.84	757 9	30.03	762.7	48	8.9	87	5	7	5	6	2	1	.....	.....	5	.....	.....	6	1.76	44.7
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	30.04	702.9	30.13	765.2	51.5	10.8	86	8	4	5	2	4	5	1	2	.....	.....	.....	6	2.15	54.6
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.49	749.0	30.02	762.6	70.5	21.4	40.0	1	.....	3	7	1	10	6	3	.....	.....	.....	4	1.26	32.1
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.26	743.1	30.00	762.0	64.0	17.8	50.3	2	5	9	5	3	1	5	1	.....	.....	.....	6	0.92	23.3
Eperies	N. 48 58	E. 21 15	1.33 p.m.	846	258	29.14	740 2	29.99	761.7	58.1	14.5	68.7	9	1	.....	.....	10	.....	.....	.....	11	.....	.....	6	2.55	64.7
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.80	731.4	30.02	762 4	66.2	19.0	61.6	1	3	2	11	8	5	.....	1	.....	.....	.....	4	1.33	33.8
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.58	725.9	29.96	761.0	69.4	20.8	49.7	5	7	4	1	4	6	3	1	.....	.....	.....	5	2.52	64.0
Kremsmunster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28 68	728.5	29.98	761.6	65.7	18.7	60.2	.....	3	6	2	.....	1	5	10	4	.....	.....	5	1.26	32.0
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	29.02	737.0	29.98	761.6	62.6	17.0	54.5	2	6	2	6	2	3	9	1	.....	.....	.....	6	1.55	39.3
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.92	760.0	30.03	762.8	70.9	21.6	60.9	.....	.....	7	2	5	8	7	2	.....	.....	.....	3	0.62	15.8
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.51	749.6	29.96	761.0	70.0	21.1	43.0	12	1	9	4	2	.....	2	1	.....	.....	.....	2	.....	.....
Szegedin *a*	N. 46 15	E. 20 10	1.29 p.m.	279	86	29.65	753.1	29.92	760.0	69.4	20.8	50.4	3	8	5	2	10	1	.....	.....	1	.....	.....	4	0.16	4.0
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.95	760.6	30.04	763.1	70.2	21.2	48.5	3	6	1	5	.....	1	1	10	4	.....	.....	4	1.69	42.9
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.32	744.8	30.02	762.6	66.7	19.3	47.5	6	3	6	.....	3	6	5	2	.....	.....	.....	4	0.68	17.2
BELGIAN																										
Arlon	N. 49 40	E. 5 48	0.32 p.m.	?	?	.....	.....	.....	.....	61.3	16.3	74.6	.....	1	2	6	7	4	10	1	.....	.....	.....	2	4.11	104.3
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	29.80	757.0	30.00	762 0	61.5	16.4	58 0	2	2	5	10	1	.....	4	7	.....	.....	.....	6	1.66	42.1
Furnes	N. 51 04	E. 2 40	0.19 p.m.	20	6	30.00	762.0	30.02	762.5	63.1	17.3	64.8	7	7	5	2	1	1	.....	8	.....	.....	.....	5	1.98	50.2
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	29.92	760.0	30.05	763.2	64.9	18.3	74.2	1	2	10	3	3	.....	7	5	.....	.....	.....	5	2.89	73.5
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.76	755.9	29.86	758.4	51.3	10.7	63.7	1	2	:	3	8	7	6	3	.....	.....	.....	6	1.51	38.4
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.96	761.0	57.0	13.9	62.3*a*	.....	1	6	11	1	3	5	4	.....	.....	.....	5	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.40	746.7	29.93	760.2	55.0	12.8	66.0	.....	.....	3	13	6	2	2	5	.....	.....	.....	6	.....	.....
Bradford	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.53	750.0	29.93	760.2	56.1	13.4	62.3	.....	4	5	9	4	2	2	5	.....	.....	.....	7	1.42	36.1
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.94	760.5	29.98	761.5	82.3	27.9	76.1	.....	.....	.....	.....	.....	10	12	9	.....	.....	.....	4	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	.....	.....	60.9	16.1	58.8	1	3	8	6	1	3	5	4	.....	.....	.....	5	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	160	49	29.83	757.7	30.01	762.2	60.0	15.6	64.3	1	.....	5	5	3	1	10	2	4	.....	.....	6	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.80	756.9	30.03	762.7	52.2	11.2	71.6	.....	5	3	8	2	3	6	4	.....	.....	.....	6	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2205	672	27.67	702.8	29.98	761.5	72.8	22.7	44.3	1	.....	.....	3	4	4	4	15	.....	.....	.....	3	.....	.....
Freetown	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.61	752.1	29.84	757 9	85.1	29.5	88.0	7	1	4	3	8	2	4	1	1	.....	.....	3	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.82	757.4	29.85	758.2	54.8	12.7	76.1	.....	1	3	15	2	1	5	4	.....	.....	.....	6	4 29	109.0
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	29.89	759.2	30.01	762.2	68.0	20.0	90.0	.....	1	11	3	.....	1	13	2	.....	.....	.....	4	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.83	757.7	30.00	762.0	62.3	16.8	55.5	.....	2	2	12	2	.....	6	7	.....	.....	.....	6	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.75	755.6	30.05	763.3	57.4	14.1	70.7	2	3	4	7	1	2	6	6	.....	.....	.....	5	0.99	25.1
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.97	761 2	30.01	762.2	59.7	15.4	53.8	1	3	6	8	2	2	5	4	.....	.....	.....	6	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.70	754.4	29.96	761.0	59.0	15.0	56.1	1	2	3	13	3	1	.....	8	.....	.....	.....	6	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.89	759.2	29.96	761.0	68.8	20.4	74.6	5	9	.....	1	1	4	4	7	.....	.....	.....	3	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.01	762.2	30.06	763.5	80.3	26.8	74.6*a*	1	1	1	5	4	7	6	6	.....	.....	.....	5	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.77	756.1	30.00	762.0	59.2	15.1	55.7	1	1	2	10	6	1	3	7	.....	.....	.....	6	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.95	760.7	30.02	762.5	59.0	15.0	69.9	.....	5	2	10	4	2	3	5	.....	.....	.....	6	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.71	754.6	29.81	757.2	48.8	9.3	76.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	.....	.....
Scutari Cemet' *a*	N 41 00	E. 29 03	2.04 p.m.	60	18	29.89	759 2	29.95	760.7	65.7	18.7	56.7	.....	4	.....	7	2	.....	.....	17	.....	.....	.....	4	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.62	752.3	29.96	761.0	58.8	14.9	63.6	.....	.....	5	15	.....	.....	1	10	.....	.....	.....	5	.....	.....
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.87	758.7	29.90	759.4	55.3	12.9	75.6	1	1	10	9	1	.....	9	.....	.....	.....	.....	6	2.77	70.4
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.96	761.0	55.3	12.9	64.4	.....	.....	8	11	3	1	5	3	.....	.....	.....	7	.....	.....
Strathfield	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	58.7	14.8	61.4	3	3	7	7	3	2	1	5	.....	.....	.....	5	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m	23	7	29.91	759.7	29.94	760.5	56.4	13.6	71.0	2	2	6	8	5	5	2	1	.....	.....	.....	7	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.73	755.2	30.07	763.8	70.1	21.2	58.3	2	9	3	3	2	1	9	2	.....	4985	8023	4	0.54	13.7
CANADIAN.																										
Bathurst *b*	N. 47 39	W. 65 43	7.45 a m.	35	11	.....	.....	29.96	761 0	42.3	5.7	.....	5	4	2	.....	3	3	.....	2	10	.....	.....	6	3.36	85.3
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.86	758 4	29.90	759.4	42.2	5.7	79.0	5	4	4	7	1	4	2	2	2	16495	26546	6	5.18	131.6
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.87	758.7	29.93	760.2	41.5	5.3	79.0	7	2	5	3	2	2	4	6	.....	4624	7441	9	5.05	128.3
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	.....	.....	29.86	758.4	49.2	9.6	76.5	.....	7	8	5	.....	1	9	1	.....	.....	.....	6	2.20	55.9
Dalhousie *b*	N. 48 04	W. 66 22	7.32 a m.	45	14	.....	.....	29.92	760 0	40.9	4.9	.....	.....	4	13	...	.....	.....	10	.....	2	.....	.....	6	6.12	155.4
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.89	759.2	29.91	759.7	42.0	5.6	81.8*a*	5	9	1	2	4	1	1	8	.....	.....	.....	6	3.46	87.9
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.14	740.1	29.96	761.0	43.5	6.4	82.3*a*	9	5	4	1	6	3	1	2	.....	8571	13793	5	1.06	26.9
Fredericton	N. 45 57	W. 66 38	7.41 a.m.	59	18	.....	.....	29.94	760.5	44.2	6.8	73.3	2	9	3	2	.....	2	4	7	2	.....	.....	6	4.98	126.5
Grand Manan	N. 44 46	W. 66 45	7.41 a.m.	49	15	29.84	757.9	29.92	760.0	44.8	7.1	80.2	2	5	3	2	6	1	2	3	7	7223	11624	6	6.49	164.8
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	.....	.....	29.93	760.2	48.6	9.2	89.6	.....	8	2	3	3	2	2	1	10	.....	.....	6	2.63	66.8
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.80	756.9	29.93	760.2	44.8	7.1	77.0	5	6	6	.....	2	4	6	2	.....	.....	.....	5	3.67	93.2
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	372	113	.....	.....	29.88	758.9	47.6	8.7	84.0	1	.....	1	17	.....	.....	1	10	1	.....	.....	5	2.37	60.2
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.58	751.3	29.91	759.7	48.4	9.1	75.5	1	4	.....	6	4	.....	3	7	6	.....	.....	5	2.09	68.3
Little GlaceBay *a*	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.78	756.4	29.84	757.9	43.2	6.2	86.1	5	4	3	7	4	2	3	2	.....	.....	.....	8	.....	.....
London	N. 43 00	W. 81 15	6.43 a.m.	832	254	29.16	740.7	29.96	761 0	49.4	9.7	82.7	1	3	3	1	1	2	2	17	.....	.....	.....	7	3.06	77.7
Medicine Hat	N. 50 01	W. 110 37	4.46 a.m.	2136	651	27.58	700.5	29.82	757 4	45.3	7.4	94.8	3c	2	6	4	8	2	1	2	.....	.....	.....	3	1.39	35.3
Minnedosa	N. 50 13	W. 99 48	5.29 a.m.	1796	545	28.04	712.2	29.98	761.5	41.6	5.3	72.4	4	9	3	2	2	1	4	3	3	7744	12460	4	0.27	6.9
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.70	754.4	29.91	759.7	48.9	9.4	70.5	4	4	6	4	5	2	2	4	.....	.....	.....	7	3.51	89.2
Ottawa	N. 45 26	W. 75 41	7.05 a.m.	200	61	29.68	753.9	29.90	759.4	49.1	9.5	77.2	2	5	2	6	4	1	2	9	.....	.....	.....	4	2.20	55.9
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.20	741.7	29.89	759.2	47.1	8.4	89.2	1	4	4	.....	5	8	4	2	3	6685	10758	5	4.85	123.2
Peterboro	N. 44 17	W. 78 18	6.54 a.m.	675	206	.....	.....	29.89	759.2	51.2	10.7	79.3	2	5	6	6	1	1	8	1	1	.....	.....	.....	2.19	55.6
Port Arthur	N. 48 27	W. 89 12	6.11 a.m.	642	196	29.24	742.7	29.96	761.0	49.2	9.6	74.9	2	12	.....	4	2	.....	.....	4	7	3591	5779	3	2.47	62.7
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.24	742.7	29.92	760.0	49.5	9.7	85.0	3	2	3	8	3	.....	2	3	7	5265	8473	6	3.20	81.3
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.29	744.0	29.93	760.2	49.3	9.6	84.3	2	1	8	2	2	3	7	5	1	.....	.....	5	3.61	91.7
Qu Appelle *g*	N. 50 44	W. 103 42	5.13 a.m.	2115	646	27 60	702.6	29.86	758.4	47.0	8.3	.....	2	6	2	6	4	1	.....	2	1	.....	.....	3	0.30	7.6
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.55	750.6	29.87	758.7	45.4	7.4	86.4	2	.....	1	1	2	.....	.....	12	13	.....	.....	6	2.48	63.0
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.44	747.8	29.90	759.4	44.7	7.1	81.0	2	14	1	.....	.....	2	5	1	6	.....	.....	5	3.14	79.8
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.85	758 2	29.91	759.7	43.3	6.3	84.5	2	11	2	.....	3	8	1	3	1	.....	.....	5	5.23	132.8
Saint John, N.B	N. 45 17	W. 66 03	7.44 a.m.	130	40	.....	.....	29.92	760.0	43.8	6.6	81.1	4	4	2	1	2	3	5	1	9	.....	.....	7	4.87	123.7
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.88	759.0	43.9	6.6	.....	4	4	4	4	2	7	.....	4	2	.....	.....	.....	.....	.....
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.19	741.4	29.90	759.4	47.6	8.7	85.3	1	2	3	5	3	9	1	4	3	6921	11138	5	3.18	80.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mil.
CANADIAN —Con.	° ′	° ′																								
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1186	361	28.66	728.0	29.94	760.5	49.4	9.7	80.8	1	6	1	5	6	3	5	1	3	.....	.....	4	3.28	83.3
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.83	757.7	29.87	758.7	42.9	6.1	83.0	5	2	4	7	3	2	3	2	3	5866	9440	7	4.49	114.0
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.55	750.6	29.93	760.2	48.3	9.1	77.4	3	8	2	2	1	.....	5	5	5	8194	13186	6	2.24	56.9
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	28.89	733.8	29.95	760.7	49.3	9.6	80.9	2	.....	7	8	4	2	3	5	.....	.....	.....	7	3.86	98.0
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.84	757.9	29.91	759.7	46.0	7.8	84.6	2	8	2	3	1	4	6	1	4	.....	.....	6	2.54	64.5
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.09	764.3	30.12	765.0	65.8	18.8	92.9	.....	.....	1	20	1	2	.....	7	.....	.....	.....	6	1.17	29.7
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	?	?	29.97	761.2	.....	.....	67.0	19.4	58.0	4	9	.....	3	.....	3	.....	1	11	.....	.....	6	1.56	39.6
Springbok	S. 29 45	E. 17 43	1.19 p.m.	?	?	27.89	708.4	.....	.....	67.2	19.6	56.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
CHILIAN.																										
Coquimbo	S 29 56	W. 71 21	7.22 a m	72	22	29.95	760.8	30.03	762.8	53.6	12.0	89.5	3	.....	1	.....	.....	7	18	2	.....	.....	.....	6	.....	.....
Iquique	S. 20 12	W. 70 11	7.27 a m	26	8	29.98	761.4	30.00	762.1	62.1	16.7	72.3	.....	1	.....	10	5	1	6	5	.....	.....	.....	.....	.....	.....
Niebla	S 39 53	W. 73 25	7.14 a.m	98	30	29.55	750.6	29.66	753 3	46.4	8.0	97.3	2	2	5	.....	.....	.....	22	.....	.....	.....	.....	6	11.35	288.4
Punta Caldera	S 27 03	W. 70 53	7.25 a.m.	82	25	29.92	760.0	30.01	762.2	56.3	13.5	80.9	.....	10	.....	4	.....	6	1	10	.....	.....	.....	7	.....	.....
Punta Corona	S. 41 47	W 73 53	7.12 a.m.	174	53	29.89	759.2	30.08	764.0	.....	.....	.....	10	.....	4	1	4	1	8	3	.....	.....	.....	8	.....	.....
Quiriquina	S. 36 37	W. 73 03	7.25 a.m.	107	57	.....	.....	.....	.....	52.7	11.5	85.3	7	2	.....	1	6	8	4	3	.....	.....	.....	7	2.58	65.4
Valparaiso	S. 33 02	W. 71 39	7.22 a.m.	131	40	29.88	759.0	30.02	762.6	53.8	12.1	89.0	2	.....	.....	4	11	1	2	11	.....	.....	.....	3	.....	.....
CHINESE.																										
Hong Kong	N. 22 18	E. 114 04	7.45 p.m.	110	33	29.75	755.6	29.86	758.4	73.5	23.1	88.3	1	2	2	1	2	.....	17	6	.....	.....	.....	8	9.04	229.6
Sub. Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	29.88	758.9	29.90	759.5	62.1	16.7	85	5	2	1	.....	3	9	8	2	1	.....	.....	6	4.00	101.6
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.87	758.6	29.91	759.8	55.4	13.0	65	6	7	2	6	5	4	.....	1	.....	.....	.....	6	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.91	759.8	29 93	760.3	54.0	12.2	73	1	5	9	13	.....	1	.....	1	1	.....	.....	6	.....	.....
Vigtut	N. 61 12	W. 48 00	8.56 a.m.	16	5	29.94	760.4	29.96	760.9	37.4	3.0	.....	.....	1	1	1	.....	1	.....	.....	27	.....	.....	7	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.84	757.9	29.88	759.0	39.4	4.1	78	1	2	2	1	2	1	5	16	1	.....	.....	7	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.74	755.4	29.76	756.0	46.6	8.1	77	5	1	5	5	2	3	2	6	2	.....	.....	7	.....	.....
Upernavik	N. 72 47	W. 56 00	8.24 a.m.	39	12	30.04	763.0	30.09	764.2	19.2	—7.1	.....	3	.....	.....	4	1	1	7	2	13	.....	.....	6	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.79	756.7	29.88	759.0	51.4	10.8	76	.....	5	8	11	1	2	1	2	1	.....	.....	5	.....	.....
Egyptian.																										
Cairo	N. 30 03	E. 31 21	2.14 p.m.	?	?	29.77	756.2	.....	.....	82.0	27.8	.....	6	3	1	1	.....	.....	2	18	.....	.....	.....	4	inap.	inap.
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.50	749.3	30.08	764.0	65.8	18.8	63.0	1	5	11	3	1	8	1	1	.....	.....	.....	6	3.15	80.0
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.49	749.1	30.04	763.1	62.1	16.7	78.1	5	.....	3	6	6	2	1	8	.....	.....	.....	.....	0.98	24.8
Arras	N. 50 18	E. 2 46	0.19 p.m.	223	68	29.77	756.2	30.01	762.2	64.0	17.8	51.3	3	1	13	1	.....	4	7	2	.....	.....	.....	4	1.84	46.8
Avignon	N. 43 57	E. 4 48	0.27 p.m	65	20	29.94	760.5	30.02	762.5	73.8	23.2	48.9	4	14	3	3	5	2	.....	.....	.....	.....	.....	.....	4.38	111.3
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.49	749.0	30.03	762.8	65.5	18.6	55.0	1	4	2	6	4	10	1	3	.....	.....	.....	5	2.76	70.0
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.78	756.3	30.04	762.9	64.2	17.9	53.0	1	.....	4	6	3	2	10	5	.....	.....	.....	5	1.47	37.3
Besançon	N. 47 14	E. 6 02	0.32 p.m.	843	257	29.02	737.0	30.00	761.9	67.1	19.5	67.1	1	.....	.....	6	9	10	.....	5	.....	.....	.....	.....	6.81	173.0
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.80	756.9	30.06	763.4	66.0	18.9	63.5	4	4	9	5	.....	4	4	1	.....	.....	.....	6	3.03	76.9
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.51	749.5	30.04	763.1	65.8	18.8	58.0	6	2	9	4	1	.....	2	6	1	.....	.....	.....	4.15	105.3
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.85	758.2	30.10	764.4	63.1	17.3	68.3	6	.....	3	13	1	2	3	3	.....	.....	.....	5	2.44	62.9
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.91	759.8	29.98	761.6	64.4	18.0	88.2	5	.....	6	8	3	1	.....	8	.....	.....	.....	4	1.47	37.4
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	292	89	.....	.....	.....	.....	65.5	18.6	69.9	.....	1	.....	4	13	6	3	4	.....	.....	.....	4	2.83	72.0
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.51	749.6	30.03	762.7	65.8	18.8	59.4	1	6	5	4	2	3	6	4	.....	.....	.....	5	2.22	56.5
Clermont-Fer'and	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.69	728.7	30.01	762.2	67.3	19.6	47.7	9	5	3	3	5	2	.....	4	.....	.....	.....	6	1.48	37.5
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.21	741.9	30.04	763.1	67.3	19.6	58.9	3	2	6	5	2	1	3	9	.....	.....	.....	.....	2.36	60.0
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.20	741.6	30.04	762.9	63.0	17.2	57.4	1	1	8	8	.....	1	7	5	.....	.....	.....	.....	2.98	75.7
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.50	698.4	29.97	761.2	68.4	20.2	35.3	.....	1	1	6	1	2	7	3	10	.....	.....	4	1.74	44.2
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.90	734.0	29.99	761.8	70.5	21.4	47.0	2	9	2	5	5	6	2	.....	.....	.....	.....	4	3.58	90.9
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.27	743.4	30.01	762.3	69.4	20.8	59.3	2	11	8	1	.....	3	3	.....	3	.....	.....	.....	1.52	38.7
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.47	723.0	30.02	762.6	62.1	16.7	63.4	.....	.....	5	8	7	3	7	1	.....	.....	.....	.....	6.74	171.2
Lambelle	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.76	756.0	30.07	763.7	63.1	17.3	58.6	11	3	5	5	.....	1	3	3	.....	.....	.....	4	0.52	13.2
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.50	749.4	30.08	763.9	68.2	20.1	55.2	.....	3	15	4	.....	2	.....	7	.....	.....	.....	5	4.17	105.9
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.97	761.3	30.08	763.9	64.2	17.9	64.0	5	1	5	8	3	4	2	3	.....	.....	.....	6	2.79	70.8
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	28.99	736.4	30.03	762.8	67.1	19.5	50.0	6	6	.....	2	4	4	3	6	.....	.....	.....	5	2.32	59.0
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.74	755.4	30.04	762.9	65.8	18.8	55.4	3	2	7	2	5	2	5	5	.....	.....	.....	4	2.01	51.0
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.75	755.6	30.02	762.4	69.6	20.9	52.9	.....	3	12	10	1	4	1	.....	.....	.....	.....	4	2.68	68.2
Montlouis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.87	631.7	29.71	754.7	52.3	11.3	38.0	3	3	2	10	.....	.....	5	8	.....	.....	.....	5	4.43	112.5
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.90	759.4	29.99	761.8	70.0	21.1	76.4	7	5	1	2	6	7	2	1	.....	.....	.....	3	2.45	62.3
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.26	743.3	30.05	763.3	64.0	17.8	51.2	11	1	2	4	8	.....	.....	2	3	.....	.....	.....	2.11	53.7
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.92	759.9	30.08	764.0	65.8	18.8	60.8	5	.....	6	6	2	4	4	4	.....	.....	.....	6	3.58	90.8
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.93	760.3	30.04	763.1	68.0	20.0	55.0	1	11	.....	.....	1	4	10	4	.....	.....	.....	5	2.03	51.6
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.26	540.0	.....	.....	35.2	1.8	.....	.....	1	4	9	1	2	1	2	11	.....	.....	.....	2.06	52.4
Privas. [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.97	735.9	30.00	762.1	68.7	20.4	49.0	10	.....	1	.....	15	1	3	1	.....	.....	.....	6	4.87	123.7
Puy de Dôme	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.20	640.1	.....	.....	46.4	8.0	79.9	2	3	7	1	4	6	6	2	.....	.....	.....	6	3.67	93.3
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.05	763.2	30.08	764.0	68.2	20.1	61.3	4	3	4	7	3	2	3	3	2	.....	.....	5	3.94	100.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.79	756.6	30.06	763.4	63.7	17.6	73.0	.....	9	5	2	3	3	2	7	.....	.....	.....	4	3.97	100.9
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27 91	7.8.9	29.99	761.8	63.5	17.5	67.9	4	6	...	.....	2	5	4	3	7	.....	.....	.....	2.92	74.3
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.99	761.8	30.04	763.0	66.2	19.0	58.4	3	2	4	8	2	4	2	6	.....	.....	.....	3	1.52	38.7
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.88	758.9	30.04	763.1	64.8	18.2	54.2	2	2	6	6	3	4	.....	8	.....	.....	.....	5	2.00	50.9
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.38	746.2	30.10	764.6	66.4	19.1	67.7	3	10	6	1	...	8	3	.....	.....	.....	.....	6	2.27	57.7
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	29.92	759.9	30.10	764.4	66.7	19.3	54.8	7	2	1	1	8	5	4	3	.....	.....	.....	.....	1.64	41.6
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.55	750 5	30.04	763.0	64.0	17.8	52.5	2	3	8	3	1	5	3	6	.....	.....	.....	.....	1.60	40.5
Sub-Series.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	0.03 p m.	131	40	29.94	760.4	30.09	764.2	66.0	18.9	64.0	1	8	11	1	.....	1	7	2	.....	.....	.....	6	4.28	108.6
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28 61	726.6	30.03	762.8	63.3	17.4	40.0	.....	5	6	9	.....	2	3	5	1	.....	.....	4	1.19	30.2
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.20	741.7	30.04	763.0	63.3	17.4	54.3	4	4	3	7	2	3	2	1	5	.....	.....	4	1.95	49.5
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.82	757.4	29.96	760.9	63.9	17.7	48.1	.....	3	10	6	4	1	2	4	1	.....	.....	6	1.16	29.6
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.51	749.5	30.04	763 0	63.0	17.2	46.3	2	9	6	5	4	2	3	.....	.....	.....	.....	6	1.60	40.5
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.59	751.5	30.04	763.1	65.7	18.7	49.0	.....	2	1	14	1	2	3	8	.....	.....	.....	5	3.08	78.3
Cassel	N. 51 19	E 9 28	0.46 p.m.	669	204	29.29	744.0	30.01	762.2	65.1	18.4	51.7	4	2	2	13	3	2	5	.....	.....	.....	.....	4	1.96	49.7
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	.....	.....	30.02	762.4	66.0	18.9	49.3	3	2	2	8	6	.....	2	8	.....	.....	.....	5	1.95	49.6
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.63	727.2	30.01	762.3	64.0	17.8	64.6	.....	1	6	14	3	1	.....	6	.....	.....	.....	5	5.11	129.8
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.89	759.3	29.98	761.5	60.1	15.6	66.6	2	3	6	9	3	4	1	3	.....	.....	.....	6	2.09	53.1
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.93	760.1	29.94	760.5	57.4	14.1	63.5	6	1	11	7	1	2	.....	2	1	.....	.....	6	2.20	56.0
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.60	751.9	30.02	762.4	63.5	17.5	57.0	.....	6	3	8	7	1	2	4	.....	.....	.....	5	1.83	46.4
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.80	756.9	29.98	761.6	65.1	18.4	50.1	3	3	7	10	2	2	3	1	.....	.....	.....	5	1.46	37.2
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.91	759.7	29.96	760 9	52.2	11.2	74.1	5	9	6	5	6	.....	.....	.....	.....	.....	.....	6	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.21	716.4	30.07	763.8	04.8	18.2	46.4	4	9	1	1	.....	1	4	6	5	.....	.....	4	1.25	31.8
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	26	8	29.96	760.9	29.98	761.6	55.2	12.9	67.1	7	3	7	1	6	.....	2	5	.....	.....	.....	6	1.04	26.5
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.49	749.0	30.02	762.4	66.2	19.0	53.0	1	10	7	7	2	1	1	2	.....	.....	.....	5	1.86	47.2
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.14	740.1	30.01	762 3	65.5	18.6	51.3	3	6	3	7	2	1	3	6	.....	.....	.....	4	1.80	45.8
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.91	759.8	29.94	760 4	56.3	13.5	71.8	5	.....	7	9	4	3	1	2	.....	.....	.....	6	1.79	45.5
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.59	751.5	29.96	760.9	76.6	24.8	.....	6	.....	1	4	11	.....	.....	9	.....	.....	.....	3	0.85	21.7
INDIAN.																										
Kurrachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.61	752.0	29.66	753 2	87.3	30.7	75	.....	.....	14	17	.....	.....	.....	.....	.....	.....	.....	1	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.16	740.6	29.61	752.0	104.0	40.0	21	1	4	12	14	.....	.....	.....	.....	.....	.....	.....	1	0.01	0.3
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.74	755.5	29.78	756.4	86.1	30.1	70	.....	7	19	5	.....	.....	.....	.....	.....	.....	.....	2	0	0
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.90	708.8	29.70	754.4	93.1	33.9	25	.....	10	16	5	.....	.....	.....	.....	.....	.....	.....	2	0	0
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2560	777	27.24	691.9	29.74	755.3	82.9	28.3	55	.....	.....	14	16	.....	1	.....	.....	.....	.....	.....	3	1.22	31.0
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.81	731.7	29.52	749.7	100.5	38.1	21	1	4	15	1	.....	.....	2	.....	8	.....	.....	2	0.53	13.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for May, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
INDIAN—Cont'd.	° ′	° ′																								
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.65	727.7	29.50	749.4	99.6	37.6	16	....	2	20	.....	.....	2	2	.....	5	.....	.....	1	0.03	0 8
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.00	736.5	29.53	750.0	104.4	40.2	15		5	16	4	.....	3	2	1	.....	.....	.....	1	0	0
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.57	725.7	29.56	750.9	102.2	39.0	14	5	12	4	5	.....	1	.....	1	3	.....	.....	4	0.20	5.1
Jubbulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.26	717.8	29.56	750.7	100.9	38.3	15	1	13	9	1	.....	2	1	.....	4	.....	.....	2	0.39	9.9
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.20	741.6	29.56	750 8	98.3	36.8	26	7	7	3	2	.....	2	1	2	7	.....	.....	1	1.09	27.7
Allahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.23	742.5	29.53	750.0	102.3	39.1	19	.....	12	1	2	.....	.....	1	10	5	.....	.....	1	0.26	6.6
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.40	746.6	29.57	751.2	91.7	34.8	38	2	3	1	1	.....	1	8	15	.....	.....	.....	1	0.97	24.6
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.61	701 4	29.56	750.8	91.1	32.8	27	10	11	1	.....	2	3	1	2	1	.....	.....	2	1.32	33.5
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.55	750 6	29.63	752.6	90.9	32.7	56	1	17	12	1	.....	.....	...	.....	.....	.....	.....	2	1.69	42.9
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.61	752.0	29.63	752.6	85.0	29.4	74	1	1	3	5	16	5	.....	.....	.....	.....	.....	6	5.31	134.9
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.62	752.4	29.71	754.7	80.9	27.2	84	2	.....	1	7	10	5	2	1	3	.....	.....	5	0.24	6.1
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.38	746.2	29.72	754.8	79.0	26.1	82	.....	...	1	6	1	4	1	18	...	.....	.....	7	13.46	341.9
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.18	715.7	29.55	750 6	101.8	38.8	20	.....	13	15	2	.....	.....	...	...	1	.....	.....	2	0	0
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	29.93	760 2	.....	.....	80.7	27.1	74	.....	.....	3	6	9	9	4	.....	.....	.....	.....	7	13.27	337.1
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.22	716.8	.....	.....	98.1	36.7	26	2	7	12	4	1	2	3	.....	.....	.....	.....	5	0.09	2.3
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.63	752.7	30.03	762.8	70.9	21.6	46	.....	.....	2	8	3	8	6	4	.....	.....	.....	5	3.61	91.8
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.52	749.8	30.02	762.6	71.8	22.1	47	1	2	2	8	1	12	1	4	.....	.....	.....	5	3.04	77.3
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.91	759.8	30.02	762.5	70.7	21.5	49	5	3	1	2	1	8	9	2	.....	.....	.....	4	1.22	31.0
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.11	739.3	29.99	761.8	70.0	21.1	51	2	6	.....	1	7	4	11	.....	.....	.....	.....	5	3.63	92.1
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157?	48?	29.83	757.6	30.02	762 5	68.9	20.5	58	3	7	.	5	4	8	3	1	.....	.....	.....	4	4.01	117.2
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.99	761 8	30.04	763.0	67.7	19.8	66	10	...	.....	4	1	1	9	6	...	.....	.....	4	2.34	59.5
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.74	755.5	30.00	761.9	72.9	22.7	40	1	3	7	9	.....	1	1	9	.....	.....	.....	4	1.77	44.9
Leghorn	N. 43 33	E. 10 18	0.49 p.m	79	24	29.89	759.3	29.98	761.4	71.2	21.8	57	3	1	10	4	5	1	5	2	.....	.....	.....	4	0.72	18.2
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.83	757.6	30.00	761.9	75.6	24.2	46	2	2	11	9	2	4	.....	.....	1	.....	.....	5	3.08	78.1
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.74	755.4	29.99	761.7	72.7	22.6	48	4	5	4	..	3	4	2	9	.....	.....	.....	2	0.86	21.8
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.13	739.9	30.00	762.0	71.8	22.1	72	3	4	6	1	5	7	2	3	.....	.....	.....	4	0.55	14.0
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.78	756.3	30.02	762.6	70.0	21.1	57	.....	1	2	.....	.....	.....	.....	28	.....	.....	.....	4	2.49	63.2
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.94	760.4	29.98	761.5	70.9	21.6	64	8	.....	1	1	3	5	4	9	.....	.....	.....	6	2.47	62.7
Sub-Series.																										
Naples	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.50	749.4	.....	.....	71.8	22.1	59.0	.....	.....	3	18	2	2	1	5	.....	.....	.....	4	1.72	43.6
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	22.21	564.2	.....	.....	42.1	5.6	60.7	.....	1	4	10	.....	4	6	6	.....	.....	.....	5	2.93	74.4
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	22.22	564.4	.....	.....	42.8	6.0	69.4	4	5	3	7	.....	4	8	.....	.....	.....	.....	7	3.50	88.9
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	29.85	758.1	29.88	759 0	53.7	12.1	85	3	2	3	4	2	1	4	.....	12	.....	.....	6	4.62	117.2
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.82	757.5	29.85	758.4	49.5	9.7	81.2	3	2	5	6	3	2	4	5	1	6067	9762	6	3.53	89.7
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	29.86	758.5	29.87	758.8	47.8	8.8	84.3	4	2	7	3	3	2	9	.....	1	7903	1272	6	4.66	118.0
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	92	28	29.83	757.7	29.93	760 2	59.9	15.5	89	.....	1	1	1	2	1	8	2	15	.....	.....	5	4.34	110.2
Hiroshima	N. 34 23	E. 132 27	8.58 p.m.	16	5	29.89	759.1	29.90	759.5	61.3	16.3	79	10	1	7	2	7	..	.....	4	.....	4524	7279	6	6.42	163.0
Kagoshima	N. 31 35	E. 130 33	8.50 p.m.	14	4	29.92	760.0	29.93	760 3	62.9	17.2	83.1	7	8	2	1	4	.....	3	3	3	.....	.....	5	5.49	139.3
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	29.79	756.7	29.89	759.3	57.4	14.1	81.2	3	3	.....	3	6	....	7	6	3	4208	6868	6	7.65	194.2
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.74	755.3	29.91	759.7	60.3	15.7	80.5	18	7	1	1	3	1	.....	.....	.....	3235	5206	7	4.64	117.8
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	29.89	759.3	29.92	759.9	65.3	18.4	80.5	3	6	11	.....	2	1	7	1	.....	5760	9269	5	9.31	236.4
Mitsuka	N. 31 56	E. 131 26	8.54 p.m.	26	8	29.91	759.0	29.93	760 3	63.4	17.4	84	4	.....	6	2	3	4	8	4	.....	.....	.....	6	5.96	152.0
Miyako	N. 39 38	E. 141 59	9.36 p.m.	98	30	29.79	756.8	29.90	759.6	49.2	9.6	84	4	1	12	6	1	.....	5	2	.....	3093	4979	6	4.54	115.3
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.72	755.0	29.92	760 1	61.0	16.1	81.7	3	1	2	5	3	.....	.....	2	13	4005	6445	4	10.80	274.0
Nemuro	N. 43 20	E. 145 35	9.50 p.m.	43	13	29.83	757.6	29.88	758 9	40.6	4.8	84.6	6	1	1	3	6	5	1	.....	8	6450	10428	7	3.41	86.8
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	29.85	758.1	29.89	759.1	56.4	13.5	81.2	8	2	3	5	.....	5	4	4	.....	5069	8157	6	4.30	109.2
Nobiru	N. 38 23	E. 141 11	9.32 p.m	15	5	29.88	759.1	29.90	759 5	52 2	11.2	85.7	1	6	1	2	9	6	3	3	.....	6979	11232	5	2.90	73.8
Numadzu	N. 35 06	E. 138 51	9.23 p.m.	32	10	29.89	759 2	29.93	760.1	60.3	15.7	81.7	.....	2	6	4	4	2	7	4	2	.....	.....	7	7.43	188.6
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	29.90	759.4	29.91	759.8	61.1	16.1	80.8	5	2	8	.....	1	1	6	8	.....	6977	11228	6	5.54	141.0
Saga	N. 33 12	E. 130 18	8.49 p.m.	23	7	29.89	759.2	29.91	759.8	61.6	16.4	85.4	7	3	6	7	5	.....	.	.....	3	3676	5948	5	6.46	164.0
Sakai	N. 35 01	E. 133 13?	9.01 p.m.	10	3	29.89	759.2	29.90	759.4	57.5	14.1	85	4	2	9	2	1	.....	2	6	5	.....	.....	6	5.51	140.0
Sapporo	N. 43 04	E. 141 23	9.33 p.m.	60	18	29.77	755.2	29.84	757 9	48.3	9.0	80	2	5	2	2	5	11	3	.....	1	8848	14240	7	2.63	67.3
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.85	758.1	29.92	760.0	58.2	14.5	84	2	1	2	1	10	2	12	1	.....	7226	11629	6	5.32	135.2
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.83	757.7	30.02	762.5	75.4	24.1	71.1	2	.....	1	.....	.....	11	13	4	.....	.....	.....	5	12.81	325.4
MEXICAN.																										
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24.32	617 6	29.98	761.4	58.7	14.8	68	3	20	5	1	1	1	.....	.....	.....	.....	.....	2	0.34	8.4
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.65	753.2	29.91	759 7	71.5	21.7	84.2	5	8	1	.....	.....	.....	14	3	.....	.....	.....	3	1.50	38.0
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.03	762.8	30.03	762.8	59.2	15.1	.....	6	1	9	7	1	.....	3	4	.....	.....	.....	.....	1.84	46.6
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.93	760 2	29.98	761.6	57.9	14.4	.....	6	4	5	5	1	2	2	6	.....	.....	.....	.....	1.82	46.2
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.99	761.8	29.99	761.8	54.3	12.4	.....	3	3	2	11	3	.....	1	8	.....	.....	.....	.....	1.59	40.4
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	30.02	762.4	30.02	762.4	61.0	16.1	59.0	3	2	6	9	.....	.....	4	6	1	.....	.....	.....	1.68	42.6
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.93	760.3	29.98	761.5	62.6	17.0	55.5	7	4	3	13	2	1	.....	1	.....	.....	.....	5	1.36	34.5
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7.15 p.m.	?	?	29.85	758.2	.....	.....	79.9	26.6	85.7	11	4	.....	.....	.....	1	2	13	.....	.....	.....	6	3.28	83.4
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.74	755.3	29.80	756.9	49.8	9.9	65.0	2	6	4	3	12	2	.....	1	1	.....	.....	6	5.61	142.6
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.73	755.2	29.77	756.2	46.0	7.8	62.7	7	4	1	6	3	4	3	.....	3	.....	.....	7	3.83	97.3
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.65	753.1	29.80	756.8	53.6	12.0	51.9	2	2	2	7	11	3	1	3	.....	.....	.....	7	2.07	52.5
Gjesvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.84	757.8	29.86	758.4	38.1	3.4	.....	2	1	1	3	1	6	13	1	3	.....	.....	6	0.42	10.6
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.08	763.9	30.16	766 1	65.8	18.8	60.2	1	.....	.....	21	2	4	.....	.....	3	.....	.....	6	0	0
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	312	95	29.72	755.0	30.06	763.5	66 4	19.1	55.7	7	5	3	2	2	2	2	8	.....	.....	.....	4	0.15	3.8
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.15	765 8	30.22	767.6	65.3	18.5	68.4	1	3	5	8	7	1	.....	3	3	.....	.....	5	1.76	44.7
Saint Vincent	N. 16 37	W. 25 02	10.28 a.m.	34	10	29.99	761.8	30.01	762.3	72.5	22.5	77.5	7	.....	.....	.....	.....	.....	5	19	.....	.....	.....	4	0	0
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.32	643.1	30.04	762.9	50.4	10.2	66.4	.....	3	5	2	1	5	12	3	.....	.....	.....	6	5.31	134.9
RUSSIAN																										
Akmolinski d	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.74	730.1	29.80	756.8	62.8	17.1	45.5	2	4	8	6	3	.....	2	2	.....	.....	.....	5	1.44	36.6
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.73	755.2	29.75	755.7	41.5	5.3	63.5	4	6	5	3	2	1	4	3	3	.....	.....	7	0.78	19.8
Ashurada	N. 36 54	E. 53 55	3.44 p.m.	79	24	30.07	763.7	29.97	761.3	68.5	20.3	75.4	8	15	7	...	.....	.....	1	.....	.....	.....	.....	6	2.71	68.9
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.01	762.3	29.94	760.4	68.2	20.1	40.3	3	4	6	4	4	5	5	.....	.....	.....	.....	5	0.57	14.5
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	30.05	763.2	30.00	762.0	64.0	17.8	71.9	10	..	.....	2	15	3	.....	.....	1	.....	.....	3	0.63	16.0
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.42	747.3	29.91	759.6	63.5	17 5	45.5	4	6	5	3	2	2	1	3	5	.....	.....	6	0.91	23.1
Bielosersk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.31	744.5	29.78	756.4	46.8	8.2	65.7	7	8	2	1	5	3	2	3	.....	.....	.....	8	2.12	53.8
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.58	751.2	29.82	757 4	52.5	11.4	60.8	3	5	11	3	3	2	1	3	3	.....	.....	8	3.30	83.9
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.82	732.1	29.77	756.2	54.3	12.4	51.6	3	3	9	5	5	2	1	2	1	.....	.....	8	1.31	33.2
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.56	750 9	30.00	762.0	67.5	19.7	35.7	5	7	7	6	2	1	1	.....	2	.....	.....	6	1.49	37.8
Kasalinsk	N. 45 46	E. 62 07	4.16 p.m.	147	45	29.65	753.2	29.83	757.7	72.0	22.2	40.0	4	6	8	5	1	.....	3	4	.....	.....	.....	5	.....	.....
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.49	749.1	29.76	755.9	55.4	13.0	53.7	4	3	2	9	8	2	1	1	1	.....	.....	8	2.30	58.5
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	29.82	757.3	29.87	758 6	36.5	2.5	69.1	8	.....	.....	3	2	.....	4	11	3	.....	.....	7	0.76	19.4
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	30.00	761 9	30 02	762.5	64.2	17.9	53.2	5	5	1	.....	4	2	1	6	7	.....	.....	4	0.09	2.4
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.31	744.5	29.93	760.3	64.6	18.1	43.6	2	10	4	7	4	3	.....	1	.....	.....	.....	6	.....	.....
Koslov	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.32	744.6	29.81	757.2	59.4	15.2	55.3	3	7	8	8	4	...	1	.....	.....	.....	.....	6	1.18	29.9
Lgov	N. 51 41	E. 35 17	2.29 p.m.	535?	163?	29.37	746.0	29.94	760.4	64.2	17.9	41.5	2	7	7	8	4	.....	1	.....	2	.....	.....	6	1.03	26.1
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	29.89	759.3	29.92	759.9	49.1	9.5	72.7	2	8	6	9	4	1	1	.....	.....	.....	.....	6	1.94	49.4
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.68	753.9	29.88	758 9	67.5	19.7	36.9	1	8	8	4	1	2	4	2	1	.....	.....	7	0.54	13.8
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.31	744.5	29.78	756.4	55.0	12.8	52.3	8	1	8	6	7	.....	1	.....	.....	.....	.....	6	3.37	85.6
Nertchinsk	N. 51 19	E. 119 37	8.07 p.m.	?	?	27 61	701.3	29.89	759.1	47.8	8.8	36.5	1	8	1	1	.....	.....	2	1	17	.....	.....	5	.....	.....
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.95	760.8	30.02	762.6	70.3	21.3	48.1	7	1	2	5	7	1	1	2	5	.....	.....	1	0	0
Nikolaievsk c	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.78	756.3	29.86	758.5	34.2	1.2	81.2	.....	.....	1	.....	.....	8	4	4	11	.....	.....	5	.....	.....
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	29.63	752.7	29.78	756.3	69.6	20.9	38.9	.....	4	.....	8	4	5	.....	2	8	.....	.....	4	0.74	18.9

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for May, 1884. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
RUSSIAN—Cont'd	° ′	° ′																								
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.12 p.m.	328	100	29.58	751.3	29.91	759.8	78.8	26.0	25.3	4	6	7	5	3	2	1	1	2	.....	.....	6	.....	.....
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.58	751.3	29.78	756.3	44.2	6.8	60.7	5	1	1	2	2	9	4	7	....	.....	.....	6	1.61	41.0
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.47	748.6	29.96	761.0	61.9	16.6	51.0	1	10	5	7	5	1	2	.....	.....	.....	.....	6	1.08	27.3
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	29.98	761.4	30.01	762.2	61.9	16.6	87.4	.....	1	.....	16	1	....	4	.....	9	.....	.....	7	2.15	54.6
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	29.76	756.0	29.79	756.6	47.5	8.6	59.9	5	7	3	3	2	2	3	6	.....	.....	.....	7	3.34	84.9
Samarkand	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.49	698.3	29.87	758.7	72.3	22.4	57.5	1	1	.....	.....	.....	2	2	1	24	.....	.....	4	.....	.....
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.28	743.6	29.91	759.6	70.7	21.5	36.5	8	6	2	2	3	4	1	3	2	.....	.....	5	0.24	6.0
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	138?	42?	29.79	756.7	30.00	762.0	65.3	18.5	51.3	3	12	6	7	1	.....	.....	2	.....	.....	.....	3	0.30	7.7
Staroi Bykhov	N. 53 31	E. 30 16	2.09 p.m.	423?	129?	29.33	744.9	29.87	758.7	59.2	15.1	55.6	2	5	6	5	7	3	1	2	.....	.....	.....	8	3.69	93.8
Tashkend	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.28	718.3	29.87	758.7	76.5	24.7	46.7	.....	6	1	3	.....	.....	.....	1	20	.....	.....	6	.....	.....
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.57	725.7	29.95	760.8	68.4	20.2	45.1	1	10	1	1	8	7	1	2	.....	.....	.....	6	1.96	49.8
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.41	699.3	29.84	758.0	65.3	18.5	70.0	1	.....	1	2	3	3	1	8	12	.....	.....	8	.....	.....
Viatka c.	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.07	738.4	29.70	754.4	46.6	8.1	67.8	3	3	5	4	6	1	.....	2	4	.....	.....	7	3.29	83.5
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	29.77	756.1	29.84	757.8	43.9	6.6	85.5	2	1	1	1	1	13	4	1	7		.....	7	1.49	37.9
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.57	751.1	29.99	761.7	61.3	16.3	49.9	3	11	5	9	2	1	.....	.....	.....	.....	.....	7	.....	.....
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.71	754.6	29.99	761.8	54.1	12.3	48.2	2	7	6	6	2	2	3	1	2	.....	.....	5	0.91	23.2
Sub-Series.																										
Petrowsky Ac'y	N. 55 50	E. 37 38	2.39 p.m.	508	155	29.20	741.6	29.72	755.0	55.0	12.6	58.1	3	3	12	6	5	1	1	.....	.....	.....	.....	7	0.40	10.2
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	138	42	29.89	759.2	30.06	763.4	65.7	19.3	72	.....	1	.....	2	14	5	4	5	.....	.....	.....	4	1.76	44.7
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.03	762.7	30.09	764.2	68.4	20.2	64	1	24	1	1	1	2	.....	1	.....	1599	2574	6	6.62	168.2
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.11	688.5	30.05	763.3	60.8	16.0	67	6	.....	3	3	4	1	6	8	.....	4419	7111	5	3.00	76.1
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.82	706.5	29.39	761.8	68.5	20.3	47	.....	1	3	10	2	5	5	5	.....	7198	11584	4	1.26	31.9
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.86	758.5	30.00	762.0	65.7	18.7	68	.....	2	1	.....	5	8	4	11	.....	1670	2686	5	6.63	168.4
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.14	740.1	30.01	762.3	67.1	19.5	53.0	7	4	5	4	1	3	.....	4	3	6429	10346	6	0.59	15.1
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.95	760.8	30.02	762.4	76.5	24.7	81.0	....	1	.....	.....	.....	6	21	1	2	.....	.....	2	2.21	56.1
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.84	757.8	29.89	759.3	82.6	28.1	74.3	.....	.....	4	4	1	13	5	4	.....	4370	6094	5	3.80	96.4
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.95	760.8	30.05	763.3	69.1	20.6	62.0	.. .	2	12	4	1	.....	10	1	1	.....	.....	4	0.27	6.7
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.94	760.5	30.03	762.8	78.1	25.6	88	.....	.....	1	1	.....	15	6	.....	8	.....	.....	7	0	0
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.80	756.9	29.84	757.9	43.9	6.6	63	6	4	.....	.....	9	4	2	6	.....	.....	.....	6	0.92	23.5
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.76	755.8	29.81	757.1	44.6	7.0	68	1	4	.....	4	3	3	8	8	.....	.....	.....	7	2.41	61.1
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.74	755.4	29.79	756.7	47.5	8.6	60	6	5	.....	2	6	.....	2	4	6	.....	.....	8	0.79	20.1
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.65	753.0	29.82	757.5	52.9	11.6	54	2	4	8	4	5	2	2	2	2	.....	.....	7	1.89	47.9
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.78	756.5	29.84	758.0	50.7	10.4	68	3	7	5	11	1	.....	1	3	.....	.....	.....	4	0.83	21.0
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.71	754.7	29.80	756.9	52.5	11.4	56.5	7	4	3	8	4	1	4	.....	.....	.....	.....	8	2.25	57.1
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.64	727.4	30.04	763.0	63.3	17.4	55.5	18	1	1	.....	9	1	.....	1	.....	.....	.....	5	2.90	73.6
TURKISH.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.04	762.9	64.9	18.3	56	9	1	.....	6	.....	.....	.....	7	8	.....	.....	4	0.31	8.0
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.13	765.3	76.5	24.7	.....	....	4	3	20	3	.....	.....	1	.....	.....	.....	3	0.20	5.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.90	759.5	74.7	23.7	66.9	6	5	1	13	1	1	.....	4	.....	.....	.....	4	0.55	14.0
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	29.88	758.9	29.96	761.0	55.2	12.9	68.3	3	4	10	.....	10	2	1	1	.....	4409	7095	7	2.79	70.9
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.26	743.2	29.92	760.0	45.3	7.4	78.2	4	3	8	1	....	6	5	3	1	6765	10887	5	3.27	83.1
Apache, Fort	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	24.97	634.2	29.79	756.7	41.6	5.3	76.2	.....	.....	1	3	.....	1	23	2	1	5096	8199	2	1.31	33.3
Assinaboine, Ft.	N. 48 32	W. 109 42	4.49 a.m.	2720	829	27.14	689.3	29.99	761.7	47.5	8.6	67.5	.....	5	1	3	...	4	4	6	8	6309	10153	4	3.05	77.5
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1129	344	28.87	733.3	30.04	763.0	64.6	18.1	71.7	.....	9	8	2	1	4	7	.....	.....	6242	10045	4	1.33	33.8
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	29.94	760.5	29.95	760.7	50.9	13.8	79.2	4	2	7	1	6	1	2	2	4	6197	9973	5	1.62	41.1
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	29.86	758.4	30.05	763.3	67.8	19.9	79.6	1	4	4	2	.....	7	2	3	8	2345	3774	5	3.21	81.5
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	29.98	761.5	30.03	762.7	60.9	16.1	65.6	6	9	5	1	7	1	1	1	.....	4483	7214	4	3.17	80.5
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	22	7	29.94	760.5	29.96	761.0	57.9	14.4	77.2	4	6	3	9	1	2	1	4	1	10071	16207	5	0.79	20.1
Bennett, Fort	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.41	721.0	29.97	761.2	47.1	8.4	82.2	2	9	3	2	1	7	. ....	3	4	6621	10655	4	2.69	68.3
Benton, Fort	N. 47 50	W. 110 40	4.45 a.m.	2681	817	27.16	689.9	29.94	760.5	42.0	5.6	69.5	2	2	4	3	.....	.....	1	2	17	4127	6632	4	1.09	27.7
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.18	715.8	29.97	761.2	46.4	8.0	80.5	4	4	.....	.....	3	5	3	3	9	5131	8257	3	2.50	65.0
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	29.92	760.0	29.96	761.0	51.5	10.8	87.7	5	6	3	5	5	1	1	5	.....	10607	17070	4	6.39	162.3
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.14	689.3	29.98	761.5	51.8	11.0	72.7	1	10	2	3	7	2	2	2	2	3670	5906	3	0.92	23.4
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.79	750.7	29.95	760.7	52.0	11.1	78.9	.....	9	8	4	2	2	2	4	.....	7795	12545	5	3.31	84.1
Brownsville	N. 25 53	W. 97 26	5.38 a.m	57	17	29.80	758.4	29.92	760.0	71.3	21.8	94.5	2	2	.....	1	2	9	8	2	5	6302	10238	6	5.86	148.8
Buffalo	N. 42 53	W. 78 53	6.52 a.m	690	210	29.18	741.2	29.92	760.0	50.1	10.1	76.3	.....	.....	5	10	4	3	5	3	1	7477	12033	5	3.92	99.6
Buford, Fort	N. 48 00	W. 103 56	5.12 a.m.	1930	588	27.94	709.7	29.94	760.5	46.4	8.0	76.3	1	6	1	.....	4	2	4	6	2	5791	9320	6	0.14	3.6
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.61	752.1	30.01	762.2	61.0	16.1	79.3	8	3	2	2	9	1	3	3	.....	6551	10543	5	4.57	116.1
Canby, Fort	N. 46 16	W. 124 04	3.52 a.m.	179	54	29.85	758.2	30.05	763.3	50.7	10.4	84.0	14	.....	7	2	7	1	.....	.....	.....	6717	10810	4	1.30	33.0
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	29.98	761.5	30.00	762.0	62.4	16.9	77.0	1	4	4	8	5	4	1	2	2	8360	13454	4	0.78	19.8
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	29.94	760.5	29.97	761.2	57.7	14.3	81.0	2	7	3	4	8	3	1	3	.....	10323	16613	4	1.19	30.2
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.31	744.5	29.99	761.7	49.4	9.7	87.9	.....	19	.....	.....	2	9	.....	.....	1	12607	20228	3	0.33	8.4
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.02	762.5	30.04	763.0	74.5	23.6	79.0	3	4	11	1	1	5	4	2	.....	7006	11275	3	1.96	49.8
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	29.95	760.7	30.00	762.0	71.6	22.0	81.3	2	.....	9	7	2	1	2	6	2	6068	9765	4	2.18	55.4
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.18	741.2	30.02	762.5	63.9	17.7	75.9	4	3	1	5	6	3	1	8	.....	3575	5743	5	4.84	122.9
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.20	741.7	30.02	762.5	62.0	16.7	82.1	4	6	3	8	.....	1	3	5	1	4250	6840	5	2.22	56.4
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6105	1861	24.03	610.4	29.92	760.0	41.7	5.4	72.0	6	12	6	2	1	.....	1	3	.....	7749	12471	5	4.83	122.7
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.24	742.7	29.94	760.5	53.4	11.9	71.9	7	1	3	8	5	3	2	2	.....	6016	9682	5	1.53	38.9
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	18	5	29.97	761.2	29.99	761.7	59.5	15.3	81.5	2	6	2	4	7	4	1	5	.....	6878	11069	4	1.12	28.4
Cincinnati	N. 39 06	W. 84 30	6.30 a.m.	620	189	29.35	745.5	30.00	762.0	58.8	14.9	74.9	6	3	3	2	7	2	5	2	1	4045	6510	5	5.56	141.2
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.22	742.2	29.96	761.0	54.7	12.6	70.9	1	4	4	6	8	5	1	2	.....	6890	11088	5	3.60	91.4
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.13	739.9	29.97	761.2	55.9	13.3	73.3	4	5	7	2	5	3	2	3	.....	5417	8718	4	3.79	96.3
Concho, Fort	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.08	713.2	29.98	761.5	59.1	15.1	89.4	2	5	4	4	3	2	6	3	2	7032	11317	4	13.50	342.9
Custer, Fort	N. 45 42	W. 107 34	4.58 a.m.	3040	926	26.82	681.2	29.92	760.0	43.1	6.2	86.6	1	2	4	3	3	8	5	2	3	5404	8697	5	1.19	30.2
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.29	744.0	29.93	760.2	55.4	13.0	72.9	2	4	6	2	2	2	6	6	1	6190	9962	5	3.79	96.3
Davis, Fort	N. 30 38	W. 103 56	5.12 a.m.	4928	1502	25.19	639.8	29.90	759.4	53.0	11.7	69.2	3	.....	.....	11	.....	3	.....	3	11	4662	7503	2	1.08	27.4
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1667	508	28.25	717.5	30.01	762.2	48.6	9.2	69.5	1	....	...	9	.....	11	1	9	.....	4535	7298	3	0.81	20.6
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.40	645.1	29.92	760.0	42.9	6.1	78.5	.....	2	3	7	4	6	2	7	.....	3852	6199	4	1.72	43.7
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	29.96	761.0	29.98	761.5	58.2	14.6	80.9	2	6	.....	12	2	2	2	5	.....	10806	17390	4	0.88	22.4
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.74	628.4	29.90	759.4	46.1	7.8	71.2	2	3	1	2	16	3	1	1	2	4964	7989	4	4.61	117.1
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.08	738.6	29.97	761.2	52.7	11.5	74.6	6	3	3	3	4	2	2	5	.....	4401	7083	6	4.34	110.2
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.25	742.9	29.95	760.7	54.3	12.4	65.6	2	3	5	3	10	2	2	2	2	6886	11082	4	2.38	60.5
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2517	767	27.40	695.9	29.95	760.7	52.3	11.3	79.5	4	5	6	2	2	8	4	.....	.....	9423	15164	6	4.47	113.5
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.25	742.9	29.95	760.7	53.5	11.9	69.9	7	5	3	4	5	2	3	1	1	4098	6595	5	4.88	123.9
Duluth	N. 46 48	W. 92 06	6.00 a.m.	687	209	29.22	742.2	29.97	761.2	45.7	7.6	75.0	2	5	3	3	.....	.....	5	11	2	6466	10406	5	5.17	131.3
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.85	758.2	29.92	760.0	44.8	7.1	79.8	2	3	6	1	3	1	3	3	9	5522	8887	7	6.79	172.5
Elliott, Fort	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.22	691.4	29.92	760.0	53.3	11.8	82.0	6	6	2	2	4	5	.....	2	4	8015	12899	6	6.29	159.8
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3764	1147	26.22	766.0	29.86	758.4	56.7	13.7	41.3	.....	6	13	.....	.....	3	3	3	3	3498	5629	2	imap.	imap.
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.22	742.2	29.94	760.5	54.5	12.5	71.2	.....	1	5	9	8	3	.....	3	2	6575	10581	6	3.42	86.9
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	613	187	29.25	742.9	29.91	759.7	45.1	7.3	73.7	12	6	5	2	2	1	1	2	.....	6959	11199	7	2.69	68.3
Fort Smith	N. 35 22	W. 94 24	5.50 a.m.	451	137	29.50	749.3	29.97	761.2	60.4	15.8	84.4	2	.....	3	.....	3	1	12	2	8	3625	5834	6	3.70	94.0
Galveston	N. 29 18	W. 94 47	5.49 a.m.	40	12	29.91	760.5	29.98	761.5	73.1	22.8	84.0	4	2	1	2	13	4	2	3	.....	7064	11368	6	8.42	213.9
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.27	743.4	29.93	760.2	52.7	11.5	73.4	6	1	4	3	10	3	2	2	.....	7677	12355	5	3.59	91.2
Grant, Fort	N. 32 39	W. 109 57	4.48 a.m.	4856	1480	25.19	639.8	29.80	756.9	55.9	13.3	38.0	4	.....	1	.....	2	9	7	8	.....	5658	9105	2	0.81	20.6
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	12	4	29.99	761.7	30.00	762.0	66.3	19.1	83.5	3	....	1	10	1	2	2	11	1	7057	11357	6	2.66	67.6
Helena	N. 46 34	W. 112 04	4.40 a.m.	4044	1232	25.84	656.3	29.96	761.0	44.7	7.1	67.9	8	2	6	8	3	1	.....	1	2	4884	7860	4	0.63	16.0
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.59	726.2	29.94	760.5	47.4	8.6	83.7	5	6	2	1	2	10	.....	5	.....	7215	11611	4	2.90	73.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for May, 1884.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																								
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.18	741.2	29.97	761.2	56.9	13.8	71.0	.....	6	1	11	4	1	2	4	2	4275	6880	6	4.80	121.9
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	29.92	760.0	29.95	760.7	72.3	22.4	87.9	2	1	.....	4	9	7	4	3	1	9343	15036	6	7.94	201.7
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	29.98	761.5	30.02	762.5	73.1	22.8	82.1	.....	.....	5	10	6	3	3	2	2	5053	8132	3	5.45	138.4
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.31	744.5	29.90	761.0	56.5	13.6	74.4	1	3	4	2	2	4	4	3	8	2886	4634	4	3.10	80.3
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.01	762.2	30.03	762.7	80.3	26.8	72.2	2	3	.....	5	4	7	6	4	.....	5897	9490	4	0.35	8.9
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.00	762.0	30.02	762.5	63.3	17.4	78.9	3	.....	2	8	1	6	1	10	.....	9272	14920	4	1.75	44.4
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.00	736.6	30.02	762.5	59.9	15.5	84.0	8	.....	5	3	.....	.....	3	8	4	4492	7228	4	2.19	55.6
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.16	740.7	29.92	760.0	54.8	12.7	64.0	8	3	2	1	10	.....	2	4	1	5807	9345	5	1.82	46.2
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.11	739.4	29.99	761.7	55.6	13.1	76.2	1	8	1	.....	3	3	1	.....	14	4193	6748	5	4.79	121.7
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.19	741.4	30.03	762.7	51.4	10.8	79.9	.....	.....	.....	.....	.....	1	.....	3	27	1003	16096	2	0.50	12.7
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.69	754.1	30.00	762.0	63.3	17.4	85.9	5	2	1	6	6	2	1	5	3	4151	6680	5	7.33	186.2
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	299	91	29.61	752.1	30.01	762.2	55.4	13.0	87.9	.....	3	7	3	4	3	3	6	2	4026	6479	6	0.39	9.9
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.42	747.3	29.97	761.2	60.9	16.1	81.3	5	2	2	2	9	1	3	4	3	5323	8566	5	5.75	146.0
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.32	744.7	30.00	762.0	61.9	16.6	78.2	.....	4	8	3	6	1	1	4	4	2574	4142	4	2.74	69.6
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.27	743.4	29.92	760.0	44.8	7.1	77.8	1	4	5	.....	.....	6	6	8	1	5986	9633	5	1.67	42.4
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.00	762.0	30.01	762.2	67.6	19.8	84.0	3	3	1	6	2	5	1	10	.....	9384	15102	5	3.38	85.9
Maginnis, Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.57	649.5	29.98	761.5	44.1	6.7	49.7	2	5	4	12	1	3	.....	4	.....	7425	11949	4	0.76	19.3
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.22	742.2	29.94	760.5	45.7	7.6	71.9	1	12	6	.....	1	5	.....	3	3	5345	8602	6	2.43	61.7
Memphis	N. 35 09	W. 90 03	6.08 a.m.	221	98	29.67	753.6	30.00	762.0	64.3	17.9	78.7	1	6	4	3	4	5	1	4	3	3829	6259	5	6.40	164.1
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.18	741.2	29.92	760.0	51.4	10.8	73.1	5	4	8	7	.....	2	1	4	.....	8093	13024	6	1.67	42.4
Mobile	N. 30 41	W. 88 02	6.16 a.m.	41	12	29.98	761.5	30.02	762.5	69.7	20.9	85.3	11	1	2	3	3	4	3	2	2	3977	6400	6	8.48	215.4
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.79	756.7	30.02	762.5	68.0	20.0	78.3	2	7	1	5	2	7	2	3	2	3801	6117	5	1.18	30.0
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	28.98	736.1	29.96	761.0	45.5	7.5	77.0	9	2	4	2	5	4	1	3	1	7603	12235	5	1.75	44.4
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.64	600.4	29.82	757.4	30.3	-0.9	94.7	1	19	2	3	1	2	3	.....	.....	19960	32122	5	9.54	242.3
Nashville	N. 36 10	W. 86 47	6.21 a.m.	549	167	29.42	747.3	29.99	761.7	62.2	16.8	77.8	3	4	6	2	4	2	5	5	.....	5028	8092	5	3.58	90.9
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	29.85	758.2	29.97	761.2	53.6	12.0	74.7	2	8	5	3	3	2	1	6	1	5099	9171	4	3.32	84.3
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	29.92	760.0	29.97	761.2	55.1	12.8	72.0	1	5	3	8	2	3	1	5	3	5583	8985	5	5.61	143.3
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	29.95	760.7	30.00	762.0	73.3	22.9	81.0	5	3	3	2	5	5	1	6	1	4800	7725	5	4.33	110.0
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.80	756.9	29.98	761.5	55.0	12.8	76.6	4	5	5	5	4	1	2	2	3	6154	9904	6	4.35	110.5
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	29.97	761.2	30.00	762.0	64.7	18.2	75.5	2	2	1	6	3	3	1	4	9	4182	6730	5	1.25	31.7
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.07	687.6	29.94	760.5	50.2	10.1	80.7	1	4	5	1	3	4	7	1	5	7035	12287	4	2.40	61.0
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	30.01	762.2	30.05	763.3	45.8	7.7	88.1	.....	.....	.....	2	6	.....	.....	.....	23	1930	3116	5	1.46	37.1
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.82	732.0	29.98	761.5	54.6	12.6	81.8	8	4	2	.....	4	6	1	1	5	4945	7958	5	1.45	36.8
Oswego	N. 43 29	W. 76 35	7.02 a.m.	304	93	29.60	751.8	29.93	760.2	51.2	10.7	77.4	1	.....	10	3	6	8	1	2	.....	6315	10211	5	2.39	60.7
Palestine	N. 31 45	W. 95 40	5.45 a.m.	533	162	29.44	747.8	29.99	761.7	63.7	17.6	91.6	3	3	1	1	8	2	1	12	.....	5455	8779	6	17.25	438.1
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	29.99	761.7	30.02	762.5	70.6	21.4	87.0	4	5	3	9	.....	6	2	2	.....	5344	8600	4	6.64	168.7
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	117	36	29.86	758.4	29.98	761.5	57.2	14.0	89.2	2	8	5	8	1	.....	.....	7	.....	7500	12070	4	3.39	86.1
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.80	452.1	23.86	758.4	16.7	−8.5	84.9	3	6	14	3	.....	1	1	2	1	12522	20152	2	2.90	73.7
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	766	233	29.16	740.7	29.96	761.0	56.1	13.4	76.9	4	7	6	3	5	1	.....	5	.....	4913	7906	5	3.48	88.4
Poplar, Riverb	N. 48 08	W. 105 10	5.07 a.m.	2030	619	.....	.....	.....	.....	45.0	7.2	75.8	3	2	11	.....	7	1	5	.....	.....	.....	.....	5	0.78	19.8
Port Huron	N. 43 00	W. 82 26	6.38 a.m.	633	193	29.25	742.9	29.94	760.5	49.7	9.8	82.9	2	3	2	7	4	6	1	5	1	7358	11841	6	1.71	43.4
Portland, Maine	N. 43 39	W. 70 15	7.27 a.m.	45	14	29.88	758.9	29.93	760.2	50.9	10.5	68.6	4	2	9	4	1	2	6	3	.....	5736	9231	6	6.46	164.1
Portland, Oreg.	N. 45 32	W. 122 43	3.57 a.m.	67	20	29.95	760.7	30.02	762.5	50.8	10.4	81.6	6	5	1	3	7	.....	.....	.....	9	3859	6210	5	1.34	34.0
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5389	1642	24.70	627.4	29.84	757.9	43.0	6.1	76.5	1	1	.....	2	7	3	.....	.....	17	5082	8178	2	1.45	36.8
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	332	101	29.61	752.1	29.96	761.0	58.2	14.6	76.4	10	2	.....	1	11	2	1	.....	4	5004	8053	4	0.18	4.6
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.73	755.1	29.97	761.2	71.3	21.8	86.2	1	2	.....	1	.....	22	3	1	1	5968	9604	5	5.15	130.8
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.27	743.4	29.93	760.2	50.4	10.2	74.8	3	1	8	9	3	3	2	2	.....	8785	14138	6	2.28	57.9
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.48	748.8	30.03	762.7	47.8	8.8	85.1	.....	2	1	.....	.....	.....	2	1	25	1856	2987	5	0.85	21.6
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	64	19	29.88	758.9	29.96	761.0	57.0	13.9	81.4	2	1	.....	2	12	14	.....	.....	.....	5772	9289	4	0.06	1.5
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	583	178	29.37	746.0	29.98	761.5	58.7	14.5	79.1	1	5	7	2	1	8	.....	5	2	8378	13483	5	2.68	68.1
Saint Michael, Ft	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.74	755.4	29.78	756.4	31.2	−0.4	92.4	5	2	1	6	1	1	3	3	9	4695	7556	5	0.25	6.3
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	801	244	29.09	738.9	29.93	760.2	51.9	11.1	77.3	2	10	2	2	3	5	2	3	2	5553	8936	5	2.09	53.1
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.13	739.9	29.99	761.7	44.6	7.0	84.0	4	10	.....	3	10	2	.....	2	.....	6209	9992	3	1.11	28.2
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.60	650.2	29.92	760.0	51.0	10.6	58.9	1	1	1	1	1	5	6	9	6	4613	7408	4	1.78	45.2
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.90	759.4	29.98	761.5	57.8	14.3	88.9	8	8	2	.....	1	2	5	4	1	4275	6880	7	2.17	55.1
Sandusky	N. 41 25	W. 82 40	6.37 a.m.	639	195	29.28	743.7	29.96	761.0	55.8	13.2	72.2	1	3	3	14	4	2	1	3	.....	9738	15671	6	3.70	94.0
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	29.95	760.7	29.98	761.5	55.0	13.1	78.0	1	6	7	5	3	3	3	3	.....	11246	18098	5	5.27	133.9
Sanford	N. 28 48	W. 81 23	6.42 a.m.	50	15	29.96	761.0	30.01	762.2	74.0	23.3	81.4	.....	7	4	7	2	4	2	3	2	4721	7598	4	1.62	41.1
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.92	760.0	29.99	761.7	54.3	12.4	86.1	.....	3	10	12	2	2	.....	.....	2	7256	11677	6	0.23	5.8
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	29.93	760.2	30.02	762.5	72.1	22.3	76.1	4	3	9	5	4	3	1	2	.....	5436	8748	4	1.22	31.0
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.41	670.8	30.01	762.2	41.6	5.3	69.6	.....	2	19	4	.....	2	2	2	.....	5539	8898	3	0.74	18 8
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.76	755.9	30.00	762.0	65.6	18.7	88.5	3	2	2	1	7	4	4	5	3	4502	7255	6	14.47	367.5
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.80	756.9	29.86	758.4	43.1	6.2	80.7	.....	2	1	1	.....	1	25	.....	1	7496	12064	9	10.35	262.9
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	29.97	761.2	30.01	762.2	68.8	20.4	83.8	3	2	7	4	3	.....	7	5	.....	7079	12358	4	1.42	36.1
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	27.93	709.4	29.98	761.5	47.3	8.5	70.8	2	1	1	8	3	1	.....	.....	15	2978	4792	3	0.56	14.2
Springfield, Ill	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.30	744.2	29.97	761.2	50.8	13.8	74.9	2	4	4	6	6	2	3	2	2	5415	8714	5	3.79	96.3
Stockton, Fort	N. 30 53	W. 102 53	5.16 a.m.	3010	917	26.94	684.3	29.95	760.7	57.2	14.0	74.7	.....	2	3	4	11	6	1	3	1	8179	13163	3	1.66	42.2
Tatoosh Id	N. 48 23	W. 124 44	3.49 a.m.	86	26	29.93	760.2	30.02	762.5	48.5	9.2	86.6	.....	2	5	5	7	2	8	.....	2	8138	13097	5	4.45	113.0
Thomas, Camp	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.23	691.6	29.90	759.4	52.2	11.2	67.2	1	1	10	1	2	.....	4	1	11	.....	.....	2	0.60	15.2
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.25	742.9	29.93	760.2	55.8	13.2	73.7	2	2	6	10	2	.....	1	4	4	1890	3042	5	4.71	119.6
Unalashka	N. 53 53	W. 166 32	1.02 a.m.	13	4	29.74	755.4	29.76	755.9	36.8	2.7	79.8	.....	8	5	8	5	2	.....	2	1	8225	13237	8	3.97	100.8
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.77	756.1	30.02	762.5	66.5	19.2	83.5	1	1	.....	3	4	7	5	6	4	4022	6457	6	11.76	298.7
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	29.90	759.4	30.01	762.2	59.3	15.2	73.5	5	7	1	3	10	.....	.....	2	3	4466	7109	4	3.09	78.5
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.02	660.9	29.87	758.7	46.2	7.9	81.1	3	4	10	2	4	4	2	.....	2	6094	9807	4	4.46	113.3
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	29.96	761.0	30.00	762.0	67.8	19.9	81.4	1	5	1	5	2	3	2	8	4	3973	6394	4	3.70	94.0
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.68	728.5	29.96	761.0	51.9	11.1	82.0	6	4	7	2	3	2	2	3	2	6923	11141	4	1.43	36.3
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.71	754.6	29.86	758.4	63.4	17.4	61.5	.....	7	3	8	1	3	1	2	6	3942	6344	2	0.44	11.2
Sub-Series.																										
Behring Island	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.80	756.9	29.82	757.4	34.7	1.5	93.1	.....	4	.....	4	6	2	8	7	.....	7353	11833	9	1.31	33.3
Bluefields	N. 12 00	W. 83 43	6.31 a.m.	?	?	.....	.....	.....	.....	79.1	26.2	.....	3	16	.....	1	.....	.....	.....	5	6	.....	.....	6	2.67	67.8
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.01	559.0	.....	.....	54.5	12.5	89.3	4	2	1	2	5	1	.....	.....	16	.....	.....	6	5.49	139.4
Chimo, Ft.	N. 59 00	W. 68 00	7.36 a.m.	1260?	383?	29.86	758.4	30.00	762.0	34.7	1.5	76.8	6	3	2	5	5	1	.....	7	2	.....	.....	7	2.02	51.3
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.04	762.9	30.04	762.9	77.7	25.4	88	.....	.....	.....	.....	.....	4	23	4	.....	.....	.....	7	18.33	465.6
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.53?	750.0?	30.09?	764.3?	79.0	26.1	94	3	.....	.....	.....	26	.....	.....	.....	2	.....	.....	9	17.26	438.4
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	29.88	758.9	29.94	760.5	77.5	25.3	85.6	.....	.....	.....	5	.....	.....	2	24	.....	.....	.....	5	2.80	71.1
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	29.94	760.5	30.00	762.0	29.1	−1.6	94.1	5	7	4	8	4	.....	1	2	.....	8440	13583	3	2.42	61.5
U. S. COLOMBIA.																										
Sub-Series.																										
Colon	N. 9 22	W. 79 55	6.50 a.m.	7	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Naôs	N. 8 55	W. 79 32	6.50 a.m.	39	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

OCEAN SQUARE DATA FOR MAY, 1884.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W. 22.5°	29.98	761.5	76.2	24.6	1						2	28			3.9
12.5 27.5	30.01	762.2	75.9	24.4	1						1	29			4.1
12.5 32.5	30.04	763.0	77.5	25.3							3	25			4.3
12.5 37.5	30.07	763.8	78.9	26.1							17	14			4.2
12.5 42.5	30.08	764.0	78.9	26.1							21	10			4.1
12.5 47.5	30.09	764.3	78.6	25.9							25	6			4.0
12.5 52.5	30.08	764.0	78.5	25.8					3		25	3			3.9
17.5 22.5	30.02	762.5	72.5	22.5	1						4	26			4.4
17.5 27.5	30.06	763.5	73.2	22.9							5	26			4.4
17.5 32.5	30.11	764.8	75.2	24.0	1						13	17			4.3
17.5 37.5	30.13	765.3	76.5	24.7	1					1	21	8			4.5
17.5 42.5	30.13	765.3	79.8	26.6	2					3	19	7			4.3
17.5 47.5	30.13	765.3	77.7	25.4	2					8	18	3			4.1
17.5 52.5	30.10	764.5	75.8	24.3	1					13	15	2			4.3
17.5 57.5	30.06	763.5	80.1	26.7						8	16	7			4.[illegible]
22.5 22.5	30.08	764.0	69.8	21.0	6						5	20			4.0
22.5 27.5	30.13	765.3	71.0	21.7	5	2					5	19			3.9
22.5 32.5	30.17	766.3	73.0	22.8	3				1	2	5	20			4.0
22.5 37.5	30.18	766.6	74.7	23.7	5			1		3	17	5			4.2
22.5 42.5	30.18	766.6	75.5	24.2	2				1	10	12	6			4.3
22.5 47.5	30.18	766.6	76.3	24.6	2				3	9	15	2			4.5
22.5 52.5	30.14	765.5	77.2	25.1	2				6	14	7	2			4.4
22.5 57.5	30.12	765.0	77.9	25.5	1			1	3	16	6	3	1		3.8
22.5 62.5	30.08	764.0	78.0	25.6		1			2	13	13	1	1		3.8
22.5 67.5	30.06	763.5	78.8	26.0	2				3	12	9	4	1		3.8
22.5 72.5	30.04	763.0	79.9	26.6				1	5	12	10	2	1		3.4
27.5 22.5	30.15	765.8	67.7	19.8	6	2					6	16		1	3.8
27.5 27.5	30.19	766.8	69.1	20.6	8	3		1		1	5	13			3.7
27.5 32.5	30.22	767.6	71.2	21.8	7			1	1	1	6	14		1	4.0
27.5 37.5	30.24	768.1	72.3	22.4	6	1	2		5	1	13	3			4.3
27.5 42.5	30.22	767.6	72.9	22.7	2	2	2		7	9	5	3		1	4.5
27.5 47.5	30.20	767.1	73.5	23.1	1	4	2	3	5	7	6	3			4.4
27.5 52.5	30.17	766.3	74.5	23.6	3	1	1	3	10	9	3	1			3.9
27.5 57.5	30.13	765.3	74.5	23.6	2	1	3		14	6	2	2	1		3.4
27.5 62.5	30.10	764.5	74.8	23.8	2	1	2	5	9	7	4		1		3.6
27.5 67.5	30.08	764.0	75.9	24.4		3	1	1	15	4	5	2			3.5
27.5 72.5	30.06	763.5	74.7	23.7	3	1		2	12	5	3	5			3.5
27.5 77.5	30.05	763.3	78.2	25.7	1	2	4	2	7	3	8	4			2.9
32.5 12.5	30.15	765.8	67.3	19.6	16	1	3		1		2	8			3.5
32.5 17.5	30.17	766.3	66.0	18.9	11	1	2	3	2	4	2	5	1		3.1
32.5 22.5	30.21	767.3	66.1	18.9	10	1	3	1	2	2	2	9		1	3.4
32.5 27.5	30.25	768.3	67.6	19.8	8	3	5	1	4		1	8	1		3.1
32.5 32.5	30.25	768.3	68.9	20.5	7	3	6	3	3	3	5	1			3.8
32.5 37.5	30.23	767.8	69.9	21.1	2	3	3	9	3	3	3	3		2	3.1
32.5 42.5	30.18	766.6	70.0	21.1	4	4	6	7	5	4		1			4.5
32.5 47.5	30.16	766.1	70.3	21.3	6	4	4	6	7	1	2	1			4.3
32.5 52.5	30.14	765.5	71.0	21.7	1	2	6	7	6	5	3	1			4.1
32.5 57.5	30.08	764.0	71.0	21.7			10	7	7	6		1			4.0
32.5 62.5	30.03	762.7	70.3	21.3		2	9	10	6	2	1	1			4.1
32.5 67.5	30.03	762.7	71.6	22.0	4	6	7	10	1	2		1			4.3
32.5 72.5	30.03	762.7	72.4	22.4	2		5	11	4	2	2	4	1		3.6
32.5 77.5	30.02	762.5	71.8	22.1	3	1	4	7	4	3	3	5	1		4.1
37.5 12.5	30.10	764.5	64.6	18.1	11	7	3		1	1		8			3.9
37.5 17.5	30.16	766.1	63.6	17.6	9	11	3	2	1		1	2		2	3.5
37.5 22.5	30.24	768.1	64.2	17.9	5	7	7	5	4			3			3.3
37.5 27.5	30.22	767.6	65.1	18.4	3	4	8	11	2			2	1		2.9
37.5 32.5	30.17	766.3	65.5	18.6	3	5	5	13	3	1		1			3.8
37.5 37.5	30.14	765.5	65.4	18.6	1	9	4	10	6			1			4.4
37.5 42.5	30.10	764.5	64.6	18.1	4	6	4	10	4			1	1	1	4.6
37.5 47.5	30.08	764.0	64.1	17.8	3	5	6	10	3	1	1	2			4.5
37.5 52.5	30.05	763.3	64.7	18.2	1	4	6	12	3	3	1	1			5.0
37.5 57.5	30.00	762.0	64.9	18.3	1	7	6	6	6	5					4.7
37.5 62.5	29.98	761.5	64.5	18.1	3	5	8	5	1	3	2	4			4.4
37.5 67.5	29.98	761.5	63.5	17.5	3	8	5	3	4	4	2	1		1	4.3
37.5 72.5	30.01	762.2	62.6	17.0	6	8	1	5	6	3		2			4.1
42.5 12.5	30.06	763.5	63.2	17.3	8	4	8	4	1	1	1	3	1		3.3
42.5 17.5	30.10	764.5	61.1	16.2	6	6	7	7	2		2		1		4.0
42.5 22.5	30.10	764.5	61.4	16.3	2	7	8	10	2	1	1				4.2
42.5 27.5	30.08	764.0	61.7	16.5		7	6	14	2		2				4.8
42.5 32.5	30.02	762.5	61.5	16.4		6	3	18	1		2		1		4.8
42.5 37.5	29.98	761.5	56.6	13.7	1	10	4	12	3			1			5.3
42.5 42.5	29.96	761.0	57.8	14.3	2	10	6	9	3			1			5.1
42.5 47.5	29.97	761.2	52.7	11.5	2	7	8	6	5	1		1	1		4.4
42.5 52.5	29.94	760.5	52.3	11.3	3	8	3	6	6	4			1		4.5
42.5 57.5	29.92	760.0	53.5	11.9	4	5	6	6	5	1	2	2			4.6
42.5 62.5	29.93	760.2	50.5	10.3	5	5	7		2	7	1	1	1	2	4.3
42.5 67.5	29.94	760.5	49.9	9.9	2	10	3	1	3	4	3	3	1	1	3.5
47.5 12.5	30.03	762.7	58.1	14.5	3	5	7	6	5	2	1	2			4.6
47.5 17.5	29.98	761.5	57.6	14.2	1	7	3	12	2	3	2	1			5.1
47.5 22.5	29.97	761.2	56.8	13.8	1	6	3	9	6	3		3			4.8
47.5 27.5	29.91	759.7	56.6	13.7	3	4	7	9	4	1	2	1			5.0
47.5 32.5	29.86	758.4	56.3	13.5	2	4	5	12	5		2	1			5.0
47.5 37.5	29.85	758.2	54.0	12.2	4	9	1	9	4	1		3			5.1
47.5 42.5	29.85	758.2	49.7	9.8	5	7	3	10	3		1	2			5.0
47.5 47.5	29.87	758.7	43.9	6.6	4	8	4	6	7	1		1			4.5
52.5 12.5	29.91	759.7	55.0	12.8		8	6	8	5		2	2			5.3
52.5 17.5	29.86	758.4	52.8	11.6	3	5	5	8	6	1	3				5.3
52.5 22.5	29.83	757.7	51.2	10.7	2	8	4	6	5	5	1				5.1
52.5 27.5	29.79	756.7	49.8	9.9	2	5	5	6	5	4	2	2			5.0
52.5 32.5	29.78	756.4	49.0	9.4	4	5	2	6	5	3	4	2			5.0
52.5 37.5	29.76	755.9	48.0	8.9	3	5	5	4	3	3	2	6			5.2
52.5 42.5	29.81	757.2	45.7	7.6	5	3	3	5	5	2	4	4			5.2
52.5 47.5	29.82	757.4	41.4	5.2	5	6	2	1	6	5	3	3			5.2
57.5 12.5	29.80	756.9	50.4	10.2	5	6	1	7	2	8	1	1			5.4
57.5 17.5	29.80	756.9	49.3	9.6	5	6	3	2	3	8	3	1			5.3
57.5 22.5	29.80	756.9	46.7	8.2	4	3	4	4	1	7	5	2	1		5.4
57.5 27.5	29.79	756.7	45.0	7.2	5	2	3	2	2	8	7	2			5.5
57.5 32.5	29.80	756.9	43.3	6.3	4	5	2		1	5	7	7			5.8
57.5 37.5	29.82	757.4	41.9	5.5	3	4	3	2		4	7	8			5.7
57.5 42.5	29.86	758.4	40.7	4.8	6	3	2	1	1	4	4	10			5.7
57.5 47.5	29.86	758.4	39.0	3.9	5	4	1		1	3	8	8	1		5.5

REVIEW.

INTERNATIONAL METEOROLOGY FOR MAY, 1884.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following description refers to chart ii. for the month of May, 1884, issued with this SUMMARY. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and prevailing wind-direction over the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich, mean time.

The region of least mean pressure is situated in Hindostan and covers the northern and central provinces of that country; within this area the mean pressure ranges from 29.52 (749.8) to 29.6 (751.8). In other parts of British India the mean pressure ranges from 29.65 (753.1) to 29.7 (754.4). There are shown on the chart four areas, within which the mean pressure is less than 29.8 (756.9); the first of these lies to the northward of the British Isles, and extends over the north Atlantic ocean from about N. 50°, W. 40°, northeastward to, and including, the central portions of Scandinavia; in northern and southern Scandinavia the mean pressure exceeds 29.8 (756.9); the second is a small area in the United States, occupying Arizona; the third is shown in the north Pacific ocean, over Behring Sea, and the fourth occupies northeastern Russia. The last-mentioned extends from the Gulf of Finland southeastward to about the fifty-third parallel, and eastward over the Ural region to southwestern Siberia, the means ranging from 29.7 (754.4) to 29.8 (756.9).

In the south of England, and in that part of the European continent lying south of N. 51° and west of 20° east longitude, the means generally exceed 30.0 (762.0); in the Black Sea region they are also above 30.0 (762.0), but in all other parts of Europe they are less than that amount. Throughout the continent of Asia the mean pressure is less than 30.0 (762.0.) In the North American continent the mean pressure exceeds 30.0 (762.0), in the north Pacific coast region, Florida, and in the east Gulf and south Atlantic states; in all other parts of the continent it varies from 29.85 (758.2) to 29.98 (761.5.)

The only marked area of barometric maxima is that of the north Atlantic; it covers the ocean between the parallels of 25° and 40°, and from the coast of northwestern Africa westward to about the sixtieth meridian west of Greenwich. At the centre of this area, from W. 20° southwestward to W. 45°, the mean pressure ranges from 30.2 (767.1) to 30.25 (768.3); in other parts of the area the means range from 30.1 (764.5) to 30.18 (766.6). An area of relatively high pressures occupies the Hudson Bay region, western Greenland and, apparently, the Arctic regions to the northward.

Compared with the chart for the preceding month (April, 1884) there has been an increase of pressure over eastern Canada, the eastern part of the United States south of the lakes, and on the Pacific coast; in the southwestern and northwestern districts, and in the lake region there has been a decided decrease of pressure; a considerable decrease has also occurred in the Hudson Bay region. Over the north Atlantic ocean the following changes have occurred, viz: from the Scandinavian coast southwestward, between Iceland and the extreme northern part of Scotland to about N. 52°, W. 40°, there has been a decrease; over all other parts of the Atlantic the mean atmospheric pressure for May, 1884. exceeds that of the preceding month, the increase being greatest over the Bay of Biscay and south of the fortieth parallel. In Europe there has been a decrease of pressure in Denmark, Scandinavia, and Russia, the decrease being greatest in Scandinavia, where it averaged .2 inch; in the rest of Europe there has been an increase, greatest in the central, southern, and western districts, and least in the British Isles; in the former the increase averaged .25 inch. In British India the mean pressure is about .12 inch less than that of the preceding month, while a considerable decrease has occurred throughout northern, central, and eastern Asia, the area of high barometer, 30.1 (764.5), which occupied Siberia in April, being now replaced by the isobar for 29.9 (759.5).

Compared with the corresponding month of previous years the mean pressure in the United States during May, 1884, was below the normal in all districts east of the Mississippi river, on the north Pacific coast, and in Minnesota; in southern California, the plateau regions, and on the eastern slope of the Rocky mountains it was slightly above the normal. In Canada it was less than the normal; in Europe it was generally above normal, except in the northern peninsulas and Russia, where there were slight deficiencies.

The following table shows the mean pressure and mean temperature for May, 1884, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last seven years.

Countries.	Mean pressure.			Mean temperature.		
	May mean of 7 (1877–'83) years.	May 1884.	Departure.	May mean of 7 (1877–'83) years.	May 1884.	Departure.
				°	°	°
Algeria	30.03	30.04	+ 0.01	72.1	67.6	− 4.5
Austro-Hungary	29.89	29.99	+ 0.10	64.8	67.0	+ 2.2
British Isles	30.00	29.96	− 0.04	55.3	57.3	+ 2.0
Denmark	29.94	29.91	− 0.03	54.2	53.6	− 0.6
France	29.97	30.04	+ 0.07	63.0	66.1	+ 3.1
Germany	29.96	30.00	+ 0.04	59.9	62.2	+ 2.3
India*	29.62	29.61	− 0.01	91.6	93.5	+ 1.9
Italy	29.94	30.01	+ 0.07	67.8	71.2	+ 3.4
Norway	29.88	29.79	− 0.09	51.3	49.8	− 1.5
Portugal	30.00	30.05	+ 0.05	67.0	66.4	− 0.6
Russia	29.89	29.88	− 0.01	62.1	58.0	− 4.1
Spain	29.98	30.04	+ 0.06	67.9	66.6	− 1.3
Sweden	29.91	29.82	− 0.09	50.5	48.7	− 1.8

* Means of six years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of May, 1884, as compared with the means for seven years:

Stations.	Mean pressure.			Mean temperature.		
	May mean of 7 (1877–'83) years.	May 1884.	Departure.	May mean of 7 (1877–'83) years.	May 1884.	Departure.
				°	°	°
Astrakhan, Russia	29.90	29.94	+ 0.04	72.9	68.2	− 4.7
Archangel, Russia	29.90	29.75	− 0.15	47.0	41.5	− 5.5
Angra, Azores*	30.15	.....	.....	62.2	.....	.....
Athens, Greece*	29.92	29.96	+ 0.04	73.7	76.6	+ 2.9
Beirut, Turkey in Asia	29.93	29.90	− 0.03	75.4	74.7	− 0.7
Barnaul, Siberia, Asia	29.91	29.91	normal.	57.4	63.5	+ 6.1
Bridgetown, Barbadoes	30.00	29.98	− 0.02	83.1	82.3	− 0.8
Cape Town, Cape of Good Hope*	30.07	.....	.....	65.6	67.0	+ 1.4
Cagliari, Sardinia, Italy	29.92	.....	.....	69.4	.....	.....
Ekaterinburg, Russia	29.88	29.77	− 0.11	58.6	54.3	− 4.3
Fort Napier, Natal, South Africa	29.93	29.98	+ 0.05	71.8	72.8	+ 1.0
Freetown, Sierra Leone	29.91	29.84	− 0.07	86.0	85.1	− 0.9
Funchal, Madeira Islands	30.10	30.16	+ 0.06	67.5	65.8	− 1.7
Gibraltar	30.03	30.01	− 0.02	69.2	68.0	− 1.2
Godthaab, Greenland	29.86	.....	.....	34.8	.....	.....
Havana, Cuba, W. I.	30.02	30.02	normal.	78.0	76.5	− 1.5
Malta, Mediterranean Sea	29.94	29.96	+ 0.02	69.2	68.8	− 0.4
Mauritius, Indian Ocean	30.00	30.02	+ 0.04	75.6	75.4	− 0.2
Melbourne, New South Wales	30.03	30.13	+ 0.10	53.5	51.5	− 2.0
Mexico, Mexico	.....	.....	.....	.....	.....	.....
Nassau, Bahamas, W. I.	30.03	30.06	+ 0.03	77.5	80.3	+ 2.8
Nikolaevsk on the Amoor, Asia	.....	.....	.....	36.5	34.2	− 2.3
Paramaribo, D. Guiana, S. A.	30.05	30.04	− 0.01	80.1	77.7	− 2.4
Pekin, China	29.83	29.78	− 0.05	68.3	69.6	+ 1.3
Ponta Delgado, Azores	30.15	30.22	+ 0.07	64.7	65.3	+ 0.6
Sandwick Manse, Orkney Islands	29.92	29.81	− 0.11	49.0	48.8	− 0.2
San Juan de Puerto Rico, W. I.*	30.01	30.03	+ 0.02	79.9	78.1	− 1.8
Stykkisholm, Iceland	29.89	29.88	− 0.01	40.7	39.4	− 1.3
Tashkend, Toorkistan, Asia	29.85	29.87	+ 0.02	78.5	76.5	− 2.0
Thorshavn, Färöe Islands	29.89	29.76	− 0.13	46.4	46.6	+ 0.2
Tiflis, Russia	29.87	29.95	+ 0.08	71.4	64.8	− 3.0
Tokei, Japan	29.93	29.92	− 0.01	60.9	58.2	− 2.6
Yeniseisk, Siberia, Asia*	29.94	29.99	+ 0.05	46.0	54.1	+ 8.1
York Factory, B. A.	30.05	30.00	− 0.05	28.7	29.1	+ 0.4
Zi-Ka-Wei, China	29.90	29.90	normal.	62.9	62.1	− 0.8

* Means for six years only.

The mean temperature of the air was slightly above the normal in the Atlantic districts south of New England, in the east Gulf states, Minnesota, Dakota and the region west of the Missouri river and north of the fortieth parallel; it was also above the normal in the Pacific coast districts, except southern

California. In all other districts of the United States the mean temperature was below the normal, the deficiencies varying from 1° to 5°. In Europe the mean temperature of May, 1884, was above the normal in all countries except Scandinavia, Russia and the Iberian peninsula; in British India it was 1°.9 above the six years' mean. The highest mean temperatures reported were: 104°.4 Fahr. (40°.2 Cent.) at Agra, and 104°.0 Fahr. (40°.0 Cent.) at Deesa; the lowest was 79°.0 Fahr. (26°.1 Cent.) at Sibsagar.

The following are some of the extremes reported at isolated stations:

Highest.	Fahr.	Cent	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Sierra Leone	85.1	29.5	Upernavik, Greenland	19.2	— 7.1
Manila, Philippine Islands	82.6	28.1	York Factory, B. A.	29.1	— 1.6
Bridgetown, Barbadoes, W. I.	82.3	27.9	Fort Saint Michael's, Alaska	31.2	— 0.4
Cairo, Egypt	82.0	27.8	Nikolaevsk on the Amoor, Asia	34.2	1.2
Nassau, Bahamas, W. I	80.3	26.8	Behring Island, Behring Sea	34.7	1.5

In the United States the prevailing directions of the wind were from s. to sw., w. and nw.; in Canada they were mostly from w. and nw. Over the north Atlantic ocean the prevailing winds were as follows: north of the fiftieth parallel, variable; between N. 40° and 50°, westerly and southwesterly; between N. 30° and 40° and from the coast of the United States eastward to W. 30°, southwesterly; east of W. 30°, northerly; south of N. 30° the winds were from northeast and east, to southeast and south. In Europe the winds were mostly from southwest and west.

The rainfall during May, 1884, in the United States was greater than the average over the country south of the thirty-fifth parallel except in the south Atlantic states and Florida. It was also in excess of the average in New England, the lower lake region, Ohio valley and in Kansas and Colorado; in all other districts of the United States the rainfall was less than the average amount. In Canada it exceeded the average amount. In central and western Europe and the British Isles the rainfall was less than the average.

STORM-TRACKS FOR MAY, 1884.

Chart iii., for May, 1884, shows the paths of the principal depressions that have appeared in the northern hemisphere during that month. The data are charted for each day of the month on the maps accompanying each issue of the "International Bulletin," and from these charts, together with abstracts of ship's logs and other miscellaneous data on file at this office, are traced the movements of the centres of barometric minima. This chart continues the series of international charts begun in November, 1877.

The paths of thirty-nine depressions are shown on the chart and are geographically distributed as follows: ten appeared in the United States and Canada; of these, numbers ii. and iii. are traced from the Alaskan coast, the former having moved southeastward over British America and the United States to the central valleys and thence eastward, passing into the Atlantic from the coast of Connecticut; it then moved slowly northeastward to the Canadian Maritime Provinces. The last-mentioned depression (number iii.), apparently developed in the Sea of Okhotsk at the beginning of the month and reached Alaska on the 7th; it then moved eastward over British America to Manitoba and thence north of the lake region to the Saint Lawrence valley and the Gulf. Two depressions (vi. and ix.) were first observed in the Saskatchewan valley, the first moving east-southeastward to the lake region and thence northeastward over Labrador to the Arctic region; the path of the second depression (ix.) was somewhat peculiar, the low area moving from Manitoba in a southerly and westerly direction to Nebraska and Colorado where it curved abruptly and passed north-northeastward to Iowa and Wisconsin and thence northeastward to the Gulf of Saint Lawrence. Of the remaining depressions, three (iv., v., and viii.) developed in the country between the Rocky mountains and the Mississippi river; two (i. and vii.), in the lake region, and one (x.), in the Ohio valley. The general direction of movement of those depressions was northeasterly, with the exception of number x., which, on reaching the Gulf of Saint Lawrence, apparently moved off to the north-northwestward over Labrador. The above depressions caused generally high winds to moderate gales during their passage over the United States and Canada, the barometric minimum occurring with the passage of the centre over the Gulf of Saint Lawrence. The lowest pressures of the month, 29.07 (738.4), occurred in connection with low areas ii. and iii. on the 11th, when these depressions united over the Gulf of Saint Lawrence. In the other depressions the barometer ranged from 29.3 (744.2) to 29.8 (756.9.) They are described in detail in the MONTHLY WEATHER REVIEW for May, 1884, under "Areas of low barometer."

Eight depressions are traced over the Atlantic ocean; of this number, five, viz: xii., xv., xvi., xvii., and xviii., were continuations of storms which entered the ocean from the North American continent, north of the fortieth parallel. Number xi. was a slight depression which occupied the Banks of Newfoundland during the 1st and 2d, after which it disappeared, probably merging with number xii; numbers xiii. and xiv. developed near N. 45°, W. 40°, and N. 55°, W. 30°, respectively. With two exceptions (xvi. and xviii.), the general course of the depressions which traversed the Atlantic was about east-northeasterly until the twenty-fifth meridian was reached, when they moved northeastward, passing between Iceland and the northwestern coasts of the British Isles. These depressions, during their transit eastward, were attended by moderate gales, the most severe being numbers xiii. and xiv.; in the former the barometer fell to 29.05 (737.9) on the 7th and 8th, and in the latter to 28.9 (734.0) on the 15th when the centre was north of the British Isles. With reference to the exceptions noted above (xvi. and xviii.), these depressions moved to the southward and eastward after reaching mid-ocean, being apparently forced to this course by the presence of an area of high pressures which occupied the ocean north of 50° N. while the high area south of 40° N. also gave way before their advance; on the 26th and 27th the barometer ranged from 29.1 (739.1) to 29.35 (745.5), over the region between N. 45° and 50° and W. 40° and 50°. Descriptions of the storms which passed over the Atlantic ocean are given in the MONTHLY WEATHER REVIEW for May, 1884, under "North Atlantic storms."

Of the depressions traced over Europe, three entered Scandinavia from the Atlantic, and were continuations of storms traced over that ocean; one (xix.), approached from Iceland, and remained for two days to the northward of Scotland, when it moved southeastward to the North Sea, and thence northeastward over Scandinavia to the White Sea, where it disappeared. Ten depressions appeared within the limits of the coast lines; three of them, numbers xx., xxv., and xxviii., occupied the Mediterranean and adjacent land areas. Number xxiv. appeared in southwestern France and passed northeastward to the Gulf of Finland, and thence southeastward, disappearing in southeastern Russia; number xxii. appeared in central Europe and passed to the Black Sea region, and number xxvii. developed to the northward of the Black Sea and moved northeastward through Russia, finally disappearing in northwestern Siberia; the remaining depressions, xxi., xxiii., xxvi., and xxix., are shown in northwestern and central Russia.

Of the depressions which occurred in Europe, that traced as number xix. was remarkable for its depth and persistence, the pressure having remained below 28.9 (734.0) from the 1st to the 5th; in the other depressions shown over the northern districts the barometer ranged from 29.3 (744.3) to 29.6 (751.8), and all were accompanied by high winds to gales. The depressions in the southern districts were slight, that charted as number xxv., however, deserves special mention, as it was during the prevalence of this depression that the disastrous floods occurred in southeastern Spain, principally in the provinces of Murcia and Alicante.

Mr. Olayo Diaz, director of the meteorological observatory at Murcia, stated that the damage resulting from these floods exceeded that caused by the great inundation of 1879; crops were completely destroyed, and all roads over a large extent of country were rendered impassable, and more than 1,500 buildings of all kinds, including churches, mills, bridges, etc., were demolished or otherwise seriously damaged. During the progress of this depression, the barometer at Murcia ranged from 29.7 (754.4) to 29.95 (760.7), and more than six inches of rain fell at that place between the 20th and 23d; winds of hurricane force, which caused much damage, occurred near Carthagena.

Five depressions are traced in Japan and eastern Asia; of these, numbers xxxvi. and xxxvii. were the most important; in the former the barometer fell below 29.0 (736.6) during the passage of the storm-centre over the western part of the Sea of Japan, and in the latter depression the pressure decreased to 29.3 (744.2) when the storm-centre was in northern Japan. In the four depressions traced over the Pacific ocean the barometer ranged from 29.0 (736.6) to 29.6 (751.8.)

Number xxxv. is a cyclone which occurred in the Bay of Bengal during May 16th and 17th; the path of this cyclone is not shown, as the data to hand are insufficient to determine it. The following details concerning this cyclone are taken from a communication sent to the editor and published in the "Nautical Magazine," London, for August, 1884:

CYCLONE IN THE INDIAN OCEAN, MAY 16TH AND 17TH, 1884.

To the Editor of the Nautical Magazine:

SIR: Among other vessels which encountered the cyclone of May 16th and 17th, 1884, which destroyed the Oyster Reef Light-house and wrecked Akyab, the s. s. "Rajpootana," Captain J. T. Lewis, R. N. R., was one.

* * * * * * * * *

The s. s. "Rajpootana" was bound from Calcutta to Rangoon and was making a direct course from the Eastern Channel Light-vessel to the Alguada Light-house, when at daylight on May 16th she encountered a fresh southeasterly gale with heavy sea which gradually increased. At noon she was in lat. 19° 23′ N., long. 89° 47′ E. The wind gradually hauled from se. to ese. and e., blowing a heavy gale from east at 6 p. m , with a heavy se. sea. At that time it was apparent to the captain that he was in the vicinity of a cyclone, so he went half-speed and observed the weather and shift of wind, which rapidly flew around to e. by n. and ene. till at 10 p. m. it was ne., and at 11 p. m. nne., the barometer falling all the time. At 11 p. m there was a heavy gale with terrific squalls and a high sea running, and the ship was kept away sw. by w., and gradually kept more to the southward as the wind hauled to n. and nw. * * * * After getting well clear of the centre of the cyclone the ship was gradually kept on her course, making a fair wind of the southern portion of the cyclone. I append a memo. of the shifts of wind and barometer readings during the continuance of the cyclonic gale:

Time.	Bar.	Ther.	Wind.	Position.
		°		
May 16, 4 a. m	29.72	86	se.	
8 a. m	29.74	87	ese.	
noon	29.74	85	ese.	Lat. 19° 23′ N. Lon. 89° 47′ E.
4 p. m	29.57	85	e.	
8 p. m	29.57	84	e. by n.	
9 p. m	.....	.....	ene.	
10 p. m	.....	.....	ne. by e.	
11 p. m	29.50	.....	ne.	
midnight	29.47	82	nne.	
May 17, 1 a. m	29.40	.....	n.	
2 a. m	29.38	.....	.....	
3 a. m	29.35	.....	n. by w.	
4 a. m	29.36	84	nw. by n.	
5 a. m	29.38	.....	.....	
6 a. m	29.41	.....	nw.	
7 a. m	29.44	.....	nw. by w.	
8 a. m	29.47	84	wnw.	
9 a. m	29.55	84	w by n.	
10 a. m	29.59	85	wnw.	
11 a. m	29.59	86	wnw.	
noon	29.60	86	wnw.	*Lat. 11° 56′ N. (?), Lon. 90° 42′ E.
2 p. m	29.65	89	w.	
4 p. m	29.68	87	wsw.	
8 p. m	29.75	84	sw.	
midnight	29.84	86	s.	

* Probably N. 17° 56′.

I am, yours faithfully,

W. E. H.

The following report appeared in the "New York Maritime Register" of August 20, 1884:

The ship "Valiant" encountered bad weather in lat. 12° 05′ N., long. 88° 45′ E., during which several sails were split.

This vessel left Calcutta for New York on May 4th, and probably encountered the cyclone referred to above.

STORM-TRACKS FOR AUGUST, 1882.

Chart iii. for August, 1882, exhibits the paths of thirty of the principal depressions that have appeared in the northern hemisphere during that month; in addition are also shown the tracks of two typhoons which occurred in the China Sea and in the vicinity of Japan; these latter are taken from "Les Typhons de 1882" (première partie), by the Rev. Marc Dechevrens, S. J., director of the observatory of Zi-Ka-Wei, near Shanghai, China.

Eight depressions are traced in the North American continent, of these, two only, numbers i. and iii., occupied that part of the United States lying between N. 35° and N. 42°; five depressions traversed the northern part of the lake region and the valley of the Saint Lawrence, and the remaining disturbances, vi. and vii., disappeared in the region north of Manitoba. None of these depressions exhibited any special storm-energy, nor did they retain the characteristics of cyclonic disturbances after reaching the coast line, consequently none of them appeared over the Atlantic ocean as continuous storms. Their direction of movement was east-northeasterly or northeasterly, except in the case of number i., whose path was somewhat abnormal. Descriptions of the depressions which appeared in the United States will be found under the heading: "Areas of low barometer," in the MONTHLY WEATHER REVIEW for August, 1884.

Of the eleven depressions shown over the Atlantic ocean, one only, number xvii., is traced over the region lying south of 60° N. and west of 30° W. This depression apparently originated in the vicinity of Bermuda on the 22d, and moved north-northeastward to Newfoundland, where it exhibited some energy from the 24th until the 26th, after which it passed slowly northeastward over the ocean. The barometric minimum, 29.3 (744.2), was observed on the 24th on the Banks of Newfoundland; after this date the pressure increased to 29.7 (754.4), but it again decreased to 29.3 (744.2) on the 30th and 31st; during its passage this depression was attended by moderate to strong gales. One depression (xi.), appeared in southern Greenland and moved first eastward north of Iceland and then northeastward along the Scandinavian coast, finally disappearing in the Arctic regions. The remaining depressions are all shown to the eastward of the thirtieth meridian; two of them, numbers xii. and xv. passed northeastward at a considerable distance from the northwestern coasts of the British Isles, while the others moved eastward and southeastward near to, or across those islands.

Eight depressions are traced over Europe in addition to those which entered the continent from the Atlantic. Of these, three (xxi., xxii. and xxiii.) are shown over the Mediterranean and the southern peninsulas; one appeared in Austro-Hungary and moved to the Black Sea region; one (xxvi.) appeared in Austria and passed northward to the Gulf of Finland and thence across Finland to the Arctic; two (xx. and xxvii.) appeared in Russia and passed eastward or slightly south of east, and one (xxv.) developed in the North Sea and passed over Scandinavia. The month of August, 1882, was remarkable for the number and depth of the depressions which passed over the British Isles and Scandinavia, and for the strong sw. to nw. winds that accompanied the passage of these depressions. The most important depressions were the following:

Number ix., in which the barometer fell to 29.3 (744.2) on the 2d, 3d, and 4th, during the passage of the storm-centre over the North Sea and southern Scandinavia. Number xx., in which the barometer fell to 29.09 (738.9) at Moscow on the 7th. Number xvi., in which the pressure fell to 29.25 (742.9) at stations in northern Scotland on the 21st. Number xxv., on the 23d, when the pressure was below 29.0 (736.6) over the North Sea and about 28.9 (734.0) on the following day when

the storm-centre was in southern Norway. Number xviii., in which the barometer ranged from 29.3 (744.2) to 29.4 (746.7), throughout the passage of the storm-centre. Number xix., barometer 29.3 (744.2) on the 29th, and 29.15 (740.4) on the 30th. The depressions which appeared in the southern districts of Europe were slight and unimportant, and the barometer did not fall below 29.7 (754.4).

Three disturbances are shown in Behring Sea; in these the pressure ranged from 29.55 (750.6) to 29.8 (756.9). Concerning the typhoons shown on the chart, the first appears to have originated to the eastward of the Philippine Islands during the last decade of July; by the 31st of that month it had reached northern Formosa, where it apparently divided, one part occupying the Channel of Formosa from August 1st to 10th, exhibiting much violence and causing great damage during its prevalence; another branch passed off to the eastward during the 2d, 3d, and 4th, and appeared in southern Niphon on the 5th; while the primary disturbance moved northward over the eastern provinces of China to the Yellow Sea, and finally disappeared in Manchooria. During the passage of this typhoon the barometer fell to 28.6 (726.4) on August 1st. The second typhoon appeared on the 20th to the southward of Kiusiu, Japan; it moved northwestward to the peninsula of Korea, where it curved and entered the Sea of Japan, and passed along the western coasts of the islands; during its passage the lowest barometer was 29.41 (747.0).

Full descriptions of these interesting typhoons will be found in Mr. Dechevrens' paper, mentioned above; data in connection therewith are also given in the MONTHLY WEATHER REVIEW for August, 1882, under "Areas of low barometer."

GENERAL REMARKS.

DAILY BULLETIN.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c., cirrus; k., cumulus; s., stratus; n., nimbus; d., scud; f., fracto; p., pallio; hz., haze; fg., fog; sk., smoke; inap., inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in metres per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometres per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations.

All marine data are classified as to districts, which are designated as follows: District No. 1, North Atlantic; District No. 2, South Atlantic, &c., under which headings the respective reports are printed.

BOUNDARIES OF DISTRICTS.

District No. 1 comprises the Atlantic ocean, its arms and tributaries, from the equator northward to the pole, and in the Arctic from 100° E., westward to 100° W., of Greenwich.

District No. 2 comprises the Atlantic ocean, its arms and tributaries, from the equator southward to the pole; and in the Antarctic from 20° E., westward to 70° W., of Greenwich.

District No. 3 comprises the Pacific ocean, its arms and tributaries, from the equator northward to the pole, and in the Arctic from 100° W., westward to 100° E., of Greenwich.

District No. 4 comprises the Pacific ocean, its arms and tributaries, from the equator southward to the pole, and in the Antarctic from 70° W., westward to 145° E., of Greenwich.

District No. 5 comprises the Indian ocean, its arms and tributaries, from the Asiatic continent southward to the pole, and in the Antarctic from 20° E., eastward to 145° E., of Greenwich.

The following remarks relate to the individual peculiarities in the *methods* of recording, and the *times* of taking, the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus.

ALGERIAN SERIES (furnished by co-operation of M. Thévenet, Director of the Meteorological Service at the College of Science of Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. Adelaide, furnished by co-operation of Charles Todd, C. M. G., F. R. A. S. The observations are taken at 9 p. m., local time. Hobart Town, furnished by Commander J. Shortt, R. N. Observations are taken at 9 p. m., local time.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemberg, 7 p. m.; Vienna, 2 p. m; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BELGIAN SERIES (furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade; weather by the Vienna symbols, and occasionally in general terms. At Arlon the observations are taken at 1 p. m., local time.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind-direction is given to 32 points, and weather by the Beaufort notation. At Bradford no observations are taken on Sunday, except rainfall.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with an * are telegraphed daily to the office of the Chief Signal Officer of the Army.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Saint Francis Lighthouse, the original gives barometer reduced to freezing, but not to sea-level. The kind of clouds is given, but no distinction is made between upper and lower. Weather in general terms.

CHILIAN SERIES (by authority of the Secretary of Public Instruction, furnished by co-operation of Francisco Vidal Gormáz, President of the Central Meteorological Office at Santiago).—Observations are taken mostly at lighthouses on the coast; the originals give barometer as read off; temperature in Centigrade; humidity is not given, but is computed at this office from the hygrometrical observations.

CHINESE SERIES (furnished by the co-operation of W. Doberck, Government Astronomer, Director of the Observatory at Hong Kong, and of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Hong Kong the rainfall is measured at midnight. At Zi-Ka-Wei the original gives the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres, and measured at the moment of simultaneous observation.

DANISH SERIES (furnished by co-operation of the Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted. At all Greenland stations the observations are taken at 8 a. m., local time.

EGYPTIAN SERIES (furnished by the co-operation of Albert Ismalun, Director of the Laboratoire Khédivial du Caire).—Original gives barometer reduced to zero, but not to sea-level, temperature in Centigrade. The velocity is the mean for past twenty-four hours. Rainfall in millimetres.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Montlouis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dôme, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Montlouis and Perpignan.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES (furnished by co-operation of Prof. D. K. Kokkides, Director of the Royal Observatory at Athens).—The original gives the barometer corrected for temperature only, and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological

Reporter to the Government of India, at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office, at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by the co-operation of the Geographical Bureau, Department of the Interior, through I. Arai, Director of the Imperial Meteorological Observatory, at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 32 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (furnished by co-operation of the respective observers).—The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys-Ballot, Director of the Royal Meteorological Institute of the Netherlands, at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred. At Batavia the elevation is stated to be "a few metres."

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute, at Christiania).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in metres per second, or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in metres per second. No distinction is made between upper and lower clouds: the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Astrakhan, Ashurada and Baku, the barometer-cistern is below sea-level.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 10 a. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Prof. E. Gautier, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of F. Nimr, B. A., Director of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in metres per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms. At Samakov the barometer is reduced to freezing, but not to sea-level; temperature in Fahrenheit. The kind of clouds is given, also the distinction between upper and lower.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Puerto Berrio, is given as read off. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind-direction is generally given to 16 points, except 8 points for Bogota. At Rivas the barometer (aneroid) appears to read .10 inches too high, and a correction of —.10 inches has been applied from May 1. 1884; the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind-direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operations of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date.

In the above charts broken lines indicate that the lines so drawn are doubtful. Arrows show direction of, and fly with, the wind. Force is shown as follows:

SYMBOLS.	FORCE.	VELOCITY.	
		MILES PER HOUR.	METRES PER SECOND.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

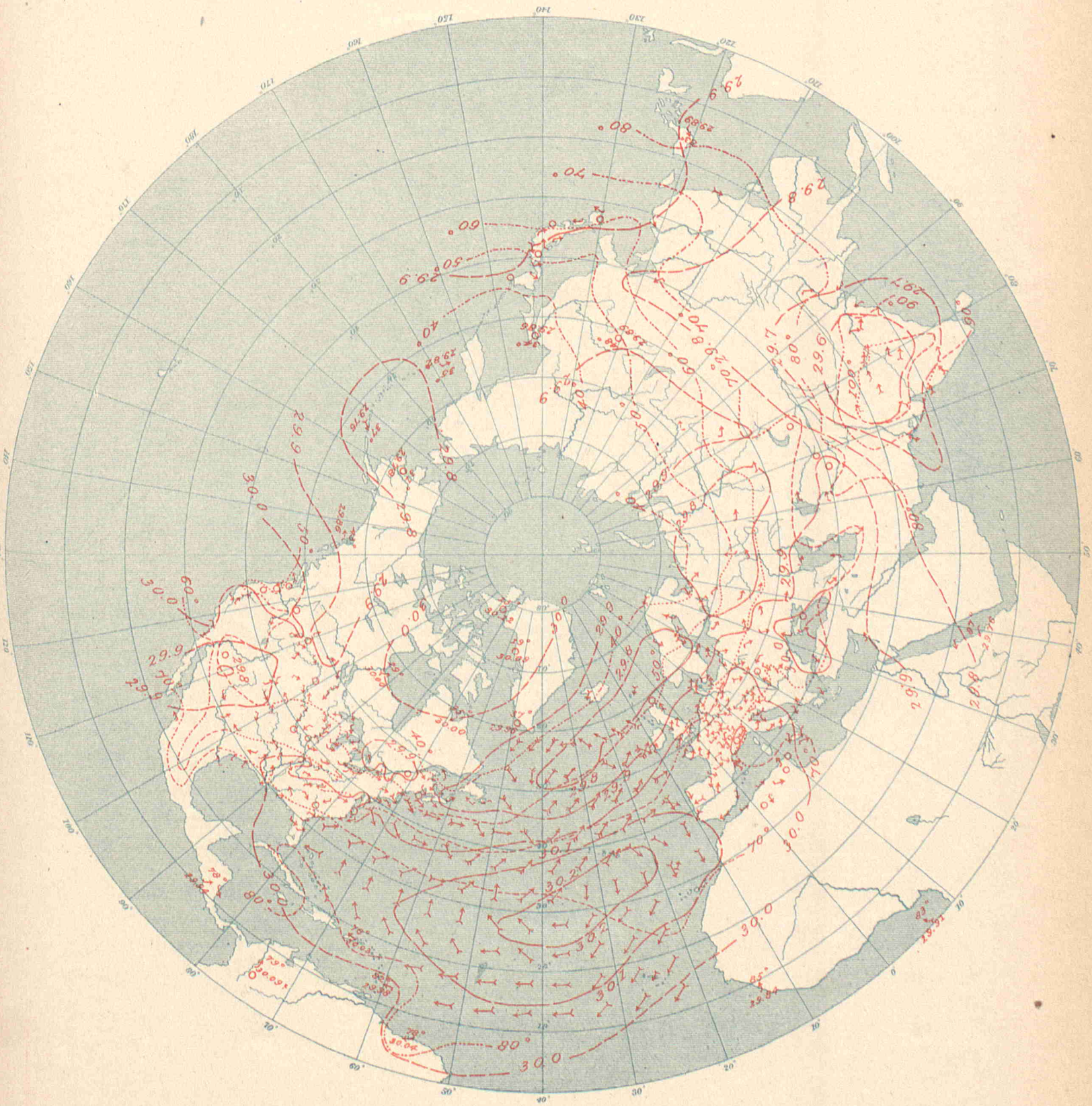
The position of stations (latitude and longitude) are obtained from Keith Johnston's "Index Geographicus," except where more exact information is furnished. The elevation of stations is obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is belived for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least, this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the alphabet of the letter so used.

BRITISH SERIES, Bradford: a letter placed opposite the name of station, refers to all the data except rainfall.

SPANISH SERIES, Barcelona: on May 1st the elevation of barometer cistern changes from 30 to 42 metres.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude (2), the the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings, as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

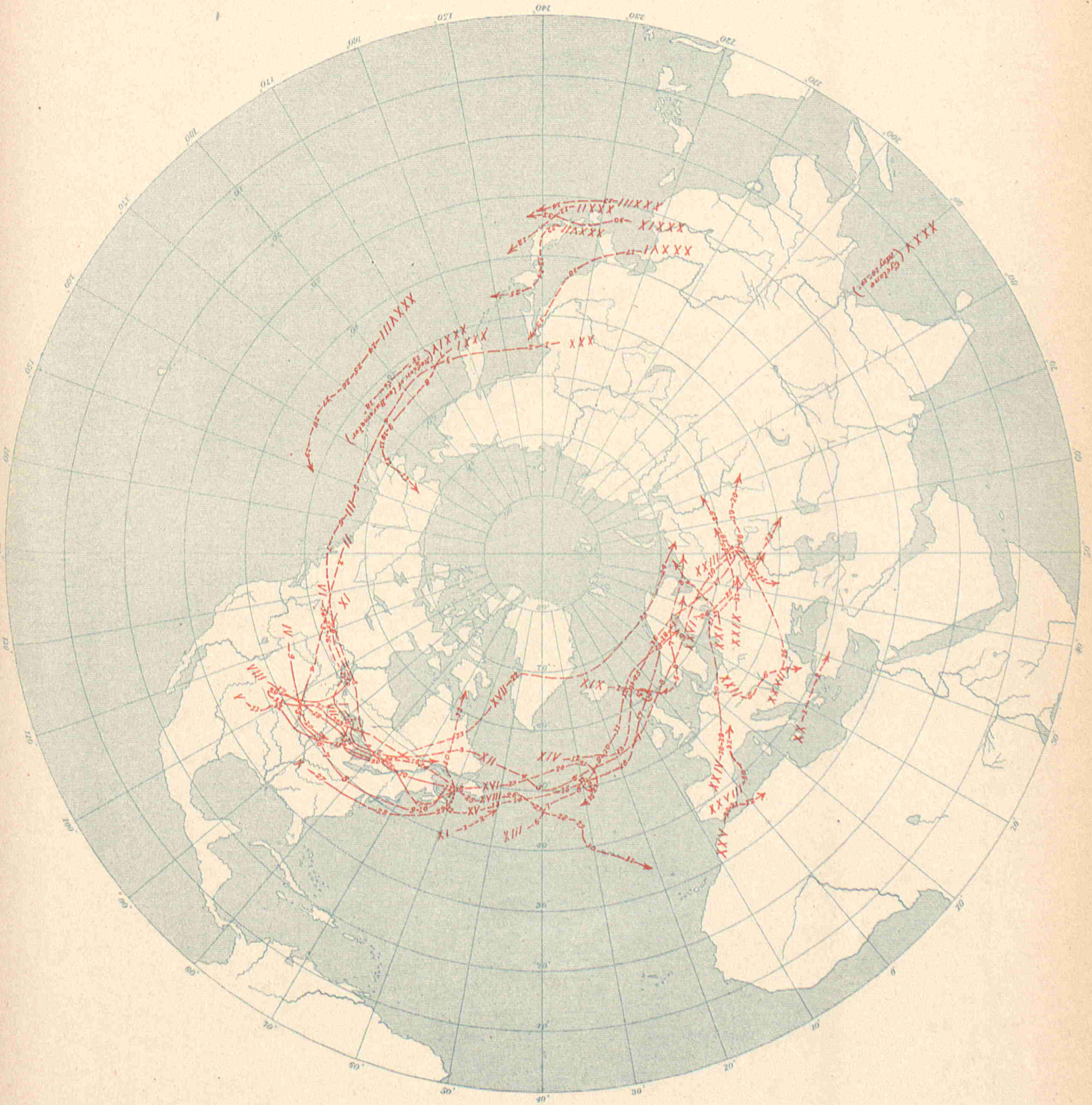
International Chart II. May, 1884. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.
Signal Office Lith.

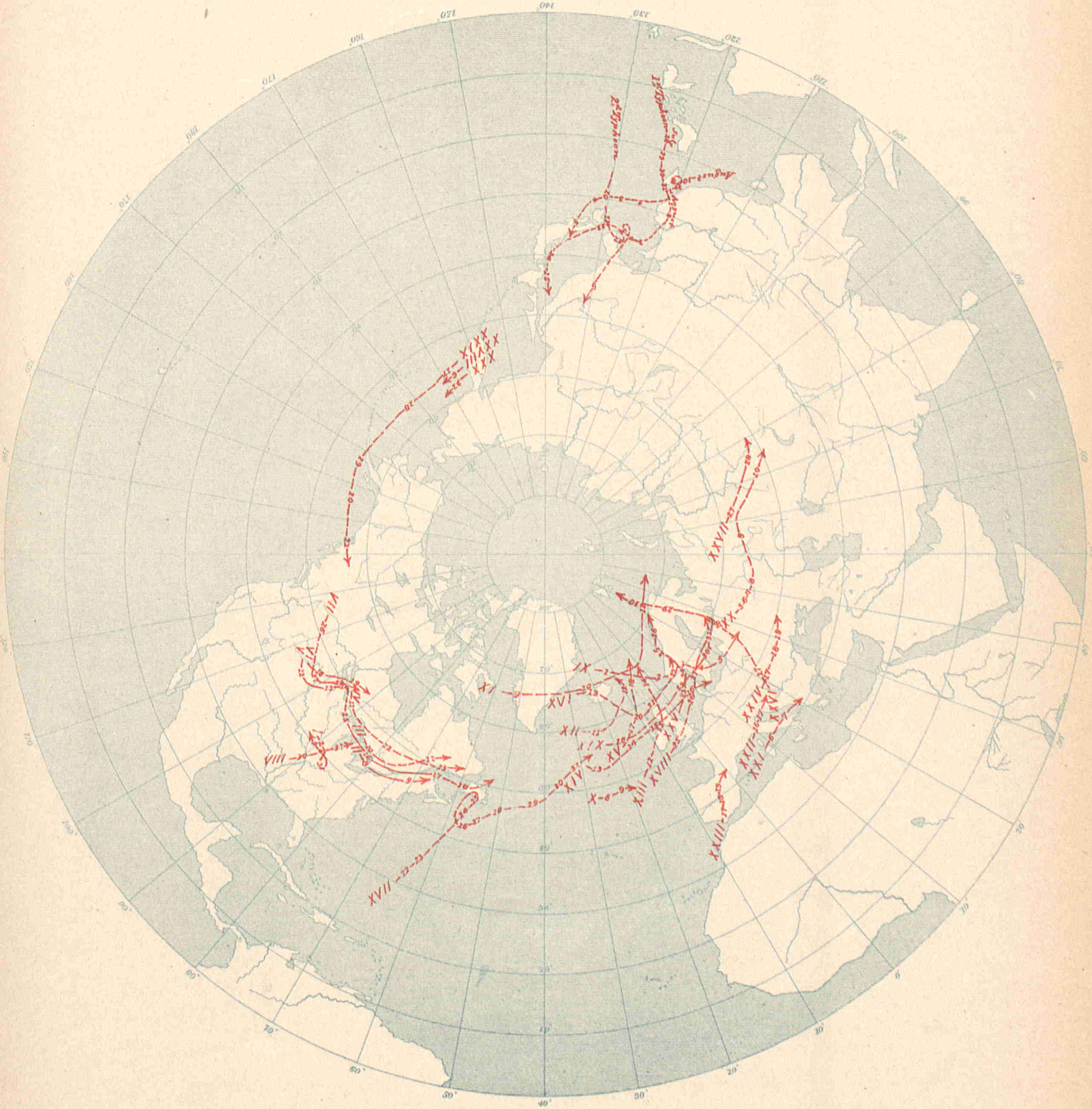
International Chart III. May, 1884. Storm-Tracks.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.
Signal Office 1884.

International Chart III. August, 1882. Storm-Tracks.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B.Hazen, Chief Signal Officer.

Signal Office Lith.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF JUNE, 1884.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
JULY, 1885.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

JUNE, 1884.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for June, 1884. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	29.96	760.9	29.99	761.8	69.8	21.0	70.0	5	2	6	.....	1	.....	3	13	.....	.....	.....	1	0.10	2.5
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	29.96	761.0	30.04	763.1	69.1	20.6	59.6	11	.....	7	1	2	.....	5	4	.....	.....	.....	2	0.61	15.6
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	29.93	760.3	30.00	762.0	67.8	19.9	77.0	1	7	3	2	1	.....	14	2	.....	.....	.....	3	1.34	34.0
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.01	762.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4282	1305	.....	.....	30.00	761.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	29.56	750.9	30.04	762.9	76.5	24.7	58.0	3	8	2	.....	.....	.....	13	2	2	.....	.....	2	2.47	62.8
AUSTRALIAN.																										
Adelaide	S. 34 57	E. 138 35	9.22 p.m.	140	42	.....	.....	30.10	764.5	51.8	11.0	85.3	8	2	4	1	2	.....	3	9	1	.....	.....	6	4.56	115.8
Hobart Town	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.77	756.1	29.96	761.0	46.4	8.0	86	3	13	5	3	2	.....	.....	.....	4	.....	.....	6	1.40	35.6
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.96	760.9	30.05	763.2	49.2	9.5	83	11	4	1	3	.....	2	3	6	.....	.....	.....	6	0.84	21.3
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.33	745.0	29.85	758.3	66.2	19.0	57.2	2	6	5	4	2	1	5	5	.....	.....	.....	8	5.28	134.0
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.07	738.3	29.82	757.3	64.8	18.2	65.5	3	3	14	4	.....	.....	5	1	.....	.....	.....	8	6.76	171.7
Eperies	N. 48 58	E. 21 15	1.33 p.m.	846	258	28.93	734.8	29.78	756.3	61.0	16.1	76.7	8	.....	.....	.....	10	.....	.....	.....	12	.....	.....	8	2.83	72.0
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.65	727.8	29.87	758.7	64.9	18.3	74.7	.....	11	2	6	4	2	2	2	1	.....	.....	8	5.48	139.1
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.39	721.1	29.76	756.0	70.7	21.5	52	1	5	10	3	2	3	2	4	.....	.....	.....	7	5.49	139.5
Kremsmunster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.58	725.9	29.90	759.5	59.7	15.4	73.2	1	4	9	8	.....	1	4	.....	3	.....	.....	8	7.01	178.1
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.81	731.8	29.77	756.2	65.3	18.5	65.1	1	.....	1	3	5	2	17	1	.....	.....	.....	8	7.21	183.1
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.79	756.6	29.89	759.3	69.4	20.8	64.3	1	1	8	5	1	7	4	2	1	.....	.....	6	3.81	96.8
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.30	744.1	29.74	755.5	68.2	20.1	61	2	4	12	1	4	.....	3	4	.....	.....	.....	6	9.77	248.2
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.53	750.1	29.80	756.9	67.8	19.9	64.8	2	4	4	4	5	1	.....	2	8	.....	.....	7	3.68	93.5
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.82	757.3	29.91	759.8	68.0	20.0	62.6	.....	5	3	10	2	1	4	3	2	.....	.....	7	9.25	234.9
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.17	741.0	29.87	758.8	63.3	17.4	62.7	4	9	11	2	1	1	1	.....	1	.....	.....	7	4.10	104.2
BELGIAN																										
Arlon	N. 49 40	E. 5 48	0.32 p.m.	?	?	.....	.....	.....	.....	60.4	15.8	73.9	4	2	.....	8	4	2	5	5	.....	.....	.....	3	2.25	57.2
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	29.82	757.4	30.02	762.4	61.9	16.6	60 2	5	6	6	5	1	1	2	4	.....	.....	.....	7	2.27	57.6
Furnes	N. 51 04	E. 2 40	0.19 p.m.	20	6	30.01	762.2	30.03	762.7	63.0	17.2	73.7	5	9	3	6	1	1	1	1	3	.....	.....	6	1.36	34.5
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	29.89	759.3	30.02	762.5	65.5	18.6	64.4	3	11	4	5	.....	.....	1	6	.....	.....	.....	7	1.69	42.9
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.91	759.7	30.01	762.2	55.3	12.9	70.5	2	7	2	2	1	10	5	1	.....	.....	.....	7	0.86	21.8
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	30.05	763.3	60.8	16.0	66.2	.....	8	18	.....	.....	1	2	1	.....	.....	.....	6	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.50	749.3	30.03	762.7	60.9	16.1	66.2	3	12	6	4	1	2	1	1	.....	.....	.....	8	.....	.....
Bradford	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.63	752.6	30.03	762.7	60.9	16.1	62.1	.....	5	4	5	.....	4	2	10	.....	.....	.....	8	1.01	25.7
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	30.00	762.0	30.03	762.7	83.1	28.4	72.5	.....	.....	.....	.....	.....	3	15	12	.....	.....	.....	4	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	.....	.....	63.6	17.6	68.3	8	2	5	2	3	2	5	3	.....	.....	.....	6	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	160	49	29.86	758.4	30.03	762.7	62.2	16.7	70.2	1	2	:	4	.....	.....	6	2	14	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.88	758.9	30.10	764.5	61.4	16.3	69.0	5	11	4	3	.....	7	.....	.....	.....	.....	.....	6	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2205	672	27.80	706.1	30.11	764.8	66.3	19.1	36.2	3	3	.....	2	7	.....	5	10	.....	.....	.....	3	.....	.....
Freetown	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.61	752.1	29.84	757.9	84.2	29.0	86.7	7	.....	2	3	10	3	4	1	.....	.....	.....	3	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	30.00	762.0	30.03	762.7	57.8	14.3	75.2	1	4	6	13	.....	1	2	3	.....	.....	.....	4	.....	.....
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	29.92	760.0	30.05	763.3	73.8	23.2	88.6	.....	.....	9	2	.....	.....	15	4	.....	.....	.....	3	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.86	758.4	30.03	762.7	64.0	17.8	66.8	6	6	1	6	.....	3	2	6	.....	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.78	756.4	30.08	764.0	60.7	15.9	75.2	4	10	5	2	1	1	3	4	.....	.....	.....	5	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	30.00	762 0	30.04	763.0	62.3	16.8	61.4	8	8	5	1	.....	1	4	3	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.77	756.1	30.02	762.5	63.0	17.2	72.4	1	6	2	8	.....	3	.....	10	.....	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.84	757.9	29.92	760.0	72.5	22.5	65.7	3	17	.....	1	.....	3	.....	6	.....	.....	.....	2	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.02	762.5	30.06	763.5	80.0	26.7	80.9	1	.....	.....	.....	.....	13	11	5	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.81	757.2	30.04	763.0	63.0	17.2	61.9	3	8	5	6	.....	.....	2	5	1	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	30.00	762.0	30.07	763.8	65.1	18.4	68.2	3	10	3	8	4	1	.....	.....	1	.....	.....	6	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.87	758.7	29.97	761.2	54.3	12.4	74.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Scutari Cemetery	N 41 00	E. 29 03	2 04 p.m.	60	18	29.76	755.9	29.82	757.4	76.2	24.6	66.2	1	.....	1	15	4	.....	1	6	2	.....	.....	5	.....	.....
Sheffield	N. 53 23	W. 1 28	0 02 p.m.	260	79	29.70	754.4	30.03	762.7	65.6	18.7	72.0	2	2	5	3	1	1	5	7	4	.....	.....	6	.....	.....
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.99	761.7	30.02	762.5	62.3	16.8	67.3	4	4	6	7	3	.....	4	2	.....	.....	.....	6	0.45	11.4
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	30.06	763.5	61.2*b*	16.2*b*	62.4*b*	6	4	14	1	.....	1	2	2	.....	.....	.....	7	1.13	28.7
Strathfield	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	64.7	18.2	67.3	8	6	8	2	1	2	.....	2	1	.....	.....	7	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m	23	7	30.10	764.5	30.13	765.3	59.5	15.3	75.4	4	7	4	9	5	.....	1	.....	.....	.....	.....	7	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.63	752.6	30.01	762.2	71.8	22.1	62.2	.....	15	6	.....	2	3	3	1	.....	8206	13206	3	0.72	18.3
CANADIAN.																										
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	35	11	29.67	761.2	30.01	762.2	59.7	15.4	.....	2	.....	.....	2	4	5	2	1	14	.....	.....	5	1.92	48.8
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.98	761.5	30.02	762.5	55.7	13.2	75.2	3	6	4	7	4	1	2	3	.....	4977	8010	5	3.29	83.6
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.96	761.0	30.02	762.5	56.6	13.7	79.4	9	3	4	10	1	1	.....	2	.....	3549	5712	6	2.43	61.7
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.83	757.7	30.02	762.5	60.0	15.6	82.0	1	2	14	2	1	.....	9	1	.....	.....	.....	3	1.73	43.9
Dalhousie *b*	N. 48 04	W. 66 22	7.32 a.m.	45	14	29.96	761.0	30.01	762.2	56.7	13.7	.....	.....	.....	20	.....	.....	.....	3	1	4	.....	.....	3	2.94	74.7
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.98	761.5	30.00	762.0	50.7	10.4	83.4	3	10	8	5	.....	.....	.....	3	1	.....	.....	4	1.94	49.3
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.11	739.4	29.91	759.7	58.6	14.8	88.5	5	3	.....	5	11	3	1	2	.....	9246	14878	7	3.39	86.1
Fredericton	N. 45 57	W. 66 38	7.41 a.m.	59	18	30.00	762.0	30.06	763.5	58.8	14.9	72.2	2	7	4	2	3	4	3	5	.....	.....	.....	4	4.06	103.1
Grand Manan	N. 44 46	W. 66 45	7.41 a.m.	49	15	30.01	762.2	30.06	763.5	56.9	13.8	75.8	9	4	5	1	2	.....	2	2	5	13070	25543	3	2.09	53.1
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	29.00	730.6	30.08	764.0	60.1	15.6	97.5	.....	.....	.....	3	3	1	6	1	16	.....	.....	3	1.37	34.8
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.94	760.5	30.07	763.8	57.2	14.0	80.1	7	1	11	2	2	2	5	.....	.....	.....	.....	4	3.82	97.0
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	372	113	29.66	753.4	30.06	763.5	63.1	17.3	80.0	.....	2	.....	18	.....	.....	1	9	.....	.....	.....	3	2.33	59.2
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.77	756.1	30.09	764.3	60.5	15.8	81.6	1	1	1	18	.....	.....	2	6	1	4297	6915	3	0.86	21.8
Little Glace Bay *a*	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.95	760.7	29.99	761.7	54.4	12.4	79.1	7	1	3	9	3	1	3	1	2	.....	.....	6	.....	.....
London	N. 43 00	W. 81 15	6.43 a.m.	832	254	29.23	742.4	30.11	764.8	61.6	16.4	85.2	1	.....	.....	1	.....	.....	2	3	23	.....	.....	3	1.27	32.3
Medicine Hat	N. 50 01	W. 110 37	4.46 a.m.	2130	651	27.49	698.2	29.74	755.4	56.9	13.8	80.0	3	1	2	3	6	5	4	6	.....	8200	13196	5	2.21	56.1
Minnedosa	N. 50 13	W. 99 48	5.29 a.m.	1796	545	28.01	711.4	29.90	759.4	55.2	12.9	84.3	3	4	2	3	4	6	2	5	1	7691	12377	7	3.30	83.8
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.88	758.9	30.08	764.0	62.8	17.1	70.0	3	4	5	9	3	1	.....	5	.....	.....	.....	4	3.58	90.9
Ottawa	N. 45 26	W. 75 41	7.05 a.m.	200	61	29.86	758.4	30.08	764.0	62.5	16.9	78.6	9	.....	.....	7	5	.....	4	5	.....	.....	.....	2	0.83	21.1
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.41	747.0	30.09	764.3	60.0	15.6	86.7	2	.....	5	5	4	1	4	5	4	4103	6603	5	1.31	33.3
Peterboro	N. 44 17	W. 78 18	6.54 a.m.	675	206	29.36	745.7	30.08	764.0	64.8	18.2	79.8	1	2	3	8	1	1	.....	3	11	.....	.....	2	3.25	82.5
Port Arthur	N. 48 27	W. 89 12	6.11 a.m.	642	196	29.36	745.7	30.06	763.5	58.2	14.6	74.5	4	2	.....	3	2	.....	1	5	13	2053	4270	2	1.07	27.2
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.41	747.0	30.08	764.0	61.4	16.3	89.1	4	1	.....	2	1	.....	1	7	14	3395	5464	5	1.60	40.6
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.44	747.8	30.08	764.0	62.1	16.7	87.8	5	2	1	1	1	.....	8	7	5	.....	.....	4	0.95	24.1
Qu Appelle	N. 50 44	W. 103 42	5.13 a.m.	2115	646	27 65	702.3	29.87	758.7	55.5	13.1	86.2	.....	6	.....	7	7	1	3	3	3	.....	.....	3	3.18	80.8
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.70	754.4	30.05	763.3	59.7	15.4	87.1	3	1	1	9	4	.....	.....	5	7	.....	.....	4	2.25	57.1
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.03	752.6	30.08	764.0	55.5	13.1	83.0	4	8	4	.....	.....	.....	2	1	11	.....	.....	2	1.73	43.9
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	30.00	762.0	30.05	763.3	55.3	12.9	86.0	4	7	1	1	2	6	2	5	2	.....	.....	2	1.09	27.7
Saint John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	116	35	29.92	760.0	30.06	763.5	54.4	12.4	75.1	2	3	.....	.....	8	.....	.....	.....	17	.....	.....	5	1.87	47.5
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.98	761.6	48.7	9.3	.....	2	4	2	11	2	5	1	3	.....	.....	.....	.....	.....	.....
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.39	746.5	30.09	764.3	62.7	17.1	76.3	.....	.....	.....	5	7	.....	2	5	11	3963	6378	2	1.25	31.7
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1186	361	28.86	733.0	30.10	764.5	65.5	18.6	75.7	6	.....	.....	4	2	1	1	2	14	.....	.....	3	1.00	25.4
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.96	761.0	30.02	762.5	54.5	12.5	75.6	3	3	3	11	1	.....	2	3	4	6365	10243	6	4.57	116.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for June, 1884. Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mil.
CANADIAN.—Con.	° ′	° ′																								
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.73	755.1	30.10	764.5	62.5	16.9	75.9		3	3		3	1	3	8	5	4905	7894	4	2.21	56.1
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	29.07	738.4	30.10	764.5	63.1	17.3	82.7		4	2	4	2	2		9	7			5	4.25	107.9
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.97	761.2	30.04	763.0	54.2	12.3	84.7	2	3	1	10	1	1	4	3	5			2	1.52	38.6
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.20	767.1	30.23	767.8	60.0	15.6	93.0		4	1	19	1	2		3				5	4.11	104.4
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	?	?	30.17	766.3			60.5	15.8	64.0	1	17				6		1	5			4	5.62	142.8
Springbok *b*	S. 29 45	E. 17 43	1.19 p.m.	?	?	27.90	708.6			59.1	15.1	61.2													0.86	21.8
CHILIAN.																										
Coquimbo	S. 29 56	W. 71 21	7.22 a.m	72	22	29.98	761.6	30.06	763.6	52.9	11.6	90.3	1			1	6	9	13					6	0.48	12.3
Iquique *b*	S. 20 12	W. 70 11	7.27 a m	26	8	30.01	762.3	30.04	763.0	61.0	16.1	72.7	1			11	1	6	1	8						
Niebia	S 39 53	W. 73 25	7.14 a.m.	98	30	29.54	750.3	29.65	753 0	45.0	7.2	95.5	2	4	3				21					7	11.26	286.0
Punta Caldera	S 27 03	W. 70 53	7.25 a.m.	82	25	29.96	761.0	30.05	763.2	55.2	12.9	80.2	1	1		6		7	3	12				6		
Punta Corona	S. 41 47	W. 73 53	7.12 a.m	174	53	29.88	758.9	30.07	763.7				11		5	1	1		9	3				8		
Quiriquina	S. 36 37	W. 73 03	7.25 a.m.	187	57					50.0	10.0	86.7	7		3	1	5	10	2	2				5	4.58	116.2
Valparaiso	S. 33 02	W. 71 39	7.22 a.m.	131	40	29.94	760.5	30.08	764.1	52.2	11.2	79.0	10			3	4	2	4	7				6	4.34	110.3
CHINESE.																										
Hong Kong	N. 22 18	E. 114 04	7 45 p.m.	110	33	29.66	753.4	29.77	756.1	79.0	26.1	85.4	1		3	1	7	3	13		2			7	11.04	280.4
Sub-Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	29.76	755.9	29.78	756.5	69.8	21.0	89		1		1	5	8	7	8				6	4.97	126.2
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.84	758.0	29.89	759 2	61.2	16.2	64	3	12	2	1	2	3	3	3	1			6		
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.91	759.7	29.93	760.2	60.6	15.9	66		15	5	3	3	2		2				5		
Ivigtut	N. 61 12	W. 48 00	8.56 a.m.	16	5	29.56	750.8	29.58	751.3	42.3	5.7			6	2	1	3	5			13			9		
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.68	753.9	29.72	755.0	48.6	9.2	77		1	5	5	5	6	2	2	4			7		
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.88	759.0	29.91	759.6	50.9	10.5	84		1	5	8	2	3	2	5	4			7		
Upernavik	N. 72 47	W. 56 00	8.24 a.m.	39	12	29.56	750.7	29.60	751.9	35.2	1.8		2			8	1	1	6	2	10			7		
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.81	757.2	29.90	759.5	59.4	15.2	63	1	13	7	1		1	1	5	1			4		
Egyptian.																										
Cairo	N. 30 03	E. 31 21	2.14 p.m.	?	?	29.80	756.8			96.3	35.7		18	2	2		1		5	2				1	0	0
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.47	748.6	30.12	765.1	66.6	19.2	67.0	4	16	5	1				2	2			6	1.20	30.6
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.55	750.6	30.10	764.6	63.7	17.6	69.0	5	4	2	4	3	3	1	8					0.39	9.8
Arras	N. 50 18	E. 2 46	0.19 p.m	223	68	29.78	756.4	30.02	762.5	64.4	18.0	57.8		7	15	3	1		3	1				5	1.90	48.3
Avignon	N. 43 57	E. 4 48	0.27 p.m	65	20	29.87	758.6	29.95	760.6	72.9	22.7	49.3	3	22		1	2	1	1						2.88	73.2
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.48	748.7	30.02	762.6	64.2	17.9	57.4		2	2	5	3	3	7	8				7	2.68	68.2
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.87	758.6	30.04	763 0	65.7	18.7	55.1	5	8	2	3	2		5	5				7	1.26	32.1
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.08	738.6	29.95	760.8	64.9	18.3	78.8	4	4		4	6	2	3	7					4.32	109.8
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.82	757.4	30.08	763.9	66.4	19.1	61.1	8	9	7	1	2			3				6	3.32	84.4
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.50	749.3	30.05	763.3	65.3	18.5	64.2	11	4	6	2	1			6					4.71	119.6
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.91	759.7	30.15	765.8	65.3	18.5	68.9	8	6	2	7	2			5				5	0.81	20.5
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.92	759.9	30.00	762.0	65.1	18.4	69.2	9	7	9	4	1								2.24	56.9
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	292	89	29.61	752.1	29.97	761.2	65.1	18.4	71.3	1	4	12	3	4	2		3	1			5	2.00	50.8
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.50	749.4	30.02	762.6	64.6	18.1	50.3	3	7	8	1		4		7					1.60	40.5
Clermont-Fer'and	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.68	728.5	30.00	761.9	64.2	17.9	52.8	9	11	3	2	1	1		3				8	1.75	44.4
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.20	741.7	30.07	763.8	67.1	19.5	64.4	7	10	3	4	2			3	1				2.84	72.2
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.17	741.0	30.02	762.6	62.4	16.9	57.2	3	7	12	3			3	2				4	1.90	49.9
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27 41	696.3	29.87	758.8	67.1	19.5	42.3	1	4	3	6	3		1	5	7			4	3.80	96.5
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.82	731.9	29.91	759.6	68.7	20.4	46.0	3	13		8	3	2		1				4	4.19	106.4
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.21	741.8	29.95	760.8	66.4	19.1	62.3	1	19	6				2	2					1.85	47.0
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1480	453	28.47	723.0	30.04	763.1	60.3	15.7	75.9	2	2	3	10	2		2	9				6	4.34	110.2
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.82	757.5	30.10	764.5	63.5	17.5	61.3	10	11	5	1			1	2				3	1.15	29.3
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.53	750.1	30.10	764 6	66.2	19.0	57.8	3	6	18	3								6	4.93	125.2
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	30.02	762.6	30.13	765.2	67.1	19.5	63.0	3	4	9	5	3	2		4				6	0.04	16.3
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	28.96	735.5	30.00	761.9	64.9	18.3	52.5	18	5	1		2	1	1	2				5	2.09	53.0
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.77	756.2	30.09	764.2	66.4	19.1	57.6	7	9	3	3	2	1	3	2				5	1.29	32.8
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.65	753.2	29.92	760 0	70.2	21.2	48.4		9	7	12		2						5	3.76	95.6
Montlouis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.86	631.4	29.70	754.4	53.1	11.7	34.7	8	7	2	6	2		2	3				4	2.75	69.8
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.83	757.7	29 93	760.2	71.6	22.0	75.5	4	21	3	1			1					4	0 94	24.0
Nancy *a*	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.22	742.3	30.00	762.0	63.7	17.6	53.9	11	5	6	4	3								2.26	57.5
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.95	760.7	30.11	764.8	67.5	19.7	56.3	5	7	9		1	1	1	6				7	0.58	14.7
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.90	759.5	30.01	762.3	70.5	21.4	43.9	6	17	1	1	1	1	3					4	1.42	36.2
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.27	540.3			34.5	1.4			3	5	2				6	14				4 33	110.0
Privas. [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.92	734.0	29.97	761.3	68.5	20.3	50.3	14	8	1		6		1					4	2.17	55.2
Puy de Dôme	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.17	639.4			43.0	6.1	89.0	10	7	7	1		1		4				8	2.80	71.1
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.08	764.0	30.11	764 8	69.4	20.8	61.5	4	4	11	4				7				4	1.02	26.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.82	757.4	30.03	762.7	69.1	20.6	58.4	5	4	7	2	2	1	4	5					1.46	37.0
Rodez	N. 44 21	E. 2 36	0.18 p.m.	2050	625	27.87	707.9	30.04	762.9	62.1	16.7	69.8	9	16						5					3.16	80.3
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	30.02	762.4	30.07	763.7	65.5	18.6	68.7	7	7	4	1	4	1	2	4				5	0.93	23.7
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.88	758.9	30.04	763.1	65.3	18.5	54.5	14	6	3	5		1	1						1.54	39.1
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.39	746.5	30.12	765.0	66.7	19.3	62.7	5	11	11	1	1		1					6	4.98	126.5
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	29.88	759.0	30.06	763 5	68.2	20.1	52.2	11	7	4	1	5	1		1				4	1.54	39.1
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.55	750.6	30.04	763.1	64.2	17.9	55.8	12	8	3		2		1	4				7	1.76	44.6
Sub-Series.																										
St. Martin du Ilinx.	N. 43 35	W. 1 16	0.03 p.m.	131	40	29.98	761.5	30.13	765.3	65.5	18.6	70.6	1	7	9	4	1	1	4	3				7	6.89	174.9
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.54	724.9	29.95	760.7	61.3	16.3	59.2	4	8	9	1		1	1	6				7	1.44	36.5
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.12	739.0	29.99	761.0	63.3	17.4	55.9	1	17	6		2		3	1				6	2.77	70.3
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.73	755.2	29.87	758.8	64.0	17.8	56.6	6	6	10	3		1	2	2				8	2.61	66.4
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.35	745.6	29.88	759.0	63.7	17.6	57.0	2	12	8	1	1	3	2	1				8	3.79	96.3
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.52	749.9	29.97	761.2	65.3	18.5	54.7	2	3	4	10	1		5	5				7	4.02	102.0
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.26	743.2	29.97	761.3	63.1	17.3	62.0	5	9	8	1	3		2	2				7	2.54	64.5
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103			29.97	761.1	65.3	18.5	55.6	11	2	8	4	2			3				7	1.68	42.8
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.58	725.8	29.97	761.3	62.6	17.0	69.1	4	1	2	18	3			2				7	3.99	101.3
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.85	758.3	29.95	760.6	61.2	16.2	67.3	4	7	6	1	1	5	1	5				7	2.73	69.4
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.91	759.7	29.93	760.1	61.2	16.2	62.1	6	3	9	2			4	4	2			7	1.95	49.5
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.52	749.8	29.94	760.4	62.4	16.9	66.0	3	12	7	3		1	3	1				7	3.09	78.5
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.73	755.2	29.91	759.6	62.2	16.8	63.3	3	6	12	2	1	1	1	4				7	3.90	99.0
Meimel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.82	757.3	29.86	758.5	62.6	17.0	71.5	6	4	7	6		1	1	5				6		
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.14	714.7	30.00	762.0	60.6	15.9	59.6	3	6	9	2			1	3	6			7	4.94	125.5
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	26	8	29.84	757.9	29.87	758.6	60.4	15.8	74.0	12	4	2	3	2	1		6				7	2.05	52.0
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.45	747.9	29.97	761.3	65.5	18.6	58	2	2	10	3	2		1	8	2			7	1.57	39.9
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.09	738.8	29.97	761.1	62.4	16.9	62.8	11	7	5	1	1		1	4				7	1.16	29.6
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.87	758.7	29.89	759.3	59.9	15.5	75.7	7	4	9	4			3	3				6	1.32	33.5
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m	361	110	29.51	749.6	29.88	759.0	81.3	27.4	47.4	1		2	6	18	2		1				4	0.32	8.2
INDIAN.																										
Kurrachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.50	749.3	29.55	750.5	89.2	31.8	66			10	17	3							3	0.49	12.4
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.18	741.1	29.64	752 7	90.7	35.9	40			7	15	4	1		3				4	2.32	58.9
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.69	754.1	29.73	755.0	85.0	29.4	77		2	14	12	2							6	13.25	336.5
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.87	708.0	29.70	754.5	83.5	28.6	55		2	15	13								6	1.91	48.5
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.24	691.8	29.76	756.0	76.6	24.8	72			10	17	2	1						7	2.44	62.0
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.71	729.3	29.42	747.2	98.9	37.2	35	1	1	6	1		1	8	3	9			4	2.43	61.7
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.58	726.0	29.44	747.9	94.1	34.5	43	1	1	15		3	2	2		6			2	2.11	53.6
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	28.91	734.4	29.45	748.0	99.5	37.5	34	3	3	13	6		1	4					4	3.31	84.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for June, 1884. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
INDIAN—Cont'd.	° ′	° ′																								
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.55	725.1	29.56	750.8	91.0	32.8	45	1	9	6	3	1	.....	.....	4	6	.....	.....	8	4.08	103.6
Jubbulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.21	716.6	29.53	750.1	89.5	31.9	50	.....	14	4	3	2	2	.....	2	3	.....	.....	8	13.06	331.7
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.13	739.8	29.49	749.0	95.8	35.4	44	5	4	3	.....	2	2	2	3	9	.....	.....	3	4.09	103.9
Allahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.16	740.8	29.46	748.4	97.2	36.2	44	3	7	1	2	.....	.....	2	10	5	.....	.....	4	1.62	41.1
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.33	745.1	29.52	749.7	88.6	31.4	65	1	1	1	1	.....	3	13	10	.....	.....	.....	4	8.21	208.5
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.55	699.6	29.51	749.5	84.7	29.3	59	3	4	2	3	3	6	7	1	1	.....	.....	6	6.40	162.6
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.48	748.7	29.56	750.7	87.7	30.9	67	.....	15	8	.....	1	1	2	3	.....	.....	.....	6	17.12	434.8
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.54	750.2	29.56	750.8	83.2	28.4	82	.....	1	.....	5	12	5	3	.....	4	.....	.....	7	12.27	311.6
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.56	750.9	29.66	753.2	82.3	27.9	90	.....	1	.	2	13	9	1	.....	4	.....	.....	4	2.21	56.1
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.27	743.4	29.60	751.8	84.0	29.2	79	.....	.....	.....	11	.....	6	.....	13	.....	.....	.....	6	10.79	271.8
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.10	713.8	29.49	749.0	96.3	35.7	35	2	11	8	.....	.....	2	2	5	.....	.....	.....	4	1.76	44.7
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	30.02	702.5	.....	.....	81.2	27.3	59.8	.....	.....	1	2	11	15	.....	1	.....	.....	.....	5	0	0
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.45	748.0	.....	.....	95.4	35.2	39.0	.....	3	16	8	1	.....	1	1	.....	.....	.....	.....	0.36	9.1
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.23	717.0	.....	.....	92.3	33.5	35.0	.....	1	15	12	1	1	.....	.....	.....	.....	.....	.....	0.29	7.4
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.50	749.3	29.90	759.5	67.5	19.7	61	.....	2	3	10	5	1	4	1	4	.....	.....	8	7.49	190.2
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.40	746.7	29.90	759.5	70.5	21.4	50	.....	5	1	12	1	8	.....	3	.....	.....	.....	6	5.51	140.0
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.78	756.4	29.89	759.1	68.4	20.2	56	2	2	4	2	5	8	3	3	1	.....	.....	6	8.73	221.7
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.00	730.5	29.88	758.9	68.0	20.0	54	1	1	1	1	8	6	11	1	.....	.....	.....	5	4.91	124.8
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157?	48?	29.72	754.8	29.91	759.6	67.6	19.8	59	3	2	1	11	5	4	3	1	.....	.....	.....	6	3.66	93.1
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.87	758.6	29.91	759.8	66.7	19.3	67	13	.....	3	2	1	1	8	2	.....	.....	.....	6	5.51	140.0
Florence	N. 43.46	E. 11 15	0.53 p.m.	240	73	29.64	752.8	29.89	759.2	71.2	21.8	40	3	.....	8	8	1	1	2	7	.....	.....	.....	7	3.86	98.1
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.76	756.0	29.85	758.1	68.7	20.4	56	1	6	10	7	3	.....	2	1	.....	.....	.....	6	1.91	48.4
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.74	755.3	29.91	759.6	72.3	22.4	51	2	3	9	8	7	.....	.....	.....	1	.....	.....	7	3.30	83.7
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.66	753.4	29.91	759.7	72.1	22.3	50	2	.....	5	1	3	9	5	5	.....	.....	.....	5	2.40	61.0
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.05	737.9	29.92	759.9	71.8	22.1	67	2	2	14	5	5	1	1	...	.....	.....	.....	6	2.75	69.9
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	29.74	755.4	29.93	760.2	71.1	21.7	51	.....	14	4	1	4	5	.....	1	1	.....	.....	5	0.66	16.9
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.72	751.8	29.96	761.0	71.2	21.8	56	1	2	11	.....	.....	.....	1	15	.....	.....	.....	5	1.53	38.9
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.84	758.0	29.89	759.1	76.3	24.6	63	4	.....	2	1	9	4	3	7	.....	.....	.....	7	0.31	7.8
Sub-Series.																										
Naples	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.42	747.3	.....	.....	69.1	20.6	65.8	1	4	1	15	5	1	3	.....	.....	.....	.....	6	1.95	49.5
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	22.11	561.5	.....	.....	40.5	4.7	65.6	.....	1	3	2	.....	3	7	14	.....	.....	.....	8	7.58	192.5
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	22.14	562.3	.....	.....	41.0	5.0	67.2	3	3	8	6	1	.....	3	6	.....	.....	.....	8	5.11	129.7
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	29.83	757.7	29.86	758.6	61.5	16.4	87	2	2	2	3	.....	4	2	.....	15	.....	.....	7	6.18	156.9
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.82	757.4	29.85	758.2	58.5	14.7	85.8	6	7	3	1	.....	1	6	1	5	3480	5600	6	4.97	126.3
Hanamatsu	N. 34 43	E. 137 43	9.19 p.m.	92	28	29.78	756.5	29.88	759.0	66.8	19.3	90	.....	.....	6	3	1	2	9	5	4	.....	.....	6	11.57	293.9
Hiroshima	N. 34 23	E. 132 27	8.58 p.m.	16	5	29.81	757.1	29.82	757.5	68.9	20.5	83.7	10	2	6	...	2	1	6	2	1	3540	5696	6	7.81	198.3
Kagoshima	N. 31 35	E. 130 33	8.50 p.m.	14	4	29.83	757.7	29.84	758.0	68.3	20.2	80.0	4	6	4	4	4	.....	3	3	2	.....	.....	.....	10.96	430.8
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	29.70	755.9	29.86	758.4	65.3	18.5	84.9	2	2	1	4	1	6	10	1	3	3115	5011	8	5.54	140.5
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.69	754.0	29.86	758.4	65.0	20.0	84.7	7	5	.....	.....	1	3	6	6	2	2492	4010	8	8.79	223.2
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	29.83	757.7	29.85	758.2	70.2	21.2	86.1	1	7	6	2	1	4	6	3	.....	5168	8318	9	14.78	400.6
Miasaka	N. 31 50	E. 131 26	8.54 p.m.	26	8	29.82	757.4	29.85	758.1	70.7	21.5	86	7	3	8	1	1	2	4	4	...	.....	.....	7	12.19	309.6
Miyako	N. 39 38	E. 141 59	9.30 p.m.	98	30	29.79	756.6	29.90	759.4	57.2	14.0	94	8	.....	4	7	6	.....	1	3	1	1687	2696	8	6.91	175.3
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.03	752.5	29.82	757.6	68.9	20.5	83.5	1	.....	.....	6	2	2	.....	5	14	3059	4922	6	7.00	192.7
Nemuro	N. 43 20	E. 145 35	9.59 p.m.	43	13	29.87	758.6	29.92	759.9	46.0	7.8	90	3	1	.....	.....	5	7	3	.....	11	4000	6534	8	1.89	48.0
Nilgata	N. 37 55	E. 139 03	9.24 p.m.	32	10	29.83	757.7	29.86	758.5	64.6	18.1	84.8	2	.....	2	7	1	6	1	9	2	4738	7625	7	3.36	85.1
Numadza	N. 35 06	E. 138 51	9.23 p.m.	32	10	29.85	758.1	29.88	759.0	67.5	19.7	86.0	1	2	13	1	1	.....	10	2	.....	.....	.....	8	7.01	193.4
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	29.84	758.0	29.86	758.4	68.2	20.2	83.5	5	2	16	2	.....	.....	4	7	.....	6702	10785	7	8.51	216.0
Saga	N. 33 12	E. 130 18	8.49 p.m.	23	7	29.79	756.7	29.81	757.1	69.6	20.0	84.8	7	2	5	1	7	2	1	4	1	.....	.....	6	7.37	186.9
Sakai	N. 35 01	E. 133 13?	9.01 p.m.	10	3	29.81	757.2	29.82	757.4	66.1	18.9	83	8	5	3	1	2	.....	2	7	2	.....	.....	6	4.05	103.2
Sapporo	N. 43 04	E. 141 23	9.33 p.m.	60	18	29.79	756.7	29.86	758.5	55.0	12.8	87.1	2	2	.....	1	4	12	4	.....	4	.....	.....	6	2.20	55.9
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.81	757.3	29.89	759.1	69.0	18.9	89.5	5	.....	.....	2	10	6	6	1	.....	5272*b*	8486*b*	8	7.15	181.6
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.79	756.7	29.84	758.0	69.4	20.8	81.0	3	5	.....	1	2	3	.....	2	14	2572	4140	7	8.45	214.7
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.92	760.0	30.11	764.7	72.7	22.6	69.0	2	.....	3	.....	.....	8	17	.....	.....	.....	.....	5	1.06	26.9
MEXICAN.																										
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24.33	618.0	29.94	760.5	61.5	16.4	76	5	12	3	3	5	.....	.	1	1	.....	.....	6	2.49	63.1
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.63	752.6	29.88	759.1	77.9	25.5	85.9	2	2	2	.....	2	1	17	4	.....	.....	.....	4	2.01	51.1
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.03	762.8	30.03	762.8	62.8	17.1	.....	5	10	9	2	.....	1	1	2	.....	.....	.....	.....	1.15	29.1
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.93	760.1	29.98	761.5	59.2	15.1	.....	15	6	.....	2	2	2	1	.....	.....	.....	.....	.....	1.20	30.6
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	30.00	762.1	30.00	762.1	57.0	14.2	.....	4	13	3	3	2	.....	2	3	...	.....	.....	.....	1.02	26.0
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	30.02	762.5	30.02	762.5	60.4	15.8	61.2	2	11	8	4	.....	.....	1	3	1	.....	.....	.....	1.22	31.0
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.97	761.3	30.02	762.5	63.0	17.2	59.1	5	9	8	2	3	3	.....	.....	.....	.....	.....	6	0.62	15.8
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7.15 p.m.	?	?	29.89	759.1	.....	.....	80.2	26.8	81.8	13	.....	.....	.....	.....	.....	5	12	.....	.....	.....	6	2.63	66.9
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.84	757.8	29.90	759.4	57.6	14.2	63.8	2	10	6	5	4	.....	.....	2	1	.....	.....	6	4.84	122.8
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.82	757.3	29.85	758.3	54.0	12.2	68.2	11	.....	1	8	1	1	4	3	1	.....	.....	5	4.04	102.7
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.70	754.3	29.84	757.9	65.1	18.1	45.1	5	2	3	5	4	2	3	6	.....	.....	.....	6	1.55	39.3
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.81	757.1	29.85	758.1	49.8	9.9	.....	.....	2	4	3	5	2	4	4	6	.....	.....	6	1.05	26.7
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	30.12*l*	765.1*l*	30.28*l*	769.0*l*	67.8	19.9	85.5	2	2	10	.....	4	7	2	1	2	.....	.....	4	2.74	69.6
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.10	764.5	30.19	766.8	70.2	21.2	66.3	.....	.....	.....	25	2	1	.....	.....	2	.....	.....	7	0.12	3.0
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	312	95	29.75	755.7	30.08	764.0	71.4	21.9	44.7	10	7	.....	5	2	.....	.....	0	.....	.....	.....	3	0.01	0.3
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.20	767.1	30.27	768.9	71.4	21.9	74.1	5	.....	1	4	1	6	4	1	8	.....	.....	5	2.90	73.6
Saint Paul de Loanda	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.79	756.6	29.99	761.7	73.4	23.0	87.5	5	12	6	1	1	.....	1	4	.....	.....	.....	2	0	0
San Salvador	S. 6 17	E. 14 53	1.07 p.m.	1834	559	28.12	714.3	29.97	761.2	75.2	24.0	64.2	.....	3	2	11	5	.....	3	.....	0	.....	.....	4	1.35	34.2
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.38	644.0	30.03	762.8	57.7	14.3	52.3	2	5	3	...	1	3	13	2	1	.....	.....	4	3.82	99.9
RUSSIAN.																										
Akmolinski *b*	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.66	728.0	29.70	754.3	66.6	19.2	41.0	4	5	8	2	1	.....	1	7	.....	.....	.....	6	1.78	45.2
Archangel	N. 64 33	E. 40 32	2.50 p.m.	10	5	29.84	757.8	29.86	758.3	60.8	16.0	55.5	1	7	4	2	2	4	2	4	4	.....	.....	6	0.24	0.2
Ashuruda	N. 36 54	E. 53 55	3.44 p.m.	79	24	29.89	759.2	29.86	758.8	79.2	26.2	70.0	3	15	10	1	1	.....	.....	.....	.....	.....	.....	6	1.54	39.2
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	29.88	755.9	29.81	757.1	80.4	26.9	43.5	0	.....	2	3	4	6	4	2	3	.....	.....	6	0.54	13.7
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	29.80	758.5	29.82	757.3	70.1	24.5	76.4	14	.....	.....	.....	10	4	.....	2	.....	.....	.....	2	0.94	24.0
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.23	742.5	29.72	754.8	61.9	16.6	55.7	3	6	7	7	2	.....	.....	2	3	.....	.....	8	2.82	71.5
Bielosersk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.40	746.8	29.85	758.2	60.7	19.3	61.7	4	8	1	2	1	4	3	3	4	.....	.....	7	3.43	87.2
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.59	751.6	29.82	757.5	68.5	20.3	52.1	1	3	6	6	3	2	4	5	.....	.....	.....	7	2.18	55.5
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.89	733.9	29.83	757.7	61.9	16.6	58.0	6	4	5	2	2	2	4	4	1	.....	.....	7	2.00	50.7
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.37	745.9	29.80	756.8	74.1	23.4	47.8	5	3	4	6	3	2	4	2	1	.....	.....	7	4.05	118.2
Kasalinsk	N. 45 46	E. 62 07	4.16 p.m.	147	45	29.55	750.5	29.72	755.0	84.4	29.1	28.2	5	5	3	.....	2	2	6	7	.....	.....	.....	3	.....	.....
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.58	751.2	29.83	757.7	69.8	21.0	52.2	3	3	1	5	4	3	7	3	1	.....	.....	8	1.53	38.8
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	29.84	758.0	29.89	759.3	54.7	12.6	67.3	2	2	4	1	4	2	4	10	1	.....	.....	7	1.35	34.4
Kertch	N. 45 21	E. 36 29	2.34 p.m.	187	67	29.84	758.0	29.87	758.6	70.5	21.4	73.4	1	1	.....	2	1	9	2	.....	14	.....	.....	6	5.27	133.9
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.14	740.2	29.75	755.6	71.8	22.1	55.0	6	2	1	4	6	6	2	3	.....	.....	.....	7	.....	.....
Kostov	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.27	743.5	29.79	755.8	73.0	22.8	54.3	1	2	5	5	5	2	3	5	2	.....	.....	6	2.85	72.3
Lgov	N. 51 41	E. 35 17	2.29 p.m.	535?	163?	29.27	743.4	29.82	757.5	73.8	23.2	50.2	5	5	4	3	2	4	2	4	1	.....	.....	6	2.40	60.9
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	29.82	757.3	29.84	757.9	60.1	15.6	70.1	3	6	5	9	1	.....	3	3	.....	.....	.....	5	1.42	36.2
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.55	750.6	29.75	755.6	75.6	24.2	50.8	.....	3	4	12	3	2	1	5	.....	.....	.....	7	3.36	85.3
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	130	29.34	745.1	29.79	756.6	69.0	20.9	62.4	4	3	6	4	4	3	1	2	3	.....	.....	7	3.41	86.7
Nertchinsk	N. 51 19	E. 119 37	8.07 p.m.	?	?	27.49	698.3	29.70	754.3	59.5	15.3	59.5	2	5	2	7	1	.....	1	1	11	.....	.....	6	3.28	83.2
Nikolajev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.73	755.2	29.80	757.0	75.4	24.1	57.3	1	2	.....	6	8	2	1	3	7	.....	.....	4	2.04	51.9
Nikolaievsk. *c*	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.70	755.9	29.85	758.1	49.1	9.5	79.2	1	.....	.....	.....	1	8	6	3	8	.....	.....	6	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
RUSSIAN.—Cont'd	° ′	° ′																								
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	29.51	749.6	29.65	753.2	79.7	26.5	46.3	1	2	1	8	6	4	.....	.....	8	.....	.....	.....	.....	.....
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.12 p.m.	328	100	29.41	746.9	29.73	755.2	90.1	32.3	17.2	7	4	4	1	.....	1	1	11	1	.....	.....	4	.....	.....
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.65	753.2	29.84	758.0	63.7	17.6	56.6	1	4	.....	5	.....	7	4	9	....	.....	.....	7	0.85	21.7
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.32	744.6	29.80	756.8	68.0	20.0	61.0	2	7	1	2	5	4	4	3	2	.....	.....	7	2.75	69.8
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	29.85	758.1	29.88	758.9	74.8	23.8	80.9	.....	13	.....	11	.....	.....	2	.....	4	.....	.....	5	0.52	13.3
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	29.82	757.3	29.84	757.9	65.7	18.7	54.2	.....	6	5	5	.....	4	2	8	.....	.....	.....	6	2.81	71.3
Samarkand	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.33	694.2	29.63	752.7	84.9	29.4	42.2	.....	.....	1	.....	1	3	1	1	23	.....	.....	1	.....	.....
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.12	739.7	29.75	755.6	69.4	20.8	41.0	7	5	4	1	2	...	.....	1	10	.....	.....	6	1.31	33.3
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	138?	42?	29.60	751.9	29.81	757.1	73.2	22.9	57.1	1	2	9	10	5	2	..	1	.....	.....	.....	4	0.89	22.6
Staroi Bykhov	N. 53 31	E. 30 16	2.09 p.m.	423?	129?	29.25	743.0	29.78	756.4	71.4	21.9	52.6	2	2	4	1	2	9	7	3	.....	.....	.....	8	1.56	39.6
Tashkend	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.10	713.6	29.62	752.4	91.4	33.0	31.0	1	3	.....	.....	.....	.....	.....	.....	26	.....	.....	2	.....	.....
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.44	722.5	29.80	756.8	76.0	24.8	47.6	3	11	2	.....	3	8	1	1	1	.....	.....	6	4.11	104.3
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.28	693.0	29.65	753.1	75.9	24.4	50.6	2	1	1	4	3	2	.....	1	16	.....	.....	4	.....	.....
Vinika *k*	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.27	743.5	29.86	759.0	65.5	18.0	49.3	5	1	1	2	4	3	.....	.....	3	.....	.....	3	1.00	25.4
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	29.77	756.2	29.84	757.9	51.6	10.9	93.1	1	.....	1	3	2	17	3	1	2	.	.....	8	3.40	86.4
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.40	746.8	29.81	757.2	65.7	18.7	60.7	3	7	4	5	1	4	2	4	.....	.....	.....	8	.....	.....
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.50	749.2	29.78	756.3	60.8	16.0	58.5	1	7	4	5	6	4	.....	2	1	.....	.....	6	1.87	47.6
Sub-Series.																										
Petrowsky Ac'y	N. 55 50	E. 37 38	2.39 p.m.	508	155	29.22	742.2	29.73	755.1	67.4	19.7	67.4	4	2	6	2	5	3	4	2	2	.....	.....	8	0.95	24.1
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	138	42	29.84	758.0	30.02	762.6	70.0	21.1	64.9	1	....	1	4	14	6	3	1	.....	.....	.....	4	3.29	83.5
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.07	763.7	30.13	765.2	69.6	20.9	64	1	25	1	.....	.....	2	.....	1	.....	1754	2823	7	2.61	66.4
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.15	689.7	30.07	763.8	63.3	17.4	56	5	3	3	2	.. ...	.....	4	13	.....	5183	8341	4	1.04	26.3
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.84	707.2	29.99	761.8	74.5	23.6	38.9	4	2	3	6	3	3	1	8	.....	7609	12246	3	0.36	9.1
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.90	759.5	30.04	762.9	69.8	21.0	69	...	2	1	.....	7	10	2	8	.....	1508	2427	4	1.95	49.5
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.18	741.1	30.05	763.2	70.2	21.2	53	8	4	3	3	.....	2	1	9	.....	8147	13111	5	0.78	19.7
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.95	760.7	30.02	762.4	77.9	25.5	80.6	2	.....	.....	.....	1	15	10	.....	2	.....	.....	4	10.98	278.9
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.83	757.7	29.89	759.1	80.6	27.0	82.5	2	2	3	7	4	4	7	1	.....	4413	8174	6	11.73	297.8
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.99	761.6	30.06	764.1	74.0	23.3	58.6	.....	1	19	2	1	.....	7	.....	.....	.....	.....	3	0.12	3.0
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.94	760.4	30.03	762.7	80.4	26.9	83	....	.....	5	1	4	7	1	.....	12	.....	.....	8	.....	.....
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.84	757.9	29.88	758.9	58.1	14.5	58	2	4	2	5	6	2	1	8	.....	.....	.....	6	2.66	67.6
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.81	757.2	29.86	758.5	58.6	14.8	56	.....	4	1	11	.....	.....	4	10	.....	.....	.....	6	2.59	65.8
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.80	757.0	29.85	758.3	57.7	14.3	60	2	2	2	2	3	3	4	6	6	.....	.....	6	2.84	72.2
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.65	753.2	29.83	757.7	60.4	15.8	61	6	1	2	7	5	2	3	4	.....	.....	.....	6	3.53	89.6
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.76	756.0	29.82	757.5	58.6	14.8	68	3	1	7	4	2	2	3	8	.....	.....	.....	3	2.01	66.2
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.73	755.2	29.82	757.4	58.8	14.9	68.1	11	2	3	4	4	3	.....	3	....	.....	.....	7	3.11	78.9
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.58	726.0	29.98	761.6	63.5	17.5	55.8	18	1	.....	2	5	.....	.....	4	.....	.....	.....	6	1.43	36.4
TURKISH.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.88	758.8	76.1	24.5	54	.....	3	1	10	7	3	1	5	.....	.....	.....	6	2.62	66.5
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.07?	763.8?	75.2	24.0	.....	.....	6	4	10	9	.....	.....	1	.....	.....	.....	4	2.72	69.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.92	759.9	81.9	27.7	58.3	1	3	9	15	....	...	.....	2	.....	.....	.....	2	0	0
Sainakov	N. 42 12	E. 23 42	1.43 p.m.	?	?	26.68	677.7	.....	.....	63.1	17.3	75.3	.....	3	6	4	.....	2	.....	.....	15	.....	.....	7	13.47	342.1
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	30.04	763.0	30.12	765.0	68.1	20.1	65.7	9	.	3	.....	16	.....	1	1	.....	3759	6049	4	1.80	45.7
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.44	747.8	30.09	764.3	60.5	15.8	76.3	..	1	10	4	1	3	5	2	4	4502	7342	3	2.67	67.8
Apache, Fort	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	25.01	635.2	29.76	755.9	47.7	8.7	74.8	.....	1	.....	1	3	4	19	1	1	4815	7749	2	2.35	59.7
Assinaboine, Ft.	N. 48 32	W. 109 42	4.49 a.m.	2720	829	27.10	688.3	29.90	759.4	57.6	14.2	65.0	....	8	5	5	.....	1	8	1	2	7250	11668	3	4.72	119.9
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1129	344	28.90	734.0	30.05	763.3	66.8	19.3	83.1	....	...	5	1	2	6	13	3	.....	6038	9714	7	10.73	272.5
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	30.07	763.8	30.08	764.0	65.6	18.7	83.4	1	2	3	2	5	2	2	7	6	6552	10544	3	3.60	91.4
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	29.90	759.4	30.09	764.3	69.6	20.9	84.1	1	1	.....	2	6	4	3	10	3	2929	4714	7	4.34	110.2
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.07	763.8	30.12	765.0	69.1	20.6	72.2	7	1	1	2	5	4	5	5	.....	3655	5882	5	2.51	63.8
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	22	7	30.07	763.8	30.09	764.3	65.8	18.8	78.4	5	3	2	5	1	1	8	5	.....	9743	15680	4	2.24	56.9
Bennett, Fort	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.36	720.3	29.90	759.4	62.5	16.9	83.8	3	5	.....	2	1	17	.	.....	2	6365	10275	4	3.10	78.7
Benton, Fort	N. 47 50	W. 110 40	4.45 a.m.	2681	817	27.15	689.6	29.91	759.7	53.3	11.8	70.8	1	1	2	4	.....	2	1	4	15	4544	7313	4	2.18	55.4
Bismarck	N. 46 47	W. 100 38	5.20 a.m.	1694	516	28.14	714.7	29.90	759.4	62.1	16.7	87.6	3	1	.....	1	4	5	5	3	8	5804	9340	5	3.63	92.2
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	30.07	763.8	30.10	764.5	61.2	16.2	86.0	5	2	2	8	1	2	1	8	1	8816	14188	2	2.59	65.8
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.12	688.8	29.90	759.4	58.8	14.9	71.5	1	6	5	....	2	8	2	3	3	3254	5237	5	3.41	86.6
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.96	761.0	30.11	764.8	63.2	17.3	78.6	1	3	12	7	.....	...	3	4	.....	6339	10201	3	4.01	101.9
Brownsville	N. 25 53	W. 97 26	5.38 a.m.	57	17	29.88	758.9	29.91	760.5	74.4	23.6	95.1	.....	1	.....	1	3	9	2	4	10	4459	7176	4	2.74	69.6
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	690	210	29.35	745.5	30.08	764.0	63.3	17.4	79.1	...	.....	....	8	10	1	5	6	.....	5084	8182	3	2.80	71.1
Buford, Fort	N. 48 00	W. 103 56	5.12 a.m.	1930	588	27.90	708.6	29.89	759.2	60.4	15.8	78.1	1	2	7	4	2	2	6	6	.....	7130	11474	5	0.99	25.1
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.63	752.6	30.02	762.5	70.0	21.1	89.4	8	2	...	.....	11	2	2	1	4	4444	7152	6	2.95	74.9
Canby, Fort	N. 46 16	W. 124 04	3.52 a.m.	179	54	29.79	756.7	29.98	761.5	52.9	11.6	90.0	8	5	3	1	7	2	2	1	1	6574	10580	8	2.16	54.9
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.06	763.5	30.08	764.0	68.5	20.3	83.6	2	.	2	9	7	2	1	6	1	8919	14354	4	2.52	64.0
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.05	763.3	30.08	764.0	65.7	18.7	82.7	.	6	1	1	6	6	3	5	2	9449	15205	4	1.03	26.2
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.30	744.2	29.98	761.5	51.6	10.9	85.6		22	1	.....	...	6	1	...	.....	12065	20382	5	0.92	23.4
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.00	762.0	30.02	762.5	75.0	23.9	82.5	2	2	2	2	7	.....	7	6	2	6885	11080	6	6.08	169.7
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	30.00	762.0	30.05	763.3	73.0	22.8	85.8	1	1	.....	9	.....	1	7	9	2	6336	10197	7	8.25	209.5
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.24	742.7	30.07	763.8	66.6	19.2	84.6	4	1	.....	3	5	2	6	9	.....	3030	5842	6	9.47	240.5
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.23	742.4	30.04	763.0	67.0	19.4	91.5	1	1	5	1	3	3	5	10	1	3034	4883	6	9.20	233.7
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6105	1861	24.08	611.6	29.84	757.9	50.9	10.5	76.1	1	11	6	3	3	1	3	.....	2	6673	10739	3	1.50	38.1
Chicago *a*	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.35	745.5	30.04	763.0	62.0	17.0	75.9	5	4	1	1	4	1	5	3	6	4496	7236	6	2.11	53.6
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	8	2	30.07	763.8	30.08	764.0	67.5	19.7	90.3	1	2	2	4	8	3	5	5	.....	6690	10766	4	3.60	91.4
Cincinnati	N. 39 06	W. 84 30	6.30 a.m.	620	189	29.41	747.0	30.06	763.5	69.4	20.8	78.8	2	.....	.....	.....	6	5	7	4	6	3678	4954	3	2.77	70.4
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.34	745.2	30.08	764.0	65.8	18.8	75.2	1	1	.....	2	5	12	4	5	.....	4999	8045	4	3.29	83.6
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.21	741.9	30.05	763.3	67.4	19.7	75.6	5	...	1	.....	6	5	5	5	3	3739	6017	4	2.59	65.8
Concho, Fort	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.10	713.7	29.97	761.2	67.9	19.9	86.0	2	4	3	4	4	3	3	2	5	5054	8133	4	2.09	53.1
Custer, Fort	N. 45 42	W. 107 34	4.58 a.m.	3040	926	26.79	680.5	29.85	758.2	55.5	13.1	86.9	2	3	6	4	2	4	8	1	.....	4400	7081	4	3.87	98.3
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.36	745.7	30.00	762.0	65.0	18.3	81.1	..	.....	2	6	3	4	7	6	2	4579	7369	6	3.07	78.0
Davis, Fort	N. 30 38	W. 103 56	5.12 a.m.	4928	1502	25.23	640.8	29.83	757.7	62.5	16.9	75.4	3	.....	.....	15	1	.....	1	3	7	4358	7013	1	2.78	70.6
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1667	508	28.20	716.3	29.95	760.7	54.3	12.4	77.1	1	1	.....	13	2	5	4	3	1	3777	6078	6	2.02	51.3
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.40	645.1	29.84	757.9	56.6	13.7	78.3	4	... .	1	8	8	2	2	5	.....	4124	6637	3	2.51	63.8
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.07	763.8	30.09	764.3	65.3	18.5	89.1	1	3	2	10	3	3	1	7	.....	11541	18573	5	1.37	34.8
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.80	629.9	29.84	757.9	57.9	14.4	68.5	3	1	.....	1	20	4	1	....	.....	5287	8669	4	1.47	37.3
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.13	739.9	30.01	762.2	63.3	17.4	83.7	4	.....	1	2	6	8	2	3	4	2955	4756	6	3.84	97.5
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.40	746.7	30.08	764.0	66.2	19.0	74.7	3	3	1	1	5	4	4	6	3	5182	8340	4	1.92	48.8
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2517	767	27.42	696.5	29.93	760.2	65.0	18.3	85.1	1	4	2	3	1	11	5	1	2	7556	12160	4	7.67	194.8
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.31	745.2	30.02	762.5	62.9	17.2	82.9	1	1	.....	.....	6	4	10	3	5	2973	4784	5	4.89	124.2
Duluth	N. 46 48	W. 92 06	6.00 a.m.	687	209	29.33	745.0	30.06	763.5	56.8	13.8	80.2	2	.....	.....	2	1	.....	6	13	6	5048	8124	4	1.13	28.7
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.98	761.5	30.05	763.3	55.4	13.0	74.9	6	4	.....	1	5	.....	1	3	10	3341	5377	4	2.18	55.4
Elliott, Fort *b*	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.26	692.4	29.93	760.2	64.6	18.1	86.9	1	7	.....	1	9	3	1	.....	6	6570	10573	4	6.86	174.2
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3764	1147	26.25	666.7	29.84	757.9	65.9	18.8	52.5	.....	2	8	.....	.....	.....	9	8	3	3116	5015	2	0.11	2.8
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.36	745.7	30.08	764.0	66.7	19.3	72.6	1	.....	3	3	11	3	4	5	.....	5454	8777	3	2.40	61.0
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	613	187	29.40	746.7	30.05	763.3	58.1	14.5	78.1	9	1	.....	.....	13	3	2	1	1	5776	9295	5	2.52	64.0
Fort Smith	N. 35 22	W. 94 24	5.50 a.m.	451	137	29.51	749.5	29.97	761.2	68.4	20.2	88.3	1	.....	2	1	.....	1	12	1	12	2466	3965	4	2.41	61.2
Galveston	N. 29 18	W. 94 47	5.49 a.m.	40	12	29.94	760.5	29.98	761.5	78.5	25.8	82.1	3	1	7	2	8	4	4	1	.....	3858	6209	4	6.84	173.7
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.40	746.7	30.05	763.3	66.1	18.9	72.6	3	.....	1	2	5	1	3	11	4	5407	8702	5	3.82	97.0
Grant, Fort	N. 32 39	W. 109 57	4.48 a.m.	4856	1480	25.21	640.3	29.75	755.6	66.5	19.2	30.1	6	1	.....	1	.....	2	10	10	.....	5028	8092	2	1.20	30.5
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	12	4	30.06	763.5	30.07	763.8	71.2	21.8	86.4	3	5	.....	7	4	3	.....	6	2	6819	10974	6	2.51	63.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for June, 1884.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																									
Helena	N. 46 34	W. 112 04	4.40 a.m.	4044	1232	25.83	656.1	29.90	759.4	55.2	12.9	69.4	6	.....	.....	16	3	.....	.....	4	1	4656	7493	3	4.29	109.0
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28 59	726.2	29.93	760.2	61.3	16.3	87.8	3	1	.....	1	12	10	1	1	1	6728	10828	3	3.18	80.8
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.24	742.7	30.02	762.5	68.7	20.4	71.7	.....	.....	1	1	5	6	6	4	7	3530	5681	6	4.11	104.4
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	29.93	760.2	29.96	761.0	76.7	24.8	88.9	4	.....	4	3	8	3	1	4	3	6217	10005	4	7.56	192.0
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.00	762.0	30.04	763 0	74.7	23.7	84.6	.....	.....	1	8	4	3	5	6	3	5207	8380	6	6.89	175.0
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.35	745.5	29.99	761 7	66.7	19.3	84.3	2	.....	1	.....	2	3	2	6	14	2082	3351	5	4.03	102.4
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	29.99	761.7	30.01	762.2	80.9	27.2	76.6	.....	.....	.....	1	11	7	7	4	.....	6457	10391	6	4.56	115.8
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.07	763.8	30.09	764.3	69.2	20.7	83.4	.....	4	3	11	2	2	.....	8	.....	10293	16565	4	4.57	116.1
Knoxville	N. 35 56	W. 83 58	6.32 a.m	980	299	29.04	737.6	30.05	763 3	66.1	18.9	88.2	5	1	2	5	1	1	3	11	1	3087	4968	6	5.33	135.4
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.26	743.2	30.02	762.5	65.8	18.8	75.4	4	1	.....	3	10	3	3	1	5	4093	6587	5	2.94	74.7
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.15	740.4	30.02	762.5	65.8	18.8	83.9	1	2	.....	1	.....	2	1	.....	23	2389	3845	5	3.33	84.6
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.12	739.6	29.94	760.5	59.9	15.5	83.6	.....	1	.....	.....	.....	1	.....	10	18	1010	1625	5	5.66	143.8
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.68	753.9	29.99	761.7	70.3	21.3	92.2	4	5	1	2	2	3	1	4	8	2689	4328	3	2.18	55.4
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	299	91	29.56	750.8	29.95	760.7	58.0	14.4	87.6	.....	1	7	4	.....	.....	4	10	4	3853	6201	7	1.39	35.3
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.47	748.5	30.02	762.5	70.0	21.1	80.9	7	.....	3	2	5	2	2	3	6	3995	6429	7	3.59	91.2
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.40	746.7	30.08	764.0	67.2	19.6	85.5	3	2	.....	3	3	4	5	5	5	2053	3304	6	4.16	105.7
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.45	748.0	30.09	764.3	58.7	14.8	81.0	2	2	3	3	.....	1	11	2	6	4789	7707	4	2.29	58.2
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.07	763.8	30.08	764.0	71.1	21.7	87.7	7	4	1	5	5	3	.....	4	1	8417	13546	6	1.63	41.4
Maginnis, Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.57	649.5	29.90	759.4	53.8	12.1	53.9	.....	3	8	9	2	2	1	5	.....	6156	10388	4	1.21	30.7
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.36	745.7	30.08	764.0	57.2	14.0	72.1	5	3	2	4	.....	3	4	3	6	3974	6395	4	1.21	30.7
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.67	753.6	30.00	762.0	71.5	21.9	85.5	2	4	2	1	1	6	4	2	8	2716	4371	6	7.26	184.4
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.31	744.5	30.05	763.3	58.2	14.6	83.9	2	1	1	7	.....	4	2	7	6	5612	9032	4	4.22	107.2
Mobile	N. 30 41	W. 88 02	6.16 a.m.	35	11	29.96	761.0	30.00	762.0	72.9	22.7	84.8	10	3	3	4	1	.....	4	4	1	3696	5948	6	7.01	178.1
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.78	756.4	30.02	762.5	70.9	21.6	86.8	.....	1	2	2	6	8	6	4	1	3797	6111	6	10.26	260.6
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	28.97	735.8	29.94	760 5	61.8	16.6	82.6	2	.....	.....	.....	15	8	.....	2	3	8632	13892	5	1.81	46.7
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.98	609.1	30.10	764.5	46.8	8.2	77.9	1	10	11	1	.....	.....	3	4	.....	19090	30722	3	8.08	205.2
Nashville	N. 36 10	W. 86 47	6.21 a.m.	549	167	29.41	747.8	30.00	762.0	68.5	20.3	86.3	2	4	2	2	1	5	9	5	.....	3524	5671	6	6.53	165.9
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	30.00	762.0	30.11	764.8	63.3	17.4	78.2	4	1	1	8	2	.....	2	8	4	4211	6777	2	5.26	133.6
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	30.08	764 0	30.13	765 3	64.8	18.2	78.2	6	5	.....	11	.....	.....	1	6	1	4066	6544	3	6.29	159.8
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	29.92	760 0	29.97	761.2	77.3	25.2	80.0	2	.....	3	6	.....	6	5	6	2	4762	7664	5	8.60	218.4
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.94	760.5	30.11	764.8	64.8	18.2	76.5	4	3	2	6	5	1	1	8	.....	5113	8228	3	4.16	105.7
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.06	763.5	30.10	764.5	70.8	21.6	80.6	1	1	3	6	7	1	2	8	1	4974	8005	5	6.45	163.8
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.09	688.1	29.89	759.2	62.7	17.1	84.0	.....	3	3	1	3	10	3	1	6	6814	10966	4	1.39	35.3
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	29.92	760.0	29.96	761.0	50.0	10.0	89.8	1	.....	.....	.....	4	.....	1	.....	24	1300	2092	6	3.20	81.3
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.84	732.5	29.98	761.5	66.5	19.2	86.8	3	2	.....	2	10	8	2	1	2	5285	8505	4	6.11	155.2
Oswego	N. 43 29	W. 76 35	7.02 a.m.	304	93	29.78	756.4	30.10	764.5	63.4	17.4	78.3	.....	2	4	4	13	2	1	4	.....	4457	7173	4	1.48	37.6
Palestine	N. 31 45	W. 95 40	5.45 a.m.	533	162	29.46	748.3	30.00	762.0	70.7	21.5	91.0	4	.....	1	1	7	1	6	8	2	3771	6009	4	2.65	67.3
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	29.97	761.2	30.00	762.0	73.6	23.1	85.7	2	7	.....	7	2	1	3	5	3	5401	8692	6	7.84	199.1
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	117	36	29.98	761.5	30.10	764.5	65.4	18.6	81.9	2	1	1	7	3	1	1	13	1	6488	10441	4	3.00	76.2
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	18.00	457.2	29.82	757.4	27.6	−2.4	78.8	4	2	7	8	2	.....	.....	4	3	13244	21314	2	0.94	23.9
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	766	233	29.28	743.7	30.07	763.8	60.1	18.9	81.5	3	9	.....	1	3	1	2	11	.....	3326	5353	4	1.71	43.4
Poplar River	N. 48 08	W. 105 10	5.07 a.m	2030	619	.....	.....	.....	.....	59.4	15.2	75.1	2	1	5	1	6	3	7	3	2	.....	.....	3	1.67	42.4
Port Huron	N. 43 00	W. 82 26	6.38 a.m.	633	193	29.41	747.0	30.08	764.0	62.6	17.0	80.2	2	.....	.....	6	7	.....	2	8	5	4812	7744	3	2.87	72.9
Portland, Maine	N. 43 39	W. 70 15	7.27 a.m.	45	14	30.03	762.7	30.08	764.0	63.2	17.3	70.4	6	2	8	1	3	.....	3	6	1	4951	7968	4	1.41	35.8
Portland, Oreg.	N. 45 32	W. 122 43	3.57 a.m	67	20	29.89	759 2	29.96	761.0	55.5	13.1	80.9	10	2	.....	.....	9	1	.....	.....	8	3684	5929	8	1.42	36.1
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5389	1642	24.73	628.1	29.79	756.7	48.2	9.0	66.2	.....	.....	.....	.....	5	3	.....	1	21	5028	8092	2	0.32	8.1
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	332	101	29.59	751.6	29.91	760.5	59.7	15.4	81.0	4	5	.....	.....	10	2	2	1	6	4733	7617	5	0.97	24.6
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.75	755.6	29.98	761.5	74.8	23.8	86.4	.....	.....	.....	.....	.....	27	3	.....	.....	5294	8520	2	0.02	0.5
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.45	748.0	30.10	764.5	62.2	16.8	76.7	.....	.....	3	17	3	1	1	4	1	6042	7974	4	4.32	109.7
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.43	747.5	29.98	761.5	52.8	11.6	85.7	2	2	.....	1	1	.....	1	2	21	1917	3085	7	1.90	48.3
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	64	19	29.87	758.7	29.94	760.5	58.7	14.8	81.7	.....	.....	.....	4	11	12	2	.....	1	5506	8861	4	1.45	36.8
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	583	178	29.41	747.0	30.01	762.2	68.3	20.2	86.4	3	2	1	3	3	8	2	6	2	6651	10703	6	4.52	114.8
Saint Michael, Ft	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.85	758.2	29.88	758.9	44.2	6.8	88.1	4	.....	4	4	6	.....	2	5	5	6914	11127	6	0.77	19 6
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	801	244	29.10	740.7	30.00	762 0	63.8	17.7	85.4	2	1	.....	1	7	10	1	2	6	5078	8172	5	3.57	90.7
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.09	738.9	29.94	760.5	58.7	14.8	90.0	4	2	.....	3	12	5	1	2	1	6139	9880	5	2.63	66.8
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25 59	650.0	29.81	757.2	60.2	15.7	49.8	7	1	1	.....	.....	7	7	3	4	4875	7845	2	0.33	8.4
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.87	758.7	29.94	760.5	59.8	15.4	88.8	9	3	.....	.....	4	2	3	9	.....	4178	7200	6	0.31	7.9
Sandusky	N. 41 25	W. 82 40	6.37 a.m.	639	195	29.40	746.7	30.08	764.0	67.0	19.4	76.8	.....	1	2	8	7	5	5	2	.....	8150	13116	3	2.42	61.5
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	30.08	764.0	30.11	764.8	65.0	18.3	77.1	2	.....	11	2	2	1	9	3	.....	9881	15902	3	4.52	114.8
Sanford	N. 28 48	W. 81 23	6.42 a.m.	50	15	29.96	761.0	30.01	762 2	75.5	24.2	83.6	.....	1	5	6	3	3	9	3	.....	4627	7446	5	9.57	243.1
San Francisco *a*	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.91	759.7	29.98	761 5	55.9	13.3	88.2	1	.....	9	15	1	1	.....	.....	2	7755	12480	6	2.57	65.3
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	29.96	761.0	30.05	763.3	72.6	22.6	84.2	6	.....	3	7	5	5	2	2	.....	5012	8066	6	9.37	238.0
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.37	669.8	29.94	760.5	53.8	12.1	67.5	.....	1	13	7	.....	.....	1	4	4	5398	8687	3	0.97	24.6
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.79	756.7	30.02	762.5	72.6	22.6	87.6	.....	2	2	2	4	5	4	4	7	2943	4736	4	4.22	107.2
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.78	756.4	29.84	757.9	47.4	8.6	82.9	.....	2	9	2	.....	.....	13	1	3	5154	8294	8	3.77	95.8
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.04	763.0	30.08	764.0	71.0	21.7	83.8	5	1	4	3	5	2	2	8	.....	7761	12490	5	2.31	58.7
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	27.88	708 1	29.92	760.0	56.0	13.3	78.3	1	1	2	3	7	2	3	2	9	3068	4937	4	2.58	65.5
Springfield, Ill	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.36	745.7	30.02	762.5	66.3	19.1	82.1	1	1	1	3	6	4	3	4	7	4248	6836	6	6.20	157.5
Stockton, Fort	N. 39 53	W. 102 53	5.16 a.m.	3010	917	26.98	685.3	29.90	759.4	66.8	19.3	78.7	.....	1	.....	1	6	12	.....	1	9	6661	10720	3	2.84	72.1
Tatoosh Id	N. 48 23	W. 124 44	3.49 a.m.	86	26	29.88	758.9	29.96	761.0	50.6	10.3	90.8	.....	1	7	9	8	.....	3	2	.....	5672	9128	7	3.98	101.1
Thomas, Camp	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.21	691.1	29.84	757.9	60.1	15.6	58.6	1	1	10	2	2	1	.....	.....	13	.....	.....	2	0.52	13.2
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.37	746.0	30.05	763.3	67.9	19.9	77.8	2	2	3	3	2	2	4	3	9	3484	5607	4	2.70	68.6
Totten, Fort *h*	N. 47 57	W. 98 57	5.32 a.m.	1500	457	28.32	719.3	.....	.....	65.1	18.4	85.5	1	.....	1	3	11	5	.....	1	.....	7828	12598	6	2.38	60.5
Unalaska	N. 53 53	W. 166 32	1.02 a.m.	13	4	29.77	756 1	29.78	756.4	42.7	5.9	86.1	1	1	2	5	4	9	3	4	1	8324	13394	9	12.41	315.2
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.77	756.1	30.02	762.5	71.8	22.1	85.9	2	3	1	.....	7	7	6	2	2	3075	5914	5	3.14	79.8
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	30.00	762.0	30.11	764.8	67.1	19.5	79.6	3	6	1	1	5	2	3	6	3	4057	6529	5	6.95	176.5
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.05	661.7	29.82	757 4	58.2	14.6	81.4	.....	4	3	3	3	3	7	.....	7	5174	8327	4	2.79	70.9
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	30.02	762.5	30.07	763.8	69.7	20.9	82.1	1	1	.....	5	8	1	2	11	1	4086	6576	5	7.94	201.7
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.69	728.7	29.97	761.2	64.6	18.1	87.6	5	2	.....	4	7	4	5	2	1	5386	8668	3	1.72	43.7
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.65	753.1	29.79	756.7	69.6	20.9	63.8	.....	3	3	10	3	6	.....	.....	5	3553	5718	2	inap.	inap.
Sub-Series.																											
Behring Island	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.94	760.5	29.96	761.0	40.0	4.4	89.0	6	.....	.....	2	12	1	1	8	.....	6323	10176	8	0.26	6.6
Bluefields	N. 12 00	W. 83 43	6.31 a.m.	20	6	29.90*h*	759 4*h*	29.92*h*	760.0*h*	75.0	23.9	92.3	8	17	3	1	.....	.....	.....	.....	1	.....	.....	7	8.01	203.5
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.04	559.7	.....	.....	53.4	11.9	85.0	4	.....	.....	2	6	.....	.....	2	16	.....	.....	6	1.63	41.4
Chimo, Ft.	N. 59 00	W. 68 00	7.36 a.m	120?	38?	29.71	754.6	29.85	758.2	40.7	4.8	74.0	4	7	7	9	1	.....	2	.....	.....	.....	.....	8	5.46	138.7
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.05	763 3	30.05	763.3	78.8	26.0	83.3	.....	.....	.....	.....	.....	8	22	.....	.....	.....	.....	5	8.45	214.6
Puerto Berrio *b*	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.53?	750.0?	30.09?	764.3?	79.0	26.1	93	4	.....	.....	.....	15	.....	.....	.....	9	.....	.....	8	9.78	248.4
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	29.88	758.9	29.94	760.5	76.4	24.7	85.9	1	2	.....	2	3	1	5	16	.....	.....	.....	3	10.43	264.9
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	29.91	759.7	29.97	761.2	50.8	10.4	94.1	2	3	6	11	5	1	1	1	.....	7720	12424	4	5.83	148.1

OCEAN SQUARE DATA FOR JUNE, 1884.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W. 22.5°	29.99	761.7	78.9	26.1		1					6	21	1	1	3.0
12.5 27.5	30.02	762.5	78.5	25.8							9	21			3.4
12.5 32.5	30.04	763.0	78.8	26.0		1					15	14			3.5
12.5 37.5	30.05	763.3	79.2	26.2							20	9		1	3.4
12.5 42.5	30.06	763.5	79.4	26.3							23	6		1	3.5
12.5 47.5	30.07	763.8	79.8	26.6							22	7		1	3.6
12.5 52.5	30.06	763.5	79.8	26.6						3	20	7			3.5
17.5 22.5	30.04	763.0	77.1	25.1							10	20			3.5
17.5 27.5	30.07	763.8	76.8	24.9						1	13	16			3.5
17.5 32.5	30.09	764.3	77.2	25.1						1	21	7		1	3.5
17.5 37.5	30.10	764.5	77.6	25.3	1					5	19	4		1	3.4
17.5 42.5	30.10	764.5	77.0	25.6	3					6	19	1		1	3.6
17.5 47.5	30.10	764.5	78.7	25.9	5				1	1	22			1	3.4
17.5 52.5	30.09	764.3	79.7	26.5						7	17	6			3.7
17.5 57.5	30.06	763.5	81.3	27.4						8	21	1			3.8
22.5 22.5	30.11	764.8	75.5	24.2						1	10	18		1	3.6
22.5 27.5	30.13	765.3	75.4	24.1						4	9	15		2	4.0
22.5 32.5	30.14	765.5	75.8	24.3	1					3	17	6		3	3.7
22.5 37.5	30.15	765.8	75.9	24.4	2				1	8	17			2	3.3
22.5 42.5	30.15	765.8	76.6	24.8	3	2		2	3	5	15				3.5
22.5 47.5	30.15	765.8	77.2	25.1	3	3				8	14	1		1	3.6
22.5 52.5	30.11	764.8	78.6	25.9	5					8	15	2			3.9
22.5 57.5	30.12	765.0	79.6	26.4				1	2	10	14	3			3.9
22.5 62.5	30.08	764.0	79.7	26.5	1			3	6	8	10	2			3.7
22.5 67.5	30.05	763.3	80.1	26.7		1	1		6	11	9	1	1		3.2
22.5 72.5	30.07	763.8	80.6	27.0	1				2	15	11	1			3.3
27.5 22.5	30.16	766.1	73.7	23.2	1					6	7	15		1	3.6
27.5 27.5	30.19	766.8	73.9	23.3					1	6	8	13		2	3.9
27.5 32.5	30.19	766.8	74.2	23.4			1		2	4	15	5		3	3.4
27.5 37.5	30.18	766.6	74.1	23.4		1	3	2	2	6	13			3	3.5
27.5 42.5	30.19	766.8	74.4	23.6	1	3	2	2	3	7	6	2	1	3	3.4
27.5 47.5	30.18	766.6	75.4	24.1	2	3	2		5	2	15	1			3.7
27.5 52.5	30.17	766.3	76.8	24.9	3	2			3	9	11	2			3.9
27.5 57.5	30.15	765.8	77.6	25.3	2	1			5	13	7	2			3.9
27.5 62.5	30.11	764.8	77.8	25.4	1		1	3	9	8	5	3			3.7
27.5 67.5	30.08	764.0	78.0	25.6	4	2	1	1	5	9	5	3			3.5
27.5 72.5	30.09	764.3	78.5	25.8	1		2		8	7	6	6			3.5
27.5 77.5	30.05	763.3	78.8	26.0					7	11	8	4			2.9
32.5 12.5	30.13	765.3	70.8	21.6	12	1	2		1			14			3.7
32.5 17.5	30.19	766.8	70.4	21.3	8	1	2	1	3	1	1	12	1		3.0
32.5 22.5	30.23	767.8	72.0	22.2	5			1	2	4	1	15	2		3.3
32.5 27.5	30.24	768.1	72.1	22.3		1	2		1	6	12	8			3.2
32.5 32.5	30.25	768.3	71.9	22.2	2	2			4	7	8	3		4	3.4
32.5 37.5	30.25	768.3	72.0	22.2	2	2		2	9	7	5	2		1	3.4
32.5 42.5	30.22	767.6	72.3	22.4	2		1	3	9	5	3	4	1	2	3.6
32.5 47.5	30.20	767.1	72.9	22.7	2	2	1	6	8	3	2	4		2	4.1
32.5 52.5	30.18	766.6	73.4	23.0	2	1	2	4	11	3	4	2		1	4.0
32.5 57.5	30.17	766.3	74.8	23.8	3	3	2	5	8	5	2		2		3.7
32.5 62.5	30.10	764.5	72.6	22.6	3	3	2	5	11	4		2			4.1
32.5 67.5	30.08	764.0	75.0	23.9	4	4	1	4	6	3	5	3			3.6
32.5 72.5	30.07	763.8	72.2	22.3	5	1	2	1	9	5	2	4		1	3.7
32.5 77.5	30.07	763.8	73.7	23.2	1			4	8	4	3	9	1		3.8
37.5 12.5	30.14	765.5	68.1	20.1	17	6	2	1				4			4.1
37.5 17.5	30.21	767.3	68.3	20.2	9		3		4		1	12	1		3.5
37.5 22.5	30.26	768.6	71.1	21.7	6		1	1	5	2	7	6	2		2.8
37.5 27.5	30.27	768.8	69.8	21.0	1	3		4	9	5	3	3	2		2.2
37.5 32.5	30.26	768.6	69.6	20.9	1	2	1	3	11	4	4	3		1	2.9
37.5 37.5	30.24	768.1	69.6	20.9	2	3	2	8	7	5	2	1			3.5
37.5 42.5	30.20	767.1	69.0	20.6		6	2	7	8	3		4			4.4
37.5 47.5	30.17	766.3	68.2	20.1	6		3	8	6	2		3		1	4.4
37.5 52.5	30.15	765.8	69.4	20.8	2	3	2	11	4		3	4		1	4.4
37.5 57.5	30.14	765.5	70.2	21.2	5	2	4	4	6	4		3	1	1	4.1
37.5 62.5	30.10	764.5	69.6	20.9	3	3	3	3	5	2	5	4		2	4.0
37.5 67.5	30.10	764.5	69.6	20.9	5	2		4	3	2	8	5		1	3.7
37.5 72.5	30.09	764.3	68.8	20.4	1	4	2	1	9	4	3	5	1		3.5
42.5 12.5	30.15	765.8	66.9	19.4	5	7	1	1	1			15			3.6
42.5 17.5	30.24	768.1	65.8	18.8	3	9	3			1	6	6	2		3.5
42.5 22.5	30.27	768.8	67.3	19.6	3	6	2	3	7	4	2	3			3.4
42.5 27.5	30.25	768.3	65.9	18.6	3	1	2	9	8	1	6				3.9
42.5 32.5	30.21	767.3	65.9	18.8		4	1	15	2	5	3				4.4
42.5 37.5	30.17	766.3	65.4	18.6	3	3	4	11	3		3	3			4.6
42.5 42.5	30.13	765.3	63.3	17.4	2	4	4	8	3	2	3	2	1	1	3.9
42.5 47.5	30.12	765.0	58.8	14.9	3	5	4	7	4	1	2	4			4.1
42.5 52.5	30.11	764.8	59.0	15.0	5	4	3	8	5	2	2	1			4.0
42.5 57.5	30.08	764.0	59.9	15.5	3	4	8	6	1	2	2	3	1		3.8
42.5 62.5	30.09	764.3	60.2	15.7	5	2	7	2	4	4	1	4	1		3.9
42.5 67.5	30.09	764.3	58.5	14.7	5	3	4	5	2	3	2	4	2		3.5
47.5 12.5	30.21	767.3	62.0	16.7	3	9	6	1		1	2	8			4.0
47.5 17.5	30.23	767.8	62.0	16.7	1	8	6	6	5	3	1				3.9
47.5 22.5	30.22	767.6	62.4	16.9	3	5	8	8	5				1		4.1
47.5 27.5	30.18	766.6	62.0	16.7	3	2	4	12	8			1			4.5
47.5 32.5	30.12	765.0	63.3	17.4	4	3	3	14	4		1	1			4.4
47.5 37.5	30.07	763.8	58.5	14.7	2		10	10	2	1	1	4			4.5
47.5 42.5	30.03	762.7	54.7	12.6	1	4	10	9	4			2			4.9
47.5 47.5	30.00	762.0	47.7	8.7	1	4	10	9	4			1	1		4.4
52.5 12.5	30.11	764.8	58.2	14.6	2	10	10	5	2	1					4.1
52.5 17.5	30.10	764.5	57.5	14.2		8	8	11	2	1					4.3
52.5 22.5	30.07	763.8	56.3	13.5		6	10	10	3	1					3.7
52.5 27.5	30.03	762.7	54.5	12.5		6	7	13	4						5.0
52.5 32.5	29.96	761.0	52.9	11.6	1	4	4	19	2						4.9
52.5 37.5	29.89	759.2	49.5	9.7		4	8	18							5.2
52.5 42.5	29.86	758.4	48.3	9.1		6	9	12	3						5.1
52.5 47.5	29.84	757.9	43.3	6.3		6	12	8	3					1	5.5
57.5 12.5	29.93	760.2	54.1	12.3	4	2	9	10	2		1	1		1	4.4
57.5 17.5	29.92	760.0	53.5	11.9	2	3	6	13	2	1		1	2		4.5
57.5 22.5	29.90	759.4	52.0	11.1	2	2	7	14	2		1		2		4.9
57.5 27.5	29.85	758.2	50.0	10.0	1	4	7	13	4	1					5.2
57.5 32.5	29.80	756.9	48.5	9.2	1	4	3	16	4	1	1				5.4
57.5 37.5	29.75	755.6	46.8	8.2	1	3	7	14	3		2				5.3
57.5 42.5	29.71	754.6	45.6	7.6		4	7	13	3		1	1	1		5.1
57.5 47.5	29.69	754.1	43.8	6.6	1	5	11	7	2		1	1		2	5.0

REVIEW.

INTERNATIONAL METEOROLOGY FOR JUNE, 1884.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following description refers to chart ii. for the month of June, 1884, issued with this SUMMARY. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and prevailing wind-direction over the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich, mean time.

Two well-defined areas of barometric minima are exhibited on the chart for June, 1884; the first of these occupies the central and northern provinces of British India and is indicated by the isobar for 29.5 (749.3). From this region the mean pressure increases slowly, and nowhere throughout the continent of Asia does it exceed 29.85 (758.2). The second area of low mean pressures is situated over southern and western Greenland, the mean pressure at Ivigtut and at Upernavik being 29.58 (751.3) and 29.6 (751.8), respectively. To the southward and eastward the barometric gradient increases somewhat rapidly, the increase being most rapid in a southeasterly direction from the low area, until the isobar for 30.0 (762.0) is reached; this isobar runs from the Gulf of Saint Lawrence northeastward to the northern part of the British Isles, crossing the parallel of 50° N. in about 35° W. longitude.

In the North American continent the regions of least pressure are the Northwest Territories of British America and the southwestern portion of the United States; in both these districts the mean pressure is less than 29.8 (756.9). In Europe the mean pressure is least in Hungary and in southeastern, central, and southwestern Russia, where the means range from 29.75 (755.6) to 29.8 (756.9). In northern Russia and Scandinavia they range from 29.82 (757.4) to 29.9 (759.4); in that part of Europe lying west of the tenth meridian east of Greenwich the mean pressure varies from 29.95 (760.7) to 30.1 (764.5), the mean values being greatest over western France and the British Isles.

Two areas of barometric maxima are shown on the chart; the first is that of the Atlantic ocean, which is enclosed by the isobar for 30.2 (767.1) and extends from N. 30° and 35°, and W. 47° northeastward to N. 48°, W. 12°, and eastward between the parallels of 30° and 40° to about the seventeenth meridian west of Greenwich; at the centre of this area, near the Azores, the mean pressure is 30.27 (768.8). The second area of high pressure is situated in the United States and covers southern New England and the middle Atlantic states, where the means range from 30.1 (764.5) to 30.13 (765.3). Over the rest of the United States east of the Mississippi river the mean pressure is between 30.0 (762.0) and 30.05 (763.3); west of the Mississippi it is less than 30.0 (762.0).

Compared with the chart for the preceding month (May, 1884), there has been an increase of pressure in the United States over the districts lying east of the Mississippi, while there has been a slight decrease over the region west of that river. In the Northwest Territories and in Labrador there has also been a decrease, but in Canada the pressure has increased. Over the north Atlantic ocean north of the fiftieth parallel the pressure is less than that of the preceding month, the decrease being most marked in Greenland, where it amounts to about .4 inch; south of the fiftieth parallel the pressure has increased, notably between the parallels of 40° and 50°. In the British Isles, Scandinavia, and the Iberian peninsula the mean pressure for June, 1884, exceeds that of the preceding month, the increase being greatest over the British Isles, where it is about .07 inch. In all other parts of Europe there has been a decrease of pressure, greatest in Austria and Italy, and least in Denmark and France. Over the whole of Asia the pressure has decreased.

Compared with the corresponding month of previous years, the mean atmospheric pressure over the United States in June, 1884, was above the normal, except in the Gulf states, in Montana, Idaho, and Washington Territory and the north Pacific coast, where there were slight deficiencies. In Canada it was about .12 inch above the normal. In Europe it was above the normal in the British Isles, the northern peninsulas, France, Spain, and in Portugal; in other parts of the continent it was below the normal.

The following table shows the mean pressure and mean temperature for June, 1884, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last seven years.

Countries.	Mean pressure.			Mean temperature.		
	June mean of 7 (1877–'83) years.	June, 1884.	Departure.	June mean of 7 (1877–'83) years.	June, 1884.	Departure.
				°	°	°
Algeria	30.05	30.01	— 0.04	81.7	70.8	—10.9
Austro-Hungary	29.91	29.83	— 0.08	71.3	65.3	— 6.0
British Isles	29.90	30.05	+ 0.15	60.6	61.8	+ 1.2
Denmark	29.89	29.90	+ 0.01	61.3	60.4	— 0.9
France	30.00	30.03	+ 0.03	69.7	66.2	— 3.5
Germany	29.96	29.94	— 0.02	68.0	62.6	— 5.4
India	29.54	29.56	+ 0.02	88.6	90.1	+ 1.5
Italy	29.97	29.90	— 0.07	76.1	70.1	— 6.0
Norway	29.83	29.86	+ 0.03	59.8	58.9	— 0.9
Portugal	30.07	30.08	+ 0.01	72.4	71.4	— 1.0
Russia	29.85	29.81	— 0.04	70.2	69.6	— 0.6
Spain	30.02	30.05	+ 0.03	74.2	70.2	— 4.0
Sweden	29.86	29.84	— 0.02	60.3	58.7	— 1.6

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of June, 1884, as compared with the means for seven years:

Stations.	Mean pressure.			Mean temperature.		
	June mean of 7 (1877–'83) years.	June, 1884.	Departure.	June mean of 7 (1877–'83) years.	June, 1884.	Departure.
				°	°	°
Astrakhan, Russia	29.83	29.81	— 0.02	80.2	80.4	+ 0.2
Archangel, Russia	29.81	29.86	+ 0.05	58.2	60.8	+ 2.6
Angra, Azores*	30.17	30.28	+ 0.11	66.5	67.5	+ 1.0
Athens, Greece*	29.92	29.88	— 0.04	83.0	81.3	— 1.7
Beirut, Turkey in Asia	29.83	29.92	+ 0.09	82.6	81.9	— 0.7
Barnaul, Siberia, Asia	29.71	29.72	+ 0.01	67.9	61.9	— 6.0
Bridgetown, Barbadoes	30.03	30.03	normal.	82.5	83.1	+ 0.6
Cape Town, Cape of Good Hope*	.....	.....	.....	60.6	60.5	— 0.1
Cagliari, Sardinia, Italy	29.98	29.93	— 0.05	77.9	71.1	— 6.8
Ekaterinburg, Russia	29.72	29.83	+ 0.11	64.3	61.9	— 2.4
Fort Napier, Natal, South Africa	30.04	30.11	+ 0.07	69.0	66.3	— 2.7
Freetown, Sierra Leone	29.92	29.84	— 0.08	84.4	84.2	— 0.2
Funchal, Madeira Islands	30.19	30.19	normal.	70.5	70.2	— 0.3
Gibraltar	30.04	30.05	+ 0.01	74.3	73.8	— 0.5
Godthaab, Greenland	29.82	.....	.....	40.0	.....	.....
Havana, Cuba, W. I.	30.04	30.02	— 0.02	81.4	77.9	— 3.5
Malta, Mediterranean Sea	30.00	29.92	— 0.08	77.3	72.5	— 4.8
Mauritius, Indian Ocean	30.14	30.11	— 0.03	73.2	72.7	— 0.5
Melbourne, New South Wales	30.10	30.05	— 0.05	48.3	49.2	+ 0.9
Mexico, Mexico	.....	.....	.....	.....	.....	.....
Nassau, Bahamas, W. I.	30.07	30.06	— 0.01	83.0	80.0	— 3.0
Nikolaevsk on the Amoor, Asia	.....	.....	.....	51.7	49.1	— 2.6
Paramaribo, D. Guiana, S. A	30.06	30.05	— 0.01	79.6	78.8	— 0.8
Pekin, China	29.69	29.65	— 0.04	77.5	79.7	+ 2.2
Ponta Delgado, Azores	30.22	30.27	+ 0.05	69.7	71.4	+ 1.7
Sandwick Manse, Orkney Islands	29.90	29.97	+ 0.07	53.6	54.3	+ 0.7
San Juan de Puerto Rico, W. I.	30.05	30.03	— 0.02	81.8	80.4	— 1.4
Stykkisholm, Iceland	29.82	29.72	— 0.10	47.8	48.6	+ 0.8
Tashkend, Toorkistan, Asia	29.73	29.62	— 0.11	85.3	91.4	+ 6.1
Thorshavn, Färöe Islands	29.87	29.91	+ 0.04	50.8	50.9	+ 0.1
Tiflis, Russia	29.83	29.80	— 0.03	78.9	76.6	— 2.3
Tokei, Japan	29.87	29.89	+ 0.02	67.5	66.0	— 1.5
Yeniseisk, Siberia, Asia	.....	29.78	.....	.....	60.8	.....
York Factory, B. A	29.99	29.97	— 0.02	46.8	50.8	+ 4.0
Zi-Ka-Wei, China	29.80	29.78	— 0.02	71.3	69.8	— 1.5

* Means for six years only.

The mean temperature of the air was above the normal in the northern part of the United States, and below the normal in the southern districts, the departures ranging from —3°.9 to +4°.4. In Canada the mean temperature was slightly above the normal. In Europe the temperature was everywhere below the normal. In British India it was 1°.5 above the seven years' mean; the highest mean temperature reported was 99°.5 Fahr. (37°.5 Cent.) at Agra, and the lowest was 76°.0 Fahr. (24°.8 Cent.) at Belgaum.

The following are some of the extremes reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Cairo, Egypt	96.3	35.7	Upernavik, Greenland	35.2	1.8
Tashkend, Asia	91.4	33.0	Behring Island, Behring Sea	4[illegible]	4.4
Petro-Alexandrovsk, Asia	90.1	32.3	Fort Chimo, Labrador	40.7	4.8
Samarkand, Asia	84.9	29.4	Ivigtut, Greenland	42.3	5.7
Kasalinsk, Asia	84.4	29.1	Unalashka, Alaska	42.7	5.9
Freetown, Sierra Leone, Africa	84.2	29.0	Fort Saint Michael's, Alaska	44.2	6.8

In the United States the prevailing directions of the wind were northeasterly and easterly along the Atlantic coast and over the country lying between N. 30° and 40° and east of the ninetieth meridian. Between the Mississippi and the Rocky mountains the winds were mostly southerly; on the Pacific coast they were northerly; and in the lake region and Canada they were variable, a southwesterly direction predominating. Over the Atlantic ocean north of 40° N. the winds were westerly and southwesterly; south of 40° and from the coast of the United States eastward to 30° W., they were southerly and easterly; east of 30° W. they were northeasterly. In western Europe the prevailing winds were from west to northwest and north; in Russia they were from south to southwest and west; in Japan they were mostly from a northerly direction.

The rainfall in the United States during June, 1884, was below the average in the lake region, central valleys, and in New England and the middle Atlantic states. In all other parts of the country it exceeded the average, the excess being greatest in the south Atlantic and Gulf states, Tennessee and in the country west of the Rocky mountains. In Canada it was less than the average. In Europe the rainfall was generally in excess of the average.

STORM-TRACKS FOR JUNE, 1884.

Chart iii., for June, 1884, exhibits the paths of the principal barometric depressions that have appeared in the northern hemisphere during that month. The data are charted for each day of the month on the maps accompanying each issue of the "International Bulletin," and from these charts, together with abstracts of ship's logs and other miscellaneous data on file at this office, are traced the movements of the centres of barometric minima. This chart continues the series of international charts begun in November, 1877.

The paths of thirty-seven depressions are shown on the chart and are distributed, geographically, as follows: Nine appeared in the United States and the Northwest Territories of British America, their movements being unusually erratic, with easterly and southerly directions predominating. With two exceptions, numbers i. and ix., these depressions were first observed in the regions to the westward of the hundred and fifth meridian, and all were of slight general energy, although severe local storms occurred during the passage of numbers ii. and iii., and heavy rains occurred in the districts to the northward of the track of number ix. The lowest pressures of the month, 29.5 (749.3) to 29.7 (754.4), occurred in connection with the transit of low areas ii., iii., v., and vi., while the permanent low pressures of the summer months occupied the southwestern portion of the United States.

Ten depressions are traced over the Atlantic and adjacent land areas. Four of these, viz., numbers xi., xiii., xiv., and xv. appear to have originated in Labrador, whence they passed north-northeastward to Greenland, and, excepting number xiii., disappeared in the Arctic regions; number xiii. passed northeastward over Iceland and entered northern Europe, finally disappearing in northern Russia. Numbers xvi. and xviii. were first observed in Baffin bay, the former moving first southeastward to southern Greenland, and thence northeastward to the vicinity of Iceland, where it disappeared; the latter disturbance occupied Baffin bay and western Greenland until the 28th. Number xix. was probably a secondary development of number xviii, just referred to; it appeared as a somewhat deep depression off the coast of Labrador on the 29th, and at the close of the month it occupied the ocean between N. 50° and 65° and W. 30° and 45°, with pressure ranging from 29.2 (741.7) to 29.4 (746.7). Of the remaining disturbances, numbers x., xii., and xvii., the first appeared south of Nova Scotia and passed northward over the Maritime Provinces and the Gulf of Saint Lawrence, accompanied by rainy weather in those districts, and finally disappeared to the northward of Labrador on the 5th. The second (number xii.) was a shallow depression which appeared in the neighborhood of Bermuda on the 4th; it moved slowly southeastward over the ocean and disappeared on the 7th, having caused strong winds to moderate gales during its passage. The third disturbance (number xvii.) appeared over Newfoundland on the 21st, and moved rapidly northeastward, with decreasing pressure, to Iceland, where it was central on the 24th, with pressure about 29.15 (740.4); from Iceland it passed into Scandinavia on the 26th, when its course changed to the northward and it disappeared in the Arctic regions. The weather over the Atlantic south of N. 55° during June, 1884, was, in general, moderate, the tracks of the depressions being too far north to exert much influence on the weather over the region traversed by trans-Atlantic steamers, so that, although the weather was generally cloudy and rainy, the winds did not exceed the force of a strong breeze to moderate gale, with occasional heavy squalls. Near the centres of the disturbances traced over the ocean north of the fifty-fifth parallel the barometer ranged from 29.0 (736.6) to 29.6 (751.8).

Eleven depressions are traced in Europe; of these, five, viz.: numbers xxi., xxii., xxv., xxix., and xxx. appeared in the districts lying south of the fiftieth parallel; one (xx.) passed southeastward over the British Isles and probably united with number xxii. which was moving northward over France; two (xxiii. and xxiv.) appeared over the North sea; two, numbers xxvi. and xxvii., are shown in Scandinavia, the former moving southeastward to the Russian Baltic provinces and the latter eastward from the Gulf of Bothnia to the White sea region. One depression developed in central Russia and moved in an abnormal path to the Gulf of Finland. During the first decade of June, 1884, the atmospheric pressure over the greater part of Europe remained relatively low during the prevalence of the depressions traced as numbers xx., xxi., xxii., xxiii., and xxiv., in all of which the barometer ranged from 29.4 (746.7) to 29.7 (754.4), with generally unsettled and rainy weather and with irregular fluctuations in temperature. From the 11th to the 28th the western districts of Europe were occupied by an area of high barometer, 30.25 (768.3) to 30.5 (774.7), while depressions of more or less energy now appeared in the eastern and extreme northern districts. At the close of the month the area of high barometer had spread to Scandinavia, while a slight decrease of pressure had occurred in the western and southwestern districts. In the depressions which appeared in the eastern or central portions of Europe during the second half of the month, the barometer ranged from 29.45 (748.0) to 29,7 (754.4), the minimum pressure, 29.44 (747.8), having occurred during the passage of low area xxviii.

Five depressions are shown in Asia; one of these (xxxi.) appeared in Siberia on the 3d and 4th, the pressure being 29.39 (746.5) and 29.37 (746.0) at Barnaul and Yeniseisk, respectively, on the above dates. The remaining depressions appeared in eastern Asia, the more important being numbers xxxiii. and xxxv., which passed over Japan, and in which the barometer fell to 29.4 (746.7) and 29.55 (750.6), respectively. Two depressions are shown over Behring sea, and remained in that region from the 1st until the 16th, with pressure varying from 29.1 (739.1) to 29.7 (754.4).

A noteworthy feature of the chart for June, 1884, is the irregular and complex movements of the depressions charted in the European and also in the North American continents. Especially is this noticeable in low areas i. and iii. in the United States and low areas xxii., xxiii., and xxviii. in Europe, where the deviation from the normal track is most marked.

STORM-TRACKS FOR SEPTEMBER, 1882.

Chart iii. for September, 1882, shows the paths of thirty of the more important depressions that have appeared in the

northern hemisphere during that month. The data used in the preparation of this chart are derived from the sources heretofore mentioned, and in addition are also given the tracks of two typhoons which occurred in the China sea and its vicinity during September, 1882. These are taken from "The Typhoons of 1882" (second part), by the Rev. Marc Dechevrens, S. J., director of the observatory of Zi-Ka-Wei, near Shanghai, China.

Five depressions are traced in the North American continent; two of these crossed the Rocky mountains and traversed the northern portions of the United States and the southern districts of Canada, one of them reaching the Gulf of Saint Lawrence and moving thence northward over the Atlantic, while the other dispersed in northern New England. One (number i.) appeared in Arkansas and moved north-northeastward to the lake region where it filled in; the remaining disturbances, numbers ii. and v. were the most important of the month. The former (ii.) was a tropical hurricane which was first noted south of Turks Island on the 3d, at which time it was a fully-developed hurricane. No reports have been received which point to its development prior to this date, although several vessels in the vicinity of the southern Bahamas encountered stormy and threatening weather at the close of August. The hurricane passed slowly eastward over Cuba and entered the Gulf of Mexico on the 7th; here it curved to the northward and entered the continent near Pensacola, Florida; it then moved northeastward over the southern Atlantic seaboard states and passed into the ocean from the Virginia coast during the 11th, continuing its northeasterly movement and skirting the coast of Nova Scotia during the 12th. The passage of this hurricane was marked by immense damage to property both on land and at sea, and was also attended by loss of life, it having maintained a maximum of violence throughout its entire track. A full description of this hurricane, with special barometric observations will be found in the "MONTHLY WEATHER REVIEW" for September, 1882.

Number v., although apparently a shallow depression which filled in on the 24th, caused strong gales at sea, and was attended by the heaviest rainfall recorded in the states of North Carolina, Virginia, Pennsylvania, New York, New Jersey, Connecticut, Massachusetts, and New Hampshire since the establishment of Signal Service stations.

The following are some of the largest amounts of rain measured during the passage of this depression: Paterson, New Jersey, 17.90 inches, from the 21st to 23d; South Orange, New Jersey, 11.02 inches, 20th to 24th; Philadelphia, Pennsylvania, 10.09 inches, 21st to 23d; Pequannock, New Jersey, 9.94 inches, 21st to 24th; Fort Columbus, New York, 9.60 inches, 21st to 24th; West Point, New York, 9.30 inches, 22d, 23d; New York City, 7.86 inches, 22d, 23d. The depression traced as number iii. developed considerable storm-energy when over Lake Huron on the 14th, the barometer falling to 29.45 (748.0), and decreasing until it read 29.15 (740.4) on the 17th, when the storm-centre was over the Gulf of Saint Lawrence.

Twelve depressions are charted over the Atlantic ocean and adjacent land-areas; of this number, four, low areas vii., viii., ix., and xiii., developed over the regions north of the sixtieth parallel and in the vicinity of Greenland and Iceland, two of them, numbers vii. and viii., moving eastward or north of east, and skirting the Scandinavian coast, while the others (ix. and xiii.), moved southeastward to the British Isles.

Number x. was a continuation of the West India hurricane above referred to; it passed over Newfoundland on the 13th, with pressure near the centre less than 29.4 (746.7) and attended by moderate to strong gales on the Banks; on the succeeding days it moved northeastward to Iceland, causing strong gales during its passage, and apparently lost energy and filled in on the 17th when between Iceland and the Scandinavian coast.

Number xii, was a continuation of the disturbance charted over the United States as low area iii.; it moved from the Gulf of Saint Lawrence northward to Davis' Strait, and thence over Greenland to Iceland, where its course changed to the southeastward and on the 24th it formed one of a series of depressions that occupied the British Isles. During its passage the barometer ranged from 29.05 (737.9) to 29.5 (749.3) and moderate gales prevailed over the northern part of the Atlantic.

Numbers xiv. and xvii, appeared over the region west of the sixtieth meridian, and between N. 30° and 40° during the last decade of the month and, owing to the rather steep gradient which existed to the westward and northwestward, they were attended by moderate to strong gales at sea.

Number xvi. was a depression which occupied the ocean between N. 50° and 60°, and W. 20° and 30° during the closing days of the month, causing moderate gales, with pressure ranging from 29.05 (737.9) to 29.3 (744.2).

The remaining disturbances, numbers vi., xi., and xv., appeared over the ocean between W. 20° and the European coasts; the first (vi.) moved northeastward along the northwestern coasts of the British Isles during the 1st and 2d and entered southern Scandinavia during the 3d, finally disappearing in the Gulf of Finland on the 5th.

Number xi. appeared near N. 50°, W. 20° on the 13th and passed southeastward over the Bay of Biscay to southern France, and thence over the Mediterranean to the Italian peninsula, where its course changed to the northward and westward, and it occupied central and western France for several days, when it again recurved and moved off to the eastward over Russia and into western Siberia; the third (xv.) appeared south of Ireland on the 25th and moved over the southern counties of England to the North sea.

In the depressions charted over the Atlantic, the lowest barometric readings occurred in connection with the passage of the following disturbances: number vi., barometer 29.09 (738.9) on the 1st and 2d; number vii., barometer 29.21 (741.9) on the 4th; number viii., barometer 29.16 (740.7) on the 5th; number ix., barometer 28.76 (730.5) on the 9th; number xii., barometer 29.07 (738.4) on the 22d; number xiii, barometer 29.35 (745.5) and 29.25 (742.9) on the 26th and 27th, respectively.

Of the depressions traced in Europe, three entered the continent from the Atlantic and are referred to above, and seven appeared near or within the coast line. Of the latter, numbers xviii., xix. and xxi., traversed that part of Europe lying south of the fiftieth parallel; number xxiv. appeared over the southern part of the North sea, and moved eastward over northern Germany to the Russian frontier; two, numbers xx. and xxii., appeared in northern Scandinavia and passed southeastward, and one, (xxiii.) appeared in the Ural region.

None of these depressions attained any considerable depth during their passage over Europe, but they were attended by numerous small, subsidiary depressions, especially in the southern districts, and these caused unsettled and rainy weather.

The disturbance charted as xi., whose movement was slow and irregular, was accompanied by unusually heavy rains in Tyrol and the provinces of upper Italy, causing disastrous floods in those districts.

Of the depressions traced in Asia and the Pacific ocean, one, number xxv., appeared near the Gulf of Pe-Che-Li, and passed northeastward to the Sea of Okhotsk during the first decade of the month. Number xxvi. appeared near the eastern coast of Yesso on the 28th, and moved into Behring sea at the close of the month. The remaining disturbances, xxvii., xxviii., xxix., and xxx., occupied Behring sea and the Aleutian archipelago, with pressures ranging from 29.1 (739.1) to 29.7 (754.4).

Concerning the typhoons of September, 1882, the first made its appearance near the Philippines on the 5th and 6th; it moved northwestward to the island of Formosa and thence northward and eastward, passing into the Sea of Japan through the Strait of Corea, thus describing the parabolic curve common to storms of this class. The barometer reached its lowest point on the 12th and 13th; at Keelung, Formosa, on the former date the pressure decreased to 29.25 (742.9), and marine observations on the last-mentioned date indicate a pressure of 29.02 (737.0).

The second typhoon appears noteworthy on account of its deviation from the normal track; it first moved northeastward from the Philippines during the period from the 21st to 24th, when its centre was near N. 28°, E. 132°; it then began to curve to the southward and, by the 28th, its centre was near N. 12°, E. 138°; here it took up a northwesterly and subsequently a northerly course, and by October 1st it was central south of Niphon. It moved along the southeastern coast of that island and disappeared in the Pacific on October 2d; during its passage near Japan, from September 30th to October 2d, the pressure in the vicinity of the storm-centre was less than 28.85 (732.8).

Full descriptions of these interesting phenomena are given in Mr. Dechevrens' paper, above referred to.

GENERAL REMARKS.

DAILY BULLETIN.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c., cirrus; k., cumulus; s., stratus; n., nimbus; d., scud; f., fracto; p., pallio; hz., haze; fg., fog; sk., smoke; inap., inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in metres per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometres per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations.

All marine data are classified as to districts, which are designated as follows: District No. 1, North Atlantic; District No. 2, South Atlantic, &c., under which headings the respective reports are printed.

BOUNDARIES OF DISTRICTS.

District No. 1 comprises the Atlantic ocean, its arms and tributaries, from the equator northward to the pole, and in the Arctic from 100° E., westward to 100° W., of Greenwich.

District No. 2 comprises the Atlantic ocean, its arms and tributaries, from the equator southward to the pole, and in the Antarctic from 20° E., westward to 70° W., of Greenwich.

District No. 3 comprises the Pacific ocean, its arms and tributaries, from the equator northward to the pole, and in the Arctic from 100° W., westward to 100° E., of Greenwich.

District No. 4 comprises the Pacific ocean, its arms and tributaries, from the equator southward to the pole, and in the Antarctic from 70° W., westward to 145° E., of Greenwich.

District No. 5 comprises the Indian ocean, its arms and tributaries, from the Asiatic continent southward to the pole, and in the Antarctic from 20° E., eastward to 145° E., of Greenwich.

The following remarks relate to the individual peculiarities in the *methods* of recording, and the *times* of taking, the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus.

ALGERIAN SERIES (furnished by co-operation of M. Thévenet, Director of the Meteorological Service at the College of Science of Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. Adelaide, furnished by co-operation of Charles Todd, C. M. G., F. R. A. S. The observations are taken at 9 p. m., local time. Hobart Town, furnished by Commander J. Shortt, R. N. Observations are taken at 9 p. m., local time.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemberg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BELGIAN SERIES (furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade; weather by the Vienna symbols, and occasionally in general terms. At Arlon the observations are taken at 1 p. m., local time.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind-direction is given to 32 points, and weather by the Beaufort notation.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with an * are telegraphed daily to the office of the Chief Signal Officer of the Army.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Saint Francis Lighthouse, the original gives barometer reduced to freezing, but not to sea-level. The kind of clouds is given, but no distinction is made between upper and lower. Weather in general terms.

CHILIAN SERIES (by authority of the Secretary of Public Instruction, furnished by co-operation of Francisco Vidal Gormáz, President of the Central Meteorological Office at Santiago).—Observations are taken mostly at lighthouses on the coast; the originals give barometer as read off; temperature in Centigrade; humidity is not given, but is computed at this office from the hygrometrical observations.

CHINESE SERIES (furnished by the co-operation of W. Doberck, Government Astronomer, Director of the Observatory at Hong Kong, and of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Hong Kong the rainfall is measured at midnight. At Zi-Ka-Wei the original gives the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres, and measured at the moment of simultaneous observation.

DANISH SERIES (furnished by co-operation of Adam Paulsen, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted. At all Greenland stations the observations are taken at 8 a. m., local time.

EGYPTIAN SERIES (furnished by the co-operation of Albert Ismalun, Director of the Laboratoire Khédivial du Caire).—Original gives barometer reduced to zero, but not to sea-level, temperature in Centigrade. The velocity is the mean for past twenty-four hours. Rainfall in millimetres.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Montlouis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dôme, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Montlouis and Perpignan.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES (furnished by co-operation of Prof. D. K. Kokkides, Director of the Royal Observatory at Athens).—The original gives the barometer corrected for temperature only, and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India, at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office, at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by the co-operation of the Geographical Bureau, Department of the Interior, through I. Arai, Director of the Imperial Meteorological Observatory, at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 32 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (furnished by co-operation of the respective observers).—The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys-Ballot, Director of the Royal Meteorological Institute of the Netherlands, at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred. At Batavia the elevation is stated to be "a few metres."

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute, at Christiania).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in metres per second, or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in metres per second. No distinction is made between upper and lower clouds: the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Astrakhan, Ashurada and Baku, the barometer-cistern is below sea-level.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 10 a. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Prof. E. Gautier, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of F. Nimr, B. A., Director of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in metres per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms. At Samakov the barometer is reduced to freezing, but not to sea-level; temperature in Fahrenheit. The kind of clouds is given, also the distinction between upper and lower.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Puerto Berrio, is given as read off. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind-direction is generally given to 16 points, except 8 points for Bogota. At Rivas the barometer (aneroid) appears to read .10 inches too high, and a correction of —.10 inches has been applied from May 1, 1884; the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London. Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind-direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operations of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date.

In the above charts broken lines indicate that the lines so drawn are doubtful. Arrows show direction of, and fly with, the wind. Force is shown as follows:

SYMBOLS.	FORCE.	VELOCITY.	
		MILES PER HOUR.	METRES PER SECOND.
○	0	0	0
	1, 2	0 to 9	0 to 4
	3, 4	9.1 to 22.5	4.1 to 10.1
	5, 6	22.6 to 40.5	10.1 to 18.1
	7, 8	40.6 to 67.5	18.1 to 30.2
	9, 10	67.6 up.	30.2 and over.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The position of stations (latitude and longitude) are obtained from Keith Johnston's "Index Geographicus," except where more exact information is furnished. The elevation of stations is obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least, this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the alphabet of the letter so used.

BRITISH SERIES, Bradford: a letter placed opposite the name of station, refers to all the data except rainfall.

SPANISH SERIES, Barcelona: on May 1st the elevation of barometer cistern changes from 30 to 42 metres.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude (2), the the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings, as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

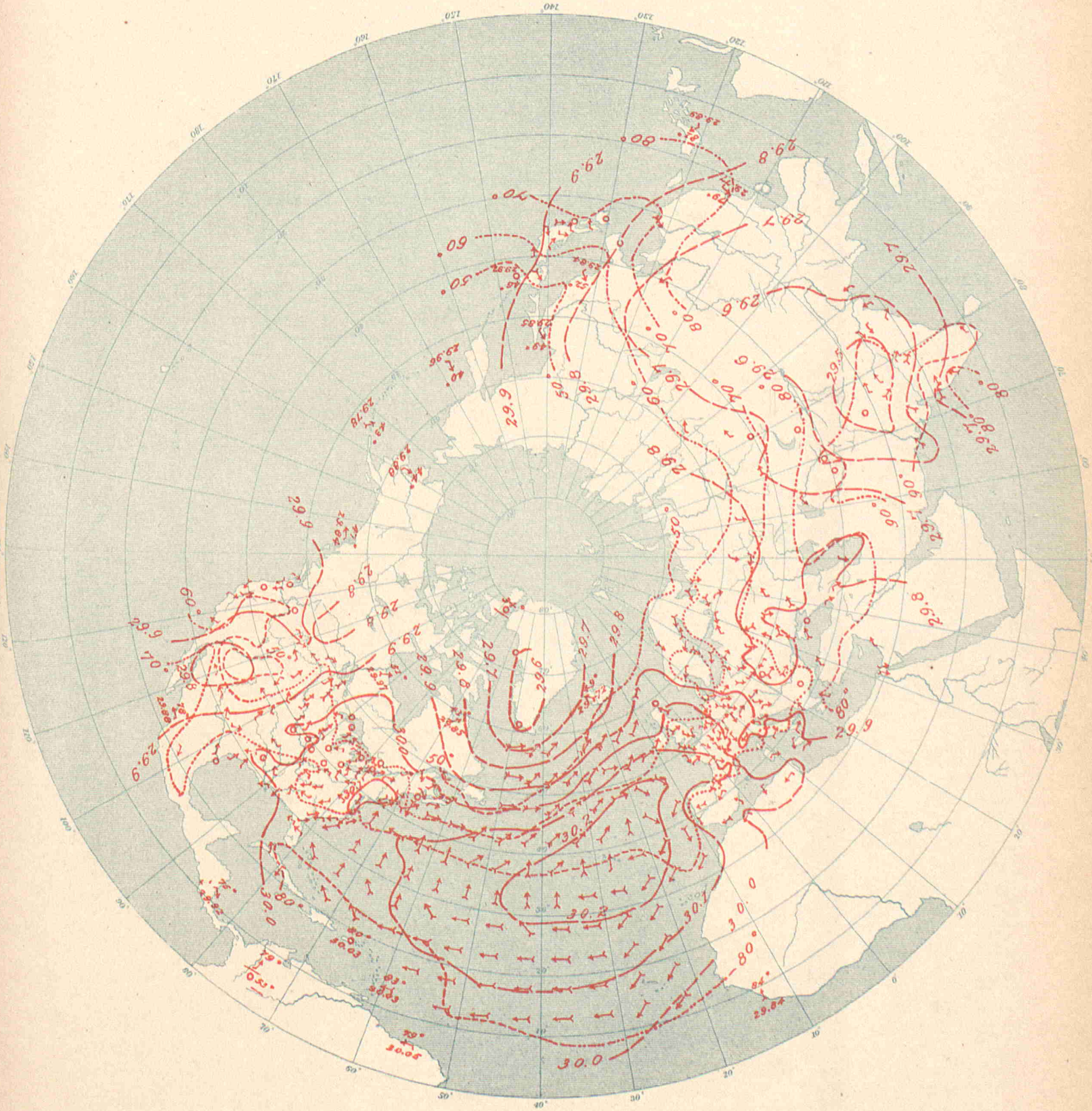
ERRATUM.

A re-computation of elevation at Saint John, N. B. gives 116 feet, instead of 130 feet as previously given.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. June, 1884. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.

Signal Office Lith.

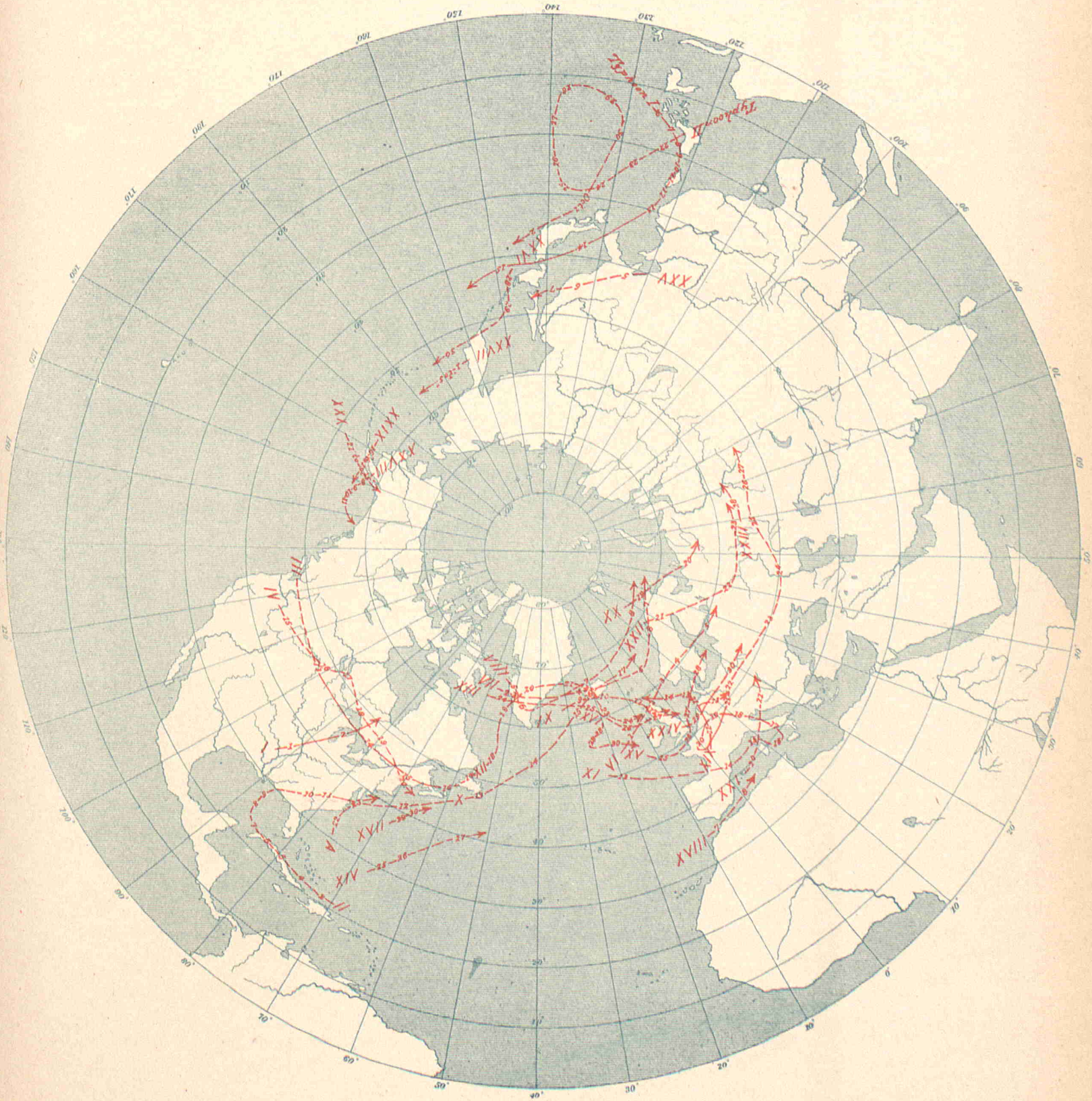
International Chart III. June, 1884. Storm-Tracks.

UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.

Signal Office Lith.

International Chart III. September, 1882. Storm-Tracks.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.

Signal Office Lith.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF JULY, 1884.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
AUGUST, 1885.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

JULY, 1884.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for July, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
AUSTRALIAN.	° ′	° ′																								
Adelaide	S. 34 57	E. 138 35	9.22 p.m.	140	42	.....	.....	30.34	770.6	46.6	8.1	79.6	6	.....	.....	2	3	3	8	6	3	.....	.....	5	0.50	12.7
Hobart Town b.	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.84	757.9	30.03	762.7	45.1	7.3	84	1	11	7	1	3	.....	.....	1	5	.....	.....	5	0.69	17.5
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	30.15	765.8	30.24	768.1	45.6	7.5	85	9	4	3	4	2	6	1	2	.....	.....	.....	5	0.77	19.6
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.45	747.9	29.97	761.2	77.4	25.2	48.0	3	1	1	5	4	11	3	3	.....	.....	.....	4	3.55	90.1
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.23	742.4	29.97	761.2	73.2	22.9	60.2	6	2	9	3	.....	1	8	2	.....	.....	.....	7	3.04	77.2
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.09	738.9	29.93	760.2	66.9	19.4	72.4	8	.....	.....	.....	6	.....	.....	.....	17	.....	.....	7	2.54	64.5
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.76	730.6	29.96	761.0	74.5	23.6	75.0	.....	9	3	2	6	4	2	3	2	.....	.....	4	6.76	171.6
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.53	724.7	29.90	759.5	73.9	23.3	61	1	7	7	.....	4	9	3	.....	.....	.....	.....	6	9.49	241.1
Kremsmunster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.67	728.3	29.97	761.2	70.9	21.6	69.7	2	5	7	3	1	.....	5	7	1	.....	.....	5	6.65	169.0
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.99	736.3	29.94	760.4	71.4	21.9	60.6	2	3	3	4	1	3	8	7	.....	.....	.....	7	4.33	110.0
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.87	758.7	29.98	761.4	81.3	27.4	53.5	2	2	6	3	3	11	3	1	.....	.....	.....	4	1.98	50.3
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.44	747.8	29.89	759.1	76.8	24.9	57	5	7	4	6	.....	3	4	2	.....	.....	.....	7	2.38	60.4
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.88	758.9	29.99	761.7	78.1	25.6	50.5	2	5	9	9	.....	.....	.....	5	1	.....	.....	4	1.78	45.2
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.28	743.8	29.97	761.2	75.6	24.2	52.9	4	8	6	1	1	6	3	1	1	.....	.....	4	1.60	40.6
BELGIAN																										
Arlon	N. 49 40	E. 5 48	0.32 p.m.	?	?	.....	.....	.....	.....	72.1	22.3	65.9	1	2	2	15	3	3	3	2	.....	.....	.....	3	0.79	20.0
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	29.79	756.6	29.98	761.6	71.6	22.0	57.5	2	2	3	13	5	3	3	.....	.....	.....	.....	7	2.51	63.8
Furnes a	N. 51 04	E. 2 40	0.19 p.m.	20	6	29.98	761.4	30.00	761.9	71.2	21.8	66.6	6	8	8	2	3	1	1	1	.....	.....	.....	6	3.08	78.1
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	29.88	759.0	30.01	762.2	75.6	24.2	64.4	1	6	9	6	3	1	4	1	.....	.....	.....	5	3.62	91.9
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.78	756.4	29.88	758.9	58.0	14.4	75.0	1	4	2	2	1	13	7	1	.....	.....	.....	8	3.32	84.3
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.90	759.4	63.5	17.5	69.6	4	2	8	4	1	10	2	.....	.....	.....	.....	8	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.37	746.0	29.89	759.2	62.6	17.0	70.1	2	2	2	8	10	5	1	1	.....	.....	.....	8	.....	.....
Bradford	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.50	749.3	29.90	759.4	64.7	18.2	75.9	2	3	6	10	4	2	2	2	.....	.....	.....	8	3.93	99.8
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.99	761.7	30.02	762.5	82.7	28.2	75.2	.....	.....	.....	.....	.....	4	24	3	.....	.....	.....	3	.....	.....
Cardington o	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	.....	.....	65.0	18.3	73.9	3	4	4	1	3	.....	1	.....	.....	.....	.....	8	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	160	49	29.79	756.7	29.96	761.0	69.9	21.1	62.0	.....	1	6	10	4	1	2	.....	7	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.75	755.6	29.97	761.2	63.8	17.7	75.9	.....	3	6	6	6	8	2	.....	.....	.....	.....	7	.....	.....
Fort Napier	S. 30	E. 31	2.12 p.m.	2205	672	27.61	706.4	30.12	765.0	67.6	19.8	28.8	10	1	:	4	2	4	3	6	.....	.....	.....	1	.....	.....
Freetown	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.60	751.8	29.83	757.7	88.2	31.2	86.2	3	.....	6	4	14	2	2	.....	.....	.....	.....	2	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.78	756.4	29.81	757.2	62.1	16.7	75.8	.....	3	4	17	.....	6	1	.....	.....	.....	.....	6	2.94	74.7
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	29.89	759.2	30.03	762.7	76.8	24.9	90.7	.....	.....	11	7	.....	.....	4	9	.....	.....	.....	2	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.78	756.4	29.95	760.7	70.2	21.2	59.2	5	2	1	13	5	2	2	1	.....	.....	.....	8	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.72	754.9	30.01	762.2	64.0	17.8	80.8	3	1	11	8	5	2	.....	1	.....	.....	.....	7	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.92	760.0	29.96	761.0	68.5	20.3	61.9	1	4	2	14	6	3	.....	1	.....	.....	.....	7	.....	.....
Leicester a	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.65	753.1	29.90	759.4	67.0	19.4	77.2	3	3	1	20	1	1	.....	1	.....	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.87	758.7	29.94	760.5	79.4	26.3	69.7	1	8	2	3	.....	3	1	13	.....	.....	.....	1	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.03	762.7	30.08	764.0	85.3	29.6	74.9	.....	.....	.....	7	6	14	4	.....	.....	.....	.....	5	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.72	754.9	29.95	760.7	64.9	18.3	65.8	.....	4	2	7	9	6	1	1	1	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.89	759.2	29.96	761.0	66.2	19.0	78.2	.....	4	1	11	12	2	.....	.....	1	.....	.....	7	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.74	755.4	29.84	757.9	57.9	14.4	76.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	.....	.....
Scutari Cemet'ry c	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.79	756.7	29.85	758.2	83.1	28.4	56.0	5	.....	...	3	4	.....	.....	15	1	.....	.....	3	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.58	751.3	29.90	759.4	67.6	19.8	67.2	1	.....	5	12	2	2	.....	1	8	.....	.....	6	.....	.....
Stilloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.84	757.9	29.87	758.7	64.7	18.2	74.9	2	3	11	9	1	.....	5	.....	.....	.....	.....	7	8.00	203.2
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.92a	760.0a	62.6	17.0	71.7	2	1	5	14	5	.....	2	2	.....	.....	.....	8	5.21	132.3
Strathfield p	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	70.7	21.5	74.1	.....	.....	1	6	5	2	.....	.....	1	.....	.....	7	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m	23	7	29.84	757.9	29.87	758.7	61.5	16.4	80.0	.....	3	7	6	4	10	1	.....	.....	.....	.....	9	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.65	753.1	30.03	762.7	80.6	27.0	56.9	2	9	6	8	1	2	1	2	.....	.....	.....	1	0	0
CANADIAN.																										
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	35	11	29.75	755.6	29.79	756.7	61.0	16.1	.....	3	.....	.....	2	3	6	.....	4	13	.....	.....	8	4.16	105.7
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.74	755.4	29.78	756.4	59.7	15.4	87.7	3	4	1	6	5	6	4	.....	2	5485	8827	8	8.98	228.1
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.74	755.4	30.80	756.9	58.0	14.4	90.1	4	5	2	9	2	4	2	3	.....	3107	5000	8	6.63	168.4
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.58	751.3	29.77	756.1	60.0	15.6	87.3	1	6	15	2	2	1	4	.....	.....	.....	.....	7	4.06	103.1
Dalhousie a	N. 48 04	W. 66 22	7.32 a.m.	45	14	29.75	755.6	29.80	756.9	59.2	15.1	.....	.....	.....	10	.....	.....	.....	10	.....	4	.....	.....	7	5.86	148.8
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.73	755.1	29.75	755.6	51.3	10.7	89.7	5	2	5	6	1	1	1	8	2	.....	.....	6	5.43	137.9
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.08	738.6	29.86	758.4	52.7	11.5	93.4	5	11	3	.....	5	2	2	2	1	6384	10274	6	1.22	31.0
Fredericton	N. 45 57	W. 66 38	7.41 a.m.	59	18	29.75	755.6	29.81	757.2	59.0	15.0	82.4	2	7	1	2	3	6	1	4	5	.....	.....	7	7.81	198.4
Grand Manan	N. 44 46	W. 66 45	7.41 a.m.	49	15	29.75	755.6	29.80	756.9	57.8	14.3	82.6	3	4	2	2	9	1	.....	4	6	6725	10823	5	8.13	206.5
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	28.82	732.0	29.90	759.4	57.6	14.2	94.1	2	6	1	4	2	1	.....	.....	15	.....	.....	5	3.85	97.8
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.71	754.6	29.84	757.9	59.4	15.2	91.2	2	2	10	4	4	4	5	.....	.....	.....	.....	6	8.28	210.3
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	350	103	29.49	749.0	29.88	758.9	64.0	17.8	80.7	1	8	2	12	.....	.....	3	4	1	.....	.....	5	2.45	62.2
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.50	749.3	29.82	757.4	61.4	16.3	85.7	1	5	9	8	2	1	1	3	1	4754	7651	6	4.19	106.4
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.74	755.4	29.77	756.1	61.2	16.2	84.2	2	2	4	13	7	2	1	.....	.....	.....	.....	7	.....	.....
London	N. 43 00	W. 81 15	6.43 a.m.	816	248	29.02	737.1	29.90	759.4	59.5	15.3	87.0	1	2	.....	1	1	.....	.....	.....	26	.....	.....	.....	4.45	113.0
Medicine Hat	N. 50 01	W. 110 37	4.40 a.m.	2136	651	27.61	701.3	29.83	757.7	54.2	12.3	81.4	4	4	1	4	3	9	3	3	.....	5946	9569	5	2.64	67.1
Minnedosa	N. 50 13	W. 99 48	5.29 a.m.	1796	545	28.01	711.4	29.93	760.2	50.5	10.3	91.4	2	9	5	1	.....	3	2	2	7	5785	9310	5	3.17	80.5
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.60	751.8	29.80	756.9	62.5	16.9	81.4	1	5	5	9	6	1	1	3	.....	.....	.....	6	4.67	118.6
Ottawa	N. 45 26	W. 75 41	7.05 a.m.	200	61	29.59	751.6	29.80	756.9	61.3	16.3	87.0	3	3	7	5	5	1	1	6	.....	.....	.....	7	3.99	101.3
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.16	740.7	29.82	757.4	58.9	14.9	90.6	3	7	6	6	.....	5	1	1	2	5909	9510	5	3.61	91.7
Peterboro	N. 44 17	W. 78 18	6.54 a.m.	688	210	29.12	739.6	29.84	757.9	62.7	17.1	79.6	1	3	12	8	.....	2	1	1	3	.....	.....	6	3.66	93.0
Port Arthur	N. 48 27	W. 89 12	6.11 a.m.	642	196	29.17	740.9	29.85	758.2	61.1	16.2	76.0	3	5	4	2	3	.....	1	3	10	3624	5832	5	1.92	48.8
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.20	741.7	29.88	758.9	60.3	15.7	87.4	1	8	6	2	2	.....	1	2	9	3911	6294	5	3.61	91.7
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.26	743.2	29.89	759.2	60.0	15.6	87.2	8	2	9	1	1	.....	4	3	3	.....	.....	5	3.56	90.4
Qu Appelle	N. 50 44	W. 103 42	5.13 a.m.	2115	646	27.68	703.1	29.91	759.7	49.5	9.7	92.3	.....	5	5	4	5	4	2	3	3	6843	11012	4	2.41	61.2
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.43	747.5	29.77	756.1	60.0	15.6	91.8	.....	1	3	1	5	.....	.....	5	16	.....	.....	7	5.92	150.4
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.36	745.7	29.80	756.9	57.0	13.9	87.6	1	13	3	.....	.....	5	2	.....	7	.....	.....	6	3.11	79.0
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.73	755.1	29.78	756.4	56.4	13.6	89.4	.....	6	1	3	2	8	1	4	6	.....	.....	4	6.26	159.0
Saint John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	116	35	29.69	754.1	29.83	757.7	57.0	13.9	89.9	2	3	2	2	8	3	.....	1	10	.....	.....	7	7.85	199.4
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.90	759.4	53.2	11.8	.....	1	3	4	10	4	5	3	1	.....	.....	.....	.....	5.47	139.0
Sangeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.18	741.2	29.87	758.7	58.4	14.7	85.1	2	5	3	5	4	3	3	1	5	4937	7945	6	1.43	36.3
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1186	361	28.63	727.2	29.88	758.9	61.5	16.4	83.6	1	1	7	2	5	.....	2	1	12	.....	.....	4	2.48	63.0
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.77	756.1	29.83	757.7	59.7	15.4	85.7	.....	2	4	10	3	5	1	1	5	6294	10129	9	9.21	233.9
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.50	749.3	29.87	758.7	61.2	16.2	75.8	4	9	6	3	3	.....	.....	3	3	6464	10403	5	1.52	38.6
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	28.86	733.0	29.89	759.2	60.8	16.0	83.5	2	5	10	2	5	.....	1	2	4	.....	.....	5	4.18	106.2
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.72	754.9	29.79	756.7	57.4	14.1	93.7	2	4	3	3	3	8	2	1	5	.....	.....	4	5.90	149.9
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.21	767.3	30.24	768.1	61.4	16.3	94.7	2	5	1	22	.....	.....	.....	1	.....	.....	.....	5	2.57	65.3
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	?	?	30.18	766.6	.....	.....	58.9	14.9	69.9	2	22	.....	.....	.....	1	.....	3	3	.....	.....	5	3.90	99.1
Springbok	S. 29 45	E. 17 43	1.19 p.m.	?	?	27.90	708.6	.....	.....	60.4	15.8	39.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.45	11.4

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for July, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
CHILIAN.	° ′	° ′																								
Coquimbo	S. 29 56	W. 71 21	7.22 a.m	72	22	30.01	762.3	30.09	764.3	50.5	10.3	91.6	.....	.....	.....	.....	9	10	9	3	.....	.....	.....	7	.....	.....
Iquique c.	S. 20 12	W. 70 11	7.27 a.m	26	8	29.99	761.7	30.02	762.4	58.5	14.7	75.4	.....	3	.....	10	4	1	4	6	.....	.....	.....	.....	.....	.....
Niebla	S 39 53	W. 73 25	7.14 a.m	98	30	29.56	750.7	29.66	753 4	43.7	6.5	94.1	2	7	4	1	.....	.....	17	.....	.....	.....	.....	7	16.53	419.8
Punta Caldera	S 27 03	W. 70 53	7.25 a.m.	82	25	29.95	760.6	30.04	762.9	53.1	11.7	80.3	g	3	.....	4	.....	6	1	10	...	.....	.....	6	.....	.....
Punta Corona	S. 41 47	W. 73 53	7.12 a.m	174	53	29.85	758.1	30.04	762.9	.....	.....	.....	11	2	3	5	2	3	1	4	.....	.....	.....	6	.....	.....
Quiriquina	S. 36 37	W. 73 03	7.25 a.m.	187	57	29.89e	759.1e	30.09e	764.3e	48.0	8.9	80.5	4	1	4	.....	6	11	2	3	.....	.....	.....	6	1.32	33.4
Valparaiso	S. 33 02	W. 71 39	7.22 a.m.	131	40	29.93	760.2	30.02	762.5	50.5	10.3	80.6	6	1	1	4	9	2	3	5	.....	.....	.....	.....	.....	.....
CHINESE.																										
Hong Kong	N. 22 18	E. 114 04	745 p.m.	110	33	29.58	751.3	29.69	754.1	81.5	27.5	85.0	.....	1	1	3	7	1	11	4	3	.....	.....	6	13.09	332.5
Sub-Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	29.72	754.9	29.74	755.5	77.0	25.0	91	.....	.....	.....	1	3	15	7	5	.....	.....	.....	6	4.72	120.0
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.90	759.5	29.95	760.7	68.2	20.1	62	1	6	3	7	4	8	.....	.....	2	.....	.....	6	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.92	760.0	29.94	760.5	67.5	19.7	69	.....	5	11	8	2	3	1	1	.....	.....	.....	6	.....	.....
Ivigtut	N. 61 12	W. 48 —	8.56 a.m.	16	5	29.90	759.4	29.92	759 9	47.7	8.7	.....	7	2	.....	.....	1	.....	.....	.....	21	.....	.....	6	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.84	758.0	29.89	759.1	52.3	11.3	78	.....	3	.....	1	2	7	9	4	5	.....	.....	5	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.89	759.3	29.92	759.9	52.0	11.1	86	6	.....	.....	.....	.....	3	2	10	10	.....	.....	8	.....	.....
Upernavik	N. 72 47	W. 56 00	8.24 a.m.	39	12	29.93	760.1	29.97	761.3	41.2	5.1	.....	4	1	.....	6	1	4	1	2	12	.....	.....	5	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.82	757.5	29.91	759.8	64.8	18.2	71	1	10	10	2	.....	2	4	1	1	.....	.....	5	.....	.....
Egyptian.																										
Cairo	N. 30 03	E. 31 21	2.14 p.m.	?	?	29.71	754.5	.....	.....	90.9	32.7	.....	13	5	1	.....	.....	.....	.....	12	.....	.....	.....	0	0	0
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.47	748.6	30.10	764 6	69.6	20.9	60.6	4	7	7	1	3	4	1	1	3	.....	.....	.....	2.45	62.2
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.52	749.9	30.08	763.9	71.2	21.8	75.3	.....	3	1	6	17	1	2	1	.....	.....	.....	5	2.36	60.0
Arras	N. 50 18	E 2 46	0.19 p.m	223	68	29.76	755.9	30.02	762.6	73.8	23.2	55.8	3	5	8	6	2	2	5	.....	.....	.....	.....	4	2.47	62.8
Avignon	N. 43 57	E. 4 48	0.27 p.m	65	20	29.96	761.0	30.04	763 0	84.2	29.0	46.2	6	15	3	4	3	.....	.....	.....	.....	.....	.....	.....	1.39	35.4
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.50	749.2	30.03	762.7	75.0	23.9	52	1	.....	3	3	10	9	4	1	.....	.....	.....	5	3.72	94.0
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.75	755.7	30.01	762.2	73.9	23.3	55.3	.....	1	5	7	4	9	4	1	.....	.....	.....	3	3.58	90.9
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.12	739.7	29.99	761.8	77.0	25.0	65.2	6	2	2	8	4	4	2	3	.....	.....	.....	.....	1.08	27.3
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.80	756.8	30.05	763.2	75.6	24.2	57.6	3	7	6	5	.....	5	4	1	.....	.....	.....	4	2.21	56.1
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.49	749.0	30.02	762.4	75.4	24.1	55.2	3	1	8	9	2	1	2	5	.....	.....	.....	.....	3.12	79.2
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.83	757.6	30.07	763.8	69.8	21.0	75.8	.....	5	5	19	1	1	.....	.....	.....	.....	.....	6	2.17	60.2
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.89	759.3	29.97	761.2	71.1	21.7	77.0	1	7	7	8	8	.....	.....	.....	.....	.....	.....	6	2.17	55.0
Châlons sur Marne	N. 48 57	E. 4 21	0.25 p.m.	292	89	29.62	752.4	29.96	761.0	73.2	22.9	67.0	.....	1	2	7	15	.....	.....	1	2	.....	.....	4	1.37	34.7
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.48	748.8	30.00	762.0	75.6	24.2	47.1	.....	4	6	5	6	4	1	5	.....	.....	.....	5	3.33	84.5
Clermont-Fer'and	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.71	729.1	30.02	762.4	75.9	24.4	52.4	10	7	1	2	1	4	1	5	.....	.....	.....	5	3.52	89.3
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.21	741.9	30.06	763.4	76.6	24.8	55.7	4	1	3	7	5	1	4	6	.....	.....	.....	5	2.96	75.1
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.20	741.6	30.03	762.8	73.2	22.9	53.9	2	4	9	9	2	2	2	1	.....	.....	.....	4	2.38	60.5
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27 54	699.6	29.97	761.1	78.1	25.6	40.3	4	.....	.....	13	4	3	.....	.....	7	.....	.....	4	1.50	38.2
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.93	734.7	29.99	761 8	82.8	28.2	38.0	1	8	3	9	8	2	.....	.....	.....	.....	.....	2	0.28	7.2
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.27	743.5	30.00	762.1	77.7	25.4	58.3	2	15	7	2	.....	2	.....	.....	3	.....	.....	.....	2.61	66.3
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.56	725.5	30.10	764.4	69.9	20.5	72.2	2	2	7	9	4	2	3	2	.....	.....	.....	.....	1.13	28.8
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.74	755.4	30.02	762.4	70.5	21.4	64.7	4	6	2	5	10	1	2	1	.....	.....	.....	4	1.35	34.2
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.51	749.5	30.05	763.2	78.6	25.9	52.4	2	4	14	3	2	...	1	5	.....	.....	.....	4	1.94	49.2
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.96	761.0	30.06	763.6	69.8	21.0	69.7	.....	1	7	9	14	.....	.....	.....	.....	.....	.....	7	1.66	42.1
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	29.01	736.9	30.04	762.9	75.0	23.9	51.4	7	4	2	1	5	6	5	1	.....	.....	.....	4	4.15	105.4
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.73	755.1	30.02	762.6	72.3	22.4	66.4	2	6	6	9	2	1	1	4	.....	.....	.....	5	2.72	69.2
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.75	755.7	30.01	762.3	79.7	26.5	53.8	.....	6	12	4	5	3	1	.....	.....	.....	.....	3	0.25	6.4
Montlouis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	21.91	634.6	29.83	757.6	68.2	20.1	28	4	2	3	12	2	1	5	2	.....	.....	.....	4	1.13	28.6
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.89	759.3	30.00	762.1	82.2	27.9	68.8	3	7	2	2	8	5	2	2	.....	.....	.....	3	0.24	6.1
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.26	743.3	30.02	762.5	75.6	24.2	49.2	2	2	6	5	8	2	.....	6	.....	.....	.....	.....	1.20	30.6
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.91	759 7	30.07	763.8	73.6	23.1	61.0	1	4	8	9	3	1	4	1	.....	.....	.....	8	1.74	44.2
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.94	760.5	30.05	763.2	77.5	25.3	57	1	9	2	.....	1	5	11	2	.....	.....	.....	5	0.91	23.1
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.43	544.4	.....	.....	47.7	8.7	.....	.....	5	12	1	.....	.....	3	.....	10	.....	.....	4	2.48	62.9
Privas. [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	29.00	736.7	30.01	762.2	78.6	25.9	48.0	8	4	.....	2	6	1	.....	3	7	.....	.....	.....	3.94	100.0
Puy de Dôme	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.28	642.2	.....	.....	55.4	13.0	80.9	1	7	2	9	2	4	3	3	.....	.....	.....	6	5.96	151.3
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.06	763.5	30.09	764.3	75.2	24.0	63.9	.....	3	9	9	2	1	3	4	.....	.....	.....	5	1.81	46.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.77	756.2	29.98	761.4	75.2	24.0	66.1	3	5	6	5	5	3	3	1	.....	.....	.....	.....	1.83	46.4
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27 98	710.6	30.04	763.0	75.0	23.9	63.6	4	11	.....	.....	.....	5	2	4	5	.....	.....	3	2.69	68.4
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.97	761.3	30.02	762.5	73.6	23.1	69.8	3	8	5	12	2	1	.....	.....	.....	.....	.....	.....	7.50	190.5
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.86	758.5	30.03	762.7	74.1	23.4	52.2	3	2	7	7	6	4	1	.....	1	.....	.....	7	1.61	41.0
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.39	746.4	30.11	764.8	78.8	26.0	58.4	3	10	2	.....	.....	9	3	4	.....	.....	.....	4	1.96	49.7
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	29.86	758.4	30.04	762.9	74.8	23.8	58.3	3	5	4	7	4	5	1	2	.....	.....	.....	5	1.84	46.7
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.56	750.9	30.10	764.5	72.5	22.5	55.0	3	5	5	10	1	3	1	1	2	.....	.....	6	2.47	62.8
Sub-Series.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	0.03 p.m.	131	40	29.94	760.4	30.09	764.2	77.7	25.4	59	3	10	6	2	1	1	5	3	.....	.....	.....	5	3.44	87.4
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.61	726.7	30.00	762.0	72.9	22.7	42.9	1	7	6	4	3	1	2	3	4	.....	.....	5	2.68	68.1
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.18	741.2	30.03	762.8	74.7	23.7	47.1	.....	7	6	2	1	7	.....	.....	8	.....	.....	5	3.52	89.4
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.81	757.1	29.95	760.6	73.9	23.3	52.2	.....	3	7	7	6	.....	5	3	.....	.....	.....	7	2.28	57.9
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.49	749.0	30.02	762.4	73.8	23.2	48.5	.....	9	4	3	2	4	5	4	.....	.....	.....	5	1.75	44.5
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.56	750.9	30.01	762 2	76.8	24.9	47.3	.....	4	4	11	1	5	4	2	.....	.....	.....	5	3.12	79.2
Cassel	N. 51 19	E 9 28	0.46 p.m.	669	204	29.30	744.1	30.01	762.2	76.6	24.8	54.2	2	7	3	12	3	.....	1	3	.....	.....	.....	6	2.96	75.2
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	.....	.....	30.00	762 1	77.5	25.3	45.0	1	4	6	5	7	3	2	3	.....	.....	.....	5	2.87	72.8
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.66	728.0	30.01	762.2	73.4	23.0	68.7	2	2	2	22	1	1	1	.....	.....	.....	.....	5	2.21	56.2
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.91	759.8	30.00	762.1	70.2	21.2	64.6	.....	5	4	9	1	7	4	1	.....	.....	.....	6	2.65	67.4
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.94	760.5	29.96	760.9	70.3	21.3	65.6	3	2	7	5	1	3	2	7	1	.....	.....	6	5.18	131.5
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.59	751.6	29.99	761.8	68.9	20.5	58.9	2	1	6	9	7	2	3	1	.....	.....	.....	6	2.85	72.4
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.79	756.6	29.97	761.2	75.7	24.3	52.3	2	1	9	3	7	4	2	3	.....	.....	.....	6	1.74	44.3
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.95	760.7	30.00	761.9	69.1	20.6	65.1	2	11	9	2	2	.....	3	2	.....	.....	.....	4	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.24	717.2	30.10	764.5	72.3	22.4	53.1	3	7	6	3	.....	.....	5	7	.....	.....	.....	5	3.84	97.6
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	26	8	29.96	760.9	29.98	761.6	69.1	20.6	66.7	9	1	4	1	1	1	5	9	.....	.....	.....	5	2.94	74.8
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.48	748.7	30.00	762.1	76.8	24.9	51	1	3	13	4	7	.....	.....	.....	3	.....	.....	6	3.33	84.6
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.13	739.9	29.99	761.7	75.4	24.1	52.1	1	9	3	4	4	5	1	4	.....	.....	.....	5	2.77	70.3
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.94	760.5	29.97	761.1	68.0	20.0	74.8	7	3	6	5	1	2	2	5	.....	.....	.....	6	2.38	60.4
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.54	750.2	29.90	759.5	85.6	29.8	44.4	11	1	.....	1	13	1	.....	4	.....	.....	.....	2	0.61	15.4
INDIAN.																										
Kurrachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.42	747.4	29.47	748.6	86.7	30.4	77	.....	1	9	19	2	.....	.....	.....	.....	.....	.....	6	3.50	88.9
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	28.97l	735.8l	29.42l	747.3l	83.4	31.3	63.0	b	....	3	15	7	2	1	1	.....	.....	.....	8	24.75	628.6
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.63	752.7	29.67	753 6	81.4	27.4	83	.....	1	16	13	1	.....	.....	.....	.....	.....	.....	9	25.80	655.3
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.83	706.9	29.68	754 0	75.9	24.4	78	b	.....	9	20	.....	.....	.....	.....	.....	.....	.....	9	10.40	264.2
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.20	691.0	29.76	755 8	71.0	21.7	88	.....	.....	12	16	1	.....	.....	.....	.....	.....	.....	8	22.43	569.7
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.69	728.8	29.41	746.9	94.3	34.6	55	1	.....	5	1	.....	1	11	3	9	.....	.....	4	9.35	237.5
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.58	725.9	29.45	748.1	88.3	31.3	71	1	.....	1	.....	3	1	7	1	17	.....	.....	4	12.61	320.3
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	28.91	734.2	29.45	748.1	91.8	33.2	62	1	4	.....	5	1	11	5	4	.....	.....	.....	6	4.61	117.1
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.51	724.1	29.54	750.3	80.4	26.9	79	1	9	8	6	.....	.....	.....	1	6	.....	.....	9	18.99	482.3
Jubbulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.17	715.6	29.52	749 7	79.1	26.2	86	2	7	7	4	2	2	.....	3	4	.....	.....	9	36.55	928.3
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.11	739.3	29.47	748.6	88.4	31.3	70	16	4	.....	.....	.....	.....	.....	.....	11	.....	.....	8	7.45	189.2
Allahabad	N. 25 26	E. 81 52	5.35 p.m	307	94	29.16	740.6	29.46	748.3	85.9	29.9	80	.....	2	1	4	1	1	3	8	11	.....	.....	8	10.99	279.1
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.31	744.4	29.49	749 0	86.7	30.4	76	2	1	.....	1	.....	5	14	6	2	.....	.....	7	6.49	164.8
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.51	698.6	29.49	749.0	79.0	26.1	83	1	4	1	3	3	8	8	2	1	.....	.....	10	6.70	170.2
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.44	747.8	29.52	749.8	84.3	29.1	76	8	6	.....	1	1	.....	.....	9	6	.....	.....	7	9.00	228.6
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.49	749.0	29.51	749.5	83.1	28.4	85	.....	1	1	8	9	11	.....	1	.....	.....	.....	8	11.96	303.8

STATIONS.	Latitude	Longitude	Local Time	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for July, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
INDIAN—Cont'd.	° ′	° ′																								
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.52	749.9	29.62	752.2	80.6	27.0	88	.....	.....	.....	1	12	14	.....	.....	4	.....	.....	8	3.09	78.5
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.22	742.3	29.55	750.6	86.9	30.5	77	2	1	.....	16	1	1	1	9	.....	.....	.....	6	9.40	238.8
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.06	712.7	29.46	748.2	89.0	31.7	63	.....	.....	.....	4	6	...	4	8	1	3	.....	7	3.45	87.6
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	30.02	762.5	.....	.....	81.2	27.3	51.3	.....	.....	.....	2	7	20	2	.....	.....	.....	.....	3	0	0
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.22	716.8	.....	.....	85.5	29.7	51	.....	.....	7	24	.....	.....	.....	...	.....	.....	.....	9	0.02	0.5
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.46	748.3	.....	.....	94.1	34.5	40	.....	6	18	6	.....	.....	1	.....	.....	.....	.....	6	0.12	3.0
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.59	751.6	29.98	761.5	80.1	26.7	50	.....	2	1	9	6	1	2	3	7	.....	.....	5	2.97	75.4
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.50	749.2	29.99	761.7	81.7	27.6	44	2	1	3	8	3	10	.....	4	.....	.....	.....	3	3.30	85.3
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.88	758.9	29.98	761.6	79.3	26.3	53	3	1	1	3	5	7	6	2	3	.....	.....	4	1.87	47.0
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.09	738.9	29.96	760.9	79.7	26.5	49	2	5	.....	3	4	8	7	2	.....	.....	.....	4	4.37	11.9
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157?	48?	29.82	757.5	30.01	762.2	78.3	25.7	58	1	1	.....	18	5	5	.....	1	.....	.....	.....	2	2.63	67.0
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.95	760.6	29.99	761.8	77.4	25.2	61	5	5	1	.....	.....	1	11	8	.....	.....	.....	2	4.86	123.4
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.72	755.0	29.97	761.3	82.8	28.2	33	5	6	7	5	1	1	.....	6	.....	.....	.....	3	0.55	14.0
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.86	758.4	29.94	760.5	80.6	27.0	57	1	8	10	7	4	1	...	...	.....	.....	.....	3	0.11	2.9
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.81	757.1	29.98	761.4	85.8	29.9	36	4	1	15	6	5	.....	.....	...	.....	.....	.....	3	0.04	1.0
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.70	754.4	29.94	760.5	81.1	27.3	42	10	5	5	2	1	.....	1	7	.....	.....	.....	2	0.30	9.2
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.11	739.4	29.97	761.1	81.3	27.4	67	1	4	10	1	6	7	2	.....	.....	.....	.....	2	0.85	21.5
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.78	756.3	30.02	762.4	79.5	26.4	52	.....	4	1	1	.....	.....	.....	25	.....	.....	.....	1	0.94	24.0
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.88	758.9	29.92	760.0	84.6	29.2	53	4	1	1	2	6	.....	14	3	.....	.....	.....	2	0	0
Sub-Series.																										
Naples	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.47	748.6	.....	.....	80.1	26.7	60.8	1	1	3	15	2	3	5	1	.....	.....	.....	2	0.62	15.8
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	22.32	567.0	.....	.....	50.2	10.1	59.6	1	.....	11	5	.....	2	5	7	.....	.....	.....	6	4.96	125.9
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	22.26	565.5	.....	.....	52.9	11.6	69.4	4	8	11	6	.....	1	.....	1	.....	.....	.....	7	2.78	70.6
JAPANESE.																										
Nobiru	N. 38 23	E. 141 11	9 32 p. m.	15	5	29.87	758 7	29.89	759.1	68.7	20.4	90.7	1	1	.....	1	5	3	4	3	3	.....	.....	8	2.72	69.2
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.84	758.0	29.91	759.8	72.4	22.4	91.9	1	.....	1	2	22	1	1	3	.....	.....	.....	7	4.06	102.9
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.90	759.4	30.09	764.3	72.3	22.4	68.2	1	.....	1	.....	1	14	12	2	.....	.....	.....	5	1.55	3.4
MEXICAN.																										
Leon *a*	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24.35	618 5	30.01	762 2	62.0	16 7	83	3	7	8	4	2	.....	2	1	3	.....	.....	3	9.07	230.1
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.66	753.4	29.92	759.9	78.9	20.1	87.1	5	2	2	1	5	.....	12	4	.....	.....	.....	7	0.30	7.6
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.00	762.0	30.00	762.0	70.3	21.3	.....	2	3	11	8	3	2	2	.....	.....	.....	.....	.....	4.02	102.0
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.91	759.8	29.97	761.2	68.4	20.2	.....	2	7	7	2	6	2	4	1	.....	.....	.....	.....	3.41	86.7
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.97	761.1	29.97	761.1	66.4	19.1	.....	1	3	2	11	3	2	8	1	...	.....	.....	.....	1.98	50.3
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.99	761.7	29.99	761.7	72.5	22.5	64.2	.....	4	6	12	3	1	2	1	2	.....	.....	.....	1.89	48.1
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.95	760.6	29.99	761.8	73.2	22.9	57.3	3	2	4	11	0	3	2	.....	.....	.....	.....	5	4.11	104.5
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7.15 p.m.	?	?	.....	.....	29.87	758.7	79.0	26.1	79.0	12	1	1	.....	.....	.....	3	14	.....	.....	.....	4	3.58	90.9
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.80	756 9	29.86	758.5	62.8	17.1	67.5	1	13	4	4	5	1	.....	1	2	.....	.....	6	5.91	150.2
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.83	757.6	29.87	758.6	60.3	15.7	69.8	16	.....	.....	5	4	.....	2	3	1	.....	.....	4	2.00	50.7
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.71	754.6	29.85	758.2	69.6	20.9	49.1	.....	4	1	8	10	1	4	3	.....	.....	.....	0	2.91	74.0
Gjesvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.89	759.2	29.91	759.8	50.9	10.5	.....	2	2	7	4	.....	1	1	8	6	.....	.....	7	1.86	47.3
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.06	763.5	30.15	765.7	74.1	23.4	69.0	.....	.....	.....	26	.....	.....	2	.....	3	.....	.....	5	0.04	1.0
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	312	95	29.74	755.5	30.07	763.7	75.6	24.2	52.6	7	7	.....	8	6	1	.	2	.....	.....	.....	2	0.31	7.8
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.14	765.6	30.21	767.4	72.3	22.4	72.8	1	2	9	3	.....	3	6	4	3	.....	.....	4	2.16	55.0
Saint Paul de Loando	S. 8 49	E. 13 07	1.10 p.m.	193	59	29.84	758.0	30.04	763.1	71.4	21.9	80.8	8	8	1	2	6	1	1	4	.....	.....	.....	4	0	0
San Salvador	S. 6 17	E. 14 53	1.07 p.m.	1834	559	28.15	715.1	30.01	762.3	72.3	22.4	60.0	.....	.....	4	19	6	1	.....	.....	1	.....	.....	4	0	0
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.42	645.7	30.02	762.4	63.9	17.7	54.3	2	4	3	3	2	4	12	1	.....	.....	.....	4	0	0
RUSSIAN																										
Akmolinski *b*	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.59	726.1	29.60	751.8	78.1	25.6	37.0	2	5	6	3	2	3	3	5	.....	.....	.....	4	0.50	12.8
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.84	757.9	29.86	758.4	61.7	16.5	61.3	2	9	6	2	4	2	3	2	1	.....	.....	8	2.73	69.3
Ashurada	N. 36 54	E. 53 55	3.44 p.m.	79	24	29.88	758.9	29.78	756.5	83.5	28.0	68.1	3	16	9	3	.....	.....	.....	.....	.....	.....	.....	4	2.25	57.2
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	29.88	758.9	29.81	757.1	82.9	28.3	43.7	7	2	1	4	3	5	4	2	1	.....	.....	4	1.19	30.2
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	29.89	759.1	29.84	757.9	81.3	27.4	64.0	8	.....	.....	.....	10	8	3	2	.....	.....	.....	2	0.04	1.0
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.27	743.5	29.74	755.5	73.9	23.3	50.8	6	3	1	5	4	2	1	7	2	.....	.....	5	1.25	31.7
Bielosersk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.43	747.5	29.88	758.9	67.3	19.6	66.2	6	10	2	4	4	1	1	1	2	.....	.....	6	2.24	56.9
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.70	754.3	29.93	760.3	70.0	21.1	54.2	4	2	8	6	4	1	1	5	.....	.....	.....	6	1.58	40.1
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.84	732.4	29.76	755.9	69.4	20.8	53.3	1	4	4	4	4	6	3	3	2	.....	.....	7	1.37	34.7
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.44	747.8	29.87	758.6	81.0	27.2	44.3	4	7	8	4	1	2	4	1	.....	.....	.....	6	0.55	14.0
Kasalinsk *a*	N. 45 46	E. 62 07	4.16 p.m.	147	45	29.47	748.6	29.65	753.1	84.2	29.0	35.8	2	8	7	1	1	1	4	6	.....	.....	.....	3	.....	.....
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.53	750 0	29.78	759.4	75.0	23.9	47.5	3	8	6	4	5	4	.....	1	.....	.....	.....	7	.....	.....
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	29.84	757.9	29.89	759.2	60.6	15.9	67.1	4	2	3	2	2	2	5	8	3	.....	.....	7	2.77	70.4
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	29.85	758.2	29.88	758.8	79.9	26.6	58.1	4	3	.....	1	4	3	2	5	9	.....	.....	4	0.09	2.3
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.25	742.9	29.85	758.2	74.3	23.5	55.3	6	8	5	3	2	3	1	3	.....	.....	.....	6	2.89	73.5
Koslov	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.31	744.4	29.79	756.6	75.4	24.1	55.9	5	7	3	1	2	4	3	5	1	.....	.....	6	1.28	32.4
Lgov	N. 51 41	E. 35 17	2.29 p.m.	535?	163?	29.32	744.6	29.87	758.6	76.5	24.7	52.2	5	5	6	5	1	2	3	3	1	.....	.....	6	3.57	90.7
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	29.94	760.6	29.97	761.2	66.0	18.9	66.5	.....	8	11	7	2	1	2	.....	.....	.....	.....	4	2.55	64.8
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.61	752.0	29.80	756.9	82.8	28.2	39.2	3	7	5	5	4	4	1	2	.....	.....	.....	6	0.70	17.7
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.39	746.6	29.85	758.1	70.7	21.5	63.2	10	3	1	2	6	4	1	4	.....	.....	.....	5	4.31	109.4
Nertchinsk	N. 51 19	E. 119 37	8.07 p.m.	?	?	27.53	699.2	29.72	754.8	64.2	17.9	70.6	3	1	3	7	2	1	1	1	12	.....	.....	6	3.14	79.8
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.80	756.9	29.87	758.7	83.5	28.6	46.7	5	4	4	3	3	.....	3	5	4	.....	.....	2	1.11	28.1
Nikolaievsk. *b*	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.69	754.1	29.78	756.3	59.4	15.2	84.6	1	.....	1	.....	1	6	7	2	11	.....	.....	5	.....	.....
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	29.55	750.6	29.69	754.2	77.5	25.3	77.3	.....	.....	.....	2	.....	2	.....	1	26	.....	.....	5	9.15	232.4
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.12 p.m.	328	100	29.38	746.2	29.70	754.5	90.1	32.3	23.8	6	5	8	4	.....	.....	.....	5	3	.....	.....	3	.....	.....
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.69	754.0	29.88	758.8	65.3	18.5	63.5	5	5	1	3	1	7	3	5	1	.....	.....	6	4.07	103.3
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.47	748.5	29.95	760.7	73.6	23.1	54.5	6	6	1	4	3	1	5	2	3	.....	.....	5	2.97	75.4
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	29.82	757.4	29.85	758.2	79.3	26.3	80.0	.....	8	7	15	.....	.....	.....	.....	1	.....	.....	4	5.20	133.5
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	29.89	759.1	29.91	759.7	67.3	19.6	56.0	3	10	8	1	1	.....	4	4	.....	.....	.....	5	2.29	58.1
Samarkand	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.30	693.4	29.59	751.6	86.9	30.5	37.2	.....	2	1	.....	.....	.....	4	.....	24	.....	.....	1	.....	.....
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.08	738.7	29.69	754.2	81.0	27.2	26.3	8	5	1	3	3	.....	4	3	4	.....	.....	4	0.04	1.0
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	138?	42?	29.64	752.9	29.84	758.0	79.9	26.6	55.5	1	8	7	8	2	.....	1	4	.....	.....	.....	3	4.83	122.6
Statoi Bykhov	N. 53 31	E. 30 16	2.09 p.m.	512	156	29.36	745.8	29.89	759.3	72.5	22.5	54.1	4	1	3	.....	2	4	7	10	.....	.....	.....	6	2.12	53.8
Tashkend *d*	N. 41 20	E. 69.18	4.45 p.m.	1607?	490?	28.05	712.7	29.58	751.4	92.5	33.6	34.4	1	3	.....	.....	.....	.....	.....	.....	23	.....	.....	2	.....	.....
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.44	722 5	29.78	756.4	84.9	29.4	33.4	2	5	.....	2	8	12	2	.....	.....	.....	.....	3	0.51	12.9
Vernoe	N. 43 10	E. 76 53	5.10 p.m.	2401?	732?	27.19	690 6	29.52	749.9	81.1	27.3	42.6	.....	1	2	.....	1	.....	3	2	22	.....	.....	4	.....	.....
Viatka *d*	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.15	740.3	29.75	755.7	69.6	20.9	56.6	5	6	2	3	6	.....	.....	1	4	.....	.....	5	1.51	38.4
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.56	750.7	29.96	761.0	74.3	23.5	46.6	6	8	1	2	3	5	1	2	3	.....	.....	7	.....	.....
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.55	750 6	29.82	757.5	71.6	22.0	61.7	2	5	8	3	4	6	2	1	.....	.....	.....	5	2.93	74.4
Sub-Series.																										
Petrowsky Ac'y	N. 55 50	E. 37 38	2.39 p.m.	508	155	29.27	743.4	29.79	756.7	69.5	20.8	63.4	4	5	6	4	2	2	2	4	2	.....	.....	7	0.70	17.8
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	138	42	29.89	759.1	30.06	763.4	77.9	25.5	66	.....	.....	.....	7	10	5	6	3	.....	.....	.....	3	0.31	8.0
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.00	762.0	30.06	763.5	79.2	26.2	57	2	19	2	2	1	.....	3	1	1	1795	2890	5	1.28	32.6
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.16	689.8	30.00	762.0	75.2	24.0	48	3	.....	1	10	4	3	.....	10	.....	5180	8336	2	0.10	2.5
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.87	707.9	29.98	761.5	84.2	29.0	30.6	.....	.....	4	15	.....	1	3	8	.....	7353	11834	1	0.28	7.2
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.88	758 9	30.00	762 0	78.4	25.8	57.0	.....	.....	.....	2	1	10	10	8	.....	1552	2497	3	0.11	2.8
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.15	740.3	30.02	762 4	72.5	22.5	64	9	2	3	9	2	.....	2	4	.....	7204	11593	6	3.30	83.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for July, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
Sub-Series.	° ′	° ′																								
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.98	761.5	30.05	763.3	79.3	26.3	81.5	.....	.....	.....	1	2	14	12	....	2	.....	....	1	0.99	25.1
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.75	755.7	29.81	757.1	78.5	25.8	86.9	1	2	7	11	4	3	2	1	.....	.....	.....	8	28.19	716.0
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.98	761.4	30.07	763.8	79.1	26.2	61.4	.....	2	14	4	1	.....	10	.....	.....	.....	.....	2	0.01	0.2
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.98	761.4	30.07	763.7	80.1	26.7	55	.....	.....	....	.....	2	12	5	.....	12	.....	.....	7	.....	.....
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.85	758.1	29.89	759.1	64.9	18.3	62	7	1	.....	5	10	.....	.....	4	4	.....	.....	4	1.36	34.6
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.83	757.7	29.88	759.0	67.1	19.5	57	.....	1	.....	8	10	2	4	5	1	.....	.....	6	1.56	39.5
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.83	757.6	29.88	758.9	67.6	19.8	58	4	2	1	6	6	2	5	5	.....	.....	.....	4	2.50	63.5
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.73	755.2	29.91	759.7	68.9	20.5	54	1	1	4	7	6	2	6	2	2	.....	.....	5	1.65	41.8
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.86	758.5	29.92	760.0	65.0	18.9	66	5	1	14	4	.....	2	3	2	.....	.....	.....	4	2.57	65.3
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.79	756.7	29.88	758.9	68.0	20.0	59.3	3	4	3	9	5	2	2	3	.....	.....	.....	6	2.63	66.8
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.66	728.0	30.03	762.8	74.1	23.4	53.5	16	.....	5	1	7	.....	.....	2	.....	.....	.....	5	3.85	97.8
TURKISH.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.91	759.7	84.6	29.2	57	9	3	2	2	.....	.....	.....	10	5	.....	.....	4	1.57	39.8
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.13?	765.2?	81.3	27.4	.....	.....	2	3	1	1	4	1	19	.....	.....	.....	2	1.30	33.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.78	756.5	84.4	29.1	57.9	2	4	7	18	....	.....	.....	.	.....	.....	.....	2	0.01	0.3
Samakov	N. 42 12	E. 23 42	1.43 p.m.	?	?	26.78	680.2	.....	.....	69.0	20.6	83.6	.....	.....	3	1	.....	3	1	1	13	.....	.....	5	1.22	31.0
UNITED STATES.																										
New Eng'd states																										
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.72	754.9	29.78	756.4	57.6	14.2	84.8	3	5	3	2	6	2	.....	4	6	4191	6745	6	8.48	215.4
Portland	N. 43 39	W. 70 15	7.27 a.m.	45	14	29.76	755.9	29.80	756.9	64.7	18.2	77.7	5	2	9	6	4	1	...	4	.....	5454	8777	4	6.78	172.2
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.73	602.7	29.80	756.9	43.2	6.2	93.7	.....	14	10	2	1	1	2	1	.....	25815	41544	5	23.90	607.0
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.69	754.1	29.84	757.9	65.3	18.5	80.7	4	4	11	6	1	2	1	2	.....	6808	10956	5	4.25	107.9
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	29.83	757.7	29.86	758.4	64.2	17.9	86.6	4	7	3	7	2	2	1	5	.....	9124	15166	4	6.52	165.6
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	29.83	757.7	29.88	758.9	66.4	19.1	81.0	7	3	7	8	2	.....	1	2	1	4696	7558	4	6.02	152.9
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	29.76	755.9	29.88	758.9	64.8	18.2	80.3	8	6	2	6	3	.....	2	3	1	4765	7668	5	5.89	149.6
Mid. Atlan. states.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	29.80	756.9	29.88	758.9	67.6	19.8	70.6	6	5	11	.....	9	.....	.....	.....	.....	4226	6801	8	5.04	128.0
New York City	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.72	754.9	29.89	759.2	66.8	19.3	79.8	6	8	4	5	3	.....	1	4	.....	7131	11476	5	6.14	156.0
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	117	36	29.78	756.4	29.90	759.4	67.8	19.9	83.1	7	7	2	6	1	.....	2	4	2	6352	10222	6	3.83	97.3
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	29.86	758.4	29.90	759.4	67.6	19.8	79.3	4	8	5	8	1	.....	4	1	.....	10498	16895	6	6.42	163.1
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	29.87	758.7	29.88	758.9	68.5	20.3	81.0	.....	6	4	7	6	2	2	3	1	5228	8413	6	4.73	120.1
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	22	7	29.86	758.4	29.88	758.9	68.8	20.4	78.9	6	8	3	4	1	3	4	2	.....	9394	15118	6	3.73	94.7
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	29.87	758.7	29.90	759.4	70.0	21.1	83.6	1	9	4	4	4	3	2	3	1	10133	16307	5	4.44	112.8
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	29.88	758.9	29.90	759.4	69.4	20.8	84.5	5	3	4	8	4	2	.. ...	5	.....	10542	16965	5	2.12	53.8
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	29.88	758.9	29.93	760.2	70.9	21.6	73.4	9	5	5	1	5	1	3	1	1	4074	6557	5	9.43	239.5
Washington City	N. 38 54	W. 77 02	7.00 a.m.	106	32	29.82	757.4	29.93	760.2	69.1	20.6	80.3	4	8	5	5	3	.....	.....	4	2	3869	6226	5	7.39	187.7
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	8	2	29.90	759.4	29.91	759.7	71.1	21.7	87.7	7	7	2	4	7	3	.....	1	... ..	6086	9794	6	5.92	150.4
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	29.91	759.7	29.93	760.2	72.7	22.6	81.8	4	4	1	12	7	1	1	1	.....	8199	13195	5	7.64	194.1
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.26	743.2	29.93	760.2	72.0	22.2	72.8	1	5	5	9	.....	.....	1	2	8	2174	3499	4	2.32	58.9
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	29.91	759.7	29.94	760.5	74.4	23.6	80.5	6	.....	5	13	3	.....	.....	3	1	5227	8411	6	7.06	179.3
S. Atlantic states.																										
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	29.93	760.2	29.95	760.7	75.1	23.9	83.7	5	3	6	13	1	1	1	1	.....	10004	16100	5	10.75	273.3
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	12	4	29.93	760.2	29.94	760.5	75.9	24.4	86.0	3	3	4	11	1	3	1	2	3	7805	12562	4	10.51	267.0
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	29.96	761.0	29.97	761.2	77.6	25.3	83.2	...	6	2	17	2	1	.....	3	.....	9128	14689	4	4.36	110.7
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	29.93	760.2	29.96	761.0	78.2	25.7	83.2	4	2	11	8	3	...	1	1	1	9210	14822	4	7.32	185.9
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	29.92	760.0	29.97	761.2	76.8	24.9	84.5	2	4	4	14	1	.....	1	2	3	4369	7031	5	8.29	210.6
Charlotte	N. 35 13	W. 80 51	6.44 a.m	808	246	29.13	739.9	29.96	761.0	72.1	22.3	79.7	5	1	2	16	4	.....	.....	3	.....	3260	5246	5	7.90	200.7
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	29.91	759.7	29.96	761.0	78.9	26.1	82.4	1	1	7	16	.....	1	.....	4	1	5466	8797	5	9.52	241.8
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	29.83	757.7	30.02	762.5	75.7	24.3	82.9	.....	3	3	5	9	5	2	4	.....	2493	4012	6	3.25	82.5
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	29.90	759.4	29.99	761.7	79.3	26.3	79.5	3	1	7	12	4	1	2	1	.....	4791	7710	4	3.68	93.5
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	29.97	761.2	30.01	762.2	80.0	26.7	83.2	.....	1	3	16	6	.....	.....	5	.....	5590	8996	4	6.02	152.9
Florida penin'la.																										
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.00	762.0	30.02	762.5	80.8	27.1	80.6	2	3	9	7	2	2	1	4	1	6311	10156	4	1.76	44.7
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.02	762.5	30.04	763.0	83.9	28.8	74.0	..	1	3	4	3	14	2	4	.....	5491	8837	5	2.36	59.9
Sanford	N. 28 48	W. 81 23	6.42 a.m.	50	15	29.95	760.7	30.00	762.0	78.5	25.8	81.6	...	3	12	10	1	1	1	3	.....	3704	5961	3	5.57	141.5
East Gulf states.																										
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1129	344	28.85	732.8	30.00	762.0	73.0	22.8	82.7	2	4	12	9	.....	1	1	2	...	5486	8826	4	2.42	61.5
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	29.98	761.5	30.00	762.0	78.1	25.6	87.5	2	3	10	8	2	1	.....	2	3	5218	8397	4	8.79	223.3
Mobile	N. 30 41	W. 88 02	6.16 a.m.	35	11	29.98	761.5	30.02	762.5	76.8	24.9	88.5	4	6	7	9	1	.....	2	.....	2	4837	7784	5	4.96	126.0
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.77	756.1	29.99	761.7	76.2	24.6	88.0	3	3	4	14	1	4	.....	1	1	3372	5427	4	2.80	71.1
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.76	755.9	30.00	762.0	77.3	25.2	83.2	2	.....	.....	7	9	6	3	2	2	3825	6156	4	5.75	146.0
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	29.95	760.7	30.00	762.0	82.1	27.8	79.7	1	6	8	7	3	.....	1	3	2	5049	8125	4	4.12	104.6
West Gulf states																										
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.76	755.9	29.99	761.7	78.6	25.9	83.6	2	1	1	9	9	.....	4	.....	5	3348	5388	4	0.06	1.5
Fort Smith	N. 35 22	W. 94 24	5.50 a.m.	451	137	29.48	748.8	29.94	760.5	74.0	23.3	89.2	3	.....	.....	.....	2	1	13	.....	12	2650	4265	4	5.93	151.9
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.66	753.4	29.97	761.2	75.9	24.4	93.7	1	5	.....	7	3	1	3	1	10	3016	4854	3	4.23	107.4
Galveston	N. 29 18	W. 94 47	5.49 a.m.	40	12	29.96	761.0	30.00	762.0	82.2	27.9	83.9	.....	2	6	16	5	1	1	...	.....	5543	8921	4	1.16	29.5
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	29.96	761.0	29.99	761.7	79.7	26.5	90.6	..	.....	....	12	14	1	.....	.....	4	8798	14159	3	0.33	8.4
Palestine	N. 31 45	W. 95 40	5.45 a.m.	533	162	29.46	748.3	30.00	762.0	76.1	24.5	93.2	1	... ..	.....	4	20	1	1	2	2	6203	9982	4	0.05	1.5
Rio Grande valley.																										
Brownsville	N. 25 53	W. 97 26	5.38 a.m	57	17	29.90	759.4	29.96	761.0	77.4	25.2	93.0	....	.....	.....	2	14	11	..	.....	4	7307	11759	2	0.23	5.8
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.76	755.9	29.99	761.7	78.1	25.6	82.4	....	.....	.....	.....	.....	28	2	1	.....	7780	12520	0	0	0
Ohio val. & Tenn.																										
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.18	741.2	29.98	761.5	71.4	21.9	90.5	3	3	8	12	. ....	1	.....	1	3	3434	5526	6	4.79	121.7
Knoxville	N. 35 56	W. 83 58	6.32 a.m	980	299	28.91	734.3	29.98	761.5	69.6	20.9	90.5	4	.....	1	10	1	.....	1	7	7	3520	5665	5	8.59	218.2
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.65	753.1	29.98	761.5	77.2	25.1	81.1	.....	6	3	6	4	8	1	6	2	3823	6152	5	2.38	60.4
Nashville	N. 36 10	W. 86 47	6.21 a.m.	549	167	29.39	746.5	29.95	760.7	72.6	22.6	84.4	2	1	6	9	3	.....	2	8	.....	3294	5301	5	3.18	80.8
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.40	746.7	29.96	761.0	71.8	22.1	81.4	10	2	3	3	8	3	1	.....	1	4278	6885	5	3.94	100.1
Indianapolis	N. 39 40	W. 86 10	6.23 a.m.	753	229	29.15	740.4	29.93	760.2	69.3	20.7	72.9	4	5	3	6	2	2	.....	6	3	3390	5456	6	6.03	153.2
Cincinnati	N. 39 06	W. 84 30	6.30 a.m.	620	189	29.31	744.5	29.94	760.5	71.1	21.7	72.7	6	2	6	.....	9	2	2	2	2	3396	5465	5	1.73	43.9
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.09	738.9	29.92	760.0	68.2	20.1	71.4	6	5	4	7	3	1	2	3	.....	4358	7013	5	2.16	54.9
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	766	233	29.11	739.4	29.93	759.4	65.6	18.7	79.3	4	9	4	3	5	1	3	1	1	4093	6587	5	4.04	102.6
Lower lake region.																										
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.22	742.2	29.87	758.7	62.0	16.7	79.5	1	3	13	9	2	1	1	1	.....	7492	12057	6	3.03	77.0
Buffalo	N. 42 53	W. 78 53	6.52 a.m	690	210	29.14	740.1	29.86	758.4	62.6	17.0	80.3	2	4	6	9	4	.....	2	1	3	6185	9954	5	5.11	129.8
Oswego	N. 43 29	W. 76 35	7.02 a.m.	304	93	29.53	750.0	29.85	758.2	62.9	17.2	81.9	2	2	12	3	9	2	.....	1	.....	5831	9384	5	1.90	48.3
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.18	741.2	29.89	759.2	65.9	18.8	74.9	3	7	4	6	6	.....	1	4	.....	6682	10753	5	5.29	134.4
Sandusky	N 41 25	W. 82 40	6.37 a.m.	639	195	29.24	742.7	29.90	759.4	67.5	19.7	71.4	4	3	7	8	3	2	2	2	.....	7487	12049	5	5.75	146.0
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.18	741.2	29.90	759.4	65.8	18.8	73.0	4	5	2	4	3	3	5	5	.....	5656	9102	5	5.13	130.3
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.22	742.2	29.89	759.2	67.2	19.6	75.6	3	4	7	5	2	.....	3	1	6	4044	6508	5	3.66	93.0
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.23	742.4	29.92	760.0	64.2	17.9	71.5	5	8	5	6	1	3	1	1	1	5878	9460	4	3.76	95.5
Upper lake region																										
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.22	742.2	29.86	758.4	58.2	14.6	80.7	.....	4	15	2	2	1	4	1	2	5959	9590	6	2.38	60.5
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	613	187	29.21	741.9	29.85	758.2	57.5	14.2	78.3	11	4	9	2	2	1	1	1	.....	5843	9403	5	3.01	76.5
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.26	743.2	29.91	759.7	65.3	18.5	76.6	4	2	8	2	4	3	4	2	2	6339	10202	5	4.01	101.9
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.23	742.4	29.87	758.7	59.5	15.3	78.2	2	7	4	5	2	1	5	.....	5	6265	10082	5	2.51	63.8
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.17	740.9	29.88	758.9	58.4	14.7	75.3	5	8	11	1	2	1	1	.....	2	4826	7766	4	2.45	62.2
Port Huron	N. 43 00	W. 82 26	6.38 a.m	633	193	29.23	742.4	29.89	759.2	60.5	15.8	84.6	3	4	5	4	3	3	1	5	3	5585	8988	4	2.04	51.8
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.22	742.2	29.92	760.0	66.1	18.9	76.2	7	5	5	2	5	1	1	4	1	4293	6909	5	3.71	94.2
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.17	740.9	29.90	759.4	62.4	16.9	82.5	5	11	3	2	....	3	1	3	3	6020	9688	5	3.80	96.5
Duluth	N. 46 48	W. 92 06	6.00 a.m.	687	209	29.18	741.2	29.90	759.4	60.5	15.8	76.2	1	5	10	.....	2	.....	4	7	2	6446	10374	4	3.45	87.6

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for July, 1884.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. S.—Continued.																												
Upper Miss. val.	° ′	° ′																										
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	801	244	29.07	738.4	29.90	759.4	63.0	17.2	83.8	1	7	7	1	1	4	1	2	7	4632	7454	4	2.93	74.4
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.15	740.4	29.90	759.4	65.8	18.8	75.4	4	5	4	6	8	.....	.....	.....	4	4211	6777	4	4.58	116.3
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.28	743.7	29.91	759.7	66.0	18.9	79.5	2	8	3	5	.....	4	4	5	. .	5111	8225	5	4.51	114.6
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.06	738.1	29.94	760.5	61.9	18.3	83.8	6	1	1	3	.....	6	3	3	8	3448	5549	5	7.16	181.9
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.24	742.7	29.93	760.2	63.5	17.5	80.5	2	8	3	.....	....	6	1	1	10	3093	4978	5	5.30	134.6
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.29	744.0	29.92	760.0	69.6	20.9	78.4	5	5	1	4	2	4	4	4	2	4730	7612	4	2.30	58.4
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.59	751.6	29.96	761.0	74.1	23.4	88.0	6	2	3	3	11	2	1	3	.....	4255	6848	5	7.34	186.4
Springfield	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.28	743.7	29.94	760 5	69.6	20.9	76.7	2	5	2	5	3	6	1	3	4	4310	6984	5	3.62	91.9
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	583	178	29.34	745.2	29.94	760.5	72.9	22.7	82.1	3	2	6	5	1	6	2	5	1	7151	11508	6	2.86	72.6
Missouri valley.																												
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.08	738.6	29.94	760.5	71.1	21.7	79.6	4	3	.....	.....	7	.....	2	3	12	3323	5348	5	9.43	239.5
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28 79	731.3	29.92	760.0	68.3	20.2	85.6	9	2	.....	3	7	5	2	2	1	5385	8666	5	10.35	262.9
Fort Bennett	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.36	720.3	29.90	759 4	62.1	16.7	84.6	2	6	.....	2	.....	8	....	9	4	5752	9257	6	3.79	96.3
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.57	725.7	29.89	759.2	60.0	15.6	89.9	3	8	1	.....	2	6	6	4	1	5024	9051	5	5.51	140.0
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.66	728.0	29.93	760.2	64.6	18.1	87.4	4	6	1	6	2	1	5	5	1	5446	8764	5	4.63	117.6
Extreme N'thwest.																												
Moorhead	N. 46 52	W. 96 44	5.41 a m.	923	281	28.94	735.1	29.90	759 4	57.0	13.9	85.0	8	5	3	1	8	3	1	1	1	4723	7601	5	7.32	185.9
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.05	738.1	29.90	759.4	53.1	11.7	93.1	1	11	5	1	3	4	1	3	2	5261	8467	5	3.47	88.1
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28 15	715.0	29.88	758.9	57.4	14.1	88.4	4	3	1	1	2	3	2	2	13	4914	7908	5	3.62	91.9
Fort Buford	N. 48 00	W. 103 56	5.12 a.m.	1930	588	27.93	709.4	29.89	759.2	55.7	13.2	88.7	2	2	8	4	.....	2	6	7	....	7339	11811	6	1.87	47.5
Fort Totten	N. 47 57	W. 98 57	5.32 a.m.	1500	457	28.33	719 6	.....	.....	57.3	14.1	85.2	3	6	2	6	3	7	2	2	.....	7974	12833	5	3.05	77.5
Northern slope.																												
Fort Assinaboine	N. 48 32	W. 109 42	4.49 a.m.	2720	829	27.15	689.6	29.89	759.2	54.7	12.6	75.7	.....	6	15	1	.....	4	.....	3	2	7830	12601	4	9.67	245.6
Fort Benton *b*	N. 47 50	W. 110 40	4.45 a.m.	2681	817	27.20	690.9	29.90	759.4	56.5	13.6	75.8	1	1	6	7	1	3	3	5	2	5777	9297	5	3.09	78.5
Fort Custer	N. 45 42	W. 107 34	4.58 a.m.	3040	926	26.82	681.2	29.84	757.9	55.7	13.2	80.2	2	2	7	.....	.....	1	11	5	3	5250	8497	4	0.80	20.3
Fort Maginnis	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25 60	650.2	29.91	759.7	52.2	11.2	62.7	.....	3	5	12	1	4	2	4	.....	7269	11698	4	0.64	16.3
Fort Shaw	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.41	670.8	29.92	760.6	52.0	11.1	72.5	1	2	19	3	.....	3	.....	2	1	5600	9012	3	2.60	67.6
Helena	N. 46 34	W. 112 04	4.40 a.m.	4044	1232	25.86	656.8	29.88	758 9	53.7	12.1	70.5	3	1	6	15	.....	.....	.....	4	2	4979	8013	4	3.25	82.5
Poplar River	N. 48 08	W 105 10	5.07 a.m.	2030	619	.....	.....	.....	.....	55.3	12.9	81.0	7	.....	8	1	2	4	8	1	.....	.....	.....	6	3.40	86.4
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25 43	645 9	29.86	758 4	55.3	12.9	79.5	3	.....	2	5	7	2	5	5	2	3642	5861	4	3.51	89.2
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6105	1861	24.10	612.1	29.81	757.2	54.9	12.7	59.0	.....	16	4	5	4	1	.....	.....	1	8138	13097	2	0.60	15.2
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.07	687.6	29.87	758.7	65.5	18.6	85.0	3	1	4	.....	3	7	5	4	4	7184	11561	5	2.19	55.6
Middle slope.																												
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	18.09	459.5	29.87	758.7	35.2	1.8	70.1	.....	6	15	8	1	.....	.....	1	.....	12834	20654	3	0.41	10.4
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.81	630.2	29.82	757.4	02.9	17.2	61.3	2	3	.....	2	23	1	.....	.....	.....	5073	8164	3	0.05	16.5
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.04	661.4	29.79	756.7	67.1	17.3	76.6	2	2	11	3	1	.....	4	5	3	5539	8914	4	1.75	44.4
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2517	767	27.38	695.4	29.83	758.9	65.8	20.4	80.4	1	3	3	1	2	7	2	12	.....	9795	15763	4	6.40	162.6
Fort Elliott	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.22	691.4	29.86	758.4	70.1	21.2	74.5	2	.....	.....	2	10	5	1	2	9	7572	12186	3	1.29	32.8
Southern slope.																												
Fort Sill	N. 34 40	W. 98 23	5.34 a.m.	1200	366	28.71*d*	729.2*d*	29.91*d*	759 7*d*	75.0	23.9	78.5	2	.....	3	.....	7	4	.....	1	14	7618	12260	4	0.23	5.8
Fort Concho	N 31 25	W. 100 24	5.26 a.m.	1900	579	28 09	713.5	29.97	701.2	75.0	23.9	72.3	.....	2	.....	3	17	2	4	1	2	6900	11104	2	2.37	60.2
Fort Stockton	N. 30 53	W. 102 53	5.16 a.m.	3010	917	26.96	684.8	29.90	759.4	72.6	22.6	72.5	1	1	.....	1	4	17	.....	.....	7	7699	12390	3	0.52	13.2
Fort Davis	N. 30 38	W. 103 50	5.12 a.m.	4928	1502	25 23	640.8	29.86	758.4	68.9	20.5	75.4	1	.....	1	9	3	1	5	.....	11	4211	6777	1	0.35	8.9
Southern plateau.																												
Fort Thomas	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27 21	691.1	29.80	756.9	71.7	22.1	51.4	1	1	10	.....	.....	.....	.....	.....	19	.....	.....	2	0.36	9.1
Fort Apache	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	25 06	636.5	29.80	756 9	58.5	14.7	69.9	.....	.....	.....	2	2	5	18	4	.....	4719	7594	2	0.14	3.6
Fort Grant	N. 32 39	W. 109 57	4.48 a.m.	4856	1480	25.26	641.6	29.83	757.7	73.0	22.8	40.2	7	2	.....	.....	1	6	9	5	1	4703	7569	2	0.67	17.0
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5389	1642	24.80	629.9	29.83	757.7	57.8	14.3	71.5	.....	.....	.....	4	.....	.....	.....	.....	27	4615	7427	1	1.33	33.8
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.64	752.8	29.78	759.4	79.4	26.3	61.8	.....	1	1	7	1	9	7	1	4	4369	7031	2	0.01	0.3
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3764	1147	26.25	666.7	29.85	758.2	74.3	23.5	51.1	1	4	7	1	.....	.....	1	8	9	2281	3671	3	0.46	11.7
Middle plateau.																												
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.62	650.7	29.80	756.9	63.3	17.4	38.5	.....	1	.....	.....	.....	9	4	4	13	4023	6474	1	0.27	6.9
Northern plateau.																												
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.15	689.6	29.87	758.7	58.4	14.7	72.5	.....	5	3	2	4	5	6	3	3	3236	5208	2	0.60	15.2
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.16	740.7	29.93	759.5	60.2	15.7	79.1	.....	1	.....	.....	.....	2	.....	5	23	1268	2041	3	1.30	33.0
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	27.93	709.4	29.91	759.7	55.0	12.8	76.9	1	1	1	6	3	.....	1	5	13	3587	5773	5	1.06	26.9
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1667	508	28.26	717.8	29.98	761 5	54.6	12.6	71.7	.....	.....	.....	11	5	3	5	2	5	4334	6975	4	0.32	8.1
N. Pac. coast reg'n																												
Fort Canby	N. 46 16	W. 124 04	3.52 a.m.	179	54	29.88	758.9	30.07	763.8	56.0	13.3	88.9	13	2	12	.....	.....	4	.....	.....	.....	4239	6822	7	1.73	43.9
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	30.01	762.2	30.05	763.3	52.4	11.3	89.6	2	.....	.....	2	3	.....	.....	1	23	1898	3055	4	0.60	15.2
Tatoosh Id	N. 48 23	W. 124 44	3.49 a.m.	86	26	29.96	761.0	30.05	763 3	52.9	11.6	92.6	.....	1	5	11	2	.....	5	1	6	3790	6099	7	1.73	43.9
Portland	N. 45 32	W. 122 43	3.57 a.m	67	20	29.97	761.2	30.04	763 0	56.9	13.8	85.0	8	1	.....	.....	8	.....	1	.....	13	3282	5282	7	1.80	45.7
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.51	749.5	30.05	763 3	54.1	12.3	83 1	1	4	....	.....	....	.....	.....	2	24	2346	3776	7	0.05	1.3
Mid Pac. coast reg																												
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.31	745.2	30.02	762.5	53.2	11.8	88.5	19	12	...	.....	....	.....	.....	.....	.....	16385	26368	4	0.45	11.4
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	332	101	29.58	751.3	29.92	760 0	64.5	18.1	60.5	10	10	.. .	.....	7	2	.....	.....	2	4134	6653	1	0	0
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	64	19	29.85	758.2	29.92	760 0	61.6	16.4	73.0	.....	.....	.....	.....	11	20	.....	.....	.....	5778	9299	0	0	0
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.90	759.4	29.97	761.2	55.7	13.2	88.1	.....	.....	5	19	2	.....	.....	.....	5	8513	13700	6	Inap.	Inap.
N. Pac. coast reg'n.																												
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	299	91	29.57	751.1	29.96	761.0	59.7	15.4	89.5	.....	.....	6	.....	.....	2	1	10	12	3164	5092	2	0.02	0.5
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.85	758.2	29.92	760.0	63.5	17.5	88.9	8	3	3	4	2	1	.....	8	2	4195	6751	7	0	0
Alaska stations.																												
Ft Saint Michael	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.85	758.2	29.88	758 9	50.1	10.1	91.5	1	1	5	1	11	3	5	2	2	7815	12577	9	4.00	101.6
Sitka	N. 57 03	W. 135 19	3.07 a m.	63	19	29.99	761.7	30.05	763.3	51.2	10.7	81.5	.....	3	17	6	.....	1	1	2	1	5229	8415	8	4.78	121.4
Unalashka	N 53 53	W. 166 32	1.02 a.m.	13	4	29.80	756.9	29.81	757 2	48.8	9.3	83.9	1	1	....	8	11	8	.....	2	.....	7878	12678	8	4.31	109.5
Sub-Series.																												
Behring Island	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.73	755 1	29.75	755.6	46.0	7.8	95.8	3	3	.....	1	10	....	6	5	3	5978	9620	7	2.27	57.7
Bluefields	N. 12 00	W. 83 43	6.31 a.m.	20	6	29.91	759.7	29.93	760.2	77.5	25.3	90.9	4	10	1	1	.....	.....	1	14	....	.....	.....	8	17.06	433.3
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22 03	559.5	.....	.....	54.7	12.6	85.6	3	2	2	.....	10	3	.....	.....	11	.....	.....	6	3.53	89.7
Fort Chimo	N 59 00	W. 68 00	7.36 a m	126?	38?	29.84	757.9	29 98	761.5	53.4	11.9	69.0	9	3	1	4	6	4	.....	2	2	.....	.....	6	1.40	35.6
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.03	762.7	30.03	762.7	78.3	25.7	83	1	.....	.....	.....	....	7	20	3	.....	.....	.....	4	8.16	207.3
Puerto Berrio.a	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.50?	749.3?	30.06?	763.5?	79.0	26.1	92	4	.....	.....	.....	15	.....	.....	1	10	.....	.....	6	5.46	138.7
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	29.88	758.9	29 94	760.5	77.4	25.2	86	.....	.....	.....	.....	.....	....	3	28	.....	.....	.....	5	4.98	126.5
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	29.98	761.5	30.04	763.0	47.3	8.5	95.8	3	7	7	9	4	.....	1	.....	.....	8830	14210	5	11.70	297.2

OCEAN SQUARE DATA FOR JULY, 1884.

Location of Centre of each Square.		Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
		Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5°	W. 22.5°	30.02	762.5	80.5	26.9	1	1			1		9	19			3.6
12.5	27.5	30.04	763.0	80.4	26.9	2						12	17			3.7
12.5	32.5	30.05	763.3	80.8	27.1			1	1			15	14			4.0
12.5	37.5	30.06	763.5	81.3	27.4							20	5			4.2
12.5	42.5	30.08	764.0	81.9	27.7							24	7			4.2
12.5	47.5	30.08	764.0	81.9	27.7							28	3			4.2
12.5	52.5	30.06	763.5	81.6	27.6						1	27	1	1	1	3.5
17.5	22.5	30.06	763.5	79.2	26.2	2						6	23			3.7
17.5	27.5	30.08	764.0	79.2	26.2							8	23			3.9
17.5	32.5	30.10	764.5	79.8	26.6	1						18	12			4.1
17.5	37.5	30.12	765.0	80.5	26.9							24	7			4.1
17.5	42.5	30.13	765.3	81.1	27.3						1	30				4.2
17.5	47.5	30.12	765.0	81.5	27.5						7	22	2			4.1
17.5	52.5	30.09	764.3	82.0	27.8						5	26				3.9
17.5	57.5	30.07	763.8	82.3	27.9						3	28				3.8
22.5	22.5	30.11	764.8	77.7	25.4	10						6	15			3.8
22.5	27.5	30.13	765.3	78.0	25.6	6						9	16			3.9
22.5	32.5	30.15	765.8	78.8	26.0	2						12	17			3.9
22.5	37.5	30.17	766.3	79.6	26.4	2						19	10			3.7
22.5	42.5	30.17	766.3	80.3	26.8		1				8	22				4.0
22.5	47.5	30.16	766.1	80.6	27.0	1				2	13	15				3.7
22.5	52.5	30.14	765.5	80.9	27.2					3	15	13				3.0
22.5	57.5	30.12	765.0	81.1	27.3					7	13	11				3.9
22.5	62.5	30.11	764.8	81.3	27.4				1	4	14	10		2		3.7
22.5	67.5	30.11	764.8	82.5	28.1			1		5	14	11				3.4
22.5	72.5	30.09	764.3	83.2	28.4			1	1	3	12	12	1	1		3.9
27.5	22.5	30.15	765.8	76.1	24.5	6	4					5	16			3.9
27.5	27.5	30.18	766.6	76.5	24.7	8	1					7	15			3.7
27.5	32.5	30.20	767.1	77.5	25.3	5	2					16	7		1	3.4
27.5	37.5	30.22	767.6	78.5	25.8	5	1	1		1	5	13	5			3.2
27.5	42.5	30.23	767.8	79.2	26.2	1		1	1	7	7	10	4			3.4
27.5	47.5	30.20	767.1	79.5	26.4			1	1	12	7	10				3.5
27.5	52.5	30.17	766.3	79.5	26.4					16	8	7				3.5
27.5	57.5	30.14	765.5	79.7	26.5				4	14	8	5				3.6
27.5	62.5	30.12	765.0	80.2	26.8			1	4	12	8	3		3		3.7
27.5	67.5	30.10	764.5	81.3	27.4			4	0	14	4	3				3.9
27.5	72.5	30.09	764.3	82.3	27.9		1	4	7	11	6	2				3.8
27.5	77.5	30.05	763.3	83.3	28.5			3	5	17	5				1	2.6
32.5	12.5	30.10	764.5	74.5	23.6	17	1	4			1		7	1		3.4
32.5	17.5	30.15	765.8	74.2	23.4	10		9		1		1	6	2		2.6
32.5	22.5	30.19	766.8	74.0	23.3	6	5	4				5	11			3.4
32.5	27.5	30.22	767.6	74.7	23.7	10	4	2			1	9	5			3.6
32.5	32.5	30.24	768.1	75.3	24.1	11		3	1	1	4	8	2		1	3.4
32.5	37.5	30.25	768.3	76.5	24.7	1		3	4	5	5	5	2	1		3.1
32.5	42.5	30.21	767.3	77.6	25.3	1		3	6	6	4	3	2	3	1	3.1
32.5	47.5	30.18	766.6	77.8	25.4	1	1	5	8	8	3	1	1	3		3.2
32.5	52.5	30.15	765.8	77.5	25.3		1	5	7	9	8	1				3.6
32.5	57.5	30.12	765.0	77.5	25.3		2	4	8	12	5					4.0
32.5	62.5	30.09	764.3	77.9	25.5			8	12	7	3	1				4.4
32.5	67.5	30.06	763.5	78.8	26.0		5	8	9	8		1				4.2
32.5	72.5	30.03	762.7	79.4	26.3	2	2	6	10	7	2		1		1	4.3
32.5	77.5	29.99	761.7	79.5	26.4	4		9	14	2			2			3.5
37.5	12.5	30.09	764.3	72.1	22.3	3	8	6	6			1	7			3.9
37.5	17.5	30.14	765.5	70.4	21.3	6	7	8	1	1		2	5		1	3.8
37.5	22.5	30.19	766.8	70.9	21.6	4	10	6			1	8	2			3.5
37.5	27.5	30.22	767.6	72.2	22.3	4	5	8	1	3	4	4		2		3.0
37.5	32.5	30.19	766.8	72.4	22.4	2	7	3	8	4	1	3	1	1	1	3.5
37.5	37.5	30.19	766.8	72.9	22.7	3	3	7	7	6	2	2			1	3.8
37.5	42.5	30.11	764.8	73.6	23.1	5	2	4	11	6	1	2				3.9
37.5	47.5	30.13	765.3	73.5	23.1	3	1	5	11	3	4	3	1			4.3
37.5	52.5	30.08	764.0	73.9	23.3	1		5	8	7	6			1		4.4
37.5	57.5	30.03	762.7	73.6	23.1	1	3	6	10	9	2					4.7
37.5	62.5	29.99	761.7	72.8	22.7	1	4	4	15	6				1		4.6
37.5	67.5	29.95	760.7	72.8	22.7	1	4	9	10	7						4.2
37.5	72.5	29.92	760.0	72.8	22.7	1	5	8	8	6		2	1			4.1
42.5	12.5	30.05	763.3	68.9	20.5	5	5	7	6	2		1	5			4.1
42.5	17.5	30.08	764.0	67.1	19.5	3	8	11	1	3		3			2	4.5
42.5	22.5	30.11	764.8	67.1	19.5	1	11	8	4	1	2			3	1	4.0
42.5	27.5	30.11	764.8	67.6	19.8	1	10	8	5	5			1	1		4.5
42.5	32.5	30.12	765.0	67.9	19.9	2	10	6	7	4	1			1		4.4
42.5	37.5	30.12	765.0	67.8	19.9	2	6	5	8	6	1	1	2			4.8
42.5	42.5	30.10	764.5	69.1	20.6	2	5	5	10	4		3	1	1		4.2
42.5	47.5	30.05	763.3	66.6	19.2	1	1	8	7	6	3		1	4		3.8
42.5	52.5	29.98	761.5	66.3	19.1	1	3	5	13	3	3	1		1	1	4.2
42.5	57.5	29.93	760.2	66.6	19.2	1	4	4	10	6	3	1	1		1	4.5
42.5	62.5	29.88	758.9	64.4	18.0	3	2	8	8	7	2			1		4.2
42.5	67.5	29.83	757.7	61.6	16.4	2	5	5	6	7	1	1	3	1		3.2
47.5	12.5	29.94	760.5	64.6	18.1	1	5	11	10	2	2					4.8
47.5	17.5	29.92	760.0	62.7	17.1		6	14	7	4						5.0
47.5	22.5	29.93	760.2	61.8	16.6	3	10	9	6	3						5.0
47.5	27.5	29.95	760.7	60.8	16.0	2	11	8	5	5						5.1
47.5	32.5	29.98	761.5	60.2	15.7	4	10	5	9	2		1				5.2
47.5	37.5	29.99	761.7	59.4	15.2	3	9	6	9	2		1	1			4.9
47.5	42.5	29.98	761.5	57.3	14.1	1	9	4	10	3	1	1	1	1		4.6
47.5	47.5	29.96	761.0	53.3	11.8	1	2	11	4	6	2	3	2			4.5
52.5	12.5	29.82	757.4	60.1	15.6	1	4	8	7	9	2					5.1
52.5	17.5	29.78	756.4	58.3	14.6	2	5	9	7	2	4	2				5.0
52.5	22.5	29.78	756.4	58.3	14.6	3	8	6	8	2	2	1	1			5.3
52.5	27.5	29.79	756.7	54.9	12.7	6	6	5	9	3			2			5.4
52.5	32.5	29.81	757.2	53.5	11.9	6	5	9	5	2	1		3			4.9
52.5	37.5	29.85	758.2	52.6	11.4	6	8	7	4	2	3	1				5.0
52.5	42.5	29.86	758.4	50.4	10.2	4	7	7	2	8		2	1			4.9
52.5	47.5	29.86	758.4	48.3	9.1	3	6	4	4	2	3	3	4		2	4.7
57.5	12.5	29.77	756.1	57.4	14.1	2	2		4	10	9	2	2			4.6
57.5	17.5	29.73	755.1	56.0	13.3	3	1	2	3	10	7	3	2			4.5
57.5	22.5	29.72	754.9	53.6	12.0	6		2	4	8	2	4	4		1	4.8
57.5	27.5	29.74	755.4	51.4	10.8	6	1	3	3	4	1	3	8		1	5.1
57.5	32.5	29.77	756.1	49.6	9.8	4	2	3	2	1	6	1	9		3	5.2
57.5	37.5	29.80	756.9	48.5	9.2	7	7	2	1	1	2	3	6		2	5.2
57.5	42.5	29.85	758.2	47.8	8.8	6	4	3	2	1	2	5	6		2	4.8
57.5	47.5	29.88	758.9	47.4	8.6	6	7	2	1	1	4	6	4			4.2

REVIEW.

INTERNATIONAL METEOROLOGY FOR JULY, 1884.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following description refers to chart ii. for the month of July, 1884. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-direction over the northern hemisphere, as determined from one simultaneous observation taken each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich, mean time.

As is usual during the summer months, the mean pressures are least over British India; in the region between the parallels of 20° and 32° north, and the meridians of 70° and 90° east, the means range from 29.41 (747.0) to 29.54 (750.0), and in that part of Hindostan lying south of 20° N., they exceed 29.6 (751.8); this area of barometric minima, which is indicated by the isobar for 29.6 (751.8), has no well-defined limits, but apparently occupies that part of Asia lying between 20° and 50° north, and 65° and 100° east. In all other parts of the Asiatic continent the mean pressure ranges from 29.7 (754.4) to 29.8 (756.9), nowhere exceeding the latter value. Three small areas of relatively low pressures, each inclosed by the isobar for 29.8 (756.9), are shown on the chart; the first of these occupies the north Atlantic ocean between 50° and 60° north, and 10° and 40° west; the second is over the Canadian Maritime Provinces, the Gulf of Saint Lawrence, and the provinces of Quebec and eastern Ontario, the mean values ranging from 29.75 (755.6) to 29.8 (756.9). The third area occupies the southwestern districts of the United States, comprising portions of Colorado, Wyoming, Utah, Arizona, and New Mexico. In all other parts of the continent, except on the north Pacific coast, in Florida, and along the northern coast of the Gulf of Mexico, the mean pressure ranges from 29.81 (757.2) to 29.97 (761.2); in the districts above enumerated it varied from 30.0 (762.0) to 30.05 (763.3).

The only marked area of barometric maxima exhibited on the chart for July, 1884, is that of the north Atlantic ocean; this is indicated by the isobar for 30.2 (767.1) and stretches from the Azores southwestward between the parallels of 37° and 25°, to about the forty-seventh meridian west of Greenwich. Over the greater part of the Atlantic south of 45° N. the pressure exceeds 30.0 (762.0), that isobar extending from the European coast westward along the forty-sixth parallel to about 50° W., where it trends to the southwestward and enters the Florida peninsula.

Compared with the chart for the preceding month (June, 1884), there has been an increase of pressure in the north Pacific coast district, in the states bordering on the Gulf of Mexico, and in southern Arizona and New Mexico, but in all other districts of the United States the pressure has decreased. In Canada the mean pressure was considerably below that of the preceding month. Over the north Atlantic ocean south of 50° N. the pressure has decreased; there has also been a decrease between 50° and 60° N. and east of 40° W., while to the westward of that meridian it has increased. An increase of pressure is shown over Greenland and Iceland. In Europe there has been a slight increase of pressure, except in the British Isles, where a decrease has occurred; the increase is greatest in Austria, Italy, and Russia, and least in France and the northern peninsulas. Throughout Asia there has been a slight decrease of pressure.

Compared with the corresponding month of previous years, the mean pressure of the atmosphere over the United States during July, 1884, was less than the normal, the departures being greatest in the eastern parts of the country; in Canada it was about .10 inch below the normal. In Europe it was slightly above the normal.

The following table shows the mean pressure and mean temperature for July, 1884, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last seven years.

Countries.	Mean pressure.			Mean temperature.		
	July mean of 7 (1877–'83) years.	July, 1884.	Departure.	July mean of 7 (1877–'83) years.	July, 1884.	Departure.
				°	°	°
Algeria	30.03	.....	.....	88.7	.....	.....
Austro-Hungary	29.91	29.95	+ 0.04	74.5	74.5	normal.
British Isles	29.89	29.92	+ 0.03	63.3	65.1	+ 1.8
Denmark	29.81	29.93	+ 0.12	64.1	66.8	+ 2.7
France	30.02	30.03	+ 0.01	73.1	75.2	+ 2.1
Germany	29.91	30.00	+ 0.09	69.0	73.1	+ 4.1
India	29.57	29.52	− 0.05	84.1	84.8	+ 0.7
Italy	29.96	29.97	+ 0.01	81.4	80.9	− 0.5
Norway	29.74	29.86	+ 0.12	63.1	64.2	+ 1.1
Portugal*	30.05	.....	.....	79.6	.....	.....
Russia	29.79	29.87	+ 0.08	74.6	73.9	− 0.7
Spain*	30.02	30.03	+ 0.01	79.3	78.1	− 1.2
Sweden	29.76	29.89	+ 0.13	64.5	67.1	+ 2.6

* Means for six years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of July, 1884, as compared with the means for seven years:

Stations.	Mean pressure.			Mean temperature.		
	July mean of 7 (1877–'83) years.	July, 1884.	Departure.	July mean of 7 (1877–'83) years.	July, 1884.	Departure.
				°	°	°
Astrakhan, Russia	29.79	29.81	+ 0.02	85.7	82.9	− 2.8
Archangel, Russia	29.74	29.86	+ 0.12	64.8	61.7	− 3.1
Angra, Azores	.....	.....	.....	.....	.....	.....
Athens, Greece	29.88	29.90	+ 0.02	87.7	85.6	− 2.1
Beirut, Turkey in Asia	29.76	29.78	+ 0.02	87.6	84.4	− 3.2
Barnaul, Siberia, Asia	29.64	29.74	+ 0.10	73.0	73.9	+ 0.9
Bridgetown, Barbadoes	.....	30.02	.....	.....	82.7	.....
Cape Town, Cape of Good Hope*	.....	.....	.....	62.1	58.9	− 3.2
Cagliari, Sardinia, Italy	.....	.....	.....	.....	.....	.....
Ekaterinburg, Russia	29.69	29.76	+ 0.07	70.4	69.4	− 1.0
Fort Napier, Natal, South Africa	30.03	30.12	+ 0.09	68.5	67.6	− 0.9
Freetown, Sierra Leone	29.96	29.83	− 0.13	82.4	88.2	+ 5.8
Funchal, Madeira Islands	30.16	30.15	− 0.01	72.5	74.1	+ 1.6
Gibraltar	30.02	30.03	+ 0.01	78.0	76.8	− 1.2
Godthaab, Greenland*	29.79	.....	.....	44.4	.....	.....
Havana, Cuba, W. I*	30.06	30.05	− 0.01	81.3	79.3	− 2.0
Malta, Mediterranean Sea	29.97	29.94	− 0.03	83.5	79.4	− 4.1
Mauritius, Indian Ocean	30.21	30.09	− 0.12	71.6	72.3	+ 0.7
Melbourne, New South Wales	30.14	30.24	+ 0.10	47.7	45.6	− 2.1
Mexico, Mexico	.....	.....	.....	.....	.....	.....
Nassau, Bahamas, W. I	30.06	30.08	+ 0.02	84.5	85.3	+ 0.8
Nikolaevsk on the Amoor, Asia	.....	.....	.....	.....	59.4	.....
Paramaribo, D. Guiana, S. A	30.04	30.03	− 0.01	80.9	78.3	− 2.6
Pekin, China	29.66	29.69	+ 0.03	80.0	77.5	− 2.5
Ponta Delgado, Azores	30.30	30.21	− 0.09	74.8	72.3	− 2.5
Sandwick Manse, Orkney Islands	29.77	29.84	+ 0.07	56.4	57.9	+ 1.5
San Juan de Puerto Rico, W. I	30.05	30.07	+ 0.02	82.3	80.1	− 2.2
Stykkisholm, Iceland	29.78	29.89	+ 0.11	51.5	52.3	+ 0.8
Tashkend, Toorkistan, Asia	29.65	29.58	+ 0.07	88.1	92.5	+ 4.4
Thorshavn, Färöe Islands	29.77	29.92	+ 0.15	54.0	52.0	− 2.0
Tiflis, Russia	29.76	29.78	+ 0.02	88.6	84.9	− 3.7
Tokei, Japan	29.86	29.91	+ 0.05	74.9	72.4	− 2.5
Yeniseisk, Siberia, Asia	29.69	29.82	+ 0.13	69.3	71.6	+ 2.3
York Factory, B. A	29.87	30.04	+ 0.17	53.5	47.3	− 6.2
Zi-Ka-Wei, China	29.73	29.74	+ 0.01	77.8	77.0	− 0.8

* Means for six years only.

The mean temperature of the air was above the normal on the eastern slope of the Rocky mountains, in southern California, the plateau regions, and in the western Gulf states; in all other districts the mean temperature was from 0°.5 to 4°.5 below the normal. In Canada it was everywhere below the normal. In Europe the temperature was above the normal, except in the southern peninsulas and Russia. In British India it was 0°.7 above the seven years' mean; the highest mean temperature reported was 94°.3 Fahr. (34°.6 Cent.), at Lahore, and the lowest was 71°.0 Fahr. (21°.7 Cent.), at Belgaum.

The following are some of the extremes reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Tashkend, Turkestan, Asia	92.5	33.6	Upernavik, Greenland	41.2	5.1
Cairo, Egypt	90.9	32.7	Behring Island, Behring Sea	46.0	7.8
Petro-Alexandrovsk, Asia	90.1	32.3	York Factory, B. A	47.3	8.5
Freetown, Sierra Leone, Africa	88.2	31.2	Ivigtut, Greenland	47.7	8.7
Samarkand, Asia	86.9	30.5	Unalaskka, Alaska	48.8	9.3
Athens, Greece	85.6	29.8	Fort Saint Michael's, Alaska	50.1	10.1

In the United States the prevailing winds were southwesterly in the south Atlantic and Gulf states, and from west to northwest and north in other parts of the country. In Canada they were mostly from southwest to northwest. Over the Atlantic ocean from the coast of the United States eastward to W. 40° and between 25° and 45° N. the winds were southerly and southwesterly; east of 40° W. and between the above mentioned parallels they were northerly and easterly. North of 45° N. they were generally northwesterly, except off the British coasts, where they were southerly. South of 25° N. the winds were from east and southeast. In Europe the winds were southerly, southwesterly, westerly, and northwesterly.

The rainfall during July, 1884, in the United States exceeded the average in all districts lying north of the fortieth parallel, and also in the southern part of the middle Atlantic states, south Atlantic states, and Tennessee; in all other districts it was less than the average; in Canada it exceeded the average in the Maritime Provinces and Quebec, and was less than the average in Ontario. In Europe the rainfall exceeded the average amount.

STORM-TRACKS FOR JULY, 1884.

Chart iii. for July, 1884, shows the paths of the principal depressions that have appeared in the northern hemisphere during that month. This chart continues the series of international charts begun in November, 1877, and in its preparation the following material has been used, viz.: Chart i. for each day of the month, containing the data of one simultaneous observation taken at 7 a. m., Washington, or 0h. 8m., p. m., Greenwich mean time, as heretofore published in the DAILY INTERNATIONAL BULLETIN; abstracts of ship's logs; special reports, and other miscellaneous data received at this office.

The paths of thirty-one depressions are shown on the chart, and in addition to these are also given the tracks of three typhoons which occurred in the China sea and its vicinity during the month. These are taken from the "Bulletin Mensuel," published by Rev. M. Dechevrens, director of the observatory at Zi-Ka-Wei, near Shanghai, China.

Of the depressions above referred to, twelve (numbers i. to xii.) are traced over the United States and Canada; three of these, numbers ii., v., and ix., first appeared in the region to the westward of the Rocky mountains; three (vii., viii., and x.) approached the stations of observation from the British Northwest Territories. Number iii. moved from Kansas to the Lake Superior region, where it was joined by number iv., a depression which had moved northward from southern Michigan; number vi. developed at sea, near the middle Atlantic coast, and the remaining disturbances, numbers i., xi., and xii., first appeared over the country east of the Mississippi river. The general direction of movement of the depressions traced over the North American continent was easterly; there were, however, two depressions, numbers ii. and v., which moved southeastward, while one (vi.) pursued a somewhat abnormal path, having moved from the middle Atlantic coast, where it developed, northward over the Canadian Maritime Provinces and then northwestward, finally disappearing in Labrador.

During their passage over the United States these disturbances were mostly slight and unimportant, but as they approached the Maritime Provinces and the depressions deepened, their attendant winds increased to moderate or occasionally strong gales, and were accompanied by generally heavy rains. They are fully described in the MONTHLY WEATHER REVIEW for July, 1884, under the heading "Areas of low barometer." Of the nine depressions traced over the north Atlantic ocean, four, viz., numbers xvii., xviii., xix., and xxi., were continuations of storms which entered the ocean from the north American continent; number xx. developed south of Nova Scotia on the 28th, and moved northeastward, apparently at a much lower latitude than the other depressions charted during this month; number xiii. was probably a continuation of low area xix. of the chart for the preceding month (June 1884), and the remaining depressions (xiv., xv., and xvi.) developed over the ocean between W. 25° and the British Isles. The depressions which traversed the Atlantic were not attended by any great storm-energy, although some of them attained considerable depth, especially those traced in the eastern part of the ocean. From the 1st to the 5th an area of low pressure (xiii.) occupied the region north of the fiftieth parallel, with barometer ranging from 29.2 (741.7) to 29.6 (751.8). At the same time an area of high pressures occupied northern Europe, which, however, gradually gave way as low area xiii. advanced toward the British Isles.

After the 7th an area of high barometer formed over Greenland and the Arctic regions to the westward, and continued, with slight variation, until about the 24th; on referring to the chart it will be noticed that only one depression, number xvii., moved over the western part of the Atlantic north of 50° N. during this period. During the first half of the month several deep depressions remained persistently over the ocean between W. 25° and the coasts of the British Isles, causing rainy, unsettled weather and frequent thunder-storms over those islands, and throwing off numerous subsidiary disturbances (not charted) which passed over those districts and entered the European continent. During the prevalence of the primary depressions above referred to, the barometric readings ranged from 29.0 (736.6) to 29.35 (745.5) near the centre of disturbance, and moderate to strong gales were reported at sea.

Of the depressions traced over the European continent, four, numbers xxii., xxiii., xxiv., and xxv., occupied the regions south of the fiftieth parallel, and were of slight intensity; the barometer did not fall below 29.7 (754.4), except in the case of number xxiv., when it touched 29.4 (746.7), on the 22d, while the storm-centre was in the Black sea region. The depressions which traversed the northern districts entered Scandinavia from the Atlantic, skirting the northwestern and northern coasts of the British Isles; in these the barometer ranged from 29.3 (744.2) to 29.6 (751.8).

One depression, number xxvi., is traced in western Siberia; in this the pressure varied from 29.1 (739.1), on the 2d and 3d, to 29.45 (748.0), on the 6th. Number xxvii. appeared off the southeastern coast of Niphon on the 1st, and was probably a continuation of a typhoon which had passed from the China sea during the closing days of June. Two depressions, numbers xxviii. and xxx., appeared over Behring sea and the Aleutian archipelago; in the first the barometer ranged from 29.48 (748.8) to 29.7 (754.4), and in the second the minima were 29.32 (744.7), on the 17th and 29.35 (745.5), on the 19th. Number xxix. passed over the Gulf of Pe-Che-Li and Corea on the 5th, having apparently advanced from northern China. The last depression, number xxxi., was probably closely connected with the typhoon charted as the third typhoon of July; this depression was attended by very heavy rains, causing disastrous floods, with great loss of life and property in the province of Kiang-Si.

Concerning the typhoons of July, 1885, Mr. Marc Dechevrens, in the "Bulletin Mensuel," states that the first typhoon, which was an offshoot from that of June, passed westward between Luzon and Formosa during the 5th and 6th, and crossed the island of Hainan on the 7th, entering Tonquin on the 8th. The wind was extremely violent at Hai-Phong, causing the destruction of substantially built houses and the loss of many lives.

The second typhoon traversed the island of Luzon on the 9th, and then passed northward to Formosa; on the 12th its centre was in the Channel of Formosa, whence it entered the continent on the 12th; it moved northward and curved to the eastward on the 14th, crossing the Yellow sea and the peninsula of Corea and entering the Sea of Japan on the 15th. This typhoon exhibited great energy and, like its predecessor, it caused great damage to property and loss of life in the districts through which it passed. The centre, where the pressure was 28.51 (724.1), touched the southern end of Formosa on the 11th.

The third typhoon appears to have formed over the China

sea, near the coast, on the 23d, it moved first southeastward, recurving to the westward on the 25th, when to the eastward of Luzon; it passed over the northern extremity of that island and thence westward, reaching the Gulf of Tonquin at the close of the month. It appears to have exhibited less violence than that which pursued nearly the same course at the beginning of the month.

STORM-TRACKS FOR OCTOBER, 1882.

Chart iii. for October, 1882, exhibits the paths of thirty-eight of the more important depressions that have appeared in the northern hemisphere during that month, together with the tracks of two typhoons which occurred in the China sea and over Luzon; these are taken from the Rev. Marc Dechevren's paper "The Typhoons of 1882" (second part).

The depressions are distributed geographically as follows, viz., eleven, numbers i. to xi., inclusive, are traced in the North American continent; nine, numbers xii. to xx., inclusive, are shown over the Atlantic ocean; ten, xxi. to xxx., inclusive, are traced over or near the British Isles and in the continent of Europe; eight, xxxi. to xxxviii., are shown in eastern Asia and over the north Pacific ocean.

Of the depressions traced over the United States and Canada, four, numbers i., ii., v., and x., first appeared on the Pacific coast; only one of these (x.) moved eastward to Canada and reached the Atlantic ocean, the others having passed northeastward to Manitoba and thence to the Hudson Bay region where they disappeared. Three depressions developed in the British Northwest Territories; of these, numbers ix. and xi. moved southeastward to the Missouri valley and then northeastward to the lake region, while the other, number vii., which was a very slight depression, moved eastward from Manitoba and dissipated north of Lake Superior. Three depressions (iii., vi., and viii.) first appeared in the central valleys, the first and third passed northeastward over the lakes to the Atlantic, and the second (vi.) moved north-northeastward to the Hudson Bay region. None of the above-mentioned depressions displayed any great storm-energy during their passage over the continent, the maximum wind-force not exceeding that of a moderate gale. Number ii., which appeared on the Pacific coast on the 3d, was accompanied by extremely heavy rains which caused some damage to farming interests. The most important disturbance of the month was the tropical hurricane (number iv.) which developed in the Caribbean sea during the first decade of the month; it passed over the western end of the island of Cuba, causing immense damage and some loss of life; after leaving Cuba the hurricane moved northward to the peninsula of Florida and thence northeastward, gaining the Atlantic ocean from the Georgia coast; it then passed slowly northeastward along the Atlantic coast, and on the 15th it pushed out into mid-ocean. It appears to have lost much of its energy after leaving Cuba, although it was attended by strong gales during its passage along the coast. A full description of this hurricane, with special barometric observations at Havana and other points, will be found, together with descriptions of the depressions which traversed the United States, in the MONTHLY WEATHER REVIEW for October, 1882, under "Areas of low barometer."

Respecting the depressions traced over the Atlantic ocean, three, numbers xv., xviii., and xx. are continuations of disturbances which entered the Atlantic from the North American continent, number xviii. being the tropical hurricane above referred to. Numbers xvii. and xix. developed near the coast of the United States; xii. was a continuation of low area xvii. of the September chart; xiii. represents an area of low pressures which remained nearly stationary in southern Greenland from the 4th until the 9th, and numbers xiv. and xvi. developed over the ocean between N. 55° and 60°, and W. 15° and 25°. The general direction of movement of the storm-centres over the Atlantic was northeasterly until reaching the fifty-fifth parallel, when they appear to have been retarded and even forced to the westward by an extensive area of high pressures which occupied northern and western Europe. Number xii. was apparently forced to the southeastward by the high area just referred to, which, on the 7th, had spread northwestward from southern Scandinavia and the Baltic to Iceland and the western coast of Greenland; at the centre of the high area, which was to the north of Scotland, the pressure was 30.6 (777.2).

The depressions which traversed the Atlantic during October, 1882, were mostly attended by moderate to strong gales, which, at times, reached hurricane force. The more important of these, with the lowest pressures reported, were as follows:

Depression.	Date.	Lat. N.	Long. W.	Barometer.		Wind.	Force 0–10
		about					
		° ′	° ′	Inches.	Mill.		
XII	8	45 00	32 00	29.30	744.2	e.; ne.	6–9
XIII	7	58 00	52 00	29.04	737.6	sse.	7
XIV	11	53 00	14 00	29.09	738.9	wnw.	7
XV	12	50 00	39 00	29.06	738.1	w.	6
	13	Ivigtut, Greenland		28.99	736.3	n.	6
XVIII	17	51 00	31 00	29.10	739.1	wnw.	7
	18	53 00	27 00	28.56	725.4	nw.	6–10
	19	58 00	24 00	28.56	725.4	e.	6
	21	55 00	15 00	28.90	733.8	wsw.	6
XIX	25	40 00	60 00	29.28	743.7	wnw.	6
	27	53 00	49 00	28.91	734.3	sw.	7
	28	52 00	54 00	29.05	737.9	n.	7

The maximum wind-force was encountered by vessels at considerable distances from the storm-centres, generally between N. 45° and 50°, where the w. and nw. winds frequently attained a force varying from 8 to 10.

Of the ten depressions traced over Europe, two (xxvi. and xxviii.) developed over the southern part of the North sea and moved north-northeastward and northeastward to the Scandinavian peninsula and northern Russia; the former was probably a subsidiary disturbance which formed to the southeastward of low area xviii., whose centre was off the northwest of Scotland and moving slowly northward on the 22d; the latter appears to have been a fully developed cyclonic storm when first observed on the 24th. Three depressions (xxiii., xxiv., and xxv.) appeared in the northern districts; the first moved southeastward from northern Scandinavia to the Ural region; the second formed in central Russia and also moved eastward to the Ural region; while xxv. was probably a continuation of the same disturbance. Number xxix. was a deep depression which appeared off the southern coast of Ireland on the 26th; it moved southeastward to the Bay of Biscay and on the 27th it entered France; its course then changed abruptly to the northeastward and it moved over the western districts of France, the Netherlands, and thence over the northern peninsulas to the White sea. Numbers xxii., xxvii., and xxx. occupied the southern districts of Europe; the first-mentioned was remarkable on account of its abnormal path, which was from east to west; on the 4th it appeared in the Italian peninsula; on the 5th it was over the Mediterranean, and by the 7th it had traversed southern France and reached the Bay of Biscay. Number xxi. was apparently a continuation of low area xvi. of the September chart; it moved northward along the British coasts, but its centre did not cross the coast line. In addition to the above-mentioned disturbances there were two depressions (xiv. and xvi.) which entered the continent from the Atlantic ocean; the first moved from the southwestern extremity of Ireland southeastward over France to Italy, and thence northeastward over the Adriatic to Austro-Hungary and finally disappeared in the Black sea region; the second passed southeastward over Ireland and disappeared in northern France.

The more important of the depressions above enumerated were the following: number xxi. which passed northward along the Irish coast, causing very heavy s. gales in the western districts of the British Isles, from which much damage to property resulted, especially in the western and southern parts of Ireland. During the passage of this depression the barometric minima were 28.65 (727.7), near N. 54°, W. 13°, on the 1st, and 28.89 (733.8), in Iceland, on the 2d. Number xxviii. which

appeared in the southeastern counties of England on the 24th, causing heavy rains and fresh to strong gales from sw. to nw. Heavy gales accompanied its passage over the North sea during the 24th and 25th, and several casualties to shipping were reported. The barometric minima were 28.78 (731.0), at Greenwich, on the 24th, and 28.96 (735.6), at Vestervig, Denmark, on the 2d. Number xxix. was a deep depression which appeared on the 26th; on the 27th the cyclonic action of the winds became well-defined, and this continued throughout the passage of the disturbance, which was attended by moderate to strong gales in western Europe. The lowest reported pressures were 28.87 (733.4), at Roche-sur-Yon, France, on the 27th; 29.22 (742.3), at Chalons-sur-Marne, on the 28th; and 29.23 (742.5), at Fanöe, Denmark, on the 29th.

Of the depressions traced in eastern Asia and over the Pacific, that shown as number xxxi. was probably a continuation of the typhoon which passed near the Japan islands during the 1st and 2d; throughout its course the pressure ranged from 29.0 (736.6) to 29.3 (744.2), and moderate gales were reported. Number xxxii. was an unimportant depression which appeared north of Yesso on the 10th and disappeared in the Behring sea on the 12th; number xxxvi. apparently developed over the Sea of Japan and crossed northern Niphon on the 23d, disappearing in the Pacific on the following day; during its passage over Niphon the barometer fell to 29.65 (753.1). The depressions which appeared in the vicinity of the Aleutian islands were mostly deep, the barometer ranging from 28.85 (732.8) to 29.3 (744.2).

Concerning the typhoons of October, 1882, both manifested great violence during their transit, but that which passed over Luzon on the 20th was one of the most disastrous that has ever visited that island. According to the report published by the Rev. Marc Dechevrens, the lowest pressures reported during the prevalence of the first typhoon were 28.89 (733.8), on the 10th, near N. 30° 44′, E. 132° 30′, and 28.45 (722.6), on the afternoon of the 11th.

The second typhoon passed over southern Luzon, very near, and to the north of, the observatory at Manila on the 20th; during the passage of the centre the barometer fell to 28.65 (727.6); before the passage of the centre the wind blew from the wnw., with a velocity of 120 miles (193 kilometres) per hour; at the time the vortex passed Manila there was a calm for about eight minutes, after which the wind again attained a velocity of 118 miles (190 kilometres) per hour from the sw.; it then shifted to sse., blowing about 90 miles (140 kilometres), and then suddenly moderated. A noteworthy feature in connection with this typhoon was the decided increase which occurred in the temperature, and the equally decided decrease in the humidity of the air during the passage of the region of central calm. At 11 a. m. (Manila time) the temperature was 74°.8 Fahr. (23°.8 Cent.) and the percentage of humidity was 100; at 11.40 a. m., when the centre passed, the temperature rose to 88°.9 Fahr. (31°.6 Cent.) and the humidity fell to 50 per cent. At 1 p. m. the temperature had again fallen to 76°.6 Fahr. (24°.6 Cent.) and the humidity had risen to 100 per cent. As an illustration of the violence of this typhoon it may be mentioned that in the Province of Bulacan alone, to the north of Manila, more than 20,000 houses were blown down, and in the Province of Japanga only two or three houses out of a thousand were left standing. In the harbor of Manila, fifteen vessels were blown ashore; five men-of-war, and numerous other vessels were seriously damaged, and several vessels were lost near the coasts. All the crops in the districts visited by the typhoon were totally destroyed.

Full and interesting descriptions of these typhoons will be found in Mr. Dechevrens' paper, before referred to.

SPECIAL NOTES.

DAILY BULLETIN.

On and after July 1, 1884, the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS will be discontinued. The daily chart accompanying this bulletin, or international chart No. i., will continue to be issued as heretofore, but on an enlarged scale, and will contain data referring to pressure (at sea-level), temperature, wind-direction, and state of weather for each day at all reporting stations in the northern hemisphere, and over the northern portions of the Atlantic and Pacific oceans, as heretofore published in the DAILY BULLETIN.

The observations are taken at 7 h. 0 m., a. m., Washington, or 0 h. 8 m., p. m., Greenwich, mean time, except at the following stations, viz.: Arlon, Belgium, at 1 p. m., local time, or 28 minutes late; Upernavik, Greenland, at 8 a. m., local time, or 24 minutes early; Ivigtut, Greenland, at 8 a. m., or 56 minutes early; Brono, Norway, at 2 p. m., or 63 minutes late.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◔ fair; ◐ cloudy; ● precipitation (rain, snow, hail, sleet).

INTERNATIONAL CHARTS.

International chart i. shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
	1, 2	0 to 9	0 to 4
	3, 4	9.1 to 22.5	4.1 to 10.1
	5, 6	22.6 to 40.5	10.1 to 18.1
	7, 8	40.6 to 67.5	18.1 to 30.2
	9, 10	67.6 up.	30.2 and over.

International chart ii. (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at 7 a. m., Washington mean time.

International chart iii. shows the tracks of centres of low barometer. The Arabic numerals show the location of the centres of low barometer at 7 a. m., Washington mean time of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Hobart Town, Tasmania, the observations are taken at 9 p. m. instead of at 9.57 p. m.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

NEW ENGLAND: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

MIDDLE ATLANTIC STATES: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

SOUTH ATLANTIC STATES: North Carolina, South Carolina, Georgia, Florida.

EASTERN GULF STATES: Georgia, Florida, Alabama, Mississippi, Louisiana.

WESTERN GULF STATES: Louisiana, Arkansas, Indian Territory, Texas.

RIO GRANDE VALLEY: Texas.

OHIO VALLEY AND TENNESSEE: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

LOWER LAKES: New York, Pennsylvania, Ohio, Michigan.

UPPER LAKES: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

UPPER MISSISSIPPI VALLEY: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

MISSOURI VALLEY: Missouri, Kansas, Nebraska, Iowa, Dakota.

EXTREME NORTHWEST: Minnesota, Dakota.

NORTHERN SLOPE: Montana, Dakota, Wyoming, Nebraska.

MIDDLE SLOPE: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

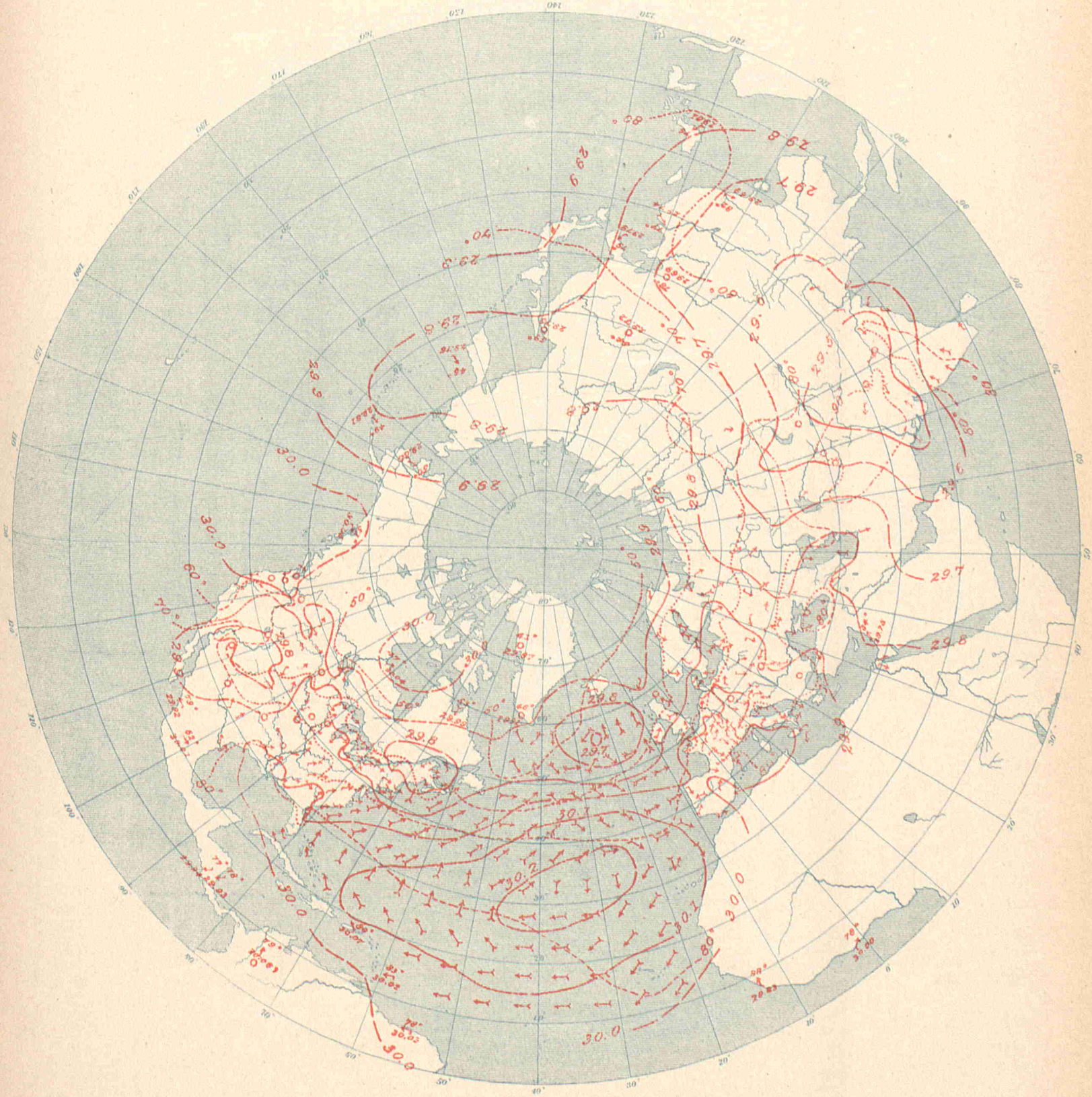
SOUTHERN SLOPE: Indian Territory, Texas, New Mexico.
SOUTHERN PLATEAU: New Mexico, Arizona, California, Nevada.
MIDDLE PLATEAU: California, Nevada, Utah, Colorado, Wyoming.
NORTHERN PLATEAU: Wyoming, Montana, Idaho, Oregon, Washington.
NORTH PACIFIC COAST: Washington, Oregon.
MIDDLE PACIFIC COAST: California.
SOUTH PACIFIC COAST: California.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. July, 1884. Isobars, Isotherms, and Winds.

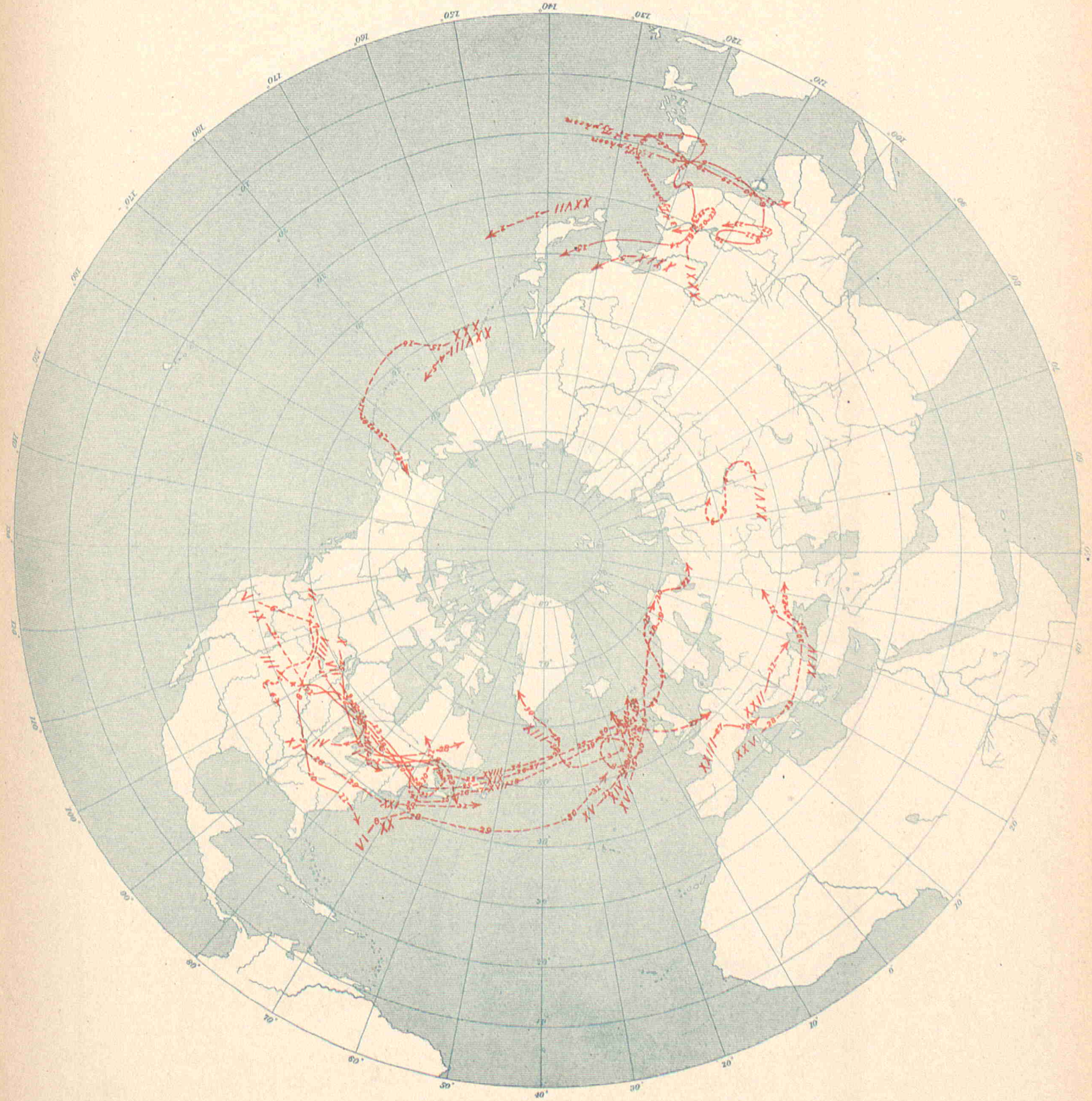


UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B.Hazen, Chief Signal Officer.

Signal Office Lith.

International Chart III. July, 1884. Storm-Tracks.

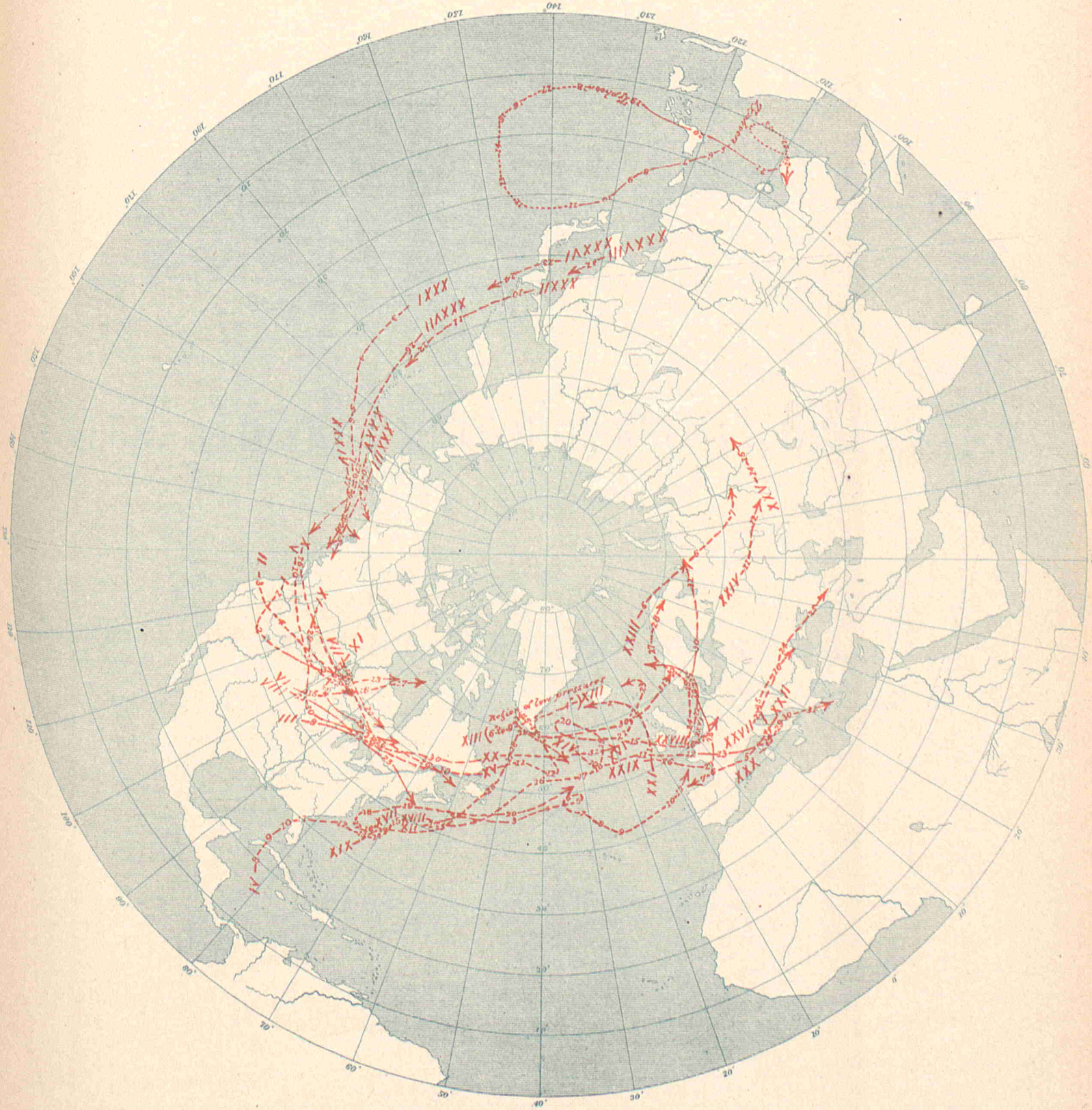


UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B. Hazen, Chief Signal Officer.

Signal Office Lith.

International Chart III. October, 1882. Storm-Tracks.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B.Hazen. Chief Signal Officer.
Signal Office Lith.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF AUGUST, 1884.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.,
SEPTEMBER, 1885.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

AUGUST, 1884.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for August, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation Inch.	Mill.
AUSTRALIAN.	° ′	° ′																								
Adelaide	S. 34 57	E. 138 35	9.22 p.m.	140	42	.....	.....	30.08	764.0	52.7	11.5	76.2	7	1	6	3	3	1	.....	8	2	.....	.....	5	1.09	27.7
Hobart Town	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.62	752.3	29.81	757.2	46.2	7.9	89	3	9	4	5	4	.....	.....	1	5	.....	.....	5	3.95	100.3
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.88	758.9	29.97	761.3	51.1	10.6	76	15	5	3	4	1	1	1	1	.....	.....	.....	6	1.62	41.1
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.46	748.3	30.00	762.0	73.0	22.8	62.8	.....	3	3	3	3	5	6	8	.....	.....	.....	5	4.42	112.3
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.26	743.2	30.01	762.2	69.4	20.8	52.5	3	0	5	3	1	1	8	4	.....	.....	.....	7	0.68	17.3
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.12	739.7	29.97	761.1	69.6	20.9	69.3	14	.....	.....	.....	6	.....	.....	.....	11	.....	.....	6	2.02	51.2
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.81	731.8	30.02	762.6	70.5	21.4	68	1	5	.....	4	5	6	4	3	3	.....	.....	5	4.37	110.9
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.56	725.3	29.93	760.1	73.8	23.2	49	5	5	4	.....	4	7	4	2	.....	.....	.....	5	0.92	23.5
Kremsmunster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.09	728.8	30.00	761.9	68.2	20.1	74	4	.....	7	3	.....	.....	5	9	3	.....	.....	5	5.89	149.7
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	29.02	737.2	29.98	761.5	66.6	19.2	58.6	.....	5	8	1	3	1	8	5	.....	.....	.....	7	3.04	77.2
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.87	758.7	29.98	761.5	77.2	25.1	56.8	1	1	9	2	.....	4	8	5	1	.....	.....	4	5.13	130.4
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.48	748.7	29.93	760.1	73.9	23.3	52	5	9	4	2	1	1	6	3	.....	.....	.....	4	2.70	68.7
Szegedin *a*	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.68	753.8	29.95	760.6	72.7	22.6	61.5	2	6	2	3	5	1	1	4	6	.....	.....	6	1.65	42.0
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.90	759.5	30.00	762.0	77.4	25.2	62.5	2	4	6	7	.....	3	3	6	.....	.....	.....	4	4.82	122.3
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.32	744.7	30.01	762.3	70.0	21.1	61.0	6	3	8	1	2	4	2	3	2	.....	.....	5	2.95	75.0
BELGIAN.																										
Arlon	N. 49 40	E. 5 48	0.32 p.m.	?	?	.....	.....	.....	.....	72.0	22.2	69.1	2	2	2	6	5	4	5	5	.....	.....	.....	.....	2.24	56.9
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	29.82	757.5	30.02	762.4	72.5	22.5	55.9	2	4	4	6	2	5	5	3	.....	.....	.....	6	3.18	80.7
Furnes *g*	N. 51 04	E. 2 40	0.19 p.m.	20	6	29.99	761.8	30.01	762.3	73.2	22.9	73.4	3	5	1	4	.....	2	5	4	.....	.....	.....	5	1.61	41.0
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	29.91	759.8	30.04	763.0	75.9	24.4	64.0	1	4	8	4	2	.....	9	3	.....	.....	.....	5	2.70	68.7
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.84	757.9	29.94	760.5	61.4	16.3	70.2	1	.....	2	1	7	18	1	1	.....	.....	.....	5	2.38	60.5
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.98	761.5	66.8	19.3	60.4	2	2	10	5	2	7	3	.....	.....	.....	.....	5	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.44	747.8	29.96	761.0	65.6*a*	18.7*a*	66.4*a*	1	1	5	4	14	5	1	.....	.....	.....	.....	6	.....	.....
Bradford	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.58	751.3	29.98	761.5	66.7	19.3	57.8	2	3	6	6	3	5	6	.....	.....	.....	.....	6	.....	.....
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.95	760.7	29.98	761.5	83.1	28.4	74.2	.....	.....	.....	.....	.....	.....	20	11	.....	.....	.....	4	.....	.....
Cardington *o*	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	.....	.....	68.8	20.4	66.5	3	1	2	6	2	1	1	.....	.....	.....	.....	4	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	160	49	29.85	758.2	30.02	762.5	72.8	22.7	52.4	1	1	4	6	4	.....	8	1	6	.....	.....	5	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.81	757.2	30.04	763.0	66.2	19.0	69.4	.....	8	5	5	4	3	6	.....	.....	.....	.....	5	.....	.....
Fort Napier	S. 30	E. 31	2.12 p.m.	2205	672	27.81	706.4	30.12	765.0	74.1	23.4	27.0	2	3	.....	2	3	3	9	9	.....	.....	.....	2	.....	.....
Freetown	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.64	752.8	29.87	758.7	86.8	30.4	88.4	10	.....	5	3	7	1	5	.....	.....	.....	.....	3	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.87	758.7	29.90	759.4	61.8	16.6	76.0	.....	.....	6	21	2	1	.....	1	.....	.....	.....	6	.....	.....
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	29.84	757.9	29.99	761.7	82.1	27.8	82.2	.....	1	9	3	.....	.....	11	7	.....	.....	.....	2	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.84	757.9	30.01	762.2	74.4	23.6	49.6	4	.....	6	9	3	2	4	2	1	.....	.....	5	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.76	755.9	30.05	763.3	68.8	20.4	66.0	3	1	7	7	1	3	4	5	.....	.....	.....	4	0.62	15.7
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.98	761.5	30.02	762.5	71.4	21.9	51.5	2	4	9	4	5	1	6	.....	.....	.....	.....	5	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.73	755.1	29.98	761.5	69.5	20.8	63.6	1	4	2	17	2	1	2	1	1	.....	.....	5	.....	.....
Malta	N. 36 00	E. 14 30	1.00 p.m.	70	21	29.84	757.9	29.91	759.7	80.6	27.0	73.2	4	7	.....	4	.....	3	3	10	.....	.....	.....	1	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.02	762.5	30.07	763.8	84.0	28.9	75.8	.....	.....	.....	2	3	20	6	.....	.....	.....	.....	5	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.79	756.7	30.02	762.5	70.5	21.4	58.9	1	3	3	8	10	4	.....	2	.....	.....	.....	5	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.95	760.7	30.02	762.5	70.1	21.2	67.2	1	2	6	7	6	3	5	.....	1	.....	.....	5	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.78	756.4	29.88	758.9	60.0	15.6	77.0	.....	.....	.....	...	.....	.....	.....	.....	.....	.....	.....	5	.....	.....
Scutari Cemet'ry	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.82	757.4	29.88	758.9	79.7	26.5	52.2	2	.....	.....	4	1	.....	.....	24	.....	.....	.....	4	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.65	753.1	29.98	761.5	69.5	20.8	63.0	1	.....	4	16	3	3	1	1	2	.....	.....	4	.....	.....
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.92	760.0	29.95	760.7	67.3	19.6	73.2	1	2	15	7	.....	.....	5	.....	1	.....	.....	5	1.54	39.1
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	30.00	762.0	66.1	18.9	64.4	.....	1	11	7	7	2	3	.....	.....	.....	.....	6	2.85	72.4
Strathfield	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.96	761.0	29.98	761.5	61.7	16.5	75.5	1	2	8	8	5	7	.....	.....	.....	.....	.....	7	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.65	753.1	30.03	762.7	81.5	27.5	58.0	.....	11	5	10	1	.....	2	2	.....	.....	.....	2	0	0
CANADIAN.																										
Bathurst *b*	N. 47 39	W. 65 43	7.45 a.m.	35	11	29.97	761.2	30.01	762.2	64.4	18.0	.....	.....	.....	1	1	4	9	.....	.....	14	.....	.....	6	0.88	22.4
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	30.03	762.7	30.07	763.8	64.4	18.0	85.8	3	.....	2	11	9	3	1	1	1	5211	8386	7	2.40	61.0
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.95	760.7	30.01	762.2	60.6	15.9	89.8	1	2	2	22	3	.....	.....	1	.....	3480	5600	6	2.13	54.1
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.78	756.4	29.97	761.2	60.9	16.1	87.1	2	3	17	5	.....	.....	3	1	.....	.....	.....	5	1.92	48.8
Dalhousie *b*	N. 48 04	W. 66 22	7.32 a.m.	45	14	29.94	760.5	29.98	761.5	60.8	16.0	.....	.....	.....	19	1	.....	.....	6	.....	3	.....	.....	4	1.08	27.4
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.92	760.0	29.94	760.5	56.9	13.8	84.2	.....	3	12	10	2	.....	1	.....	3	.....	.....	5	1.34	34.0
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.08	738.6	29.87	758.7	53.4	11.9	83.3	7	5	2	5	6	3	1	1	1	8706	14011	7	6.91	175.5
Fredericton	N. 45 57	W. 66 38	7.41 a.m.	59	18	29.99	761.7	30.05	763.3	62.1	16.7	84.3	1	9	1	3	4	5	2	2	4	.....	.....	6	4.24	107.7
Grand Manan	N. 44 46	W. 66 45	7.41 a.m.	49	15	30.00	762.0	30.05	763.3	60.1	15.6	86.6	3	2	5	7	3	1	2	3	5	6434	10354	3	5.28	134.1
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	28.95	735.3	30.04	763.0	56.7	13.7	94.6	1	1	2	:	5	3	.....	1	17	.....	.....	4	2.19	55.6
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.97	761.2	30.10	764.5	62.2	16.7	92.1	6	.....	8	2	4	1	6	1	3	.....	.....	6	2.93	74.4
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	350	107	29.69	754.1	30.09	764.3	65.6	18.7	78.3	4	10	2	3	.....	1	5	.....	6	.....	.....	3	1.59	40.4
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.70	754.4	30.02	762.5	63.9	17.7	83.1	3	2	4	10	2	1	1	4	4	4097	6593	4	3.97	100.8
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	30.02	762.5	30.06	763.5	66.4	19.1	82.4	1	.....	3	20	4	1	1	.....	1	.....	.....	5	.....	.....
London	N. 43 00	W. 81 15	6.43 a.m.	816	248	29.17	740.9	30.06	763.5	58.5	14.7	89.7	2	.....	1	2	.....	.....	.....	.....	26	.....	.....	.....	2.10	53.3
Medicine Hat	N. 50 01	W. 110 37	4.46 a.m.	2136	651	27.62	701.5	29.86	758.4	53.1	11.7	77.9	6	4	5	3	3	3	3	.....	4	4507	7253	3	1.19	30.2
Minnedosa	N. 50 13	W. 99 48	5.29 a.m.	1796	545	28.09	713.5	29.92	760.0	49.2	9.6	93.3	1	2	3	3	2	1	5	5	9	.....	.....	5	3.86	98.0
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.81	757.2	30.01	762.2	64.5	18.1	73.0	.....	8	3	11	7	1	1	.....	.....	.....	.....	4	1.93	49.0
Ottawa	N. 45 26	W. 75 41	7.05 a.m.	200	61	29.78	756.4	30.00	762.0	61.2	16.2	97.5	3	1	1	14	4	.....	1	7	.....	.....	.....	5	2.82	71.6
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.33	745.0	30.00	762.0	58.5	14.7	91.2	4	2	2	4	3	7	3	1	5	5617	9040	4	1.67	42.4
Peterboro *a*	N. 44 17	W. 78 18	6.54 a.m.	688	210	29.29	744.0	30.01	762.2	61.9	16.6	80.7	.....	1	7	8	3	1	.....	1	9	.....	.....	3	2.79	70.9
Port Arthur	N. 48 27	W. 89 12	6.11 a.m.	642	196	29.23	742.4	29.92	760.0	57.3	14.1	85.7	7	3	2	.....	3	1	3	2	10	3369	5422	5	4.77	121.2
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.35	745.5	30.03	762.7	61.6	16.4	93.8	3	5	2	4	4	1	.....	1	11	3690	5938	4	2.12	53.8
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.39	746.5	30.03	762.7	59.2	15.1	91.8	7	1	8	1	1	.....	3	1	9	.....	.....	4	2.29	58.2
Qu Appelle	N. 50 44	W. 103 42	5.13 a.m.	2115	646	27.68	703.1	29.91	759.7	49.9	9.9	92.3	2	4	4	2	7	2	1	.....	9	7618	12260	3	1.50	38.1
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.64	752.8	29.99	761.7	63.1	17.3	89.7	.....	.....	.....	8	4	.....	1	1	17	.....	.....	6	2.13	54.1
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.54	750.3	29.98	761.5	55.5	13.1	95.7	1	8	3	.....	.....	2	3	1	13	.....	.....	3	3.54	89.9
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.98	761.5	30.03	762.7	58.7	14.8	92.5	2	5	1	3	7	6	5	.....	2	.....	.....	3	2.95	74.9
Saint John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	116	35	29.91	759.7	30.05	763.3	58.7	14.8	91.8	2*a*	3	1	1	8	5	1	1	8	.....	.....	8	4.48	113.8
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	30.08	764.1	59.7	15.4	.....	1	6	8	8	1	1	1	5	.....	.....	.....	.....	4.82	122.5
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.32	744.7	30.01	762.2	60.4	15.8	82.5	3	4	1	3	8	5	.....	1	6	5422	8726	6	1.85	47.0
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1186	361	28.79	731.3	30.05	763.3	58.5	14.7	89.1	.....	3	6	3	7	.....	2	.....	10	.....	.....	2	4.36	110.7
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	30.01	762.2	30.07	763.8	63.6	17.6	85.5	.....	.....	3	17	3	.....	1	.....	7	6630	10670	7	1.60	40.6
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.66	753.4	30.03	762.7	61.3	16.3	82.8	5	5	7	3	2	1	1	3	4	6003	9661	3	1.91	48.5
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	29.01	736.8	30.05	763.3	60.6	15.9	84.0	2*b*	5	4	8	3	2	1	.....	4	.....	.....	4	1.29	32.8
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.99	761.7	30.06	763.5	60.1	15.6	94.6	1	.....	2	6	9	2	4	1	6	.....	.....	3	3.57	90.7
CAPE COLONY.																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.19	766.8	30.22	767.6	63.2	17.3	94.0	.....	5	.....	15	.....	1	.....	10	.....	.....	.....	5	.....	.....
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	?	?	30.09	764.3	.....	.....	65.3	18.5	64.8	1	14	2	2	.....	3	2	3	4	.....	.....	4	1.06	26.9
Springbok *a*	S. 29 45	E. 17 43	1.19 p.m.	?	?	27.89	708.4	.....	.....	71.6	22.0	41.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for August, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
CHILIAN.	° ′	° ′																								
Coquimbo	S. 29 56	W. 71 21	7.22 a.m	72	22	29.94	760.5	30.02	762.5	54.0	12.2	93.0	3	1	3	5	5	6	6	2				6	0.24	6.2
Iquique.c	S. 20 12	W. 70 11	7.27 a.m	26	8	29.97	761.3	30.00	762.0	60.6	15.9	73.0	1	2		13			2	10						
Niebla	S 39 53	W. 73 25	7.14 a.m.	98	30	29.41	747.0	29.52	749 8	47.1	8.4	94.4												9	26.09	662.6
Punta Caldera	S 27 03	W. 70 53	7.25 a.m.	82	25	29.93	760.3	30.02	762 6	55.9	13.3	81.7	1	10		4	1	5		10				6		
Punta Corona	S. 41 47	W. 73 53	7.12 a.m	174	53	29.69	754.2	29.89	759 0				7	3	4	2		5		10				8		
Quiriqnina	S. 36 37	W. 73 03	7.25 a.m.	187	57	29.77	756.1	29.97	761.3	52.5	11.4	84.4	6	11	6		2	2	2	2				9	10.54	267.8
Valparaiso	S. 33 02	W. 71 39	7.22 a.m.	82	25	29.92	759.9	30.06	763.5	54.1	12.3	88.0	9		3	3	6	2	5	3				6	5.39	136.9
CHINESE.																										
Hong Kong	N. 22 18	E. 114 04	7 15 p.m.	110	33	29.62	752.3	29.73	755.1	81.6	27.6	83.6	2	1	1	6	9	2	8		2			5	10.82	274.8
Sub-Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	29.74	755.5	29.77	756.1	76.1	24.5	90	2	1	4		2	6	8	8				6	5.98	151.9
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	30.00	762.1	30.05	763.3	66.0	18.9	66	4	4			6	10	4	2	1			5		
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	30.01	762.2	30.03	762.7	67.5	19.7	70		2	9	7	4	3	6					5		
Ivigtut	N. 61 12	W. 48 —	8.56 a.m.	16	5	29.68	753 8	29.70	754.3	42.8	6.0		3	3	2		1	1		1	20			8		
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.51	719.6	29.56	750.7	51.3	10.7	81	2	1	1	1	8	5	4	5	4			8		
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.75	755.7	29.78	756.3	54.1	12.3	90			1	4	9	4	2	2	9			8		
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.94	760.5	30.03	762.8	65.3	18.5	67		5	10	2		2	10	2				4		
Egyptian.																										
Cairo. *a*	N. 30 03	E. 31 21	2.14 p.m.	?	?	29.71	754.6			94.5	34.7	27.7	11	3	2					14				2	0	0
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.45	748.0	30.08	763.9	81.0	27.2	44.6	1	10		4		14		2					0.83	21.0
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.60	751.9	30.07	763.8	74.5	23.6	64.3	1	3		10	2			15					1.46	37.2
Arras	N. 50 18	E. 2 46	0.19 p m	223	68	29.79	756.7	30.02	762.6	71.6	22.0	61.4		10	9			3	6	3				5	3.22	81.7
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	29.94	760.4	30.02	762.4	84.7	29.3	47	15	5	3	2	4	1	1					1	0.76	19.4
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.49	749.0	30.02	762.6	74.1	23.4	56.3	1	1		3	3	12	8	3				6	3.11	78.9
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.78	756 4	30.04	763.0	73.2	22.9	57.4	3	2	3	3	1	5	12	2				5	3.48	88.4
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.10	739.2	30.08	763 9	75.9	24.4	72.2	9	1	4	8	3			6					2.09	53.1
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.73	756.3	30.03	762.7	78.8	26.0	47.0	4	5	7	2	4	5	2	2				5	0.53	13.4
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.47	748.5	30.00	762.1	79.2	26.2	43.5	4	3	1	10	4		4	5					0.57	14.5
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.85	758 2	30.10	764.4	74.5	23.6	68.7	5	3	6	8	3	4			2			5	0.47	12.0
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.93	760.2	30.00	762.1	74.7	23.7	65.6	5	3	9	7	4		3					4	1.04	26.5
Châlons sur Marne	N. 48 57	E. 4 21	0.25 p.m.	292	89	29.56	750.9	29.89	759.2	73.0	22.8	83	2	2	2	6	3	3	1	1	1			5	1.76	44.7
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.52	749.9	30.04	763.0	74.1	23.4	54.6	5	4	6	2	2	3	3	6				5	3.37	85.5
Clermont-Ferrand	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.70	729.0	30.00	761.9	76.8	24.9	48.2	12	4	4	2	1		1	7				5	2.93	74.4
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.19	741.4	30.02	762.5	78.3	25.7	53.9		2	1	7	3	3	4	11				4	2.17	55.1
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.20	741.6	30.02	762.6	71.2	21.8	65.4	2	4	10	3			7	5					1.14	29.0
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.55	699.8	30.97	761.2	77.7	25.4	40.9	11				14	2	4					2	2.49	63.2
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.92	734.5	29.98	761.6	83.5	28.6	35.1	4	8	4	10	5							2	0.40	10.2
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.28	743.7	30.02	762.4	77.9	25.5	65.9	2	9	6		1		4	2	7				2.26	57.4
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.49	723.6	30.03	762.8	72.9	22.7	65.1	3	2	3	15	5		2	1				3	2.97	75.5
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.80	756.8	30.07	763.7	75.9	24.4	66.2	12	7	3		1	1	2	5					0.39	10.0
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.48	748.9	30.03	762.7	81.5	27.5	52.1	1	1	15	2	2	4	3	3				5	1.33	33.8
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.98	761.4	30.08	764.0	75.6	24.2	63	2	2	1	10	11	3		1	1			5	1.08	27.4
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	29.00	736.5	30.02	762.4	77.2	25.1	47.7	6	3	1		3	5	8	5				5	0.71	18.0
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.78	756.3	30.07	763 7	81.9	27.7	68.9	6		2	6	2	1	3	3	8			4	1.46	37.0
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.74	755.5	30.01	762.2	78.8	26.0	54.9		5	15	9	2							3	0.03	0.8
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.87	758.6	29.97	761.3	84.2	29.0	64.1		5	1	4	13	6	1		1			2	0.09	2.2
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.28	743.7	30.04	762.9	72.5	22.5	62.5	7	7	5	3	2	1	1	5					2.74	69.5
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.91	759.7	30.07	763.8	78.3	25.7	49.3	2	3	4	5	2	3	5	7				5	0.41	10.4
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.92	759.9	30.02	762.6	79.5	26.4	57.0	1	7	1			5	13	4				4	0.26	6.5
Pic du Midi (Sum-mit.)	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.45	544.8			50.4	10.2			4	6	5					16			4	4.48	113.9
Privas	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.99	736.4	30.00	762.1	72.5	22.5	57.1	8	7	1	3	4	1	1	6					3.32	84.4
Puy de Dôme	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.29	642.3			57.4	14.1	78.2		3	10	3	3	3	6	3				5	2.76	70.2
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.04	762.9	30.07	763 7	78.8	26.0	58.9	4		3	7	3		4	8	2			3	0.63	16.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.81	757.1	30.03	762.8	81.0	27.2	52.3		5	5	7	2	7	3	2				3	0.13	3.3
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.96	710.2	30.00	762 1	77.4	25.2	59.1	11	7				2	6	5				4	1.95	49.6
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.99	761.8	30.04	763.0	76.1	24.5	64.7	2	5	3	7	2	2	3	7				5	2.38	60.4
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.88	758.9	30.04	763.1	74.8	23.8	52.4	9	3	4	5		2	2	6				5	2.30	58.5
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.37	745.9	30.09	764.3	83.1	28.4	47.6	6	6	3	1	2	8	3	2				2	1.04	26.4
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	29.87	758.7	30.04	763.0	76.3	24.6	53	8	5	4	3	3		1	7					1.60	40.7
Versailles	N. 48 48	E. 2 07	0.16 p.m.	400	122	29.61	752.0	30.18	766 5	73.2	22.9	55.7	1	3	2	8	1	3	10	3				5	1.95	49.5
Sub-Series.																										
St. Martin du Hinx	N. 43 35	W. 1 16	0.03 p.m.	131	40	29.90	759.4	30.05	763.2	79.7	26.5	56	6	3	12	1	1		4	4				5	2.04	51.7
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.62	727.0	30.02	762 6	70.9	21.6	50.0	2	2	9	2	1	1	1	9	4			5	3.92	99.6
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.20	741.7	30.05	763.2	70.3	21.3	53.8	1*a*	2	12		5	4	3	2	1			4	1.84	46.8
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.87	758.7	30.01	762.3	72.0	22.2	45.8	1	3	6		4	6	4	7				6	1.64	41.6
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.53	750.1	30.06	763.6	68.7	20.4	48.7	7	4	5	1	2	2	5	5				5	2.78	70.6
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.58	751.3	30.02	762.6	74.1	23.4	55.4	1	2		14	1	1	7	5				6	5.27	133.9
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.34	745.1	30.04	763.1	71.2	21.8	58.0	6	4	1	1	9	4	4	2				5	3.80	96.4
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103			30.02	762.5	73.9	23.3	54.8	2	3	2	4	4	3	6	7				5	2.76	70.0
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.65	727.6	30.01	762.3	71.8	22.1	69.8	2		3	16	5			5				5	9.40	238.7
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.97	761.1	30.06	763 4	69.3	20.7	61.9	5	2	5	3	5	6	1	4				6	1.62	41.2
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	30.02	762.8	30.04	762.9	68.5	20.3	59.3	8	3	2	2	6	1	1	7	1			5	0.53	13.4
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.64	752.8	30.05	763.2	70.5	21.4	57.0	4	5	3	3	2	4	4	6				5	1.28	32.6
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.84	757.9	30.02	762.6	73.6	23.1	53.5	5	4	3	2	1	5	4	7				4	1.48	37.5
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	30.02	762.6	30.07	763.8	64.6	18.1	65.5	7	11	3	2	1	1	2	4				6		
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28 24	717.3	30.11	764.9	70.3	21.3	51.6	4	6	1	2			4	7	7			4	5.11	129.9
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	26	8	30.04	762.9	30.06	763 6	64.8	18.2	65.1	7	3	3	1	2		4	11				5	1 57	39.9
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.51	749.6	30.04	763.0	73.4	23.0	60.0				10	2	2	1	12	4			6	4.11	104.4
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.13	739.9	29.97	761.1	72.9	22.7	59.9	3	8	3	3		4	3	6	1			5	3.28	83.2
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	30.00	702.1	30.03	762.7	67.6	19.8	77.9	5	2	5	3		4	7	5				5	1.07	27.2
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.55	750.5	29.91	759.8	83.8	28.8	46.0	4	1		10	3			13				2	1.47	37.3
INDIAN.																										
Kurrachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.50	749 3	29.55	750.6	85.3	29.6	72	1	1	9	19	1							5	0.33	8.4
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.12	739.6	29.58	751.3	85.2	29.6	63	1*b*	1	3	17	3	1	1	2				9	7.89	192.8
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.68	753.9	29.72	754 9	81.3	27.4	86		3	24	4								8	14.88	378.0
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.87	707.9	29.72	754.9	76.1	24.5	76	*b*	3	15	11								8	2.57	65.8
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.22	691.4	29.78	756.4	70.4	21.3	89			14	17								8	12.57	319.3
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.76	730.5	29.48	748.8	91.6	33.1	61		1	2				9	2	17			4	2.80	71.1
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.64	727.4	29.52	749.8	81.5	29.2	79			3		3	3	5		17			5	20.27	514.9
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	28.99	736.3	29.55	750.6	84.9	29.4	75	3	9	3	5	4	4	2	1				8	9.89	251.2
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.55	725.2	29.59	751.6	80.7	27.1	76	2	10	7	1	1				10			9	15.02	381.5
Jubbulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28 23	717.0	29.57	751.1	79.6	26.4	84		6	10	4		1		1	9			9	25.32	643.1
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.15	740.4	29.52	749.8	85.5	29.7	76	6						2	4	19			7	12.42	315.4
Allahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.21	741.9	29.52	749.8	83.8	28.8	86	*l*	3		3			4	6	3			8	9 44	239.8
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.35	745.5	29.53	750.0	86.5	30.3	76			1	2		2	20	6				7	7.20	184.4
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.55	699.8	29.54	750.3	78.8	26.0	82		3	1	2	5	12	5	1	2			9	14.92	379.0
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.49	749.0	29.57	751.1	83.6	28.7	80	5	2	4	5	4	4		4	3			6	9.91	252.2
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.54	750.3	29.56	750.8	82.5	28.1	86			1	6	12	11	1					8	10.97	278.6
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.56	750.8	29.65	753.1	80.9	27.2	87				6	15	4			6			7	0.23	5.8
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.27	743.4	29.60	751.8	85.4	29.7	80		2		16	1	3		9				6	20.76	527.3

STATIONS.	Latitude	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for August, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
INDIAN—Cont'd.	° ′	° ′																								
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.14	714.7	29.55	750.6	85.2	29.6	63	1	6	8	3	...	5	4	3	1	.....	.....	8	5.27	133.9
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	30.03	762.7	.....	.....	80.6	27.0	56	.....	.....	.....	1	1	22	7	.....	.....	.....	.....	4	0	0
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.22	716.8	29.67	753.6	85.7	29.8	50	.....	.....	14	17	.....	.....	.....	.....	.....	.....	.....	8	0.01	0.3
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.47	748.5	29.75	755.6	92.2	33.4	45	.....	16	10	5	.....	.....	.....	.....	.....	.....	.....	7	1.53	38.9
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.60	751.9	30.00	761.9	78.1	25.6	50	.....	.....	5	9	3	1	5	3	5	.....	.....	4	5.04	128.1
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.50	749.3	30.00	762.1	79.2	26.2	53	1	1	.....	5	7	6	9	2	.....	.....	.....	5	3.65	92.7
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.58	759.0	29.99	761.7	77.4	25.2	54	1	3		5	1	10	7	4	.....	.....	.....	3	3.18	80.8
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.10	739.2	29.97	761.3	76.8	24.9	52	.....	6	2	4	5	9	5	.....	.....	.....	.....	4	5.58	141.8
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157?	48?	29.82	757.3	30.00	762.0	78.3	25.7	57	4	2	.....	19	2	3	.....	.....	1	.....	.....	2	1.03	26.1
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.95	760.7	30.00	761.9	74.8	23.8	66	13	2	1	1	.....	.....	7	7	.....	.....	.....	3	2.07	52.6
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.71	754.6	29.96	760.9	80.8	27.1	33	8	4	8	2	2	.....	1	6	.....	.....	.....	3	3.91	99.3
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.84	757.8	29.92	759.9	79.5	26.4	63	3	5	17	3	1	1	.....	1	.....	.....	.....	4	2.95	75.0
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.79	756.7	29.96	761.0	84.4	29.1	41	4	1	11	10	4	.....	.....	1	.....	.....	.....	3	2.01	51.0
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.70	754.4	29.95	760.6	78.4	25.8	48	17	5	1	.....	3	1	2	2	.....	.....	.....	2	1.03	26.2
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.10	739.2	29.96	761.0	79.3	26.3	65	2	6	12	4	2	4	1	.....	.....	.....	.....	3	2.60	66.0
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.76	755.8	30.00	761.9	81.1	27.3	51	2	5	.....	3	.....	.....	2	19	.....	.....	.....	2	0.03	0.7
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.87	758.6	29.91	759.7	83.1	28.4	57	5	2	.....	.....	4	5	12	3	.....	.....	.....	3	0.07	1.8
Sub-Series.																										
Naples *a*	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.47	748.5	.....	.....	80.4	26.9	56.3	1	1	1	17	.....	2	4	4	.....	.....	.....	3	2.92	74.1
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	22.33	567.1	.....	.....	43.5	6.4	56.1	.....	.....	9	3	.....	1	5	13	.....	.....	.....	6	5.08	129.1
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	22.34	567.5	.....	.....	51.6	10.9	73.4	2	9	6	3	1	.....	2	8	.....	.....	.....	8	1.42	36.2
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	.....	.....	29.82	757.3	71.1	21.7	.....	a2	3	2	1	1	3	1	.....	17	.....	.....	.....	.....	.....
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	.....	.....	29.83	757.6	67.6	19.8	.....	4	1	1	2	1	1	2	2	17	.....	.....	.....	.....	.....
Hokodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	.....	.....	29.84	758.0	64.0	17.8	.....	3	2	3	.....	.....	5	10	.....	8	.....	.....	.....	.....	.....
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	92	28	.....	.....	29.84	757.8	74.5	23.6	.....	2	.....	8	.....	.....	1	14	1	5	.....	.....	.....	.....	.....
Hiroshima *c*	N. 34 23	E. 132 27	8.58 p.m.	16	5	.....	.....	29.75	755.6	77.0	25.0	.....	8	.....	.....	.....	1	1	2	4	12	.....	.....	.....	.....	.....
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	.....	.....	29.84	757.8	72.5	22.5	.....	.....	1	.....	1	.....	5	9	1	14	.....	.....	.....	.....	.....
Kagoshima *d*	N. 31 35	E. 130 33	8.50 p.m.	14	4	.....	.....	29.77	756.2	77.5	25.3	.....	4	5	1	1	1	2	8	2	3	.....	.....	.....	.....	.....
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	.....	.....	29.82	757.4	75.0	23.9	.....	1	.....	.....	.....	.....	.....	4	1	25	.....	.....	.....	.....	.....
Kochi *b*	N. 33 33	E. 133 34	9.02 p.m.	20	6	.....	.....	29.79	756.7	76.3	24.6	.....	1	2	5	.....	.....	1	6	2	12	.....	.....	.....	.....	.....
Miasaka *a*	N. 31 56	E. 131 26	8.54 p.m.	26	8	.....	.....	29.79	756.7	76.1	24.5	.....	3	2	5	3	3	3	7	3	1	.....	.....	.....	.....	.....
Miyako *a*	N. 39 38	E. 141 59	9.36 p.m.	98	30	.....	.....	29.86	758.4	66.4	19.1	.....	.....	.....	3	.....	.....	.....	.....	.....	27	.....	.....	.....	.....	.....
Nagasaki *c*	N. 32 44	E. 129 52	8.47 p.m.	189	58	.....	.....	29.78	756.4	77.0	25.0	.....	2	1	1	2	3	.....	.....	5	14	.....	.....	.....	.....	.....
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	.....	.....	29.83	757.7	74.1	23.4	.....	1	.....	1	4	...	4	.....	3	18	.....	.....	.....	.....	.....
Nobiru	N. 38 23	E. 141 11	9.32 p.m.	15	5	.....	.....	29.83	757.0	70.5	21.4	.....	4	2	1	..	8	3	4	2	7	.....	.....	.....	.....	.....
Numadzu	N. 35 06	E. 138 51	9.23 p.m.	32	10	.....	.....	29.84	758.0	74.3	23.5	.....	2	.....	2	4	3	.....	9	3	8	.....	.....	.....	.....	.....
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	.....	.....	29.82	757.3	76.1	24.5	.....	4	.....	3	.....	.....	1	5	10	8	.....	.....	.....	.....	.....
Sakai *b*	N. 35 33	E. 133 14	9.01 p.m.	10	3	.....	.....	29.79	756.7	75.9	24.4	.....	8	5	1	1	.....	1	6	5	2	.....	.....	.....	.....	.....
Shimonoseki *a*	N. 33 58	E. 130 56	8.52 p.m.	134	41	.....	.....	29.79	756.6	75.0	23.9	.....	3	.....	.....	.....	.....	.....	9	3	15	.....	.....	.....	.....	.....
Sapporo *b*	N. 43 04	E. 141 23	9.33 p.m.	60	18	.....	.....	29.84	758.0	64.2	17.9	.....	.....	2	2	.....	1	12	.....	.....	12	.....	.....	.....	.....	.....
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	.....	.....	29.84	757.8	72.0	22.2	.....	2	2	.....	1	7	2	3	2	12	.....	.....	.....	.....	.....
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	.....	.....	29.80	757.0	77.4	25.2	.....	4	1	.....	.....	3	.....	.....	2	21	.....	.....	.....	.....	.....
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.95	760.7	30.14	765.5	71.7	22.1	61.9	.....	.....	2	2	.....	13	13	1	.....	.....	.....	5	0.34	8.6
MEXICAN.																										
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24.35	618.5	30.01	762.2	59.5	15.3	83	3	10	1	1	3	1	.....	.....	12	.....	.....	6	4.54	115.3
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.66	753.4	29.91	759.7	77.9	25.5	87.4	7	3	.....	.....	.....	.....	13	8	.....	.....	.....	6	5.73	145.5
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.04	763.0	30.04	763.0	72.3	22.4	.....	7	3	6	4	1	1	7	2	.....	.....	.....	.....	1.69	42.9
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.98	761.6	30.04	763.0	69.3	20.7	.....	8	3	4	2	6	2	4	2	.....	.....	.....	.....	3.53	89.7
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	30.02	762.5	30.02	762.5	67.6	19.8	.....	2	7	.....	6	4	.....	6	6	.....	.....	.....	.....	2.47	62.7
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	30.03	762.7	30.03	762.7	68.9	20.5	61.6	1	4	3	7	.....	...	11	3	2	.....	.....	.....	2.15	54.5
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.98	761.5	30.04	762.9	73.2	22.9	54.1	3	6	3	5	3	5	5	1	.....	.....	.....	4	2.21	56.1
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7.15 p.m.	?	?	.....	.....	29.88	758.9	79.9	26.6	78.0	9	1	.....	.....	.....	.....	1	20	.....	.....	.....	5	0.46	11.7
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.93	760.1	29.99	761.7	65.1	18.4	64.1	1	4	3	1	16	1	.....	...	5	.....	.....	5	3.13	79.6
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.97	761.3	30.01	762.3	65.8	18.8	61.3	12	.....	2	2	.....	6	2	...	7	.....	.....	3	0.55	13.9
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.88	759.0	30.02	762.6	68.7	20.4	86.2	1	.....	3	7	8	4	8	.....	.....	.....	.....	5	0.23	5.9
Gjesvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	30.03	762.7	30.05	763.3	55.4	13.0	.....	.....	.....	3	3	2	.....	3	5	15	.....	.....	4	1.09	27.7
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	29.99	761.8	30.08	764.0	75.2	24.0	67.7	.....	.....	1	21	1	5	.....	.....	3	.....	.....	4	0.60	15.3
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	312	95	29.70	754.4	30.02	762.6	77.2	25.1	50.2	4	2	1	7	9	1	2	5	.....	.....	.....	4	0.02	0.6
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.12	765.1	30.19	766.9	72.9	22.7	62.8	8	.....	4	4	.....	2	.....	11	2	.....	.....	4	2.14	54.3
Saint Paul de Loando	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.80	756.8	30.00	762.0	72.5	22.5	78.9	5	7	4	4	5	4	.....	1	1	.....	.....	6	0	0
San Salvador	S. 6 17	E. 14 53	1.07 p.m.	1834	559	28.12	714.2	29.90	761.0	75.2	24.0	57.1	.....	3	5	14	6	.....	.....	.....	3	.....	.....	5	0	0
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.40	645.2	29.97	761.2	66.2	19.0	52.0	2	4	7	1	.....	2	14	1	.....	.....	.....	5	2.92	74.1
RUSSIAN																										
Akmolinski *c*	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.68	728.4	29.71	754.5	71.2	21.8	35.8	4	6	10	2	1	2	2	1	.....	.....	.....	4	1.02	25.8
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.98	761.6	30.00	762.1	55.2	12.9	65.8	14	6	1	1	1	1	1	6	.....	.....	.....	8	0.15	3.7
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	29.97	761.2	29.90	759.4	79.9	26.6	43.3	1	1	4	3	8	8	4	2	...	.....	.....	4	1.78	45.1
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	29.91	759.6	29.86	758.4	81.1	27.3	61.6	12	.....	.....	.....	9	5	3	2	.....	.....	.....	1	0.01	0.3
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.33	745.0	29.81	757.2	65.1	18.4	50.7	1	7	6	3	1	2	1	4	6	.....	.....	6	0.81	20.6
Bieloserk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.48	748.7	29.94	760.4	58.5	14.7	70.8	7	7	2	1	1	2	3	6	2	.....	.....	7	2.58	72.3
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.78	756.4	30.02	762.4	64.2	17.9	57.8	6	4	2	2	1	.....	3	11	2	.....	.....	6	0.72	18.3
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.81	731.7	29.75	755.6	57.7	14.3	65.8	3	4	12	4	2	1	4	1	.....	.....	.....	8	3.37	85.6
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.51	749.6	29.95	760.6	73.2	22.9	39.8	6	9	7	2	1	2	1	2	1	.....	.....	6	1.28	32.4
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.54	750.2	29.80	756.9	64.0	17.8	58.7	4	8	5	4	3	1	2	2	2	.....	.....	9	0.56	14.2
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	30.02	762.5	30.07	763.8	55.2	12.9	70.7	3	1	1	1	.....	2	5	15	3	.....	.....	8	1.47	37.3
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	29.91	759.8	29.94	760.4	77.0	25.0	51.6	7	.....	2	.....	1	1	2	6	12	.....	.....	4	1.59	40.3
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.30	744.3	29.92	759.9	67.3	19.6	52.3	8	8	5	5	2	.....	2	1	.....	.....	.....	0	2.59	65.7
Kosloy	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.33	744.9	29.82	757.4	65.8	18.8	60.1	5	3	4	5	3	2	1	5	3	.....	.....	7	2.68	68.0
Lgov	N. 51 41	E. 35 17	2.29 p.m.	535?	163?	29.37	745.9	29.93	760.3	66.4	19.1	56.6	3	8	6	5	.....	2	2	5	.....	.....	.....	6	2.89	73.3
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	30.03	762.7	30.05	763.3	63.3	17.4	63.9	1	12	6	4	1	1	4	2	.....	.....	.....	5	2.03	51.5
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.67	753.6	29.87	758.6	74.8	23.8	45.3	4	2	8	10	1	2	1	3	.....	.....	.....	7	1.54	39.0
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.44	747.8	29.88	758.8	60.3	15.7	72.0	15	2	.....	3	4	2	1	3	1	.....	.....	7	2.45	62.3
Nertchinsk	N. 51 19	E. 119 37	8.07 p.m.	?	?	27.61	701.3	29.84	757.9	57.4	14.1	81.8	1	.....	.....	5	3	2	2	.....	18	.....	.....	6	8.02	203.6
Nikolajev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.89	759.1	29.96	760.9	77.2	25.1	51.6	7	3	3	3	3	.....	1	4	7	.....	.....	2	0.10	2.6
Nikolaievsk *f*	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.79	756.6	29.88	758.8	57.4	14.1	83.5	1	1	.....	.....	.....	5	.....	1	17	.....	.....	5	.....	.....
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	29.63	752.7	29.78	756.3	74.5	23.6	81.5	...	1	.....	1	.....	.....	.....	.....	29	.....	.....	5	7.40	187.9
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.12 p.m.	328	100	29.46	748.2	29.78	756.5	88.2	31.2	18.7	10	4	2	1	.....	1	1	9	3	.....	.....	1	.....	.....
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.78	756.5	29.98	761.4	58.1	14.5	68.8	8	2	3	.....	1	2	2	12	1	.....	.....	6	3.58	90.9
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.52	749.7	30.00	762.0	66.6	19.2	56.3	8	5	4	3	2	3	4	2	.....	.....	.....	7	0.46	11.6
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	29.88	758.8	29.91	759.6	78.6	25.9	81.7	.....	3	6	16	4	.....	1	.....	1	.....	.....	6	9.40	238.7
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	29.97	761.3	30.00	761.9	61.0	16.1	61.8	5	9	5	.....	.....	.....	2	10	.....	.....	.....	6	2.05	52.0
Samarkand	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.35	694.8	29.67	753.6	83.1	28.4	43.0	.....	1	.....	.....	.....	1	8	2	9	.....	.....	1	.....	.....
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.19	741.3	29.81	757.2	72.1	22.3	30.2	7	8	4	.....	.....	.....	.....	2	10	.....	.....	4	0.06	1.4
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	138?	42?	29.70	754.5	29.91	759.7	77.5	25.3	48.8	6	13	3	4	1	.....	1	3	.....	.....	.....	4	0.52	13.3
Staroi Bykhov	N. 53 31	E. 30 16	2.09 p.m.	512	156	29.40	740.7	29.94	760.4	64.0	17.8	59.8	2	4	4	1	4	4	5	7	.....	.....	.....	8	2.83	71.9
Tashkend	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.11	714.0	29.65	753.1	90.3	32.4	32.5	.....	7	.....	.....	.....	.....	.....	.....	24	.....	.....	1	.....	.....
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.49	723.6	29.84	757.8	81.1	27.3	40.9	2	9	1	.....	5	9	2	1	2	.....	.....	4	1.82	46.2
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.21	691.8	29.59	751.5	78.4	25.8	36.2	2	.....	1	1	2	.....	4	2	19	.....	.....	3	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for August, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
RUSSIAN—Con.	° ′	° ′																								
Viatka ...a	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.19	741.4	29.80	757.0	59.2	15.1	65.4	11	6	1	1	3	.....	4	4	.....	.....	.....	7	1.54	39.2
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.60	751.9	30.01	762.3	68.9	20.5	46.8	5	4	1	3	2	2	2	5	7	.....	.....	7	....	.....
Yeniseisk c	N. 58 27	E. 92 06	6.16 p.m.	2627	80?	29.57	751.1	29.85	758.1	63.0	17.2	71.4	.....	4	6	6	2	6	1	1	2	.....	.....	6	4.36	110.7
Sub-Series.																										
Petrowsky Ac'y	N. 55 50	E. 37 38	2.39 p.m.	508	155	29.31	744.5	29.80	756.9	60.0	15.6	68.0	8	6	4	4	3	1	1	1	3	.....	.....	8	1.20	30.5
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	138	42	29.86	758.5	30.03	762.8	80.8	27.1	62	2	1	.....	7	4	7	5	5	.....	.....	.....	4	0.63	16.0
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	29.98	761.5	30.04	763.0	81.0	27.2	61	1	18	.....	1	1	4	1	1	4	1470	2366	6	1.65	41.9
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.14	689.3	29.96	760.9	78.6	25.9	47	1	.....	7	8	5	.....	5	5	.....	3938	6338	2	0.24	6.2
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.85	707.3	29.94	760.5	87.6	30.9	30	.....	2	5	10	4	4	3	3	.....	5250	8448	4	0.58	14.7
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.86	758.4	30.00	761.9	80.2	26.8	52	.....	.....	.....	.....	2	7	10	12	.....	1473	2370	5	0.08	2.0
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.11	739.4	29.97	761.1	77.9	25.5	53	7	1	2	9	.....	2	.....	5	5	5374	8648	4	1.50	38.2
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.95	760.6	30.01	762.2	77.7	25.4	85.5	.....	.....	.....	.....	1	18	11	1	.....	.....	.....	3	9.89	251.3
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.78	756.5	29.84	758.0	79.5	26.4	85.2	3	.....	6	10	4	1	5	2	.....	8632	13894	7	12.85	326.5
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.93	760.3	30.03	762.7	83.2	28.4	56.7	..	3	16	3	2	2	5	.....	.....	.....	.....	3	inap.	inap.
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.93	760.2	30.02	762.5	79.9	26.6	87	.....	.....	.....	1	5	7	6	2	10	.....	.....	6	4.03	102.4
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	30.05	763.2	30.09	764.2	59.5	15.3	70	8	.....	1	.....	16	1	.....	4	1	.....	.....	4	0.06	1.4
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	30.04	763.0	30.09	764.3	64.2	17.9	61	2	3	1	10	7	1	3	4	.....	.....	.....	4	0.26	6.7
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	30.04	762.9	30.09	764.2	64.9	18.3	61	1	2	1	4	9	.....	8	5	1	.....	.....	4	0.25	6.3
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.90	759.4	30.08	763.9	64.2	17.9	62	3	1	6	1	3	3	7	5	2	.....	.....	5	2.62	66.6
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.97	761.1	30.02	762.6	63.5	17.5	70	6	6	7	1	1	3	2	5	.....	.....	.....	5	0.28	7.1
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.97	761.2	30.06	763.4	64.0	17.8	64.6	8	2	3	4	5	2	3	4	.....	.....	.....	6	0.92	23.3
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.65	727.7	30.02	762.5	74.3	23.5	53.5	16	3	3	1	4	.....	1	3	.....	.....	.....	4	2.05	52.1
TURKISH.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.95	760.6	74.1	23.4	58	10	1	.....	2	3	1	.....	14	.....	.....	.....	5	2.78	70.6
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.12	765.1	78.6	25.9	.....	.....	14	8	6	2	1	.....	.....	.....	.....	.....	2	8.94	227.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.79	756.6	85.5	29.7	58.1	3	4	3	21	.....	.....	.....	.....	.....	.....	.....	3	0.04	1.0
UNITED STATES.																										
New Eng'd states.																										
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.97	761.2	30.04	763.0	58.9	14.9	86.4	3	2	1	.....	11	.....	2	2	10	3133	5042	3	4.41	112.0
Portland	N. 43 39	W. 70 15	7.27 a.m.	45	14	30.00	762.0	30.05	763.3	64.6	18.1	83.6	4	8	2	4	7	1	.....	4	1	5103	8212	5	3.98	101.1
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.97	608.8	30.05	763.3	45.2	7.3	91.0	...	10	9	5	1	1	.....	5	.....	20870	33586	3	8.63	219.2
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.92	760.0	30.06	763.5	65.8	18.8	86.9	4	7	7	5	2	4	.....	2	.....	5722	9208	6	5.01	127.3
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	30.04	763.0	30.07	763.8	65.9	18.8	91.8	7	4	.....	6	4	.....	.....	5	5	7452	11993	4	6.41	162.8
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	30.04	763.0	30.09	764.3	66.9	19.4	89.4	12	2	.....	9	2	1	.....	2	3	3796	6109	5	7.13	181.1
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	29.96	761.0	30.07	763.8	65.4	18.6	86.9	9	1	2	2	5	2	1	4	5	3957	6368	5	5.60	142.2
Mid. Atlan. states.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	29.99	761.7	30.07	763.8	68.1	20.1	75.9	8	.....	4	1	14	1	.....	2	1	3419	5502	5	5.27	133.9
New York City	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.91	759.7	30.08	764.0	68.5	20.3	83.1	2	5	3	1	5	5	1	8	1	5352	8613	5	8.56	217.4
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	117	36	29.96	761.0	30.08	764.0	68.4	20.2	82.9	7	3	1	3	7	.....	1	7	2	5041	8112	6	4.30	109.2
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	30.05	763.3	30.08	764.0	69.2	20.7	83.5	4	2	6	4	4	1	2	7	1	8032	12926	6	5.12	130.0
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	30.04	763.0	30.05	763.3	69.7	20.9	86.7	6	1	3	3	4	1	4	9	.....	5808	9347	5	4.04	102.6
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	22	7	30.04	763.0	30.06	763.5	69.8	21.0	88.1	9	3	1	5	1	1	6	5	.....	8391	13504	6	5.04	128.0
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.03	762.7	30.06	763.5	71.2	21.8	88.0	3	4	1	1	7	3	1	10	1	8180	13164	5	5.30	134.6
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.05	763.3	30.07	763.8	70.7	21.5	89.5	5	2	.....	6	5	1	3	9	.....	9192	14793	6	4.19	106.4
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.04	763.0	30.09	764.3	71.1	21.7	75.9	13	1	2	1	5	.....	3	5	1	3237	5209	5	1.74	44.2
Washington City	N. 38 54	W. 77 02	7.00 a.m.	106	32	29.98	761.5	30.09	764.3	69.0	20.6	83.8	7	4	2	3	2	.....	2	5	6	3107	5000	5	1.01	25.7
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	8	2	30.05	763.3	30.06	763.5	71.8	22.1	94.6	4	3	3	5	2	4	2	8	.....	5735	9229	7	1.10	27.9
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.05	763.3	30.07	763.8	72.1	22.3	88.2	4	1	1	7	6	1	3	8	.....	8395	13510	5	2.56	65.0
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.40	746.7	30.07	763.8	69.4	20.8	79.7	2	6	3	1	2	.....	2	5	10	1890	3042	5	2.85	72.4
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.04	763.0	30.07	763.8	73.0	23.1	85.2	4	1	2	7	3	.....	5	6	3	4715	7588	6	2.95	74.9
S. Atlantic states.																										
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.04	763.0	30.06	763.5	74.0	23.3	89.0	.....	.....	4	7	.....	3	5	10	2	10441	16803	6	6.58	167.1
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	12	4	30.03	762.7	30.04	763.0	75.1	23.9	89.6	3	.....	4	9	2	1	1	10	1	7462	12009	7	5.89	149.6
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.05	763.3	30.06	763.5	74.9	23.8	89.0	6	2	2	8	3	.....	2	7	1	9942	16000	6	6.86	174.2
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.00	762.0	30.04	763.0	73.9	23.3	93.6	5	3	2	3	2	1	3	10	2	6705	10790	5	5.33	135.6
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	30.01	762.2	30.06	763.5	73.4	23.0	87.8	2	1	1	5	1	4	1	11	5	3432	5523	6	9.58	243.3
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.25	742.9	30.08	764.0	69.3	20.7	84.9	3	2	1	4	2	1	3	15	.....	3313	5332	5	2.08	52.8
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	29.99	761.7	30.04	763.0	75.4	24.1	87.3	3	3	4	3	.....	1	.....	12	5	4505	7250	6	6.12	155.4
Augusta a	N. 33 28	W. 81 54	6.40 a.m.	183	56	29.91	759.7	30.10	764.5	73.1	22.8	84.7	2	3	3	1	2	6	1	9	3	2218	3570	4	4.36	110.7
Savannah b	N. 32 05	W. 81 05	6.44 a.m.	87	26	29.97	761.2	30.06	763.5	75.4	24.1	87.4	9	3	3	6	.....	2	1	4	1	3325d	5351d	5	8.41	213.6
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.00	762.0	30.04	763.0	76.9	24.9	88.4	4	2	1	7	.....	1	1	5	10	3451	5551	4	5.21	132.3
Florida penin'la.																										
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.01	762.2	30.03	762.7	78.2	25.7	85.0	3	2	1	1	1	4	5	12	2	5002	8050	4	8.11	206.0
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.00	762.0	30.02	762.5	82.1	27.8	77.6	....	1	2	.....	4	12	8	4	.....	5366	8636	6	3.16	80.3
Sanford	N. 28 48	W. 81 23	6.42 a.m.	35	11	29.98	761.5	30.02	762.5	76.7	24.8	90.4	5	4	1	3	2	3	1	12	.....	3209	5164	2	11.09	281.7
East Gulf states.																										
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1129	344	28.94	735.1	30.09	764.3	69.4	20.8	84.8	.....	6	3	2	1	4	5	9	1	4939	7948	3	2.06	52.3
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.02	762.5	30.04	763.0	75.3	24.1	85.5	7	3	1	3	2	2	.....	13	.....	4385	7057	4	2.07	52.6
Mobile	N. 30 41	W. 88 02	6.16 a.m.	35	11	30.03	762.7	30.07	763.8	72.8	22.7	88.5	12	13	.....	2	.....	1	.....	2	1	4188	6740	4	1.26	32.0
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.84	757.9	30.07	763.8	71.6	22.0	90.8	3	5	4	1	.....	5	....	10	3	2829	4553	4	3.05	77.5
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.83	757.7	30.07	763.8	71.9	22.2	84.2	3	.....	.....	.....	3	7	7	6	5	3045	4900	2	2.16	54.9
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	29.98	761.5	30.03	762.7	78.5	25.8	81.7	3	5	1	1	1	3	4	10	3	4372	7036	3	0.87	22.1
West Gulf states																										
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.83	757.7	30.06	763.5	72.9	22.7	85.6	5	.....	.....	2	11	4	3	5	1	3251	5232	4	1.99	50.5
Fort Smith	N. 35 22	W. 94 24	5.50 a.m.	451	137	29.58	751.3	30.04	763.0	69.0	20.6	88.2	3	.....	.....	.....	.....	.....	14	1	13	2720	4377	5	3.73	94.7
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.76	755.9	30.07	763.8	70.9	21.6	88.0	5	1	1	....	1	.....	2	1	20	2555	4112	3	3.26	82.8
Galveston	N. 29 18	W. 94 47	5.49 a.m.	40	12	29.99	761.7	30.03	762.7	80.3	26.8	82.8	1	.....	1	2	11	6	3	7	.....	6577	10574	3	1.77	45.0
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	29.98	761.5	30.01	762.2	78.2	25.7	88.1	5	1	1	1	5	7	3	3	5	6610	10638	3	1.28	32.5
Palestine	N. 31 45	W. 95 40	5.45 a.m.	533	162	29.52	749.8	30.06	763.5	71.7	22.1	88.3	2	.....	.....	.....	14	5	1	8	1	5880	9463	2	0.66	16.8
Rio Grande valley.																										
Brownsville	N. 25 53	W. 97 26	5.38 a.m.	57	17	29.92	760.0	29.98	761.5	74.8	23.8	94.1	5	.....	.....	.....	3	7	3	.....	13	4884	7859	2	0.88	22.4
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.79	756.7	30.03	762.7	73.3	22.9	85.7	.....	.....	.....	.....	.....	20	9	.....	2	5392	8677	1	0	0
Ohio val. & Tenn.																		.....								
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.28	743.7	30.08	764.0	68.1	20.1	92.2	3	7	1	4	3	3	1	5	4	2798	4503	4	2.54	64.5
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.09	738.9	30.10	764.5	66.4	19.1	90.5	6	.....	.....	3	.....	2	.....	14	6	2803	4511	4	4.75	120.6
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.74	755.4	30.07	763.8	72.7	22.6	81.1	3	9	.....	1	4	7	3	2	2	3567	5740	3	1.27	32.3
Nashville	N. 36 10	W. 86 47	6.21 a.m.	549	167	29.51	749.5	30.07	763.8	68.5	20.3	85.9	2	3	6	2	1	2	8	7	.....	3100	4999	4	2.81	71.4
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.51	749.5	30.08	764.0	68.2	20.1	80.2	5	1	2	3	9	4	1	3	3	3780	6083	3	4.81	122.2
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.28	743.7	30.06	763.5	65.7	18.7	73.0	6	3	3	4	7	1	1	4	2	3357	5402	3	0.46	11.7
Cincinnati	N. 39 06	W. 84 30	6.30 a.m.	620	189	29.44	747.8	30.07	763.8	68.3	20.2	73.3	8	3	5	2	2	4	3	.....	4	3165	5093	3	2.05	52.1
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.23	742.4	30.06	763.5	65.1	18.4	74.5	7	4	5	4	4	3	2	2	.....	3612	5813	4	0.70	17.8
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	766	233	29.26	743.2	30.05	763.3	64.6	18.1	83.5	5	10	1	4	2	1	2	6	.....	3444	5542	3	2.94	74.7
Lower lake region.																										
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.39	746.5	30.04	763.0	61.7	16.5	80.8	1	.....	7	17	5	....	.....	1	.....	6673	10739	4	2.52	64.0
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	690	210	29.30	744.2	30.02	762.5	63.8	17.7	79.2	.....	3	1	4	13	2	4	3	1	6180	9946	4	4.56	115.8
Oswego	N. 43 29	W. 76 35	7.02 a.m.	334	102	29.68	753.9	30.03	762.7	64.3	17.9	78.1	1	2	3	5	8	10	1	1	.....	5683	9146	4	1.71	43.4
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.33	745.0	30.04	763.0	65.8	18.8	73.9	2	3	1	4	13	3	4	1	.....	5852	9418	3	2.16	54.9
Sandusky	N. 41 25	W. 82 40	6.37 a.m.	639	195	29.38	746.2	30.04	763.0	66.6	19.2	72.3	4	1	4	13	5	1	1	2	.....	7588	12212	3	2.48	63.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for August, 1884.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
U. S.—Continued.																												
L. l. region—Con.	° ′	° ′																										
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.33	745.0	30.05	763.3	61.0	17.8	76.0	3	2	.....	3	7	11	4	1	.....	5572	8967	3	1.65	41.9
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.35	745.5	30.02	762.5	64.5	18.1	78.8	6	2	3	8	7	.....	1	.....	4	4754	7651	3	1.48	37.6
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.35	745.5	30.04	763.0	64.0	17.8	73.2	2	10	2	8	5	1	2	1	.....	5099	9172	3	1.55	39.4
Upper lake region																												
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.33	745.0	29.97	761.2	58.1	14.5	83 3	.....	6	10	4	5	4	.....	1	1	5975	9616	4	2.69	68.3
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	613	187	29.32	744.7	29.96	761.0	57.7	14.3	82.3	6	5	6	1	8	2	.....	1	2	5792	9321	5	4.71	119.6
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.38	746.2	30.03	762.7	62.1	16.7	82.7	5	3	4	2	7	3	3	4	.....	7045	11338	5	2.30	58.4
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.35	745.5	29 99	761.7	59.8	15.4	81.8	2	8	2	7	4	4	1	.....	3	6000	9656	5	3.28	83.3
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.20	743.2	29.97	761.2	60.0	15.6	78.6	3	9	8	3	2	3	1	.....	2	5804	9340	4	5.46	138.7
Port Huron	N. 43 00	W. 82 26	6.38 a.m	633	193	29.36	745 7	30.02	762.5	61.4	16.3	84.3	1	6	3	5	5	4	.....	3	4	5634	9067	4	1.28	32.5
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.34	745 2	30.03	762.7	64.5	18.1	78.2	1	3	4	5	7	2	3	2	4	4996	8040	4	2.50	63.5
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.28	743.7	30.02	762.5	61.4	16.3	84.3	3	6	7	7	3	2	.....	2	1	6709	10894	5	1.84	46.7
Duluth	N. 46 48	W. 92 06	6.00 a.m.	687	209	29.24	742.7	29.96	761.0	60.2	15.7	84.1	1	5	7	3	1	.....	3	6	5	5856	9424	4	6.92	175.8
Upper Miss. val.																												
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	801	244	29.13	739.9	29.96	761.0	62.4	16.9	83.5	.....	3	6	2	5	12	.....	1	2	6190	9962	4	2.89	73.4
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.24	743 7	29.99	761 7	62.7	17.1	82.4	2	5	3	4	12	1	1	1	2	5166	8314	5	3.82	97.0
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.38	746.2	30.01	762.2	63.7	17.6	80.9	.....	8	3	7	1	3	3	4	2	5472	8806	4	3.84	97.5
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.16	740 7	30.04	763 0	61.8	16.6	84.4	4	4	4	5	3	2	2	.....	7	3578	5758	3	3.84	97.5
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.31	745 2	30.02	762 5	61.4	16.3	84.5	.....	8	3	3	6	2	2	.....	7	3278	5275	4	4.25	107.9
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.40	746.7	30.03	762 7	65.6	18.7	80.5	2	3	2	4	4	5	5	2	4	5111	8225	3	2.74	69 6
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.70	754 4	30.07	763.8	69.7	20.9	86.1	9	5	2	3	7	2	.....	3	.....	4112	6618	3	2.74	69.6
Springfield	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.40	746.7	30.06	763 5	65.4	18.6	73.5	2	3	1	5	6	5	2	5	2	5032	8098	3	1.54	39.1
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	583	178	29.47	748.5	30.06	763.5	68.4	20.2	81.5	4	3	6	2	1	8	4	1	2	7411	11927	4	1.21	30.7
Missouri valley.																												
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.18	741.2	30.04	763.0	66.1	18.9	82.9	4	3	.....	.....	6	7	2	.....	9	4187	6738	5	4.65	118.1
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.88	733.5	30.02	762.5	64.2	17.9	86.5	4	4	2	3	9	6	1	1	1	5644	9083	3	7.07	179.6
Fort Bennett	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.41	721.8	29 95	760.7	60.0	15.6	82.3	.....	6	1	1	.....	13	.....	6	4	6996	11259	4	0.74	18.8
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.62	726.9	29.96	761.0	57.4	14.1	89.1	1	10	1	.....	6	12	.....	1	.....	7030	11314	4	1.18	30.0
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.72	729.5	30.00	762.0	61.8	16.6	86.8	2	4	5	1	6	3	.....	2	8	3113	5010	4	2.61	66.3
Extreme N'thwest.																												
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	28.96	735.6	29.92	760 0	56.2	13.4	89.1	4	3	2	2	14	3	.....	2	1	7368	11858	4	6.17	156.7
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.06	738.1	29.91	759.7	53.8	12.1	94.0	1	10	2	3	9	4	1	.....	1	6354	10225	5	7.18	182.4
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28 16	715.3	29.92	760.0	56.9	13.8	86.6	1	7	1	.....	2	4	4	4	8	5858	9427	4	3.80	96.5
Fort Buford	N. 48 00	W. 103 56	5.12 a.m.	1930	588	27.94	709.7	29.92	760.0	54.3	12.4	80.5	3	3	5	2	2	5	7	2	2	6209	10089	4	1.06	26.9
Fort Totten	N. 47 57	W. 98 57	5.32 a.m.	1500	457	28.34	719.8	.....	.....	57.0	13.9	86.0	3	4	3	4	9	6	1	1	.....	9828	15816	4	3.72	94.5
Northern slope.																												
Fort Assinaboine	N. 48 32	W. 109 42	4.49 a.m.	2720	829	27.18	690.4	29.94	760.5	54.0	12.2	76.6	.....	9	10	4	.....	4	1	2	1	5542	8919	3	2.61	66.3
Fort Benton	N. 47 50	W. 110 40	4.45 a.m.	2681	817	27.24	691.9	30.02	762.5	56.0	13.3	72.3	.....	1	3	10	4	.....	3	7	3	4742	7631	3	0.79	20.1
Fort Custer	N. 45 42	W. 107 34	4.58 a.m.	3040	926	26.86	682.2	29.92	760.0	54.7	12.6	78.8	2	3	5	....	.....	8	8	3	2	4750	7044	5	2.09	53.1
Fort Maginnis	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25 65	651.5	29.96	761.0	53.8	12.1	65.7	.....	7	9	9	4	1	.....	1	.....	6740	10847	3	1.33	33.8
Fort Shaw	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.46	672.1	29.99	761 7	52.0	11.1	67.4	.....	4	17	3	.....	.....	.....	5	2	4658	7496	3	0.59	15.0
Helena	N. 46 34	W. 112 04	4.40 a.m.	4044	1232	25.90	657.8	29.94	760 5	57.5	14.2	50.9	1	1	7	19	.....	.....	1	.....	2	4635	7459	3	0.47	11.9
Poplar River	N. 48 08	W 105 10	5.07 a.m.	2030	619	.....	.....	.....	.....	52.7	11.5	79.9	7	2	10	4	2	2	4	.....	.....	.....	.....	4	0.68	17.3
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25 47	646 9	29.91	759.7	54.2	12.3	76.1	.....	1	3	6	6	3	3	5	4	2163	3481	2	3.07	78.0
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6105	1861	24.14	613.1	29.86	758.4	51.5	10.8	71.3	3	15	3	4	3	2	.....	1	.....	6741	10848	3	2.07	52.6
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.14	689.3	29.94	760.5	60.1	15.6	85.4	1	4	6	1	1	10	2	1	5	6535	10517	4	2.13	54.1
Middle slope.																												
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	18.07	459.0	29.86	758.4	31.3	−0.4	79.2	1	6	14	3	2	.....	2	3	.....	9113	14666	2	0.25	6.3
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.86	631.4	29.88	758 9	58.6	14.8	68.2	.....	5	1	3	20	1	1	.....	.....	4475	7202	3	1.71	43.4
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.09	662.7	29.83	757.7	58.9	14.9	76.0	.....	3	10	5	1	2	5	2	3	5323	8566	4	2.17	55.1
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2517	767	27.46	697.5	29.94	760.5	64.3	17.9	84.8	2	3	1	3	4	13	3	2	.....	8874	14281	5	4.82	122.4
Fort Elliott	N. 35 30	W. 100 21	5.27 a.m.	2050	808	27.30	693.4	29.94	760.5	69.0	18.9	81.1	.....	5	.....	3	5	9	3	4	2	7024	11304	5	5.60	142.2
Southern slope.																												
Fort Sill	N. 34 40	W. 98 23	5.34 a.m.	1200	366	28.80	731.5	29.98	761.5	69.3	20.7	80.2	4	.....	1	1	3	8	1	5	8	7101	11428	4	1.21	30.7
Fort Concho	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.15	715.0	30.01	762.2	70.9	21.6	75.5	.....	3	.....	3	15	1	3	6	.....	6170	9930	2	1.20	30.5
Fort Stockton	N. 30 53	W. 102 53	5.16 a.m.	3010	917	27.03	686.5	29.97	761.2	69.1	20.6	81.9	.....	.....	2	3	13	7	.....	2	4	7146	11500	3	2.75	69.8
Fort Davis	N. 30 38	W. 103 50	5.12 a.m.	4928	1502	25 27	641.8	29.91	759.7	64.3	17.9	72.7	3	.....	.....	9	2	1	.....	.....	10	3794	6106	2	6.70	170.2
Southern plateau.																												
Fort Thomas	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.24	691.9	29.86	758.4	68.8	20.4	56.3	.....	.....	2	1	3	1	5	.....	19	.....	.....	4	2.04	51.8
Fort Apache	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	25 08	637.0	29.80	756.9	56.6	13.7	81.1	.....	.....	.....	3	3	2	19	4	.....	3819	6146	5	5.59	142.0
Fort Grant	N. 32 39	W. 109 57	4.48 a.m.	4856	1480	25.27	641.8	29.84	757.9	66.9	19.4	57.6	3	1	.....	.....	.....	5	4	5	13	3823	6160	4	2.41	61.2
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5389	1642	24.80	629.9	29.82	757.4	56.8	13.8	69.5	.....	.....	1	.....	8	3	2	1	10	3893	6264	2	1.57	39.9
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.65	753.1	29.79	756.7	79.2	26.2	65.7	2	3	1	6	1	7	3	3	5	4167	6706	2	0.32	8.1
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3764	1147	26 29	667 8	29.89	759.2	71.0	21.7	64.4	1	.....	3	.....	.....	.....	3	3	21	1474	2372	6	3.98	101.1
Middle plateau.																												
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.67	652.0	29.86	758.4	63.5	17.5	44.0	3	1	.....	.....	.....	7	1	8	11	3492	5620	3	0 73	18.5
Northern plateau.																												
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.17	690.1	29.92	760.0	61.5	16.4	64.2	1	1	6	2	3	8	3	1	6	2839	4569	2	0.07	1.8
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.19	741.4	30.00	762.0	60.2	15.7	70.2	.....	1	.....	.....	.....	.....	.....	4	26	987	1588	1	0.06	1.5
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	27 98	710.7	29.98	761.5	55.4	13.0	69.5	2	2	.....	9	1	1	.....	.....	16	2895	4059	1	0.54	13.7
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1667	508	28 25	717.5	29.97	761.2	57.6	14.2	59.8	.....	1	.....	6	5	7	8	4	.....	4320	6952	2	0.09	2.3
N. Pac. coast reg'n																												
Fort Canby	N. 46 16	W. 124 04	3.52 a.m.	179	54	29.83	757.7	30.02	762 5	58.0	14.4	85.8	7	3	10	1	7	1	1	1	.....	5503	8856	6	1.23	31.2
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	29.97	761.2	30.01	762 2	57.2	14.0	85.8	.....	.....	.....	1	3	.....	.....	.....	27	1225	1971	3	0.96	24.4
Tatoosh Id.	N. 48 23	W. 124 44	3.49 a.m.	86	26	29.92	760.0	30.01	762 2	53.3	11.8	91.3	.....	.....	5	3	11	.....	11	.....	1	6010	9682	4	5.49	139.4
Portland	N. 45 32	W. 122 43	3.57 a.m	67	20	29.93	760.2	30.00	762.0	58.4	14.7	84.7	8	5	1	2	2	.....	.....	.....	13	3258	5243	2	0.33	8.4
Roseburg m	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.40	748.3	30.00	762 0	55.8	13.2	81.1	1	.....	1	.....	.....	.....	.....	...	16	1412	5272	2	0.03	0.8
Mid Pac. coast reg																												
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.30	744.2	29.98	761.5	53.7	12.1	90.8	27	.....	.....	.....	.....	3	.....	.....	1	16448	26470	2	0.33	8.4
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	332	101	29.55	750.6	29.90	759.4	68.0	20.0	58.5	5	11	.....	.....	4	3	3	.....	5	3492	5620	0	inap.	inap.
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	64	19	29.81	757.2	29.88	758.9	63.1	17.3	73.1	.....	.....	.....	.....	13	17	.....	.....	1	5234	8584	0	inap.	inap.
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.88	758.9	29.95	760.7	55.4	13.0	91.5	.....	.....	5	24	.....	1	.....	.....	1	8351	13439	8	0.04	1.0
S. Pac. coast reg'n.																												
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	299	91	29.55	750 6	29.94	760.5	61.8	16.6	87.0	1	.....	7	.....	1	.....	2	13	7	3695	5946	2	0.02	0.5
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.83	757.7	29.90	759.4	64.8	18.2	88.2	8	7	3	2	2	1	3	3	4	4307	7028	7	inap.	inap.
Alaska stations.																												
Ft Saint Michael	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.82	757.4	29.85	758.2	53.4	11.9	86.1	8	2	6	4	2	.....	2	3	4	6343	10208	6	1.40	35.6
Sitka	N. 57 03	W. 135 19	3.07 a m.	63	19	29.83	757.7	29.89	759.2	53.6	12.0	84.9	.....	1	7	2	.....	3	14	1	3	4550	7332	8	6.91	175.5
Unalaskha	N 53 53	W. 166 32	1.02 a.m.	13	4	29.78	756 4	29.79	759.7	48.8	9.3	88.9	.....	4	3	7	3	7	.....	3	4	6037	9716	8	4.90	124.5
Sub-Series.																												
Behring Island	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.78	756.4	29.80	756.9	48.2	9.0	95.5	2	1	1	1	2	1	9	8	6	5419	8721	8	1.71	43.4
Bluefields	N. 12 00	W. 83 43	6.31 a.m.	20	6	29.90	759.4	29.92	760.0	76.0	24.4	92.0	4	19	.....	.....	.....	.....	.....	8	.....	.....	.....	6	16.40	416.6
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.01	589.1	.....	.....	53.8	12.1	83.7	3	.....	1	3	3	1	.....	.....	20	.....	.....	6	1.06	26.9
Fort Chimo f	N 59 00	W. 68 00	7.36 a m	126?	38?	29.74	755.4	29.88	758.9	48.6	9.2	69.7	1	6	7	4	4	.....	1	1	1	.....	.....	8	3.28	83.3
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.05	763.3	30.05	763.3	79.9	26.6	79	.....	.....	.....	.....	1	7	21	2	.....	.....	.....	8	1.74	44.2
Puerto Berrio.b	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.52?	749.8?	30.08?	764.0?	78.8	26.0	90.2	4	.....	.....	.....	14	1	.....	.....	10	.....	.....	8	13.88	352.5
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	29.89	759 2	29.95	760.7	77.2	25.1	86.6	1	.....	.....	1	.....	.....	1	28	.....	.....	.....	5	3.84	97.5
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	29.81	757.2	29.87	758.7	38.9	3.8	95.3	7	6	7	6	2	.....	.....	3	.....	9000	14484	4	10.35	262.9

OCEAN SQUARE DATA FOR AUGUST, 1884.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W. 22.5°	29.97	761.2	79.4	26.3	2		1	1	11	2	7	2		5	3.6
12.5 27.5	29.98	761.5	80.2	26.8	2	1	4	1	4	4	5	5	1	4	3.4
12.5 32.5	30.00	762.0	80.9	27.2	2	2	1	1	1	2	9	8	1	4	3.4
12.5 37.5	30.02	762.5	81.9	27.7			1	1		1	15	9		4	3.6
12.5 42.5	30.04	763.0	83.3	28.5					2	1	15	8	1	4	3.4
12.5 47.5	30.05	763.3	84.1	28.9					1	1	20	4	1	4	3.5
12.5 52.5	30.05	763.3	83.6	28.7					2	2	25	2			3.3
17.5 22.5	30.00	762.0	78.6	25.9	4				2	2	9	10		4	3.4
17.5 27.5	30.02	762.5	79.2	26.2	2					1	9	15		4	3.5
17.5 32.5	30.03	762.7	80.2	26.8							14	13		4	3.9
17.5 37.5	30.05	763.3	81.1	27.3						1	19	7		4	3.8
17.5 42.5	30.07	763.8	82.8	28.2						1	21	6		3	3.9
17.5 47.5	30.08	764.0	83.6	28.7						1	23	4		3	3.9
17.5 52.5	30.06	763.5	84.3	29.1					1	4	24	2			3.4
17.5 57.5	30.03	762.7	84.0	28.9						6	24	1			3.6
22.5 22.5	30.04	763.0	77.2	25.1	3				1		7	18		2	3.7
22.5 27.5	30.07	763.8	78.4	25.8	1					1	13	14		2	3.2
22.5 32.5	30.09	764.3	79.4	26.3	1						18	10		2	3.7
22.5 37.5	30.11	764.8	80.6	27.0							24	7			3.9
22.5 42.5	30.11	764.8	82.1	27.8	1					1	24	4		1	3.7
22.5 47.5	30.11	764.8	83.0	28.3						4	25	2			3.8
22.5 52.5	30.10	764.5	83.4	28.6					2	5	23	1			3.7
22.5 57.5	30.08	764.0	83.5	28.6					3	8	20				3.8
22.5 62.5	30.07	763.8	82.5	28.1					2	8	19		2		3.4
22.5 67.5	30.06	763.5	82.2	27.9					1	9	21				3.5
22.5 72.5	30.04	763.0	82.9	28.3					1	10	18	2			3.5
27.5 22.5	30.09	764.3	76.1	24.5	11				1		6	12		1	3.1
27.5 27.5	30.12	765.0	77.0	25.0	7					1	10	11		2	3.3
27.5 32.5	30.15	765.8	78.5	25.8	4				1		13	13			3.7
27.5 37.5	30.16	766.1	79.8	26.6	2						20	9			3.9
27.5 42.5	30.16	766.1	80.9	27.2	3					3	23	2			4.3
27.5 47.5	30.16	766.1	81.5	27.5	1					5	22	3			3.5
27.5 52.5	30.15	765.8	82.0	27.8					4	6	18	3			3.6
27.5 57.5	30.14	765.5	82.3	27.9					5	11	4	1			3.7
27.5 62.5	30.12	765.0	82.3	27.9					6	14	10	1			3.8
27.5 67.5	30.10	764.5	82.4	28.0	1	1		1	2	15	9	1	1		3.5
27.5 72.5	30.09	764.3	82.5	28.1	1				9	13	6	2			3.1
27.5 77.5	30.07	763.8	82.6	28.1			1		10	10	10				2.5
32.5 12.5	30.05	763.3	76.3	24.6	13	2	6	1	1		5	2		1	2.5
32.5 17.5	30.08	764.0	74.8	23.8	14		5	1		1	2	6	1	1	2.1
32.5 22.5	30.13	765.3	74.6	23.7	11	3	1		1		6	9			3.0
32.5 27.5	30.17	766.3	75.3	24.1	7	3	2			1	8	10			3.0
32.5 32.5	30.19	766.8	76.3	24.6	6	1	1		1	2	8	12			3.4
32.5 37.5	30.20	767.1	77.7	25.4	4	1			2	4	10	9		1	3.7
32.5 42.5	30.22	767.6	78.9	26.1	3				3	5	17	3			3.8
32.5 47.5	30.23	767.8	79.7	26.5	2	1			5	8	12	2	1		3.4
32.5 52.5	30.21	767.3	80.1	26.7					8	9	9	4	1		3.2
32.5 57.5	30.19	766.8	80.6	27.0	1				8	14	6	1	1		3.4
32.5 62.5	30.14	765.5	80.1	26.7				1	10	17	2	1			4.0
32.5 67.5	30.12	765.0	80.4	26.9				3	16	7	1	4			3.5
32.5 72.5	30.10	764.5	80.4	26.9				2	16	3	7	1	2		3.6
32.5 77.5	30.06	763.5	78.5	25.8	4		3	9	1	3	4	4	3		3.4
37.5 12.5	30.06	763.5	74.5	23.6	11	5	6	2	1	1	2	2		1	2.8
37.5 17.5	30.11	764.8	71.5	21.9	9	6	4				2	7	3		2.8
37.5 22.5	30.15	765.8	71.5	21.9	11	6	3	1			3	6	1		3.0
37.5 27.5	30.19	766.8	72.5	22.5	9	3	4	1	2	1	1	8	2		2.9
37.5 32.5	30.20	767.1	72.9	22.7	4	8	4	2	5		4	4			3.4
37.5 37.5	30.21	767.3	74.0	23.3	9	8	2	1	4	1	4	2			4.1
37.5 42.5	30.24	768.1	75.0	23.9	8	6	1	1	6	1	6	1		1	3.8
37.5 47.5	30.26	768.6	75.4	24.1	5	3	2	3	4	8	3	3			3.5
37.5 52.5	30.25	768.3	76.4	24.7	4	1	1	3	14	4	4				3.6
37.5 57.5	30.20	767.1	77.3	25.2	1	1	1	3	13	7	3	1	1		3.5
37.5 62.5	30.15	765.8	76.0	24.4	1			9	14	6		1			4.0
37.5 67.5	30.11	764.7	75.0	23.9	2	1	2	7	15	1	1	1		1	4.3
37.5 72.5	30.07	763.8	73.9	23.3	4	4	2	6	4	3	2	5		1	3.9
42.5 12.5	30.03	762.7	72.3	22.4	8	2	6	3	1			9			2.7
42.5 17.5	30.08	764.0	68.1	20.1	3	9	10	3				5	1		3.4
42.5 22.5	30.11	764.8	67.6	19.8	4	9	11	3	1			2	1		3.9
42.5 27.5	30.13	765.3	67.9	19.9	3	9	8	7	1			2	1		4.1
42.5 32.5	30.14	765.5	68.6	20.3	2	10	7	4	3	1		1	3		3.8
42.5 37.5	30.16	766.1	69.1	20.6	3	10	8	3	3	1	2		1		4.2
42.5 42.5	30.17	766.3	69.2	20.7	2	9	6	7	5	1			1		4.3
42.5 47.5	30.19	766.8	66.9	19.4	1	7	9	8	4		1		1		4.0
42.5 52.5	30.17	766.3	69.2	20.7	1	7	6	8	7	2					3.9
42.5 57.5	30.15	765.8	69.9	21.1	1	3	7	8	7	5					3.9
42.5 62.5	30.11	764.8	68.2	20.1	2	3	4	11	6	1	2	1	1		3.5
42.5 67.5	30.07	763.8	64.9	18.3	3	2	4	5	10	3	2		2		3.4
47.5 12.5	30.02	762.5	66.3	19.1	3	5	8	8	5		1	1			4.5
47.5 17.5	30.01	762.2	64.0	17.8	5	6	9	9	2						4.2
47.5 22.5	30.00	762.0	62.5	16.9	3	7	10	8	2	1					4.9
47.5 27.5	29.99	761.7	61.5	16.4	3	9	9	5	3	1	1				5.0
47.5 32.5	30.01	762.2	61.5	16.4	3	12	5	6	2	1	1	1			5.0
47.5 37.5	30.04	763.0	61.5	16.4	1	9	13	4	2			2			4.6
47.5 42.5	30.05	763.3	59.7	15.4		11	10	7	2	1					4.7
47.5 47.5	30.04	763.0	55.6	13.1		7	12	9	3						4.1
52.5 12.5	29.93	760.2	60.6	15.9		3	9	14	5						4.8
52.5 17.5	29.85	758.2	59.0	15.0		4	12	11	4						5.4
52.5 22.5	29.83	757.7	57.0	13.9	1	13	6	9	1				1		5.3
52.5 27.5	29.84	757.9	55.0	12.8	2	11	10	7	1						5.6
52.5 32.5	29.85	758.2	54.2	12.3	1	11	9	8					1	1	4.9
52.5 37.5	29.86	758.4	53.2	11.8	2	6	12	8	1		1	1			5.2
52.5 42.5	29.87	758.7	51.2	10.7	1	8	11	5	2	1	2	1			5.1
52.5 47.5	29.87	758.7	49.3	9.6	3	7	11	6	2	2					4.7
57.5 12.5	29.75	755.6	57.0	13.9		2	3	16	9	1					4.9
57.5 17.5	29.67	753.6	55.2	12.9		4	7	9	7	2	1		1		5.4
57.5 22.5	29.63	752.6	53.3	11.8	3	5	7	11	2	3					5.8
57.5 27.5	29.64	752.8	51.1	10.6	6	10	4	7	3		1				5.6
57.5 32.5	29.68	753.9	49.4	9.7	6	10	6	6	1			2			5.8
57.5 37.5	29.69	754.1	47.9	8.8	5	10	7	4	2		1	1		1	5.6
57.5 42.5	29.72	754.9	46.5	8.1	3	9	10	2	2			3		2	5.1
57.5 47.5	29.75	755.6	45.1	7.3	4	6	9	3	2		3	1	1		4.6

REVIEW.

INTERNATIONAL METEOROLOGY FOR AUGUST, 1884.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following description refers to chart ii. for the month of August, 1884. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-direction over the northern hemisphere, as determined from one simultaneous observation taken each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich, mean time.

Two well-marked areas of barometric minima appear on the chart; the first of these is enclosed by the isobar for 29.5 (749.3) and occupies the northwestern part of British India, the lowest mean pressure reported being 29.48 (748.8), at Lahore. In other parts of British India lying north of the twentieth parallel the means ranged from 29.5 (749.3) to 29.59 (751.6); south of the twentieth parallel they exceed 29.7 (754.4). The second area of low mean pressures is indicated by the isobar for 29.6 (751.8) and is situated in the neighborhood of Iceland, the lowest mean being 29.56 (750.8), at Stykkisholm. The barometric gradient increases gradually until the isobar for 30.0 (762.0) is reached; that isobar extending from northern Scandinavia south-southwestward to the southern counties of England and thence westward along the forty-eighth parallel to the Gulf of Saint Lawrence. In the North American continent the lowest mean pressures, 29.8 (756.9), are shown in southwestern Arizona; in that part of the United States lying west of the hundredth meridian and south of the forty-fifth parallel, except on the California coast, the means are less than 29.9 (759.4); on the north Pacific coast, and over the country east of 100° W., and south of 45° N., they exceed 30.0 (762.0), the highest, 30.1 (764.5), being in eastern Tennessee and northern Georgia. In Scandinavia, and in western and central Europe, and the southern part of England, the mean pressure ranges from 30.0 (762.0) to 30.09 (764.3); in the southern peninsulas and over the greater part of Russia it is less than 30.0 (762.0).

Only one well-defined area of barometric maxima appears on the chart, viz., that of the north Atlantic; this area is enclosed by the isobar for 30.2 (767.1) and extends over the ocean from about W. 32° to W. 58° and between N. 30° and 40°.

Compared with the chart for the preceding month (July, 1884), there has been, except on the Pacific coast, a general increase of pressure throughout the United States, being greatest in New England and the Maritime Provinces, and least in the Gulf states and Florida. Over the north Atlantic south of 50° N., the pressure has increased, while it has decreased over the region north of that parallel. In Europe the pressure has decreased slightly in Spain, while no change has occurred in Italy and France; in all other countries of the continent there has been an increase, amounting to about .15 inch in the northern peninsulas and ranging from .03 to .07 inch in Austria, Russia, and the British Isles. No material change has occurred in Asia.

Compared with the corresponding month of previous years, the mean atmospheric pressure over the United States was slightly below the normal in the northern districts from the lake region to the Pacific, but in the southern districts it was normal or slightly above. In Canada it was slightly above the normal, the excess being greatest in Nova Scotia. In Europe it was above the normal, especially so in the northern peninsulas, where the excess averaged .25 inch.

The following table shows the mean pressure and mean temperature for August, 1884, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last seven years.

Countries.	Mean pressure.			Mean temperature.		
	Aug mean of 7 (1877–'83) years.	Aug., 1884.	Departure.	Aug. mean of 7 (1877–'83) years.	Aug., 1884.	Departure.
				°	°	°
Algeria	30.02	.....	.....	89.1	.....	.....
Austro-Hungary	29.90	29.98	+ 0.08	73.6	71.9	— 1.7
British Isles	29.87	29.99	+ 0.12	62.9	67.7	+ 4.8
Denmark	29.81	30.04	+ 0.23	64.1	66.3	+ 2.2
France	29.98	30.03	+ 0.05	73.7	77.2	+ 3.5
Germany	29.92	30.04	+ 0.12	69.1	70.5	+ 1.4
India	29.61	29.60	— 0.01	83.1	83.3	+ 0.2
Italy	29.95	29.97	+ 0.02	81.3	79.4	— 1.9
Norway	29.76	30.01	+ 0.25	63.1	66.5	+ 3.4
Portugal	30.01	.....	.....	81.5	.....	.....
Russia	29.83	29.93	+ 0.10	71.6	66.7	— 4.9
Spain*	29.99	30.00	+ 0.01	80.7	81.5	+ 0.8
Sweden	29.78	30.07	+ 0.29	64.3	63.4	— 0.9

* Means for six years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of August, 1884, as compared with the means for seven years:

Stations.	Mean pressure.			Mean temperature.		
	Aug. mean of 7 (1877–'83) years.	Aug., 1884.	Departure.	Aug. mean of 7 (1877–'83) years.	Aug., 1884.	Departure.
				°	°	°
Astrakhan, Russia	29.86	29.90	+ 0.04	82.3	79.9	— 2.4
Archangel, Russia	29.74	30.00	+ 0.26	61.7	55.2	— 6.5
Angra, Azores*	30.17	.....	.....	73.0	.....	.....
Athens, Greece	29.88	29.91	+ 0.03	87.4	83.8	— 3.6
Beirut, Turkey in Asia	29.78	29.79	+ 0.01	88.4	85.5	— 2.9
Barnaul, Siberia, Asia	29.75	29.81	+ 0.06	67.8	65.1	— 2.7
Bridgetown, Barbadoes	29.99	29.98	— 0.01	83.6	83.1	— 0.5
Cape Town, Cape of Good Hope	.....	.....	.....	.....	.....	.....
Cagliari, Sardinia, Italy	.....	.....	.....	.....	.....	.....
Ekaterinburg, Russia	29.75	29.75	normal.	66.2	57.7	— 8.5
Fort Napier, Natal, South Africa	29.98	30.12	+ 0.14	67.8	74.1	+ 6.3
Freetown, Sierra Leone	29.96	29.87	— 0.09	81.6	86.8	+ 5.2
Funchal, Madeira Islands	30.12	30.08	— 0.04	75.6	75.2	— 0.4
Gibraltar	29.99	29.99	normal.	80.0	82.1	+ 2.1
Godthaab, Greenland	29.80	.....	.....	43.7	.....	.....
Havana, Cuba, W. I.	30.01	30.01	normal.	80.6	77.7	— 2.9
Malta, Mediterranean Sea*	29.96	29.91	— 0.05	82.9	80.6	— 2.3
Mauritius, Indian Ocean	30.17	30.14	— 0.03	71.7	71.7	normal.
Melbourne, New South Wales	30.07	29.97	— 0.10	49.8	51.1	+ 1.3
Mexico, Mexico	.....	.....	.....	.....	.....	.....
Nassau, Bahamas, W. I.	30.04	30.07	+ 0.03	84.1	84.0	— 0.1
Nikolaevsk on the Amoor, Asia	.....	.....	.....	.....	.....	.....
Paramaribo, D. Guiana, S. A	30.03	30.05	+ 0.02	80.2	79.9	— 0.3
Pekin, China	29.76	29.78	+ 0.02	76.5	74.5	— 2.0
Ponta Delgado, Azores	30.19	30.19	normal.	75.6	72.9	— 2.7
Sandwick Manse, Orkney Islands	29.80	29.88	+ 0.08	56.7	60.0	+ 3.3
San Juan de Puerto Rico, W. I.	30.02	30.02	normal.	81.5	79.9	— 1.6
Stykkisholm, Iceland	29.79	29.56	— 0.23	50.6	51.3	+ 0.7
Tashkend, Toorkistan, Asia	29.72	29.65	— 0.07	84.3	90.3	+ 6.0
Thorshavn, Färöe Islands	29.79	29.78	— 0.01	53.4	54.1	+ 0.7
Tiflis, Russia	29.78	29.84	+ 0.06	86.5	81.1	— 5.4
Tokei, Japan	29.88	29.84	— 0.04	75.9	72.0	— 3.9
Yeniseisk, Siberia, Asia	29.82	29.85	+ 0.03	63.1	63.0	— 0.1
York Factory, B. A	29.92	29.87	— 0.05	46.9	38.9	— 8.0
Zi-Ka-Wei, China	29.78	29.77	— 0.01	76.6	75.1	— 0.5

* Means for six years only.

The mean temperature of the air was colder than the average in all parts of the United States, except on the Pacific coast and in the southern Rocky mountain districts, the greatest deficiencies, about 3°.5, occurring in the central valleys. In Canada it was below the average in Ontario, but above in the other districts. In Europe the mean temperature was, in general, above the normal in the northern and western districts, and below the normal in the south and east. In British India it was 0°.2 above the seven years' mean, the highest mean temperature reported was 92°.2 Fahr. (33°.4 Cent.), at Trichinopoly, and the lowest was 70°.4 Fahr. (21°.3 Cent.), at Belgaum.

The following are some of the extremes reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Cairo, Egypt	94.5	34.7	York Factory, B. A	38.9	3.8
Tashkend, Turkestan, Asia	90.3	32.4	Ivigtut, Greenland	42.8	6.0
Petro-Alexandrovsk, Asia	88.2	31.2	Behring Island, Behring Sea	48.2	9.0
Freetown, Sierra Leone, Africa	86.8	30.4	Fort Chimo, Labrador	48.6	9.2
Beirut, Turkey in Asia	85.5	29.7	Unalashka, Alaska	48.8	9.3

In the United States the prevailing winds were from south to southwest and west over the country north of the fortieth parallel and from the Atlantic to the Pacific; along the Atlantic coast south of 40° N. they were northeasterly; elsewhere they were southerly and southeasterly. In Canada they were mostly southwesterly. Over the Atlantic ocean the prevailing winds were as follows: from the United States coast eastward to 50° W. and between 25° and 45° N., southeasterly, southerly, and southwesterly; from 50° W. eastward to the European coasts and between 35° and 60° N. they were northerly and northwesterly; south of 30° N., they were easterly and northeasterly. In Europe the winds were variable.

The rainfall during August, 1884, in the United States, exceeded the average in the following districts, viz., New England, the lake region, Mississippi and Missouri valleys, the extreme northwest, and on the eastern slope of the Rocky mountains. In all other parts of the United States it was less than the average, the largest deficiencies occurring in the Rio Grande valley and the Gulf states. In the southern districts of Europe the rainfall was slightly in excess of the average, while in the northern districts there was a slight deficiency.

STORM-TRACKS FOR AUGUST, 1884.

Chart iii. shows the paths of the more important depressions which appeared in the northern hemisphere during August, 1884. This chart continues the series of international charts begun in November, 1877, and in its preparation the following data have been used, viz.: Chart i. for each day of the month, containing the data of one simultaneous observation taken at 7 a. m., Washington, or 0h. 8m., p. m., Greenwich mean time, as heretofore published in the DAILY INTERNATIONAL BULLETIN; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

The approximate paths of thirty-seven depressions are shown on the chart, and in addition to these are also given the tracks of three typhoons which appeared in the China sea and Japan during August, 1884. The latter are taken from the "Bulletin Mensuel," published by the Rev. M. Dechevrens, director of the observatory at Zi-Ka-Wei, near Shanghai, China, and from the tri-daily weather maps of the Imperial Meteorological Observatory at Tokio, Japan, under direction of Mr. J. Arai.

Eleven depressions (numbers i. to xi., inclusive) are traced in the North American continent; these, for the most part, first appeared in the British Northwest Territories and moved east-southeastward to the northern part of the lake region and thence northeastward to northern Canada. They were, generally, of slight intensity, and their accompanying winds did not exceed the force of a moderate gale; they are described in detail under "Areas of low barometer," in the MONTHLY WEATHER REVIEW for August, 1884.

Of the ten depressions (numbers xii. to xxi., inclusive) traced over the north Atlantic, two were continuations of low areas which had previously crossed the American continent, passing into the ocean from the Labrador coast and thence northward beyond the sixtieth parallel; one (number xvi.) appeared off the eastern coast of Newfoundland, and moved east-northeastward to the Irish coast, where it disappeared; this was the most southerly depression of the month. Numbers xiii. and xvii. developed over the ocean north of the fiftieth parallel and west of the fortieth meridian, moving north-northeastward. The remaining disturbances are shown over the region north of 50° N., and between the meridians of 40° and 10° W.; they moved in a northeasterly direction to about 60° N., where they appear to have been pushed towards the west. The depressions which traversed the Atlantic during August, 1884, did not exhibit any great storm-energy, their attendant winds not exceeding the force of a fresh gale. The barometric minima of the month occurred in connection with the passage of the following: Number xii., 29.13 (739.9), on the 2d; number xv., 29.4 (746.7), on the 11th, and 29.31 (744.5), on the 19th; number xvii., 29.14 (740.1), on the 21st, and 29.0 (736.6), on the 22d; number xviii., 29.25 (742.9), on the 26th; number xxi., 29.39 (746.5 , on the 31st. In the other depressions the barometer did not fall below 29.5 (749.3). The depressions which appeared in Europe were mostly slight and unimportant and merit no special mention; their paths lie, mostly, in the eastern and northeastern parts of the continent. The numerous depressions which occupied the ocean to the west and northwest of the British Isles caused generally unsettled weather and severe thunder-storms over those islands.

Of the depressions traced in eastern Asia and over the Pacific ocean, that charted as number xxxii. passed over Niphon on the 15th, having apparently advanced from the Sea of Japan; the lowest barometer was 29.6 (752.0); number xxxiii. moved from the Yellow sea northeastward over Corea, and at the close of the month it was entering the Sea of Japan; the lowest pressure was 29.68 (753.9). In number xxxv. the barometer fell to 29.47 (748.5), on the 3d, in N. 48°, W. 162°; in xxxvi. the minimum was 29.33 (745.0), at Behring Island, on the 8th; in number xxxvii. it was 29.32 (744.7), at Unalashka.

Concerning the typhoons of the month of August, 1884, the first (3d–13th) appears to have first formed as a depression to the westward of Shanghai, and to have developed the violence peculiar to typhoons only after having reached the China sea, where it remained, to the northward of Formosa, for four days. As it approached southern Japan it was a well-developed typhoon, with barometer at the centre below 29.14 (740.1). During its passage over southern Japan it was attended by strong east to northeast gales and heavy rain.

The second typhoon (19th–24th) followed the usual parabolic course, first appearing to the eastward of Luzon on the 19th and crossing that island and the China sea during the 20th and 21st, when it curved to the northward and entered the continent in the vicinity of Amoy. The typhoon seems to have been most disastrous at Amoy, where several large vessels were totally wrecked, and many junks, with their crews, were swept away; the town itself also sustained great damage.

This typhoon was remarkable on account of its extraordinary velocity of movement, which was about 27.8 miles an hour throughout the period for which it is charted. The barometric minimum was observed at the "Lamocks" light-house (N. 23° 15′, E. 117° 18′), where the barometer fell to 28.75 (730.2) at the moment of the passage of the centre.

The third typhoon (25th and 26th) was most disastrous in Japan. It appeared suddenly as a well-defined typhoon near Kiu-siu at about midnight of the 24th–25th, the barometer at Kagoshima falling to 28.9 (734.0), a decrease of .71 inch (18 mm.) in eight hours, and strong gales from south to southeast, east and northeast, were prevailing at the stations in southern Japan. By the morning of the 25th (7 a. m., Washington time) the centre of disturbance was near Hiroshima, which station reported barometer 28.66 (728.0), a fall of .79 inch (20 mm.) in seven hours; fresh to strong gales prevailed at nearly all stations in Niphon.

The typhoon continued to move northeastward along the western coast of Niphon, and on the 26th its centre was in the northern part of the island, the barometer having risen to 29.14 (740.0); during the day it passed off into the Pacific.

The s. s. "Principia" encountered this typhoon shortly after leaving Kobe, and had decks swept, several of the crew washed overboard, and others injured; during the gale the vessel's aneroid barometer stood at 28.42 (721.9).

This typhoon caused great destruction to property and loss of life during its transit over Japan.

SPECIAL NOTES.

DAILY BULLETIN.

On and after July 1, 1884, the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS will be discontinued. The daily chart accompanying this bulletin, or international chart No. i., will continue to be issued as heretofore, but on an enlarged scale, and will contain data referring to pressure (at sea-level), temperature, wind-direction, and state of weather for each day at all reporting stations in the northern hemisphere, and over the northern portions of the Atlantic and Pacific oceans, as heretofore published in the DAILY BULLETIN.

The observations are taken at 7 h. 0 m., a. m., Washington, or 0 h. 8 m.,

p. m., Greenwich, mean time, except at the following stations, viz.: Arlon, Belgium, at 1 p. m., local time, or 28 minutes late; Upernavik, Greenland, at 8 a. m., local time, or 24 minutes early; Ivigtut, Greenland, at 8 a. m., or 56 minutes early; Brono, Norway, at 2 p. m., or 68 minutes late.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ⊖ fair; ◐ cloudy; ● precipitation (rain, snow, hail, sleet).

INTERNATIONAL CHARTS.

International chart i. shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
	1, 2	0 to 9	0 to 4
	3, 4	9.1 to 22.5	4.1 to 10.1
	5, 6	22.6 to 40.5	10.1 to 18.1
	7, 8	40.6 to 67.5	18.1 to 30.2
	9, 10	67.6 up.	30.2 and over.

International chart ii. (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at 7 a. m., Washington mean time.

International chart iii. shows the tracks of centres of low barometer. The Arabic numerals show the location of the centres of low barometer at 7 a. m., Washington mean time of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Hobart Town, Tasmania, the observations are taken at 9 p. m. instead of at 9.57 p. m.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

NOTE.—In the absence of the international simultaneous observations in Japan, the means for August, 1884, at stations in that country, have been determined from data published on the daily weather maps of the Imperial Meteorological Observatory at Tokio, the observation taken at 9 p. m. (Kioto time), each day, having been used.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

NEW ENGLAND: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

MIDDLE ATLANTIC STATES: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

SOUTH ATLANTIC STATES: North Carolina, South Carolina, Georgia, Florida.

EASTERN GULF STATES: Georgia, Florida, Alabama, Mississippi, Louisiana.

WESTERN GULF STATES: Louisiana, Arkansas, Indian Territory, Texas.

RIO GRANDE VALLEY: Texas.

OHIO VALLEY AND TENNESSEE: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

LOWER LAKES: New York, Pennsylvania, Ohio, Michigan.

UPPER LAKES: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

UPPER MISSISSIPPI VALLEY: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

MISSOURI VALLEY: Missouri, Kansas, Nebraska, Iowa, Dakota.

EXTREME NORTHWEST: Minnesota, Dakota.

NORTHERN SLOPE: Montana, Dakota, Wyoming, Nebraska.

MIDDLE SLOPE: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

SOUTHERN SLOPE: Indian Territory, Texas, New Mexico.

SOUTHERN PLATEAU: New Mexico, Arizona, California, Nevada.

MIDDLE PLATEAU: California, Nevada, Utah, Colorado, Wyoming.

NORTHERN PLATEAU: Wyoming, Montana, Idaho, Oregon, Washington.

NORTH PACIFIC COAST: Washington, Oregon.

MIDDLE PACIFIC COAST: California.

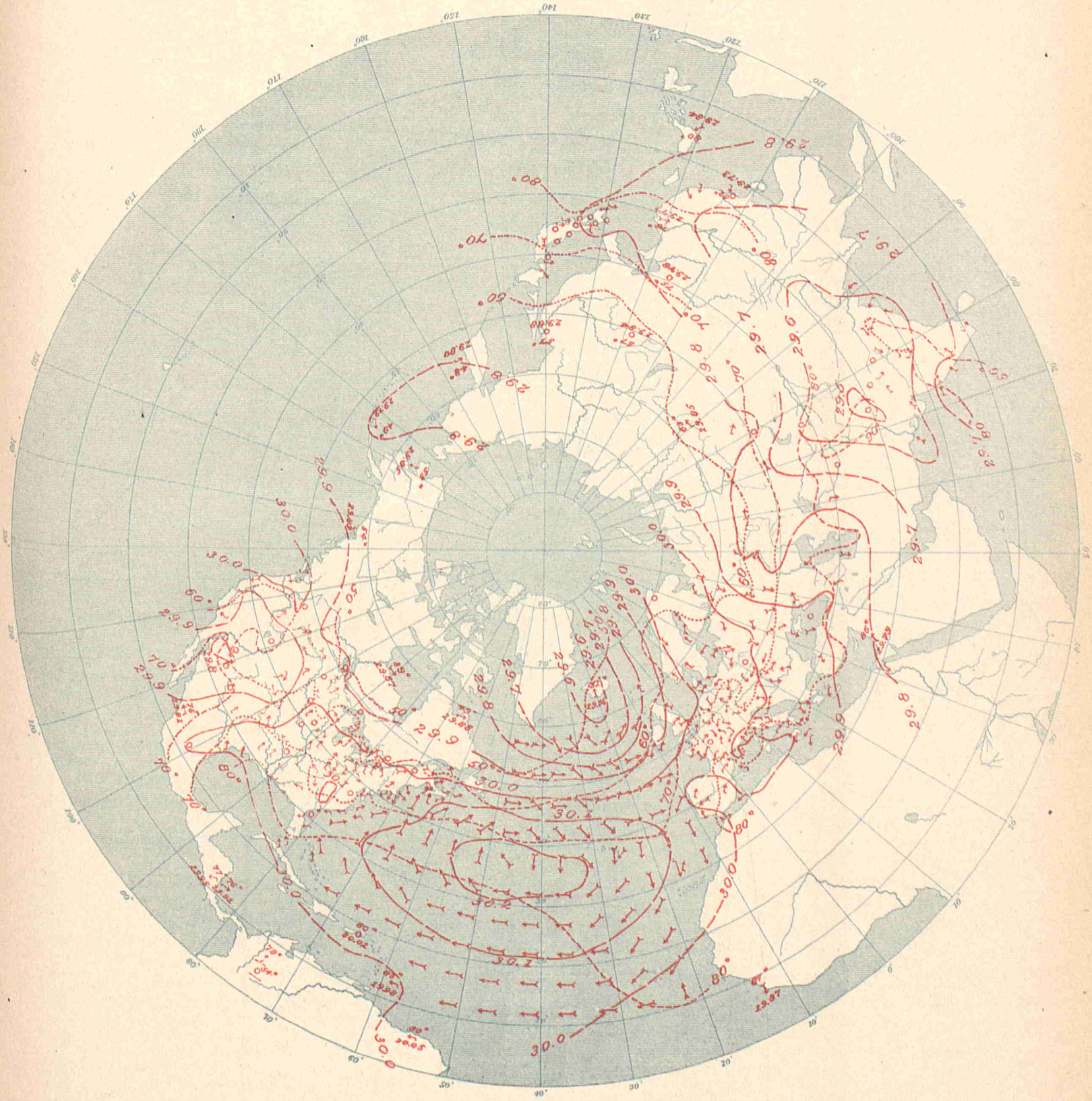
SOUTH PACIFIC COAST: California.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

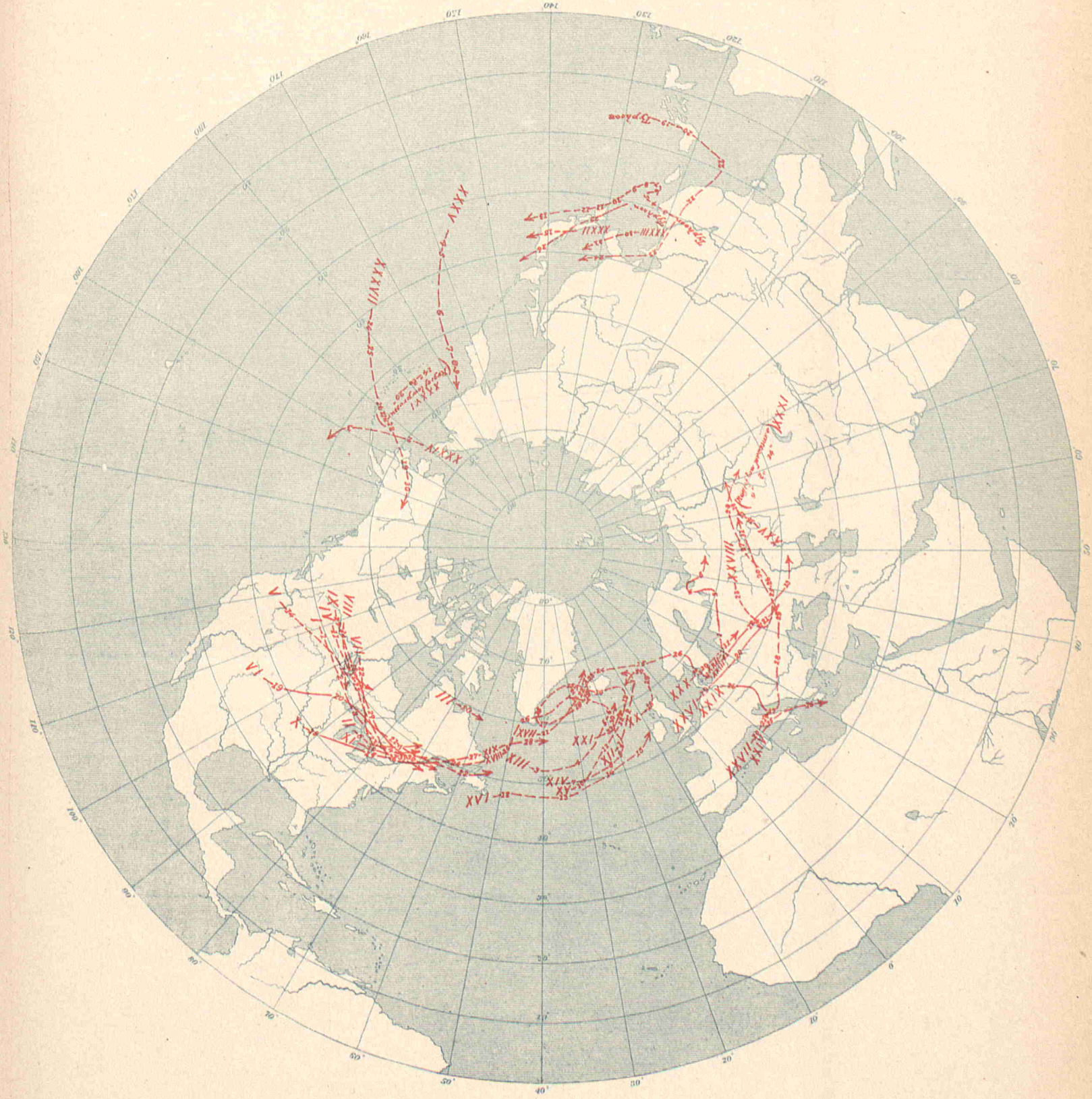
International Chart II. August, 1884. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W. B. Hazen, Chief Signal Officer.

International Chart III. August, 1884. Storm-Tracks.



UNITED STATES OF AMERICA

By Order of the Secretary of War:
W.B.Hazen, Chief Signal Officer.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF SEPTEMBER, 1884.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.,
OCTOBER, 1885.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

SEPTEMBER, 1884.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metrs	Result of Simultaneous Observations for September, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
AUSTRALIAN.	° ′	° ′																								
Adelaide	S. 34 57	E. 138 35	9.22 p.m.	140	42	.....	.....	30.09	764.3	57.4	14.1	62	3	2	2	6	2	.....	4	8	3	8607	13851	5	2.63	66.8
Hobart Town	S. 42 53	E. 147 20	9.57 p.m.	190	58	29.61	752.1	29.80	756.9	48.3	9.1	82	4	6	7	4	4	2	.....	.....	3	.....	.....	6	2.13	54.1
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.90	759.4	29.99	761.7	52.3	11.3	73	8	6	2	5	2	4	1	2	.....	.....	.....	5	0.69	17.5
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.56	750.9	30.11	764.8	68.2	20.1	56.4	.....	.....	1	8	4	2	6	9	.....	.....	.....	4	2.24	56.9
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.36	745.7	30.11	764.9	65.8	18.8	60.0	3	4	6	4	1	.....	12	.....	.....	.....	.....	6	1.64	41.6
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.21	742.0	30.07	763.8	60.6	19.2	55.4	8	.....	.....	.....	5	.....	.....	.....	17	.....	.....	6	1.62	41.1
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.91	734.4	30.10	764.5	65.7	18.7	73.0	1	1	1	6	9	4	5	1	2	.....	.....	4	3.05	77.4
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.67	728.1	30.06	763.6	66.4	19.1	51.0	1	12	1	1	2	8	2	3	.....	.....	.....	6	1.39	35.2
Kremsmunster	N. 48 03	E. 14 08	1.04 p.m.	1200	384	28 76	730.5	30.08	764.0	63.7	17.6	78.1	1	2	4	2	.....	.....	6	10	5	.....	.....	4	2.47	62.8
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	29.13	739.8	30.10	764.5	63.0	17.2	65.4	4	3	3	2	5	2	1	10	.....	.....	.....	6	2.23	56.7
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.98	761.6	30.10	764.4	71.2	21.8	65.0	.....	2	4	3	1	10	7	3	.....	.....	.....	5	3.80	96.4
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.60	751.7	30.05	763.2	68.7	20.4	64.0	11	1	1	1	6	3	5	2	.....	.....	.....	3	1.35	34.2
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.80	756.8	30.07	763.7	71.2	21.8	57.4	3	9	3	1	4	1	2	3	4	.....	.....	6	1.10	27.9
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	30.01	762.3	30.11	764.8	72.3	22.4	77.0b	.....	10	2	5	.....	2	3	7	1	.....	.....	4	3.81	96.8
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.41	747.1	30.11	764.9	66.7	19.3	59.1	1	6	6	.....	.....	16	.....	1	.....	.....	.....	4	0.89	22.5
BELGIAN																										
Arlon	N. 49 40	E. 5 48	0.32 p.m.	?	?	.....	.....	.....	.....	64.4	18.0	80.3	.....	.....	1	7	6	6	6	4	.....	.....	.....	3	1.85	47.0
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	29.84	758.0	30.04	763 0	65.5	18.6	67.5	1	1	3	10	5	2	4	4	.....	.....	.....	7	1.89	48.1
Furnes *e*	N. 51 04	E. 2 40	0.19 p.m.	20	6	30.00	761.9	30.02	762.4	67.8	19.9	72.6	3	3	3	4	6	3	.....	3	.....	.....	.....	4	2.02	51.2
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	29.94	760.4	30.06	763.6	69.6	20.9	69.7	1	1	6	5	6	.....	7	4	.....	.....	.....	6	1.13	28.7
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.81	757.2	29.91	759.7	57.2	14.0	75.8	.....	2	1	6	8	7	3	3	.....	.....	.....	6	1 46	37.1
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.97	761.2	62.1	16.7	68.6	.....	1	7	5	4	8	2	3	.....	.....	.....	6	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.44	747.8	29.96	761.0	60.8	16.0	72.8	.....	2	4	6	9	5	3	1	.....	.....	.....	7	.....	.....
Bradford	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.57	751.1	29.97	761.2	60.6	15.9	71.3	2	2	6	8	2	2	3	5	.....	.....	.....	8	1.89	47.8
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.97	761.2	30.00	762.0	82.9	28.3	76.2	.....	.....	.....	...	.....	1	19	10	.....	.....	.....	4	.....	.....
Cardington *o*	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	.....	.....	63.4	17.4	76.0	1	1	3	5	1	1	1	2	.....	.....	.....	5	.....	.....
Chatham *b*	N. 51 25	E. 0 33	0.10 p.m.	160	49	29.89	759.2	30.06	763.5	64.1	17.8	72.5	1	2	4	6	3	2	7	.....	3	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.81	757.2	30.03	762.7	62.3	16.8	75.0	2	2	7	7	2	2	8	.....	.....	.....	.....	6	.....	.....
Fort Napier	S. 30	E. 31	2.12 p.m.	2205	672	27 65	702.3	29.96	761.0	75.3	24.1	36.7	1	3	.....	1	5	6	2	12	.....	.....	.....	4	.....	.....
Freetown	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.63	752.6	29.86	758.4	82.2	27.9	83.0	7	.....	5	.....	9	.....	9	.....	.....	.....	.....	3	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.80	758 4	29.89	759.2	58.6	14.8	85.6	.....	.....	6	14	1	2	4	3	.....	.....	.....	6	2.68	68.1
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	29.91	759.7	30.05	763.3	74.2	23.4	75.2	1	4	10	3	.....	.....	5	7	.....	.....	.....	4	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.84	757.9	30.01	762 2	65.6	18.7	66.8	.....	1	8	6	3	2	7	3	.....	.....	.....	6	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.75	755.6	30.05	763.3	61.8	16 6	80.5	1	2	7	7	2	3	1	7	.....	.....	.....	6	2.83	71.9
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29 98	761.5	30.02	762.5	64.1	17.8	65.0	2	1	8	7	3	.....	5	4	.....	.....	.....	6	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.73	755.1	29.98	761.5	63.9	17.7	72.0	...	4	3	10	3	2	1	6	1	.....	.....	6	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.94	760 5	30.02	762 5	77.0	25.0	69.0	1	8	.....	3	1	7	2	8	.....	.....	.....	3	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.03	762.7	30.08	764.0	81.8	27.7	79.4	1	.....	3	7	1	10	7	1	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.79	756.7	30.02	762.5	63.9	17.7	68.8	1	1	4	4	7	4	1	8	.....	.....	.....	6	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.94	760.5	30.02	762.5	67.3	19.6	62.4	.....	6	.....	11	1	1	4	4	3	.....	.....	6	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.73	755.1	29.83	757.7	55.9	13.3	84.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Scutari Cemet'ya	N 41 00	E. 29 03	2.04 p.m.	60	18	29.94	760.5	30.00	762.0	73.1	22.8	55.6	5	1	.....	5	.....	.....	.....	17	1	.....	.....	4	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.65	753 4	29.98	761.5	62.6	17.0	73.0	.....	1	3	16	1	.....	.....	4	5	.....	.....	5	.....	.....
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.91	759.7	29.94	760.5	61.9	16.6	78.5	1	5	8	6	2	.....	4	3	1	.....	.....	5	2.76	70.1
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.99	761.7	61.4	16.3	73.0	.....	2	8	6	4	1	3	5	1	.....	.....	8	3.76	95.5
Strathfield	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m	23	7	29.94	760.5	29.96	761.0	60.0	15.6	77.5	1	3	5	7	7	2	3	2	.....	.....	.....	7	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.74	755.4	30.12	765.0	77.1	25.1	63.0	1	6	5	4	7	4	.....	3	.....	3389	5454	4	0.29	7.4
CANADIAN.																										
Bathurst *d*	N. 47 39	W. 65 43	7.45 a.m.	35	11	29.95	760.7	29.99	761.7	53.4	11.9	.....	.....	1	.....	5	6	8	.....	1	5	.....	.....	5	1.36	34.5
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.95	760.7	29.99	761.7	55.2	12.9	83.7	.....	6	5	9	5	1	.....	2	2	5294	8520	5	2.69	68.3
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.92	760.0	29.59	761.7	49.6	9.8	86.0	2	3	8	11	4	.....	.....	2	.....	3601	5795	6	2.97	75.4
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.81	757.2	30.00	762.0	56.1	13.4	87.7	.....	5	19	4	.....	.....	2	.....	.....	.....	.....	5	2.99	75.9
Dalhousie	N. 48 04	W. 66 22	7.32 a m.	45	14	29.92	760.0	29.97	761.2	51.0	10.6	.....	1	2	20	.....	.....	.....	3	1	3	.....	.....	5	3.20	82.8
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.92	760.0	29.94	760.5	48.7	9.3	80.0	1	4	11	9	1	1	.....	2	1	.....	.....	7	2.59	65.8
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.00	736.0	29.83	757 7	44.8	7.1	95.1	3	5	8	4	3	4	1	2	.....	8240	13261	5	3.77	95.8
Fredericton	N. 45 57	W. 66 38	7.41 a.m.	59	18	29.98	761.5	30.05	763 3	51.5	10.8	83.4	.....	15	2	3	2	4	2	2	.....	.....	.....	6	3.94	100.1
Grand Manan	N. 44 46	W. 66 45	7.41 a.m.	49	15	29.99	761.7	30.05	763 3	56.7	13.7	73.2	4	4	8	6	.....	2	1	2	3	8402	13521	5	1.24	31.5
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	28.99	736.3	30.07	763.8	56.2	13.4	98.6	1	4	.....	4	4	1	1	.....	15	.....	.....	4	4.36	110.7
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.93	760.2	30.06	763.5	55.1	12.8	88.4	7	3	10	1	6	.....	.....	1	2	.....	.....	5	2.39	60.7
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	350	107	29.62	752 3	30.02	762 5	61.1	16.2	88.4	1	5	2	18	.....	.....	2	1	1	.....	.....	4	2.66	67.6
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.71	754.6	30.06	763 5	60.0	15.6	82.1	5	.....	6	10	.....	.....	2	2	5	4806	7734	6	2.99	75.9
Little Glace Bay *d*	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.94	760.5	29.98	761.5	56.6	13.7	79.8	6	1	6	6	6	.....	.....	...	1	.....	.....	6	.....	.....
London	N. 43 00	W. 81 15	6.43 a.m.	816	248	29.19	741 4	30.08	764.0	57.1	13.9	91.2	...	1	.....	4	1	.....	.....	.....	24	.....	.....	.....	2.41	61.2
Medicine Hat	N. 50 01	W. 110 37	4.46 a.m.	2130	651	27.55	699.8	29.84	757.9	42.1	5.6	83.6	3	2	4	9	2	.....	1	3	6	7615	12255	5	4.84	122.9
Minnedosa	N. 50 13	W. 99 48	5.29 a.m.	1796	545	27.99	710.9	29.84	757.9	40.0	4.4	94.0	1	2	5	5	1	1	8	4	3	.....	.....	6	2.94	74.7
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.82	757.4	30.02	762.5	57.5	14.2	80.4	2	2	14	4	5	1	2	.....	.....	.....	.....	4	3.37	85.6
Ottawa	N. 45 26	W. 75 41	7.05 a.m.	200	61	29.87	758.7	30.09	764.3	54.0	12.2	95.8	5*g*	1	4	11	1	.....	.....	1	.....	.....	.....	4	3.75	95.2
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.34	745.2	30.02	762.5	54.1	12.3	90.3	3	3	3	2	6	4	6	1	2	6551	10543	5	3.08	78.2
Peterboro	N. 44 17	W. 78 18	6.54 a.m.	688	210	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Arthur	N. 48 27	W. 89 12	6.11 a.m.	642	196	29.20	741.7	29.86	758.4	50.6	10.3	90.9	6	4	5	.....	5	.....	3	1	6	3832	6167	6	4.41	112.0
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.39	746.5	30.07	763.8	60.3	15.7	93.5	3	4	.....	10	2	.....	.....	5	6	4440	7145	5	1.75	44.4
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.42	747.3	30.06	763.5	59.4	15.2	90.3	5	.....	10	2	1	2	5	2	3	.....	.....	4	1.59	40.4
Qu' Appelle	N. 50 44	W. 103 42	5.13 a.m.	2115	646	27.57	700.3	29.83	757.7	40.1	4.5	90.5	.....	3	10	2	4	1	3	1	6	8376	13480	6	3.15	80.0
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.61	752.1	30.00	762.0	53.5	11.9	93.6	.....	.....	4	6	5	.....	.....	6	9	.....	.....	6	4.41	112.0
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.56	750.8	30.01	762 2	50.5	10.3	86.4	.....	9	2	1	.....	1	5	.....	12	.....	.....	4	2.97	75.4
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.98	761.5	30.03	762 7	53.1	11.7	85.5	.....	10	1	4	2	2	1	3	7	.....	.....	4	1.80	45.7
Saint John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	116	35	29.91	759.7	30.05	763.3	52.6	11.4	85.1	3*d*	2	2	1	11	2	2	.....	3	.....	.....	6	2.22	56.4
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.96	760.9	53.4	11.9	.....	2	10	7	7	1	1	2	.....	.....	.....	.....	.....	0.71	18.0
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.32	744.7	30.02	762.5	54.1	12.3	90.6	3	2	2	5	9	5	1	2	1	7037	11325	5	2.34	59.4
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1186	361	28.81	731.8	30.07	763.8	56.1	13.4	90.7	.....	1	5	1	8	1	2	.....	12	.....	.....	4	7.98	202.7
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.93	760.2	29.99	761.7	54.5	12.5	83.6	1	5	3	14	3	1	.....	1	2	7243	11656	6	2.04	51.8
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.69	754.1	30.07	763.8	57.2	14.0	83.3	3	5	5	3	.....	1	5	4	4	6021	9690	4	3.29	83.6
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	30.06	763.5	30.11	764.8	57.4	14.1	89.4	3	2	7	6	6	2	1	1	2	.....	.....	6	3.02	76.7
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	30.00	762.0	30.09	764.3	54.3	12.4	90.3	4	4	1	4	7	1	5	1	3	.....	.....	5	1.57	39.9
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.09	764.3	30.12	765.0	62.7	17.1	78.0	.....	.....	.....	20	2	3	1	4	.....	.....	.....	3	4.12	104.6
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	?	?	30.04	763.0	.....	.....	61.3	16.3	58.0	4	11	2	3	1	4	.....	3	2	.....	.....	5	5.52	140.2
Springbok *a*	S. 29 45	E. 17 43	1.19 p.m.	?	?	27.90	708.6	.....	.....	64.7	18.2	44.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.45	36.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for September, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
CHILIAN.	° ′	° ′																								
Coquimbo	S. 29 56	W. 71 21	7.22 a.m	72	22	29.97	761.3	30.05	763.3	55.4	13.0	91.5	4	.....	2	6	3	7	6	2	.....	.....	.....	8	0.79	20.0
Iquique. *a*	S. 20 12	W. 70 11	7.27 a.m	26	8	30.00	762.0	30.03	762.7	62.1	16.7	72.5	.....	3	2	14	1	2	.....	7	.....	.....	.....	.....	.....	.....
Niebla	S 39 53	W. 73 25	7.14 a.m.	98	30	29.60	751.7	29.70?	754.4?	45.7	7.6	90.0	2	4	4	.....	.....	.....	20	.....	.....	.....	.....	6	11.17	283.7
Punta Caldera	S 27 03	W. 70 52	7.25 a.m.	82	25	29.97	761.2	30.06	763.4	57.4	14.1	80.0	1	9	.....	6	1	2	.....	11	.....	.....	.....	6	.....	.....
Punta Corona	S. 41 47	W. 73 53	7.12 a.m	174	53	29.92	759.9	30.11	764.7	.....	.....	.....	4	6	4	3	5	4	2	2	.....	.....	.....	6	.....	.....
Quiriquina	S. 36 37	W. 73 03	7.25 a.m.	187	57	29.84	758.0	30.04	763.1	51.1	10.6	77.0	.....	4	3	3	6	10	3	1	.....	.....	.....	7	4.54	115.4
Valparaiso	S. 33 02	W. 71 39	7.22 a.m.	82	25	29.92	759.9	30.06	763.6	54.9	12.7	87.0	10	.....	2	.....	6	.....	10	2	.....	.....	.....	6	1.66	42.2
CHINESE.																										
Hong Kong	N. 22 18	E. 114 04	7.45 p.m.	110	33	29.68	753.9	29.80	756.9	80.8	27.1	79.1	3	3	4	1	1	5	13	.....	.....	.....	.....	4	12.37	314.2
Sub-Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	29.91	759.6	29.93	760.2	71.2	21.8	91	8	5	1	.....	.....	3	6	7	.....	.....	.....	5	5.78	146.9
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	30.00	761.9	30.04	763.1	63.0	17.2	77	.....	4	2	6	8	4	4	1	1	.....	.....	6	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.98	761.5	30.00	762.0	64.0	17.8	77	.....	2	5	9	2	5	6	1	.....	.....	.....	6	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.48	748.9	29.53	750.0	46.2	7.9	80	.....	2	1	2	4	7	9	5	.....	.....	.....	8	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.68	753.8	29.70	754.4	51.8	11.0	88	2	.....	6	9	4	1	.....	1	7	.....	.....	8	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.89	759.1	29.98	761.4	61.3	16.3	81	.....	4	3	3	4	6	7	.....	3	.....	.....	5	.....	.....
EGYPTIAN.																										
Cairo	N. 30 03	E. 31 21	2.14 p.m.	?	?	29.82	757.4	.....	.....	83.3	28.5	.....	9	1	.....	.....	.....	.....	.....	20	.....	.....	.....	2	0	0
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.50	749.2	30.13	765.3	67.6	19.8	65.0	1	4	2	4	1	16	.....	2	.....	.....	.....	.....	1.62	41.2
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.56	750.7	30.08	764.0	67.1	19.5	73.3	1	4	2	6	1	5	1	10	.....	.....	.....	.....	1.19	30.2
Arras	N. 50 18	E. 2 46	0.19 p.m	223	68	29.80	756.8	30.03	762.8	67.5	19.7	64.1	.....	4	6	6	1	4	5	4	.....	.....	.....	6	1.79	45.4
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	30.02	762.5	30.10	764.5	73.9	23.3	62.5	12	9	2	1	3	2	1	.....	.....	.....	.....	4	5.33	135.4
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.52	749.8	30.06	763.6	68.4	20.2	60.0	.....	3	1	4	6	15	1	.....	.....	.....	.....	7	3.13	79.4
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.80	756.8	30.06	763.5	67.1	19.5	64.1	.....	3	5	5	4	2	7	4	.....	.....	.....	6	1.24	31.6
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.17	741.0	30.06	763.4	69.3	20.7	79.9	3	.....	.....	4	8	.....	2	13	.....	.....	.....	.....	4.12	104.7
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.81	757.2	30.06	763.6	69.6	20.9	59.1	2	3	2	4	3	5	7	4	.....	.....	.....	6	2.49	63.3
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.51	749.6	30.05	763.3	69.6	20.9	58.1	3	2	.....	7	0	2	5	5	.....	.....	.....	.....	1.93	49.1
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.85	758.2	30.10	764.4	68.5	20.3	74.9	4	.....	4	8	2	2	1	3	6	.....	.....	6	4.14	105.2
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.96	760.9	30.03	762.7	67.6	19.8	76.0	5	3	8	8	2	1	2	1	.....	.....	.....	5	2.09	53.1
Châlons sur Marne	N. 48 57	E. 4 21	0.25 p.m.	292	89	29.69	754.1	30.00	762.0	68.4	20.2	81.0	.....	.....	2	9	7	3	3	2	4	.....	.....	4	2.93	74.5
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.56	750.7	30.07	763.7	67.5	19.7	65.7	1	2	2	4	3	11	5	2	.....	.....	.....	5	1.75	44.5
Clermont-Fer'and	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.73	729.8	30.05	763.2	69.3	20.7	51.4	8	2	3	4	4	2	3	4	.....	.....	.....	6	2.76	70.1
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.27	743.4	30.09	764.3	69.4	20.8	62.9	.....	2	2	5	8	2	11	.....	.....	.....	.....	5	4.50	114.4
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.23	742.5	30.07	763.8	65.3	18.5	66.8	.....	.....	12	5	1	2	10	.....	.....	.....	.....	.....	2.12	53.9
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.61	701.2	30.08	763.9	67.5	19.7	56.8	4	.....	.....	5	21	.....	.....	.....	.....	.....	.....	4	3.66	92.9
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.99	736.3	30.08	764.0	71.4	21.9	59.2	6	5	1	2	3	9	3	1	.....	.....	.....	4	2.66	67.5
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.32	744.7	30.09	764.2	70.5	21.4	73.6	3	6	9	3	1	.....	3	5	.....	.....	.....	.....	3.87	98.2
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.51	724.1	30.06	763.5	64.0	17.8	74.6	1	.....	8	8	13	.....	.....	.....	.....	.....	.....	.....	3.13	79.4
Lamb'lle	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.82	757.3	30.09	764.2	73.0	22.8	78.5	4	7	4	4	2	1	4	3	1	.....	.....	5	1.05	26.6
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.52	749.9	30.07	763.7	72.1	22.3	67.6	2	.....	14	3	.....	5	3	3	.....	.....	.....	5	3.65	92.8
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.99	761.8	30.10	764.4	70.0	21.1	66.0	.....	1	4	4	9	3	4	5	.....	.....	.....	5	2.94	74.8
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	29.05	737.9	30.08	764.1	68.4	20.2	58.9	4	4	1	.....	4	9	5	3	.....	.....	.....	5	3.84	97.4
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.78	756.4	30.11	764.7	67.6	19.8	73.1	.....	3	7	5	2	6	5	2	.....	.....	.....	5	2.28	57.9
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.81	757.2	30.08	764.0	72.5	22.5	61.9	.....	3	10	4	3	5	4	1	...	.....	.....	.....	3.10	78.6
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.91	759.6	30.02	762.5	73.2	22.9	77.6	.....	4	2	3	1	12	.....	4	4	.....	.....	4	1.96	49.9
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.30	744.2	30.09	764.2	65.1	18.4	67.2	3	3	3	5	7	.....	.....	9	.....	.....	.....	.....	2.19	55.6
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.93	760.3	30.10	764.4	69.1	20.6	64.5	2	3	6	1	3	3	7	5	.....	.....	.....	6	4.24	107.7
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.98	761.4	30.09	764.2	72.0	22.2	64.4	.....	8	.....	.....	1	6	10	5	.....	.....	.....	6	7.10	181.8
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.35	542.2	.....	.....	40.1	4.5	.....	.....	5	2	9	3	.....	1	1	9	.....	.....	4	5.65	143.6
Privas. ..... [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	29.06	738.1	30.10	764.6	66.9	19.4	57.2	8	5	.....	3	7	3	.....	4	.....	.....	.....	3	5.95	151.1
Puy de Dôme	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.26	641.5	.....	.....	50.0	10.0	85.9	2	2	4	4	5	8	3	2	.....	.....	.....	5	3.89	98.8
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.06	763.6	30.10	764.4	69.6	20.9	70.7	.....	1	5	3	6	8	4	3	.....	.....	.....	4	3.35	85.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.80	756.9	30.01	762.2	69.8	21.0	78.5	2	4	5	6	2	6	1	4	.....	.....	.....	4	3.30	83.7
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	28.01	711.5	30.08	764.1	64.9	18.3	71.2	12	3	.....	.....	.....	11	4	.....	.....	.....	.....	5	4.12	104.6
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	30.01	762.3	30.06	763.5	68.5	20.3	71.1	.....	3	7	6	3	6	1	4	.....	.....	.....	6	1.99	50.6
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.90	759.5	30.07	763.7	67.5	19.7	64.4	6	1	4	9	3	4	1	2	.....	.....	.....	5	1.39	35.4
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.40	746.8	30.13	765.3	71.8	22.1	60.7	4	5	3	.....	1	14	3	.....	.....	.....	.....	5	2.48	62.9
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	29.89	759.1	30.05	763.3	70.2	21.2	61.3	1	.....	6	6	6	3	4	4	.....	.....	.....	5	1.30	33.0
Versailles	N. 48 48	E. 2 07	0.16 p.m.	400	122	29.61	752.1	30.06	763.5	66.2	19.0	64.1	.....	7	6	3	1	1	11	1	.....	.....	.....	5	2.16	54.8
Sub-Series.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	0.03 p.m.	131	40	29.95	760.6	30.10	764.4	69.8	21.0	67.0	5	6	3	1	3	3	6	3	.....	.....	.....	6	5.56	141.3
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.68	728.4	30.09	764.3	66.9	19.4	44.7	.....	1	7	4	3	4	5	2	4	.....	.....	4	0.37	9.4
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.26	743.2	30.11	764.7	66.6	19.2	53.7	1	4	6	3	7	5	.....	1	3	.....	.....	3	0.66	16.8
Berlin	N. 52 30	E. 13.19	1.02 p.m.	131	40	29.92	759.9	30.06	763.5	68.2	20.1	60.4	1	1	6	7	5	1	9	.....	.....	.....	.....	6	0.86	21.8
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.61	752.1	30.14	765.6	67.3	19.6	50.7	.....	4	8	1	2	7	8	.....	.....	.....	.....	4	0.95	24.1
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.64	752.9	30.09	764.3	68.0	20.0	59.4	3	1	2	11	2	2	4	5	.....	.....	.....	4	1.44	36.5
Cassel	N. 51 19	E 9 28	0.46 p.m.	669	204	29.37	745.9	30.08	764.0	68.4	20.2	60.2	1	3	4	10	5	3	2	2	.....	.....	.....	5	1.16	29.5
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.72	754.9	30.13	765.2	68.7	20.4	56.6	2	.....	.....	0	12	.....	3	7	.....	.....	.....	5	1.28	32.6
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.70	728.9	30.09	764.3	63.1	17.3	77.2	.....	3	5	16	2	1	1	2	.....	.....	.....	5	3.90	99.1
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.98	761.4	30.07	763.7	65.5	18.6	069.3	1	1	2	11	4	2	7	1	1	.....	.....	5	4.40	111.7
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	30.03	762.8	30.05	763.2	63.9	17.7	71.0	1	.....	3	9	4	2	5	5	1	.....	.....	6	2.33	59.2
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.69	754.1	30.10	764.6	67.1	19.5	60.8	1	3	5	6	3	4	6	2	.....	.....	.....	5	1.54	39.0
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.89	759.1	30.07	763.7	68.7	20.4	58.4	.....	.....	8	6	1	6	6	3	.....	.....	.....	5	1.84	46.6
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	30.10	764.5	30.15	765.7	62.6	17.0	76.3	7	4	4	3	6	4	2	.....	.....	.....	.....	4	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.29	718.6	30.16	766.1	65.3	18.5	56.0	1	10	2	.....	.....	2	4	6	5	.....	.....	3	1.33	33.8
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	26	8	30.10	764.6	30.13	765.3	60.0	18.9	65.9	9	1	3	2	6	3	4	2	.....	.....	.....	5	0.04	16.3
Neustadt, *a*	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.58	751.4	30.11	764.9	68.0	20.0	61.0	1	1	6	1	1	.....	5	6	8	.....	.....	4	0.98	25.0
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.20	741.6	30.08	763.9	66.9	19.4	60.5	4	5	1	6	1	4	2	7	.....	.....	.....	4	0.94	24.0
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	30.06	763.4	30.08	764.0	64.4	18.0	82.2	2	1	3	9	6	4	5	.....	.....	.....	.....	5	1.25	31.7
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m	361	110	29.66	753.4	30.03	762.8	77.7	25.4	49.2	10	2	1	4	5	2	.....	6	.....	.....	.....	3	0.10	2.6
INDIAN.																										
Kurrachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.60	751.8	29.65	753.1	85.2	29.6	73	1	1	11	13	2	.....	1	1	.....	.....	.....	3	2.29	58.2
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.18	741.2	29.65	753.1	84.1	28.9	70	2	4	7	10	.....	3	.....	4	.....	.....	.....	8	16.68	423.7
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.74	755.4	29.77	756.1	79.7	26.5	87	.....	4	19	7	.....	.....	.....	.....	.....	.....	.....	8	17.40	442.0
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.92	709.2	29.79	756.7	73.9	23.3	80	.....	2	18	10	.....	.....	.....	.....	.....	.....	.....	9	4.63	117.6
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.27	692.6	29.84	757.9	69.9	21.1	89	.....	1	11	17	1	...	.....	.....	.....	.....	.....	8	4.72	119.9
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.90	734.0	29.63	752.6	88.6	31.4	60	2	2	1	1	.....	.....	5	.....	19	.....	.....	2	3.29	83.6
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.75	730.2	29.64	752.8	83.4	28.6	78	.....	.....	2	.....	.....	1	4	.....	23	.....	.....	4	12.99	329.9
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.06	738.1	29.61	752.1	85.0	29.4	75	1	1	.....	1	1	2	21	3	.....	.....	.....	7	10.01	254.2
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.60	726.4	29.64	752.8	79.8	26.6	81	1	4	5	8	.....	.....	1	2	9	.....	.....	9	13.74	349.0
Jubbulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.28	718.3	29.62	752.3	80.2	26.8	80	2	8	6	2	4	1	1	3	.....	.....	.....	8	14.04	356.6
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.28	743.7	29.65	753.1	85.2	29.6	76	9	2	.....	.....	.....	.....	2	3	14	.....	.....	5	12.13	308.1
Allahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.30	744.2	29.61	752.1	83.6	28.7	83	.....	2	.....	2	.....	4	6	10	6	.....	.....	6	7.31	185.7
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.46	748.3	29.65	753.1	85.5	29.7	74	.....	1	.....	1	.....	4	17	5	2	.....	.....	6	3.71	94.2
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.64	702.0	29.65	753.1	76.8	24.9	84	2	.....	.....	.....	2	13	9	3	1	.....	.....	8	8.46	214.9
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.57	751.1	29.65	753.1	82.6	28.1	79	.....	1	4	3	.....	2	2	.....	18	.....	.....	7	7.89	200.4
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.63	752.6	29.66	753.4	80.6	27.0	88	.....	.....	1	7	6	10	4	.....	2	.....	.....	8	16.63	422.4
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.63	752.6	29.72	754.9	80.3	26.8	88	.....	1	1	8	8	5	.....	.....	7	.....	.....	7	12.98	329.7
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.38	716.2	29.71	754.6	84.7	29.3	80	.....	1	.....	5	.....	5	.....	19	.....	.....	.....	3	5.35	135.9
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.21	716.5	29.64	752.8	82.7	28.2	72	2	2	3	.....	2	4	10	5	2	.....	.....	7	14.72	373.9

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for September, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
INDIAN—Cont'd.	° ′	° ′																								
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.27	718.0	.....	.....	86.1	30.1	49	.....	.....	22	8	...	.....	...	.....	.....	.....	.....	8	0.29	7.4
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.51	749.5	29.78	756.4	91.5	33.1	44	.....	10	14	4	1	.....	1	.....	.....	.....	.....	8	2.41	61.2
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.71	754.7	30.11	764.9	71.2	21.8	57	.....	.....	1	5	1	.....	6	6	11	.....	.....	5	5.43	138.0
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.60	751.9	30.11	764.8	70.5	21.4	63	.....	3	1	7	2	7	5	5	.....	.....	.....	6	6.76	171.8
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	30.00	761.9	30.10	764.6	71.2	21.8	62	4	.....	3	.....	6	3	8	4	2	.....	.....	5	2.52	64.0
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.20	741.7	30.09	764.3	66.7	19.3	69	1	10	.....	.....	2	7	9	1	.....	.....	.....	6	6.64	168.6
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157?	48?	29.93	760.3	30.12	765.1	71.4	21.9	63	8	4	.....	5	4	7	2	.....	.....	.....	.....	4	7.61	193.3
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	30.05	763.2	30.10	764.4	70.0	21.1	71	10	2	1	1	1	1	7	7	.....	.....	.....	4	5.54	140.8
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.82	757.3	30.06	763.6	73.8	23.2	48	3	2	3	5	2	2	2	11	.....	.....	.....	4	1.91	48.4
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.93	760.3	30.02	762.4	72.1	22.3	69	.....	3	6	7	5	1	3	5	.....	.....	.....	5	3.40	86.4
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.90	759.4	30.07	763.7	75.0	23.9	56	2	4	5	5	7	1	2	3	1	.....	.....	6	7.95	202.0
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.21	741.8	30.07	763.8	74.8	23.8	62	1	6	11	7	2	3	.....	.....	.....	.....	.....	3	0.73	18.6
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.85	758.1	30.09	764.3	77.4	25.2	51	.....	7	.....	.....	.....	1	5	17	.....	.....	.....	3	0.38	9.7
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.99	761.8	30.04	762.9	78.4	25.8	61	3	.....	.....	2	8	2	12	3	.....	.....	.....	4	0.65	16.6
Sub-Series.																										
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	22.32	567.0	.....	.....	45.1	7.3	59.2	1	1	8	6	1	.....	4	9	.....	.....	.....	6	3.04	77.3
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	22.37	568.1	.....	.....	43.5	6.4	77.5	6	6	3	6	2	2	3	2	.....	.....	.....	8	7.52	191.0
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	29.94	760.5	29.98	761.4	64.7	18.2	89	5	3	1	...	1	3	3	.....	14	.....	.....	7	6.18	157.0
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.96	760.9	29.99	761.8	62.8	17.1	87	2	1	3	1	6	1	5	9	2	3446	5541	6	2.89	73.5
Hokodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	30.00	762.0	30.01	762.3	60.7	15.9	90	2	1	1	1	2	7	9	.....	7	6874	11062	7	6.58	167.2
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	92	28	29.88	759.0	29.98	761.5	70.7	21.5	88	1	.....	7	.....	...	.....	13	2	7	.....	.....	6	10.88	276.3
Hiroshima	N. 34 23	E. 132 27	8.58 p.m.	16	5	29.92	760.0	29.94	760.4	73.2	22.9	83	21	.....	3	.....	3	.....	.....	.....	3	3602	5796	5	6.60	167.6
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	29.88	759.0	29.98	761.5	68.4	20.2	88	3	2	.....	2	1	10	11	1	.....	3795	6105	6	8.59	218.3
Kagoshima	N. 31 35	E. 130 33	8.50 p.m.	14	4	29.93	760.2	29.94	760.5	75.4	24.1	86	2	9	.....	2	.....	3	4	7	3	.....	.....	4	10.53	267.3
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.80	756.9	29.97	761.3	71.1	21.7	82	12	3	.....	.....	1	.....	6	7	1	2605	4192	6	10.65	270.6
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	29.91	760.4	29.96	760.9	74.8	23.8	91	1	8	10	2	.....	3	4	2	.....	.....	.....	7	11.12	282.5
Miasaka	N. 31 56	E. 131 26	8.54 p.m.	26	8	29.93	760.3	29.96	761.0	75.0	23.9	87	7	2	4	.....	2	4	10	1	.....	.....	.....	6	10.97	278.7
Miyako	N. 39 38	E. 141 59	9.36 p.m.	98	30	29.91	759.6	30.02	762.4	62.1	16.7	95	7	.....	10	2	3	.....	4	1	3	1355	2180	8	13.21	336.8
Nemuro	N. 43 20	E. 145 35	9.30 p.m.	43	13	30.01	762.3	30.06	763.5	56.5	13.6	90	4	.....	.....	.....	5	3	7	.....	11	4812	7744	8	3.20	81.3
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.74	755.3	29.93	760.2	73.7	23.2	86	6	2	.....	.....	1	2	1	6	12	.....	.....	4	12.20	309.9
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	29.94	760.4	29.97	761.3	68.5	20.3	84	1	.....	4	2	2	5	3	8	5	3729	6001	7	10.45	265.5
Nobiru	N. 38 23	E. 141 11	9.32 p.m.	15	5	29.06	761.0	29.98	761.4	66.2	19.0	89	5	1	.....	.....	8	5	4	5	2	7293	11737	8	9.22	234.1
Numadza	N. 35 06	E. 138 51	9.23 p.m.	32	10	29.95	760.7	29.98	761.6	71.1	21.7	84	1	3	2	2	2	2	14	3	1	.....	.....	7	11.80	299.6
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	29.95	760.7	29.97	761.2	72.1	22.3	82	6	1	3	.....	2	1	6	11	.....	5850	9414	5	10.45	265.1
Saga *b*	N. 33 12	E. 130 18	8.49 p.m.	23	7	29.91	759.8	29.94	760.4	73.2	22.9	86	7	4	2	.....	1	1	.....	4	9	.....	.....	5	9.14	232.2
Sakai	N. 35 33	E. 133 14	9.01 p.m.	10	3	29.95	760.8	29.96	761.0	70.3	21.3	87	4	2	3	.....	.....	.....	4	12	5	.....	.....	6	8.69	220.7
Shimonoseki	N. 33 58	E. 130 56	8.52 p.m.	134	41	29.82	757.3	29.96	761.0	72.0	22.2	86	3	.....	.....	.....	1	1	6	3	16	.....	.....	5	5.45	138.5
Sapporo	N. 43 04	E. 141 23	9.33 p.m.	60	18	29.95	760.6	30.00	762.1	59.2	15.1	92	1	3	2	4	1	15	1	1	2	8525	8895	0	4.38	111.2
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.92	759.9	29.99	761.8	70.2	21.2	86	2	1	1	1	7	3	11	4	.....	5332	8582	7	7.01	193.2
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.95	760.7	30.14	765.5	73.6	23.1	63.0	1	1	1	1	2	5	19	.....	.....	.....	.....	6	1.19	30.2
MEXICAN.																										
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24.34	618.2	29.98	761.5	59.9	15.5	86.4	2	4	3	7	5	1	.....	1	7	.....	.....	6	4.13	109.4
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.62	752.3	29.87	758.7	78.2	25.7	90.6	7	1	2	.....	.....	1	8	11	.....	.....	.....	5	16.19	411.2
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.05	763.2	30.05	763.2	67.8	19.9	.....	1	.....	5	6	7	.....	8	3	.....	.....	.....	.....	1.32	33.6
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.97	761.2	30.02	762.6	64.0	17.8	.....	2	4	5	9	2	4	4	.....	.....	.....	.....	.....	1.16	29.6
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	30.01	762.3	30.01	762.3	62.2	16.8	.....	3	1	4	8	4	2	3	5	.....	.....	.....	.....	3.30	83.9
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	30.04	762.9	30.04	762.9	63.0	17.2	65.5	1	.....	3	10	2	2	6	4	2	.....	.....	.....	1.32	33.4
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.99	761.7	30.04	762.9	66.9	19.4	64.7	.....	1	6	9	4	2	6	2	.....	.....	.....	4	2.15	54.5
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7.15 p.m.	26	8	.....	.....	29.90	759.5	80.4	26.9	74.7	11	1	.....	.....	.....	1	.....	17	.....	.....	.....	5	0.79	20.1
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.84	757.8	29.90	759.4	59.5	15.3	76.5	2	4	1	5	11	2	.....	1	4	.....	.....	6	8.28	210.4
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.80	756.9	29.84	757.9	56.8	13.8	71.0	1	2	4	11	3	2	3	1	3	.....	.....	8	4.18	105.2
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.80	756.8	29.94	760.4	62.4	16.9	07.0	.....	1	1	15	5	3	2	3	.....	.....	.....	6	2.23	56.7
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.69	754.1	29.71	754.7	48.6	9.2	.....	1	1	5	8	5	1	1	.....	8	.....	.....	7	2.15	54.7
PORTUGUESE.																										
Funchal *a*	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.08	764.1	30.17	766.3	74.5	23.6	61.4	1	.....	1	16	4	5	.....	1	1	.....	.....	6	0.18	4.6
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	312	95	29.76	755.9	30.09	764.2	70.9	21.6	62.5	3	4	2	11	2	1	1	6	.....	.....	.....	5	1.98	50.2
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.17	766.3	30.24	768.1	72.9	22.7	67.1	5	2	6	3	5	.....	2	5	2	.....	.....	4	3.11	79.7
Saint Paul de Loando	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.80	756.9	30.00	762.0	75.6	24.2	75.4	2	12	16	.....	.....	.....	.....	.....	.....	.....	.....	6	0.01	0.2
Sao Salvador	S. 6 17	E. 14 53	1.07 p.m.	1834	559	28.12	714.2	29.96	760.9	76.8	24.9	56.8	.....	2	6	17	3	1	1	.....	.....	.....	.....	7	0	0
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.39	644.8	30.07	763.8	54.3	12.4	78.3	1	4	9	.....	3	3	9	1	.....	.....	.....	7	6.30	160.1
RUSSIAN																										
Akmolinski *d*	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.70	728.9	29.76	756.0	52.7	11.5	50.7	2	6	9	5	2	.....	.....	1	1	.....	.....	5	0.88	22.3
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.93	760.1	29.94	760.6	47.5	8.6	71.2	4	8	3	1	3	3	.....	5	3	.....	.....	6	1.41	35.8
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.09	704.2	30.01	762.3	63.7	17.6	44.0	2	7	6	3	3	3	5	1	.....	.....	.....	6	0.26	6.6
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	30.06	763.4	30.01	762.2	69.4	20.8	68.2	10	.....	.....	.....	9	3	2	3	3	.....	.....	4	1.24	31.6
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.38	746.3	29.88	758.8	53.8	12.1	59.6	1	3	3	14	2	1	.....	2	4	.....	.....	8	1.25	31.7
Bielosersk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.56	750.9	30.03	762.8	50.5	10.3	72.9	3	11	6	3	1	2	1	1	2	.....	.....	7	0.95	24.3
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.86	758.3	30.10	764.4	61.5	16.4	58.5	4	6	2	4	5	5	2	2	.....	.....	.....	6	0.58	14.8
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.82	732.0	29.79	756.6	45.0	7.2	75.9	5	5	5	3	1	2	2	4	3	.....	.....	8	1.96	49.7
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.66	753.3	30.10	764.6	62.6	17.0	60.3	6	8	2	1	2	3	3	4	1	.....	.....	6	3.04	77.3
Kasalinsk	N. 45 46	E. 62 07	4.16 p.m.	147	45	29.70	754.5	29.88	759.0	64.6	18.1	42.5	.....	9	7	5	.....	3	2	3	1	.....	.....	4	.....	.....
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.62	752.4	29.89	759.3	50.2	10.1	67.3	7	7	5	5	1	1	.....	2	2	.....	.....	8	1.26	31.9
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	29.92	759.9	29.97	761.2	50.9	10.5	71.5	.....	5	10	3	2	.....	2	4	4	.....	.....	8	0.91	23.8
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	30.04	763.0	30.06	763.6	66.6	19.2	60.7	5	4	1	.....	.....	2	8	4	6	.....	.....	5	0.87	22.2
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.45	748.0	30.08	763.9	60.8	16.0	61.8	6	8	3	1	2	5	2	3	.....	.....	.....	6	2.42	61.5
Koslov	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.49	749.1	30.00	761.9	54.1	12.3	64.6	7	5	3	3	2	.....	5	2	3	.....	.....	7	0.95	24.2
Lgov	N. 51 41	E. 35 17	2.29 p.m.	535?	163?	29.55	750.5	30.13	765.2	57.7	14.3	57.6	4	7	4	2	1	.....	3	5	4	.....	.....	7	0.87	22.0
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	30.10	764.5	30.12	765.1	61.9	16.6	75.3	...	7	0	7	5	3	2	.....	.....	.....	.....	5	1.11	28.3
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.84	757.8	30.04	763.0	61.2	16.2	50.1	.....	6	9	3	2	2	4	4	.....	.....	.....	7	1.73	43.9
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.56	750.9	30.04	762.9	54.7	12.6	63.3	8	4	5	4	2	1	1	1	4	.....	.....	5	1.56	39.5
Nertchinsk	N. 51 19	E. 119 37	8.07 p.m.	?	?	27.79	705.8	30.08	763.9	43.6	9.2	64.8	.....	1	.....	2	.....	.....	2	.....	25	.....	.....	4	2.23	56.7
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	30.01	762.3	30.08	764.1	66.9	19.4	58.3	2	5	1	3	2	2	5	8	2	.....	.....	5	1.30	32.9
Nikolaievsk *f*	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.94	760.5	30.03	762.7	48.7	9.3	82.2	3	2	2	.....	.....	1	3	3	10	.....	.....	3	.....	.....
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	29.86	758.3	30.00	761.9	67.8	19.9	80.2	.....	1	.....	1	.....	.....	1	.....	27	.....	.....	5	2.93	74.5
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.12 p.m.	328	100	29.64	752.9	29.98	761.0	74.1	23.4	27.3	2	5	6	.....	2	2	...	8	5	.....	.....	2	.....	.....
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.80	757.0	30.00	762.0	52.9	11.6	71.3	2	10	2	5	1	7	.....	3	.....	.....	.....	6	2.10	53.4
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.63	752.7	30.12	765.1	64.9	18.3	56.3	5	6	2	.....	4	4	5	3	1	.....	.....	6	0.62	15.8
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	29.98	761.4	30.01	762.2	70.7	21.5	81.7	1	8	7	6	.....	.....	4	.....	4	.....	.....	6	5.72	145.2
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	30.04	763.0	30.06	763.6	57.0	13.9	61.2	3	9	5	4	2	5	.....	2	.....	.....	.....	6	1.03	26.2
Samarkand	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.51	698.7	29.89	759.2	71.1	21.7	50.7	.....	1	.....	.....	.....	4	3	1	21	.....	.....	1	.....	.....
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.25	743.0	29.89	759.3	60.3	15.7	41.9	2	3	6	1	1	1	1	1	15	.....	.....	6	0.37	9.4
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	138?	42?	29.82	757.4	30.03	762.7	68.0	20.0	59.4	9	11	2	3	.....	1	1	3	.....	.....	.....	5	2.07	52.6
Staroi Bykhov	N. 53 31	E. 30 16	2.09 p.m.	512	156	29.56	750.7	30.10	764.5	62.4	16.9	51.1	4	4	3	.....	5	9	5	.....	.....	.....	.....	6	1.12	28.4
Tashkend	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.29	718.5	29.88	758.9	77.4	25.2	36.8	1	4	1	.....	.....	.....	.....	.....	24	.....	.....	1	.....	.....
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.60	726.3	29.97	761.2	71.2	21.8	40.0	2	12	1	1	2	7	4	.....	1	.....	.....	3	0.09	2.4
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.36	694.8	29.78	756.4	65.1	18.4	53.7	1	1	1	.....	1	.....	5	2	19	.....	.....	3	.....	.....
Viatka *g*	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.23	743.6	30.91	759.7	46.9	8.3	78.7	8	3	3	2	2	1	.....	1	3	.....	.....	6	1.45	36.8
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.70	754.4	30.12	764.9	66.6	19.2	53.3	5	4	5	1	.....	9	.....	4	2	.....	.....	5	0.76	19.3

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for September, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
RUSSIAN—Con.	° ′	° ′																								
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.67	753.6	29.95	760 8	48.7	9.3	72.1	1	6	....	7	6	6	4	.....	.....	.....	.....	6	1.56	39.5
Sub-Series.																										
Petrowsky Ac'y	N. 55 50	E. 37 38	2.39 p.m.	508	155	29.45	748 0	29.97	761.2	54.3	12.4	69.0	8	6	5	2	3	2	2	1	1	.....	.....	6	0.30	7.6
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	138	42	29.91	759 6	30.08	763.9	71.6	22.0	74	4	.....	3	2	4	5	7	5	.....	.....	.....	6	2.94	74.6
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.03	762.8	30.09	764.3	72.0	22.2	60	1	11	1	1	.....	8	1	1	6	1328	2138	6	2.00	50.7
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.16	689.9	30.08	764.0	64.6	18.1	70	...	...	5	6	7	1	3	8	.....	4728	7609	5	2.74	69.6
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.88	708.2	30.06	763.5	71.6	22.0	55	2	2	1	12	2	2	6	3	.....	6518	10490	6	3.56	90.3
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.92	759 9	30.04	763.0	72.3	22.4	68	....	3	1	2	4	10	2	8	....	1166	1876	7	6.12	155.4
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.13	740.0	30.01	762.2	68.9	20.5	68	3	2	1	7	2	1	4	7	3	4848	7801	6	7.08	179.8
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.95	760.6	30.01	762.2	77.0	25.0	85.6	..	.....	.....	.....	4	8	15	3	...	.....	.....	4	5.81	147.6
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.80	756.8	29.85	758.3	80.2	26.8	83.2	1	...	10	10	3	.....	4	2	.....	7832	12604	7	7.56	192.2
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	30.00	762.0	30.10	764.5	75.2	24.0	66.0	1	4	14	1	3	1	4	....	2	.....	.....	5	0.95	24.5
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.95	760.6	30.04	762.9	79.2	26.2	90	.....	.....	....	1	2	5	4	1	17	.....	.....	8	5.98	152.0
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.86	758.5	29.90	759.5	53.2	11.8	77	2	4	1	6	14	.....	.....	.....	3	.....	.....	7	1.26	32.1
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.87	758.8	29.93	760.1	57.0	13.9	72	1	9	.....	15	4	.....	....	1	.....	.....	.....	8	1.15	29.1
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.89	759.3	29.95	760.6	59.0	15.0	69	3	6	2	6	9	2	1	.....	1	.....	.....	6	4.11	104.3
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.85	758.3	30.03	762.8	62.6	17.0	64	.....	2	6	7	6	3	3	.....	3	.....	.....	5	0.65	16.6
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.98	761.6	30.04	763.1	62.8	17.1	74	5	2	9	5	3	3	2	1	.....	.....	.....	6	0.33	8.4
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.91	759.7	30.00	761.9	61.9	16.6	69.1	1	6	3	7	6	5	2	.....	.....	.....	.....	6	1.23	31.3
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.70	729.0	30.10	764.4	65.8	18.8	62.7	17	.....	3	.....	7	.....	1	2	.....	.....	.....	4	2.32	59.0
TURKISH.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.06	763.4	69.4	20.8	59	5	4	.....	1	3	.....	.....	17	...	.....	.....	6	3.82	97.1
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.22?	767.7?	74.5	23.6	.....	.....	12	8	9	.....	...	1	.....	.....	.....	.....	2	0.91	23.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.89	759.2	81.5	27.5	57.7	9	1	2	18	.....	.....	.....	.....	...	.....	.....	2	1.02	25.9
UNITED STATES.																										
New Eng.'d states																										
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.97	761.2	30.04	763.0	54.4	12.4	82.1	1	3	4	6	5	.....	2	3	6	4239	6822	5	1.89	48.0
Portland	N. 43 39	W. 70 15	7.27 a.m.	45	14	30.03	762.7	30.08	764.0	59.8	15.4	78.8	4	4	10	6	3	.....	3	.....	.....	5087	8187	4	0.56	14.2
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.88	606.5	30.03	762.7	39.6	4.2	97.5	..	16	9	3	1	.....	.....	.....	1	29335	47209	1	7.58	192.5
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.95	760.7	30.10	764.5	61.3	16.3	76.4	2	6	7	8	1	2	1	2	1	6101	9818	3	0.31	7.9
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	30.08	764.0	30.12	765.0	63.4	17.4	85.4	9	2	3	10	2	2	.....	2	.....	8668	13950	3	0.62	15.7
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	30.08	764.0	30.13	765.3	64.2	17.9	82.2	9	6	1	9	.....	.....	.....	1	4	3854	6197	2	1.32	33.5
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	30.01	762.2	30.12	765.0	61.6	16.4	83.5	8	4	2	8	2	.....	.....	2	4	4047	6513	3	1.41	35.8
Mid. Atlan. states.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	30.04	763.0	30.12	765.0	62.8	17.1	75.7	4	3	3	1	12	.....	2	2	3	3759	6513	4	1.80	45.7
New York City	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.97	761.2	30.14	765.5	64.6	18.1	81.3	5	4	8	7	2	1	1	2	.....	6203	9983	2	0.15	3.8
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	117	36	30.03	762.7	30.15	765.8	64.6	18.1	80.9	6	1	2	2	14	.....	.....	3	2	5769	9285	3	0.20	5.1
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	30.11	764.8	30.14	765.5	66.0	18.9	79.8	4	4	5	9	5	.....	2	1	.....	9740	15675	4	0.03	0.8
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	30.11	764.8	30.12	765.0	66.8	19.3	83.0	3	3	2	11	7	...	1	3	.....	5732	9225	2	0.34	8.6
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	22	7	30.11	764.8	30.13	765.3	67.8	19.9	84.1	5	3	11	5	1	.....	3	2	.....	8978	14449	4	1.05	26.7
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.11	764.8	30.14	765.5	67.9	19.9	83.3	4	1	1	12	6	1	2	3	.....	9218	14835	2	0.31	7.9
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.12	765.0	30.14	765.5	67.3	19.6	86.0	.....	3	3	15	1	1	1	6	.....	10697	17215	2	0.99	25.1
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.10	764.5	30.16	766.1	65.8	18.8	72.5	7	2	3	7	6	2	1	2	.....	3576	5755	3	0.09	2.3
Washington City	N. 38 54	W. 77 02	7.00 a.m.	106	32	30.05	763.3	30.16	766.1	64.6	18.1	80.5	4	4	.....	8	7	.....	.....	1	6	3486	5610	3	0.14	3.6
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	8	2	30.14	765.5	30.15	765.8	69.2	20.7	87.0	6	2	2	2	11	3	.....	3	1	5832	9386	2	0.33	8.4
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.13	765.3	30.15	765.8	69.8	21.0	84.5	2	1	3	7	9	.....	....	7	1	8407	13530	3	0.42	10.7
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.48	748.8	30.16	766.1	64.8	18.2	76.9	...	2	2	1	2	.....	.....	6	17	1860	2993	4	1.24	31.5
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.11	764 8	30.14	765 5	69.4	20.8	84.0	1	1	.....	7	7	1	1	6	6	4716	7590	3	0.17	4.3
S. Atlantic states.																										
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.14	765.5	30.16	766.1	72.6	22.6	85.0	1	.....	5	3	7	1	4	8	1	9372	15082	4	0.15	3.8
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	12	4	30.11	764.8	30.12	765.0	73.7	23.2	83.1	1	.....	3	2	1	5	5	11	2	5972	9611	5	1.01	25.7
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.12	765.0	30.14	765.5	73.2	22.9	85.7	7	3	2	1	2	5	4	6	.....	9936	15990	4	5.56	141.2
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.09	764.3	30.13	765.3	72.4	22.4	89.3	3	2	..	2	1	5	6	11	.....	7278	11713	3	3.11	79.0
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	30.08	764.0	30.13	765.3	70.6	21.4	87.0	1	1	1	1	2	1	4	12	7	3528	5678	4	9.34	237.2
Charlotte	N. 35 13	W. 80 51	6.44 a.m	808	246	29.32	744.7	30.16	766.1	66.1	18.9	85.0	4	....	...	7	3	4	2	9	1	3345	5383	5	3.57	90.7
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	30.04	763.0	30.08	764.0	73.2	22.9	91.5	4	2	2	1	1	.....	1	15	4	6003	9661	3	11.03	280.2
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	29.97	761.2	30.16	766.1	70.1	21.2	82.1	7	1	1	1	2	2	2	6	8	2861	4604	4	4.24	107.7
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	30.01	762.2	30.10	764.5	72.2	22.3	88.1	12	4	4	1	1	.....	2	5	1	4832	7776	3	4.55	115.6
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.04	763.0	30.08	764.0	73.9	23.3	93.4	3	1	2	2	. ....	1	5	10	6	4133	6651	4	5.68	144.3
Florida penin'la.																										
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.04	763.0	30.06	763.5	76.4	24.7	83.9	9	1	2	.....	.....	5	6	7	.....	6281	10108	2	3.63	92.2
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.00	762.0	30.02	762.5	80.6	27.0	82.0	...	2	1	1	2	6	7	10	1	6337	10198	6	7.08	179.8
Sanford	N. 28 48	W. 81 23	6.42 a.m.	35	11	30.00	762.0	30.04	763.0	76.4	24.7	90.4	5	2	2	5	1	.....	1	14	.....	4307	6931	5	3.83	97.3
East Gulf states.																										
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1129	344	28.59	736.3	30.16	766.1	67.3	19.6	78.3	2	2	1	.....	4	8	7	6	.....	5672	9128	2	0.08	2.0
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.03	762.7	30.06	763.5	74.9	23.8	87.0	2	.....	1	...	1	.....	12	11	3	3964	6379	3	4.83	122.7
Mobile	N. 30 41	W. 88 02	6.16 a.m.	35	11	30.04	763.0	30.08	764.0	73.0	22.8	89.2	6	8	.....	.....	.....	1	7	7	1	4498	7239	2	1.78	45.2
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.88	758.9	30.10	764.5	70.9	21 6	84.3	1	2	1	1	2	5	3	13	2	3130	5037	2	0.58	14.7
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.83	757.7	30.08	764.0	71.2	21.8	86.6	3	1	.....	.....	.....	11	11	2	2	3467	5580	2	5.12	130.1
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	29.98	761.5	30.03	762.7	77.5	25.3	84.4	3	1	2	....	1	4	15	3	1	4576	7365	3	3.12	79.2
West Gulf states																										
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.81	757.2	30.05	763.3	72.7	22.6	86.3	1	.....	.....	1	10	10	3	3	2	3296	5305	4	2.10	53.3
Fort Smith	N. 35 22	W. 94 24	5.50 a.m.	451	137	29.55	750.6	30.02	762.5	69.2	20.7	88.2	1	.....	....	.....	2	.....	17	2	8	3078	4954	4	5.03	127.8
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.74	755.4	30.05	763.3	70.1	21.2	91.3	1	1	.....	.....	2	2	1	1	22	1678	2701	4	5.00	127.0
Galveston	N. 29 18	W. 94 47	5.49 a.m.	40	12	29.96	761.0	30.00	762.0	80.9	27.2	80.1	2	2	.....	2	10	11	2	1	.....	6419	10330	4	7.04	178.8
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	29.95	760 7	29.98	761.5	78.0	25.6	90.4	3	.....	1	.....	8	7	3	3	5	6290	10123	4	9.60	243.8
Palestine	N. 31 45	W. 95 40	5.45 a.m.	533	162	29.48	748 8	30.03	762.7	72.2	22.3	92.4	1	.....	.....	1	14	5	7	2	.....	5736	9231	3	4.00	101.6
Rio Grande valley.																										
Brownsville	N. 25 53	W. 97 26	5.38 a.m	57	17	29.88	758.9	29.94	760.5	75.3	24.1	95.6	3	.....	.....	.....	8	9	2	5	3	4822	7760	3	8.96	227.6
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.75	755.6	29.99	761 7	75.4	24.1	90.8	.....	.....	.....	.....	1	16	9	.....	4	4580	7371	1	7.30	185.4
Ohio val. & Tenn.																										
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.32	744.7	30.13	765.3	65.5	18.6	93.4	3	4	3	2	2	3	4	4	5	2675	4305	4	2.00	50.8
Knoxville	N. 35 56	W. 83 58	6.32 a.m	980	299	29.14	740.1	30.16	766.1	64.2	17.9	88.7	3	.....	1	.....	.....	2	1	18	5	2856	4596	4	0.66	16.8
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.74	755.4	30.08	764.0	70.4	21.3	84.0	1	6	....	1	3	11	1	6	1	3345	5383	5	4.29	109.0
Nashville	N. 36 10	W. 86 47	6.21 a.m.	549	167	29.53	750.0	30.10	764.5	67.3	19.6	83.8	1	4	2	2	3	5	9	4	.....	3182	5121	5	2.36	59.9
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.53	750.0	30.10	764.5	67.5	19.7	82.4	5	2	2	.....	7	6	1	2	5	4152	6682	5	5.90	149.9
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.28	743.7	30.07	763.8	65.4	18.6	74.2	1	3	.....	3	11	2	2	4	4	3664	5896	6	3.09	78.5
Cincinnati	N. 39 06	W. 84 30	6.30 a.m.	620	189	29.46	748.3	30.11	764.8	67.4	19.7	75.8	1	2	.....	7	6	6	4	4	.....	3210	5166	5	3.87	98.3
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.26	743.2	30.10	764 5	63.2	17.3	81.2	2	3	2	3	12	.....	3	4	1	3679	5921	4	3.46	87.9
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	766	233	29.31	744.5	30.10	764.5	61.6	16.4	83.0	7	8	.....	2	4	1	1	4	3	3587	5773	3	1.17	29.7
Lower lake region.																										
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.42	747.3	30.07	763.8	60.0	15.6	77.9	1	2	4	18	3	1	.....	.....	1	7611	12248	6	1.90	48.3
Buffalo	N. 42 53	W. 78 53	6.52 a.m	690	210	29.35	745.5	30.08	764.0	62.6	17.0	87.7	1	2	5	6	7	1	4	4	.....	7051	11347	4	1.77	45.0
Oswego	N. 43 29	W. 76 35	7.02 a m.	334	102	29.71	754.6	30.06	763.5	60.8	16.0	77.1	2	2	1	6	7	9	1	1	1	6610	10638	6	1.92	48.8
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.36	745.7	30.07	763 8	64.3	17.9	75.5	2	3	.....	7	12	5	.....	1	.....	6175	9938	4	3.92	99.6
Sandusky	N. 41 25	W. 82 40	6.37 a.m.	639	195	29.41	747.0	30.08	764.0	64.6	18.1	74.7	1	1	3	17	4	1	1	2	.....	8167	13143	5	3.17	80.5
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.36	745.7	30.08	764.0	62.9	17.2	75.5	.....	3	.....	6	6	13	1	1	.....	6218	10007	4	3.76	95.5
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.37	746.0	30.05	763 3	63.7	17.6	78.6	3	1	3	4	14	1	3	.....	1	5731	9223	4	1.02	25.9
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.37	746.0	30.06	763.5	63.5	17.5	74.6	1	4	3	5	13	1	1	2	.....	5945	9567	3	2.70	68.6

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for September, 1884.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metrs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
U. S.—Continued.																											
Upper lake region.	° ′	° ′																									
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.33	745.0	29.98	761.5	55.9	13.3	84.2	1	2	10	4	4	5	1	1	2	6291	10124	4	4.83	122.7
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	613	187	29.28	743.7	29.94	760.5	55.9	13.3	83.6	5	3	4	2	11	1	1	1	2	6256	10069	6	8.77	222.8
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.36	745.7	30.03	762.7	61.3	16.6	81.6	5	1	2	1	11	4	3	3	.....	7939	12762	5	4.15	105.4
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.32	744.7	29.97	761.2	57.8	14.3	81.3	1	2	3	6	7	4	0	1	.....	7016	11291	6	1.96	49.8
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.21	741.9	29.93	760.2	56.4	13.6	75.1	2	3	7	12	.....	2	.....	1	3	6769	10894	5	4.91	124.7
Port Huron	N. 43 00	W. 82 26	6.38 a.m	633	193	29.38	746.2	30.00	763.5	60.2	15.7	87.0	1	5	2	3	11	3	2	1	2	5823	9371	5	1.87	47.5
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.33	745.0	30.02	762.5	64.2	17.9	77.4	2	2	4	7	6	2	2	5	2	5800	9334	4	2.29	58.2
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.26	743.2	30.00	762.0	59.9	15.5	84.9	4	4	4	10	4	1	1	2	.....	7336	11806	5	2.82	71.6
Duluth	N. 46 48	W. 92 06	6.00 a.m.	687	209	29.17	740.9	29.91	759.7	53.7	12.1	86.4	2	4	7	8	.....	.....	2	5	2	6306	10149	6	4.70	119.4
Upper Miss. val.																											
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	801	244	29.06	738.1	29.91	759.7	57.6	14.2	84.9	1	3	2	2	3	11	2	.....	6	5894	9485	5	4.48	113.8
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.19	741.4	29.96	761.0	60.8	16.0	85.8	2	2	3	2	12	3	1	1	4	5599	9011	4	10.01	254.2
Davenport	N. 41 30	W. 90 38	6.00 a.m.	615	187	29.35	745.5	30.00	762.0	63.4	17.4	81.3	2	3	1	7	8	3	3	2	1	6130	9865	4	4.79	121.7
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.09	738.9	29.98	761.5	61.0	16.1	84.5	5	1	1	7	11	2	.....	1	2	4168	6708	5	5.40	138.7
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.30	744.2	30.00	762.0	61.1	16.2	80.9	1	1	4	.....	15	3	.....	.....	6	3750	6035	4	4.07	103.4
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.36	745.7	30.01	762.2	64.2	17.9	82.9	4	2	2	1	6	8	1	1	2	6373	10254	4	4.25	108.0
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.70	754.4	30.08	764.0	68.4	20.2	87.3	5	1	.....	3	10	7	2	2	1	4363	7022	4	5.02	127.5
Springfield	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.39	746.5	30.00	763.5	64.2	17.9	81.2	3	3	1	4	13	2	2	2	.....	5780	9302	4	6.85	174.2
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	583	178	29.45	748.0	30.06	763.5	68.2	20.1	83.0	3	1	2	1	10	9	2	1	1	8174	13154	4	0.04	153.4
Missouri valley.																											
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.07	738.4	29.95	760.7	64.4	18.0	81.0	4	2	.....	.....	13	6	1	.....	4	5586	8990	4	5.38	136.6
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.79	731.3	29.90	761.0	62.0	16.7	84.4	3	6	.....	1	10	7	1	2	.....	6857	11035	4	4.91	124.7
Fort Bennett	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.31	719.1	29.90	759.4	51.6	10.9	77.0	3	10	1	1	.....	10	.....	1	4	6877	11067	5	0.68	17.3
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.51	724.1	29.89	759.2	51.2	10.7	80.2	7	1	2	1	4	11	.....	3	1	7921	12748	5	1.26	32.0
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.61	726.7	29.90	759.4	56.8	13.8	82.3	4	3	2	4	6	3	2	2	4	6168	9926	4	0.28	7.1
Extreme N'thwest.																											
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	28.88	733.5	29.87	758.7	49.9	9.9	84.6	4	5	5	1	4	6	1	2	2	7906	12724	5	2.49	63.2
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.00	736.0	29.80	758.4	40.2	7.9	90.9	2	6	6	4	7	1	3	1	.....	6562	10721	5	3.44	87.4
Bismarck	N. 46 47	W. 100 38	5.20 a.m.	1694	516	28.07	713.0	29.87	758.7	48.9	9.4	87.1	4	6	3	1	1	1	6	.....	6	6187	9957	5	2.31	59.4
Fort Buford	N. 48 00	W. 103 56	5.12 a.m.	1930	588	27.85	707.4	29.87	758.7	44.2	6.8	84.2	.....	3	8	3	4	.....	3	7	2	7516	12090	7	0.53	13.5
Fort Totten	N. 47 57	W. 98 57	5.32 a.m.	1500	457	28.27	718.0	.....	.....	50.0	7.8	86.7	1	2	6	3	6	5	2	1	.....	8445	13591	5	1.32	33.5
Northern slope.																											
Fort Assiniboine	N. 48 32	W. 109 42	4.49 a.m.	2720	829	27.08	687.8	29.94	760.5	43.8	6.6	70.9	.....	8	3	7	.....	.....	6	1	5	6722	10818	5	2.69	68.3
Fort Benton d	N. 47 50	W. 110 40	4.45 a.m.	2681	817	27.17	690.1	30.00	762.0	43.3	6.3	76.6	1	.....	1	13	2	.....	2	1	6	5959	8142	5	1.44	36.6
Fort Custer	N. 45 42	W. 107 34	4.58 a.m.	3040	926	26.78	680.2	29.90	759.4	45.1	7.3	81.0	4	3	4	3	2	5	2	3	4	4003	7408	6	1.42	36.1
Fort Maginnis	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.52	618.2	29.91	760.0	40.2	4.6	50.6	1	7	11	1	.....	.....	1	9	.....	7422	11944	6	0.26	6.6
Fort Shaw	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.32	668.5	29.93	760.2	40.1	4.5	77.3	1	1	20	.....	2	.....	2	1	3	6322	10174	4	2.29	58.2
Helena	N. 46 34	W. 112 04	4.40 a.m.	4044	1232	25.80	655.3	29.92	760.0	44.6	7.0	60.3	3	3	7	16	.....	.....	.....	.....	1	4523	7279	6	1.30	33.0
Poplar Rivere	N. 48 08	W. 105 10	5.07 a.m.	2030	619	.....	.....	.....	.....	41.1	5.1	87.0	2	2	14	...	1	1	3	2	.....	.....	.....	5	0.04	10.3
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.34	643.6	29.90	759.4	46.7	8.2	72.5	.....	1	3	8	5	2	2	3	6	2532	4075	4	1.99	50.6
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6105	1861	24.02	610.1	29.90	759.4	46.0	7.8	57.8	2	21	3	3	1	.....	.....	.....	.....	8596	13834	3	1.25	31.8
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.01	686.0	29.89	759.2	55.5	13.1	80.0	3	2	4	2	2	6	5	2	4	8500	13770	4	0.08	2.0
Middle slope.																											
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.93	455.4	29.91	759.7	27.4	—2.6	75.5	3	3	15	9	.....	.....	.....	.....	.....	16517	26581	2	0.49	12.4
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.74	628.4	29.85	758.2	53.6	12.0	56.6	4	1	1	4	17	.....	.....	1	2	4544	7313	2	0.13	3.3
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	25.99	660.1	29.81	757.2	54.2	12.3	65.2	3	6	7	4	3	2	2	2	1	5978	9621	3	0.06	1.5
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2517	767	27.30	694.9	29.91	759.7	61.4	16.3	79.0	.....	6	1	.....	3	17	1	2	.....	11296	18179	3	0.23	5.8
Fort Elliott	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.23	691.6	29.92	760.0	63.5	17.5	79.1	3	.....	.....	1	10	7	.....	3	6	8144	13106	3	0.84	21.3
Southern slope.																											
Fort Sill	N. 34 40	W. 98 23	5.34 a.m.	1200	366	28.75	730.2	29.97	761.2	68.0	20.0	87.3	2	.....	.....	.....	10	9	.....	2	7	8206	13206	5	2.24	56.9
Fort Concho	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.10	713.7	30.00	762.0	69.0	20.6	80.1	1	.....	1	1	13	3	2	3	6	5870	9457	4	3.60	91.4
Fort Stockton	N. 30 53	W. 102 53	5.16 a.m.	3010	917	26.98	685.3	29.94	760.5	66.4	19.1	80.3	.....	.....	.....	3	18	3	.....	.....	6	5453	8776	4	5.84	148.3
Fort Davis	N. 30 38	W. 103 56	5.12 a.m.	4928	1502	25.24	641.1	29.93	760.2	60.3	15.7	80.8	2	.....	.....	3	1	3	3	1	17	3362	5410	4	3.74	95.0
Southern plateau.																											
Fort Thomas	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.23	691.6	29.87	758.7	59.2	15.1	69.0	.....	1	4	5	10	.....	.....	.....	10	.....	.....	4	0.91	23.1
Fort Apache	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	25.05	636.3	29.85	758.2	48.8	9.3	84.9	1	2	.....	1	1	6	10	9	.....	4202	6762	3	1.50	38.1
Fort Grant	N. 32 39	W. 109 57	4.48 a.m.	4856	1480	25.23	640.8	29.83	757.7	62.9	17.2	54.0	2	2	.....	1	.....	2	7	14	2	4225	6799	2	0.98	24.9
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5389	1642	24.74	628.4	29.88	758.9	48.6	9.2	69.3	1	1	.....	1	7	3	1	2	14	4774	7683	1	0.99	25.1
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.05	753.1	29.79	756.7	69.7	20.9	67.6	.....	8	1	2	2	4	5	4	4	2069	4295	1	Inap.	Inap.
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3764	1147	26.25	966.7	29.90	759.4	64.2	17.9	69.8	.....	2	9	.....	.....	.....	1	2	10	1559	2504	2	3.68	93.5
Middle plateau.																											
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.60	650.2	29.85	758.2	52.0	11.1	52.7	2	3	.....	1	2	5	2	1	14	3844	6186	4	1.91	48.5
Northern plateau.																											
Boisé City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.17	690.1	29.94	760.5	47.1	8.4	78.5	1	4	7	1	2	4	3	2	6	2712	4364	4	2.11	53.6
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.19	741.4	30.02	762.5	49.0	9.4	77.1	.....	2	.....	3	.....	.....	2	9	14	1706	2742	4	1.01	25.7
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	27.94	709.7	29.98	761.5	43.6	6.4	70.6	2	1	.....	11	2	1	2	1	10	3289	5293	5	2.43	61.7
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1667	508	28.24	717.3	29.99	761.7	40.3	7.9	78.4	.....	.....	.....	16	1	6	.....	5	2	4176	6721	4	1.40	35.6
N. Pac. coast reg'n																											
Fort Canby	N. 46 16	W. 124 04	3.52 a.m.	179	54	29.80	756.9	30.00	762.0	53.7	12.1	90.3	5	1	5	.....	8	4	4	3	.....	6767	10890	4	6.28	159.5
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	29.97	761.2	30.01	762.2	50.6	10.3	85.7	.....	.....	.....	4	5	2	.....	.....	19	1041	2041	6	3.06	77.7
Tatoosh Id	N. 48 23	W. 124 44	3.49 a.m.	86	26	29.87	758.7	29.96	761.0	50.9	10.5	92.7	1	.....	4	3	4	2	15	.....	1	6351	10221	8	6.15	156.2
Portland	N. 45 32	W. 122 43	3.57 a.m.	67	20	29.94	760.5	30.00	762.0	50.5	10.3	89.7	2	2	6	2	7	1	.....	1	9	3101	5087	7	4.25	107.9
Mid. Pac. coast reg																											
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.33	745.0	30.01	762.2	52.9	11.6	82.7	1	2	.....	2	3	.....	.....	.....	22	13419	21595	4	1.18	30.0
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	332	101	29.59	751.6	29.94	760.5	57.4	14.1	63.7	22	1	.....	1	1	4	.....	.....	1	4521	7276	1	0.39	9.1
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	64	19	29.86	758.4	29.93	760.2	56.5	13.6	77.1	20	6	.....	.....	1	.....	1	.....	2	4847	7800	0	0.00	15.2
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.90	759.4	29.97	761.2	55.0	12.8	89.1	1	4	1	2	2	19	.....	1	.....	7200	11587	3	0.33	8.4
S. Pac. coast reg'n.																											
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	299	91	29.56	750.8	29.95	760.7	56.7	13.7	82.2	1	3	4	13	2	2	.....	.....	5	3583	5774	3	Inap.	Inap.
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.84	757.9	29.91	759.7	60.2	15.7	84.6	1	1	4	.....	2	1	1	14	6	4195	6751	4	0.07	1.8
Alaska stations.																											
Ft Saint Michael	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.76	755.9	29.79	756.7	39.8	4.3	92.7	3	4	3	2	4	6	3	3	2	10553	16983	7	5.04	128.0
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.79	756.7	29.85	758.2	46.9	8.3	80.5	1	1	4	.....	2	1	1	14	6	4710	7580	6	13.20	335.3
Unalaskka	N 53 53	W. 166 32	1.02 a.m.	13	4	29.80	758.4	29.87	758.7	46.1	7.8	82.6	10	4	2	4	2	1	2	4	1	8386	13496	8	11.23	285.2
Sub-Series.																											
Behring Island	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.95	760.7	29.97	761.2	43.5	6.4	89.6	5	1	.....	9	6	2	2	1	4	6721	10818	6	1.70	43.2
Bluefields	N. 12 00	W. 83 43	6.31 a.m.	20	6	29.90	759.4	29.92	760.0	75.3	24.1	92.9	3	17	6	1	.....	.....	.....	1	2	.....	.....	7	5.82	147.8
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.03	559.5	.....	.....	53.1	11.7	81.0	5	1	4	2	4	2	1	2	9	2252	3624	6	2.21	56.1
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.00	763.5	30.06	763.5	79.9	26.6	78.0	.....	.....	.....	.....	.....	13	17	.....	.....	.....	.....	8	2.20	55.9
Puerto Berrioe	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.52?	749.8?	30.08?	764.0?	79.0	26.1	89.0	1	1	.....	2	8	7	.....	.....	8	.....	.....	7	10.48	266.2
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	29.79	756.7	29.95	760.7	76.9	24.9	87.2	.....	3	.....	3	.....	1	.....	23	.....	.....	.....	5	4.48	113.8

OCEAN SQUARE DATA FOR SEPTEMBER, 1884.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W. 22.5°	29.97	761.2	81.0	27.2	2				3	7	21	6			3.8
12.5 27.5	29.99	761.7	82.4	28.0	2				5	4	15	4			3.9
12.5 32.5	29.99	761.7	82.0	27.8	4		1	1	1	1	14	6	2		3.8
12.5 37.5	30.01	762.2	82.1	27.8	6				1	3	16	4			3.7
12.5 42.5	30.02	762.5	82.9	28.3	4				3	5	11	6	1		3.4
12.5 47.5	30.03	762.7	83.1	28.4	2		1	2	3	4	9	8	1		3.1
12.5 52.5	30.03	762.7	83.3	28.5	4		1		1	6	9	8	1		3.5
17.5 22.5	30.01	762.2	79.6	26.4						2	21	7			4.0
17.5 27.5	30.02	762.5	80.2	26.8						2	24	4			4.4
17.5 32.5	30.02	762.5	80.7	27.1	1				1	1	20	7			4.5
17.5 37.5	30.03	762.7	81.1	27.3	1				1	1	15	12			4.0
17.5 42.5	30.05	763.3	81.8	27.7	2				1	6	15	6			3.5
17.5 47.5	30.06	763.5	82.0	27.8	2	2		1	4	3	15	3			3.5
17.5 52.5	30.05	763.3	82.5	28.1	1	1			2	6	11	9			3.6
17.5 57.5	30.03	762.7	83.0	28.3	1	1		1	1	7	14	5			3.9
22.5 22.5	30.07	763.8	78.2	25.7						1	19	10			3.7
22.5 27.5	30.08	764.0	78.9	26.1						3	22	5			4.0
22.5 32.5	30.07	763.8	79.8	26.6	1					4	23	2			4.4
22.5 37.5	30.09	764.3	80.4	26.9	1		1			2	20	6			3.9
22.5 42.5	30.10	764.5	80.6	27.0	2		1		1	6	18	2			3.5
22.5 47.5	30.10	764.5	80.6	27.0	4		2		2	7	13	2			3.4
22.5 52.5	30.09	764.3	81.1	27.3	3	1	2		3	3	14	1			3.3
22.5 57.5	30.07	763.8	81.9	27.7	1	2	2		4	3	16	2			3.5
22.5 62.5	30.07	763.8	82.3	27.9	2	1	1		1	10	13	2			3.6
22.5 67.5	30.06	763.5	82.5	28.1					2	15	11	2			3.9
22.5 72.5	30.06	763.5	83.0	28.3			1		3	11	12	3			3.5
27.5 22.5	30.13	765.3	78.5	25.8	1				1	2	13	12	1		3.4
27.5 27.5	30.15	765.8	77.5	25.3	1					7	15	6	1		3.6
27.5 32.5	30.14	765.5	78.6	25.9	1	2			2	5	16	4			3.7
27.5 37.5	30.14	765.5	79.2	26.2	1	1			1	8	24	4	1		3.8
27.5 42.5	30.15	765.8	79.0	26.1	2	1	2	2	3	5	11	4			3.5
27.5 47.5	30.15	765.8	79.1	26.2	2	3	2	3	1	5	12	2			3.3
27.5 52.5	30.15	765.8	79.4	26.3		4	4	2	3	5	10	2			3.1
27.5 57.5	30.12	765.0	80.2	26.8		5	3	2	4	5	9	1	1		3.0
27.5 62.5	30.10	764.5	80.7	27.1	4	2	2	3	1	8	4	6			2.8
27.5 67.5	30.10	764.5	81.4	27.4	4			4		10	6	6			3.9
27.5 72.5	30.08	764.0	81.8	27.7			2	2	5	8	9	4			4.2
27.5 77.5	30.07	763.8	81.0	27.2	1	2	2	1	7	10	6	1			2.7
32.5 12.5	30.13	765.3	74.9	23.8	12	1	4	1	2	2	1	7			2.8
32.5 17.5	30.17	766.3	74.4	23.6	4	3	4	2	3	3	3	8			2.5
32.5 22.5	30.19	766.8	74.4	23.6	7			1	2	4	5	11			3.3
32.5 27.5	30.20	767.1	75.5	24.2	2			2	4	2	8	12			3.8
32.5 32.5	30.19	766.8	76.5	24.7	1		4	1	3	5	10	6			3.9
32.5 37.5	30.19	766.8	77.1	25.1	1	1	3	3	3	4	10	5			3.7
32.5 42.5	30.18	766.6	76.6	24.8	1	2	1	6	4	6	6	3		1	3.7
32.5 47.5	30.17	766.3	76.2	24.6		2	9	1	6	2	9			1	3.6
32.5 52.5	30.15	765.8	76.4	24.7	3	2	8	2	8	2	4	1			3.4
32.5 57.5	30.12	765.0	77.2	25.1	6	4	3	3	7	3	1	3			3.4
32.5 62.5	30.11	764.8	77.7	25.4	6	2	5	2	4	5	1	4	1		2.8
32.5 67.5	30.10	764.5	78.4	25.8	4	3	2		4	2	6	9			3.6
32.5 72.5	30.12	765.0	78.6	25.9	1		1	2	5	8	9	4			4.1
32.5 77.5	30.10	764.5	75.1	23.9	4		1		2	6	7	10			3.5
37.5 12.5	30.11	764.8	71.1	21.7	8	5	7	3	1	1	2	3			3.2
37.5 17.5	30.15	765.8	70.6	21.4	8	5	7	1	3	1	2	3			3.1
37.5 22.5	30.21	767.3	71.2	21.8	8	7	1	2	4	1	2	5			3.3
37.5 27.5	30.24	768.1	72.4	22.4	3	4	6	4	4	2	1	5	1		3.1
37.5 32.5	30.19	766.8	75.4	24.1	4	3	4	7	4	2	2	3		1	3.7
37.5 37.5	30.16	766.1	73.2	22.9	3	1	5	9	4	3	3	2			3.7
37.5 42.5	30.13	765.3	72.4	22.4	1	2	6	11	4	1	4	1			3.9
37.5 47.5	30.11	764.8	71.8	22.1	1	5	5	8	5	3	2	1			4.1
37.5 52.5	30.09	764.3	72.0	22.2	5	4	6	6	4	2		3			4.0
37.5 57.5	30.09	764.3	72.4	22.4	5	4	7	4	4	2		4			4.1
37.5 62.5	30.09	764.3	72.7	22.6	7	7	6	1	4	2	3				4.1
37.5 67.5	30.12	765.0	72.1	22.3	4	7	4	1	5	2	1	6			3.8
37.5 72.5	30.15	765.8	71.9	22.2	2	2	1	8	5		3	8	1		3.5
42.5 12.5	30.06	763.5	67.7	19.8	3	7	6	1	5	2	2	4			3.3
42.5 17.5	30.10	764.5	66.8	19.3	6	9	4	4	2	2		3			3.9
42.5 22.5	30.13	765.3	67.2	19.6	3	8	7	6	3	1		2			3.5
42.5 27.5	30.12	765.0	67.6	19.8	2	5	11	9	3						4.1
42.5 32.5	30.08	764.0	68.0	20.0		3	14	8	2	2		1			4.3
42.5 37.5	30.05	763.3	67.8	19.9	1	5	10	10	2	1	1				4.8
42.5 42.5	30.04	763.0	66.2	19.0	3	7	8	10	1	1					4.9
42.5 47.5	30.03	762.7	64.7	18.2	4	7	6	7	4	1	1				5.0
42.5 52.5	30.04	763.0	63.9	17.7	7	5	4	5	5	2		2			4.6
42.5 57.5	30.03	762.7	64.4	18.0	7	5	5	7	2	1	2	1			4.6
42.5 62.5	30.07	763.8	63.4	17.4	4	9	4	5	2	3	1	2			4.2
42.5 67.5	30.08	764.0	61.1	16.2	4	8	4	5	2	2	2	3			3.5
47.5 12.5	30.03	762.7	63.3	17.4		4	10	5	3	4	1	3			4.6
47.5 17.5	30.02	762.5	62.8	17.1		6	10	6	2	4		2			5.1
47.5 22.5	29.99	761.7	64.0	17.8		4	12	7	4		3				5.1
47.5 27.5	29.94	760.5	60.8	16.0	1	7	6	10	4	2					5.2
47.5 32.5	29.92	760.0	60.6	15.9		8	8	8	4	1	1				5.4
47.5 37.5	29.89	759.2	59.6	15.3	1	8	10	6	5						5.2
47.5 42.5	29.88	758.9	56.0	13.3	2	5	17	5		1					5.5
47.5 47.5	29.91	759.7	52.2	11.2	1	7	11	8		1		1	1		5.0
52.5 12.5	29.93	760.2	58.7	14.8		5	9	9	3	2	1	1			5.0
52.5 17.5	29.85	758.2	57.4	14.1		4	6	13	2	3	1	1			5.7
52.5 22.5	29.79	756.7	56.3	13.5	2	5	8	7	3	5					6.0
52.5 27.5	29.77	756.1	54.6	12.6		5	7	7	5	6					6.3
52.5 32.5	29.73	755.1	53.7	12.1		7	7	9	4	1	2				5.8
52.5 37.5	29.70	754.4	51.9	11.1	1	5	7	10	3	1	1	2			6.0
52.5 42.5	29.68	753.9	49.8	9.9	1	8	9	9	1	1		1			5.8
52.5 47.5	29.69	754.1	46.7	8.2	2	12	7	6	3						5.8
57.5 12.5	29.75	755.6	54.6	12.6	3	3	5	12	1	4			1	1	5.7
57.5 17.5	29.67	753.6	52.9	11.6	3	2	6	8	8	3					5.8
57.5 22.5	29.62	752.3	52.4	11.3	1	3	8	8	5	3	1			1	5.9
57.5 27.5	29.60	751.8	49.9	9.9	1	4	8	5	6	4	1	1			6.1
57.5 32.5	29.59	751.6	49.8	9.9	1	5	5	8	6	2	1	2			5.6
57.5 37.5	29.57	751.1	46.8	8.2	2	5	4	6	8	1	2	1		1	5.6
57.5 42.5	29.57	751.1	45.2	7.3	1	5	6	3	5	2		4		4	5.6
57.5 47.5	29.59	751.6	43.5	6.4	4	10	2	4	3	1	2			4	5.4

REVIEW.

INTERNATIONAL METEOROLOGY FOR SEPTEMBER, 1884.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following description refers to chart ii for the month of September, 1884. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from one simultaneous observation taken each day at 7 a. m., Washington, or 0 h. 8 m., p. m., Greenwich, mean time.

The areas of least mean pressure occupy, respectively, the northern part of the north Atlantic Ocean and British India; the first of these is indicated by the isobar for 29.6 (751.8), which extends from Iceland southwestward to about N. 56°, W. 30°, and thence westward and northwestward to Davis Strait; the lowest mean pressure for the month being 29.53 (750.0), at Stykkisholm, Iceland. The second area is enclosed by the isobar for 29.7 (754.4), and occupies that part of British India lying north of the twentieth parallel, the means ranging from 29.61 (752.1) to 29.66 (753.4). In southern Hindostan the mean pressure varies from 29.77 (756.1) to 29.85 (758.2). South of the region of least pressure in the Atlantic, the means gradually increase to 30.0 (762.0), the isobar for that value extending from Nova Scotia eastward along the forty-fifth parallel to about W. 35°, when it trends northeastward and crosses southern England and the North Sea to northern Europe. In the North American continent the mean pressure is least in Manitoba, over the northern part of the Gulf of California, and over that part of the United States lying west of the hundredth meridian.

The areas of barometric maxima are three in number; the first is that of the north Atlantic Ocean, and is situated in the vicinity of the Azores, where the means range from 30.2 (767.1) to 30.24 (768.1). The second area, 30.1 (764.5), occupies central Europe, extending from about 8° E. eastward and northeastward to about the thirtieth meridian east of Greenwich. The third is a small area of high pressure, also enclosed by the isobar for 30.1 (764.5), situated over the northern part of the Bay of Biscay and the extreme western part of France (Brittany). Between these high areas the means range from 30.01 (762.2) to 30.09 (764.3); over Scandinavia and that part of Russia lying east of 40° E. the means are below 30.0 (762.0).

Compared with the chart for the preceding month (August, 1884), there has been a slight decrease of pressure in the upper lake region, the region between the Rocky Mountains and the Mississippi River, and in the Canadian Maritime Provinces; in all other districts of the United States the means for September, 1884, are slightly above those of the preceding month. The high area of the Atlantic Ocean has moved eastward to the Azores and has become contracted in size, while there has been a general decrease of pressure over the ocean, except over the regions near the American and African coasts, where there appears to have been a slight increase. In Europe the pressure has decreased in Scandinavia and Denmark; it has remained unchanged over the British Isles, but has increased in all other countries of the continent, the increase being greatest in Italy, Austro-Hungary, and in eastern Russia. There has been a slight increase of pressure throughout Asia.

Compared with the corresponding month of previous years, the mean atmospheric pressure over the United States was slightly above the normal in the Atlantic and Pacific coast districts, and in Tennessee, and the east Gulf states; in other districts it was less than the normal, the greatest deficiency occurring in the Missouri Valley and the Northwest. In Canada it was normal, or slightly below. In Europe the mean pressure was generally above the normal. In British India it was .03 below the seven years' mean.

The following table shows the mean pressure and mean temperature for September, 1884, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last seven years.

Countries.	Mean pressure.			Mean temperature.		
	Sept. mean of 7 (1877–'83) years.	Sept., 1884.	Departure.	Sept. mean of 7 (1877–'83) years.	Sept., 1884.	Departure.
				°	°	°
Algeria	30.02	.....	.....	81.8	.....	.....
Austro-Hungary	29.95	30.09	+ 0.14	66.1	67.5	+ 1.4
British Isles	29.94	29.99	+ 0.05	58.1	62.2	+ 4.1
Denmark	29.90	30.01	+ 0.11	59.1	62.8	+ 3.7
France	29.99	30.07	+ 0.08	67.0	68.9	+ 1.9
Germany	29.97	30 10	+ 0.13	63.3	66.4	+ 3.1
India	29.70	29.67	— 0.03	82.9	82.4	— 0.5
Italy	29.96	30.08	+ 0.12	73.8	72.3	— 1.5
Norway	29.84	29.89	+ 0.05	56.4	59.6	+ 3.2
Portugal*	30.03	.....	.....	74.4	.....	.....
Russia	29.98	30.05	+ 0.07	63.1	59.3	— 3.8
Spain*	30.02	30.07	+ 0.05	73.3	70.9	— 2.4
Sweden	29.91	29.98	+ 0.07	56.1	59.4	+ 3.3

* Means for six years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of September, 1884, as compared with the means for seven years:

Stations.	Mean pressure.			Mean temperature.		
	Sept. mean of 7 (1877–'83) years.	Sept., 1884.	Departure.	Sept. mean of 7 (1877–'83) years.	Sept., 1884.	Departure.
				°	°	°
Astrakhan, Russia	30.04	30.01	— 0.03	70.4	63.7	— 6.7
Archangel, Russia	29.93	29.94	+ 0.01	50.5	47.5	— 3.0
Angra, Azores	.....	.....	.....	.....	.....	.....
Athens, Greece	29.96	30.03	+ 0.07	82.6	77.7	— 4.9
Beirut, Turkey in Asia	29.88	29.89	+ 0.01	84.6	81.5	— 3.1
Barnaul, Siberia, Asia	29.92	29.88	— 0.04	55.6	53.8	— 1.8
Bridgetown, Barbadoes*	29.96	30.00	+ 0.04	83.1	82.9	— 0.2
Cape Town, Cape of Good Hope*	30.13	.....	.....	65.8	61.3	— 4.5
Cagliari, Sardinia, Italy	29.95	.....	.....	78.0	.....	.....
Ekaterinburg, Russia	29.93	29.79	— 0.14	52.6	45.0	— 7.6
Fort Napier, Natal, South Africa*	29.93	29.96	+ 0.03	73.7	75.3	+ 1.6
Freetown, Sierra Leone	29.89	29.86	— 0.03	82.8	82.2	— 0.6
Funchal, Madeira Islands	30.13	30.17	+ 0.04	75.3	74.5	— 0.8
Gibraltar*	30.03	30.05	+ 0.02	75.8	74.2	— 1.6
Godthaab, Greenland	29.70	.....	.....	37.6	.....	.....
Havana, Cuba, W. I	29.97	30.01	+ 0.04	80.2	77.0	— 3.2
Malta, Mediterranean Sea	29.96	30.02	+ 0.06	81.1	77.0	— 4.1
Mauritius, Indian Ocean	30.16	30.14	— 0.02	72.9	73.6	+ 0.7
Melbourne, New South Wales	30.01	29.99	— 0.02	52.4	52.3	— 0.1
Mexico, Mexico	.....	.....	.....	.....	.....	.....
Nassau, Bahamas, W. I	30.00	30.08	+ 0.08	83.0	81.8	— 1.2
Nikolaevsk on the Amoor, Asia	.....	.....	.....	.....	48.7	.....
Paramaribo, D. Guiana, S. A	30.04	30.06	+ 0.02	81.4	79.9	— 1.5
Pekin, China	29.97	30.00	+ 0.03	67.2	67.8	+ 0.6
Ponta Delgado, Azores	30.19	30.24	+ 0.05	73.5	72.9	— 0.6
Sandwick Manse, Orkney Islands	29.90	29.83	— 0.07	54.0	55.9	+ 1.9
San Juan de Puerto Rico, W. I	29.98	30.04	+ 0.06	81.2	79.2	— 2.0
Stykkisholm, Iceland	29.65	29.53	— 0.12	46.0	46.2	+ 0.2
Tashkend, Toorkistan, Asia	29.95	29.88	— 0.07	69.1	77.4	+ 8.3
Thorshavn, Färöe Islands	29.79	29.70	— 0.09	51.2	51.8	+ 0.6
Tiflis, Russia	29.95	29.97	+ 0.02	75.8	71.2	— 4.6
Tokei, Japan	29.96	29.99	+ 0.03	70.1	70.2	+ 0.1
Yenisoisk, Siberia, Asia	29.97	29.95	— 0.02	46.8	48.7	+ 1.9
York Factory, B. A	29.97	.....	.....	36.9	.....	.....
Zi-Ka-Wei, China	29.94	29.93	— 0.01	71.1	71.2	+ 0.1

* Means for six years only.

The mean temperature of the air was above the normal over the United States east of the Rocky Mountains, while it was deficient in the districts to the westward of those mountains. In Canada it was above the normal, except in the Maritime Provinces, where it ranged from 0 to 2° below the normal. In Europe the temperature was above the normal in all districts, except the southern peninsulas and Russia. In Hindostan it was 0°.5 below the seven years' mean; the highest mean temperature reported was 91°.5 Fahr. (33°.1 Cent.), at Trichinopoly, and the lowest was 69°.9 Fahr. (21°.1 Cent.), at Belgaum.

The following are some of the extremes reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Cairo, Egypt	83.3	28.5	Fort Saint Michaels, Alaska	39.8	4.3
Bridgetown, Barbadoes	82.9	28.3	Behring Island, Behring Sea	43.5	6.4
Freetown, Sierra Leone	82.2	27.9	Fort Garry, Manitoba	44.8	7.1
Nassau, Bahamas	81.8	27.7	Ekaterinburg, Russia	45.0	7.2
Beirut, Turkey in Asia	81.5	27.5	Unalashka, Alaska	46.1	7.8

In the United States the prevailing winds were from south to west, except along the south Atlantic coast and in Florida, where they were northerly and northeasterly. Over the Atlantic the winds were southwest, west, and northwest over the region north of the thirty-fifth parallel; south of that parallel they were easterly and northeasterly. In Europe they were mostly from south to southwest, west, and northwest.

The rainfall during September, 1884, was less than the average in the Atlantic and Gulf coast districts of the United States, and also on the eastern slope of the Rocky Mountains. In the central valleys, southern Texas, and over the region west of the Rocky Mountains it was considerably in excess of the average. In Canada it was generally less than the average, In Europe the rainfall was less than the average.

STORM-TRACKS FOR SEPTEMBER, 1884.

Chart iii exhibits the paths of the principal depressions which appeared in the northern hemisphere during September, 1884. This chart continues the series of international charts begun in November, 1877, and in its preparation the following data have been used, viz.: Chart i for each day of the month, containing the data of one simultaneous observation taken at 7 a. m., Washington, or 0h. 8m., p. m., Greenwich mean time, as heretofore published in the DAILY INTERNATIONAL BULLETIN; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

For September, 1884, the paths of forty-five depressions are shown on the chart, and in addition to these are also given the tracks of two typhoons which occurred in the China Sea during that month. The latter are taken from the "Bulletin Mensuel," published by the Rev. M. Dechevrens, S. J., director of the observatory at Zi-Ka-Wei, near Shanghai, China, and from the tri-daily weather maps of the Imperial Meteorological Observatory at Tokio, Japan, under direction of Mr. I. Arai.

Fourteen depressions (numbers i to xiv, inclusive) are traced over the North American continent; six of the above depressions approached the United States from the British Northwest Territories, and moved in a southeasterly direction toward the Lake region and thence eastward and northeastward to the Gulf of Saint Lawrence. Four depressions, of which two (iii*a* and x*a*) were subsidiary to disturbances in the Northwest, apparently developed in Kansas and Colorado, whence they moved northeastward to the Lake region and by the usual course to the Gulf of Saint Lawrence. One disturbance, number vi, presented all the features of a tropical hurricane and is remarkable on account of its abnormal path. It apparently developed near the coast of Florida on the 10th, during which date it entered Georgia and moved slowly northward and westward; on the 11th its course changed to easterly and southerly, and it again passed into the Atlantic off the South Carolina coast. It remained for several days over the ocean between W. 72° and the coast-line, and then finally took up a northeasterly movement and passed along the course of the Gulf Stream. This disturbance was attended by very heavy rains and strong gales at the coast stations, but the depression attained its greatest depth, and the winds their maximum force, after the storm-centre had left the coast. This disturbance is described as number vii under "Areas of low barometer," and as number 8 of the "North Atlantic storms," in the MONTHLY WEATHER REVIEW for September, 1884, since which writing, no additional data referring thereto have been received at this office.

The remaining depressions (numbers iii, iv, vii, xi, and xiv) which appeared in the United States were developed over the region lying west of the one hundred and tenth meridian, as indicated on the chart.

Sixteen depressions (xv to xxx, inclusive), an unusually large number for September, are traced over the north Atlantic Ocean. Seven of these are continuations of storms which had previously traversed the North American continent, that traced as number xxiii being the hurricane referred to above as number vi; two storms (xvii and xxi) appeared over the region south of 30° N. and west of 45° W, and were both of tropical origin, they are described as numbers 2 and 7 under "North Atlantic storms," in the MONTHLY WEATHER REVIEW for September, 1884. Three depressions, numbers xv, xx, and xxvii, appeared over the ocean between 40° and 45° N. and 40° and 60° W.; one (number xxiv) developed between 10° and 15° W. and pursued a somewhat peculiar course, moving first northeastward to about the seventh meridian west of Greenwich and then northwestward, touching the extreme southwestern point of Ireland.

The depression charted as number xix was probably identical with the severe storm which caused great destruction in Iceland on September 11th, as shown by the following press-report.

LONDON, *October* 3.—Intelligence has just been received here of a terrible and disastrous hurricane in Iceland on the 11th of last September. The accounts thus far received show that nineteen trading vessels and sixty fishing boats were lost, and thirty-two vessels disabled. The most appalling feature of the hurricane was the loss of life. The exact number of those who perished has not yet been ascertained, but it is known to have been very great.

At the simultaneous observation of the 11th the barometer at Stykkisholm, Iceland, read 29.2 (741.7), wind se., force 9.

The remaining depressions, numbers xvi, xxviii, and xxix, are traced over the ocean north of the fifty-fifth parallel.

The general direction of movement of the depressions which traversed the Atlantic was about northeasterly until the thirtieth meridian was reached, when the course became more northerly and the storm-centres passed to the northward of the sixtieth parallel. Number xvii, however, pursued the parabolic course common to tropical hurricanes, moving first to the westward and then curving to the northeastward in about 20° N., 58° W.

Nearly all of these disturbances were attended by strong gales during their passage over the Atlantic, the barometer near the storm-centres in every case ranging from 29.0 (736.6) to 29.4 (746.7). During the passage of numbers xxvi and xxvii the pressure decreased to 28.6 (726.4), on the 25th, and to 28.35 (720.1), in Iceland, on the 26th, and during these dates unusually steep barometric gradients covered the ocean north of the fiftieth parallel, and gales of hurricane force were reported. Descriptions of the more important of these depressions will be found under "North Atlantic storms," in the WEATHER REVIEW for September, 1884.

Eight depressions are traced over Europe; three of these are shown in the eastern part of the continent, numbers xxxvi and xxxvii having moved southeastward from northern Scandinavia to eastern and central Russia and thence into Siberia, while one, number xxxi, developed in central Russia and moved eastward and northeastward, disappearing in the Ural region. Three, numbers xxxiii, xxxiv and xxxviii, appeared in southern Europe, the first passing over northern Italy to the Adriatic, the second from Austro-Hungary southeastward to the Black Sea and Caucasus regions, and the third over the western part of the Black Sea at the close of the month. In the depressions just enumerated the barometer ranged from 29.35 (745.5) to 29.8 (756.9); the minima occurring after the centre of disturbance had passed into Siberia. The remaining depressions, numbers xxxii and xxxv, appeared in western Europe and were the most severe of the storms traced in Europe during this month; the first developed over the Bay of Biscay on the 3d, and moved, with rapidly decreasing pressure, northeastward over northwestern France to the North Sea, where the barometer near the storm-centre fell to 29.3 (744.2), and unsettled, stormy weather prevailed over the adjacent land areas. On the 5th the depression, with a further decrease of pressure at the centre, was shown off the southwestern coast of Norway, the barometer at Bergen reading 29.16 (740.7). By the 6th the centre of disturbance had moved northwestward to the vicinity of the Färöe Islands where it disappeared. The second depression (xxxv) appeared off the Irish coast on the 6th, with barometer 29.2 (741.7); it passed

east-northeastward over Ireland and England, and on the 7th it occupied the North Sea, causing fresh to strong gales and rainy weather. On the 8th it was shown over the Danish Peninsula, the pressure having increased to 29.7 (754.4), and on the following day it filled up in northern Germany.

Of the depressions traced over Asia and the Pacific Ocean, one (xxxix) appeared in western Siberia on the 12th and moved northeastward, passing into northeastern Siberia after the 13th; the lowest pressures were 29.33 (745.0), at Akmolinski, on the 12th, and 29.34 (745.2), at Yeniseisk, on the 13th. Number xl was a depression of moderate intensity which passed over Korea and the Sea of Japan during the 3d and 4th, and over northern Niphon on the 5th, when it apparently moved southeastward over the Pacific. Number xli appeared over the Sea of Okhotsk on the 9th, and moved eastward over Behring Sea; the lowest pressure, 29.4 (746.7), was reported on the 12th, over the Aleutian Archipelago. Number xlii was a very severe storm which appeared off the southern coast of Japan on the 14th, and followed the course charted, causing great damage to property and loss of life during its passage. A description of this storm, by Mr. E. Knipping, of the Tokio Meteorological Observatory, will be found below. The three depressions which appeared in the Pacific Ocean during the last decade of the month were attended by strong gales, with pressure ranging from 29.3 (744.2) to 29.6 (751.8).

As noteworthy features of the chart for September, 1884, may be mentioned: 1st, the unusually large number of depressions, generally well-defined, and of considerable intensity, which traversed the North American continent. 2d, the equally large number of severe storms in the north Atlantic Ocean, and the remarkably stormy weather which prevailed over that ocean south of the fortieth parallel. 3d, the comparative infrequency of severe storms in the continent of Europe which was, during the greater part of the month, occupied by areas of high barometer.

Concerning the typhoons of the China Sea and vicinity during the month, the Rev. M. Dechevrens, in the "Bulletin Mensuel," for September, 1884, says of the first (8th to 17th, over China, Japan, and adjoining seas), that it displayed great violence during the 10th and 11th in the vicinity of Hong Kong and Macao, the barometer falling to 28.9 (734.1). The typhoon appears to have diminished in violence as it passed over the land, but on reaching the sea again, it resumed its former energy and passed over Japan as a violent storm, (see report of Mr. Knipping, below). The second typhoon (19th to 26th) moved west-northwestward to Formosa, where it apparently divided, one segment continuing to move northward, while the other, after moving northward along the eastern coast of Formosa, appears to have recurved and passed into the southern part of the China Sea, where it remained, without displaying any great storm-energy, until the beginning of October, when it disappeared. That part of the typhoon which moved northward was not so violent as its predecessor, although the barometer fell to 28.98 (736.0) at stations in Formosa; the winds varied in force from 7 to 10.

The following, furnished by Mr. E. Knipping, of the Imperial Meteorological Observatory at Tokio, Japan, is from "The Japan Daily Mail," of October 24, 1884:

Notes on the storms of September 15, 17, and 18, 1884.

Within the short space of two days southern Japan was visited by two very heavy storms, the first crossing southeastern Nippon from southwest to northeast, the second passing over the whole south, going from Nagasaki over the Inland Sea, straight on over Tokiyo and into the Pacific. Happily the second storm, although very severe in the west, lost some of its violence when reaching that part of Japan traversed by the first. With regard to intensity, as shown by the atmospheric pressure, the first was the "leader," as in all cases of twin-storms observed and compared until now in Japan.

The weather maps for Sunday, September 14th, 9 p. m., showed only a slight general gradient from east to west of about ½ to 1; near Kii peninsula somewhat higher values, about 2; the winds were, on the eastern portion of the south coast, easterly, on the western portion northeasterly, light or moderate. Only Ozaka noted strong east wind, Kochi, in Shikoku, light west wind. The barometric changes from 2 to 9 p. m. had been slight, the greatest amounts being a fall of 2 mm. at one station, Miyasaki, in Kiushiu; 1 mm. rise at Numadzu and in the extreme north. The temperature was rather high all over Japan; with rain-clouds or slight rain on the south coast, elsewhere the weather was mostly clear.

Nine hours later, on the 15th September, at 6 a. m., a very deep depression was off Kii peninsula, with very steep gradients and a fall of 14 mm. at Wakayama, the station nearest the centre and yet about 50 n. miles away from it.

This is the first time since the publication of the weather maps that such a heavy fall occurred without previous indications. In former storms the consecutive fall was, for instance, 3, 4, 13; or, 4, 4, 3, 15; 1, 5, 18, etc., in about equal periods; while in this instance we have 2 and 14, without intermediate values.

The explanation appears to be that this storm did not come from the sea developed, but grew in the immediate vicinity of the coast. The rapidity of its appearance and other circumstances make it even probable that it was first developed in the higher, and then descended into the lower, strata of the atmosphere.

The centre was at 6 a. m. on the 15th quite near Oshima, the southern extremity of Kii peninsula, travelled northeast, and was at 2 p. m. west of Tokiyo, north of Numadzu; at 9 p. m. it had passed out into the Pacific south of Nobiru. The track is a straight line from Oshima to Toyama. The speed was 25 n. miles and 30 n. miles, respectively, per hour.

Its diameter increased till at 3 to 5. p. m. it exceeded certainly 250 n. miles; in the morning it was considerably less.

The steamship "Suminoye Maru," Captain P. Frahm, near Ichiyemisaki, not far from Oshimo, observed the lowest barometer reading at 6 a. m., 734 mm.,* with a hurricane from the northwest; Kashinosaki lighthouse, 731 mm., at 7 a. m.; barque "Hans," Captain A. Thomson, in 33° 5′ N., 137° E., 717–720 mm.,* at 8.45 a. m.; the steamship "Suruga Maru," Captain Pender, near Hamamatsu, 708 mm.;* station Hamamatsu, 717 mm., at 11.30 a. m.; Numadzu, 731 mm., at 1.30 p. m.; Tokio, 782 mm., at 3 p. m.; Nobiru, 743 mm., at 8 p. m.

The readings are thus 734, 731, 717, 708, 717, 731, 732, 743, and show plainly the quick fall and later rise near the centre. Working backwards with these figures, we find that the storm developed between midnight and 3 a. m.

The heaviest fall of barometer was observed on board the "Suruga Maru," from 8 a. m. to noon, 33 mm.; noon to 0.30 p. m.,† 12 mm.; or 45 mm. in 4½ hours.

On board the "Hans" the fall was, from midnight to 8 a. m., 15 mm.; 8 to 8.45 a. m., 22 mm.; or 37 mm. in 8¾ hours.

It took the central calm space four minutes to pass Hamamatsu, which would make the diameter 2 n. miles.

The barometric gradients were 22 for Gifu-Hamamatsu, 27 for Numadzu-Hamamatsu. This barometric slope is seven times the amount of an ordinary gale.

Remarkable is also the great in-draught of the wind towards the centre; it has been noticed before in these seas in the "wake" of quickly advancing storms, but never as in this instance, in front of one with strong winds.‡ What a difference this makes in the managing of ships will be plain from an example.

The "Suruga Maru," at 6 a. m. on the 15th, had northeast wind about, thus the centre would be supposed to bear southeast, while actually it bore southwest.

In whirls of small diameter and great height such great in-draughts of air have been often observed, and we may thus conclude that this storm had also a great height. The velocity of the wind registered at Tokio was 30 metres, but exceeded 40 metres in the gusts.

The steamship "Hiogo Maru," Captain R. N. Walker, at Kobe, noted the strongest wind, east-northeast, 7, at 7 a. m.; the lowest barometer at 9 a. m.

The steamship "Urado Maru," also at Kobe, Captain Motegi, noted force 9 from north to northwest, 7 to 10 a. m.

The steamship "Tokai Maru," Captain Carrew, at Yokkaichi, had the strongest wind north-northeast, 9–10, at about 8 a. m., while the barometer reached the lowest point at 10.30 a. m.

The steamship "Niigata Maru," Captain Hubbard, off Kawatsu, on the southeast coast, had from 3 p. m. a hurricane from south-southeast, the lowest barometer at 5 p. m.

The steamship "Sekirio Maru," Captain Davison, observed strong northeast wind and sea off Hachinohe, northeast Nippon, on the 15th, at 4 a. m., together with lowest barometer.

The most noteworthy facts in regard to this storm are its sudden outbreak, extreme violence, and great in-draught of wind.

After the passage of this storm the pressure remained rather low in the west; temperature high in the whole south, and before the damage done to the telegraph lines on the 15th could be repaired, a second storm developed near western Kiushiu on the 16th, at night.

The centre passed in the immediate vicinity of Nagasaki on the 17th of September, at 10.45 a. m.; was at 2 p. m. in northern Kiushiu, at 7 p. m. it passed Hiroshima, in the Inland Sea, skirted the northern shore of it, passed Osaka on the 18th, at 2 a. m., Gifu at 4, Tokio at 9 a. m., thence it travelled about due east into the Pacific, where the "Otsego," Captain Ewalt, near Inuboye Saki, observed a north gale at 10 a. m.

The rate until 2 p. m. was about 20 n. miles per hour; to 9 p. m., 17 n. miles, to 6 a. m. on the 18th, 30 n. miles, and the same speed to 9 a. m.

* Aneroid corrected.

† The time does not agree with the observations at Hamamatsu.

‡ If this in-draught is not taken into account the general direction of tracks may be at times 90° wrong.

The "City of Tokio," Commodore Maury, from San Francisco to Yokohama, encountered, 1,400 miles east of Tokio, in 35°.4 N., 170°.4 E., on the 27th of September, a strong gale from the south; later, east-southeast and north, with the barometer down to 746 mm. If this should prove to have been the same storm, its progress in the Pacific was much less than in Japan, namely, about 150 n. miles per day, or 6 to 7 n. miles, only, per hour.

The lowest readings were, at Nagasaki, 729 mm.;* Saga, 733 mm.; Hiroshima, 743; Gifu, 744; Tokio, 742 mm.

This storm had in the west much in common with the first; the in-draught of wind was considerable and the fall on the approach of the storm also very sudden, the consecutive amounts of fall for about equal periods at Nagasaki being 1, 1, 12 mm.

Iwoshima lighthouse, outside of Nagasaki, noted a fall of barometer of 27 mm. in five and one-half hours, Kageno lighthouse, of 25 mm. in eight hours, Nagasaki, 21 mm. in seven and three-quarter hours.

The gradients were also steep, 13 for Saga-Nagasaki, 15 for Miyasaki-Nagasaki.

The lowest barometer and highest wind force were observed at Nagasaki by Captain Ekstrand, of the "Kanagawa Maru," on the 17th at 9.40; wind force 12.

At Susaki, Shikoku, by Captain Motegi, steamship "Urado Maru," on the 17th at 7 p. m.; wind force 11.

In 36° N., 132° E., in the Sea of Japan, southwest of Oki Islands, by Captain Thomas, steamship "Toyoshima Maru," on the 17th at 8 p. m.; strongest wind, 7.

At Kobe, by Captain Frahm, steamship "Suminoye Maru," on the 18th at 1 a. m.; force 9.

Off Hinomisaki, in Kii Channel, by Captain Swain, steamship "Tokio Maru," at 2 a. m.; wind force 10.

At Toba, by Captain Tanita, "Mikuni Maru," at 4 a. m.; force 11.

In 34° N., 138° E., by Captain Hubbard, steamship "Niigata Maru," at 6 a. m. on the 18th; force 10.

At Yokohama, by Captain Thomsen, "Hans," and by Captain R. N. Walker, steamship "Hiogo Maru," at 9.30 a. m.; force 8.

At Yokosuka, by Captain Dithlefsen, steamship "Owari Maru," and at Niigata, by Captain Cleary, steamship "Ise Maru," at noon on the 18th; the latter observation with heavy sea from northeast.

In 40° N., 142° E., Captain Davison, steamship "Sekirio Maru;" noticed also heavy east-northeast sea.

Thus the wind force decreased from 12, the highest figure in the scale, in the west to about 8 in southeastern Nippon; and to the north of the track gales did not extend more than 100 or 120 n. miles.

The greatest amount of rain in both storms fell near the track, thus on the 15th on the southeast coast, at Numaduzu, 136 mm. in 8 hours. The exceptions during the second storm were Ozaka and Kochi, which stations had only 1 and 4 mm. rain in the 2 days. Hiroshima observed 83 mm. on the 17th from 2 to 9 p, m.; Gifu the same amount during the night.

Both storms developed probably very near the coast of Japan, and their maximum speed was about the same, 30 n. miles.

The following figures may serve as a comparison:

Interval barely 24 hours.	First storm.	Second storm.
	Mill.	*Mill.*
The lowest barometer was	708‖	729‖
The greatest fall was, in 4½ hours	45	
The greatest fall was, in 5½ hours	.....	27
The greatest fall was, in 8 hours (regular observations)	21	17
The greatest fall was, in 24 hours (regular observations)	25	21
The steepest gradient was	27	15

‖Aneroid corrected.

This pair was altogether more severe than the one described in the "Japan Mail," of October 22, 1883, when the interval was about three days.

E. KNIPPING.

STORM-TRACKS FOR NOVEMBER, 1882.

Chart iii for November, 1882, shows the paths of thirty-nine of the more important depressions which appeared in the northern hemisphere during that month. The track of the typhoon that passed over Manila and the China Sea is taken from the Rev. M. Dechevrens' paper "The typhoons of 1882" (second part).

The above depressions are distributed, geographically, as follows: Five (i to v) are traced over the United States and Canada; eleven (vi to xvi) are shown over the Atlantic Ocean; sixteen (xvii to xxxii) are traced over the European continent, and seven (xxxiii to xxxix) appeared in Asia and over the north Pacific Ocean.

Of the depressions traced over the American continent, two, numbers i and ii, first appeared on the Pacific coast, whence they moved eastward to the Lake region where the first filled in, while the second moved northeastward and passed into the Atlantic from the coast of Labrador. Number iv developed in Dakota and passed east-northeastward over the Lake region and down the Saint Lawrence valley to the Gulf. Two storms, which developed considerable energy on reaching the Atlantic, first appeared near the Rio Grande Valley and moved eastward along the northern shore of the Gulf of Mexico and into the Atlantic Ocean from the Florida coast. In the above storms the pressure near the centres of disturbance ranged from 29.5 (749.3) to 29.8 (756.9) until the centres approached the Atlantic, when a decrease of pressure set in; they were, however, generally accompanied by high winds to moderate and strong gales, owing to the somewhat steep gradients caused by the close proximity of the high areas. Descriptions of these depressions will be found under "Areas of low barometer," in the MONTHLY WEATHER REVIEW for November, 1882.

Of the depressions shown over the Atlantic, four, viz., numbers xi, xiii, xiv, and xvi, were continuations of storms which had previously moved over the North American continent; two, numbers ix and x, developed over the region north of the sixtieth parallel, the first moving southeastward to about N. 56°, W. 17° and then northeastward along the northwestern coasts of the British Isles, while the second disappeared in the vicinity of Iceland. Two depressions (vi and vii), the first of which was a continuation of number xx of the October chart, are shown near N. 55° and between the meridians of 30° and 40° W. The remaining depressions, numbers viii, xii, and xv, appeared over the western part of the Atlantic; the first appears to have originated in the neighborhood of the Bahama Islands, whence it moved slowly east-northeastward over the Atlantic at a comparatively low latitude; number xii developed near Bermuda, and after moving slowly northeastward for two days it curved to the northward and westward and disappeared in the Gulf of Saint Lawrence; the last (xv) appeared south of Nova Scotia and moved first northeastward and then northward, finally disappearing in southern Greenland.

All the disturbances were attended by moderate to strong gales (force 8–10), the atmospheric depression being rather deep and ranging from 29.0 (736.6) to 29.5 (749.3). The following are the lowest pressures reported, with the wind-force and directions at the time:

Depression.	Date.	Lat. N. Lon. W. (About.)		Barometer.		Wind.	
				Inches.	Mill.	Direction.	Force.
		° ′	° ′				
VI	1	54 0	29 0	29.06	738.1	wsw.	10
	3	Stykkisholm		28.85	732.8	ne.	10
	4	Thorshavn		28.66	728.0	ne.	4
VII	2	52 0	35 0	29.24	742.7	sw.	8
VIII	10	42 0	32 0	29.06	738.1	s.; w.	4–8
IX	7	55 0	20 0	29.25	742.9	nw.	10
	8	Thorshavn		28.87	733.3	se.	4–8
X	14	Stykkisholm		28.85	732.8	s.	6
XI	19	Thorshavn		28.75	730.2	sw.	6
XII	19	45 0	55 0	29.13	739.9	ne.; sw.	8–10
XIII	23	45 0	54 0	29.04	737.6	sw.; nw.	6–10
XIV	26	46 0	58 0	29.56	750.8	w.	6–8
XV	28	48 0	50 0	29.26	743.2	s.	10
	29	Ivigtut		29.21	741.9	se.	6
XVI	30	Sydney, C. B		29.49	749.0	sw.	4

The most violent gales generally occurred over the region south of the storm-centres, between N. 45° and 50°, the direction of the winds being mostly from sw. to w. and nw.

Of the sixteen depressions traced over Europe, six (numbers xvii, xx, xxiii, xxiv, xxvii, and xxix) developed near the coasts of, and passed over, the British Isles; one (xxviii) entered Scandinavia from the Atlantic; four (xxi, xxii, xxx, and xxxi) first appeared in the North Sea; one (xvii) in the White Sea region, and two (numbers xix and xxxii) near the shores of the Black Sea; of the remaining two, one (number xxv) appeared in eastern Prussia and moved north-northwestward over the Baltic to Scandinavia, and the other (xxvi) appeared over the northern part of the Italian Peninsula and moved

* Aneroid corrected.

southwestward to the Gulf of Genoa. The general direction of movement of the European depressions charted during November, 1882, was southeasterly or east-southeasterly, changing to northeasterly after the disturbances had entered Russia. These depressions were mostly deep and of great storm-energy, and were consequently attended by rainy weather and strong gales, especially during their transit over the British Isles and western Europe. The more important were the following: Number xvii, in Ireland on the 1st, barometer 29.2 (741.7), with sw. and w. gales of force 8 to 10 over the Channel and the northern part of the Bay of Biscay. Number xx, which passed over England, the North Sea and Denmark during the 5th and 6th, causing strong gales from sw. to w. and nw. over northern Germany, Denmark, and the Baltic; lowest barometer, 28.92 (734.6), at Wisby, on the 6th. Number xxiii, passing over the North Sea on the 9th and Denmark on the 10th, and causing fresh to strong gales in all quadrants; lowest barometer, 28.8 (731.5), on the 9th. Number xxiv, passing southeastward over the British Isles and western Europe between the 15th and 17th, and causing strong sw. to nw. gales in France, se. to e. gales in Germany and the Netherlands and over the northern part of the North Sea, with ne. to n. gales in England, and nw. gales in the Channel; lowest barometer, 29.16 (740.7), at Chatham, England, on the 16th; on the 17th, when the centre of this depression was in northern Italy, the barometer read 29.2 (741.7). Number xxix, which passed over Scotland, Denmark, and the Baltic during the period from the 25th to 27th. During its passage the barometer remained about 29.0 (736.6), and strong breezes to moderate gales occurred in the districts to the south and west of the track. In addition to the gales produced by the depressions which entered Europe, generally stormy weather, with frequent heavy gales, occurred over the British Isles and the North Sea, caused by the passage of the depressions which moved northeastward and eastward along, or to the northward of, the British coasts.

Of the depressions shown in Asia, one (xxxiii) appeared in northern Siberia at the close of the month, with pressure varying from 29.68 (753.9) to 29.78 (756.4); the remaining depressions (numbers xxxiv to xxxviii, inclusive) passed over northeastern China and Japan, the most important being numbers xxxvii and xxxviii; in the first, the barometer fell to 29.5 (749.3) as the storm-centre passed over northern Japan, and in the second, it touched 29.45 (748.8), on the 29th.

The prominent features of the chart for November, 1882, are: 1st, the small number of depressions that appeared in the North American continent, and 2d, the frequent passage of deep depressions of great storm energy in Europe, especially over the British Isles and the western part of the continent; while Scandinavia and the northern districts remained comparatively free from severe storms.

Referring to the typhoon which occurred in the China Sea and vicinity during the month, the Rev. Marc Dechevrens states that it passed over Luzon during the 5th, and, although not so violent as its predecessor on October 20th, it was, however, sufficiently violent to blow down the structures that were being rebuilt. The velocity of translation when passing over Luzon varied from eleven to fourteen miles an hour; and the central region was apparently about eleven miles in diameter. After crossing Luzon the typhoon appears to have remained in the China Sea until the 12th, causing during that period generally stormy weather along the Chinese coasts and moderate to heavy gales at sea; the lowest pressure reported was 29.25 (742.9), on the 6th and 7th. On the 13th, 14th, and 15th the typhoon passed out into the Pacific, its track being at a considerable distance south of Japan.

SPECIAL NOTES.

DAILY BULLETIN.

On and after July 1, 1884, the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS will be discontinued. The daily chart accompanying this bulletin, or international chart No. i., will continue to be issued as heretofore, but on an enlarged scale, and will contain data referring to pressure (at sea-level), temperature, wind-direction, and state of weather for each day at all reporting stations in the northern hemisphere, and over the northern portions of the Atlantic and Pacific oceans, as heretofore published in the DAILY BULLETIN.

The observations are taken at 7 h. 0 m., a. m., Washington, or 0 h. 8 m., p. m., Greenwich, mean time, except at the following stations, viz.: Arlon, Belgium, at 1 p. m., local time, or 28 minutes late; Upernavik, Greenland, at 8 a. m., local time, or 24 minutes early; Ivigtut, Greenland, at 8 a. m., or 56 minutes early; Brono, Norway, at 2 p. m., or 63 minutes late.

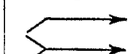
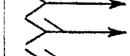
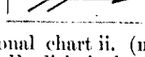
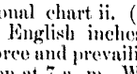
All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◒ fair; ◐ cloudy; ● precipitation (rain, snow, hail, sleet).

INTERNATIONAL CHARTS.

International chart i. shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
	1, 2	0 to 9	0 to 4
	3, 4	9.1 to 22.5	4.1 to 10.1
	5, 6	22.6 to 40.5	10.1 to 18.1
	7, 8	40.6 to 67.5	18.1 to 30.2
	9, 10	67.6 up.	30.2 and over.

International chart ii. (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at 7 a. m., Washington mean time.

International chart iii. shows the tracks of centres of low barometer. The Arabic numerals show the location of the centres of low barometer at 7 a. m., Washington mean time of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Hobart Town, Tasmania, the observations are taken at 9 p. m. instead of at 9.57 p. m.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

NEW ENGLAND: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

MIDDLE ATLANTIC STATES: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

SOUTH ATLANTIC STATES: North Carolina, South Carolina, Georgia, Florida.

EASTERN GULF STATES: Georgia, Florida, Alabama, Mississippi, Louisiana.

WESTERN GULF STATES: Louisiana, Arkansas, Indian Territory, Texas.

RIO GRANDE VALLEY: Texas.

OHIO VALLEY AND TENNESSEE: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

LOWER LAKES: New York, Pennsylvania, Ohio, Michigan.

UPPER LAKES: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

UPPER MISSISSIPPI VALLEY: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

MISSOURI VALLEY: Missouri, Kansas, Nebraska, Iowa, Dakota.

EXTREME NORTHWEST: Minnesota, Dakota.

NORTHERN SLOPE: Montana, Dakota, Wyoming, Nebraska.

MIDDLE SLOPE: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

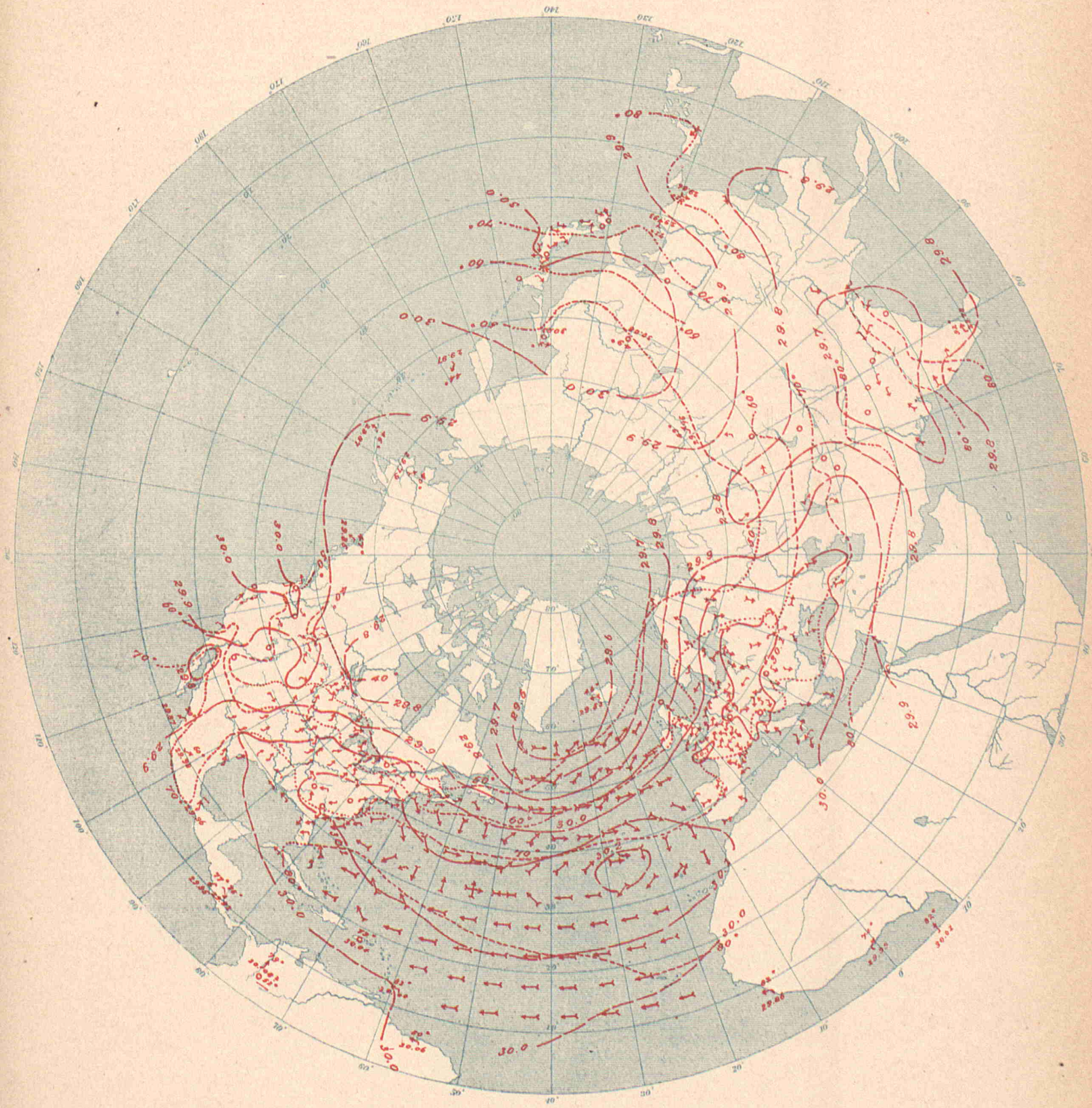
SOUTHERN SLOPE: Indian Territory, Texas, New Mexico.
SOUTHERN PLATEAU: New Mexico, Arizona, California, Nevada.
MIDDLE PLATEAU: California, Nevada, Utah, Colorado, Wyoming.
NORTHERN PLATEAU: Wyoming, Montana, Idaho, Oregon, Washington.
NORTH PACIFIC COAST: Washington, Oregon.
MIDDLE PACIFIC COAST: California.
SOUTH PACIFIC COAST: California.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. September, 1884. Isobars, Isotherms, and Winds.

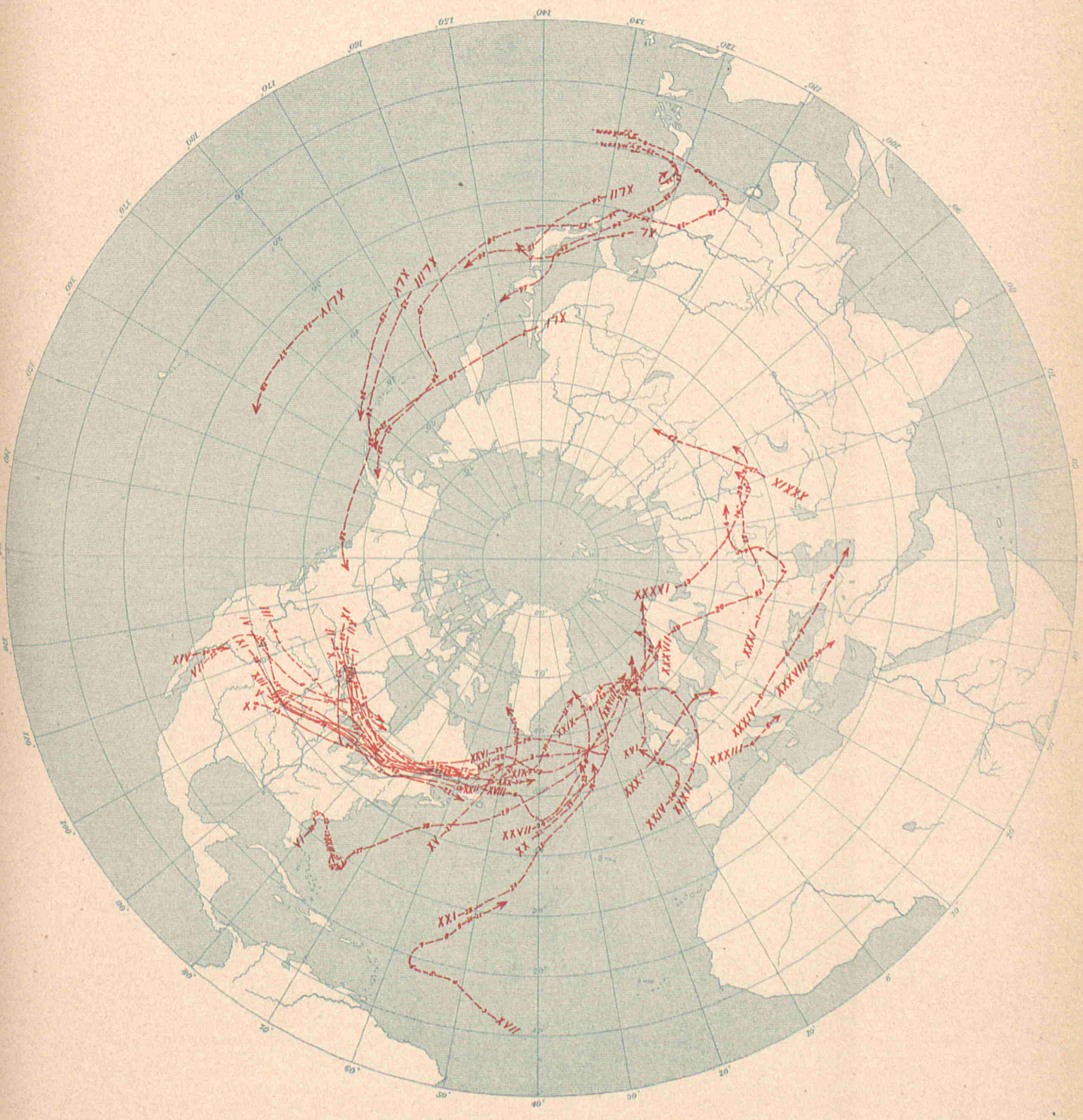


UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W. B. Hazen, Chief Signal Officer.

Signal Office Lith.

International Chart III. September, 1884. Storm-Tracks.

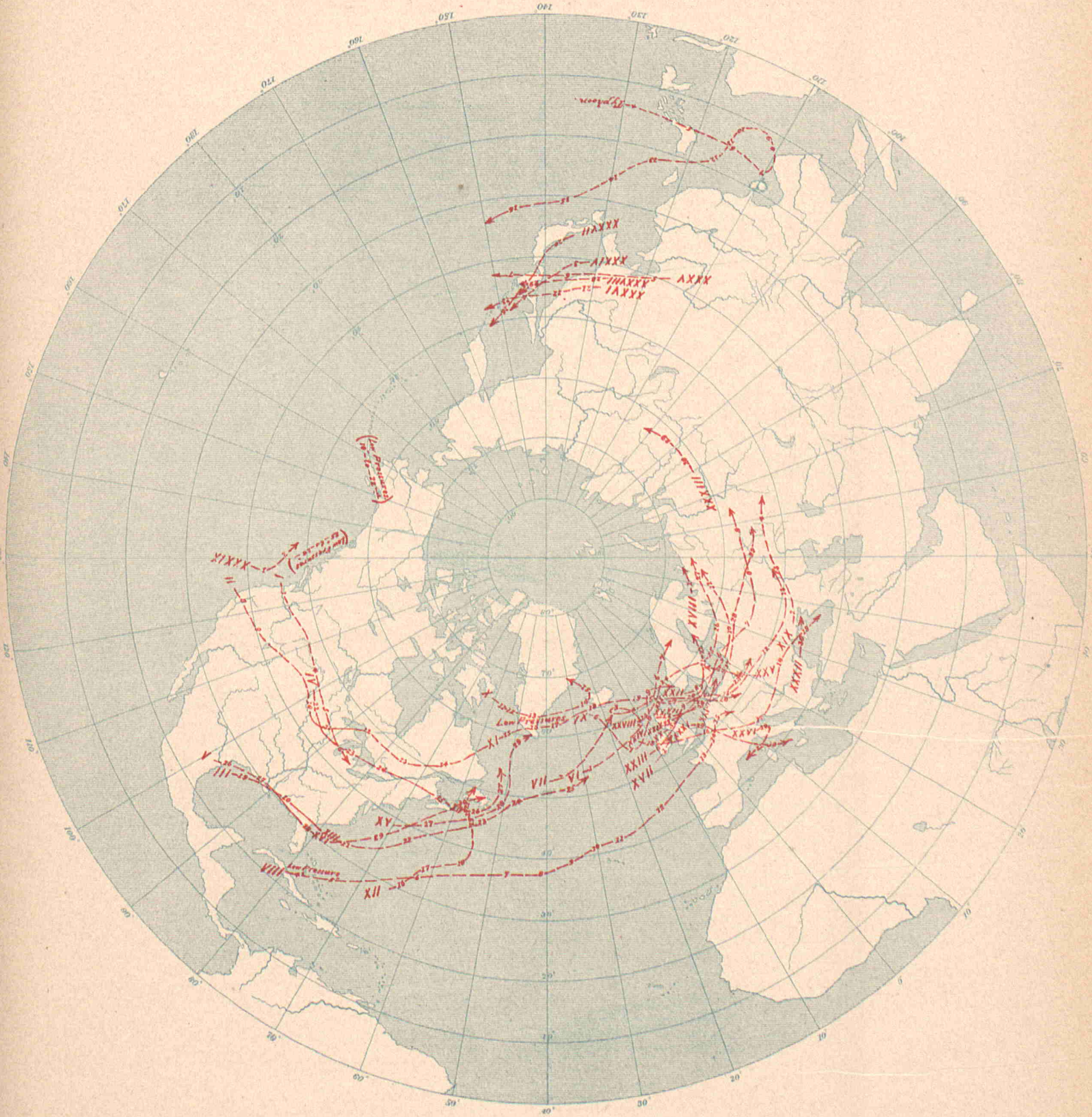


UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W. B. Hazen, Chief Signal Officer.

Signal Office Lith.

International Chart III. November, 1882. Storm-Tracks.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W B Hazen Chief Signal Officer.
Signal Office Lith.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF OCTOBER, 1884.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.,
NOVEMBER, 1885.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

OCTOBER, 1884.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for October, 1884. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
AUSTRALIAN.	° ′	° ′																								
Adelaide	S. 34 57	E. 138 35	9.22 p.m.	140	42	.....	.....	30.09	764.3	56.2	13.4	68	.....	1	4	7	8	5	5	1	.....	7778	12517	5	1.32	33.5
Hobart Town.*a*	S. 42 53	E. 147 20	9.57 p.m.	190	58	29.62	752 3	29.81	757.2	49.1	9.5	84	3	5	4	6	6	2	1	.....	3	.....	.....	5	1.39	35.3
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.88	758 9	29.97	761.2	52.5	11.4	79	3	2	3	6	8	7	.....	2	.....	.....	.....	5	2.87	72.9
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.50	749.3	30.05	763.3	55.0	12.8	57.3	.....	2	2	9	5	1	2	10	.....	.....	.....	7	4.82	122.4
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.22	742.1	29.99	761.7	50.7	10.4	71.5	1	2	6	10	1	.....	9	2	.....	.....	.....	8	3.33	84.5
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.13	739.8	30.01	762.2	46.6	8.1	79.2	4	.....	.....	.....	6	.....	.....	.....	21	.....	.....	8	1.96	49.9
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.79	731.2	30.05	763.2	52.9	11.6	76.2	2	7	1	8	3	3	3	2	2	.....	.....	6	5.08	129.0
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.60	726.4	30.03	762.8	55.0	12.8	58.0	3	7	2	.....	7	7	5	.....	.....	.....	.....	7	1.07	27.1
Kremsmunster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28 69	728 6	30.04	763.0	49.8	9.9	78.7	.....	3	19	2	.....	.....	4	2	1	.....	.....	8	5.24	133.1
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	29.01	736.8	30.00	762.1	50.2	10.1	71.2	1	4	2	9	5	7	2	1	.....	.....	.....	7	2.56	65.1
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.91	759.8	30.03	762.7	60.6	15.9	64.6	.....	1	5	4	5	5	6	5	.....	.....	.....	5	3.79	96.2
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.52	749.9	29.99	761.7	54.0	12.2	68.0	7	.....	6	3	11	.....	4	.....	.....	.....	.....	6	3.28	83.2
Szegedin.*a*	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.72	754.9	30.00	762.0	56.1	13.4	71.9	3	4	7	3	5	3	1	.....	4	.....	.....	7	3.17	80.5
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.95	760.7	30.05	763.2	60.8	16.0	56.1	.....	8	3	5	.....	2	2	11	.....	.....	.....	7	3.65	92.8
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.31	744.5	30.03	762.8	52.2	11.2	67.4	2	1	18	...	1	3	3	2	1	.....	.....	8	4.91	124.8
BELGIAN.																										
Arlon	N. 49 40	E. 5 48	0.32 p.m.	?	?	.....	.....	.....	.....	48.4	9.1	83.1	.....	2	7	9	.....	5	7	1	.....	.....	.....	6	2.83	71.8
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	29.85	758.1	30.04	763 1	52.7	11.5	75.9	1	3	9	11	2	1	2	2	.....	.....	.....	7	4.10	104.2
Furnes.*a*	N. 51 04	E. 2 40	0.19 p.m.	20	6	30.02	762.4	30.03	762.8	54.9	12.7	80.0	1	12	5	1	3	1	3	4	.....	.....	.....	7	3.58	90.9
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	29.91	759 6	30.03	762.7	55.4	13.0	74.1	2	8	8	6	2	1	3	1	.....	.....	.....	8	2.11	53.5
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.80	756.9	29.90	759 4	50.5	10.3	69.9	.....	5	12	2	9	2	.....	1	.....	.....	.....	6	2.31	58.7
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	30.05	763.3	52.4	11.3	69.4	2	6	13	.....	2	5	2	1	.....	.....	.....	7	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.50	749.3	30.03	762.7	50.3	10.2	75.5	.....	7	6	7	5	2	1	3	.....	.....	.....	8	.....	.....
Bradford	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.62	752.3	30.01	762.2	51.0	10.6	76.6	1	9	6	8	1	2	.....	4	.....	.....	.....	8	1.50	38.1
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.96	761 0	29.99	761.7	82.2	27.9	77.0	.....	.....	.....	.....	.....	2	7	22	.....	.....	.....	5	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	29.96	761.0	30.08	764.0	52.0	11.1	83.6	4	6	10	5	2	2	.....	2	.....	.....	.....	7	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	160	49	29.89	759.2	30.06	763.5	54.0	12.2	69.4	7	2	3	6	1	1	.....	.....	11	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.93	760.2	30.16	766.1	55.2	12.9	73.5	1	13	5	3	3	2	3	1	.....	.....	.....	7	.....	.....
Fort Napier	S. 30	E. 31	2.12 p.m.	2205	672	27.61	701.3	29.93	760.2	73.8	23.2	50.4	5	.....	.....	.....	3	13	5	5	.....	.....	.....	5	.....	.....
Freetown	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.63	752 6	29.86	758 4	85.5	29.7	80.9	9	.....	4	2	11	1	4	.....	.....	.....	.....	2	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	30.01	762.2	30.05	763.3	51.4	10.8	90.9	1	4	8	11	6	1	.....	.....	.....	.....	.....	6	2.46	62.5
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	29.94	760.5	30.06	763 5	67.4	19.7	84.5	.....	5	4	1	.....	.....	10	10	1	.....	.....	5	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.90	759.4	30.07	763.8	54.0	12.2	71.6	5	3	7	8	2	2	2	2	.....	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.85	758.2	30.14	765.5	55.2	12.9	75.2	6	6	7	4	1	.....	3	3	1	.....	.....	6	2.13	54.1
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	30.05	763.3	30.09	764.3	53.3	11.8	67.0	2	7	7	3	5	2	4	1	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.79	756.7	30.05	763 3	53.3	11.8	70.6	1	7	6	9	2	2	.....	4	.....	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.90	759 4	29.97	761.2	72.5	22.5	69.8	.....	11	1	1	.....	7	.....	11	.....	.....	.....	6	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	29 93	760.2	29.98	761.5	78.4	25.8	79.2	.....	2	1	:	.....	2	13	12	.....	.....	.....	6	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.86	758.4	30.09	764.3	53.2	11.8	70.6	3	5	8	5	5	2	1	1	1	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	30.06	763.5	30.13	765.3	55.3	12.9	84.0	3	9	2	6	2	1	1	4	3	.....	.....	8	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.71	754.6	29.81	757.2	48.9	9.4	83.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	.....	.....
Scutari Cemet'y	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.95	760.7	30.01	762.2	65.5	18.6	67.6	7	1	1	7	3	.....	.....	8	4	.....	.....	7	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.72	754.9	30.02	762.5	52.7	11.5	71.2	.....	5	7	10	1	.....	.....	7	1	.....	.....	6	.....	.....
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.97	761.2	30.00	762 0	52.5	11.4	77.8	7	2	8	9	3	.....	2	.....	...	.....	.....	7	2.41	61.2
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	30.05	763.3	49.1	9.5	72.4	1	3	14	4	3	1	1	4	.....	.....	.....	8	3.97	100.8
Strathfield	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	30.12	765.0	30.15	765.8	54.1	12.3	78.8	7	6	1	11	2	4	.....	.....	.....	.....	.....	7	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.69	754.1	30.07	763.8	71.6	22.0	65.3	1	10	5	2	5	.....	5	3	.....	3420	5506	6	1.63	41.4
CANADIAN.																										
Bathurst.*d*	N. 47 39	W. 65 43	7.45 a.m.	35	11	29.98	761 5	30.02	762 5	37.9	3.3	.....	.....	.....	1	3	4	8	.....	.....	11	.....	.....	6	1.18	40.1
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.96	761.0	30.00	762.0	42.7	5.9	81.6	6	9	4	5	5	.....	.....	1	1	6780	10921	7	2.81	71.4
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.95	760.7	30.02	762.5	36.6	2.6	81.4	2	9	6	8	2	.....	1	3	.....	4576	7364	6	2.54	64.5
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.85	758.2	30.04	763.0	43.3	6.3	85.1	4	13	5	2	.....	.....	6	1	.....	.....	.....	7	2.02	66.5
Dalhousie.*e*	N. 48 04	W. 66 22	7.32 a.m.	45	14	29.95	760.7	30.00	762.0	36.4	2.4	.....	...	2	19	.....	.....	1	2	.....	4	.....	.....	4	1.00	25.4
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.97	761.2	29.99	761.7	37.0	2.8	74.1	6	5	5	5	3	2	.....	2	3	11076	17825	8	1.91	48.5
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.13	739 9	29.99	761.7	34.0	1.1	85.9	6	5	4	3	5	4	3	1	.....	9884	15900	7	1.52	38 6
Fredericton	N. 45 57	W. 66 38	7.41 a.m.	59	18	30.01	762.2	30.07	763.8	39.1	3.9	78.0	1	17	3	4	.....	2	1	3	.....	.....	.....	5	2.69	68.3
Grand Manan	N. 44 46	W. 66 45	7.41 a.m.	49	15	30.01	762.2	30.07	763.8	44.7	7.1	75.2	14	2	3	6	2	1	2	1	.....	10828	17426	6	1 52	38.6
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	29.02	737.1	30.14	765.5	44.2	6.8	.....	.....	5	2	2	5	2	1	1	13	.....	.....	5	3.95	100.3
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.91	759.7	30.06	763.5	44.0	6.7	87.2	11	3	8	3	4	.....	.....	1	1	.....	.....	6	2.17	55.1
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	350	107	29.67	753.6	30.08	764.0	49.8	9.9	90.4	.....	5	4	17	.....	.....	1	3	1	.....	.....	6	2.28	57.9
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.75	755.6	30.09	764 3	40.3	7.9	83.6	7	2	6	5	2	.....	2	7	.....	5676	9135	6	1.44	36.6
LittleGlace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.91	759.7	29.95	760.7	44.2	6.8	75.2	5	5	3	7	4	.....	2	5	.....	.....	.....	8	.....	.....
London	N. 43 00	W. 81 15	6.43 a.m.	816	248	29.26	743.2	30.16	766.1	44.6	7.0	89.3	.....	3	3	3	2	.....	1	.....	19	.....	.....	4	4.37	111.0
Medicine Hat.*b*	N. 50 01	W. 110 37	4.46 a.m.	2136	651	27.56	700.0	29.87	758.7	37.9	3.3	73.1	1	.....	3	5	6	2	1	4	7	8622	13876	4	0.25	6.3
Minnedosa	N. 50 13	W. 99 48	5.29 a.m.	1796	545	27.99	710.9	29.97	761 2	30.8	—0.7	84.5	2	12	.....	3	1	2	4	5	2	.....	.....	6	1.87	47.5
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.87	758.7	30.08	764.0	43.6	6.4	79.6	3	4	5	6	6	1	2	4	.....	.....	.....	7	2.67	67.8
Ottawa	N. 45 26	W. 75 41	7.05 a.m.	200	61	29.85	758.2	30.07	763 8	41.7	5.4	88.5	10	4	2	6	3	.....	3	3	.....	.....	.....	7	2.73	69.3
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.38	746.2	30.09	764.3	42.9	6.1	87.5	5	.....	8	3	2	6	3	3	1	7697	12387	6	5.26	133.6
Peterboro.*e*	N. 44 17	W. 78 18	6.54 a.m.	688	210	29.34	745.2	30.09	764.3	43.5	6.4	88.7	2	2	2	4	1	.....	2	1	12	.....	.....	5	1.21	30.7
Port Arthur	N. 48 27	W. 89 12	6.11 a.m.	642	196	29.27	743.4	29.99	761.7	37.9	3.3	86.9	4	5	2	1	2	.....	.....	.....	17	3867	6223	6	4.92	125.0
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.43	747.5	30.13	765.3	48.4	9.1	91.1	3	5	6	7	3	2	.....	5	.....	5640	9076	6	2.35	59.7
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.47	748.5	30.12	765 0	46.6	8.1	87.5	5	.....	14	2	3	.....	4	2	1	.....	.....	5	1.65	41.9
Qu' Appelle	N. 50 44	W. 103 42	5.13 a.m.	2115	646	27.65	702.3	29.99	761.7	28.8	—1.8	84.8	1	5	5	6	4	4	2	1	3	9508	15301	5	0.39	9.9
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.68	753.9	30.05	763 3	38.5	3.6	88.4	4	.....	10	7	.....	.....	.....	4	6	.....	.....	9	2.80	71.1
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.59	751.6	30.06	763.5	39.3	4.1	86.0	.....	10	3	.....	.....	9	3	1	5	.....	.....	7	3.39	86.1
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	30.00	762.0	30.05	763.3	41.8	5.4	81.0	6	10	2	5	2	.....	1	3	2	.....	.....	4	1.96	49.8
Saint John, N.B	N. 45 17	W. 66 03	7.44 a.m.	116	35	29.91	759.7	30.06	763.5	44.0	6.7	83.5	50	11	2	.....	7	1	1	1	.....	.....	.....	6	1.83	46.5
Saint Pierre.*n*	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	30.04	763.0	42.3	5.7	.....	3	2	3	3	.....	2	.....	4	...	.....	.....	.....	3.62	92.0
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.36	745.7	30.09	764.3	45.9	7.7	84.8	2	1	3	7	7	2	1	2	6	9312	14986	7	4.60	116.8
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1186	361	28.84	732.5	30.14	765.5	44.2	6.8	88.1	.....	2	5	7	4	.....	3	1	9	.....	.....	6	6.50	165.1
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.93	760.2	29.99	761.7	42.8	6.0	80.0	3	10	2	9	2	.....	.....	1	4	7401	11910	8	2.25	57.1
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.74	755.4	30.13	765.3	45.1	7.3	84.5	5	6	7	5	1	1	2	4	.....	7731	12442	6	1.50	38.1
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	29.06	738.1	30.15	765.8	44.8	7.1	88.8	2	5	5	11	2	2	3	1	.....	.....	.....	6	4.86	123.4
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	30.00	762.0	30.10	764.5	44.5	6.9	87.5	7	7	.....	5	4	1	3	3	1	.....	.....	5	2.13	54.1
CAPE COLONY																										
Cape St. Francis.*a*	S. 34 10	E. 24 50	1.47 p.m.	25	8	30.04	763 0	30.07	763.8	64.0	17.8	82.0	.....	.....	.....	16	1	5	2	6	.....	.....	.....	5	.....	.....
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	?	?	29.97	761.2	.....	.....	64.9	18.3	56.8	2	13	.....	1	.....	5	1	7	2	.....	.....	3	3.84	97.5
Springbok.*a*	S. 29 45	E. 17 43	1.19 p.m.	?	?	27.91	708.9	.....	.....	70.7	21.5	38.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.78	19.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for October, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
CHILIAN.	° ′	° ′																								
Coquimbo	S. 29 56	W. 71 21	7.22 a.m	72	22	29.97	761.1	30.04	763.1	57.2	14.0	90.0	3	3	.....	5	.....	6	9	5	.....	.....	.....	5	0.02	0.6
Iquique. *a*	S. 20 12	W. 70 11	7.27 a.m	26	8	30.00	762.1	30.03	762.8	63.5	17.5	69.0	1	.....	.....	19	1	2	1	6	.....	.....	.....	4	.....	.....
Niebla	S 39 53	W. 73 25	7.14 a.m.	98	30	29.59	751.5	29.69	754.2	51.1	10.6	88.5	2	4	4	.....	.....	.....	21	.....	.....	.....	.....	6	8.97	227.8
Punta Caldera	S 27 03	W. 70 53	7.25 a.m.	82	25	29.97	761.1	30.05	763 3	53.5	14.7	78.0	1	5	.....	19	1	2	.....	3	.....	.....	.....	7	.....	.....
Punta Corona	S. 41 47	W. 73 53	7.12 a.m	174	53	29.93	760.1	30.11	764.9	.....	.....	.....	4	5	1	9	3	3	1	5	.....	.....	.....	5	3.12	79.3
Quiriquina	S. 36 37	W. 73 03	7.25 a.m.	187	57	29.88	759.0	30.08	764.0	56.3	13.5	74.0	3	4	2	6	10	5	1	.....	.....	.....	.....	5	4.58	116.2
Valparaiso	S. 33 02	W. 71 39	7.22 a.m.	82	25	29.93	760.1	30.01	762 3	56.5	13.6	85.0	8	.....	2	2	8	1	7	3	.....	.....	.....	.....	0.02	0.4
CHINESE.																										
Hong Kong	N. 22 18	E. 114 04	7.45 p.m.	110	33	29.92	760.0	30.03	762.7	76.8	24.9	75.4	5	.....	.....	.....	2	2	16	6	.....	.....	.....	4	3.09	78.5
Sub-Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	30.15	765.8	30.17	766 4	61.2	16.2	85.6	5	5	.....	.....	1	2	6	11	1	.....	.....	7	5.87	149.2
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.77	756.1	29.82	757.3	51.3	10.7	81	.....	7	3	6	5	4	2	4	.....	.....	.....	8	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.82	757 3	29.84	757.8	52.3	11.3	79	3	7	8	3	4	3	2	1	.....	.....	.....	8	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.53	750.1	29.57	751 0	37.2	2.9	84	.....	.....	3	4	1	6	6	7	4	.....	.....	7	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.65	753.2	29.68	753 8	45.3	7.4	83	4	3	6	12	2	1	1	1	1	.....	.....	8	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.71	754.5	29.80	756 8	51.1	10.6	81	1	6	6	4	2	4	2	5	1	.....	.....	7	.....	.....
Egyptian.																										
Cairo	N. 30 03	E. 31 21	2.14 p.m.	?	?	29.87	758.7	.....	.....	81.1	27.3	.....	11	1	1	.....	1	.....	17	.....	.....	.....	.....	2	0	0
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.57	751.1	30.22	767 6	58.6	14.8	72.6	5	8	6	3	2	4	1	2	.....	.....	.....	.....	0.38	9.6
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.60	751.7	30.13	765.3	54.0	12.2	78.8	7	2	1	7	6	1	1	6	.....	.....	.....	5	1.05	27.0
Arras	N. 50 18	E. 2 46	0.19 p m	223	68	29.82	757.5	30.06	763.6	54.3	12.4	75.5	1	1	19	1	.....	1	4	4	.....	.....	.....	5	1.73	43.9
Avignon	N. 43 57	E. 4 48	0.27 p.m	65	20	30.07	763.7	30.15	765 7	62.6	17.0	54.6	15	13	.....	.....	1	1	1	.....	.....	.....	.....	2	0.84	21.2
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.57	751.0	30.13	765.3	52.9	11.6	75.3	.....	2	1	7	6	8	3	4	.....	.....	.....	8	1.90	48.2
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.85	758.2	30.12	765 0	54.5	12.5	69.1	1	5	8	4	3	2	5	3	.....	.....	.....	4	0.78	19.9
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.15	740.5	30.12	765 0	55.8	13.2	82.1	12	2	.....	13	.....	.....	.....	4	.....	.....	.....	.....	3.11	79.0
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.85	758.3	30.17	766 2	59.4	15.2	65.7	6	4	2	4	4	5	3	3	.....	.....	.....	6	1.34	34.0
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.60	751.8	30.16	766.0	55.2	12.9	76.1	10	4	3	8	1	.....	3	2	.....	.....	.....	7	0.68	17.3
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.97	761.3	30.22	767.5	57.4	14.1	78.6	10	4	4	4	1	2	2	2	.....	.....	.....	7	1.63	41.5
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	30.01	762.2	30.08	764 1	57.0	13.9	82.3	3	4	9	8	4	2	1	.....	.....	.....	.....	4	3.48	88.4
Châlons sur Marne	N. 48 57	E. 4 21	0.25 p.m.	292	89	29.74	755.5	30.11	764 7	53.6	12.0	85.9	5	5	1	5	5	5	2	2	1	.....	.....	6	1 77	44.9
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.56	750.9	30.08	764 1	53.1	11.7	70.5	4	2	10	4	7	1	2	1	.....	.....	.....	5	1.88	47.7
Clermont-Fer'and	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.78	730.9	30.13	765.3	56.1	13.4	63.2	13	7	2	4	1	1	.....	3	.....	.....	.....	7	1.73	44.0
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.29	743.9	30.14	765.6	55.0	12.8	71.8	3	2	6	7	1	.....	1	10	1	.....	.....	8	0.78	19.8
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29 26	743.2	30.15	765.7	50.9	10.5	77.9	1	7	8	7	1	.....	6	1	.....	.....	.....	7	2.76	70.1
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.56	699.9	30.08	763.9	57.4	14.1	48.3	3	1	1	2	1	.....	2	1	20	.....	.....	2	0.09	2.2
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.93	734.9	30.05	763.3	61.2	16.2	51.2	7	11	3	1	1	1	2	5	.....	.....	.....	3	2.06	52.2
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.31	744.5	30.11	764 7	58.5	14.7	69.5	4	11	5	....	2	1	8	.....	.....	.....	.....	3	0.24	6.1
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.55	725.2	30.13	765.3	51.6	10.9	75.9	3	1	5	9	3	3	.....	2	5	.....	.....	.....	1.62	41.2
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.91	759.6	30.18	766.6	56.5	13.6	78.2	10	8	2	6	.....	3	1	1	.....	.....	.....	4	4.48	113.9
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.60	751.8	30.15	765.7	63.9	17.7	57.0	9	2	7	2	.....	2	7	2	.....	.....	.....	4	1.59	40.4
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	30.11	764.7	30.21	767.3	60.3	15.7	65.1	10	5	2	4	2	1	2	3	2	.....	.....	7	0.83	21.1
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	29.08	738.5	30.14	765 5	55.2	12.9	63.4	10	4	2	1	2	4	2	6	.....	.....	.....	5	0.24	6.2
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.85	758.2	30.16	766 1	55.6	13.1	72.6	3	9	6	2	.....	3	5	3	.....	.....	.....	6	0.66	16.7
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.79	756.7	30.06	763.5	62.6	17.0	54.3	.....	13	6	5	1	1	3	1	1	.....	.....	4	1.54	39.2
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.95	760.8	30.06	763.6	65.5	18.6	66.0	.....	12	5	3	1	2	1	2	5	.....	.....	2	0.26	6.7
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.31	744.5	30.10	764.6	50.4	10.2	73.7	5	5	5	5	8	.....	.....	3	.....	.....	.....	.....	1.31	33.2
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	30.04	763.1	30.21	767.2	57.9	14.4	71.0	7	7	5	4	2	1	3	2	.....	.....	.....	8	1.03	26.1
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	30.01	762.3	30.12	765.1	63.5	17.5	56.2	8	11	1	.....	.....	1	4	2	4	.....	.....	3	0.97	24.7
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.26	540 0	.....	.....	24.4	—4.2	.....	.....	6	3	4	.....	1	1	10	6	.....	.....	2	2.92	74.2
Privas. ..... [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	29.05	737.8	30.12	765.1	57.7	14.3	58.0	22	5	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	0.12	3.0
Puy de Dôme	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.22	640.5	.....	.....	37.6	3.1	92.4	10	8	2	2	1	1	4	3	.....	.....	.....	8	3.51	89.2
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.18	766.6	30.21	767 3	59.4	15.2	75.1	2	8	3	3	2	2	4	7	.....	.....	.....	6	1.34	34.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	259	79	29.93	760.1	30.20	767.0	59.4	15.2	77.9	6	4	4	3	3	3	3	5	.....	.....	.....	4	1.79	45.4
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	28.01	711.4	30.15	765.7	53.1	11.7	72.1	16	8	.....	1	.....	3	2	1	.....	.....	.....	.....	2.02	51.3
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	30.07	763.8	30.12	765.0	55.6	13.1	76.9	4	7	6	3	2	2	3	4	.....	.....	.....	5	1.42	36.0
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.96	761 0	30.13	765.2	54.0	12.2	73.9	6	6	6	8	.....	1	3	1	.....	.....	.....	8	0.65	16.6
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.47	748.6	30.2[illegible]	767.0	60.3	15.7	65.0	4	11	5	.....	1	8	.....	2	.....	.....	.....	4	2.06	52.4
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	29.97	761.1	30.14	765.6	56.8	13.8	69.0	4	6	5	6	1	.....	.....	9	.....	.....	.....	.....	0.99	25.1
Versailles	N. 48 48	E. 2 07	0.16 p.m.	400	122	29.68	753.9	30.11	764.9	52.9	11.6	74.9	2	11	7	2	.....	1	3	5	.....	.....	.....	.....	1.02	25.8
Sub-Series.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	0.03 p.m.	131	40	30.04	762.9	30 19	766 7	61.2	16.2	67	4	3	5	4	1	2	7	5	.....	.....	.....	5	3.43	87.0
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.61	726.7	30.08	764.0	48.4	9.1	75.2	.....	2	12	6	.....	.....	1	6	4	.....	.....	8	3.14	79.8
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.14	740.1	29.98	761.4	50.0	10.0	74.2	2	7	7	7	3	3	.....	2	.....	.....	.....	8	2.72	69.1
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.76	755.9	29.91	759.6	51.3	10.7	72.3	1	5	8	6	4	2	3	2	.....	.....	.....	8	3.80	96.5
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.46	748.2	29.99	761.7	50.4	10.2	68.9	1	3	12	3	4	5	2	1	.....	.....	.....	7	2.17	55.0
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.63	752.6	30.09	764.3	52.5	11.4	75.5	.....	.....	2	20	.....	1	3	5	.....	.....	.....	9	3.40	86.3
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.28	743.6	29.99	761.7	50.4	10.2	71.3	3	6	7	7	4	1	.....	3	.....	.....	.....	7	3.50	88.8
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.67	753.6	30.09	764.3	52.5	11.4	73.0	2	4	5	7	6	3	1	3	.....	.....	.....	8	1.80	45.6
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.67	728.3	30.11	764.7	52.3	11.3	73.4	1	.....	4	16	4	.....	0	.....	.....	.....	.....	7	3.16	80.2
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.84	757.8	29.93	760.1	51.8	11.0	81.1	2	5	6	7	2	2	5	2	.....	.....	.....	8	4.35	110.4
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.86	758.4	29.87	758.8	52.0	11.1	75.1	1	5	8	7	3	.....	3	4	.....	.....	.....	6	3.26	82.7
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.57	751.1	30.00	761.9	50.9	10.5	76.7	1	5	7	8	3	3	2	2	.....	.....	.....	8	3.90	99.0
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.76	755.8	29 95	760 8	52.5	11.4	73.5	1	5	9	7	2	3	2	2	.....	.....	.....	8	3.17	80.6
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.83	757.7	29.88	758.9	50.2	10.1	73.7	1	4	5	5	6	6	3	1	.....	.....	.....	8	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.23	717.0	30.10	764 4	48.9	9.4	72.3	1	17	2	.....	1	.....	4	5	1	.....	.....	8	5.22	132.7
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	36	11	29.87	758.8	29.91	759 6	50.7	10.4	72.5	1	4	5	4	8	7	2	.....	.....	.....	.....	7	2.32	58.9
Neustadt. *b*	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.54	750.4	30.07	763.7	53.1	11.7	75.0	2	1	5	7	2	.....	1	2	9	.....	.....	8	2.31	58.7
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.18	741.1	30.08	764.0	51.8	11.0	72.2	2	7	6	7	.....	1	.....	7	1	.....	.....	8	1.50	38.2
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.86	758.4	29.88	759.0	52.0	11.1	82.2	2	9	3	3	7	3	2	2	.....	.....	.....	8	2.52	64.0
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.65	753.1	30.03	762.7	71.8	22.1	58.3	7	2	1	3	10	2	2	4	.....	.....	.....	4	0.18	4.7
INDIAN.																										
Kurrachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.83	757.7	29.88	758 9	84.1	28.9	66	.....	1	11	18	.....	.....	1	.....	.....	.....	.....	0	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.43	747.5	29.90	759.4	86.7	30.4	38	2	2	4	6	5	3	2	7	.....	.....	.....	2	0	0
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.85	758.2	29.88	758 9	82.7	28.2	75	5	20	3	.....	2	.....	1	.....	.....	.....	.....	3	2.22	56.4
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	28.04	712.2	29.89	759.2	79.1	26.2	57	34	5	2	1	1	3	8	7	.....	.....	.....	4	7.49	190.2
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.34	694.4	29.88	758.9	76.0	24.4	63	2	1	4	5	1	1	4	5	8	.....	.....	5	4.40	111.8
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.14	740.1	29.88	758.9	82.0	27.8	46	4	.....	.....	.....	.....	.....	1	1	25	.....	.....	1	0.24	6.1
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.98	736.1	29.89	759.2	76.9	24.9	62	.....	.....	11	.....	.....	3	.....	.....	17	.....	.....	1	1.30	33.0
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.33	745.0	29.90	759.4	83.0	28.3	49	1	17	7	.....	1	2	2	.....	1	.....	.....	1	4.54	115.3
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.83	732.3	29.87	758.7	81.9	27.7	46	1	2	.....	.....	.....	.....	2	6	20	.....	.....	3	0.22	5.6
Jubbulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.53	724.6	29.90	759.4	78.3	25.7	57	.....	2	1	.....	.....	.....	1	3	24	.....	.....	2	2.33	59.2
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.51	749.5	29.89	759 2	80.3	26.8	59	6	2	.....	.....	.....	.....	.....	1	22	.....	.....	2	2.87	72.9
Allahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.57	751.1	29.88	758.9	75.2	24.0	79	1	3	.....	1	.....	1	.....	.....	25	.....	.....	2	6.59	167.4
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.70	751.4	29.88	758 9	79.7	26.5	68	.....	11	4	.....	.....	.....	4	5	7	.....	.....	3	4.17	105.9
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.86	707.6	29.89	759.2	73.7	23.2	66	8	7	2	1	.....	2	5	3	3	.....	.....	3	2.01	51.1
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.79	756.7	29.88	758.9	81.9	27.7	71	.....	2	.....	.....	.....	.....	.....	.....	29	.....	.....	3	1.84	46.7
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.84	757.9	29.86	758 4	70.6	26.4	77	8	5	2	1	2	4	1	7	.....	.....	.....	4	3.71	94.2
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.80	756.9	29.89	759.2	78.9	26.1	84	.....	2	4	.....	2	3	1	.....	19	.....	.....	4	8.19	213.1
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.57	751.1	29.91	759.7	77.6	25.3	83	.....	.....	.....	.....	8	1	4	.....	17	1	.....	4	3.75	95.2
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28 46	722.9	29.90	759 4	83.2	28.4	37	7	10	4	1	.....	3	4	2	.....	.....	.....	3	0	0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Metr's	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
	° ′	° ′																								
INDIAN—Cont'd.																										
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.36	720.3	29.82	757.4	83.7	28.7	49	6	4	2	2	1	2	6	8	......	......	......	6	0.10	2.5
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.58	751.3	29.86	758.4	83.9	28.8	63	......	7	7	......	......	2	12	3	......	......	......	8	11.28	286.5
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.63	752.6	30.04	763.0	58.5	14.7	57	2	......	3	1	2	3	4	8	8	......	......	7	5.19	131.8
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.53	750.1	30.05	763.2	58.8	14.9	58	1	6	6	6	4	4	2	2	......	......	......	5	0.76	19.3
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.92	759.9	30.02	762.6	58.3	14.6	61	4	5	4	2	3	2	5	6	......	......	......	6	2.70	68.6
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.11	739.4	30.02	762.5	56.7	13.7	61	2	3	3	2	4	5	5	7	......	......	......	4	0.24	6.0
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157?	48?	29.83	757.7	30.02	762.6	62.4	16.9	59	9	1	......	1	7	10	1	2	......	......	......	4	2.83	71.8
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.98	761.5	30.03	762.7	60.3	15.7	66	7	5	7	2	1	5	......	4	......	......	......	5	4.29	109.0
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.76	756.0	30.02	762.4	61.9	16.6	45	3	4	2	6	5	......	1	10	......	......	......	6	0.91	23.9
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.91	759.8	30.02	762.0	62.8	17.1	59	3	1	5	6	4	......	5	7		......	......	6	1.96	49.8
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.84	758.0	30.02	762.4	63.7	17.6	58	10	......	4	5	6	......	1	......	5	......	......	6	3.09	78.5
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.77	756.2	30.02	762.6	66.2	19.0	58	14	2	4	6	1	......	......	4	......	......	......	5	3.15	79.9
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.14	740.2	30.03	762.8	63.3	17.4	68	1	10	10	......	5	4	1	......	......	......	......	6	4.30	109.3
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	29.82	757.5	30.02	762.4	67.1	19.5	58	......	16	1	......	5	6	......	......	3	......	......	4	3.18	80.9
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.79	756.7	30.04	763.0	69.1	20.6	57	2	3	4	4	......	......	......	18	......	......	......	6	3.45	87.6
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.97	761.3	30.02	762.4	70.9	21.6	66	7	3	5	......	4	4	2	6	......	......	......	6	6.68	169.7
Sub-Series.																										
Naples *b*	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.51	749.5	......	......	63.3	17.4	66.6	2	2	1	6	5	8	2	3	......	......	......	5	4.05	102.8
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	22.15	562.6	......	......	32.0	0.0	65.9	......	......	7	4	2	3	4	11	......	......	......	6	2.72	69.0
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	22.16	563.0	......	......	34.5	1.4	62.8	6	4	12	2	1	......	2	4	......	......	......	5	0.08	2.0
JAPANESE.																										
Akita	N. 39 42	E.140 07	9.28 p.m.	32	10	30.04	763.1	30.07	763.8	49.9	9.9	86	3	3	4	......	......	2	4	1	14	......	......	7	7.32	185.9
Awomori	N. 40 51	E.140 45	9.31 p.m.	32	10	30.02	762.5	30.05	763.5	47.9	8.8	82.9	......	2	3	14	7	1	2	2	......	*d*4327	*d*6962	6*	6.04	153.2
Hokodate	N 41 47	E.140 44	9.31 p m.	10	3	30.03	762 7	30.04	763.0	47.5	8.6	80.0	9	8	8	......	......	1	3	1	1	6894	11095	5	3.85	98.1
Hamamatsu	N. 34 43	E.137 43	9.19 p.m.	92	28	29.98	761.6	30.08	764.1	58.6	14.8	80	3	3	8	......	......	......	1	3	13	......	......	5	2.89	73.4
Hiroshima	N 34 23	E.132 27	8.58 p m.	16	5	30.11	764.7	30.12	765.1	59.5	15.3	79	22	1	3	......	1	......	......	3	1	4505	7249	6	2.02	51.2
Kanazawa	N. 36 33	E.136 40	9.14 p.m.	95	29	30.02	762.5	30.12	765.1	54.5	12.5	85.7	2	......	2	5	1	10	5	6	......	4849	7802	6	12.13	308.0
Kagoshima	N. 31 35	E.130 33	8.50 p.m.	14	4	30.10	764.5	30.11	764.9	64.1	17.8	83.1	6	7	1	1	......	......	2	12	2	......	......	5	3.22	81.6
Kioto	N. 35 01	E.135 46	9.11 p.m.	162	49	29.94	760.6	30.12	765.0	54.8	12.7	86.0	16	2	1	......	......	1	3	7	1	1889	3010	5	1.27	32.2
Kochi	N. 33 33	E.133 34	9.02 p.m.	20	6	30.09	764.3	30.11	764.8	61.7	16.5	84.7	1	8	14	1	1	1	1	4	......	......	......	6	2.96	75.2
Misaka	N. 31 56	E.131 26	8.54 p.m.	26	8	30.10	764.5	30.13	765.2	62.1	16.7	83.5	14	3	9	1	......	......	2	2	......	......	......	5	7.34	186.5
Miyako	N. 39 38	E.141 59	9.36 p.m.	98	30	29.95	761.0	30.07	763.8	47.6	8.7	92	1	1	18	6	2	......	......	......	3	1613	2600	4	5.52	140.1
Nemuro	N. 43 20	E.145 35	9.50 p.m.	43	13	29.93	760.2	29.98	761.5	47.4	8.6	82	1	4	4	3	2	2	2	1	12	5589	8994	6	2.70	68.7
Nagasaki	N. 32 44	E.129 52	8.47 p.m.	189	58	29.92	760 0	30.13	765 2	60.2	15.7	80.8	6	2	......	2	......	......	......	10	11	*b*3090	*b*4973	5	4.95	125.9
Niigata	N. 37 55	E.139 03	9.24 p.m.	32	10	30.05	763.5	30.10	764.4	56.1	13.4	80.3	1	3	9	5	1	7	2	3	......	5120	8240	7	6.62	168.3
Nobiru	N. 38 23	E.141 11	9 32 p.m.	15	5	30.05	763.1	30.07	763.8	51.4	10.8	86.3	19	7	......	......	2	......	1	......	2	6814	10967	6	2.90	73.6
Numadzu	N. 35 05	E.138 51	9.23 p.m.	32	10	30.03	762.7	30.06	763.6	59.6	15.3	79.7	1	......	2	2	2	......	22	2	......	......	......	6	5.04	127.9
Osaka	N. 34 42	E.135 30	9.10 p.m.	13	4	30.11	764.7	30.12	765.1	57.3	14.0	81.5	8	2	1	1	1	......	2	16	......	4976	8008	5	1.00	25.4
Saga	N. 33 12	E.130 18	8.49 p.m.	23	7	30.10	764.5	30.12	765.1	59.5	15.3	82.4	4	3	......	......	......	1	......	4	19	......	......	5	3.99	101.1
Sakai	N. 35 33	E.133 14	9.01 p.m.	10	3	30.12	765.1	30.13	765.3	57.6	14.2	79	4	2	7	2	3	......	4	3	6	......	......	7	4.71	119.8
Shimonoseki	N. 33 53	E.130 56	8.52 p.m.	134	41	29.99	761.8	30.14	765.5	59.8	15.4	80	......	......	2	3	......	......	1	3	22	......	......	5	3.05	77.5
Sapporo	N 43 01	E.141 23	9.33 p m.	60	18	29.91	760.4	30.00	762.0	44.0	6.7	87	......	2	6	2	8	12	......	1	......	4655	7492	6	6.32	160.4
Tokei	N. 35 41	E.139 46	9.27 p.m.	69	21	30.00	762.1	30.08	764.0	58.3	14.7	82.9	11	4	1	......	6	1	3	4	1	5242	8435	6	3.10	78.6
Wakayama	N. 34 14	E.135 09	9.09 p.m.	48	15	30.05	763.4	30.11	764.7	60.8	16.0	73.8	3	1	......	......	1	......	8	5	13	2229	3588	6	1.32	33.6
MAURITIUS.																										
Mauritius	S. 20 05	E. 57 33	3.58 p.m.	181	55	29.96	758.4	30.05	763.3	75.4	24.1	65.1	2	2	1	1	......	5	13	7	......	......	......	6	2.85	72.4
MEXICAN.																										
Guanajuato	N. 21 01	W.101 10	5.23 a.m.	6762	2061	23.69	601.8	29.91	759.8	55.9	13.3	81	*d*	......	......	3	1	......	......	22	1	......	......	4	2.30	58.5
Leon	N. 21 07	W.101 36	5.22 a.m.	5902	1799	24.34	618.2	30.07	763.7	55.8	13.2	84	2	10	2	9	......	2	1	1	4	......	......	5	2.00	50.7
Mazatlan	N. 23 11	W.106 17	5.03 a.m.	249	76	29.63	752.7	29.89	759.3	76.3	24.6	69	1	2	......	1	......	4	17	6	......	......	......	5	3.90	99.0
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.08	586.1	30.11	764.9	51.1	10.6	88	......	6	......	......	......	......	......	......	25	......	......	8	3.11	79.1
Puebla	N. 19 03	W. 98 03	5.36 a.m.	7113	2168	23.40	594 3	30.15	765 9	52.9	11.6	68	7	9	1	......	......	......	1	2	11	......	......	3	2.30	58.3
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 36	0.22 p.m.	0	0	30.05	763.2	30.05	763 2	55.2	12.9	......	1	4	11	6	4	1	2	2	......	......	......	......	3.82	97.0
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.88	759.0	29.94	760.4	52.0	11.1	......	5	7	5	8	1	1	2	2	......	......	......	......	3.57	90.6
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.97	761.1	29.97	761.1	53.8	12.1	......	2	6	8	7	3	3	......	2	......	......	......	......	1.61	40.9
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	30.02	762.5	30.02	762.5	55.0	12.8	73.4	1	5	8	9	1	1	2	2	2	......	......	......	2.42	61.6
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.97	761.1	30.01	762 3	54.9	12.7	75.0	2	9	5	8	2	2	1	2	......	......	......	6	2.68	68.1
Sub-Series.																										
Batavia	S. 6 11	E.106 48	7.15 p.m.	26	8	......	......	29.89	759.1	80.1	26.7	77.7	11	1	......	3	3	1	1	11	......	......	......	7	2.39	60.8
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.64	752.8	29.70	754.4	48.6	9.2	80.1	6	2	2	3	9	1	......	1	7	......	......	8	15.05	382.6
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.52	749.7	29.56	750.7	46.6	8.1	71.5	5	2	3	6	6	2	2	2	3	......	......	8	5.03	127.7
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.54	750 4	29.69	754 1	50.0	10.0	65.2	2	4	4	5	3	2	4	2	5	......	......	6	1.09	27.7
Gjesvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.44	747.7	29.46	748.3	38.3	3.5	......	2	3	5	5	6	2	3	4	1	......	......	8	4.14	105.2
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.02	762.4	30.10	764.6	71.1	21.7	58.9	1	1	......	11	1	5	2	7	3	......	......	6	3.61	91.6
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	312	95	29.78	756.5	30.12	765.0	64.8	18.2	54.9	16	......	1	2	2	......	1	9	......	......	......	3	1.20	30.6
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.21	767.3	30.28	769.1	69.8	21.0	62.6	3	......	1	......	......	4	7	10	6	......	......	4	0.72	18.3
Saint Paul de Loando	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.72	755.0	29.93	760.1	78.6	25.9	73.0	......	10	19	2	......	......	......	......	......	......	......	4	0	0
San Salvador	S. 6 17	E. 14 53	1.07 p.m.	1831	559	28 08	713.1	29.90	759.5	79.7	26.5	58.0	2	2	7	11	7	......	......	1	1	......	......	6	0.80	20.4
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.38	644.7	30.13	765.4	48.2	9.0	69.6	......	1	4	1	2	5	16	......	2	......	......	4	3.34	135.5
RUSSIAN																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	305?	29.02	737 2	30.13	765.2	41.7	5.4	67.9	1	4	7	5	1	1	2	4	6	......	......	6	0.41	11.3
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.68	753.9	29.70	754.4	42.3	5.7	80.1	......	2	6	4	16	2	......	1	......	......	......	8	1.42	36.1
Astrakhan	N.46 21	E. 48 02	3.20 p.m.	68	21	30.32	770.0	30.24	768.2	57.0	14.2	54.1	......	3	3	2	2	9	10	2	......	......	......	4	0.52	13.3
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	30.21	767.3	30.16	766.1	65.8	18.8	69.9	7	......	......	2	7	4	3	2	6	......	......	4	0.01	1.0
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.72	754.9	30.24	768.0	40.5	4.7	72.6	......	2	2	12	3	......	......	......	12	......	......	7	0.48	12.1
Biélosersk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.44	747.7	29.91	759.7	45.5	7.5	80.0	......	3	6	8	8	5	......	......	1	......	......	7	1.01	25.6
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.61	752.1	29.86	758.3	43.4	9.1	75.6	1	2	3	8	8	8	......	......	1	......	......	8	2.32	58.9
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	29.10	739 1	30.08	764.0	41.4	5.2	71.9	2	8	11	5	3	......	......	......	2	......	......	9	1.00	25.4
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.66	753.3	30.11	764.7	54.7	12.6	67.1	1	2	4	3	5	5	5	3	3	......	......	7	0.74	18.8
Kasalinsk	N. 45 46	E. 62 07	4.16 p.m.	147	45	30.00	762.1	30.18	766.6	54.9	12.7	41.0	6	5	4	2	2	1	4	5	2	......	......	3	......	......
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.85	758.2	30.13	765.2	47.7	8.7	67.0	1	3	7	6	9	4	......	......	1	......	......	7	0.78	19.9
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	29.62	752.4	29.67	753.7	43.2	6.2	78.0	......	4	12	7	3	2	......	......	3	......	......	8	0.90	22.9
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	30.12	764.9	30.14	765.5	61.0	16.1	73.1	1	2	1	2	......	1	8	4	12	......	......	6	1.10	27.9
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.41	746.9	30.05	763.2	49.8	9.9	73.2	1	5	3	4	2	8	4	4	......	......	......	7	1.87	47.5
Koslov *a*	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.59	751.6	30.10	764.6	49.5	9.7	73.1	2	2	5	4	7	4	3	1	2	......	......	6	1.50	38.2
Lgov	N 51 41	E 35 17	2.29 p m.	535?	163?	29.55	750.6	30.14	765.5	50.9	10.5	65.0	......	2	4	5	3	7	6	3	1	......	......	6	1.03	26.1
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	29.81	757.2	29.84	757.8	50.7	10.4	72.6	......	3	5	7	3	6	5	1	1	......	......	7	5.59	142.1
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.94	760.5	30.14	765.6	57.6	14.2	56.6	1	1	3	8	2	5	8	3	......	......	......	7	1.19	30.3
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.56	750.9	30.05	763.2	47.7	8.7	71.1	2	3	6	8	6	1	1	......	4	......	......	6	1.40	35.5
Nertchinsk	N. 51 19	E.119 37	8.07 p.m.	?	?	27.89	708.5	30.31	769.8	25.3	-3.7	60.5	3	4	3	2	......	......	1	1	17	......	......	4	0.82	20.8
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	30.02	762.4	30.09	764.2	57.6	14.2	72.1	......	3	2	4	5	2	7	3	5	......	......	5	0.70	17.7
Nikolaievsk *e*	N. 53 08	E.140 45	9.31 p.m.	59	18	29.90	759.5	29.99	761.7	31.6	—0.2	76.7	2	1	9	......	......	1	1	1	11	......	......	6	......	......
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.12 p.m.	328	100	29.91	759.6	30.26	768 5	61.5	16.4	25.4	2	3	......	......	......	3	......	14	9	......	......	2	......	......
Petrozavodsk	N. 61 47	E. 34 23	2.26 p m.	180?	55?	29.60	751.7	29.80	756.8	45.0	7.2	77.0	1	8	5	9	5	3	......	......	......	......	......	7	1.43	36.3
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.51	749.6	30.01	762.3	50.5	10.3	68.6	......	3	4	6	5	7	5	......	1	......	......	7	3.18	80.8
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	30.04	763.1	30.08	763 9	70.7	21.5	81.5	......	1	3	8	......	1	11	......	7	......	......	6	5.05	128.3
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	29.82	757.3	29.84	757.9	47.5	8.6	71 2	2	5	4	5	8	7	......	......	......	......	......	7	0.98	24.9
Samarkand *a*	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27 71	703.9	30.17	766.3	59.7	15.4	51.3	1	......	2	......	......	2	1	......	24	......	......	1	......	......
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.60	751.7	30.27	768.9	43.0	6.1	60.5	1	1	1	4	......	2	......	1	21	......	......	5	0.32	8.2
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	138?	42?	29.83	757.6	30.04	762 9	62.8	17.1	66.2	4	3	5	3	7	3	......	6	......	......	......	5	3.26	82.9

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for October, 1884. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
RUSSIAN—Con.	° ′	° ′																								
Staroi Bykhov	N. 53 31	E. 30 16	2.09 p.m.	512	156	29.46	748.2	30.02	762.4	48.7	9.3	73.4	1	.....	3	4	6	13	2	2	.....	.....	.....	8	2.70	68.7
Tashkend	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.55	725.1	30.20	767.2	62.2	16.8	38.0	.....	5	.....	.....	.....	.....	.....	1	24	.....	.....	2	.....	.....
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.73	729.7	30.12	765.0	67.1	19.5	43.4	.....	3	1	.....	5	20	.....	1	1	.....	.....	6	0.13	3.4
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.60	700.9	30.12	765.1	48.4	9.1	60.7	.....	1	1	.....	.....	.....	1	.....	28	.....	.....	4	.....	.....
Viatka	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.40	746.8	30.04	763.0	43.9	6.6	77.7	.....	5	10	6	9	.....	.....	.....	1	.....	.....	7	1.00	25.3
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.53	750.0	29.96	760.9	49.6	9.8	68.9	1	4	4	5	2	8	3	.....	4	.....	.....	6	2.51	63.7
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.98	761.5	30.28	769.1	34.9	1.6	83.2	1	2	2	3	4	4	2	2	11	.....	.....	7	0.80	20.3
Sub-Series.																										
Petrowsky Ac'y	N. 55 50	E. 37 38	2.39 p.m.	508	155	29.44	747.8	30.05	763.3	47.2	8.4	73.8	1	1	8	6	11	4	.....	6	.....	.....	.....	7	0.70	17.8
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	138	42	29.95	760.8	30.12	765.1	63.3	17.4	68	4	1	4	3	6	1	10	2	.....	.....	.....	5	1.35	34.2
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.12	765.1	30.18	766.6	64.8	18.2	68	1	10	.....	.....	1	10	.....	2	7	851	1369	6	7.13	181.2
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.21	691.1	30.19	766.8	55.2	12.9	68	4	1	3	2	4	.....	6	11	...	3627	5837	5	0.52	13.2
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.92	709.1	30.13	765.3	60.6	15.9	58.9	2	1	1	3	1	5	9	9	.....	5167	8316	5	2.42	61.4
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.96	760.9	30.08	764.0	62.6	17.0	72.0	...	7	.....	1	6	2	9	6	5	921	1482	7	2.95	75.0
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.22	742.2	30.11	764.8	63.0	17.2	67	2	1	.....	1	.....	2	1	21	3	5614	9035	5	1.21	30.7
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.92	759.9	29.98	761.5	75.7	24.3	82.9	5	.....	.....	.....	2	3	21	.....	.....	.....	.....	4	3.0	78.6
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.89	759.1	29.94	760.5	79.5	26.4	82.1	1	.....	.....	.....	1	7	14	7	1	3734	6009	4	1.69	43.0
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	30.00	762.0	30.10	764.5	69.8	21.0	67.5	1	2	8	.....	4	.....	13	.....	3	.....	.....	5	3.00	76.1
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.85	758.3	29.95	760.6	78.4	25.8	89	.....	2	.....	.....	3	11	1	.....	14	.....	.....	8	8.00	203.1
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.57	751.1	29.61	752.1	41.2	5.1	86	3	5	3	5	8	3	.....	1	3	.....	.....	7	2.69	68.4
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.60	751.8	29.65	753.1	44.2	6.8	80	4	5	3	13	1	.....	2	1	2	.....	.....	7	2.35	59.6
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.63	752.5	29.68	753.8	45.9	7.7	78	6	3	4	6	6	.....	1	.....	5	.....	.....	7	2.53	64.3
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.58	751.2	29.75	755.7	48.2	9.0	75	1	4	5	2	8	6	.....	2	3	.....	.....	6	3.03	76.9
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.72	754.9	29.78	756.4	50.2	10.1	74	1	6	4	4	6	4	4	1	1	.....	.....	7	2.36	59.9
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.63	752.5	29.71	754.7	47.1	8.4	80.3	3	5	2	3	11	6	.....	1	.....	.....	.....	7	3.01	76.4
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.70	729.0	30.13	765.2	55.0	12.8	59.4	16	3	2	1	7	.....	.....	2	.....	.....	.....	5	1.16	29.6
TURKISH.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.06	763.5	64.8	18.2	66	8	5	1	2	7	1	1	6	.....	.....	.....	7	2.09	53.1
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.14?	765.5?	69.1	20.6	.....	1	13	6	6	4	.....	.....	1	.....	.....	.....	5	7.95	202.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.98	761.4	77.9	25.5	61.3	8	6	.....	10	.....	.....	.....	7	.....	.....	.....	3	1.94	49.3
UNITED STATES.																										
New Eng'd states																										
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.98	761.5	30.05	763.3	43.6	6.4	77.5	8	8	1	5	4	1	1	2	1	7509	12229	5	1.88	47.8
Portland	N. 43 39	W. 70 15	7.27 a.m.	45	14	30.05	763.3	30.10	764.5	47.4	8.6	75.4	3	8	4	9	1	1	.....	4	1	6256	10068	5	2.21	56.1
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.74	603.0	30.08	764.0	27.2	—2.7	93.0	.....	15	11	3	1	.....	.....	1	.....	25475	40997	4	12.91	327.9
Boston	N. 42 21	W. 71 04	7.24 a.m.	125	38	29.99	761.7	30.13	765.3	49.3	9.6	72.2	2	7	9	9	1	.....	2	1	.....	9288	14947	5	3.17	80.5
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	30.11	764.8	30.14	765.5	53.3	11.8	81.0	8	2	6	6	2	1	1	3	2	11494	17773	5	3.89	98.8
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	30.11	764.8	30.16	766.1	51.8	11.0	86.3	10	4	4	7	1	.....	.....	2	3	5244	8439	4	3.53	89.7
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	30.04	763.0	30.16	766.1	49.1	9.5	80.1	7	7	3	7	1	.....	.....	4	2	5737	9233	5	2.49	63.2
Mid. Atlan. states.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	83	25	30.06	763.5	30.15	765.8	47.1	8.4	70.9	8	3	1	12	3	.....	1	2	1	5604	9019	6	2.64	67.1
New York City	N. 40 43	W. 74 00	7.12 a.m.	164	50	30.00	762.0	30.18	766.6	51.9	11.1	78.3	2	3	11	5	3	1	3	3	.....	8644	13911	4	3.63	92.2
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	117	36	30.06	763.5	30.19	766.8	52.3	11.3	78.1	13	1	2	....	8	1	1	3	2	7173	11544	4	1.54	39.1
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	30.15	765.8	30.18	766.6	53.7	12.1	74.9	4	7	3	6	2	.....	3	6	.....	12831	20649	5	4.21	106.9
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	30.15	765.8	30.16	766.1	55.7	13.2	79.6	4	8	6	5	5	1	.....	2	.....	6644	10692	4	2.94	74.7
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	22	7	30.14	765.5	30.16	766.1	55.7	13.2	84.7	8	5	8	4	1	.....	3	2	.....	10371	16690	5	2.19	55.6
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.14	765.5	30.17	766.3	58.3	14.6	77.4	9	1	2	7	5	.....	3	4	.....	11618	18697	4	1.33	33.8
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.16	766.1	30.18	766.6	57.9	14.4	81.1	1	8	1	10	3	1	1	6	.....	d10697	d17215	3	1.12	28.4
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.15	765.8	30.20	767.1	54.8	12.7	75.0	10	1	6	2	4	.....	4	3	1	3905	6284	4	1.42	36.1
Washington City	N. 38 54	W. 77 02	7.00 a.m.	106	32	30.10	764.5	30.22	767.6	53.4	11.9	80.2	7	3	3	3	7	.....	.....	3	5	3990	6421	4	1.73	43.9
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	8	2	30.18	766.6	30.19	766.8	59.6	15.3	81.3	12	4	1	2	7	1	2	2	.....	7399	11907	4	1.12	28.4
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.17	766.3	30.19	766.8	61.1	16.2	79.5	9	3	1	8	4	2	1	3	.....	9722	15646	3	0.74	18.8
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.52	749.8	30.21	767.3	55.0	12.8	77.0	.....	2	5	1	3	2	2	5	11	2098	3376	3	0.54	13.7
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.18	766.6	30.20	767.1	59.7	15.4	81.0	5	.....	3	4	4	2	3	8	2	5023	8084	3	0.47	11.9
S. Atlantic states.																										
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.16	766.1	30.18	766.6	63.6	17.6	82.2	2	3	4	3	2	3	4	10	.....	10278	16540	4	1.23	31.2
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	12	4	30.15	765.8	30.16	766.1	65.7	18.7	82.8	5	4	2	3	.....	1	2	13	1	6610	10638	4	1.23	31.2
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.17	766.3	30.18	766.6	64.8	18.2	82.2	7	4	3	3	.....	.....	4	10	.....	9224	14844	4	0.34	8.6
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.15	765.8	30.19	766.8	64.2	17.9	82.1	10	4	3	....	.....	2	4	8	.....	5993	9645	3	0.23	5.8
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	30.13	765.3	30.18	766.6	63.6	17.6	81.7	3	1	2	1	.....	.....	5	13	6	3370	5423	5	0.63	16.0
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.36	745.7	30.22	767.6	59.5	15.3	77.7	6	2	1	3	1	2	4	8	4	3254	5237	3	1.51	38.4
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	30.09	764.3	30.15	765.8	67.1	19.5	86.1	5	3	2	1	.....	.....	4	16	.....	5401	8692	3	0.35	8.9
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	30.03	762.7	30.22	767.6	63.2	17.3	80.2	5	3	.....	1	3	1	5	5	8	2319	3732	2	0.83	21.1
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	30.07	763.8	30.16	766.1	65.1	18.4	84.3	12	1	4	1	1	.....	2	9	1	4978	7011	2	2.29	58.2
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.08	764.0	30.12	765.0	68.6	20.3	87.8	2	3	.....	2	.....	.....	5	14	5	4659	7498	3	4.12	104.6
Florida penin'la.																										
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.08	764.0	30.10	764.5	69.3	20.7	83.7	11	4	.....	.....	.....	.....	3	12	1	7285	11724	1	0.13	3.3
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	29.98	761.5	30.00	762.0	76.6	24.8	82.1	3	1	.....	.....	.....	.....	1	26	.....	10614	17081	4	3.17	80.5
Sanford	N. 28 48	W. 81 23	6.42 a.m.	35	11	30.01	762.2	30.05	763.3	71.8	22.1	83.0	11	5	2	.....	.....	1	1	11	.....	6198	9975	3	3.02	76.7
East Gulf states.																										
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1129	344	29.02	737.1	30.22	767.6	60.5	15.8	76.7	.....	6	5	1	2	3	11	3	.....	6442	10367	3	0.70	17.8
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.09	764.3	30.12	765.0	68.5	20.3	78.6	5	3	1	.....	...	3	5	12	2	4822	7760	3	2.43	61.7
Mobile	N. 30 41	W. 88 02	6.16 a.m.	35	11	30.10	764.5	30.14	765.5	66.4	19.1	83.9	8	8	.....	....	1	1	4	6	3	4310	6936	2	5.36	136.1
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.94	760.5	30.17	766.3	63.0	17.2	77.9	3	5	1	1	.....	2	.....	18	1	3643	5863	3	1.87	47.5
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.92	760.0	30.18	766.6	62.2	16.8	84.6	10	4	.....	1	1	5	7	1	2	3456	5562	3	1.08	27.4
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	30.04	763.0	30.09	764.3	70.5	21.4	80.7	9	.....	2	.....	1	3	6	10	.....	5041	8112	3	5.60	142.2
West Gulf states																										
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.91	759.7	30.15	765.8	60.7	15.9	89.1	8	2	.....	.....	2	9	1	3	6	3086	4966	4	0.54	13.7
Fort Smith	N. 35 22	W. 94 24	5.50 a.m.	451	137	29.68	753.9	30.16	766.1	56.7	13.7	90.0	3	.....	1	.....	.....	1	9	3	14	2510	4039	4	1.32	33.5
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.84	757.9	30.16	766.1	59.6	15.3	91.2	4	6	1	.....	1	2	.....	.....	17	2559	4118	3	1.30	33.0
Galveston	N. 29 18	W. 94 47	5.49 a.m.	40	12	30.05	763.3	30.09	764.3	72.1	22.3	80.7	4	1	1	.....	.....	11	4	10	.....	6760	10879	4	7.37	187.2
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	30.06	763.5	30.08	764.0	70.7	21.5	89.7	9	.....	1	....	2	5	5	8	1	8878	14288	4	7.94	201.7
Palestine	N. 31 45	W. 95 40	5.45 a.m.	533	162	29.59	751.6	30.15	765.8	60.2	15.7	90.0	6	.....	1	.....	2	7	4	11	.....	5501	8853	4	1.45	36.8
Rio Grande valley.																										
Brownsville	N. 25 53	W. 97 26	5.38 a.m	57	17	29.97	761.2	30.03	762.7	69.4	20.8	95.3	10	1	.....	2	.....	4	2	1	11	3934	6331	5	15.71	399.0
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.86	758.4	30.10	764.5	67.8	19.9	90.7	5	1	.....	.....	.....	5	10	3	7	3692	5942	3	4.45	113.0
Ohio val. & Tenn.																										
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.37	746.0	30.20	767.1	58.9	14.9	84.9	2	7	3	2	.....	3	4	6	4	3427	5515	3	1.83	46.5
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.18	741.2	30.22	767.6	56.0	13.3	89.0	5	2	1	1	.....	3	2	10	7	2750	4426	2	2.05	52.1
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.83	757.7	30.17	766.3	59.9	15.5	86.4	1	13	.....	4	.....	6	2	3	2	3620	5826	4	2.83	71.9
Nashville	N. 36 10	W. 86 47	6.21 a.m.	549	167	29.60	751.8	30.18	766.6	58.1	14.5	85.5	2	4	4	1	4	3	6	7	.....	3869	6226	4	2.43	61.7
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.62	752.3	30.21	767.3	57.0	13.9	83.9	8	2	1	2	5	5	2	3	3	4522	7277	4	2.00	50.8
Greencastle	N. 39 39	W. 86 51	6.21 a.m.	897	273	29.23	742.4	.....	.....	52.3	11.3	83.9	.....	.....	6	9	4	2	8	2	.....	3845	6188	3	1.27	32.3
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.37	746.0	30.18	766.6	52.0	11.1	84.5	2	4	2	4	6	3	2	5	3	3481	5602	4	2.31	58.7
Cincinnati	N. 39 06	W. 84 30	6.30 a.m.	620	189	29.54	750.3	30.19	766.8	55.4	13.0	82.0	4	3	2	2	2	4	5	2	7	3300	5311	3	1.35	34.3
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.32	744.7	30.18	766.6	52.3	11.3	83.1	3	7	5	3	5	3	1	4	.....	4451	7163	4	1.66	42.2
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	766	233	29.35	745.5	30.17	766.3	52.5	11.4	83.4	3	9	5	3	2	1	1	7	.....	4046	6511	5	2.02	51.3

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for October, 1884.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. S.—Continued.																												
Lower lake region.	° ′	° ′																										
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.45	748.0	30.12	765.0	48.2	9.0	77.8	3	1	9	11	6	.....	1	.....	.....	8789	14144	7	1.87	47.5
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	690	210	29.39	746.5	30.14	765.5	49.4	9.7	85.6	2	2	9	5	6	.....	4	2	1	8993	14456	6	1.54	39.1
Oswego	N. 43 29	W. 76 35	7.02 a.m.	334	102	29.74	755.4	30.10	764.5	48.0	8.9	75.4	3	3	5	2	7	9	1	1	.....	8612	13859	7	3.21	81.5
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.41	747.0	30.14	765.5	52.8	11.6	76.2	1	5	3	5	8	4	2	3	.....	8243	13266	6	3.23	82.0
Sandusky	N. 41 25	W. 82 40	6.37 a.m.	639	195	29.47	748.5	30.16	766.1	52.7	11.5	75.2	3	1	5	14	1	4	1	2	.....	9215	14830	4	1.18	30.0
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.41	747.0	30.15	765.8	51.8	11.0	76.2	2	2	3	6	9	5	4	.....	.....	7006	11275	5	1.97	50.2
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.44	747.8	30.14	765.5	51.3	10.7	81.7	1	4	4	7	10	2	2	1	.....	6014	9678	6	2.14	54.4
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.42	747.3	30.13	765.3	51.9	11.1	68.6	4	5	4	4	10	.....	1	3	.....	7254	11674	5	1.96	49.8
Upper lake region.																												
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.39	746.5	30.06	763.5	45.0	7.2	84.0	1	5	11	3	6	3	1	1	1	7769	12503	6	3.75	95.2
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	613	187	29.37	746.0	30.04	763.0	43.2	6.2	81.0	3	7	5	3	10	1	1	3	.....	8034	12929	5	7.97	202.4
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.44	747.8	30.11	764.8	51.2	10.7	78.2	4	2	3	2	9	3	4	2	1	9585	15425	6	6.10	154.9
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.40	746.7	30.07	763.8	46.0	7.8	79.1	2	9	2	6	4	4	2	2	.....	9246	14880	7	3.85	97.8
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.30	744.2	30.04	763.0	44.6	7.0	71.2	2	7	6	7	2	3	2	1	1	8110	13052	6	6.02	152.9
Port Huron	N. 43 00	W. 82 26	6.38 a.m.	633	193	29.44	747.8	30.13	765.3	47.1	8.4	84.2	2	4	3	5	10	4	.....	2	1	6967	11212	5	4.86	123.4
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.42	747.3	30.13	765.3	51.6	10.9	77.1	3	2	7	9	6	2	1	1	.....	5745	9246	4	3.59	91.2
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.35	745.5	30.11	764.8	49.6	9.8	80.3	3	6	5	11	3	.....	2	1	.....	8713	14022	5	2.18	55.4
Duluth	N. 46 48	W. 92 06	6.00 a.m.	687	209	29.28	743.7	30.04	763.0	42.7	5.9	81.5	8	2	8	8	.....	.....	.....	4	1	6883	11075	6	3.47	88.1
Upper Miss. val.																												
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	801	244	29.17	740.9	30.04	763.0	46.7	8.2	79.9	.....	7	3	3	8	4	.....	1	5	6051	9738	5	2.43	61.7
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.29	744.0	30.08	764.0	49.5	9.7	86.3	3	3	6	2	13	1	1	1	1	6508	10473	5	2.31	58.7
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.46	748.3	30.12	765.0	52.0	11.1	84.4	.....	7	2	8	3	4	4	3	.....	6083	9789	3	7.17	182.1
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.21	741.9	30.13	765.3	49.4	9.7	81.1	3	5	2	5	6	2	1	3	4	4431	7131	3	5.33	135.4
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.40	746.7	30.12	765.0	49.5	9.7	81.1	1	3	5	4	12	2	2	.....	2	3773	6072	4	4.16	105.7
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.48	748.8	30.15	765.8	52.3	11.3	85.7	1	3	5	6	4	4	3	2	3	5426	8732	3	3.35	85.1
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.80	756.9	30.18	766.6	57.3	14.1	87.0	4	3	1	3	6	3	5	4	2	4395	7073	3	1.89	48.0
Springfield	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.50	749.3	30.19	766.8	53.9	12.2	78.8	3	4	2	4	7	8	1	2	.....	5097	8203	3	2.74	69.6
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	583	178	29.56	750.8	30.17	766.3	56.6	13.7	82.2	4	4	2	1	6	7	2	4	1	7590	12215	4	2.48	63.0
Missouri valley.																												
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.21	742.7	30.14	765.5	52.6	11.4	82.5	4	2	.....	.....	15	2	1	.....	7	4373	7038	3	3.41	86.6
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.92	734.6	30.12	765.0	51.1	10.6	78.4	4	6	1	1	13	4	1	.....	1	7125	11466	4	5.81	147.6
Fort Bennett	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.45	722.6	30.07	763.8	42.0	5.6	76.1	.....	15	.....	2	.....	7	.....	.....	7	6276	10100	4	0.96	24.4
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.64	727.4	30.07	763.8	41.6	5.3	78.6	6	8	2	.....	4	10	.....	.....	1	8101	13037	5	1.52	38.6
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.74	730.0	30.07	763.8	46.4	8.0	77.1	4	5	6	3	4	4	2	2	1	7485	12046	4	1.97	50.0
Extreme N'thwest.																												
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	29.00	736.6	30.02	762.5	37.2	2.9	80.0	5	7	1	3	7	5	.....	2	1	9843	15840	6	3.70	94.0
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.12	739.6	30.02	762.5	36.0	2.2	85.8	1	11	3	3	4	7	2	.....	.....	8467	13626	5	1.15	29.2
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.18	715.8	30.06	763.5	39.2	4.0	79.2	4	10	2	.....	3	4	3	1	4	7037	11325	3	0.92	23.4
Fort Buford	N. 48 00	W. 103 56	5.12 a.m.	1930	588	27.94	709.7	30.04	763.0	35.5	1.9	75.5	.....	6	7	5	3	2	3	4	1	7320	11785	5	0.44	11.2
Fort Totten	N. 47 57	W. 98 57	5.32 a.m.	1500	457	28.36	720.3	.....	.....	35.6	2.0	83.1	2	10	2	1	8	8	.....	.....	.....	11696	18922	4	0.92	23.4
Northern slope.																												
Fort Assinaboine	N. 48 32	W. 109 42	4.49 a.m.	2720	829	27.12	688.8	30.05	763.3	38.6	3.7	60.9	.....	4	10	4	.....	3	7	3	.....	9647	15525	4	0.41	10.4
Fort Benton	N. 47 50	W. 110 40	4.45 a.m.	2681	817	27.21	691.1	30.11	764.8	35.4	1.9	67.2	.....	.....	4	10	2	1	3	4	4	6894	11095	6	0.36	9.1
Fort Custer	N. 45 42	W. 107 34	4.58 a.m.	3040	926	26.84	681.7	30.08	764.0	38.6	3.7	80.2	2	4	3	4	.....	11	4	1	2	4697	7559	4	0.66	16.8
Fort Maginnis	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.55	649.0	30.09	764.3	34.0	1.1	58.7	2	6	9	2	.....	.....	.....	12	.....	9229	14852	5	0.33	8.4
Fort Shaw	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.33	668.8	30.03	762.7	38.7	3.7	65.4	1	4	13	10	3	.....	.....	.....	.....	8759	14096	3	0.39	9.9
Helena	N. 46 34	W. 112 04	4.40 a.m.	4044	1232	25.84	656.3	30.09	764.3	41.4	5.2	62.0	2	5	21	3	.....	.....	.....	.....	.....	4631	7453	4	0.49	12.4
Poplar River	N. 48 08	W. 105 10	5.07 a.m.	2030	619	27.78	705.6	30.00	762.0	30.5	—0.8	87.0	3	3	13	2	3	4	2	1	.....	6071	9770	5	0.46	11.7
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.40	645.1	30.08	764.0	44.0	6.7	62.5	.....	.....	1	16	2	2	1	3	6	3024	4867	2	1.48	37.6
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6105	1861	24.08	611.6	30.12	765.0	38.4	3.6	63.4	2	14	9	2	2	.....	.....	1	1	7473	12026	3	0.50	12.7
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.14	689.3	30.10	764.5	44.7	7.1	75.8	2	6	5	1	3	6	2	.....	6	7307	11759	4	0.74	18.8
Middle slope.																												
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.92	455.2	30.20	767.1	21.7	—5.7	82.3	2	7	9	9	1	.....	.....	1	2	10614	17081	1	0.99	25.1
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.82	630.4	30.08	764.0	45.4	7.4	64.9	4	4	.....	1	20	1	.....	.....	1	4140	6663	3	0.21	5.3
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.10	662.9	30.03	762.7	43.5	6.4	82.3	2	3	12	3	6	.....	2	2	1	5256	8459	4	0.43	10.9
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2517	767	27.50	698.5	30.13	765.3	50.4	10.2	85.9	2	4	5	1	5	12	1	1	.....	10248	16492	4	1.50	38.1
Fort Elliott	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.35	694.7	30.14	765.5	52.1	11.2	88.0	5	2	2	.....	9	4	.....	.....	9	7238	11648	4	5.54	140.7
Southern slope.																												
Fort Sill	N. 34 40	W. 98 23	5.34 a.m.	1200	366	28.92	734.6	30.18	766.6	54.5	12.5	93.1	7	.....	.....	.....	8	2	1	.....	13	5317	8557	5	5.01	127.3
Fort Concho	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.22	716.8	30.17	766.3	56.6	13.7	88.9	.....	2	4	4	5	4	.....	7	5	5681	9142	4	5.49	139.4
Fort Stockton	N. 30 53	W. 102 53	5.16 a.m.	3010	917	27.08	687.8	30.11	764.8	56.0	13.3	89.3	1	.....	.....	6	6	8	2	2	6	6859	11036	4	6.25	158.7
Fort Davis	N. 30 38	W. 103 50	5.12 a.m.	4928	1502	25.28	642.1	30.12	765.0	50.5	10.3	89.3	2	.....	.....	5	4	3	3	4	10	4512	7261	6	4.35	110.5
Southern plateau.																												
Fort Thomas	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.28	692.9	29.99	761.7	55.1	12.8	65.7	.....	2	1	1	9	10	2	.....	6	.....	.....	4	0.69	17.5
Fort Apache	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	25.07	636.8	29.96	761.0	46.9	8.3	84.4	2	.....	1	2	1	7	4	14	.....	4813	7746	3	2.02	51.3
Fort Grant	N. 32 39	W. 109 57	4.48 a.m.	4856	1480	25.24	641.1	29.94	760.5	57.2	14.0	63.8	2	.....	.....	.....	2	12	6	8	1	6840	11008	4	3.06	77.7
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5389	1642	24.74	628.4	29.94	760.5	43.5	6.4	73.7	.....	1	.....	1	5	6	4	1	13	4174	6717	1	1.42	36.1
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.73	755.1	29.87	758.7	62.7	17.1	68.0	.....	6	.....	3	.....	.....	4	11	7	3461	5570	2	inap.	inap.
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3704	1147	26.32	668.5	30.06	763.5	56.2	13.4	84.8	2	.....	2	.....	.....	.....	5	3	19	1539	2477	4	5.15	130.8
Middle plateau.																												
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.67	652.0	30.07	763.8	47.1	8.4	61.6	6	2	.....	1	2	8	4	4	4	3947	6352	4	0.36	9.1
Northern plateau.																												
Boisé City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.24	691.9	30.10	764.5	43.2	6.2	76.2	1	4	5	1	3	7	3	1	6	3556	5723	4	1.52	38.6
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.26	743.2	30.11	764.8	44.4	6.9	83.7	.....	2	.....	2	.....	1	.....	5	21	1149	1849	4	2.08	52.8
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	28.00	711.2	30.08	764.0	39.3	4.1	86.6	1	.....	.....	9	4	.....	1	5	11	2675	4305	5	1.82	46.2
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1667	508	28.30	718.8	30.09	764.3	44.4	6.9	78.4	1	.....	1	14	.....	6	2	6	1	4244	6830	4	3.45	87.6
N. Pac. coast reg'n.																												
Fort Canby	N. 46 16	W. 124 04	3.52 a.m.	179	54	29.84	757.9	30.04	763.0	50.5	10.3	89.7	8	.....	1	1	10	3	5	3	.....	8868	14271	4	6.24	158.5
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	30.00	762.0	30.04	763.0	46.7	8.2	85.4	1	.....	.....	2	7	.....	.....	1	20	1723	2773	6	4.30	109.2
Tatoosh Id.	N. 48 23	W. 124 44	3.49 a.m.	86	26	29.91	759.7	30.00	762.0	48.7	6.3	89.5	.....	.....	1	5	3	11	10	1	.....	10196	16409	6	9.03	229.4
Portland	N. 45 32	W. 122 43	3.57 a.m.	67	20	29.98	761.5	30.05	763.3	46.6	8.1	92.1	3	2	1	4	9	1	.....	1	10	3211	5168	6	4.01	101.9
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	523	159	.....	.....	.....	.....	45.9	7.7	89.8	.....	.....	3	2	1	1	2	2	20	1302	2095	5	1.15	29.2
Mid. Pac. coast reg.																												
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.35	745.5	30.04	763.0	50.7	10.4	83.5	20	.....	.....	.....	1	3	.....	3	4	12964	20863	3	0.52	13.2
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	332	101	29.66	753.4	30.02	762.5	53.1	11.7	67.4	13	11	.....	.....	.....	.....	.....	2	2	3920	6308	0	0.90	22.9
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	64	19	29.91	759.7	29.98	761.5	52.6	11.4	81.2	6	3	1	.....	4	11	1	.....	5	3495	5624	2	2.01	51.1
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.93	760.2	30.00	762.0	53.7	12.1	91.5	3	4	2	12	1	6	.....	.....	3	4922	7921	5	2.55	64.8
S. Pac. coast reg'n.																												
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	299	91	29.59	751.6	29.99	761.7	54.1	12.3	83.2	2	.....	5	.....	1	.....	.....	17	6	3707	5966	1	0.39	9.9
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.88	758.9	29.95	760.7	56.5	13.6	80.4	12	1	3	1	1	1	3	8	1	4034	6492	4	0.35	8.9
Alaska stations.																												
Ft. St. Michael's	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.79	756.7	29.82	757.4	22.2	—5.4	89.5	5	2	1	3	2	1	9	7	1	8321	13391	5	1.46	37.1
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.02	752.3	29.68	753.9	41.2	5.1	80.8	.....	3	1	2	.....	12	1	8	4	7516	12096	8	14.56	369.8
Unalashka	N. 53 53	W. 166 32	1.02 a.m.	13	4	29.68	753.9	29.70	754.4	39.7	4.3	82.5	2	6	4	13	3	1	2	.....	.....	8501	13681	8	11.85	301.0
Sub-Series.																												
Bluefields	N. 12 00	W. 83 43	6.31 a.m.	20	6	29.90	759.4	29.92	760.0	74.4	23.6	93.7	6	13	5	7	.....	.....	.....	.....	.....	.....	.....	6	4.99	126.7
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.01	559.1	.....	.....	52.7	11.5	86.0	.....	.....	2	1	1	1	.....	.....	26	1379	2219	4	8.46	214.9
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.02	762.5	30.02	762.5	81.1	27.3	75.0	.....	.....	.....	.....	1	9	20	1	.....	.....	.....	9	0.29	7.4
Puerto Berrio, c.	N. 6 22	W. 74 28	7.10 a.m.	542	165	.....	.....	.....	.....	77.0	25.0	91.0	.....	.....	.....	3	18	1	.....	.....	6	.....	.....	9	17.56	446.0
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	29.82	757.4	29.98	761.5	74.8	23.8	87.2	1	2	2	8	.....	3	1	14	.....	.....	.....	7	15.83	402.1

OCEAN SQUARE DATA FOR OCTOBER, 1884.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W. 22.5°	29.98	761.5	81.3	27.4	2			1	2	1	5	15		5	3.4
12.5 27.5	29.99	761.7	81.6	27.6	2				1	5	10	8	1	4	3.4
12.5 32.5	30.10	762.0	82.0	27.8	1				3	4	15	6		2	3.5
12.5 37.5	30.01	762.2	83.1	28.4					2	6	20	2		1	3.3
12.5 42.5	30.03	762.7	83.5	28.6					4	7	17	1		2	3.7
12.5 47.5	30.02	762.5	83.4	28.6					7	9	12			3	4.0
12.5 52.5	30.03	762.7	83.2	28.4					4	13	3			1	3.6
17.5 22.5	30.02	762.5	79.1	26.2	1					1	10	16		3	3.8
17.5 27.5	30.04	763.0	80.1	26.7					1	2	15	11		2	3.9
17.5 32.5	30.04	763.0	80.9	27.2				1		4	23	1	1	1	3.6
17.5 37.5	30.06	763.5	81.3	27.4					4	4	22	1			3.9
17.5 42.5	30.05	763.3	81.6	27.6	1			1	7	8	14				4.1
17.5 47.5	30.04	763.0	82.0	27.8		1		4	5	5	14			4	4.4
17.5 52.5	30.02	762.5	82.0	27.8			1	2	6	8	11	1	2		3.8
17.5 57.5	30.00	762.0	81.9	27.7	1	2		2	3	9	9	3	1	1	3.7
22.5 22.5	30.07	763.8	77.5	25.3	2					1	12	16			3.9
22.5 27.5	30.09	764.3	78.2	25.7					2	4	16	9			3.9
22.5 32.5	30.09	764.3	79.2	26.2				4		7	13	5	2		3.3
22.5 37.5	30.09	764.3	79.8	26.6			1	2	4	4	14	3	3		3.0
22.5 42.5	30.07	763.8	79.3	26.3		1	1	2	6	5	13	1	2		3.9
22.5 47.5	30.05	763.3	79.6	26.4		1	1	3	6	7	13				4.4
22.5 52.5	30.04	763.0	80.2	26.8		1	1	3	7	7	12				4.1
22.5 57.5	30.01	762.2	80.5	26.9	1			1	4	6	14	1	2	2	4.2
22.5 62.5	29.97	761.2	80.3	26.8			1	1	4	8	11	3	3		3.9
22.5 67.5	29.95	760.7	80.2	26.8	1		1	1	3	6	14	5			3.8
22.5 72.5	29.95	760.7	80.3	26.8	3			1	1	8	10	8			4.1
27.5 22.5	30.13	765.3	74.8	23.8	2					2	11	16			3.9
27.5 27.5	30.15	765.8	75.8	24.3						9	12	10			4.0
27.5 32.5	30.15	765.8	76.7	24.8			1		3	6	16	4	1		3.8
27.5 37.5	30.14	765.5	77.0	25.0				2	2	10	12	2	2	1	3.7
27.5 42.5	30.12	765.0	76.8	24.9	1	1			4	9	7	2	6	1	3.6
27.5 47.5	30.08	764.0	77.1	25.1		1	1		6	9	9	4	1		3.9
27.5 52.5	30.07	763.8	77.3	25.2		1	1	5	3	9	8	2	1	1	4.0
27.5 57.5	30.03	762.7	77.4	25.2	1		2	5	1	7	12	2		1	4.8
27.5 62.5	30.01	762.2	77.5	25.3	3		2	3	2	6	12	3			4.8
27.5 67.5	30.01	762.2	77.8	25.4	5	1			1	6	9	8	1		4.6
27.5 72.5	30.02	762.5	77.5	25.3	2	1				7	9	11	1		4.5
27.5 77.5	30.02	762.5	76.3	24.0		2	2				16	11			4.0
32.5 12.5	30.08	764.0	71.4	21.9	4					1	10	15		1	3.5
32.5 17.5	30.12	765.0	71.2	21.8	8					2	1	18	2		2.8
32.5 22.5	30.19	766.8	72.2	22.3	5					1	12	11	2		4.1
32.5 27.5	30.21	767.3	73.5	23.1	3	1			1	8	12	5	1		3.8
32.5 32.5	30.22	767.6	74.2	23.4	2				4	8	11	6			4.0
32.5 37.5	30.20	767.1	74.0	23.3	2			1	9	9	6	3	1		4.0
32.5 42.5	30.16	766.1	73.5	23.1	4		1	3	7	7	4	2	2	1	4.2
32.5 47.5	30.13	765.3	73.3	22.9	1		1	9	4	7	2	5		2	4.3
32.5 52.5	30.09	764.3	73.5	23.1		2		7	8	5	3	6			4.8
32.5 57.5	30.05	763.3	73.4	23.0	2	2	4	2	4	3	9	2	2	1	4.4
32.5 62.5	30.04	763.0	73.4	23.0	4	3	2		3	3	12	3	1		4.2
32.5 67.5	30.08	764.0	73.4	23.0	5	2	2	1	1	7	6	7			4.6
32.5 72.5	30.11	764.8	72.6	22.6	3	4	1		1	3	9	9		1	4.6
32.5 77.5	30.14	765.5	66.9	19.4	5	1	2			3	6	12	2		3.5
37.5 12.5	30.14	765.5	67.1	19.5	2	3			2	1	7	16			3.9
37.5 17.5	30.19	766.8	67.8	19.9	4	2		1		1	6	17			4.0
37.5 22.5	30.25	768.3	69.1	20.6	4	3	1		1	5	8	9			3.7
37.5 27.5	30.27	768.8	70.3	21.3	4		1		6	7	5	4	4		3.2
37.5 32.5	30.24	768.1	70.3	21.3		4		7	10	2	6	2			3.9
37.5 37.5	30.20	767.1	69.7	20.9	3	2	5	5	11	2	2			1	3.8
37.5 42.5	30.15	765.8	68.8	20.4	5	2	6	8	5	4		1			4.6
37.5 47.5	30.11	764.8	67.9	19.9	4	5	2	9	6	3	2				4.6
37.5 52.5	30.08	764.0	68.1	20.1	2	3	7	7	6	1	2	3			4.9
37.5 57.5	30.06	763.5	67.1	19.5	2	5	6	4	2	4	2	6			4.6
37.5 62.5	30.07	763.8	67.1	19.5	8	1	6	1	5	3	1	6			5.2
37.5 67.5	30.11	764.8	65.9	18.8	9	4	2	1	4	1	1	8		1	4.4
37.5 72.5	30.17	766.3	64.0	17.8	7	4	3	4	2	2	4	5			4.5
42.5 12.5	30.17	766.3	63.6	17.6	6	1	2	1			6	14	1		3.8
42.5 17.5	30.24	768.1	64.0	17.8	7	1	3	2	4	1	8	5			4.8
42.5 22.5	30.25	768.3	68.6	20.3	4	4	4	4	7	1	4	3			4.4
42.5 27.5	30.22	767.0	66.0	18.9	2	5	4	8	7	3	2				4.6
42.5 32.5	30.16	766.1	65.4	18.0		4	3	11	6	6	1				4.8
42.5 37.5	30.11	764.8	63.1	17.3	1	4	7	10	5	3		1			5.4
42.5 42.5	30.06	763.5	62.9	17.2	2	6	6	10	6	1					5.4
42.5 47.5	30.02	762.5	58.3	14.6	4	6	5	9	4		3				5.1
42.5 52.5	29.99	761.7	57.3	14.1	6	10	2	6	2	3	1	1			5.3
42.5 57.5	30.00	762.0	56.3	13.5	9	6	4	5	3	1				1	5.2
42.5 62.5	30.05	763.3	54.4	12.4	8	7	1	7	2	3	1	2			4.5
42.5 67.5	30.06	763.5	51.0	10.0	8	8	2	6	2		3	2			4.2
47.5 12.5	30.20	767.1	59.7	15.4	5	6	3	8	2	3	2	2			4.6
47.5 17.5	30.20	767.1	59.7	15.4	2	5	4	7	7	1	3	2			4.6
47.5 22.5	30.16	766.1	60.3	15.7	1	8	1	9	8	1	1	2			5.1
47.5 27.5	30.11	764.8	59.6	15.4	1	4	5	11	5	5					5.0
47.5 32.5	30.04	763.0	58.6	14.8	1	4	5	11	6	2	1	1			5.4
47.5 37.5	29.98	761.5	56.9	13.8	2	6	2	12	4	3	1			1	5.7
47.5 42.5	29.93	760.2	52.3	11.3	3	6	4	9	6	2				1	5.5
47.5 47.5	29.91	759.7	46.2	7.9	4	6	8	4	7	1			1		5.4
52.5 12.5	30.11	764.8	54.2	12.3	4	6	9	9	2		1				4.8
52.5 17.5	30.08	764.0	54.0	12.2	4	4	8	13	2						5.2
52.5 22.5	30.03	762.7	53.3	11.8	2	4	9	13	3						5.6
52.5 27.5	29.95	761.0	52.6	11.4		2	7	14	5	1	1		1		5.8
52.5 32.5	29.89	759.2	51.6	10.9		6	7	11	6		1				5.5
52.5 37.5	29.84	757.9	49.3	9.6	1	7	4	11	3	4	1				5.8
52.5 42.5	29.84	757.9	45.2	7.3	4	5	4	7	5	3				3	5.9
52.5 47.5	29.82	757.4	40.9	4.9	2	8	5	5	3	3	3			2	5.8
57.5 12.5	29.87	758.7	48.4	9.1	2	5	11	11	1			1			5.8
57.5 17.5	29.80	758.4	48.3	9.1	3	3	12	11	1			1			5.2
57.5 22.5	29.82	757.4	47.5	8.6	2	3	8	14	2		1		1		5.4
57.5 27.5	29.76	755.9	45.7	7.6		4	5	15	3	1	1	1	1		5.4
57.5 32.5	29.73	755.1	44.1	6.7	1	4	6	11	6	2				1	5.7
57.5 37.5	29.73	755.1	41.9	5.5	1	6	3	6	3	4	1	1		6	5.8
57.5 42.5	29.73	755.1	39.0	3.9	2	3	3	5	3	3	1	1		10	5.9
57.5 47.5															

REVIEW.

INTERNATIONAL METEOROLOGY FOR OCTOBER, 1884.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of October, 1884. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from one simultaneous observation taken each day at 7 a. m., Washington, or 0 h. 8 m., p. m., Greenwich, mean time.

The region of least mean pressure for October, 1884, is shown over the Arctic Ocean to the north of Scandinavia, the isobar for 29.5 (749.3) covering the extreme northern part of Norway. To the eastward, southward, and south-southwestward of the region of barometric minima the gradient increases somewhat rapidly, but this increase is much less rapid in a southwesterly direction from Norway to Newfoundland, the isobar for 30.0 (762.0) extending from the Gulf of Saint Lawrence southeastward to about N. 42°, W. 50°, where it trends northeastward, crossing the fiftieth parallel in about W. 30° and continuing thence east-northeastward over the British Isles. The lowest mean pressure reported was 29.46 (748.), at Gjæsvær, Norway. The next area of low mean pressure apparently occupies the Aleutian Archipelago and the Alaskan coast where it ranges from 29.68 (753.9) to 29.7 (754.4), and, so far as the observations at hand indicate, it does not exceed 29.9 (759.4) in any part of British North America, except in Manitoba. In the United States the mean pressures exceed 30.0 (762.0), except in the extreme southwestern part and on the south Pacific coast; in Lower California and over the Gulf of California it is less than 29.9 (759.4). In Europe the mean pressure is less than 30.0 (762.0) over the region north of 42° N., and exceeds that amount over the districts south of the parallel mentioned. In British India it ranges from 29.82 (757.4) to 29.9 (759.4).

Five distinct areas of barometric maxima are shown on the chart; the first of these is indicated by the isobar for 30.3 (769.6) and occupies southern Siberia, the highest mean being 30.31 (769.9), at Nertschinsk. The second area, 30.2 (767.1), covers the Caspian and Aral Seas and Toorkistan, the highest mean in these regions being 30.24 (768.1), at Petro-Alexandrovsk. The third area is that of the north Atlantic Ocean; it is indicated by the isobar for 30.2 (767.1), and extends from the Bay of Biscay southwestward over the Azores to about N. 31°, W. 38°; the highest mean pressure reported within this area is 30.28 (869.1), at Ponta Delgada, Azores. The fourth area of high pressure is shown in the United States, and stretches from the Atlantic States, south 40° N., westward to the Mississippi River, while the isobar for 30.1 (764.5) encloses that part of the United States south of 45° N., from New England westward to the Rocky Mountains, and southward to the Gulf of Mexico. The highest mean reported in the United States is 30.22 (767.6). The fifth and last area is enclosed by the isobar for 30.1 (764.5), and is shown over the Territories of Idaho and western Montana, the highest mean being 30.11 (764.8), at Lewiston, Idaho.

Compared with the chart for the preceding month (September, 1884), there has been a general increase of pressure over the United States and Canada, except in Nova Scotia and the Gulf of Saint Lawrence, where there is a very slight decrease. Over the Atlantic Ocean north of 40° N. and west of 30° W. the pressure has decreased slightly; it has also decreased over the region between N. 25° and 40° and W. 50° and 65°, but elsewhere there has been an increase of pressure, the increase being most marked over the Bay of Biscay and between N. 40° and 50° and east of 30° W. In the British Isles, France, and the Iberian Peninsula the pressure exceeds that of the preceding month, but in other parts of Europe there has been a decrease. Throughout Asia there has been an increase of pressure.

Compared with the corresponding month of previous years, the mean atmospheric pressure for October, 1884, over the United States was above the normal, except along the northern boundaries of the country; in Canada it was also above the normal, except in Nova Scotia. In Europe the mean pressure was below the normal in the northern peninsulas; elsewhere it was above the normal, the changes being greatest in the British Isles and western Europe. In British India it was .05 above the seven years' mean.

The following table shows the mean pressure and mean temperature for October, 1884, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last seven years:

Countries.	Mean pressure.			Mean temperature.		
	Oct. mean of 7 (1877–'83) years.	Oct., 1884.	Departure.	Oct. mean of 7 (1877–'83) years.	Oct., 1884.	Departure.
				°	°	°
Algeria	30.07	.....	.....	72.2	.....	.....
Austro-Hungary	30.00	30.02	+ 0.02	56.6	53.7	− 2.9
British Isles	29.91	30.06	+ 0.15	52.7	52.8	+ 0.1
Denmark	29.89	29.82	− 0.07	49.3	51.6	+ 2.3
France	29.99	30 13	+ 0.14	61.1	57.0	− 4.1
Germany	29.98	30.00	+ 0.02	51.3	51.1	− 0.2
India	29.83	29.88	+ 0.05	81.2	80.4	− 0.8
Italy	29.99	30.02	+ 0.03	64.9	62.5	− 2.4
Norway	29.80	29.65	− 0.15	45.5	48.4	+ 2.9
Portugal	30.06	.....	.....	60.6	.....	.....
Russia	30.01	30.02	+ 0.01	48.8	50.8	+ 2.0
Spain*	30.01	30.13	+ 0.12	65.5	62.8	− 2.7
Sweden	29.85	29.70	− 0.15	42.7	46.1	+ 3.4

* Means for six years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of October, 1884, as compared with the means for seven years:

Stations.	Mean pressure.			Mean temperature.		
	Oct. mean of 7 (1877–'83) years.	Oct., 1884.	Departure.	Oct. mean of 7 (1877–'83) years.	Oct., 1884.	Departure.
				°	°	°
Astrakhan, Russia	30.16	30.24	+ 0.08	56.6	57.6	+ 1.0
Archangel, Russia*	29.84	29.70	− 0.14	38.0	42.3	+ 4.3
Angra, Azores	.....	.....	.....	.....	.....	.....
Athens, Greece	30.02	30.03	+ 0.01	72.3	71.8	− 0.5
Beirut, Turkey in Asia	29.95	29.98	+ 0.03	79.2	77.9	− 1.3
Barnaul, Siberia, Asia	30.16	30.24	+ 0.08	37.9	40.5	+ 2.6
Bridgetown, Barbadoes *	29.94	29.99	+ 0.05	82.4	82.2	− 0.2
Cape Town, Cape of Good Hope	.....	.....	.....	70.7	64.9	− 5.8
Cagliari, Sardinia, Italy	29.96	30.02	+ 0.06	70.5	67.1	− 3.4
Ekaterinburg, Russia	30.01	30.08	+ 0.07	36.9	41.4	+ 4.5
Fort Napier, Natal, South Africa	29.87	29.93	+ 0.06	73.7	73.8	+ 0.1
Freetown, Sierra Leone	29.91	29.86	− 0.05	83.9	85.5	+ 1.6
Funchal, Madeira Islands	30.12	30.10	− 0.02	72.7	71.1	− 1.6
Gibraltar	30.05	30.06	+ 0.01	68.3	67.4	− 1.4
Godthaab, Greenland	29.69	.....	.....	29.7	.....	.....
Havana, Cuba, W. I.	29.97	29.98	+ 0.01	75.1	75.7	+ 0.6
Malta, Mediterranean Sea	29.99	29.97	− 0.02	73.7	72.5	− 1.2
Mauritius, Indian Ocean	30.11	30.05	− 0.06	75.0	75.4	+ 0.4
Melbourne, New South Wales	29.98	29.97	− 0.01	54.5	52.5	− 2.0
Mexico, Mexico*	30.21	30.11	− 0.10	53.5	51.1	− 2.4
Nassau, Bahamas, W. I.	30.00	29.98	− 0.02	79.9	78.4	− 1.5
Nikolaevsk on the Amoor, Asia	.....	29.99	.....	.....	31.6	.....
Paramaribo, D. Guiana, S. A	29.99	30.02	+ 0.03	80.6	81.1	+ 0.5
Pekin, China	30.16	.....	.....	54.0	.....	.....
Ponta Delgada, Azores	30.11	30.28	+ 0.17	69.6	69.8	+ 0.2
Sandwick Manse, Orkney Islands	29.84	29.81	− 0.03	48.4	48.9	+ 0.5
San Juan de Puerto Rico, W. I.	29.96	29.95	− 0.01	80.6	78.4	− 2.2
Stykkisholm, Iceland	29.69	29.57	− 0.12	39.8	37.2	− 2.6
Tashkend, Toorkistan, Asia	30.20	30.20	0.00	55.9	62.2	+ 6.3
Thorshavn, Färöe Islands	29.74	29.68	− 0.06	46.0	45.3	− 0.7
Tiflis, Russia	30.10	30.12	+ 0.02	65.7	67.1	+ 1.4
Tokei, Japan	30.07	30.08	+ 0.01	58.3	58.3	0.0
Yeniseisk, Siberia, Asia	30.11	30.28	+ 0.17	29.5	34.9	+ 5.4
York Factory, B. A	29.99	.....	.....	24.2	.....	.....
Zi-Ka-Wei, China	30.15	30.17	+ 0.02	61.0	61.2	+ 0.2

* Means for six years only.

In the United States the mean temperature of the air was below the normal on the Pacific coast and in the Rio Grande Valley; in all other parts of the country it was normal or above. In Canada it was above the normal, except in the Maritime Provinces. In Europe the mean temperature was about normal in the British Isles; above the normal in Denmark, Scandinavia, and Russia, and below the normal in all other parts of the continent. In British India it was 0.8 below the seven years' mean; the highest mean temperature there

reported was 86°.7 Fahr. (30°.4 Cent.), at Deesa, and the lowest was 73°.7 Fahr. (23°.2 Cent.), at Hazaribagh.

The following are some of the extremes reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Sierra Leone	85.5	29.7	Fort Saint Michael's, Alaska	22.2	—5.4
Bridgetown, Barbadoes	82.2	27.9	Nertschinsk, Siberia	25.3	—3.7
Cairo, Egypt	81.1	27.3	Nikolaievsk on the Amoor, Asia.	31.6	—0.2
Paramaribo, Dutch Guiana	81.1	27.3	Yeniseisk, Siberia	34.9	1.6
Manila, Philippine Islands	79.5	26.4	Stykkisholm, Iceland	37.2	2.9

NOTE.—Report from York Factory, B. A., not yet received.

In the United States the prevailing winds were as follows: along the Atlantic coast and in the middle and south Atlantic states and Florida they were northerly and northeasterly; in the northern part of the country they were mostly westerly and northwesterly; in the southwestern districts they were variable. Over the Atlantic Ocean from the coast of the United States eastward to about W. 60° the winds were north and northeast; from 60° W. eastward to the European coasts and north of the thirty-fifth parallel they were mostly southwesterly; south of 35° N. they were easterly. In Europe the winds were from sw. to w. and nw. in the western districts, and from sw. to s. and se. in the eastern and northern districts.

In the United States the precipitation during October, 1884, was less than the average in the states east of the Mississippi River, and in the north and south Pacific coast districts; elsewhere it exceeded the average. In Canada it was less than the average; in Europe the rainfall was greater than the average, except in France, where there was a deficiency.

STORM-TRACKS FOR OCTOBER, 1884.

Chart iii exhibits paths of the principal depressions which appeared in the northern hemisphere during October, 1884. This chart continues the series of international charts begun in November, 1877, and in its preparation the following data have been used, viz: Chart i, for each day of the month, containing the data of one simultaneous observation taken at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich, mean time, as heretofore published in the DAILY INTERNATIONAL BULLETIN; abstracts of ships' logs; special reports; and other miscellaneous data on file at this office.

The chart for October, 1884, shows the paths of fifty-eight depressions, the greater part of which number are traced over the North American continent, the Atlantic Ocean, and the continent of Europe. A very unusual feature is the absence of typhoons in the China Sea during October, 1884; referring to this subject, the Rev. Marc Dechevrens, in the "Bulletin Mensuel," of the Zi-Ka-Wei Meteorological Observatory, for October, 1884, says: "The month of October has always been marked by numerous typhoons, either in the China Sea, the Philippines, or in Japan; it is therefore a remarkable fact that during October, 1884, we have nothing to report under this heading. The ordinary atmospheric depressions were few in number and of slight importance."

Sixteen depressions, numbers i to xvi, inclusive, are traced over the United States and Canada; these disturbances, for the most part, advanced from the British Northwest Territories in an east-southeasterly direction towards the Lake region, and thence northeastward down the Valley of the Saint Lawrence to the Gulf and the Atlantic; no storm-centre appeared in that part of the United States lying south of the fortieth parallel. Of the above depressions, those charted as numbers iii, iv, xi, and xii, developed considerable storm-energy during their passage, causing strong gales and stormy weather over the Lakes, while number viii was also attended by moderate to strong gales during its passage over the Maritime Provinces; with these exceptions, the depressions charted in October, 1884, were of moderate or slight intensity. Detailed descriptions of these depressions will be found under "Areas of low barometer" in MONTHLY WEATHER REVIEW for October, 1884.

The numerous depressions (sixteen, numbers xvii to xxxiii, inclusive) which traversed the Atlantic Ocean appear to have pursued a north-northeasterly course, their paths being farther to the northward and westward than usual; this direction of movement was probably due to the presence of large anti-cyclonic areas which occupied western Europe, and frequently the British Isles and Scandinavia, during the first and second decades of the month, and which extended over the ocean westward to the fortieth meridian; during the last decade an area of high barometer appears to have travelled eastward over the Atlantic from the coasts of the United States towards the Azores. Many of the depressions which crossed the Atlantic were of considerable depth, the barometer ranging from 29.0 (736.6) to 29.6 (751.8); so that relatively steep gradients were generally found over the ocean, and consequently the weather during October, 1884, was squally and unsettled, with frequent heavy gales. Numbers xxi and xxii show the tracks of two hurricanes which occurred in the West Indies during the first half of the month, the latter being quite severe over the eastern Bahamas. Descriptions of these, together with the other depressions which occupied the ocean, will be found under "North Atlantic storms during October, 1884," in the MONTHLY WEATHER REVIEW for October, 1884.

Fifteen depressions, not including number xxvii, which passed over northern Scandinavia from the Atlantic on the 19th and 20th, are traced over the continent of Europe; the tracks of these depressions lie mostly in Scandinavia, northern Russia, and the Baltic regions. The depressions shown over the southern districts were of slight intensity and merit no particular mention, but those of the north were generally severe and of considerable extent; the more important of the latter were numbers xxxviii, xlii, and xlviii. The first appeared over the northern part of the British Isles on the 8th; it moved southward with decreasing pressure and increasing energy and reached the southern part of England on the 9th; it then passed eastward and northeastward over the North Sea during the 10th and 11th, and into southern Sweden on the 12th. The winds were moderate to strong during the 8th and 9th, but after that day they increased to the force of a strong gale, accompanied by rain and hail; over the British Isles they were northerly and northwesterly, and were from west to southwest and south at the continental stations. During the passage of the disturbance the barometer ranged from 29.15 (740.4) to 29.55 (750.6), the minima occurring on the 11th when the storm-centre was off the Danish coast, and again on the 13th, over the Gulf of Bothnia. The second disturbance above referred to (xlii) appeared in southern Sweden on the 17th, with pressure at the centre about 29.10 (739.1); as it moved southward and eastward the barometric gradient over the Baltic and central Europe became somewhat steep, and strong gales from w. and nw. occurred over the districts in the western semicircle of the depression. On the 18th the storm-centre was in southwestern Russia, the barometer having fallen to 28.93 (734.8), at Lgov, on that date; by the 19th the depression had disappeared. The third disturbance (xlviii) was a deep depression which passed over northern Scotland during the night of the 27–28th, on the following morning it was central in southern Scandinavia, the isobar for 28.8 (731.5) enclosing the storm-centre and including within its limits nearly the whole of the Scandinavian Peninsula. On this date strong gales from w. and nw., with rainy weather, occurred over the British Isles, and equally strong gales from w. and sw. were reported over the North Sea, the Baltic, and at land stations in northern and central Europe; on the 29th the centre of disturbance was near the Gulf of Bothnia, with the pressure still less than 28.9 (734.0), and no material abatement in the force of the wind over the districts to the south of the centre; on the 30th the depression disappeared in the White Sea region. In addition to the three important disturbances just referred to there was another exceedingly deep depression which materially affected the weather conditions in northern Europe; this was number xxx, which had moved

north-northeastward from Newfoundland to Iceland during the period from the 21st to 25th. On the last-mentioned date the centre was in the vicinity of Iceland, where the barometer read 29.02 (737.1); by the 26th the disturbance had advanced to the Norwegian coast, the barometer near the storm-centre falling to the unusually low reading of 28.29 (718.6), while moderate to strong gales from s. to w. and nw. prevailed over northern Europe. The depression passed northeastward along the Norwegian coast, the pressure remaining below 28.4 (721.3) during that day; on the 29th the storm-centre was in the extreme northern part of Scandinavia, where the pressure did not exceed 29.0 (736.6) until the 30th.

The depressions which passed over Japan were unimportant and exhibited no noteworthy features; in numbers xlix and lvii the minima were 29.53 (750.0) on the 2d, and 29.56 (750.8) on the 24th, respectively. In the disturbances shown over the Aleutian Archipelago and Alaska, the barometer ranged from 29.0 (736.6) to 29. 6 (751.8).

STORM-TRACKS FOR DECEMBER, 1882.

There are shown on the chart for December, 1882, the probable paths of forty-nine barometric depressions which appeared over the northern hemisphere during that month, together with the track of a typhoon which passed over the Philippine Islands during the 30th and 31st; the data referring to the last were furnished by the Rev. F. Faura, S. J., director of the Observatory at Manila.

The above depressions are distributed, geographically, as follows: eleven, numbers i to xi, inclusive, are traced in the North American continent; fourteen, xii to xxv, are shown over the Atlantic Ocean and southern Greenland; fourteen (xxvi to xxxix) are traced over the British Isles and the European continent; two, numbers xl and xli, appeared in western Asia, and the remainder, numbers xlii to xlix, are traced in eastern Asia and the Pacific Ocean.

Of the depressions traced in the North American continent, one, number i, passed from the lower lake region southeastward to the New Jersey coast and thence northeastward over the ocean and along the coast of Nova Scotia; three depressions moved from the Pacific coast eastward over the northern part of the United States; one developed in the Missouri Valley and moved eastward over the Lakes to the Atlantic, and the remaining depressions passed from Texas and the Gulf of Mexico northeastward over the eastern part of the United States. Several of these depressions displayed considerable storm-energy, especially in the Lake regions and on approaching the Atlantic coast, being attended by strong winds to heavy gales, with pressure ranging from 29.4 (746.7) to 29.7 (754.4). They are described under "Areas of low barometer" in the MONTHLY WEATHER REVIEW for December, 1882.

Of the fourteen depressions traced over the Atlantic Ocean and southern Greenland, six, numbers xiii, xv, xvi, xviii, xix, and xxii, were continuations of storms which reached the Atlantic from the shores of the American continent; three (xii, xiv, and xxv) appeared north of the sixtieth parallel; three (xx, xxi, and xxiv) appeared over the region west of the fortieth meridian, and two (xvii and xxii) to the eastward of that meridian. The general direction of movement of the above depressions was northeasterly; the more important were the following: Number xii, which moved eastward from southern Greenland over Iceland to northern Scotland and thence southeastward over the North Sea; on the 3d the barometer near the storm-centre fell to 28.7 (729.0), and from that date until the disappearance of the depression it ranged from 28.9 (734.0) to 29.4 (746.7). This disturbance, in conjunction with that charted as number xxviii, remained over the North Sea until the 10th, causing during this period strong gales, with rain or snow and generally unsettled weather, over the British Isles and western Europe. Number xvii, which manifested considerable energy on the 11th and 12th, when the storm-centre was to the eastward of W. 20°; on those dates the barometer fell to 29.1 (739.1), and strong gales prevailed over the ocean east of the thirtieth meridian. Number xviii was probably the most severe storm of the month; on the 12th the atmospheric pressure over the Banks of Newfoundland was about 29.0 (736.6), and furious gales prevailed over the ocean as far south as the thirty-fifth parallel; on the 13th the pressure at the storm-centre, near N. 51°, W. 45°, was 28.4 (721.3), and gales of hurricane force from sw., w., and nw. occurred between 40° and 50° N. and eastward to the thirtieth meridian; on the succeeding dates, and throughout the course of this depression, the pressure did not exceed 29.15 (749.4). Number xix caused strong gales during its passage eastward, the barometer falling to 29.04 (737.6) on the 17th, nor did it rise above 29.35 (745.5) until the disturbance had passed into Europe.

The last decade of December, 1882, was marked by the passage of several rather deep depressions, which followed each other in rapid succession and extended southward over the ocean to the thirtieth parallel. During the period mentioned the atmospheric pressure ranged from 28.8 (731.5) to 29.4 (746.7), and generally unsettled weather prevailed over the Atlantic. Detailed descriptions of the more important of the Atlantic storms will be found under "North Atlantic storms" in the MONTHLY WEATER REVIEW for December, 1882.

Respecting the storms traced in Europe, these prevailed mostly in the southern, western, and extreme northern districts, the eastern and central parts of the continent being comparatively free from heavy storms. Several of the above depressions, however, were of considerable extent and were attended by subsidiary disturbances, and these caused unsettled weather, with rain or snow, in all districts except the extreme eastern part of the continent, where an area of high barometer prevailed during the first and second decades of the month.

In northern and western Siberia the barometer remained high during the greater part of the month, reaching the unusually high value of 31.0 (787.4) on several days, and the maximum, 31.24 (793.5), at Yeniseisk, Siberia, on the 17th. In the depressions which passed over Japan the barometer ranged from 29.4 (746.7) to 29.8 (756.9); the most important being that charted as number xlix, which appeared in northern Japan on the 27th, with pressure about 29.35 (745.5); by the 29th, when the depression reached Behring Sea, the pressure had decreased to 28.8 (731.5). The depressions over the Pacific Ocean and in the neighborhood of the Aleutian Archipelago were generally deep and well-defined; the pressure seldom exceeded 29.6 (751.8), while for several days it ranged from 28.6 (726.4) to 29.0 (736.6).

Referring to the Manila typhoon of December 30th and 31st, the Rev. F. Faura, S. J., director of the Meteorological Observatory at Manila, furnishes the following: "The storm appears to have formed to the se. of the Island of Dinagat, between lat. 9° and 10° N., and long. 126° and 127° E. of Greenwich; the vortex passing over that island, according to the report of the missionary, between 9 and 10 p. m. of the 30th; the wind shifted from n. to s. by the west, and blew with great force, accompanied by rain."

CATVALONGAN (lat. 11° 46′ N., long. 124° 55′ E. of Greenwich).

Date.	Hour.	Barometer.		Wind.	
		Inches.	Millimetres.	Direction.	Force and remarks.
1882. Dec. 31	7 a. m	29.41	747	nw.	Frequent squalls of rain.
	8 a. m	29.23	742.5	nne.	Wind increasing.
	8.40 a. m	29.12	739.7	nne.	Hurricane.
	9 a. m	29.06	738	nne.	Strong squalls at intervals.
	9.28 a. m	29.04	737.5	ne.	Fresh; lightning.
	9.35 a. m	29.02	737	ene.	Fresh and cool; rain ceased.
	9.47 a. m	29.00	736.6	calm	Zenith clear.
	10 a. m	29.06	738	s.	Light variable winds, suddenly shifting to ssw.
	10.10 a. m	29.09	738.8	ssw.	Freshening, and increasing to hurricane force; impossible to continue observations; building threatened with destruction; wind more violent after passage of storm-centre.

CALBAYOG (lat. 12° 8′ N., long. 124° 37′ E. of Greenwich).

Date.	Hour.	Barometer. Inches.	Barometer. Millimetres.	Wind.	Remarks.
1882. Dec. 31	6 a. m.	29.63	752.5	n.	Squally; rain.
	7.45 a. m.	29.49	749.0	nnw.	Strong squalls.
	9.20 a. m.	29.17	741.0	n.	Hurricane.
	11 a. m.	29.00	736.5	.....	Commencement of central calm at 11.15; at 11.40 light se. wind, increasing to sse. hurricane at midday.
	1.15 p. m.	29.37	746	ssw.; s.	Hurricane.
	2 p. m.	29.45	748	ssw.	Moderating slightly.
	5 p. m.	29.72	755	ssw.	Moderate; barometer stationary at 75^{8}.5 (29.86) throughout the night.

S. S. "CASTELLANO" (lat. 12° 30′ N., long. 123° 47′ E. of Greenwich).

Date.	Hour.	Barometer. Inches.	Barometer. Millimetres.	Wind.	Force, 0–12.	Remarks.
1882. Dec. 31	8 a. m.	29.72	755	nnw.	6	Squally.
	10 a. m.	29.49	749	n.	8	Sky totally covered.
	11 a. m.	29.41	747	n.	10	Do.
	Noon	29.37	746	n.	11	Do.
	1 p. m.	29.25	743	n.	11	Lightning.
	2 p. m.	29.29	744	nnw.	11	
	3 p. m.	29.33	745	nw.	11	
	4 p. m.	29.33	745	wnw.	11	
	5 p. m.	29.41	747	w.	12	
	6 p. m.	29.49	749	wsw.	12	
	8 p. m.	29.69	754	sw.	10	Light thunder in the 4th quadrant.

TOWN OF CASIGURAN (lat. 12° 53′ N., long. 123° 59′ E. of Greenwich).

Date.	Hour.	Barometer. Inches.	Barometer. Millimetres.	Wind.	Remarks.
1882. Dec. 31	8 a. m.	29.72	755	nne.	Fresh breeze.
	10 a. m.	29.41	747	ne.	Strong gusts.
	12 m.	29.21	742	ne.	Do.
	1 p. m.	29.17	741	ne.	Do.
	2 p. m.	29.13	740	ne.	Do.
	2.30 p. m.	29.13	740	calm	Storm-vortex.
	3.30 p. m.	29.17	741	s.	Fresh gusts.
	4 p. m.	29.33	745	s.	Do.
	5 p. m.	29.41	747	s.	Do.
	6 p. m.	29.49	749	s.	Do.

At this place the winds following the passage of the centre were less violent than those which preceded it.

BRIG "MATILDE" (lat. 13° 31′ N., long. 123° 33′ E. of Greenwich).

Date.	Hour.	Barometer. Inches.	Barometer. Millimetres.	Wind.	Force, 0–12.
1882. Dec. 31	1 a. m.	29.88	758.9	nne.	7
	4 a. m.	29.80	757.0	nne.	7
	6 a. m.	29.61	752.0	nne.	7
	10 a. m.	29.49	749.0	nne.	8
	12 m.	29.47	748.5	nne.	9
	1 p. m.	29.41	747.0	nne.	8
	4 p. m.	29.36	745.7	nne.	8
	5 p. m.	29.32	744.7	ne.	10
	6 p. m.	29.28	743.7	ne.	10
	8 p. m.	29.28	743.7	ne.	11
	10 p. m.	29.28	743.7	ene.	11
	12 n.	29.30	744.2	e.	8
1883. Jan. 1	1 a. m.	29.37	745.9	se.	8
	2 a. m.	29.42	747.2	s.	8
	5 a. m.	29.52	749.8	ssw.	7

SPECIAL NOTES.

DAILY BULLETIN.

On and after July 1, 1884, the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS will be discontinued. The daily chart accompanying this bulletin, or international chart No. i, will continue to be issued as heretofore, but on an enlarged scale, and will contain data referring to pressure (at sea-level), temperature, wind-direction, and state of weather for each day at all reporting stations in the northern hemisphere, and over the northern portions of the Atlantic and Pacific Oceans, as heretofore published in the DAILY BULLETIN.

The observations are taken at 7 h. 0 m., a. m., Washington, or 0 h. 8 m., p. m., Greenwich, mean time, except at the following stations, viz.: Arlon, Belgium, at 1 p. m., local time, or 28 minutes late; Upernavik, Greenland, at 8 a. m., local time, or 24 minutes early; Ivigtut, Greenland, at 8 a. m., or 56 minutes early; Brono, Norway, at 2 p. m., or 63 minutes late.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◒ fair; ◐ cloudy; ● precipitation (rain, snow, hail, sleet).

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity. Miles per hour.	Velocity. Metres per second.
○	0	0	0
	1, 2	0 to 9	0 to 4
	3, 4	9.1 to 22.5	4.1 to 10.1
	5, 6	22.6 to 40.5	10.1 to 18.1
	7, 8	40.6 to 67.5	18.1 to 30.2
	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at 7 a. m., Washington mean time.

International chart iii shows the tracks of centres of low barometer. The Arabic numerals show the location of the centres of low barometer at 7 a. m., Washington mean time of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Hobart Town, Tasmania, the observations are taken at 9 p. m. instead of at 9.57 p. m.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

NEW ENGLAND: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

MIDDLE ATLANTIC STATES: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

SOUTH ATLANTIC STATES: North Carolina, South Carolina, Georgia, Florida.

EASTERN GULF STATES: Georgia, Florida, Alabama, Mississippi, Louisiana.

WESTERN GULF STATES: Louisiana, Arkansas, Indian Territory, Texas.

RIO GRANDE VALLEY: Texas.

OHIO VALLEY AND TENNESSEE: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

LOWER LAKES: New York, Pennsylvania, Ohio, Michigan.

UPPER LAKES: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

UPPER MISSISSIPPI VALLEY: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

MISSOURI VALLEY: Missouri, Kansas, Nebraska, Iowa, Dakota.

EXTREME NORTHWEST: Minnesota, Dakota.

NORTHERN SLOPE: Montana, Dakota, Wyoming, Nebraska.

MIDDLE SLOPE: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

SOUTHERN SLOPE: Indian Territory, Texas, New Mexico.

SOUTHERN PLATEAU: New Mexico, Arizona, California, Nevada.

MIDDLE PLATEAU: California, Nevada, Utah, Colorado, Wyoming.

NORTHERN PLATEAU: Wyoming, Montana, Idaho, Oregon, Washington.

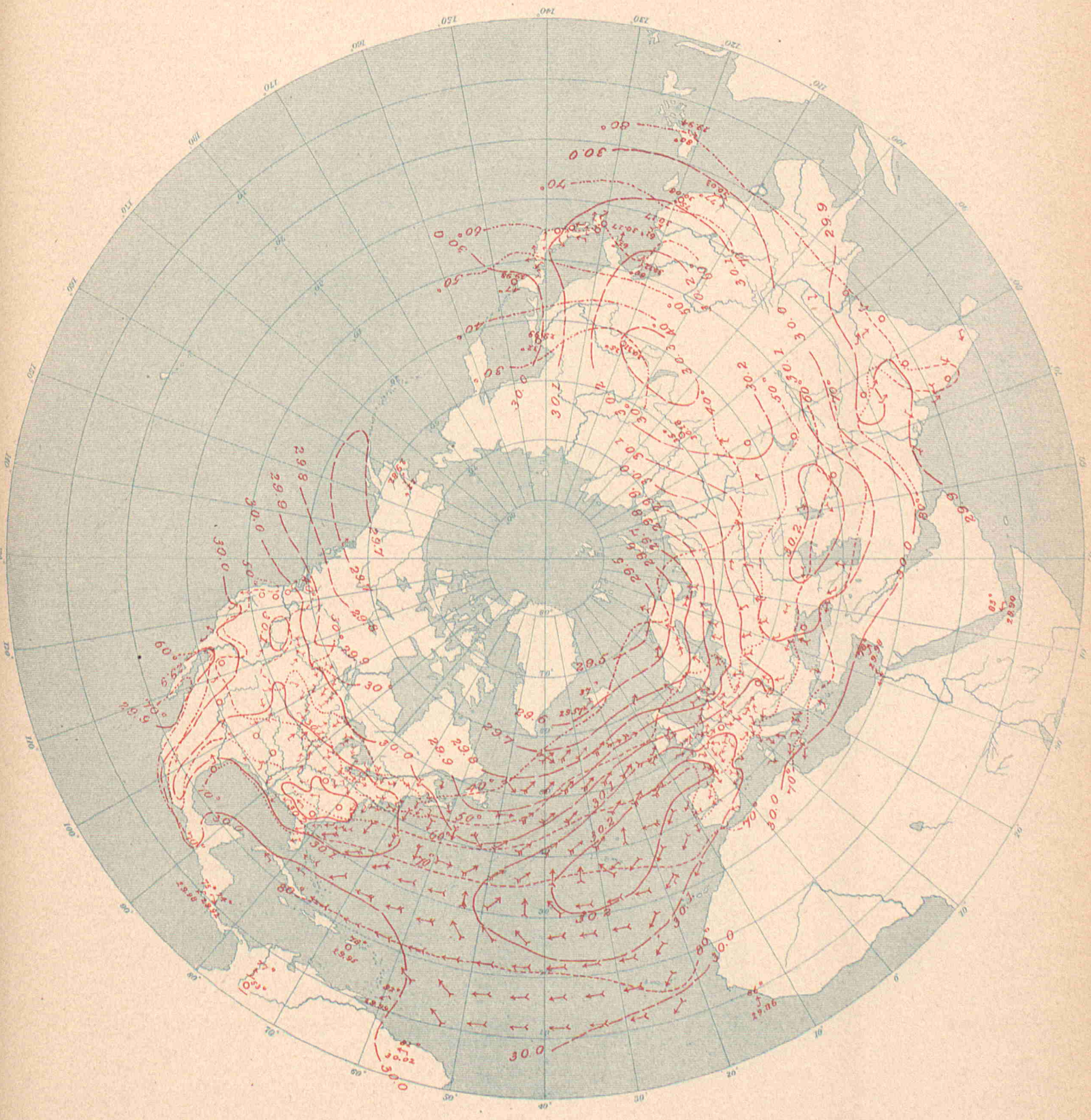
NORTH PACIFIC COAST: Washington, Oregon.
MIDDLE PACIFIC COAST: California.
SOUTH PACIFIC COAST: California.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. October, 1884. Isobars, Isotherms, and Winds.

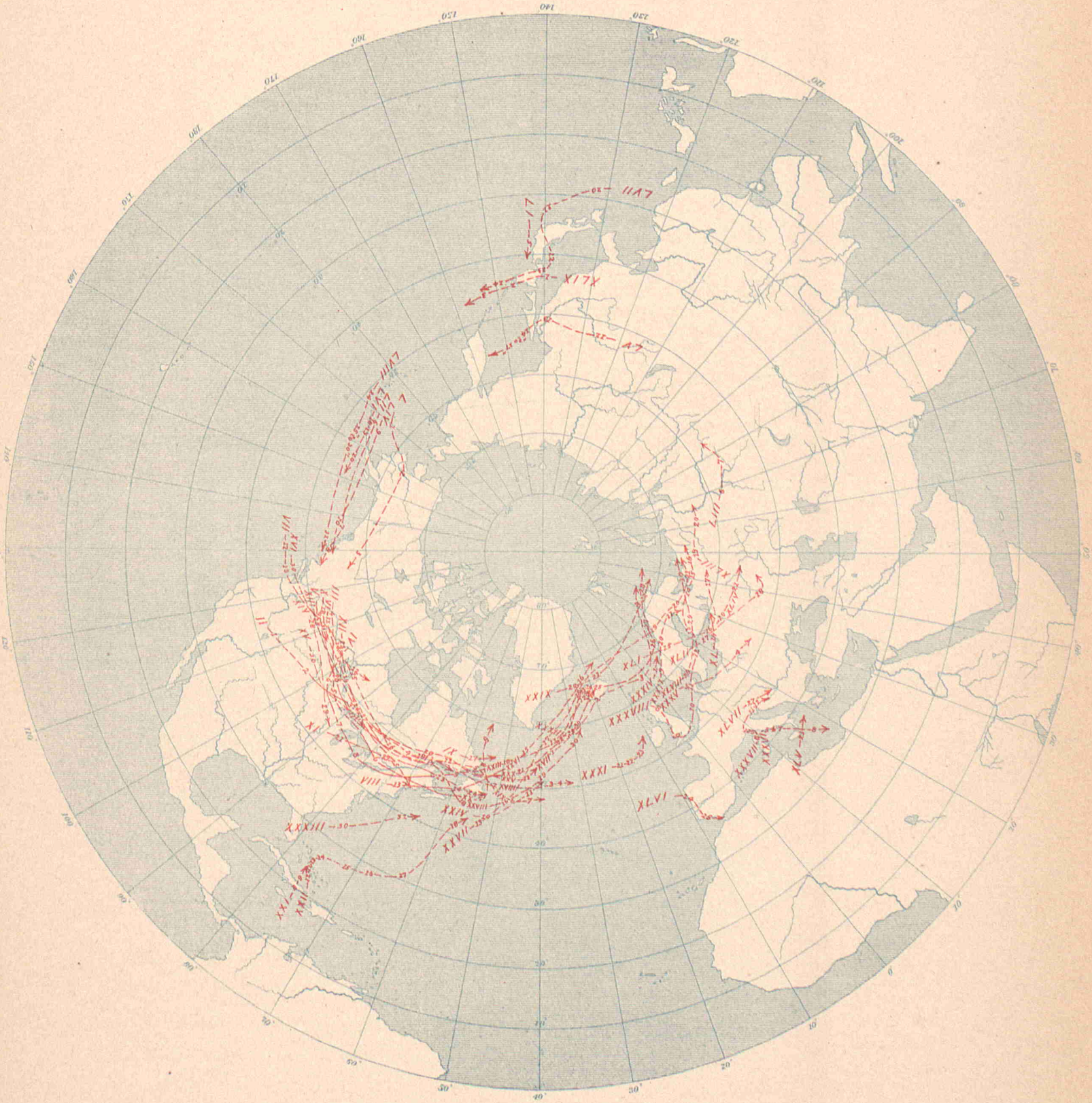


UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.

Signal Office Lith.

International Chart III. October, 1884. Storm-Tracks.

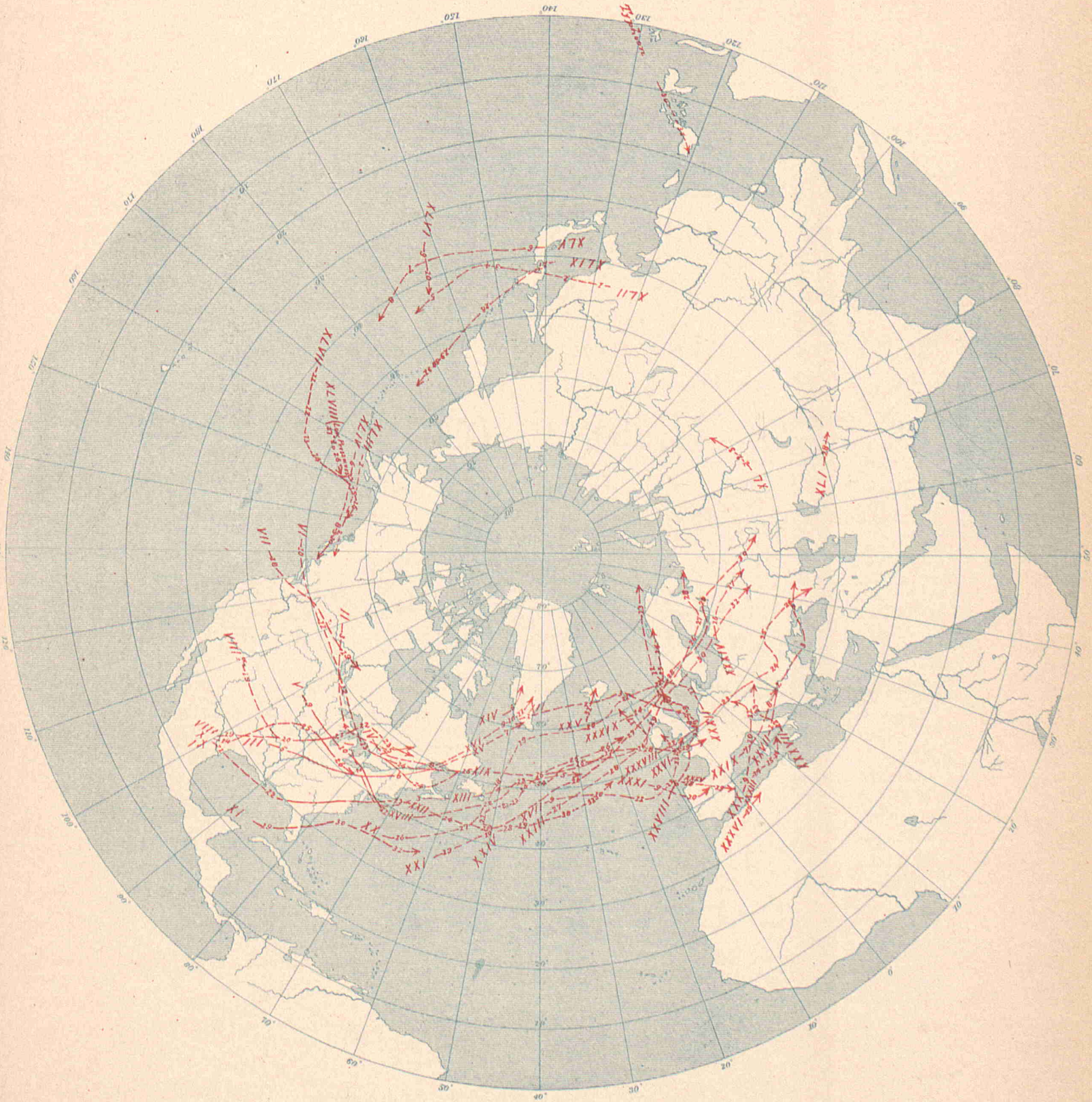


UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.

Signal Office Lith.

International Chart III. December, 1882. Storm-Tracks.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.

Signal Office Lith.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF NOVEMBER, 1884.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
DECEMBER, 1885.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

NOVEMBER, 1884.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metrs	Result of Simultaneous Observations for November, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
Australian.	° ′	° ′																								
Adelaide	S. 34 57	E. 138 35	9.22 p.m.	140	42	29.90	759.4	30.06	763.5	62.3	16.8	53.0	...	...	...	3	10	10	5	1	1	8089	13018	4	0.37	9.4
Hobart Town.*a*	S. 42 53	E. 147 26	9.57 p.m.	190	58	29.72	754.9	29.91	759.7	52.2	11.2	83.0	4	2	2	5	6	3	1	...	6	...	...	6	1.09	27.7
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.93	760.2	30.02	762.5	57.2	14.0	74.0	1	...	3	5	6	10	3	2	...	...	...	6	3.10	78.7
Austrian.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.58	751.3	30.19	766.8	41.0	5.0	57.6	2	2	2	8	1	4	3	8	...	...	...	6	1.19	30.2
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.34	745.2	30.14	765.5	36.0	2.2	85.9	2	5	6	9	2	1	3	2	...	...	...	8	1.37	34.8
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.22	742.3	30.13	765.4	33.3	0.7	83.0	4	...	...	...	2	...	...	...	24	...	...	8	0.91	23.1
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.89	733.7	30.18	766.6	40.1	4.5	72.3	1	5	3	6	9	2	...	1	3	...	...	0	0.13	3.2
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.66	728.0	30.15	765.7	34.7	1.5	83.0	1	4	7	1	6	9	2	...	...	...	...	8	0.83	21.1
Kremsmunster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.79	731.2	30.19	766.7	36.7	2.6	86.7	1	2	7	1	...	...	7	2	10	...	...	8	1.67	42.4
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	29.08	738.6	30.11	764.8	35.2	1.8	78.4	4	4	8	6	2	2	...	4	...	...	...	8	3.32	84.3
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	30.02	762.5	30.13	765.3	50.2	10.1	65.2	...	4	6	1	1	1	0	9	2	...	...	4	1.94	49.2
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.63	752.7	30.13	765.3	36.3	2.4	80.0	0	...	5	2	11	3	1	2	...	...	...	7	2.08	52.9
Szegedin.*c*	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.82	757.5	30.12	765.0	36.5	2.5	84.4	2	1	5	...	7	...	...	2	10	...	...	7	1.05	26.6
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	30.06	763.6	30.16	766.1	49.3	9.6	52.5	...	3	5	3	...	4	4	9	2	...	...	3	0.99	25.2
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.45	747.9	30.19	766.7	37.6	3.1	77.6	2	7	7	...	...	8	2	2	2	...	...	7	0.93	23.7
Belgian.																										
Arlon	N. 49 40	E. 5 48	0.32 p.m.	?	?	...	...	...	...	38.3	3.5	*a*89.2	2	1	2	5	7	1	5	7	...	...	...	6	0.81	20.5
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	29.95	760.8	30.16	766.0	43.5	6.4	78.7	1	1	2	12	5	...	6	3	...	...	...	5	0.87	22.1
Furnes	N. 51 04	E. 2 40	0.19 p.m.	20	6	30.12	765.0	30.14	765.6	46.0	7.8	82.7	2	...	6	2	9	...	2	9	...	...	...	6	2.07	52.5
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	30.03	762.8	30.16	766.1	45.4	7.4	*a*75.8	2	1	9	6	...	...	10	2	...	...	...	6	0.86	21.8
British.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.95	760.7	30.05	763.3	42.6	5.9	75.8	1	5	12	3	6	3	...	...	...	...	...	6	3.43	87.1
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	...	...	30.18	765.3	45.4	7.4	76.0	5	3	5	5	1	8	2	1	...	...	...	6	...	...
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.57	751.1	30.11	764.8	43.4	6.3	82.3	5	6	1	5	3	7	1	2	...	...	...	7	...	...
Bradford	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.71	754.6	30.10	764.5	45.0	7.2	76.0	0	6	2	5	5	5	...	1	...	...	...	8	1.07	27.2
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.91	759.7	29.94	760.5	81.2	27.3	82.6	...	...	...	...	...	1	9	20	...	...	...	6	...	...
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	30.04	763.0	30.16	766.1	43.0	6.1	84.6	7	5	2	5	4	3	4	...	...	...	...	6	...	...
Chatham	N. 51 25	E. 0 33	0.10 p.m.	160	49	29.98	761.5	30.15	765.8	45.6	7.6	79.8	5	...	1	5	1	1	4	2	11	...	...	7	...	...
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.95	760.7	30.19	766.8	49.3	9.6	76.8	0	7	2	3	5	4	2	1	...	...	...	8	...	...
Fort Napier	S. 30	E. 31	2.12 p.m.	2294	699	27.55	699.8	29.86	758.4	74.8	23.8	60.3	...	5	...	...	3	7	8	7	...	...	...	6	...	...
Freetown	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.65	753.1	29.88	758.9	85.1	29.5	87.8	3	...	6	1	14	1	5	...	...	...	...	3	...	...
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	30.04	763.0	30.08	764.0	45.7	7.6	81.9	3	9	3	8	1	3	1	2	...	...	...	6	4.63	117.6
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	29.93	760.2	30.05	763.3	61.4	16.3	86.5	...	4	...	...	...	...	8	17	1	...	...	7	...	...
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.98	761.5	30.16	766.1	45.5	7.5	80.5	8	2	2	4	5	3	3	3	...	...	...	7	...	...
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.88	758.9	30.18	766.6	48.8	9.3	75.9	4	10	1	1	5	1	5	3	...	6309	10153	6	2.03	51.6
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	30.13	765.3	30.16	766.1	45.6	7.6	73.2	6	6	2	5	5	1	4	1	...	...	...	7	...	...
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.87	758.7	30.13	765.3	45.7	7.6	77.0	3	5	...	13	...	4	1	4	...	...	...	7	...	...
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.98	761.5	30.06	763.5	63.9	17.7	77.5	1	8	...	...	...	5	3	13	...	...	...	6	4.71	119.6
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.01	762.2	30.06	763.5	76.6	24.8	83.6	...	...	...	3	...	6	11	10	...	...	...	5	...	...
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.93	760.2	30.16	766.1	45.1	7.3	78.4	4	5	1	4	8	3	1	3	1	...	...	8	...	...
Plymouth.*a*	N. 50 22	W. 4 10	11.51 a.m.	69	21	30.09	764.3	30.16	766.1	47.2	8.4	85.7	4	5	3	5	3	2	4	3	...	...	...	7	...	...
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.88	758.9	29.98	761.5	43.3	6.3	85.6	...	...	...	...	...	...	...	...	...	...	...	6	...	...
Scutari Cemet'y	N 41 00	E. 29 03	2.04 p.m.	60	18	29.99	761.7	30.06	763.5	51.0	10.6	74.8	0	...	1	5	1	2	2	13	...	...	...	8	...	...
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	30.06	763.5	30.09	764.3	44.5	6.9	80.4	5	1	7	6	3	1	6	1	...	...	...	5	1.72	43.7
Stonyhurst.*a*	N. 53 51	W. 2 28	11.58 a.m.	361	110	...	...	30.15	765.8	43.9	6.6	77.4	6	4	2	4	4	3	1	5	...	...	...	8	1.49	37.8
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	30.16	766.1	30.18	766.6	48.0	8.9	81.5	7	3	7	...	4	2	2	5	...	...	...	7	...	...
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.70	754.4	30.09	764.3	63.0	17.2	64.7	5	6	1	2	3	3	10	...	...	4230	6807	7	5.53	140.5
Canadian.																										
Bathurst.*e*	N. 47 39	W. 65 43	7.45 a.m.	35	11	29.86	758.4	29.90	759.4	26.7	—2.9	...	...	...	2	3	7	3	...	1	9	...	...	8	2.42	61.5
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.88	758.9	29.92	760.0	33.2	0.7	82.3	1	7	10	3	4	3	...	1	1	6941	11170	7	5.59	142.0
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.87	758.7	29.93	760.2	26.2	—3.2	90.4	3	5	9	7	2	1	...	3	...	3958	6370	7	3.78	96.0
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.76	755.9	29.96	761.0	29.1	—1.6	89.1	2	7	11	2	...	...	5	2	1	...	...	7	2.49	63.2
Dalhousie	N. 48 04	W. 66 22	7.32 a.m.	45	14	29.88	758.9	29.93	760.2	24.5	—4.2	...	...	...	14	...	...	...	4	...	12	...	...	9	2.77	70.4
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.89	759.2	29.91	759.7	24.2	—4.3	84.4	3	5	4	9	2	...	2	2	3	13125	21122	9	3.33	84.6
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.23	742.4	30.13	765.3	14.2	—9.9	87.0	9	6	2	3	5	2	1	...	2	7532	12121	8	0.83	21.1
Fredericton	N. 45 57	W. 66 38	7.41 a.m.	59	18	29.91	759.7	29.98	761.5	28.2	—2.1	82.4	1	12	6	2	1	1	1	5	1	...	...	6	4.28	108.7
Grand Manan	N. 44 46	W. 66 45	7.41 a.m.	49	15	29.92	760.0	29.97	761.2	35.3	1.8	80.2	3	10	5	2	3	1	1	2	3	8894	14313	6	5.31	134.9
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	28.91	734.3	30.06	763.5	31.0	—0.6	...	...	5	6	4	1	2	...	2	10	...	...	7	2.53	64.3
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.86	758.4	29.99	761.7	35.7	2.1	84.7	4	1	17	3	3	1	1	...	...	...	...	6	6.83	173.5
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	350	107	29.58	751.3	30.00	762.0	34.3	1.3	90.2	...	5	1	20	...	...	...	4	...	...	...	7	2.93	74.2
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.67	753.0	30.02	762.5	33.1	0.6	83.4	4	5	10	4	2	...	...	5	...	6127	9860	8	3.49	88.6
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.84	757.9	29.88	758.9	30.3	2.4	82.9	1	6	7	6	5	2	...	3	...	...	...	8	...	...
London	N. 43 00	W. 81 15	6.43 a.m.	816	248	29.12	739.0	30.07	763.8	31.2	—0.4	89.7	1	2	4	3	1	1	3	...	15	...	...	7	5.25	133.3
Medicine Hat.*b*	N. 50 01	W. 110 37	4.46 a.m.	2136	651	27.67	702.8	30.05	763.3	26.1	—3.3	77.9	1	1	3	5	...	...	...	2	16	4495	7234	3	0.96	24.4
Minnedosa	N. 50 13	W. 99 48	5.29 a.m.	1796	545	28.05	712.5	30.12	765.0	13.8	—10.1	92.5	1	21	2	1	...	1	1	3	...	...	...	4	0.79	20.1
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.78	756.4	30.00	762.0	28.8	—1.8	81.2	1	2	12	6	5	1	1	1	1	...	...	7	2.60	66.0
Ottawa	N. 45 26	W. 75 41	7.05 a.m.	224	68	29.73	755.1	29.99	761.7	28.0	—2.2	90.4	4	2	8	5	4	...	3	3	1	...	...	7	2.11	53.6
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.27	743.4	29.99	761.7	28.5	—1.9	86.8	5	1	6	2	2	1	7	3	3	8251	13278	7	3.19	81.0
Peterboro.*a*	N. 44 17	W. 78 18	6.54 a.m.	688	210	29.26	743.2	30.01	762.2	29.6	—1.3	91.0	...	4	...	5	1	1	2	4	11	...	...	5	2.06	52.3
Port Arthur	N. 48 27	W. 89 12	6.11 a.m.	642	196	29.28	743.7	30.03	762.7	19.1	—7.2	85.8	4	5	5	...	1	...	...	1	14	3533	5686	6	0.72	18.3
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.33	745.0	30.05	763.3	33.8	1.0	99.2	3	4	9	5	1	...	...	2	6	5600	9012	7	1.94	49.3
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.38	746.2	30.05	763.3	32.8	0.4	87.1	1	1	16	2	2	...	4	1	3	...	...	6	2.66	67.6
Qu' Appelle.*a*	N. 50 44	W. 103 42	5.13 a.m.	2115	646	27.72	704.1	30.13	765.3	17.2	—8.2	86.6	1	5	2	4	6	...	...	...	11	6663	10723	5	0.43	10.9
Quebec	N. 46 48	W. 71 12	7.23 a.m.	298	89	29.58	751.3	29.96	761.0	25.0	—3.9	94.4	...	...	7	7	1	...	2	4	9	...	...	8	4.41	112.0
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.49	749.0	29.97	761.2	25.3	—3.7	83.2	...	9	5	...	...	8	1	1	6	...	...	7	2.27	57.7
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.89	759.2	29.94	760.5	33.2	0.7	84.8	2	12	6	1	1	2	2	...	4	...	...	4	2.43	61.7
Saint John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	116	35	29.81	757.2	29.96	761.0	35.5	1.9	86.6	2	5	13	...	3	1	1	2	3	...	...	6	4.81	122.2
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	...	...	29.87	758.7	37.0	2.8	...	2	6	4	9	2	2	2	3	...	...	...	...	5.06	128.5
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.26	743.2	30.00	762.0	33.3	0.7	88.0	2	4	6	4	6	2	2	3	1	10805	17389	8	3.14	79.8
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1186	361	28.73	729.7	30.06	763.5	30.1	—1.1	88.5	2	2	3	6	2	1	1	3	10	...	...	8	6.68	169.7
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.86	758.4	29.93	760.2	35.7	2.1	82.6	1	5	8	6	6	1	...	2	1	9212	14825	8	9.38	238.2
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.64	752.8	30.04	763.0	31.9	—0.1	84.6	5	2	7	8	...	1	2	5	...	7808	12566	8	2.35	59.7
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	28.95	735.3	30.06	763.5	31.3	—0.4	89.9	2	2	5	10	6	1	2	2	...	...	...	7	2.72	69.1
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.90	759.4	30.00	762.0	38.5	3.6	84.8	1	10	3	3	3	3	6	...	1	...	...	7	3.61	91.7
Cape Colony.																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	8	30.01	762.2	30.04	763.0	66.3	19.1	83.5	...	...	...	20	1	6	...	3	...	...	...	4	2.54	64.5
Cape Town.*a*	S. 34 02	E. 18 29	1.22 p.m.	?	?	29.94	760.5	...	...	66.7	19.3	50.8	1	11	1	1	...	9	...	6	...	...	...	4	2.24	56.9
Springbok.*c*	S. 29 45	E. 17 43	1.19 p.m.	?	?	27.89	708.4	...	...	73.8	23.2	31.8	...	...	...	...	...	...	...	...	...	...	...	...	0.08	2.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metres	Result of Simultaneous Observations for November, 1884. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
CHILIAN.	° ′	° ′																								
Coquimbo	S. 29 56	W. 71 21	7.22 a.m.	72	22	29.92	759.9	30.00	761.9	59.4	15.2	89.0	11	.....	5	6	.....	7	.....	1	.....	.....	.....	7	0.05	1.3
Iquique	S. 20 12	W. 70 11	7.27 a.m.	26	8	29.95	760.8	29.98	761.5	65.8	18.8	68.0	.....	1	1	24	.....	2	.....	2	.....	.....	.....	.....	.....	.....
Niebla	S 39 53	W. 73 25	7.14 a.m.	98	30	29.59	751.5	29.69	754.2	54.9	12.7	76.0	.....	6	3	1	.....	.....	20	.....	.....	.....	.....	4	2.95	75.0
Punta Caldera	S 27 03	W. 70 53	7.25 a.m.	82	25	29.95	760.6	30.03	762.8	61.3	16.3	78.0	2	16	.....	5	.....	2	.....	5	...	.....	.....	7	.....	.....
Punta Corona	S. 41 47	W. 73 53	7.12 a.m.	174	53	29.94	760.5	30.13	765.3	.....	.....	.....	3	7	14	4	.....	1	1	.....	.....	.....	.....	5	3.76	95.4
Quiriquina	S. 36 37	W. 73 03	7.25 a.m.	187	57	29.82	757.4	30.02	762.5	59.4	15.2	67.0	1	1	3	7	13	5	.....	.....	.....	.....	.....	4	0.73	18.6
Valparaiso	S. 33 02	W. 71 39	7.22 a.m.	131	40	29.87	758.8	30.02	762.4	59.5	15.3	83.0	10	1	.....	7	7	1	4	.....	.....	.....	.....	.....	0.24	6.0
CHINESE.																										
Hong Kong	N. 22 18	E. 114 04	7.45 p.m.	110	33	30.00	762.0	30.12	765.0	67.5	19.7	68.0	11	.....	1	.....	.....	1	15	2	.....	.....	.....	5	1.50	38.1
Sub-Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	30.28	769.1	30.30	769.7	45.5	7.5	80.6	8	9	4	.....	1	1	3	4	.....	.....	.....	5	5.79	147.0
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	30.04	763.0	30.09	764.2	37.9	3.3	84.0	2	6	4	3	4	4	6	1	.....	.....	.....	7	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	30.06	763.6	30.08	764.1	38.7	3.7	88	4	4	2	6	3	6	.....	3	2	.....	.....	6	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.69	754.2	29.74	755.3	34.0	1.1	86	.....	.....	5	5	1	7	2	7	3	.....	.....	8	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.88	759.0	29.91	759.6	40.8	4.9	81	9	4	1	8	3	2	1	.....	2	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.98	761.4	30.07	763.7	39.2	4.0	87	.....	2	3	2	4	8	2	4	5	.....	.....	5	.....	.....
Egyptian.																										
Cairo	N. 30 03	E. 31 21	2.14 p.m.	?	?	29.94	760.5	.....	.....	72.7	22.6	.....	9	3	4	2	4	.....	2	6	.....	.....	.....	3	inap.	inap.
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.59	751.6	30.27	768.8	49.1	9.5	83.0	1	5	5	1	2	13	1	2	.....	.....	.....	6	0.04	1.1
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.69	754.0	30.24	768.0	45.1	7.3	80.4	5	1	1	2	7	.....	.....	14	.....	.....	.....	5	0.74	18.9
Arras	N. 50 18	E. 2 46	0.19 p.m.	223	68	29.93	760.2	30.17	766.4	44.4	6.9	75.3	5	2	5	3	.....	7	2	6	.....	.....	.....	5	0.62	15.8
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	30.17	766.2	30.24	768.2	51.8	11.0	58.6	29	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	2	0.80	20.2
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.62	752.4	30.20	767.0	43.2	6.2	81.9	.....	.....	.....	6	6	10	6	2	.....	.....	.....	7	1.54	39.0
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.93	760.2	30.21	767.2	44.2	6.8	73.0	3	3	3	3	2	3	8	5	.....	.....	.....	5	0.86	21.8
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.22	742.2	30.14	765.5	45.1	7.3	84.6	5	.....	1	8	2	.....	3	11	.....	.....	.....	.....	1.76	44.6
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.92	760.0	30.19	766.8	50.4	10.2	74.6	8	4	1	2	1	10	3	1	.....	.....	.....	5	0.58	14.6
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.62	752.4	30.19	766.8	46.6	8.1	80.9	6	.....	2	4	1	1	6	10	.....	.....	.....	6	1.00	25.4
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.97	761.3	30.22	767.5	51.1	10.6	77.6	3	3	3	1	6	2	4	7	1	.....	.....	6	0.78	19.8
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	30.14	765.6	30.21	767.4	46.8	8.2	82.4	9	4	.....	2	2	5	3	5	.....	.....	.....	.....	1.77	45.0
Châlons sur Marne	N. 48 57	E. 4 21	0.25 p.m.	292	89	29.89	759.3	30.21	767.4	43.9	6.6	89.0	4	5	.....	3	9	6	.....	2	1	.....	.....	4	0.90	22.9
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.63	752.6	30.15	765.8	43.5	6.4	74.3	2	4	1	4	8	6	3	2	.....	.....	.....	6	0.52	13.2
Clermont-Ferrand	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.80	731.4	30.18	766.6	46.9	8.3	65.7	9	7	6	.....	4	2	1	1	.....	.....	.....	6	0.98	24.8
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.37	745.9	30.22	767.7	44.2	6.8	79.9	5	1	1	1	11	3	1	5	2	.....	.....	6	1.16	29.6
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.31	744.4	30.17	766.4	41.0	5.0	87.8	3	5	6	2	1	2	11	.....	.....	.....	.....	6	2.26	57.3
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.56	700.1	30.14	765.6	47.5	8.6	55.4	.....	1	1	2	2	1	2	2	19	.....	.....	.....	0.37	9.5
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.98	736.2	30.12	765.1	53.1	11.7	40.5	8	13	.....	.....	1	4	1	3	.....	.....	.....	2	0.06	1.5
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.41	747.0	30.20	767.1	45.0	7.2	76.8	3	3	1	2	2	6	10	3	.....	.....	.....	4	0.48	12.2
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.55	725.1	30.17	766.3	44.4	6.9	85.0	2	4	2	4	5	4	4	4	1	.....	.....	5	0.54	13.8
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.93	760.1	30.22	767.6	47.7	8.7	85.1	7	1	3	3	5	5	5	1	.....	.....	.....	5	2.52	64.0
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.62	752.4	30.20	767.0	54.9	12.7	62.6	3	2	8	2	1	5	5	4	.....	.....	.....	4	0.71	18.0
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	30.12	765.0	30.22	767.6	51.3	10.7	67.0	5	3	4	.....	2	4	3	7	2	.....	.....	6	1.33	33.8
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	29.12	739.6	30.21	767.2	43.9	6.6	73.8	5	6	.....	1	3	6	6	3	.....	.....	.....	4	0.39	10.0
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.92	759.9	30.24	768.0	45.7	7.6	80.0	4	1	3	4	4	2	8	4	.....	.....	.....	5	1.28	32.5
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.85	758.2	30.13	765.2	55.8	13.2	52.4	1	10	8	1	2	2	6	.....	.....	.....	.....	.....	0.09	2.4
Montlouis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.88	632.0	29.72	755.0	41.0	5.0	69.0	5	5	3	3	.....	5	8	1	.....	.....	.....	3	2.51	63.7
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.99	761.8	30.10	764.6	53.4	11.9	77.0	10	5	1	.....	1	1	.....	12	.....	.....	.....	2	1.27	32.2
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.40	746.7	30.19	766.8	41.4	5.2	78.1	4	7	2	4	4	4	.....	5	.....	.....	.....	.....	0.40	10.1
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	30.07	763.7	30.23	767.8	48.6	9.2	75.6	6	3	3	1	5	2	6	4	.....	.....	.....	7	0.71	18.0
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	30.05	763.3	30.17	766.2	54.1	12.3	63.0	2	8	1	.....	1	5	6	5	2	.....	.....	6	5.12	130.1
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.19	538.2	.....	.....	24.4	—4.2	.....	.....	5	3	6	2	1	3	4	6	.....	.....	.....	3.09	78.5
Privas. ..... [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	29.10	739.1	30.19	766.9	47.8	8.8	74.1	16	.....	.....	.....	13	.....	.....	.....	1	.....	.....	.....	0.52	13.3
Puy de Dôme	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.19	639.9	.....	.....	34.0	1.1	83.1	4	5	5	4	4	4	2	2	.....	.....	.....	6	3.37	85.6
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.19	766.9	30.22	767.7	50.9	10.5	76.2	3	2	2	1	5	3	4	10	.....	.....	.....	5	0.63	16.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	259	79	29.93	760.2	30.21	767.2	48.2	9.0	79.7	3	6	4	5	9	1	1	1	.....	.....	.....	.....	0.06	1.6
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.93	710.6	30.17	766.2	45.7	7.6	75.7	5	4	.....	.....	2	8	8	2	1	.....	.....	.....	0.39	9.9
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	30.17	766.3	30.22	767.5	45.9	7.7	74.6	1	.....	.....	.....	2	3	4	2	18	.....	.....	5	5.72	145.2
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	30.02	762.6	30.19	766.8	44.1	6.7	79.0	7	3	1	6	5	3	1	4	.....	.....	.....	7	0.69	17.5
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.48	748.8	30.23	767.8	51.4	10.8	72.9	3	8	1	2	1	13	.....	2	.....	.....	.....	5	0.25	6.3
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	30.02	762.4	30.21	767.3	46.9	8.3	77.0	6	5	3	1	2	3	.....	10	.....	.....	.....	5	0.92	23.4
Versailles	N. 48 48	E. 2 07	0.16 p.m.	400	122	29.73	755.2	30.18	766.5	43.5	6.4	74.1	3	6	5	4	.....	2	7	3	.....	.....	.....	4	0.91	23.0
Sub-Series.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	0.03 p.m.	131	40	30.04	763.0	30.19	766.8	53.6	12.0	72	8	2	1	2	1	1	11	4	.....	.....	.....	6	1.63	41.4
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.71	729.1	30.22	767.6	38.1	3.4	73.9	.....	.....	7	6	2	2	2	6	5	.....	.....	7	1.17	29.8
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.26	743.2	30.11	764.7	38.3	3.5	71.3	.....	5	6	3	2	2	.....	2	10	.....	.....	7	0.65	16.6
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.95	760.7	30.10	764.6	38.8	3.8	79.7	2	9	3	3	4	2	2	5	.....	.....	.....	7	1.28	32.4
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.61	752.2	30.15	765.8	37.4	3.0	79.9	4	4	9	5	1	6	.....	1	.....	.....	.....	8	2.29	58.2
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.68	753.9	30.15	765.9	41.4	5.2	78.3	1	.....	.....	13	1	2	4	6	3	.....	.....	8	2.12	53.9
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.41	747.0	30.14	765.5	39.2	4.0	79.2	7	3	2	4	9	1	2	2	.....	.....	.....	6	1.79	45.4
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.80	757.0	30.24	768.0	40.8	4.9	77.4	6	2	.....	5	9	2	5	.....	1	.....	.....	7	0.72	18.3
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.74	730.1	30.21	767.4	39.7	4.3	79.6	1	1	7	12	1	.....	.....	8	.....	.....	.....	8	1.56	39.7
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	30.05	763.2	30.14	765.5	38.8	3.8	85.6	4	6	1	10	.....	6	1	2	.....	.....	.....	7	2.69	68.3
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	30.10	764.4	30.11	764.8	39.9	4.4	83.9	2	6	4	5	2	2	2	4	3	.....	.....	7	2.72	69.0
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.73	755.1	30.16	766.0	38.7	3.7	84.7	2	2	5	6	6	3	1	5	.....	.....	.....	7	1.57	39.9
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.94	760.5	30.14	765.5	39.7	4.3	81.8	3	6	7	3	2	5	3	1	.....	.....	.....	6	2.28	57.8
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	30.08	763.9	30.12	765.1	32.4	0.2	89.6	.....	3	1	3	2	7	4	10	.....	.....	.....	7	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.31	719.0	30.18	766.5	37.9	3.3	74.0	4	9	1	1	.....	1	8	2	4	.....	.....	6	0.83	21.0
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	36	11	30.07	763.8	30.11	764.8	36.7	2.6	81.0	2	3	7	4	2	8	1	3	.....	.....	.....	8	1.02	25.9
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.65	753.2	30.19	766.7	41.5	5.3	80.0	4	8	9	3	1	.....	.....	.....	5	.....	.....	7	0.55	13.9
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.27	743.5	30.19	766.9	41.5	5.3	75.8	8	2	3	4	1	3	1	8	.....	.....	.....	7	0.57	14.5
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	30.10	764.4	30.12	765.0	39.7	4.3	85.2	6	2	4	2	2	7	4	3	.....	.....	.....	7	1.90	48.3
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.68	753.8	30.07	763.7	57.0	13.9	71.9	18	2	.....	1	2	2	1	4	.....	.....	.....	7	3.79	96.3
INDIAN.																										
Kurrachée	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.92	760.0	29.98	761.5	80.2	26.8	54	.....	1	9	15	1	.....	2	2	.....	.....	.....	0	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.49	749.0	29.97	761.2	81.9	27.7	28	3	6	3	1	2	3	1	11	.....	.....	.....	2	0	0
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.87	758.7	29.91	759.7	80.8	27.1	70	10	19	1	.....	.....	.....	.....	.....	.....	.....	.....	2	0	0
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	28.06	712.7	29.91	759.7	81.3	27.4	32	1	.....	.....	.....	1	5	6	17	.....	.....	.....	2	0.04	1.0
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.36	694.9	29.89	759.2	77.9	25.5	42	3	2	.....	.....	.....	.....	8	11	6	.....	.....	3	0.27	6.9
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.24	742.7	30.00	762.0	67.9	19.9	54	.....	.....	1	.....	.....	.....	.....	.....	29	.....	.....	1	0.08	2.0
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	29.06	738.1	29.98	761.5	67.5	19.7	53	.....	.....	10	.....	...	.....	.....	.....	20	.....	.....	0	0.02	0.5
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.43	747.5	30.03	762.0	73.0	22.8	43	2	21	6	1	.....	.....	.....	.....	.....	.....	.....	0	0	0
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.91	734.3	29.96	761.0	76.9	24.9	33	.....	.....	.....	.....	.....	.....	3	8	19	.....	.....	1	0	0
Jubbulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.61	726.7	29.99	761.7	72.3	22.4	42	1	1	.....	.....	.....	.....	1	10	17	.....	.....	0	0	0
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.60	751.8	29.99	761.7	71.3	21.8	45	12	4	.....	.....	.....	.....	.....	.....	14	.....	.....	0	0	0
Allahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.67	753.6	29.99	761.7	64.9	18.3	77	.....	1	.....	.....	.....	.....	.....	.....	29	.....	.....	0	0	0
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.79	756.7	29.98	761.5	70.9	21.6	60	3	11	6	.....	.....	.....	.....	.....	10	.....	.....	1	0	0
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.93	709.4	29.99	761.7	66.6	19.2	46	11	17	1	1	.....	.....	.....	.....	.....	.....	.....	1	0	0
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.88	758.9	29.96	761.0	75.4	24.1	69	.....	.....	.....	.....	.....	.....	.....	1	29	.....	.....	3	0	0
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.93	760.2	29.95	760.7	70.8	21.6	72	10	14	.....	.....	.....	.....	.....	2	4	.....	.....	2	0.01	0.3
Dhubri.b	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.84	757.9	29.96	761.0	71.2	21.8	74	.....	.....	.....	.....	.....	.....	.....	2	26	.....	.....	0	0	0
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.84	757.9	29.94	760.5	73.0	22.8	79	.....	10	4	.....	2	.....	.....	.....	14	.....	.....	2	2.27	57.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for November, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
INDIAN—Cont'd.	° ′	° ′																								
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.64	752.8	29.98	761.5	67.1	19.5	85	.....	.....	.....	2	.....	2	....	25	1	.....	.....	2	1.71	43.4
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.54	724.9	30.02	762.5	72.0	22.2	39	5	15	3	2	.....	1	2	2	.....	.....	.....	1	0.13	3.3
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.40	721.3	.....	.....	81.3	27.4	41	6	.....	.....	...	.....	2	14	8	.....	.....	.....	5	0.05	1.3
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.62	752.3	29.91	759.7	78.3	25.7	75	1	3	4	.....	...	.....	12	10	.....	.....	.....	9	6.69	169.9
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.67	753.5	30.08	764.1	48.2	9.0	50	1	3	3	2	1	.....	10	2	8	.....	.....	2	0.08	1.9
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.64	752.9	30.18	766.5	45.1	7.3	63	1	3	4	10	.....	7	3	2	.....	.....	.....	3	0.41	10.5
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	30.04	763.0	30.15	765.9	46.2	7.9	59	5	4	1	5	2	1	1	9	2	.....	.....	3	0.39	9.9
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.22	742.3	30.16	766.1	45.3	7.4	64	5	9	1	.....	2	3	5	5	.....	.....	.....	3	0.13	3.2
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157?	48?	29.91	759.7	30.11	764.7	53.4	11.9	52	12	1	.....	3	1	2	1	8	2	.....	.....	3	0.58	14.8
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	30.09	764.3	30.14	765.6	48.0	8.9	69	5	16	2	.....	.....	2	1	4	.....	.....	.....	5	2.32	58.9
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.85	758.1	30.11	764.7	50.4	10.2	45	7	4	1	1	1	2	3	11	.....	.....	.....	3	1.04	26.5
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	30.03	762.8	30.12	765.0	53.6	12.0	48	3	.....	2	1	1	.....	8	15	.....	.....	.....	3	1.06	27.0
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.90	759.4	30.08	763.9	54.9	12.7	53	11	4	2	1	2	1	.....	2	7	.....	.....	3	2.29	58.2
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.81	757.1	30.07	763.7	55.6	13.1	58	6	5	1	3	4	2	.....	9	.....	.....	.....	4	1.94	49.3
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.19	741.5	30.10	764.6	50.5	10.3	70	3	13	8	.....	1	4	1	.....	.....	.....	.....	5	5.68	144.3
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	29.85	758.3	30.05	763.2	60.1	15.6	63	.....	10	.....	.....	1	12	1	....	6	.....	.....	4	0.98	25.0
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.81	757.2	30.06	763.6	61.0	16.1	61	2	4	4	2	.....	.....	1	14	3	.....	.....	6	4.63	117.7
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.98	761.5	30.02	762.6	62.2	16.8	66	4	1	4	2	2	1	2	14	.....	.....	.....	6	5.21	132.4
Sub-Series.																										
Naples.*d*	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.55	750.5	.....	.....	56.1	13.4	52.7	5	4	3	1	.....	2	3	8	.....	.....	.....	3	1.73	43.9
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	22.12	561.8	.....	.....	21.7	-5.7	60	1	1	2	5	1	3	10	7	.....	.....	.....	4	0.15	3.9
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	22.19	563.5	.....	.....	26.8	—2.9	56	.....	4	14	9	.....	2	1	...	.....	.....	.....	2	0.06	1.5
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	29.97	761.2	30.00	762.0	38.7	3.7	84	5	10	2	.....	.....	1	6	.....	6	.....	.....	9	4.92	125.1
Hokodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	29.91	759.7	29.92	760.0	35.6	2.0	77.5	4	8	13	.....	1	.....	.....	.....	4	8794	14152	6	3.21	81.5
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	92	28	29.94	760.4	30.04	762.9	46.6	8.1	76	.....	4	16	.....	.....	.....	.....	2	8	.....	.....	4	4.81	122.2
Hiroshima	N. 34 23	E. 132 27	8.58 p.m.	16	5	30.12	765.1	30.14	765.5	46.6	8.1	82	19	3	5	.....	.....	.....	1	2	.....	3527	5675	6	2.05	52.1
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	29.99	761.8	30.10	764.5	43.2	6.2	83.9	.....	2	4	1	4	9	6	4	.....	5784	9306	8	14.84	376.6
Kagoshima	N. 31 35	E. 130 33	8.50 p.m.	14	4	30.15	765.9	30.16	766.2	49.9	9.9	84.4	13	10	.....	1	1	.....	2	3	.....	.....	.....	4	4.24	107.5
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.93	760.3	30.11	764.7	43.0	6.1	85.7	9	11	1	.....	.....	.....	1	3	5	1330*c*	2140*c*	6	2.48	62.8
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	30.10	764.5	30.12	765.0	48.6	9.2	83.3	2	13	8	1	.....	.....	4	2	.....	2953	4753	4	3.94	100.0
Miasaka	N. 31 56	E. 131 26	8.54 p.m.	26	8	30.13	765.2	30.15	765.9	49.5	9.7	81.5	3	3	23	.....	.....	.....	1	.....	.....	.....	.....	3	4.89	124.3
Miyako	N. 39 38	E. 141 59	9.36 p.m.	98	30	29.85	758.2	29.96	761.0	38.6	3.7	79	.....	.....	21	5	2	.....	.....	1	1	3380	5441	3	0.93	23.6
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.97	761.2	30.18	766.5	48.1	8.9	79.2	10	2	1	.....	1	1	1	7	7	3101	4991	5	3.54	89.7
Nemuro	N. 43 20	E. 145 35	9.50 p.m.	43	13	29.78	756.4	29.83	757.7	34.5	1.4	80	2	4	3	2	3	2	.....	1	13	6749	10861	5	3.44	87.4
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	30.00	762.0	30.04	762.9	44.5	6.9	78.9	3	6	6	5	4	2	3	1	.....	6090	9799	7	9.80	248.9
Nobiru	N. 38 23	E. 141 11	9.32 p.m.	15	5	29.97	761.1	29.98	761.5	38.5	3.6	83.0	5	25	.....	.....	.....	.....	.....	.....	.....	8557	13771	5	0.60	15.1
Numadza	N. 35 06	E. 138 51	9.23 p.m.	32	10	29.97	761.2	30.00	762.1	45.9	7.7	81.1	2	.....	3	2	.....	1	22	.....	.....	.....	.....	5	5.02	127.6
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	30.10	764.5	30.11	764.9	44.8	7.1	82.6	5	6	5	1	.....	3	9	1	.....	4791	7711	5	2.52	63.8
Saga	N. 33 12	E. 130 18	8.49 p.m.	23	7	30.15	765.7	30.17	766.3	46.4	8.0	86.1	1	2	.....	.....	.....	.....	.....	.....	27	.....	.....	5	1.95	49.5
Sakai	N. 35 33	E. 133 14	9.01 p.m.	10	3	30.11	764.8	30.12	765.0	46.6	8.1	79	2	3	14	1	3	1	2	2	2	.....	.....	7	7.82	198.8
Shimonoseki	N. 33 58	E. 130 56	8.52 p.m.	134	41	30.01	762.2	30.15	765.9	50.2	10.1	73 2	1	3	7	4	1	1	1	2	10	.....	.....	6	2.29	58.2
Sapporo	N. 43 04	E. 141 23	9.33 p.m.	60	18	29.81	757.2	29.88	759.0	30.7	—0.8	83.2	..	6	7	1	10	3	1	1	1	5124	8249	7	3.26	82.9
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.94	760.4	30.02	762.4	43.4	6.3	79.4	16*a*	3	5	.....	2	2	1	.....	.....	5037*b*	8105*b*	4	3.33	84.5
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.06	763.4	30.11	764.8	47.6	8.6	74.5	5	5	.....	.....	.....	.....	4	7	9	2536	4081	6	3.45	87.5
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.83	757.7	30.02	762.5	77.1	25.1	65.4	.....	1	3	.....	2	4	18	2	...	.....	.....	5	2.21	56.1
MEXICAN.																										
Guanajuato	N. 21 01	W. 101 10	5.23 a.m.	6762	2061	23.72	602.5	29.94	760.5	50.7	10.4	81	1	1	.....	3	.....	7	4	8	6	.....	.....	3	0.23	5.8
Leon.*a*	N. 21 07	W. 101 36	5.22 a.m.	5902	1799	24.36	618.7	30.16	766.1	50.1	10.1	82	5	12	.....	5	.....	.....	.....	.....	7	.....	.....	4	0.21	5.3
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29 70	754.4	29.96	761 0	72.0	22.2	83	1	.....	.....	.....	.....	.....	15	14	.....	.....	.....	3	0.39	9.9
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.10	586.7	30.23	767.8	46.6	8.1	84	1	7	.....	.....	.....	.....	.....	.....	22	.....	.....	5	0.58	14.7
Puebla	N. 19 03	W. 98 05	5.36 a.m.	7113	2168	23.44	595.4	30.29	769.4	48.5	9.2	65	.....	14	.....	.....	.....	.....	.....	3	13	.....	.....	2	2.88	73.2
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.18	766.5	30.18	766.5	45.9	7.7	.....	4	.....	6	6	5	2	3	4	.....	.....	.....	.....	1.50	38.2
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	30.06	763.6	30.12	765.0	40.6	4.8	.....	.....	1	7	8	4	1	5	3	1	.....	.....	.....	1.83	46.4
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	30.12	765.0	30.12	765.0	43.3	6.3	.....	1	1	6	4	6	2	4	6	.....	.....	.....	.....	2.10	53.3
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	30.15	765.8	30.15	765.8	46.8	8.2	80.1	2	1	6	4	2	2	5	4	4	.....	.....	.....	2.83	71.8
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	30.11	764.7	30.15	765.9	43.9	6.6	80.1	1	1	2	10	6	1	5	4	.....	.....	.....	5	1.85	46.9
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7.15 p.m.	26	8	.....	.....	29.89	759.1	78.4	25.8	84.4	6	6	7	4	2	.....	.....	5	.....	.....	.....	8	3.02	76.8
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.92	759.9	29.98	761.5	38.7	3.7	79.0	6	2	1	6	9	3	.....	1	2	.....	.....	4	7.44	189.1
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.79	756.7	29.83	757.7	36.7	2.6	76.4	2	.....	3	6	7	2	5	1	4	.....	.....	8	5.77	146.5
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.87	758.6	30.02	762.5	34.2	1.2	78.1	2	2	1	3	3	2	9	4	4	.....	.....	6	0.66	16.8
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.55	750.6	29.58	751.2	31.6	—0.2	.....	2	2	7	8	4	1	1	1	4	.....	.....	9	3.40	86.4
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	29.92	759.9	30.00	762.1	66.6	19.2	69.3	2	3	2	11	2	1	4	1	4	.....	.....	6	12.67	321.9
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	312	95	29.75	755.7	30.09	764.3	56.7	13.7	65.9	7	2	.....	.....	.....	1	1	19	.....	.....	.....	2	0.34	8.5
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.06	763.4	30.13	765.2	63.3	17.4	71.5	5	.....	3	4	3	3	2	7	3	.....	.....	5	4.41	112.0
Saint Paul de Loando	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.73	755.2	29.93	760.2	79.2	26.2	80.9	1	2	21	6	.....	.....	.....	.....	.....	.....	.....	7	0.03	0.7
Sao Salvador	S. 6 17	E. 14 53	1.07 p.m.	1834	559	28.08	713.2	29.91	759.7	78.4	25.8	68.4	.....	3	12	6	6	2	1	.....	.....	.....	.....	8	8.36	212.4
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.33	643.3	30.15	765.7	40.8	4.9	82.2	.....	.....	.....	1	1	8	17	2	1	.....	.....	5	3.22	81.7
RUSSIAN																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	29.13	739.9	30.29	769.4	20.1	—6.6	85.1	3	3	5	5	1	7	1	4	1	.....	.....	7	0.09	2.4
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.93	760.1	29.94	760.6	25.0	—3.9	86.8	.....	1	2	10	10	2	4	1	.....	.....	.....	9	0.06	1.5
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.37	771.4	30.29	769.4	40.3	4.6	73.4	1	3	2	.....	1	7	12	3	1	.....	.....	8	0.17	4.3
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	30.26	768.5	30.21	767.3	54.0	12.2	77.4	8	1	.....	4	4	2	2	2	7	.....	.....	6	1.28	32.6
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.86	758.3	30.40	772.1	14.7	—9.6	78.5	.....	1	.....	12	.....	1	.....	2	14	.....	.....	5	0.48	12.2
Bielosersk	N. 60 02	E. 37.47	2.39 p.m.	430?	131?	29.62	752.3	30.12	764.9	24.6	—4.1	89.3	1	4	3	8	6	3	1	2	2	.....	.....	8	0.78	19.9
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.86	758.3	30.11	764.8	29.7	—1.3	86.9	1	2	5	3	7	3	3	1	5	.....	.....	7	0.60	15.2
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	29.22	742.1	30.24	768.2	22.3	—5.4	86.2	2	1	13	6	2	4	.....	1	1	.....	.....	9	0.50	12.6
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.70	754.4	30.17	766.3	36.3	2.4	79.6	3	.....	2	3	5	7	3	7	.....	.....	.....	9	1.75	44.5
Kasalinsk	N. 45 46	E. 62 07	4.16 p.m.	147	45	30.09	764.3	30.27	768.8	35.1	1.7	67.5	8	3	3	1	.....	4	6	4	1	.....	.....	5	.....	.....
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.97	761.2	30.25	768.4	27.9	—2.3	86.5	1	4	5	8	7	3	1	.....	1	.....	.....	10	0.57	14.4
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	29.88	759.0	29.93	760.3	25.2	—3.8	86.0	.....	3	13	6	2	.....	.....	1	5	.....	.....	6	0.30	7.5
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	30.10	764.4	30.12	765.0	47.5	8.6	82.3	3	1	1	.....	4	1	7	4	9	.....	.....	7	2.24	56.8
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.45	748.1	30.12	765.1	32.4	0.2	86.9	3	4	3	4	2	6	5	3	.....	.....	.....	8	3.25	82.5
Kosloy	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.67	753.5	30.20	767.0	30.2	—1.0	93.1	1	2	4	8	5	3	3	2	2	.....	.....	8	1.63	41.3
Lgov	N. 51 41	E. 35 17	2.29 p.m.	535?	163?	29.63	752.5	30.24	768.1	31.5	—0.3	82.0	1	2	3	5	3	3	9	1	3	.....	.....	8	0.82	20.8
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	30.06	763.5	30.08	764.1	34.2	1.2	82.5	.....	1	3	3	3	8	6	5	1	.....	.....	7	2.04	51.9
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	30.00	761.9	30.21	767.3	37.6	3.1	72.6	1	2	2	4	3	3	11	4	.....	.....	.....	8	1.26	32.0
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.66	753.3	30.16	766.1	29.7	—1.3	80.5	3	5	3	8	2	1	2	3	3	.....	.....	7	0.75	19.1
Nertchinsk	N. 51 19	E. 119 37	8.07 p.m.	?	?	27.87	707.9	30.39	771.9	5.9	—14.5	67.6	3	4	1	.....	.....	1	1	2	18	.....	.....	3	0.06	1.5
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	30.06	763.5	30.13	765.3	40.5	4.7	81.1	1	3	3	2	3	4	5	4	5	.....	.....	7	1.45	36.9
Nikolaievsk.*c*	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.75	755.6	29.84	757.8	10.6	—11.9	79.5	.....	.....	19	.....	.....	.....	.....	1	7	.....	.....	5	.....	.....
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.12 p.m.	328	100	29.95	760.7	30.32	770.0	44.8	7.1	44.3	3	.....	3	1	.....	1	3	13	6	.....	.....	4	.....	.....
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.82	757.5	30.03	762.7	28.4	—2.0	81.3	3	3	9	9	3	.....	.....	2	1	.....	.....	8	1.06	26.8
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.62	752.3	30.13	765.4	34.2	1.2	82.0	1	6	4	3	3	7	3	3	.....	.....	.....	8	1.16	29.5
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	30.06	763.5	30.09	764.3	60.8	16.0	82.6	.....	2	1	3	1	.....	14	.....	9	.....	.....	6	3.81	96.7
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	30.06	763.4	30.08	764.0	29.1	—1.6	83.7	3	3	4	4	8	6	2	.....	.....	.....	.....	8	0.82	20.7
Samarkand	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.76	705.2	30.29	769.3	46.9	8.3	57.3	.....	1	1	.....	.....	3	.....	.....	25	.....	.....	3	.....	.....
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.72	754.9	30.44	773.3	14.0	-10.0	83.1	.....	.....	2	2	3	2	4	1	16	.....	.....	4	0.34	8.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for November, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation Inch.	Mill.
RUSSIAN—Con.	° ′	° ′																								
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	138?	42?	29.86	758.3	30.07	763.8	49.5	9.7	70.9	2	3	2	6	3	1	1	10	2	.....	.....	7	2.33	59.1
Staroi Bykhov	N. 53 31	E. 30 16	2.09 p.m.	512	156	29.56	750.8	30.14	765.6	32.4	0.2	79.9	.....	3	1	2	5	10	6	3	.....	.....	.....	9	1.15	29.3
Tashkend	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.62	727.0	30.34	770.7	45.3	7.4	47.0	1	1	.....	2	.....	.....	.....	1	25	.....	.....	4	.....	.....
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.78	730.9	30.21	767.4	51.8	11.0	64.5	5	3	.....	.....	5	11	3	.....	3	.....	.....	7	1.20	30.6
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.62	701.5	30.26	768.6	28.4	—2.0	75.1	.....	.....	.....	1	.....	.....	.....	.....	29	.....	.....	2	.....	.....
Viatka.*b*	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.49	749.1	30.16	766.0	25.0	—3.9	90.7	*d*2	3	5	3	8	1	1	.....	3	.....	.....	10	0.97	24.6
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.67	753.5	30.11	764.7	34.2	1.2	86.4	4	3	3	2	1	4	1	3	9	.....	.....	8	0.94	24.0
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	30.11	764.7	30.42	772.7	11.8	—11.2	83.8	.....	3	4	6	3	1	1	.....	12	.....	.....	7	0.63	15.9
Sub-Series.																										
Petrowsky Ac'y	N. 55 50	E. 37 38	2.39 p.m.	508	155	29.52	749.8	30.06	763.5	28.8	—1.8	82.6	.....	1	5	6	10	4	2	2	.....	.....	.....	9	0.25	6.3
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	138	42	30.01	762.2	30.18	766.5	55.2	12.9	74	10	3	5	2	.....	.....	4	5	1	.....	.....	5	1.71	43.5
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.12	765.1	30.18	766.6	58.1	14.5	74	.....	4	...	.....	7	6	1	.....	12	1069	1720	5	3.68	93.6
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.19	690.6	30.21	767.4	48.2	9.0	73	4	1	2	1	2	2	2	16	.....	3246	5224	5	0.22	5.5
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.90	708.6	30.15	765.9	53.2	11.8	65.5	1	...	.....	1	1	4	10	13	.....	5219	8399	4	0.54	13.6
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.20	741.6	30.10	764.4	57.4	14.1	66	3	.....	.....	1	...	3	1	13	9	5537	8911	3	0.31	8.0
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.57	761.1	30.03	762.8	72.7	22.6	89.6	4	.....	.....	.....	.....	10	12	4	.....	.....	.....	5	10.32	262.1
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.88	759.0	29.94	760.5	77.7	25.4	80.4	3	1	.....	.....	1	7	6	11	1	5049	8126	5	5.90	149.9
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.96	761.0	30.06	763.6	63.3	17.4	74.1	3	.....	3	1	2	5	12	2	2	.....	.....	7	3.11	79.0
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.93	760.2	30.02	762.5	77.2	25.1	86	1	.....	1	5	5	11	5	2	.....	.....	.....	7	3.01	76.5
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.83	757.6	29.87	758.6	26.6	—3.0	93	5	2	3	6	2	1	4	2	5	.....	.....	6	1.37	34.8
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.87	758.6	29.92	759.9	28.0	—2.2	88	5	4	4	8	1	1	1	.....	6	.....	.....	5	0.61	15.6
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.90	759.4	29.95	760.7	27.5	—2.5	82	2	1	.....	2	7	.....	.....	.....	18	.....	.....	4	0.58	14.7
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.85	758.2	30.03	762.7	32.9	0.6	81	4	2	8	5	5	2	.....	1	3	.....	.....	6	0.47	12.0
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.97	761.3	30.03	762.8	37.8	3.2	85	3	3	4	4	3	3	4	3	3	.....	.....	6	1.32	33.6
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.92	759.9	30.00	762.1	31.1	—0.5	88.6	1	10	1	7	8	2	1	.....	.....	.....	.....	5	0.56	14.3
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.74	730.1	30.22	767.5	40.8	4.9	80.2	7	2	2	4	7	3	3	2	.....	.....	.....	7	0.71	18.0
TURKISH.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.11	764.7	49.6	9.8	76.0	22	.....	.....	7	.....	.....	.....	.....	1	.....	.....	8	5.22	132.6
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.11	764.9	57.9	14.4	.....	.....	14	4	2	2	.....	1	7	.....	.....	.....	4	3.66	93.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	30.04	763.0	69.4	20.8	64.9	.....	1	.....	19	1	.....	.....	9	.....	.....	.....	7	4.35	110.5
Samakov *d*	N. 42 12	E. 23 42	1.43 p.m.	?	?	26.75	679.4	.....	.....	35.2	1.8	85.9	.....	1	1	.....	.....	.....	.....	.....	24	.....	.....	8	.....	.....
UNITED STATES.																										
New Eng'd states.																										
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.89	759.2	29.96	761.0	34.6	1.4	78.5	4	7	5	4	4	.....	1	1	4	7282	11719	6	5.95	151.1
Portland	N. 43 39	W. 70 15	7.27 a.m.	45	14	29.96	761.0	30.01	762.2	35.5	1.9	77.8	4	6	8	8	.....	.....	1	1	2	6238	10039	5	2.25	57.1
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.51	597.1	30.07	763.8	15.8	—9.0	96.8	.....	17	8	3	1	1	.....	.....	.....	23690	38125	3	7.99	202.9
Boston	N. 42 21	W. 71 04	7.24 a.m.	125	38	29.90	759.4	30.04	763.0	37.2	2.9	78.9	4	7	10	7	2	.....	.....	...	.....	8732	14052	6	3.03	77.0
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	30.03	762.7	30.06	763.5	43.3	6.3	81.6	5	10	6	1	1	3	.....	3	1	10450	16817	6	5.93	150.6
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	30.04	763.0	30.09	764.3	39.4	4.1	80.8	6	7	10	3	2	.....	.....	2	.....	5439	8752	5	2.78	70.6
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	29.96	761.0	30.08	764.0	36.7	2.6	71.9	9	8	5	5	.....	1	.....	1	1	5607	9120	4	2.24	56.9
Mid. Atlan. states.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	83	25	29.99	761.7	30.08	764.0	34.5	1.4	69.6	5	8	.....	14	1	.....	1	1	.....	5097	8203	6	3.44	87.4
New York City	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.91	759.7	30.09	764.3	39.6	4.2	76.9	4	5	10	5	1	.....	1	3	1	8231	13246	5	3.44	87.4
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	117	36	29.99	761.7	30.12	765.0	39.6	4.2	73.5	8	4	6	1	5	1	.....	2	3	7048	11342	5	2.31	58.7
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	30.08	764.0	30.11	764.8	41.4	5.2	76.0	4	6	9	5	1	1	.....	4	.....	12783	20572	5	3.57	90.7
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	30.09	764.3	30.10	764.5	41.0	5.0	84.9	2	9	3	7	2	.....	2	3	2	5558	8945	4	4.03	102.4
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	22	7	30.08	764.0	30.10	764.5	43.2	6.2	85.4	4	9	6	3	2	1	1	3	1	9970	16045	3	2.68	68.1
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.08	764.0	30.11	764.8	45.5	7.5	79.0	4	5	8	5	2	.....	1	4	1	11818	19019	4	2.30	58.4
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.10	764.5	30.12	765.0	44.4	6.9	82.3	3	7	5	8	1	1	.....	5	.....	11763	18930	4	2.42	61.5
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.10	764.5	30.15	765.8	41.5	5.3	67.6	7	7	6	4	.....	2	2	1	1	3934	6331	4	3.09	78.5
Washington City	N. 38 54	W. 77 02	7.00 a.m.	106	32	30.04	763.0	30.16	766.1	38.6	3.7	80.1	3	5	4	3	6	1	.....	1	7	3874	6234	4	3.42	86.9
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	8	2	30.11	764.8	30.12	765.0	45.1	7.3	84.7	8	7	.....	2	3	3	.....	7	.....	7350	11828	3	2.12	53.8
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.11	764.8	30.13	765.3	49.7	9.8	79.8	6	5	1	6	5	1	1	5	.....	8874	14281	4	0.58	14.7
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.44	747.8	30.16	766.1	39.0	3.9	74.6	1	5	4	5	3	.....	2	3	7	2356	3792	4	3.03	92.2
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.10	764.5	30.13	765.3	47.5	8.6	81.7	8	5	3	3	1	2	1	5	2	4574	7361	4	0.74	18.8
S. Atlantic states.																										
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	9	3	30.12	765.0	30.13	765.3	52.2	11.2	84.7	2	7	7	2	1	1	1	9	.....	10171	16368	5	7.14	181.4
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	12	4	30.10	764.5	30.11	764.8	54.2	12.3	82.9	9	8	2	.....	.....	1	1	7	2	6633	10671	6	13.02	330.7
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.12	765.0	30.13	765.3	52.3	11.3	84.0	9	6	3	1	.....	2	1	6	2	8375	13478	5	3.06	77.7
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.10	764.5	30.14	765.5	50.1	10.1	80.2	16	4	2	3	1	.....	.....	4	.....	5518	8880	4	1.81	46.0
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	30.08	764.0	30.14	765.5	50.7	10.4	75.4	5	5	1	.....	1	.....	1	12	5	3390	5456	5	1.96	49.8
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.30	744.2	30.18	766.6	43.2	6.2	80.4	10	4	3	2	1	2	.....	7	1	2985	4804	3	4.73	120.1
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	30.06	763.5	30.12	765.0	53.8	12.1	79.2	7	8	3	3	1	.....	.....	6	.....	4568	7351	3	1.49	37.8
Augusta.*c*	N. 33 28	W. 81 54	6.40 a.m.	183	56	30.00	762.0	30.20	767.1	45.8	7.7	78.6	3	10	5	2	1	1	1	1	3	2090	3364	4	1.71	43.4
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	30.06	763.5	30.15	765.8	52.3	11.3	78.4	12	6	5	3	3	.....	.....	1	.....	4326	6962	4	1.72	43.7
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.08	764.0	30.13	765.3	56.0	13.3	89.8	5	7	2	1	.....	2	.....	9	4	3941	6342	5	5.43	137.9
Florida penin'la.																										
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.09	764.3	30.11	764.8	59.2	15.1	80.9	9	3	1	1	1	1	5	9	.....	6002	9658	3	3.06	77.7
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.03	762.7	30.05	763.3	73.4	23.0	89.3	5	.....	.....	.....	2	2	4	17	.....	7720	12424	7	6.03	153.2
Sanford	N. 28 48	W. 81 23	6.42 a.m.	35	11	30.05	763.3	30.09	764.3	63.0	17.2	86.4	12	3	1	2	3	2	1	6	.....	4584	7377	5	1.45	36.8
East Gulf states.																										
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1129	344	28.97	735.8	30.19	766.8	44.5	6.9	71.1	3	7	6	1	2	2	8	1	.....	6289	10121	4	2.84	72.1
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.12	765.0	30.15	765.8	50.9	10.5	75.7	16	2	.....	.....	1	.....	.....	8	3	4597	7398	4	5.16	131.1
Mobile	N. 30 41	W. 88 02	6.16 a.m.	35	11	30.13	765.3	30.17	766.3	47.6	8.7	93.5	11	11	.....	1	.....	.....	1	2	4	4289	6902	2	4.12	104.6
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.93	760.2	30.17	766.3	45.9	7.7	85.4	4	5	4	1	.....	.....	4	6	6	3016	4854	5	2.67	67.8
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.94	760.5	30.21	767.3	47.4	8.6	76.7	4	5	1	1	1	9	4	4	1	3511	5650	4	2.48	63.0
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	30.08	764.0	30.14	765.5	55.2	12.9	77.6	8	2	2	.....	1	2	4	11	.....	4709	7578	4	3.13	79.5
West Gulf states																										
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.95	760.7	30.20	767.1	44.6	7.0	91.1	5	4	.....	2	.....	2	.....	.....	17	2320	3734	4	5.73	145.5
Fort Smith.*b*	N. 35 22	W. 94 24	5.50 a.m.	451	137	29.70	754.4	30.20	767.1	42.3	5.7	85.1	3	2	.....	1	.....	.....	9	2	11	2607	4196	4	5.19	131.8
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.85	758.2	30.18	766.6	44.9	7.2	89.0	2	10	1	1	1	.....	2	.....	13	2477	3986	4	2.83	71.9
Galveston	N. 29 18	W. 94 47	5.49 a.m.	40	12	30.12	765.0	30.16	766.1	59.2	15.1	80.6	4	4	.....	.....	1	4	8	9	.....	7327	11792	4	4.25	107.9
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	30.13	765.3	30.16	766.1	59.5	15.3	87.6	6	3	.....	.....	3	2	8	7	1	8988	14464	3	2.85	72.4
Palestine	N. 31 45	W. 95 40	5.45 a.m.	533	162	29.63	752.6	30.20	767.1	47.4	8.6	80.5	4	4	.....	.....	9	3	2	8	.....	5934	9550	4	2.93	74.4
Rio Grande valley.																										
Brownsville	N. 25 53	W. 97 26	5.38 a.m.	57	17	30.06	763.5	30.12	765.0	60.3	15.7	90.5	14	3	.....	.....	4	1	2	1	5	4532	7293	5	3.46	87.9
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.95	760.7	30.20	767.1	58.1	14.5	80.4	6	6	1	.....	.....	4	4	3	6	3033	4881	4	0.03	0.8
Ohio val. & Tenn.																										
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.34	745.2	30.19	766.8	40.9	4.9	85.3	5	4	7	6	1	1	1	.....	5	2927	4710	3	1.75	44.4
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.13	739.9	30.20	767.1	38.2	3.4	88.3	4	2	2	1	1	.....	2	10	8	2711	4363	3	1.31	33.3
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.83	757.7	30.18	766.6	44.5	6.9	85.1	1	7	3	2	4	6	.....	1	6	3315	5335	4	2.08	52.8
Nashville	N. 36 10	W. 86 47	6.21 a.m.	549	167	29.56	750.8	30.16	766.1	41.0	5.0	87.9	1	3	9	2	3	2	8	2	.....	3547	5708	3	1.57	39.9
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.56	750.8	30.17	766.3	43.1	6.2	79.4	1	6	3	5	6	3	.....	2	4	5031	8096	3	1.86	47.2
Greencastle	N. 39 39	W. 86 51	6.21 a.m.	897	273	29.15	740.4	.....	.....	36.1	2.3	84.7	3	4	1	7	4	3	3	5	.....	5465	8795	5	1.73	43.9
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.29	744.0	30.14	765.5	36.2	2.3	87.6	3	4	6	5	6	2	1	1	2	4065	6542	4	1.46	37.1
Cincinnati	N. 39 06	W. 84 30	5.30 a.m.	620	189	29.47	748.5	30.15	765.8	39.8	4.3	86.1	4	1	5	5	9	2	3	1	.....	3951	6358	5	1.23	31.2
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.24	742.7	30.13	765.3	35.6	2.0	88.4	3	4	5	3	8	1	1	2	3	5277	8492	5	0.99	25.1
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	766	233	29.27	743.4	30.12	765.0	38.6	3.7	81.1	3	4	5	2	7	1	.....	7	1	4862	7824	7	1.18	30.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for November, 1884.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metrs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. S.—Continued.																												
Lower lake region.	° ′	° ′																										
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.36	745.7	30.06	763.5	34.0	1.1	80.1	.....	2	8	14	2	2	1	1	.....	8935	14379	7	1.32	33.5
Buffalo	N. 42 53	W. 78 53	6.52 a.m	690	210	29.29	744 0	30.06	763.5	36.0	2.2	86.3	1	2	11	5	6	1	2	2	.....	9979	16059	8	2.51	63.8
Oswego	N. 43 29	W. 76 35	7.02 a m.	334	102	29.66	753.4	30.03	762.7	34.5	1.4	76.6	1	4	4	4	7	7	1	2	.....	9720	15642	8	2.09	53.1
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.31	744.5	30.07	763.8	38.5	3.6	81.4	.....	6	3	7	10	1	1	2	.....	8569	13790	7	4.91	124.7
Sandusky	N 41 25	W. 82 40	6.37 a.m.	639	195	29.38	746 2	30.10	764.5	37.1	2.8	75.3	2	8	3	10	4	1	.....	2	.....	10093	16243	6	1.01	25.7
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.32	744 7	30.09	764.3	35.9	2.2	83.5	2	5	3	2	10	7	1	.....	.....	7794	12543	6	1.59	40.4
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.37	746.0	30.10	764.5	35.9	2.2	81.6	3	3	2	15	4	1	.....	2	.....	6165	9921	7	1.39	35.3
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.33	745 0	30.07	763.8	36.6	2.6	70.9	1	9	3	7	6	2	1	1	.....	7492	12057	6	1.74	44.2
Upper lake region.																												
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.31	744.5	30.01	762.2	29.3	—1.5	87.2	.....	4	15	5	3	.....	3	.....	.....	6931	11154	7	2.15	54.6
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	613	187	29.33	745.0	30.03	762.7	25.5	—3.6	80.5	2	10	11	2	4	.....	.....	1	.....	6790	10927	6	2.14	54.4
Grand Haven.a	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.36	745.7	30.06	763.5	35.4	1.9	80.0	6	3	8	4	1	1	2	2	2	7732	12443	7	2.61	66.3
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.33	745.0	30.02	762 5	32.4	0.2	83.4	6	7	2	6	3	3	2	1	.....	8720	14033	8	2.89	73 4
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.28	743.7	30.04	763.0	28.6	—1.9	75.8	1	8	12	7	.....	.....	2	.....	.....	8390	13502	7	2.77	70.4
Port Huron	N. 43 00	W. 82 26	6.38 a.m	633	193	29.35	745.5	30.07	763.8	32.0	0.0	87.8	.....	5	6	7	7	.....	1	2	2	6681	10752	6	2.34	59.4
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.36	745.7	30.10	764.5	35.5	1.9	81.6	4	6	4	7	5	1	1	1	1	5441	8756	6	1.80	45.7
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.30	744.2	30.09	764.3	31.3	—0.4	81.2	5	8	7	5	1	1	2	1	.....	7910	12730	5	1.45	36.8
Duluth	N. 46 48	W. 92 06	6.00 a.m.	687	209	29.30	744 2	30.10	764.5	24.2	—4.3	84.0	3	5	6	11	1	.....	1	1	2	6152	9900	4	0.95	24.1
Upper Miss. val.																												
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	801	244	29.21	741.9	30.12	765 0	26.4	—3.1	75.3	2	4	3	5	1	4	.....	.....	11	2976	4789	4	0.65	16.5
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.30	744.2	30.12	765.0	28.9	—1.7	75.5	7	6	2	3	9	2	1	.....	.....	5074	8166	5	1.45	36.8
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.42	747 3	30.11	764.8	35.7	2.1	76.6	3	5	6	3	2	2	5	4	.....	5205	8473	4	1.49	37.8
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.19	741.4	30.14	765.5	32.2	0.1	79.5	12	2	2	.....	3	1	2	2	6	3458	5505	3	1.26	32.0
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.38	746.2	30.13	765.3	31.0	—0.6	77.0	2	6	3	2	4	1	1	2	9	2339	3764	4	1.43	36.3
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.44	747.8	30.13	765.3	35.4	1.9	84.3	3	9	.....	9	2	1	2	3	1	5151	8129	4	1.73	43.9
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.77	756.1	30.17	763.3	42.5	5.8	83.7	9	5	1	2	7	3	.....	3	.....	5433	8743	4	2.41	61.2
Springfield	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.44	747.8	30.16	766.1	39.9	4.4	74.2	3	8	2	8	4	1	.....	3	1	5374	8648	4	1.30	33.0
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	583	178	29.53	750.0	30.17	766.3	41.9	5.5	80.9	6	5	5	5	7	1	.....	1	.....	8316	13383	4	2.30	58.4
Missouri valley.																												
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.19	741.4	30.13	765.3	36.7	2.6	83.2	5	5	.....	1	7	.....	1	1	10	3943	6346	3	1.42	36.1
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.94	735.1	30.18	766.6	33.5	0.8	82.2	11	5	1	2	8	.....	1	.....	2	5372	8645	4	0.32	8.1
Fort Bennett	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.53	724.6	30.22	767.6	20.8	—6.2	87.7	1	11	.....	1	1	1	.....	3	12	3819	6146	4	0.17	4.3
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.71	729 2	30.19	766.8	23.2	—4.9	80.9	8	7	1	.....	10	1	.....	1	2	5407	8702	3	0.17	4.3
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.80	731.5	30.18	766.6	27.2	—2.7	82.9	6	9	2	2	2	.....	.....	5	2	4643	7472	4	0.02	0.5
Extreme N'thwest.																												
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	29.09	738.9	30.15	765.8	20.3	—6.5	85.6	7	6	1	3	10	.....	1	1	1	7150	11507	5	0.34	8.6
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.21	741.9	30.14	765.5	17.0	—8.3	86.6	4	11	1	3	7	2	2	.....	.....	6313	10160	4	0.42	10.7
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.26	717 8	30.18	766.6	22.6	—5.2	87.7	5	7	1	1	2	2	2	2	8	3827	6159	3	0.73	18.5
Fort Buford	N. 48 00	W. 103 56	5.12 a.m.	1930	588	28.03	711.9	30.19	766.8	23.4	—4.8	85.4	2	5	7	.....	3	2	2	7	2	4977	8010	0	0.31	7.9
Fort Totten	N. 47 57	W. 98 57	5.32 a.m.	1500	457	28.44	722.4	.....	.....	20.0	—6.7	87.8	3	7	2	5	3	3	3	1	3	7670	12343	4	0.25	6.3
Northern slope.																												
Fort Assinaboine	N. 48 32	W. 109 42	4.49 a.m.	2720	829	27.23	691.6	30.22	767.6	31.1	—0.5	69.9	.....	3	5	14	.....	1	3	3	1	9357	15058	3	0.42	10.7
Fort Benton.c	N. 47 50	W. 110 40	4.45 a.m.	2681	817	27.32	693.9	30.27	768.8	26.2	—3.2	68.7	.....	.....	3	13	3	2	.....	4	5	5006	8056	4	0.29	7.4
Fort Custer	N. 45 42	W. 107 34	4.58 a.m.	3040	926	26.94	684.3	30.26	768.6	27.3	—2.6	78.8	1	3	4	2	1	13	2	4	.....	3803	6217	4	0.37	9.4
Fort Maginnis	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.62	650.7	30.22	767.6	30.1	—1.1	57.2	2	7	13	3	.....	1	1	3	.....	9730	15659	3	0.31	7.9
Fort Shaw	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.45	671.8	30.27	768.8	32.3	0.2	63.1	1	1	11	12	1	.....	2	2	.....	7685	12368	3	0.84	21.3
Helena	N. 46 34	W. 112 04	4.40 a.m.	4044	1232	25.91	658.1	30.24	768.1	32.8	0.4	66.5	5	3	14	7	.....	.....	.....	.....	1	3664	5896	4	0.46	11.7
Poplar River	N. 48 08	W 105 10	5.07 a.m.	2030	619	27.93	709.4	30.22	767 6	16.2	—8.8	93.6	4	1	15	.....	1	.....	5	.....	4	3328	5356	5	0.43	10.9
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.43	645.9	30 27	768.8	31.3	—0.4	66.0	.....	1	1	9	4	2	3	8	2	2079	3346	2	1.46	37.1
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6105	1861	24.06	611.1	30.29	769.4	29.5	—1.4	66.9	4	20	4	1	1	.....	.....	.....	.....	8476	13641	1	0.18	4.6
North Platte.a	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.17	690.1	30.25	768.3	27.1	—2.7	75.4	2	7	8	3	.....	.....	2	.....	7	4458	7174	3	0.04	1.0
Middle slope.																												
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.79	451.9	30.45	773.4	10.9	—11.7	72.0	5	5	8	2	1	1	1	7	.....	10182	16386	2	0.12	3.0
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.83	630.7	30.33	770.4	32.6	0.3	60.1	4	2	2	.....	21	1	.....	.....	.....	4820	7757	1	0.19	4.8
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.13	663.7	30.24	768.1	26.5	—3.1	82.6	3	7	14	.....	1	1	.....	3	1	3847	6191	3	0.32	8.1
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2517	767	27.50	698.5	30.24	768.1	33.1	0.6	85.7	4	9	5	5	1	2	1	1	2	6358	10232	3	0.83	21.1
Fort Elliott	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.34	694.4	30.27	768.8	37.2	2.9	86.2	2	17	.....	1	4	2	.....	.....	4	6170	9930	4	2.14	54.4
Southern slope.																												
Fort Sill	N. 34 40	W. 98 23	5.34 a.m.	1200	366	28.91	734 3	30.22	767 6	40.1	4.5	94.6	8	2	.....	2	6	.....	1	.....	11	5419	8721	5	2.61	66.3
Fort Concho	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.25	717.5	30.26	768.6	44.0	6.7	92.0	1	5	4	5	3	.....	2	3	7	5229	8415	4	1.95	49.5
Fort Stockton	N. 30 53	W. 102 53	5.16 a.m.	3010	917	27.09	688 1	30.21	767.3	44.6	7.0	88.1	.....	2	1	6	6	5	.....	.....	10	4524	7280	3	0.82	20.8
Fort Davis	N. 30 38	W. 103 56	5.12 a.m.	4928	1502	25 30	642.6	30.19	766.8	38.6	3.7	89.8	7	.....	.....	9	3	.....	.....	1	10	5231	8418	3	0.69	17.5
Southern plateau.																												
Fort Thomas	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.37	695.2	30.21	767.3	38.4	3.6	66.7	.....	.....	5	5	6	10	1	1	2	.....	.....	2	0.56	14.2
Fort Apache	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	25 11	637.8	30.21	767.3	31.2	—0.4	86.4	2	1	1	.....	1	1	11	10	3	3295	5303	1	0.82	20.8
Fort Grant	N. 32 39	W. 109 57	4.48 a.m.	4856	1480	25.28	642.1	30.12	765.0	46.6	8.1	55.3	4	3	.....	1	4	3	3	6	6	5554	8938	2	0.53	13.5
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5389	1642	24.79	629.7	30.18	766.6	31.1	—0.5	76.7	1	1	5	4	3	2	1	.....	13	2137	3439	1	0.16	4.1
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.84	757.9	29.99	761.7	53.7	12.1	75.4	.....	2	.....	1	.....	.....	.....	19	8	2757	4437	1	Inap.	Inap.
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3764	1147	26.35	669.3	30.20	767.1	42.1	5.6	79.5	1	3	4	1	.....	1	3	6	11	1609	2589	2	0.22	5.6
Middle plateau.																												
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.78	654.8	30.35	770.9	36.2	2.3	60.3	.....	.....	1	1	1	3	8	5	11	2422	3858	2	0.50	12.7
Northern plateau.																												
Boisé City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27 36	694.9	30.30	769.6	33.6	0.9	88.0	3	2	5	.....	.....	5	2	5	8	1503	2419	3	0.12	3.0
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.41	747.0	30.28	769 1	35.3	1.8	85.5	.....	.....	.....	1	.....	3	.....	1	25	321	517	4	0.36	9.1
Spokane Falls.b	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	28.12	714.2	30.20	767.1	33.2	0.7	90.1	5	7	1	.....	.....	1	1	6	7	1304	2098	6	0.59	15.0
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1667	508	28.42	721.9	30.21	767.3	35.4	1.9	93.7	1	.....	1	9	1	2	1	8	7	2213	3561	3	0.25	6.3
N. Pac. coast reg'n.																												
Fort Canby	N. 46 16	W. 124 04	3.52 a.m.	179	54	29.85	758.2	30.05	763 3	49.2	9.6	89.0	1	.....	.....	.....	.....	5	5	17	2	8648	13917	4	4.05	102.9
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	30.06	763 5	30.10	764.5	45.6	7.6	90.6	2	.....	.....	.....	6	.....	.....	1	21	569	916	7	1.37	34.8
Tatoosh Id.	N. 48 23	W. 124 44	3.49 a.m.	86	26	29.93	760.2	30.03	762.7	47.8	8.8	88.5	.....	.....	.....	2	.....	8	20	.....	.....	13478	21690	6	6.80	172.7
Portland,	N. 45 32	W. 122 43	3.57 a.m	67	20	30.02	762.5	30.09	764.3	43.8	6.6	90.8	2	2	5	2	4	.....	3	1	11	2082	3351	6	3.24	82.3
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	523	159	29.54	750.3	30.12	765.0	43.3	6.3	94 8	1	2	.....	.....	1	1	2	2	21	665	1070	3	0.79	20.1
Mid Pac. coast reg																												
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.37	746.0	30.07	763.8	50.5	10.3	84.5	11	.....	.....	.....	3	11	.....	3	2	12942	20828	5	0.40	10.2
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	332	101	29.74	755.4	30.11	764.8	47.2	8.4	77.5	12	16	.....	.....	1	.....	1	.....	.....	2993	4817	2	0.04	1.0
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	64	19	30.01	762.2	30.08	764.0	48.2	9.0	85.5	6	1	2	2	2	7	2	1	7	2317	3729	2	0	0
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	30.01	762 2	30.08	764.0	53.6	12.0	89.8	1	5	1	9	1	5	.....	6	2	4091	6584	4	0.26	6.6
S. Pac. coast reg'n.																												
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	299	91	29.66	753.4	30.06	763.5	51.2	10.7	81.4	1	.....	2	.....	.....	.....	2	23	2	3284	5285	2	1.07	27.2
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.94	760.5	30.01	762.2	53.3	11.8	83.1	8	2	1	.....	.....	.....	7	11	1	3234	5204	4	0.11	2.8
Alaska stations.																												
Ft. St. Michael's	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.55	750.6	29.58	751.3	16.5	—8.6	92.8	8	1	2	.....	4	3	2	8	2	10466	16843	5	0.60	15.2
Sitka	N. 57 03	W. 135 19	3.07 a m.	63	19	29.62	752.3	29.69	754.1	42.5	5.8	81.4	3	.....	.....	1	.....	4	18	.....	4	8589	13822	8	16.31	414.3
Unalashka	N 53 53	W. 166 32	1.02 a.m.	13	4	29.27	743.4	29.29	744.0	36.5	2.5	81.5	6	3	.....	5	8	4	4	.....	.....	8936	14361	7	19.89	505.2
Sub-Series.																												
Bluefields	N. 12 00	W. 83 43	6.31 a.m.	20	6	29.91	759.7	29.93	760.2	74.8	23.8	94.1	8	19	2	.....	.....	.....	.....	1	.....	.....	.....	8	9.71	246.6
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.05	763.3	30.05	763.3	80.4	26.9	77.0	.....	.....	.....	.....	.....	7	22	1	.....	.....	.....	8	1.27	32.3
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	.....	.....	.....	.....	76.0	24.4	91.0	6	.....	.....	1	3	.....	.....	.....	20	.....	.....	8	7.25	184.1
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	29.84	757.9	30.00	762.0	75.8	24.3	86.3	.....	3	.....	1	.....	4	.....	22	.....	.....	.....	5	7.43	188.7

RETARDED OBSERVATIONS.—GODTHAAB.

May, 1884	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.95	760.8	30.00	761.9	32.5	0.3	81	4	2	.....	4	5	1	2	10	3	.....	.....	7	.....	.....
June, 1884						29.52	749.8	29.56	750.9	37.9	3.3	83	3	2	1	4	7	1	1	10	1	.....	.....	8	.....	.....
July, 1884						29.91	759.8	29.96	760.9	43.0	6.1	82	4	1	1	10	4	.....	1	10	.....	.....	.....	7	.....	.....
August, 1884						29.66	753.3	29.70	754.4	39.9	4.4	85	4	.....	2	4	12	.....	2	6	1	.....	.....	7	.....	.....
September, 1884						29.55	750.6	29.60	751.7	34.3	1.3	87	5	2	2	2	3	.....	3	6	1	.....	.....	7	.....	.....

OCEAN SQUARE DATA FOR NOVEMBER, 1884.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W. 22.5°	29.98	761.5	79.6	26.4	3						11	14	2		3.1
12.5 27.5	30.01	762.2	79.9	26.6					1		10	5	4		3.3
12.5 32.5	30.02	762.5	80.6	27.0	1					3	24	1	1		3.8
12.5 37.5	30.01	762.2	83.7	28.7						2	24	4			4.1
12.5 42.5	30.01	762.2	81.3	27.4						1	19	10			4.4
12.5 47.5	30.04	763.0	81.1	27.3							23	7			4.1
12.5 52.5	30.04	763.0	80.7	27.1					1	6	23				3.7
17.5 22.5	30.00	762.0	77.7	25.4	6	1					3	20			3.5
17.5 27.5	30.01	763.0	78.2	25.7	2	2	1				11	14			3.7
17.5 32.5	30.06	763.5	78.8	26.0	4					1	19	6			4.4
17.5 37.5	30.06	763.5	79.2	26.2	1						23	6			4.6
17.5 42.5	30.06	763.5	79.6	26.4						1	19	10			4.6
17.5 47.5	30.08	764.0	79.4	26.3						1	26	3			3.9
17.5 52.5	30.06	763.5	79.6	26.4						9	21				3.7
17.5 57.5	30.01	762.2	79.8	26.6						13	16	1			3.2
22.5 22.5	30.03	762.7	74.7	23.7	7	5						17	1		3.7
22.5 27.5	30.08	764.0	75.4	24.1	5	4					5	10			4.0
22.5 32.5	30.11	764.8	76.0	24.4	9	1					13	7			4.1
22.5 37.5	30.13	765.3	76.6	24.8	1		1			1	18	9			4.2
22.5 42.5	30.14	765.5	77.0	25.0	2		1			3	17	7			3.8
22.5 47.5	30.14	765.5	77.3	25.2	2					3	19	6			4.0
22.5 52.5	30.12	765.0	77.6	25.3						5	21	4			3.4
22.5 57.5	30.09	764.3	77.8	25.4	1					8	18	2	1		3.3
22.5 62.5	30.07	763.8	77.2	25.1	1				2	7	16	3	1		3.4
22.5 67.5	30.04	763.0	77.6	25.3					3	8	16	3			3.0
22.5 72.5	30.02	762.5	78.0	25.6	2				1	8	15	2		2	2.9
27.5 22.5	30.05	763.3	71.2	21.8	7	8	1				2	12			3.9
27.5 27.5	30.11	764.8	72.1	22.3	9	1	1			1	3	14	1		3.8
27.5 32.5	30.17	766.3	72.9	22.7	7	4	1			3	10	5			3.5
27.5 37.5	30.19	766.8	73.8	23.2	7		1	1	1	4	12	4			4.0
27.5 42.5	30.21	767.3	74.3	23.5	4		1	1	3	3	11	7			4.0
27.5 47.5	30.19	766.8	74.7	23.7	2	1		2		6	11	7		1	4.0
27.5 52.5	30.17	766.3	75.1	23.9	4			1	2	6	12	3	1	1	3.7
27.5 57.5	30.15	765.8	75.0	23.9	3	1	1		1	7	12	2	1		3.6
27.5 62.5	30.14	765.5	74.5	23.6	6	1		1	7	7	5	2	1		3.5
27.5 67.5	30.09	764.3	74.3	23.5	3	1	2	1	5	5	7	6			3.6
27.5 72.5	30.08	764.0	73.4	23.0	3	2	1	3	3	4	6	7	1		3.4
27.5 77.5	30.08	764.0	71.9	22.2	3	1		2	2	2	12	6			3.0
32.5 12.5	30.02	762.5	67.3	19.6	9		1	2	5	3	8	2			3.2
32.5 17.5	30.01	762.2	66.4	19.1	6	2	5	3			4	6	4		2.1
32.5 22.5	30.07	763.8	67.3	19.6	8	2	4	2			2	12			3.8
32.5 27.5	30.13	765.3	68.1	20.1	9	2	3		1	1	4	10			3.9
32.5 32.5	30.20	767.1	68.9	20.5	5	3	4		4	2	4	8			4.0
32.5 37.5	30.21	767.3	70.0	21.1	6	1	4	2	3	2	5	6		1	4.4
32.5 42.5	30.22	767.6	70.5	21.4	7	1	2	4	4	2	4	5		1	3.9
32.5 47.5	30.20	767.1	71.2	21.8	3	3	2	3	4	6	2	7			4.2
32.5 52.5	30.19	766.8	71.2	21.8	4	2	2	5	7	3	4	2	1		4.1
32.5 57.5	30.16	766.1	70.7	21.5	3	2	3	5	3	5	4	3	1	1	4.3
32.5 62.5	30.11	764.8	70.4	21.3	2	5	4	5	2	1	7	3	1		4.0
32.5 67.5	30.09	764.3	69.5	20.8	8	4	1	5		5	3	3	1		4.1
32.5 72.5	30.09	764.3	66.8	19.3	5	3	3	3	2	3	4	5	2		4.2
32.5 77.5	30.12	765.0	58.0	14.4	4	6	1	1	2	3	5	8			3.9
37.5 12.5	30.07	763.8	62.0	16.7	4	3	1		6	4	5	7			4.3
37.5 17.5	30.06	763.5	63.1	17.3	3	3	2	1	4	3	8	5	1		4.1
37.5 22.5	30.08	764.0	63.9	17.7	4	5	3	3	1	4	3	5	3		4.1
37.5 27.5	30.13	765.3	63.7	17.6	5	4	6	2		3	2	6	2		4.9
37.5 32.5	30.17	766.3	64.1	17.8	4	5	5	3	3	2	3	5			4.6
37.5 37.5	30.19	766.8	64.3	17.9	4	5	6	3	1	3	4	4			4.4
37.5 42.5	30.19	766.8	64.2	17.9	6	6	6	5	3	1	1	2			4.5
37.5 47.5	30.16	766.1	64.1	17.8	6	4	7	6	2	2	2		1		4.9
37.5 52.5	30.12	765.0	64.1	17.8	3	4	7	7	6	2		1			4.7
37.5 57.5	30.08	764.0	63.2	17.3	5	7	2	5	6	2	2	1			5.0
37.5 62.5	30.05	763.3	62.8	17.1	5	7	4	5	3	2	2	2			5.3
37.5 67.5	30.05	763.3	60.4	15.8	6	8	2	6		4		3	1		5.0
37.5 72.5	30.09	764.3	53.9	12.2	9	9	3		2	2	3	2			4.6
42.5 12.5	30.11	764.8	58.8	14.9	3	1	3	4	2	5	7	5			3.9
42.5 17.5	30.11	764.8	59.6	15.3	3	2	4	3	2	5	5	6			5.1
42.5 22.5	30.11	764.8	59.7	15.4	1	4	3	3	4	4	8	3			4.8
42.5 27.5	30.09	764.3	58.9	14.9	1	3	4	8	2	3	5	4			5.2
42.5 32.5	30.08	764.0	58.7	14.8	1	7	5	7	3	1	2	4			5.0
42.5 37.5	30.08	764.0	57.5	14.2	1	6	5	9	2	2	3				5.6
42.5 42.5	30.04	763.0	55.2	12.9	1	7	9	8	2	2	1				5.4
42.5 47.5	30.03	762.7	52.9	11.6		9	8	7	3	1	2				5.4
42.5 52.5	30.01	762.2	51.5	10.8	1	8	10	6	3	2					5.8
42.5 57.5	29.99	761.7	50.4	10.2	3	13	5	2	4	3					5.2
42.5 62.5	30.00	762.0	48.9	9.4	4	10	3	2	5	3	1	1		1	4.8
42.5 67.5	30.00	762.0	43.5	6.4	3	9	5	3	5		4		1		4.2
47.5 12.5	30.17	766.3	54.9	12.7	4	1	3	3	4	3	5	6		1	4.6
47.5 17.5	30.16	766.1	55.6	13.1	3	3	5	3	4	6	3	3			5.0
47.5 22.5	30.12	765.0	54.9	12.7	2	4	3	6	3	7	4	1			5.5
47.5 27.5	30.04	763.0	54.0	12.2		4	3	7	6	5	3	2			5.2
47.5 32.5	29.98	761.5	52.4	11.3		7	5	7	6	3		2			5.4
47.5 37.5	29.96	761.0	50.4	10.2		9	6	8	4	2		1			5.4
47.5 42.5	29.90	759.4	45.2	7.3	1	13	3	8	3	1				1	5.7
47.5 47.5	29.88	758.9	40.5	4.7	1	12	7	2	5	2		1			5.1
52.5 12.5	30.14	765.5	49.4	9.7	5	5	5	5	6		4				4.4
52.5 17.5	30.11	764.8	50.8	10.4	2	5	5	6	6	4	2				5.0
52.5 22.5	30.04	763.0	49.6	9.8		4	6	8	5	6	1				5.7
52.5 27.5	29.94	760.5	47.7	8.7		2	5	9	8	5	1				5.7
52.5 32.5	29.87	758.7	45.6	7.6		6	4	5	8	5		2			5.6
52.5 37.5	29.82	757.4	43.3	6.3		9	5	4	8	3	1				6.1
52.5 42.5	29.78	756.4	40.4	4.7	3	5	5	6	4		1			6	5.5
52.5 47.5	29.76	755.9			2	8	1	4	7	1				7	5.8
57.5 12.5	30.00	762.0	44.5	6.9	4	4	9	6	3	1	1	2			4.8
57.5 17.5	29.97	761.2	43.9	6.6	2	4	5	10	6	2		1			5.1
57.5 22.5	29.89	759.2	42.8	6.0	1	3	4	9	7	4		1		1	5.4
57.5 27.5	29.82	757.4	41.0	5.0	1	3	3	9	4	6	1			3	5.3
57.5 32.5	29.79	756.7	38.9	3.8	1	3	2	7	7	4		1		5	5.3
57.5 37.5					3	2	1	3	5	3				13	
57.5 42.5															
57.5 47.5															

REVIEW.

INTERNATIONAL METEOROLOGY FOR NOVEMBER, 1884.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of November, 1884. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from one simultaneous observation taken each day at 7 a. m., Washington, or 0 h. 8 m., p. m., Greenwich, mean time.

Two areas of low mean pressure are shown on the chart for November, 1884; the first of these occupies that part of the north Pacific Ocean lying north of the fiftieth parallel, the mean pressure ranging from 29.29 (744.0), at Unalashka, Aleutian Islands, to 29.7 (754.4), at Sitka, Alaska. The second area of barometric minima is shown over the extreme northern part of Scandinavia, the mean pressure at Gjæsvær being 29.58 (751.3); to the southward and eastward of the last-mentioned area of low mean pressure the barometric gradients increase somewhat rapidly, but the increase is much less rapid in a southwesterly direction, and the area of low pressures apparently extends southwestward to the Gulf of Saint Lawrence. In the United States the mean atmospheric pressure exceeds 30.0 (762.0); in Canada it ranges from 29.9 (759.4) to 30.0 (762.0). In northwestern Europe it is less than 30.0 (762.0), but in all other parts of the continent it exceeds that amount. In British India it ranges from 29.9 (759.4) to 30.0 (762.0).

The areas of barometric maxima are four in number. The first occupies central Siberia and the northern part of central China, and is enclosed by the isobar for 30.4 (772.1); in all other parts of Asia north of 30° N., except northeastern Siberia, the mean pressure apparently exceeds 30.0 (762.0). The second area of high pressures is shown in the United States; it is indicated by the isobar for 30.3 (769.6), and covers southern Idaho, Wyoming, Utah, and Colorado, the highest mean being 30.35 (770.9), at Salt Lake City, Utah. A small area of high pressures, enclosed by the isobar for 30.2 (767.1), occupies Tennessee; and in all other parts of the United States, except the Lake region, New England, and the Pacific coast, the mean pressure exceeds 30.1 (764.5). The third area of barometric maxima is that of the Atlantic Ocean; this area is enclosed by the isobar for 30.2 (767.1), and covers that part of the ocean between N. 28° and 35° and W. 33° and 46°. Over that part of the Atlantic lying between the parallels of 10° and 40°, except near the west coast of northern Africa, the atmospheric pressure exceeds 30.0 (762.0). The fourth high area is also enclosed by the isobar for 30.2 (767.1), and occupies western France and the Bay of Biscay.

Compared with the chart for the preceding month (October, 1884), there has been an increase of pressure over that part of the United States lying west of the Mississippi River; in the lower lake region, New England, and along the Atlantic coast there has been a slight decrease; elsewhere there has been no material change. In Canada there has been a decrease of pressure. Over the Atlantic Ocean the changes are very slight and unimportant. Throughout the entire continent of Europe there has been an increase of pressure, the changes being greatest in the northern peninsulas, and least in Spain. In northern Japan and northeastern Siberia the pressure is less than that of the preceding month, but in other parts of Asia there has been a slight increase.

Compared with the corresponding month of previous years, the mean atmospheric pressure over the United States was normal, or above, over the country between W. 117° and 100°, and was below the normal on the Pacific coast and over the region east of the ninety-second meridian. In Canada it was also below the normal. In Europe the mean pressure for November, 1884, everywhere exceeded the normal. In British India it was .02 inch above the seven years' mean.

The following table shows the mean pressure and mean temperature for November, 1884, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last seven years:

Countries.	Mean pressure.			Mean temperature.		
	Nov. mean of 7 (1877–'83) years.	Nov., 1884.	Departure.	Nov. mean of 7 (1877–'83) years.	Nov., 1884.	Departure.
				°	°	°
Algeria	30.12	.....	.....	63.8	.....	.....
Austro-Hungary	30.03	30 16	+ 0.13	44.1	39.9	— 5.2
British Isles	29.84	30.14	+ 0.30	46.1	45.5	— 0.6
Denmark	29.76	30.08	+ 0.32	41.4	38.6	— 2.8
France	30.01	30.19	+ 0.18	48.9	47.6	— 1.3
Germany	29.92	30.15	+ 0.23	42.5	38.9	— 3.6
India	29.94	29.96	+ 0.02	74.6	73.8	— 0.8
Italy	30.02	30.11	+ 0.09	55.8	52.9	— 2.9
Norway	29.69	29.94	+ 0.25	39.9	36.5	— 3.4
Portugal	30.12	.....	.....	58.7	.....	.....
Russia	29.98	30.13	+ 0.15	37.7	33.2	— 4.5
Spain	30.10	30.15	+ 0.05	58.0	55.9	— 2.1
Sweden	29.73	29.97	+ 0.24	30.9	30.6	— 0.3

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of November, 1884, as compared with the means for seven years:

Stations.	Mean pressure.			Mean temperature.		
	Nov. mean of 7 (1877–'83) years.	Nov., 1884.	Departure.	Nov. mean of 7 (1877–'83) years.	Nov., 1884.	Departure.
				°	°	°
Astrakhan, Russia	30.23	30.29	+ 0.06	42.7	40.3	— 2.4
Archangel, Russia	29.75	29.94	+ 0.19	23.5	25.0	+ 1.5
Angra, Azores	.....	.....	.....	.....	.....	.....
Athens, Greece	30.07	30.07	0.00	63.3	57.0	— 6.3
Beirut, Turkey in Asia	30.02	30.04	+ 0.02	72.0	69.4	— 2.6
Barnaul, Siberia, Asia	30.32	30.40	+ 0.08	18.4	14.7	— 3.7
Bridgetown, Barbadoes	.....	29.94	.....	.....	81.2	.....
Cape Town, Cape of Good Hope †	30.01	.....	.....	73.9	66.7	— 7.2
Cagliari, Sardinia, Italy	30.01	30.05	+ 0.04	63.9	60.1	— 3.8
Ekaterinburg, Russia	30.08	30.24	+ 0.16	23.6	22.3	— 1.3
Fort Napier, Natal, South Africa	29.80	29.86	+ 0.06	75.7	74.8	— 0.9
Freetown, Sierra Leone	29.90	29.88	— 0.02	85.1	85.1	0.0
Funchal, Madeira Islands	30.13	30.00	— 0.13	69.4	66.6	— 2.8
Gibraltar	30.11	30.05	— 0.06	64.9	61.4	— 3.5
Godthaab, Greenland	29.61	.....	.....	24.9	.....	.....
Havana, Cuba, W. I	30.03	30.03	0.00	73.4	72.7	— 0.7
Malta, Mediterranean Sea	30.03	30.06	+ 0.03	67.4	63.9	— 3.5
Mauritius, Indian Ocean	30.02	30.02	0.00	77.6	77.1	— 0.5
Melbourne, New South Wales	29.95	30.02	+ 0.07	57.1	57.2	+ 0.1
Mexico, Mexico †	30.31	30.23	— 0.08	49.0	46.6	— 2.4
Nassau, Bahamas, W. I	30.06	30.06	0.00	76.0	76.6	+ 0.6
Nikolaevsk on the Amoor, Asia †	.....	.....	.....	12.7	10.6	— 2.1
Paramaribo, D. Guiana, S. A	29.97	30.05	+ 0.08	81.2	80.4	— 0.8
Pekin, China	30.31	.....	.....	36.9	.....	.....
Ponta Delgada, Azores	30.17	30.13	— 0.04	65.0	63.3	— 1.7
Sandwick Manse, Orkney Islands	29.63	29.98	+ 0.35	43.0	43.3	+ 0.3
San Juan de Puerto Rico, W. I	29.97	30.02	+ 0.05	78.5	77.2	— 1.3
Stykkisholm, Iceland	29.55	29.74	+ 0.19	31.8	34.0	+ 2.2
Tashkend, Toorkistan, Asia	30.33	30.34	+ 0.01	44.5	45.3	+ 0.8
Thorshavn, Färöe Islands	29.56	29.91	+ 0.35	41.0	40.8	— 0.2
Tiflis, Russia	30.23	30.21	— 0.02	54.8	51.8	— 3.0
Tokei, Japan	30.07	30.02	— 0.05	47.7	43.4	— 4.3
Yeniseisk, Siberia, Asia	30.31	30.42	+ 0.11	8.6	11.8	+ 3.2
York Factory, B. A	30.02	.....	.....	1.3	.....	.....
Zi-Ka-Wei, China	30.29	30.30	+ 0.01	52.2	45.5	— 6.7

† Means of five years only.

In the United States the mean temperature of the air was above the normal, except in the Gulf States and in the Lake region, where it was slightly below the average; in Canada it was below the normal; in Manitoba and the Northwest it was above. In Europe it was below the normal, generally. In British India it was 0°.8 below the normal as determined from seven years' observations; the highest mean temperature there reported was 81°.9 Fahr. (27°.7 Cent.), at Deesa, and the lowest was 64°.9 Fahr. (18°.3 Cent.), at Allahabad.

The following are some of the extremes reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Sierra Leone	85.1	29.5	Nerchinsk, Siberia	5.9	—14.5
Bridgetown, Barbadoes	81.2	27.3	Nikolaevsk on the Amoor, Asia	10.6	—11.9
Paramaribo, Dutch Guiana, S. A.	80.4	26.9	Yeniseisk, Siberia	11.8	—11.2
Manila, Philippine Islands	77.7	25.4	Semipalatinsk, Siberia	14.0	—10.0
San Juan de Puerto Rico, W. I	77.2	25.1	Barnaul, Siberia	14.7	— 9.6

NOTE.—Report from York Factory, B. A., not received.

In the United States the prevailing winds were westerly and northerly; in Canada they were westerly and northwesterly. Over the Atlantic Ocean between N. 35° and 60° and from W. 70° eastward to W. 35° the winds were westerly and northwesterly; between the above-mentioned parallels and from W. 35° eastward to the European coasts the winds were northeasterly and southwesterly; south of 35° N. they were easterly and northeasterly. In Europe the winds were variable, being mostly from s. to n. by sw. and w.

The precipitation during November, 1884, was less than the average in the United States, except in Florida, in the south Atlantic coast district, and on the eastern slope of the Rocky Mountains, in which districts there was a slight excess; in Canada it was greater than the average, except in Ontario. In central Europe the rainfall was less than the average.

TRACKS OF AREAS OF LOW PRESSURE FOR NOVEMBER, 1884.

Chart iii exhibits the paths of the areas of low pressure that appeared in the northern hemisphere during November, 1884. This chart continues the series of international charts begun in November, 1877, and in its preparation the following data have been used, viz.: Chart i, for each day of the month, containing the data of one simultaneous observation taken at 7 a. m., Washington, or 0 h. 8 m., p. m., Greenwich, mean time; abstracts of ships' logs; special reports; and other miscellaneous data on file at this office.

The chart for November, 1884, shows the paths of thirty-six areas of low pressure; of this number, ten (i to x, inclusive) are traced over the North American continent; eleven (xi to xxi, inclusive) are shown over the Atlantic Ocean; eight (xxii to xxix, inclusive) are traced in Europe; and the remainder (xxx to xxxvi, inclusive) appeared over Japan and the Pacific Ocean. In addition to the above is also shown the path of a typhoon which passed over the Philippine Islands and the China Sea during the period from November 17th to 21st; the track of the latter is copied from the "Bulletin Mensuel," edited by the Rev. Marc Dechevrens, director of the Zi-Ka-Wei Meteorological Observatory. This typhoon, advancing from the east, entered Luzon on the 18th; its passage over that island was attended by heavy rains, but in other respects it appears to have been less violent than former typhoons. On reaching the China Sea, however, it apparently developed great energy, several vessels that encountered it having sustained serious damage from its violence. When crossing Luzon the barometer at Manila read 29.72 (754.9) on the 18th, but no observations are at hand which indicate the pressure over the China Sea during the prevalence of the typhoon, which did not entirely disappear from that region until the 27th.

Of the depressions traced in the United States and Canada, four moved from the British Northwest Territories southeastward to the Lake region, the centres passing mostly north of the Lakes, and thence over Canada to the Gulf of Saint Lawrence; three appeared in eastern Canada, one being a continuation of a storm which appeared at the close of October; one appeared in Colorado and passed to the Lake region; one developed in Arkansas and moved to the Lake region, where it apparently divided, one part moving eastward to the Atlantic coast and the other northeastward down the Saint Lawrence Valley; on reaching the Gulf these storms again united. One area of low pressure appeared over the western part of the Gulf of Mexico; it moved northeastward over the Gulf States and passed off the Virginia coast; it continued its northeasterly movement, skirting the New England coast, and entered the Bay of Fundy on the 29th, after which it apparently filled in over the Gulf of Saint Lawrence. Descriptions of the storms which passed over the United States and Canada will be found in the MONTHLY WEATHER REVIEW for November, 1884, under "Areas of low pressure."

Of the eleven areas of low pressure traced over the Atlantic Ocean, three (numbers xiv, xv, and xvii) were continuations of storms which had previously moved over the American continent to the Gulf of Saint Lawrence, and thence out into the ocean. Three storms (xi, xviii, and xix) developed near the coast of the United States; one (xvi) to the northeast of Bermuda; two (xii and xxi) in the vicinity of Iceland; one (xiii) southwest of Ireland, and one (xx) in the neighborhood of the Azores. Only one area of low pressure, number xi, appears to have reached the European coast, and this passed eastward over the ocean when the pressure over the region north of the fiftieth parallel was comparatively low, namely, during the first decade of the month. With two exceptions, numbers xvii and xx, the direction of movement of the storm-centres traced over the Atlantic was north-northeasterly, the centres passing generally to the northward of Iceland, while, in some cases, the disturbances seem to have filled in before reaching the thirtieth meridian. This northerly movement of the low areas was due, probably, to the presence of large anti-cyclonic areas which occupied Europe and the eastern part of the Atlantic during the second and third decades of the month. In the exceptions above noted, the storm-centres passed to the southeastward; from the 17th until the close of the month the centre of the high area moved between Iceland and the Bay of Biscay, and the centres of the low areas were thus forced to the southeastward. Some of the depressions were of considerable depth, and were attended by heavy gales; detailed descriptions of the more important thereof will be found under "North Atlantic storms" in the MONTHLY WEATHER REVIEW for November, 1884.

The depressions traced in Europe pursued somewhat erratic courses. They originated, principally, in the northern districts, and moved southward or southeastward into Russia. The more important were numbers xiii, xxiv, and xxvii, in which the pressure ranged from 29.3 (744.2) to 29.6 (751.8).

The areas of low pressure traced in Japan were of moderate intensity, that traced as number xxxii being probably the most important; in this depression the barometer fell to 29.5 (749.3) at stations in western Niphon on the 9th, and to 28.8 (731.5) over the Sea of Okhotsk, where the low area remained for several days, causing unsettled weather over northern Japan. The depressions shown over the northeastern part of the Pacific Ocean were generally deep, especially was this the case with number xxxvi, in which the barometer, at Unalashka, remained below 28.8 (731.5) for ten days, falling to 28.38 (720.8) on the 28th.

TRACKS OF AREAS OF LOW PRESSURE FOR JANUARY, 1883.

The paths of forty-nine areas of low pressure which appeared in the northern hemisphere are shown on chart iii for January, 1883. These are distributed, geographically, as follows: fourteen (numbers i to xiv, inclusive) are traced over the North American continent; twenty-one (xv to xxxv, inclusive) are shown over the Atlantic Ocean and southern Greenland; eight (xxxvi to xliii, inclusive) moved over the continent of Europe; and six (numbers xliv to xlix, inclusive) are traced over Japan and the Pacific Ocean.

The areas of low pressure traced in North America appear, for the most part, to have developed in the British Northwest Territories, or near the North Pacific coast region, whence they moved in an east-southeasterly direction towards the Lake region, and thence eastward or northeastward over Canada to the Atlantic; two of them, however, continued their southeasterly movement until they reached the shores of the Gulf of Mexico, when the course changed to the northeast. One depression moved in a southeasterly direction near the coast of California, and one appeared over the Gulf of Mexico. These areas of low pressure were accompanied generally by rain or snow, and by strong winds to gales, but they did not exhibit features differing in any marked degree from the storms usually occurring during the month of January. Descriptions of the depressions of January, 1883, will be found under "Areas of low barometer" in the MONTHLY WEATHER REVIEW for that month.

The large number of areas of low pressure, twenty-one, traced over the Atlantic Ocean indicates the stormy character

of the month of January, 1883. Of these, nine (numbers xviii, xxiii, xxiv, xxv, xxviii, xxix, xxx, xxxi, and xxxv) were continuations of storms that had entered the ocean from the American continent; four (xix, xx, xxvi, and xxxiii) developed in Greenland, and the remainder appeared over the region east of the fortieth meridian. Most of the above were cyclones of great depth and extent, and were attended by heavy gales during their passage, so that the weather over the Atlantic Ocean was stormy and boisterous throughout the month of January, 1883. Their general direction of movement was northeasterly, but this seems to have been affected by the presence of areas of high pressures which constantly occupied either northern, western, or central Europe.

The following shows the cyclones in which the barometric readings were less than 29.0 (736.6), with the positions and dates of the lowest reported readings at 7 a. m., Washington, or 12 h. 8 m., p. m., Greenwich, mean time:

Low area.	January.	Barometer.		Winds.		Location.
		Inch.	Mill.	Direction.	Force, 0-10	
XV	2	28.91	734.3	calm	.....	Lodingen, Norway.
XVI	3	28.85	732.8	w.	9	Lat. 50° N., long. 24° W.
	4	28.62	726.9	w.	10	Lat. 49° 20′ N., long. 25° 22′ W.
XIX	4	28.74	730.0	e.	2	Godthaab, Greenland.
XX	6	28.56	725.4	calm	.....	Ivigtut, Greenland.
XXII	9	28.70	729.0	ene.	7	Lat. 46° 01′ N., long. 15° 20′ W.
XXVI	10	28.98	736.1	calm	.....	Ivigtut, Greenland.
XXV	12	28.82	732.0	nw.	5	Lat. 51° 24′ N., long. 26° 02′ W.
	13	28.88	733.5	nnw.	9	Lat. 45° 49′ N., long. 13° 10′ W.
XXVIII	13	28.93	734.8	se.	7-8	Lat. 49° 32′ N., long. 30° 07′ W.
	14	28.03	711.9	se.	8	Lat. 54° 23′ N., long. 20° 58′ W.
	14	28.14	714.7	sw.	9	Lat. 54° 32′ N., long. 17° 32′ W.
	15	28.34	719.8	sw.	8	Lat. 55° 33′ N., long. 12° 02′ W.
XXIX	16	28.70	729.0	ne.	2	Stykkisholm, Iceland.
	17	28.52	724.4	ne.	8	Do.
	18	28.92	734.6	ne	7	Do.
XXX	19	28.93	734.8	wsw.	8-9	Lat. 47° 35′ N., long. 35° 28′ W.
	20	28.70	729.0	wsw.	4	Lat. 51° 00′ N., long. 37° 00′ W.
XXXI	22	28.81	731.8	calm	.....	Ivigtut, Greenland.
	23	28.11	714.0	ene.	4	Godthaab, Greenland.
	24	28.31	719.1	se.	6	Jacobshavn, Greenland.
	25	28.38	720.8	s.	7	Stykkisholm, Iceland.
	26	28.47	733.1	se.	4	Do.
	27	28.87	733.3	e.	2	Do.
XXXIII	28	28.95	735.3	ne.	4	Do.
	29	28.56	725.4	s.	4	Bergen, Norway.
	30	28.67	728.2	sse.	2	Lodingen, Norway.
	31	28.86	733.0	sw.	6	Gjæsvær, Norway.

During the passage of these cyclones, southwest to northwest gales of force 9–10 prevailed over the ocean as far south as the fortieth parallel, and over that part of the ocean between the Azores and W. 10° they frequently extended to the thirtieth parallel. Further data referring to the above will be found under "North Atlantic storms" in the MONTHLY WEATHER REVIEW for January, 1883.

The areas of low pressure traced in Europe were principally in the northwestern districts and in southeastern Russia, their tracks being somewhat irregular. They exhibited considerable storm-energy, causing unsettled weather, with rain or snow, and moderate to strong gales, over the districts through which they passed; the more important were the following: Number xxxvi, barometer 29.06 (738.1), at Viatka, Russia, on the 1st; number xxxvi, barometer 29.26 (743.2), at Ekaterinburg, Russia, on the 12th; number xl, barometer ranging from 29.35 (745.5) to 29.6 (751.8) during the 20th, 21st, and 22d as the low area moved from southern Scandinavia to the Black Sea region; number xlii, barometer falling to 28.6 (726.4) over the North Sea on the 26th, and causing strong sw. and w. gales over the British Isles and along the shores of the continent; number xliii, barometer falling below 29.0 (736.6) in northern Ireland on the 27th; this, like its predecessor, was attended by violent gales over the British Isles and the North Sea. In addition to the above, there were two severe storms which entered the continent from the Atlantic; the first of these was number xv, which crossed northern Scandinavia on the 2d and moved southeastward into Russia during the three succeeding days, with pressure ranging from 29.1 (739.1) to 29.6 (751.8); the second was number xxvii, which entered the southern part of the Iberian Peninsula on the 12th and passed northeastward towards the Gulf of Lyons on the 13th, where it was probably joined by number xxv, which on that date was central in the Bay of Biscay; during the 13th the barometer in southern France and northern Spain ranged from 28.96 (735.6) to 29.2 (741.7), and stormy weather prevailed in those countries and over the basin of the Mediterranean.

Respecting the areas of low pressure traced over Japan and the Pacific ocean, those occupying Behring Sea and the Aleutian Archipelago were generally of considerable depth and dimensions, the barometer ranging from 28.6 (726.4) to 29.4 (746.7), and rarely exceeding 29.6 (751.8). In those which passed over the islands of Japan the barometer ranged from 29.4 (746.7) to 29.6 (751.8); that traced as number xlix being particularly severe over the northern part of the islands.

ERRATUM.

At Fort Napier, Natal, the altitude of barometer above sea-level, from January to October, 1884, inclusive, should read 2,294 feet, or 699 metres, instead of 2,205 feet, or 672 metres.

SPECIAL NOTES.

DAILY BULLETIN.

On and after July 1, 1884, the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS will be discontinued. The daily chart accompanying this bulletin, or international chart No. i, will continue to be issued as heretofore, but on an enlarged scale, and will contain data referring to pressure (at sea-level), temperature, wind-direction, and state of weather for each day at all reporting stations in the northern hemisphere, and over the northern portions of the Atlantic and Pacific Oceans, as heretofore published in the DAILY BULLETIN.

The observations are taken at 7 h. 0 m., a. m., Washington, or 0 h. 8 m., p. m., Greenwich, mean time, except at the following stations, viz.: Arlon, Belgium, at 1 p. m., local time, or 28 minutes late; Upernavik, Greenland, at 8 a. m., local time, or 24 minutes early; Ivigtut, Greenland, at 8 a. m., or 56 minutes early; Brono, Norway, at 2 p. m., or 63 minutes late.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◒ fair; ◐ cloudy; ● precipitation (rain, snow, hail, sleet).

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at 7 a. m., Washington mean time.

International chart iii shows the tracks of centres of low barometer. The Arabic numerals show the location of the centres of low barometer at 7 a. m., Washington mean time of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the eleva-

tions as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Hobart Town, Tasmania, the observations are taken at 9 p. m. instead of at 9.57 p. m.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

NEW ENGLAND: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

MIDDLE ATLANTIC STATES: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

SOUTH ATLANTIC STATES: North Carolina, South Carolina, Georgia, Florida.

EASTERN GULF STATES: Georgia, Florida, Alabama, Mississippi, Louisiana.

WESTERN GULF STATES: Louisiana, Arkansas, Indian Territory, Texas.

RIO GRANDE VALLEY: Texas.

OHIO VALLEY AND TENNESSEE: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

LOWER LAKES: New York, Pennsylvania, Ohio, Michigan.

UPPER LAKES: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

UPPER MISSISSIPPI VALLEY: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

MISSOURI VALLEY: Missouri, Kansas, Nebraska, Iowa, Dakota.

EXTREME NORTHWEST: Minnesota, Dakota.

NORTHERN SLOPE: Montana, Dakota, Wyoming, Nebraska.

MIDDLE SLOPE: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

SOUTHERN SLOPE: Indian Territory, Texas, New Mexico.

SOUTHERN PLATEAU: New Mexico, Arizona, California, Nevada.

MIDDLE PLATEAU: California, Nevada, Utah, Colorado, Wyoming.

NORTHERN PLATEAU: Wyoming, Montana, Idaho, Oregon, Washington.

NORTH PACIFIC COAST: Washington, Oregon.

MIDDLE PACIFIC COAST: California.

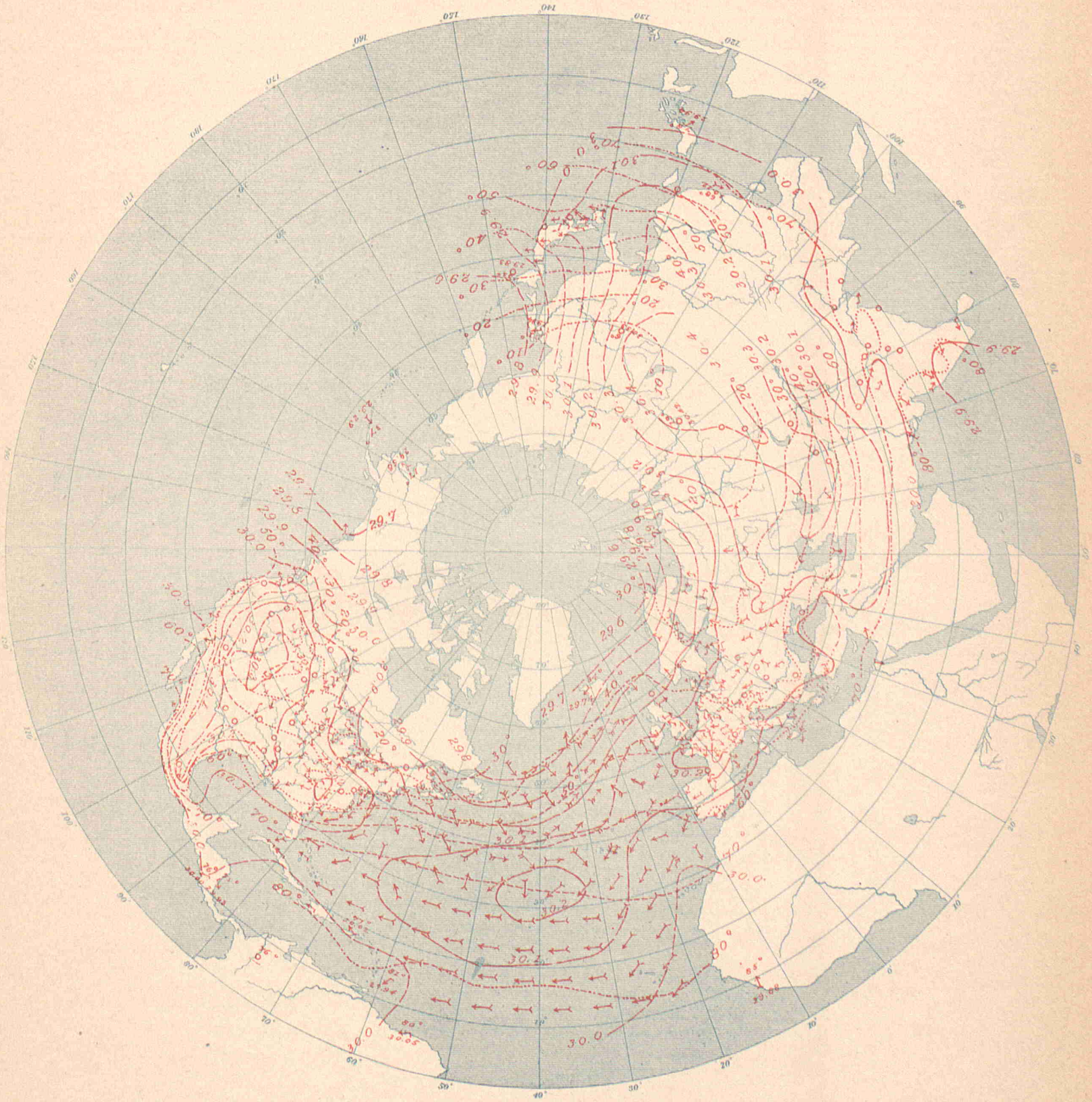
SOUTH PACIFIC COAST: California.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

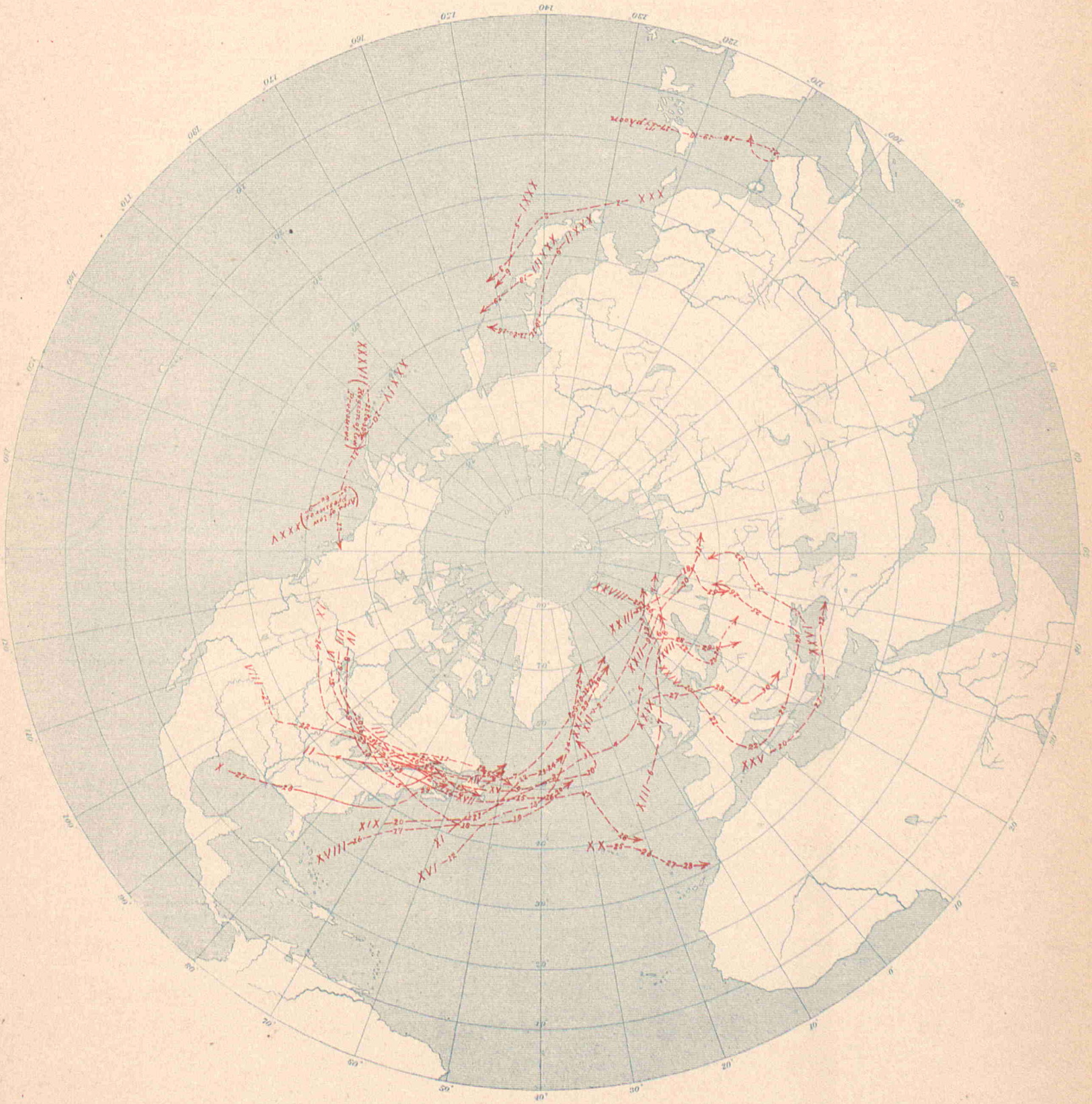
International Chart II. November, 1884. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.
Signal Office 15th.

International Chart III. November, 1884. Storm-Tracks.

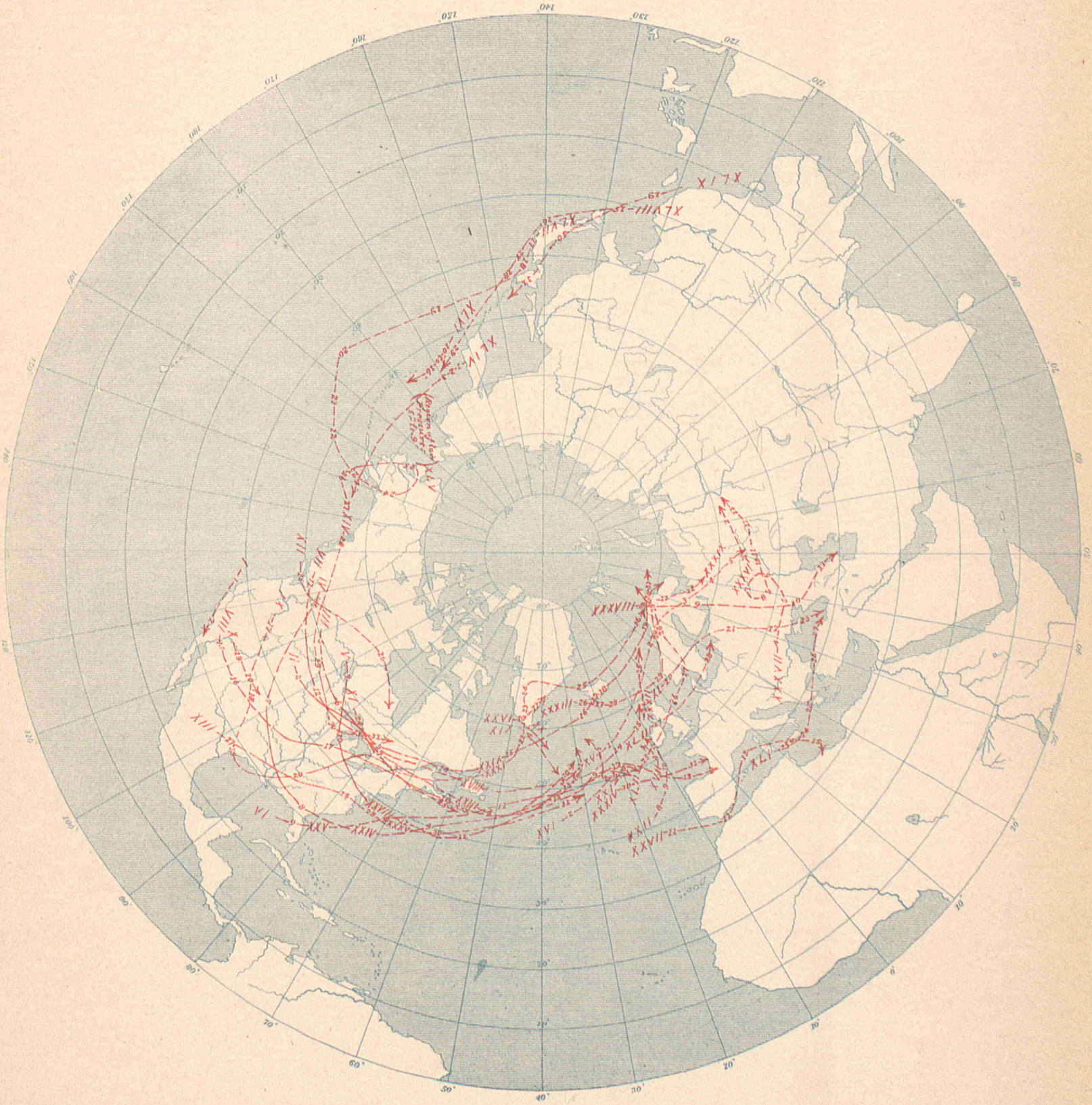


UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.

Signal Office 14th.

International Chart III. January, 1883. Storm-Tracks.



UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W. B. Hazen Chief Signal Officer.

Signal Office Lith.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF DECEMBER, 1884.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
JANUARY, 1886.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

DECEMBER, 1884.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for December, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
AUSTRALIAN.	° ′	° ′																								
Adelaide	S. 34 57	E. 138 35	9.22 p.m.	140	42	29.73	775.1	29.87	758.7	62.6	17.0	60.9	.....	.....	3	10	8	6	2	2	.....	.....	.....	5	0.96	24.4
Hobart Town	S. 42 53	E. 147 20	9.57 p.m.	190	58	29.44	747.8	29.63	752.0	54.6	12.6	86.0	5	3	2	2	9	4	.....	1	5	.....	.....	8	3.93	99.8
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.68	753.9	29.77	756.1	60.0	15.6	71.0	2	3	5	4	9	3	4	1	.....	.....	.....	6	3.05	77.5
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.45	748.1	30.02	762.6	39.2	4.0	62.3	3	.....	3	11	2	2	1	9	.....	.....	.....	6	5.00	126.9
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.15	740.4	29.94	760.5	37.4	3.0	79.1	.....	.....	6	14	2	.....	4	5	.....	.....	.....	9	1.77	45.0
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.08	738.7	30.00	762.1	30.6	— 0.8	88.8	1	.....	.....	.....	6	.....	.....	.....	24	.....	.....	9	2.48	62.9
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.72	729.4	30.01	762.3	36.1	2.3	78.9	2	10	1	3	9	2	1	1	2	.....	.....	6	2.76	70.2
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.56	725.3	30.02	762.6	37.0	2.8	91.0	.....	4	4	2	7	13	.....	1	.....	.....	.....	5	1.05	26.7
Kremsmunster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.60	726.3	29.57	761.3	35.1	1.7	85.0	1	1	5	4	.....	1	5	1	13	.....	.....	8	2.39	60.7
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.93	734.9	29.95	760.7	36.7	2.0	80.1	.....	5	10	5	1	6	2	2	.....	.....	.....	8	1.42	36.2
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.87	758.7	29.59	761.7	48.4	9.1	77.8	1	3	7	.....	1	2	8	4	5	.....	.....	7	3.94	100.2
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.54	750.3	30.02	762.5	38.3	3.5	83.0	1	3	6	2	5	11	2	1	.....	.....	.....	5	2.24	56.9
Szegedin.a	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.72	755.0	30.01	762.3	37.6	3.1	85.0	.....	3	4	.....	8	4	1	1	9	.....	.....	7	2.23	56.6
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.25	742.9	29.99	761.8	36.5	2.5	78.5	1	5	8	2	3	6	2	.....	4	.....	.....	8	2.47	62.8
BELGIAN.																										
Arlon	N. 49 40	E. 5 48	0.32 p.m.	?	?	.....	.....	.....	.....	35.4	1.9	95.2	.....	.....	2	13	6	2	3	5	.....	.....	.....	8	8.06	204.8
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	29.67	753.7	29.89	759.1	40.6	4.8	85.7	3	.....	2	14	1	2	2	6	1	.....	.....	8	5.67	144.0
Furnes	N. 51 04	E. 2 40	0.19 p.m.	20	6	29.85	758.2	29.87	758.6	42.4	5.8	88.2	3	.....	6	10	3	.....	2	7	.....	.....	.....	8	4.19	106.5
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	29.75	755.6	29.87	758.7	40.8	4.9	83.7	1	2	4	2	10	1	5	6	.....	.....	.....	9	5.16	131.0
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.51	749.5	29.61	752.1	38.8	3.8	77.8	.....	2	6	8	14	1	.....	.....	.....	.....	.....	6	1.72	43.7
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.78	756.4	41.8	5.4	74.0	3	3	5	11	1	4	4	.....	.....	.....	.....	6	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.24	742.7	29.78	756.4	39.3	4.1	83.8	3	2	2	10	6	2	5	1	.....	.....	.....	7	.....	.....
Bradford	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.38	746.2	29.78	756.4	40.7	4.8	81.4	3	3	7	6	4	3	1	4	.....	.....	.....	7	4.26	108.2
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	30.02	762.5	30.05	763.3	81.4	27.4	73.7	.....	.....	.....	.....	.....	.....	14	17	.....	.....	.....	4	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	160	49	29.72	754.9	29.90	759.4	42.7	5.9	81.4	3	2	13	2	1	.....	5	2	3	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.70	754.4	29.94	760.5	46.2	7.9	80.5	5	3	10	5	4	1	2	1	.....	.....	.....	8	.....	.....
Fort Napier	S. 30	E. 31	2.12 p.m.	2294	699	27.59	700.8	29.91	759.7	78.7	25.9	53.7	5	.....	.....	.....	6	4	6	10	.....	.....	.....	5	.....	.....
Freetown	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.70	754.4	29.93	760.2	83.0	28.3	85.0	4	.....	7	4	6	4	6	.....	.....	.....	.....	4	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	29.71	754.6	29.75	755.6	42.6	5.9	85.4	.....	6	6	9	4	3	2	1	.....	.....	.....	7	5.92	150.4
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	.....	.....	.....	.....	58.1	14.5	89.2	3	13	.....	2	.....	.....	2	10	1	.....	.....	4	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.69	754.1	29.86	758.4	42.7	5.9	80.6	6	1	2	13	3	2	2	2	.....	.....	.....	8	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.64	752.8	29.94	760.5	46.0	7.8	82.3	2	2	8	6	4	1	4	4	.....	610293	616565	9	7.37	187.2
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.84	757.9	29.88	758.9	43.1	6.2	76.6	3	1	4	12	2	.....	3	6	.....	.....	.....	8	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.56	750.8	29.82	757.4	41.6	5.3	79.6	3	1	2	15	2	1	.....	7	.....	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.92	760.0	30.00	762.0	59.8	15.4	81.0	.....	8	.....	6	.....	6	1	10	.....	.....	.....	6	3.30	83.8
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.08	764.0	30.13	765.3	73.7	23.2	83.0	.....	2	.....	.....	1	12	9	7	.....	.....	.....	5	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.63	752.6	29.86	758.4	42.3	5.7	82.2	3	3	.....	11	6	2	2	3	1	.....	.....	8	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.84	757.9	29.91	759.7	45.2	7.3	86.1	3	5	3	11	.....	1	1	5	2	.....	.....	9	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Scutari Cemet'y	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.99	761.7	30.06	763.5	52.8	11.6	73.6	2	.....	.....	7	5	5	.....	8	4	.....	.....	6	.....	.....
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.69	754.1	29.72	754.9	39.9	4.4	85.5	2	6	4	9	.....	1	7	1	1	.....	.....	7	4.32	109.7
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.81	757.2	39.9	4.4	82.0	1	2	7	12	1	.....	7	1	.....	.....	.....	8	6.40	162.6
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.85	758.2	29.88	758.9	46.4	8.0	79.8	3	3	9	6	2	4	1	3	.....	.....	.....	8	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	1.05 p.m.	364	111	29.63	752.6	30.02	762.5	58.0	14.4	71.7	3	5	6	4	1	2	8	1	1	5201	8370	7	4.86	123.4
CANADIAN.																										
Bathurst.d	N. 47 39	W. 65 43	7.45 a.m.	35	11	29.99	761.7	30.03	762.7	15.7	— 9.1	.....	.....	.....	1	6	4	2	.....	1	13	.....	.....	8	4.16	105.7
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.57	761.2	30.02	762.5	23.9	— 4.5	88.1	2	5	13	1	2	2	.....	4	2	6081	9786	8	5.18	131.6
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.99	761.7	30.06	763.5	13.2	—10.4	95.0	3	5	6	11	1	.....	3	1	1	3057	4920	7	5.28	134.1
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.88	758.9	30.09	764.3	14.0	—10.0	96.4	1	10	9	.....	.....	.....	7	4	.....	.....	.....	7	3.94	100.1
Dalhousie.c	N. 48 04	W. 66 22	7.43 a.m.	45	14	30.00	762.0	30.05	763.3	8.3	—13.2	.....	.....	1	20	.....	.....	.....	2	.....	5	.....	.....	6	2.50	63.5
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	30.04	763.0	30.06	763.5	13.3	—10.4	88.2	2	4	2	9	3	1	.....	8	2	12045	19384	9	3.50	88.9
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.27	743.4	30.22	767.6	—5.8	—21.0	95.9	9	10	.....	6	4	1	.....	.....	1	7515	12094	7	1.11	28.2
Fredericton	N. 45 57	W. 66 38	7.41 a.m.	59	18	30.04	763.0	30.11	764.8	15.2	— 9.3	89.6	.....	10	6	.....	.....	2	2	4	7	.....	.....	6	5.97	151.6
Grand Manan	N. 44 46	W. 66 45	7.41 a.m.	49	15	30.02	762.5	30.08	764.0	26.6	— 3.0	80.0	6	6	6	1	2	2	1	3	4	.....	.....	8	7.08	179.8
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	28.94	735.1	30.12	765.0	22.0	— 5.6	.....	1	4	3	5	6	1	2	2	7	.....	.....	7	3.48	88.4
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.93	760.2	30.06	763.5	27.6	— 2.4	89.6	7	2	12	1	4	.....	3	1	1	.....	.....	7	9.09	230.9
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	350	107	29.63	752.6	30.06	763.5	24.6	— 4.1	89.0	.....	3	2	16	.....	.....	2	4	4	.....	.....	7	2.62	66.5
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.76	755.9	30.12	765.0	19.9	— 6.7	87.0	3	3	3	7	5	.....	1	9	.....	6150	9897	7	4.63	117.6
Little Glace Bay.a	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.93	760.2	29.97	761.2	29.3	— 1.5	86.2	2	2	10	6	3	1	.....	5	1	.....	.....	9	.....	.....
London	N. 43 00	W. 81 15	6.43 a.m.	816	248	29.16	740.7	30.11	764.8	22.9	— 5.1	82.5	1	.....	5	4	5	.....	2	1	13	.....	.....	7	5.01	127.3
Medicine Hat.a	N. 50 01	W. 110 37	4.46 a.m.	2136	651	27.77	705.3	30.34	770.6	—1.6	—18.7	.....	3	4	3	2	2	.....	.....	.....	16	64431	67131	4	0.40	10.2
Minnedosa	N. 50 13	W. 99 48	5.29 a.m.	1796	545	28.05	712.5	30.24	768.1	—7.9	—22.2	96.5	2	18	4	.....	.....	1	1	5	.....	.....	.....	5	0.62	15.7
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.90	759.4	30.13	765.3	15.4	— 9.2	86.4	8	1	10	3	4	1	3	1	.....	.....	.....	6	3.58	90.9
Ottawa	N. 45 26	W. 75 41	7.05 a.m.	224	68	29.84	757.9	30.11	764.8	12.5	—10.8	95.6	2	5	9	4	2	2	5	2	.....	.....	.....	7	3.75	95.2
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.32	744.7	30.07	763.8	18.1	— 7.7	80.3	6	.....	4	4	3	4	6	1	3	7439	11972	8	4.56	115.8
Peterboro	N. 44 17	W. 78 18	6.54 a.m.	688	210	29.30	744.2	30.10	764.5	19.8	— 6.8	.....	1	2	.....	3	.....	2	.....	1	22	.....	.....	7	3.87	98.3
Port Arthur	N. 48 27	W. 89 12	6.11 a.m.	642	196	29.34	745.2	30.09	764.3	6.1	—14.4	89.8	7	6	4	1	1	.....	2	.....	10	3413	5493	5	1.26	32.0
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.37	746.0	30.11	764.8	24.9	— 3.9	97.9	2	.....	4	11	2	.....	1	6	5	6930	11153	8	3.37	85.6
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.41	747.0	30.10	764.5	24.9	— 3.9	86.0	2	1	9	6	1	3	6	3	.....	.....	.....	7	2.62	66.5
Qu' Appelle.a	N. 50 44	W. 103 42	5.13 a.m.	2115	646	27.72	704.1	30.28	769.1	—7.5	—21.9	.....	.....	11	3	.....	1	1	1	1	12	6487	10440	4	0.90	22.9
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.70	754.4	30.09	764.3	12.8	—10.7	83.4	.....	.....	14	1	1	.....	7	2	6	.....	.....	8	5.04	128.0
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.59	751.6	30.12	765.0	10.0	—12.2	83.4	.....	4	.....	.....	.....	5	6	.....	15	.....	.....	7	4.29	109.0
Saint Andrews	N. 45 04	W. 67 06	7.40 a.m.	47	14	30.01	762.2	30.06	763.5	22.1	— 5.5	90.1	7	9	4	1	1	3	1	1	4	.....	.....	5	5.24	133.1
Saint John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	116	35	29.93	760.2	30.07	763.8	24.4	— 4.2	87.6	7	10	6	1	.....	2	1	.....	4	.....	.....	7	6.87	174.5
Saint Pierre.g	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.88	759.0	32.5	0.3	.....	.....	8	4	7	.....	1	2	2	.....	.....	.....	.....	4.38	111.2
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.29	744.0	30.04	763.0	24.1	— 4.4	93.6	1	.....	4	5	8	7	2	4	.....	11173	17965	8	6.17	156.7
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1186	361	28.75	730.2	30.12	765.0	20.7	— 6.3	85.1	.....	1	6	10	3	1	1	.....	9	.....	.....	8	8.62	218.9
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.96	761.0	30.03	762.7	27.3	— 2.6	88.4	1	4	7	10	3	.....	3	2	1	8330	13406	8	6.98	177.3
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.70	754.4	30.11	764.8	24.2	— 4.3	87.2	7	.....	4	8	3	3	2	4	.....	8425	13558	7	3.24	82.3
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	28.98	736.1	30.11	764.8	22.9	— 5.1	82.4	2	2	1	10	8	3	2	3	.....	.....	.....	8	3.25	82.5
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.99	761.7	30.09	764.3	26.7	— 2.9	82.4	4	4	5	1	.....	3	3	7	4	.....	.....	8	5.48	139.2
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	8	30.00	762.0	30.03	762.7	71.0	21.7	84.5	.....	.....	.....	16	1	7	.....	7	.....	.....	.....	4	0.89	22.6
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	?	?	29.91	759.7	.....	.....	75.5	24.2	47.4	1	8	1	1	.....	11	.....	6	3	.....	.....	2	0.16	4.1
Springbok.e	S. 29 45	E. 17 43	1.19 p.m.	?	?	27.85	707.4	.....	.....	84.4	29.1	39.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for December, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
CHILIAN.	° ′	° ′																								
Coquimbo	S. 29 56	W. 71 21	7.22 a.m	72	22	29.89	759.1	29.97	761.1	63.5	17.5	90.0	17	1	2	3	1	3	.....	4	.....	.....	.....	9	inap.	inap.
Iquique	S. 20 12	W. 70 11	7.27 a.m	26	8	29.92	759.9	29.95	760.6	69.4	20.8	72.5	.....	5	1	15	9	.....	.....	1	.....	.....	.....	5	.....	.....
Niebla	S 39 53	W. 73 25	7.14 a.m.	98	30	29.53	750.0	29.63	752.7	57.6	14.2	82	2	8	5	.....	.....	.....	16	.....	.....	.....	.....	5	6.28	159.6
Punta Caldera	S 27 03	W. 70 53	7.25 a.m.	82	25	29.91	759.6	29.99	761.8	65.7	18.7	81	2	13	.....	9	.....	5	.....	2	...	.....	.....	7	.....	.....
Punta Corona	S. 41 47	W. 73 53	7.12 a.m.	174	53	29.84	757.9	30.03	762.7	.....	.....	.....	2	7	4	13	1	2	1	1	.....	.....	.....	7	4.89	124.3
Quiriquina	S. 36 37	W. 73 03	7.25 a.m.	187	57	29.77	756.1	29.97	761.2	63.0	17.2	69	.....	5	1	5	15	4	1	.....	.....	.....	.....	4	2.03	51.6
Valparaiso	S. 33 02	W. 71 39	7.22 a.m.	131	40	29.82	757 5	29.97	761.1	62.1	16.7	85	11	.....	2	4	8	1	4	1	.....	.....	.....	6	.....	.....
CHINESE.																										
Hong Kong	N. 22 18	E. 114 10	7.45 p.m.	110	33	30.12	765 0	30.24	768 1	59.2	15.1	64.5	7	2	.....	1	.....	2	15	4	.....	.....	.....	2	0	0
Sub-Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	30.40	772.2	30.43	772.8	35.8	2.1	70.4	7	9	5	.....	4	1	4	1	.....	.....	.....	3	0.18	4.5
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.72	754 9	29.77	756.1	36.3	2.4	90	3	3	3	10	4	4	1	3	.....	.....	.....	9	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.72	755 0	29.74	755.5	36.9	2.7	89	.....	2	8	5	5	1	3	3	4	.....	.....	7	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.10	739 2	29.15	740.3	31.6	— 0.2	86	.....	.....	3	4	1	7	8	7	1	.....	.....	8	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.28	743.6	29.30	744.2	40.5	4.7	85	2	4	3	9	6	5	1	.....	1	.....	.....	8	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.61	752.2	29.71	754.5	37.0	2.8	87	.....	1	5	5	5	5	3	5	2	.....	.....	8	.....	.....
Egyptian.																										
Cairo	N. 30 03	E. 31 21	2.14 p.m.	?	?	29.94	760.4	.....	.....	67.6	19.8	.....	10	2	3	7	1	.....	1	7	.....	.....	.....	5	0.16	4.2
FRENCH.																										
Agen. *b*	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.47	748.6	30.14	765.6	42.4	5.8	92.0	2	8	2	4	3	8	1	1	.....	.....	.....	6	1.87	47.5
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.45	748.0	29.99	761.8	42.8	6.0	86.2	7	1	3	8	10	.....	1	1	.....	.....	.....	.....	0.68	17.2
Arras	N 50 18	E. 2 46	0.19 p.m	223	68	29.70	754.3	29.94	760.5	41.4	5.2	85.4	2	4	9	3	1	3	3	6	.....	.....	.....	5	3.78	95.9
Avignon	N. 43 57	E. 4 49	0.27 p.m	65	20	29.94	760.5	30.02	762.5	46.2	7.9	62.1	20	3	3	.....	.....	3	1	1	.....	.....	.....	4	1.84	46.8
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.42	747 3	30.00	761.9	40.3	4.6	84.7	.....	1	.....	8	8	10	1	3	.....	.....	.....	9	4.46	113.3
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.69	754.0	29.96	760 9	42.8	6.0	82.3	4	4	4	5	8	2	4	.....	.....	.....	.....	8	3.26	82.8
Besançon	N. 47 13	E. 6 02	0.32 p.m.	846	258	29.08	738.7	30.01	762.3	41.5	5.3	83.0	1	.....	.....	3	9	5	2	11	.....	.....	.....	5	7.45	189.2
Bordeaux	N. 44 50	W. 0 32	0.06 p.m.	243	74	29.81	757.2	30.08	764.0	44.8	7.1	84.9	1	7	3	5	2	9	3	1	.....	.....	.....	7	2.51	63.8
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.48	748 8	30.03	762.8	42.6	5.9	82.0	5	1	9	7	3	2	.....	4	.....	.....	.....	7	2.00	50.9
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.79	756.7	30.04	762 9	48.0	8.9	86.3	5	2	5	8	3	.....	2	5	1	.....	.....	7	4.89	124.2
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.90	759.4	29.97	761.3	45.0	7.2	88.5	5	.....	2	1	6	2	6	9	.....	.....	.....	.....	4.69	119.0
Châlons sur Marne *b*	N. 48 57	E. 4 21	0.25 p.m.	292	89	29.60	751.9	29.92	760.0	41.2	5.1	87.0	.....	1	1	12	9	5	.....	1	.....	.....	.....	6	2.76	70.0
Charleville	N. 49 46	E. 4 43	0.27 p.m.	476	145	29.46	748.3	29.98	761.4	39.6	4.2	81.0	2	.....	7	6	6	1	.....	9	.....	.....	.....	8	5.46	138.8
Clermont-Fer'and	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.65	727.6	30.04	763.0	41.9	5.5	71.7	4	7	7	4	4	3	.....	2	.....	.....	.....	8	3.49	88.6
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.18	741.2	30.04	762.9	40.1	4.5	68.6	3	1	1	9	7	2	.....	8	.....	.....	.....	8	2.81	71.4
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.13	739 9	30.04	762.9	38.3	3.5	56.9	4	1	9	10	1	1	4	1	.....	.....	.....	7	8.01	203.5
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.44	696.9	30.04	763 0	39.0	3.9	72.0	.....	.....	.....	.....	.....	.....	3	6	22	.....	.....	4	4.26	108.2
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.85	732 8	29.99	761.8	47.8	8.8	60.0	6	7	6	1	3	4	2	2	.....	.....	.....	4	1.85	47.0
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.27	743.5	30.05	763.3	39.0	3.9	84.2	3	6	7	.....	2	4	6	3	.....	.....	.....	.....	5.10	129.4
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.43	722 0	30.02	762.5	37.9	3.3	82.7	5	3	6	11	2	1	3	.....	.....	.....	.....	7	4.09	104.0
Lambesc	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.71	754 7	29.99	761.7	45.3	7.4	87.0	4	3	7	3	6	4	2	2	.....	.....	.....	6	4.10	104.1
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.52	749.7	30.08	764.1	49.8	9.9	64.5	3	6	8	6	2	1	4	1	.....	.....	.....	5	3.07	77.9
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.95	760.7	30.05	763.3	47.8	8.8	73.4	7	2	5	8	2	1	2	4	.....	.....	.....	.....	4.10	104.1
Lyon	N. 45 41	E. 4 47	0.25 p.m.	981	299	28.97	735.9	30.06	763.6	39.2	4.0	78.9	7	7	3	1	6	2	3	2	.....	.....	.....	6	1.20	30.5
Mans	N. 48 00	E. 0 12	0.09 p.m.	285	87	29.69	754.1	29.99	761.8	41.4	5.2	84.9	3	5	3	6	3	3	3	5	.....	.....	.....	7	3.21	81.5
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.71	754.7	29.98	761.6	50.9	10.5	61.0	.....	10	10	.....	2	1	8	.....	.....	.....	.....	.....	2.18	55.3
Montlouis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.76	629.0	29.61?	752.0?	35.8	2.1	49.2	5	4	5	11	2	1	2	1	.....	.....	.....	4	9.84	249.9
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.89	759.1	29.97	761.2	49.6	9.8	67.8	7	7	2	1	.....	.....	.....	14	.....	.....	.....	.....	6.35	161.4
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.18	741.1	30.04	763.0	37.9	3.3	85.7	3	6	2	4	11	4	.....	1	.....	.....	.....	.....	4.12	104.6
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.89	759.2	30.05	763 3	46.0	7.8	78.6	4	.....	7	5	7	2	1	5	.....	.....	.....	8	.....	.....
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.93	760.3	30.05	763.2	49.8	9.9	58.0	2	14	2	.....	1	2	2	5	3	.....	.....	6	4.16	105.6
Pic du Midi (Sum-mit.)	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.08	535.5	.....	.....	22.3	— 5.4	.....	2	13	4	1	2	2	.....	4	3	.....	.....	.....	11.83	300.4
Privas	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.96	735.6	30.04	763.0	43.5	6.4	77.9	20	.....	1	.....	10	.....	.....	.....	.....	.....	.....	.....	2.31	58.7
Puy de Dôme	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.02	635.4	.....	.....	28.9	— 1.7	87.8	3	4	6	8	1	5	1	3	.....	.....	.....	8	8.68	220.4
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.06	763 4	30.10	764 4	46.6	8.1	80.3	4	2	2	8	6	1	2	6	.....	.....	.....	8	2.13	54.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	259	79	29.80	757.0	30.07	763.8	45.1	7.3	84.0	4	7	11	6	.....	2	.....	1	.....	.....	.....	5	3.07	78.0
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.85	707.4	30.05	763 2	40.3	4.6	75.5	8	16	.....	.....	.....	4	2	1	.....	.....	.....	.....	3.27	83.0
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.89	759.3	29.94	760 5	43.9	6.6	83.7	4	3	6	8	.....	2	4	4	.....	.....	.....	8	2.83	71.8
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.80	756.9	29.97	761.1	44.6	7.0	83.7	6	1	4	7	8	3	1	1	.....	.....	.....	9	1.46	37.0
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.37	746.1	30.10	764.6	45.0	7.2	79.6	2	8	6	1	4	6	2	2	.....	.....	.....	7	1.82	46.3
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	29.84	757.8	30.02	762.6	44.4	6.9	83.5	5	3	5	6	6	2	.....	4	.....	.....	.....	7	2.50	63.5
Versailles	N. 48 48	E. 2 07	0.16 p.m.	413	126	29.50	749.4	29.95	760.7	41.4	5.2	79.9	1	2	15	3	.....	2	7	1	.....	.....	.....	7	3.71	94.3
Sub-Series.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	0.03 p.m.	131	40	29.96	761.0	30.11	764.8	48.6	9.2	74.0	3	4	2	10	1	4	5	2	.....	.....	.....	6	3.11	79.0
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.48	723.3	29.98	761 4	36.0	2.2	77.9	1	.....	6	9	3	2	3	3	4	.....	.....	9	3.18	80.7
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.02	737.1	29.86	758.4	36.1	2.3	82.3	3	4	5	7	2	4	4	2	.....	.....	.....	8	2.11	53.7
Berlin	N. 52 30	E. 13 19	1.02 p.m.	131	40	29.68	753.9	29.83	757.6	37.8	3.2	85.1	1	2	13	4	2	3	2	4	.....	.....	.....	9	2.66	67.5
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.38	746 3	29.91	759.7	37.6	3.1	79.3	3	1	9	6	3	5	2	2	.....	.....	.....	9	1.32	33.4
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	413	126	29.50	749.4	29.97	761.3	39.7	4.3	80.5	1	.....	.....	17	3	1	2	7	.....	.....	.....	9	5.80	147.2
Cassel	N. 51 19	E 9 28	0.46 p.m.	669	204	29.14	740 2	29.85	758.3	37.8	3.2	85.1	6	.....	3	8	8	3	2	1	.....	.....	.....	8	2.90	73.6
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.56	750.7	29.98	761.6	38.8	3.8	81.8	5	.....	2	10	5	3	2	4	.....	.....	.....	9	3.98	101.0
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1339	408	28.55	725.1	30.01	762.3	37.0	2.8	81.2	2	3	4	11	1	1	1	8	.....	.....	.....	8	4.63	117.5
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.75	755.7	29.84	758.0	37.4	3.0	89.7	3	2	3	9	5	2	3	4	.....	.....	.....	8	3.21	81.5
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.78	756.3	29.79	756.7	38.1	3.4	82.5	2	1	6	12	1	1	2	5	1	.....	.....	8	3.97	100.8
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.47	748.4	29.90	759.4	37.6	3.1	83.6	4	1	5	10	3	3	1	4	.....	.....	.....	8	2.39	60.6
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.67	753 6	29.87	758 6	38.3	3.5	83.6	5	1	5	6	6	4	2	2	.....	.....	.....	8	2.47	62.7
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.73	755.1	29.78	756 3	35.4	1.9	89.3	2	7	4	7	1	3	3	4	.....	.....	.....	9	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.09	713.6	29.95	760.8	36.3	2.4	72.7	3	9	2	2	3	1	5	1	5	.....	.....	8	2.04	51.7
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	36	11	29.77	756.2	29.81	757 2	36.3	2.4	85.1	1	1	8	6	5	3	4	3	.....	.....	.....	9	2.24	56.9
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.42	747.2	29.94	760 4	39.4	4.1	83.0	3	3	6	10	6	.....	.....	.....	3	.....	.....	9	4.50	114.3
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.05	737.9	29.97	761.1	39.2	4.0	78.0	3	3	6	13	1	.....	.....	4	1	.....	.....	8	2.78	70.7
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.78	750.5	29.81	757.1	36.9	2.7	88.2	3	1	1	12	3	5	1	5	.....	.....	.....	9	1.74	44.3
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.67	753.7	30.06	763.5	59.4	15.2	75.1	9	3	2	1	5	5	2	4	.....	.....	.....	4	2.03	51.6
INDIAN.																										
Kurrachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	30.00	762.0	30.05	763.3	76.3	24.6	43	.....	1	5	11	1	5	7	1	.....	.....	.....	2	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.56	750 8	30.04	763.0	76.7	24.8	28	12	4	.....	1	1	.....	1	12	.....	.....	.....	2	0	0
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.92	760.0	29.96	761.0	78.2	25.7	72	10	18	.....	1	.....	.....	1	1	.....	.....	.....	3	1.14	29.0
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	28.10	713.7	29.97	761.2	76.5	24.7	41	.....	2	1	4	.....	4	13	7	.....	.....	.....	4	1.37	34.8
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.40	695.9	29.95	760.7	75.7	24.3	48	.....	.....	.....	2	.....	2	12	10	5	.....	.....	3	0.84	21.3
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.33	745.0	30.10	764.5	61.6	16.4	59	1	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	1	0	0
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	29.14	740.1	30.08	764.0	62.8	17.1	59	.....	.....	12	.....	.....	.....	.....	.....	19	.....	.....	1	0.02	0.5
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.50	749.3	30.09	764 3	65.8	18.8	44	1	19	4	1	.....	.....	3	1	2	.....	.....	1	0.25	6.4
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.97	735.8	30.03	762 7	72.7	22.6	45	.....	.....	.....	.....	.....	1	1	1	28	.....	.....	4	2.68	68.1
Jubbulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28 67	728.2	30.07	763 8	67.3	19.6	49	.....	.....	.....	.....	.....	.....	1	7	23	.....	.....	2	0.46	11.7
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.69	754 1	30.09	764.3	64.4	18.0	54	1	3	5	3	.....	.....	.....	1	18	.....	.....	1	0.02	0.5
Allahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.75	755.6	30.08	764.0	60.2	15.7	82	1	1	.....	.....	.....	.....	.....	1	28	.....	.....	2	0	0
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.89	759.2	30.09	764.3	65.9	18.8	60	2	5	15	.....	.....	1	.....	1	7	.....	.....	1	0	0
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.99	710 9	30.07	763 8	63.2	17.3	52	11	10	1	1	2	.....	1	3	2	.....	.....	3	0.05	1.3
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.97	761.2	30.05	763.3	71.0	21.7	66	.....	.....	.....	.....	.....	4	3	.....	24	.....	.....	2	0.44	11.2
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	30.02	762 5	30.04	763.0	66.5	19.2	72	18	10	.....	.....	.....	.....	.....	2	1	.....	.....	1	0	0
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.93	760 2	30.05	763 3	66.4	19.1	67	.....	.....	.....	.....	.....	.....	1	.....	30	.....	.....	1	0	0
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.95	760.7	30.04	763.0	68.7	20.4	74	.....	8	8	1	.....	.....	.....	.....	14	.....	.....	1	0	0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for December, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
INDIAN—Cont'd.	° ′	° ′																								
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.73	755.1	30.08	764.0	60.3	15.7	88	.....	.....	.....	2	.....	2	1	26	.....	.....	.....	2	1.10	27.9
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.61	726.7	30.10	764.5	66.8	19.3	44	3	7	1	1	2	2	6	7	2	.....	.....	3	0.01	0.3
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.46	722.9	.....	.....	79.7	26.5	44	1	.....	.....	.....	.....	5	24	1	.....	.....	.....	5	0	0
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.69	754.1	29.98	761.5	77.3	25.2	74	4	1	1	.....	...	.....	6	19	.....	.....	.....	7	9.72	246.9
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.53	750.0	29.95	760.7	44.8	7.1	68	1	1	.....	.....	...	.....	6	4	19	.....	.....	7	4.66	118.3
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.49	749.1	30.03	762.8	39.6	4.2	78	2	6	6	9	1	1	3	3	.....	.....	.....	7	1.99	50.6
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.89	759.1	30.00	762.0	41.4	5.2	78	5	7	.....	2	1	.....	1	10	5	.....	.....	8	2.60	66.1
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.08	738.5	30.02	762.4	39.2	4.0	76	2	12	1	1	.....	1	7	7	.....	.....	.....	6	2.23	56.6
Genoa	N. 44 24	E. 8 55	0.44 p.m.	177	54	29.76	756.0	29.96	761.0	50.0	10.0	67	13	.....	.....	2	3	5	3	4	1	.....	.....	6	2.17	55.1
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.95	760.6	30.00	761.9	44.2	6.8	83	9	19	2	1	.....	.....	...	.....	.....	.....	.....	8	3.22	81.9
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.71	754.6	29.97	761.2	46.9	8.3	66	6	3	3	3	3	1	2	10	.....	.....	.....	8	1.74	44.2
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.89	759.3	29.98	761.5	51.1	10.6	70	2	.....	3	2	4	.....	7	13	.....	.....	.....	7	5.29	134.4
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.79	756.6	29.97	761.1	52.5	11.4	68	9	1	.....	3	6	1	3	2	6	.....	.....	6	6.00	153.8
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.75	755.6	30.01	762.2	55.4	13.0	68	2	10	.....	1	4	10	2	2	.....	.....	.....	5	5.02	127.4
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.11	739.3	30.03	762.7	50.2	10.1	77	2	2	7	3	5	9	3	.....	.....	.....	.....	6	4.44	112.8
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	29.75	755.6	29.95	760.6	55.0	12.8	67	.....	16	3	.....	2	4	.....	.....	6	.....	.....	5	1.56	39.5
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.74	755.5	30.00	762.0	58.3	14.6	63	.....	3	7	6	.....	1	4	8	2	.....	.....	7	3.01	76.4
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.89	759.3	29.94	760.4	58.8	14.9	67	4	5	4	5	1	1	3	8	.....	.....	.....	6	2.88	73.1
Sub-Series.																										
Naples.*p*	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.28	743.6	.....	.....	51.1	10.6	80.0	.....	2	.....	3	.....	3	1	6	.....	.....	.....	6	7.15	181.5
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	22.00	558.8	.....	.....	20.3	- 6.5	77.5	1	.....	5	9	.....	7	2	7	.....	.....	.....	4	2.09	53.0
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	22.00	558.8	.....	.....	23.0	— 5.0	71.2	.....	9	7	2	1	.....	4	8	.....	.....	.....	7	0.39	10.0
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	29.99	761.7	30.02	762.6	30.0	— 1.1	85	3	12	3	2	1	.....	4	1	5	.....	.....	10	6.41	162.9
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.94	760.6	29.98	761.5	27.0	— 2.8	77.4	.....	1	12	11	4	1	.....	.....	2	7391	11892	8	6.82	173.3
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	29.93	760.1	29.94	760.4	27.5	— 2.5	82	7	5	16	.....	1	.....	.....	.....	2	8641	13906	7	2.09	53.1
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	92	28	30.00	762.0	30.10	764.5	38.7	3.7	74	...	4	23	.....	.....	.....	.....	.....	2	.....	.....	2	1.08	27.5
Hiroshima	N. 34 23	E. 132 27	8.58 p.m.	16	5	30.19	766.8	30.21	767.3	37.4	3.0	77.4	12	3	7	.....	.....	.....	.....	.....	4	5	3347	5386	5	0.39	9.9
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	30.04	762.9	30.14	765.6	36.7	2.6	84.2	.....	6	4	5	2	9	5	.....	.....	6174	9934	9	11.87	301.3
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.99	761.7	30.16	766.1	35.1	1.7	83.2	10	6	5	2	1	1	1	2	3	2097	3375	5	0.96	24.4
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	30.17	766.3	30.19	766.8	39.4	4.1	74.8	5	7	10	1	.....	.....	1	7	.....	4688	7545	2	0.75	19.0
Miasaka	N. 31 56	E. 131 26	8.54 p.m.	26	8	30.22	767.5	30.24	768.2	39.9	4.4	79	2	.....	28	.....	.....	.....	1	.....	..	.....	.....	1	0.44	11.1
Miyako	N. 39 38	E. 141 59	9.36 p.m.	98	30	29.86	758.4	29.97	761.2	29.7	— 1.3	73	.....	1	24	6	.....	.....	.....	.....	.....	3135	5046	2	0.27	6.9
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	30.07	763.8	30.28	769.1	39.4	4.1	76.8	.....	.....	.....	.....	.....	.....	.....	..	.....	.....	.....	5	1.98	50.4
Nemuro	N. 43 20	E. 145 35	9.50 p.m.	43	13	29.81	757.1	29.86	758.4	25.9	— 3.4	68	.....	13	1	.....	3	1	1	3	9	5689	9155	5	0.23	5.8
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	30.03	762.8	30.07	763.8	36.5	2.5	77.8	.....	8	11	5	2	4	1	.....	.....	6621	10655	8	6.15	150.2
Nobiru	N. 38 23	E. 141 11	9 32 p.m.	15	5	29.99	761.6	30.00	762.0	31.3	— 0 4	78.5	13	16	2	.....	.....	.....	.....	.....	.....	9077	14608	4	0.34	8.6
Numadza	N. 35 06	E. 138 51	9.23 p.m.	32	10	30.00	762.1	30.04	763.0	40.1	4.5	72.3	1	.....	7	3	.....	.....	17	3	.....	.....	.....	3	1.53	38.8
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	30.16	766.0	30.17	766.4	37.0	2.8	78.6	7	5	10	.....	1	2	1	5	.....	5858	9427	4	1.23	31.3
Sakai	N. 35 33	E. 133 14	9.01 p.m.	10	3	30.18	766.5	30.19	766.7	37.9	3.3	80	.....	3	21	3	.....	.....	.....	1	3	.....	.....	9	9.33	237.0
Shimonoseki	N. 33 58	E. 130 56	8.52 p.m.	134	41	30.10	764.5	30.24	768.2	40.8	4.9	68	3	6	7	4	.....	1	.....	1	9	.....	.....	7	1.97	50.1
Sapporo	N. 43 04	E. 141 23	9.33 p.m.	60	18	29.83	757.7	29.90	759.4	20 3	— 6.5	80.6	.....	2	8	6	7	4	1	2	1	.....	.....	6	3.00	76.2
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.97	761.2	30.05	763.3	36.7	2.6	71.0	5	12	5	1	3	2	1	2	.....	4934	7940	3	0.99	25.2
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.12	765.1	30.18	766.5	40.6	4.8	71 9	1	10	3	.....	.....	.....	1	10	6	3556	5722	5	1.55	39.3
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.81	757.2	30.00	762.0	79.7	26.5	60.8	3	.....	.....	1	.....	.....	16	11	..	.....	.....	6	1.56	39.6
MEXICAN.																										
Leon	N. 21 07	W. 101 36	5.22 a.m.	5902	1799	24.34	618.2	30.16	766.1	46.7	8.2	82	2	18	2	2	.....	.....	1	.....	6	.....	.....	3	0.62	15.7
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29 71	754.6	29.97	761.2	68.0	20.0	80	4	5	.....	1	.....	3	3	15	.....	.....	.....	3	2.17	55.1
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.07	586.0	30.22	767 6	45.0	7.2	80	.....	1	.....	.....	.....	.....	.....	.....	30	.....	.....	4	0.31	7.9
Puebla	N. 19 03	W. 98 03	5.36 a.m.	7113	2168	23.43	595.1	30.24	768.1	45.5	7.5	62	1	5	.....	.....	.....	.....	.....	6	19	.....	.....	4	0.46	11.7
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.87	758.7	29.87	758.7	41.7	5.4	.....	1	1	6	7	5	1	4	5	1	.....	.....	.....	3.42	86.8
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.78	756.3	29.83	757.7	38.1	3.4	.....	1	.....	7	7	4	1	4	5	2	.....	.....	.....	2.50	63.6
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.81	757.2	29.81	757.2	40.1	4.5	.....	1	2	3	10	3	2	2	8	.....	.....	.....	.....	3.25	82.5
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.85	758.3	29.85	758 3	46.2	7.9	.....	.....	.....	5	13	.....	2	2	7	2	.....	.....	.....	3.42	86.8
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.81	757.2	29.86	758.4	40.6	4.8	87.3	1	1	2	13	4	1	3	6	.....	.....	.....	7	3.82	97.0
Sub-Series.																										
Batavia	S. 6 11	E. 106 48	7.15 p.m.	26	8	.....	.....	29.88	759.0	77.9	25.5	85.3	5	13	7	3	1	.....	.....	2	.....	.....	.....	9	6.94	176.4
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.50	749.3	29.56	750.9	36.9	2.7	82.8	1	1	2	6	15	5	1	.....	.....	.....	.....	6	6.55	166.4
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.52	749.9	29.56	750.9	31.1	— 0.5	72.9	1	.....	.....	2	8	7	10	3	2	.....	.....	6	2.26	57.5
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.52	749.8	29.67	753.7	25.5	— 3.6	88.0	4	1	1	.....	.....	1	12	10	2	.....	.....	8	1.91	48.4
Gjøsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.54	750 2	29.56	750.8	24.4	— 4.2	.....	.....	1	4	7	4	6	.....	3	6	.....	.....	5	2.87	73.0
PORTUGUESE.																										
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	312	95	29.87	758.6	30.21	767 3	52.3	11.3	72.7	12	4	4	.....	1	1	.....	8	1	.....	.....	5	1.70	43.1
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.23	767.8	30.30	769.6	60.3	15.7	75.5	5	2	2	6	2	2	1	7	4	.....	.....	4	3.78	95.9
Saint Paul de Loando	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.71	754.5	29.91	759.6	80.2	26.8	82.4	1	9	17	4	.....	.....	.....	.....	.....	.....	.....	6	0	0
San Salvador	S. 6 17	E. 14 53	1.07 p.m.	1834	559	28.06	712.6	29.88	758.9	80.1	26.7	67.3	2	3	8	9	6	1	.....	2	.....	.....	.....	8	2.14	54.3
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.32	643.2	30.17	766.2	38.7	3.7	81.3	2	5	14	3	.....	2	1	1	3	.....	.....	5	9.70	246.3
RUSSIAN																										
Akmolinski .*a*	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	29.07	738.3	30.25	768.4	16.2	— 8.8	85.8	2	2	5	12	2	4	2	1	.....	.....	.....	7	0.30	7.7
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.84	757.8	29.85	758.3	5.2	—14.9	84.9	1	2	.....	5	6	3	11	2	1	.....	.....	8	0.22	5.5
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.31	769.8	30.23	767.8	37.0	2.8	82.3	2	2	4	4	3	9	6	1	.....	.....	.....	7	0.26	6.5
Baku	N. 40 21	E. 49 51	3.28 p.m.	39	12	30.28	769.1	30.23	767 9	49.3	9.6	72.6	7	1	.....	7	6	1	.....	1	8	.....	.....	5	0.19	4.8
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.84	757.9	30.39	771.9	10.8	—11.8	83.7	.....	1	.....	10	1	.....	.....	1	12	.....	.....	7	1.09	27.6
Bielosersk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.37	746.1	29.88	758.9	15.4	— 9.2	95.8	1	3	3	6	4	6	3	2	3	.....	.....	9	1.43	36.4
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.53	750.1	29.79	756 6	26.1	— 3.3	96.6	2	1	2	5	4	5	8	3	1	.....	.....	10	2.92	74.3
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	29.03	737.3	30.00	763 5	17.1	— 8.3	89.0	.....	.....	7	9	7	5	1	.....	2	.....	.....	9	0.75	19.1
Elissawetgrad	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.59	751 5	30.06	763 4	37.0	2.8	86.6	2	2	4	5	6	4	6	.....	2	.....	.....	9	1.18	30.1
Kasalinsk	N. 45 46	E. 62 07	4.16 p.m.	147	45	30.06	763.4	30.23	767.9	28.0	— 2.2	82.9	4	4	1	2	6	2	6	3	3	.....	.....	7	.....	.....
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.72	754.9	30.01	762 2	22.3	— 5.4	93.4	1	2	2	5	11	4	1	2	3	.....	.....	9	0.77	19.6
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	29.79	756.7	29.84	758.0	11.8	—11.2	91.0	1	4	7	4	3	1	3	1	7	.....	.....	8	0.34	8.5
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	30.08	764.1	30.11	764.7	46.9	8.3	83.6	1	5	2	3	4	1	5	1	9	.....	.....	8	0.52	13.1
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.29	744.0	29.95	760.7	35.1	1.7	86.9	.....	5	6	0	4	5	3	2	.....	.....	.....	9	1.97	50.0
Kosloy *a*	N. 52 53	E. 40 31	2.50 p.m.	466?	142?	29.45	748.1	29.98	761.6	27.5	— 2.5	96.9	.....	3	4	10	2	4	3	1	3	.....	.....	10	2.18	55.3
Lgov	N. 51 41	E. 35 17	2.29 p.m.	535?	163?	29.42	747.3	30.04	762.9	31.8	— 0.1	91.8	.....	1	5	5	4	4	5	3	4	.....	.....	9	1.51	38.4
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	29.72	754.8	29.74	755.4	34.0	1.1	88.8	1	1	5	7	4	3	8	2	.....	.....	.....	10	2.78	70.7
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.89	759.1	30.10	764.4	36.1	2.3	83.7	.....	2	6	7	3	3	8	1	1	.....	.....	9	1.56	39.7
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.42	747 2	29.93	760.1	26.6	— 3.0	85.8	1	3	4	11	7	3	.....	.....	2	.....	.....	8	1.32	33.6
Nertchinsk	N. 51 19	E. 119 37	8.07 p.m.	?	?	27.91	708.9	30.55	776.0	-14.1	—25.6	70.5	.....	3	.....	.....	.....	.....	.....	.....	28	.....	.....	2	0.09	2.3
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.99	761.7	30.06	763.5	40.1	4.5	89.2	2	.....	4	7	5	1	3	1	8	.....	.....	7	1.41	35.8
Nikolnievsk *a*	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.84	757.9	29.93	760.1	—2.4	—19.1	77.6	.....	4	14	.....	.....	.....	2	2	8	.....	.....	4	.....	.....
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.12 p.m.	328	100	29.97	761.2	30.34	770.6	36.9	2.7	68.6	3	3	1	.....	5	2	3	7	7	.....	.....	7	.....	.....
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.62	752.3	29.83	757.7	14.4	— 9.8	87.2	4	9	1	5	1	4	.....	5	2	.....	.....	8	2.40	60.9
Pinsk	N. 52 07	E. 26 06	1.52 p.m.	459?	140?	29.41	747.0	29.93	760.1	33.1	0.6	87.3	1	4	5	7	6	3	3	2	.....	.....	.....	9	1.80	45.8
Poti	N. 42 09	E. 41 37	2.54 p.m.	466?	142?	30.13	765.4	30.17	766.2	56.8	13.8	78.9	.....	2	1	1	.....	1	20	.....	6	.....	.....	2	2.85	72.3
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	20	6	29.79	756.6	29.81	757.2	20.5	— 6.4	90.2	2	6	3	4	3	4	6	3	.....	.....	.....	8	1.20	30.4
Samarkand	N. 39 39	E. 66 57	4.36 p.m.	2379?	725?	27.76	705.1	30.31	769.8	42.6	5.9	74.9	.....	1	1	.....	.....	4	1	.....	24	.....	.....	5	.....	.....
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.74	755.4	30.46	773.8	12.4	—10.9	88.1	1	.....	.....	3	4	1	7	.....	15	.....	.....	6	0.59	15.0
Sevastopol	N. 44 37	E. 33 31	2.22 p.m.	138?	42?	29.85	758.2	30.06	763.6	50.2	10.1	69.9	3	5	2	5	5	.....	1	2	8	.....	.....	6	0.98	24.9
Staiol Bykhov	N. 53 31	E. 30 16	2.09 p.m.	512	156	29.32	744.6	29.89	759.3	31.6	— 0.2	89.6	.....	.....	3	4	6	10	4	1	3	.....	.....	10	2.58	65.4
Tashkend *a*	N. 41 20	E. 69 18	4.45 p.m.	1607?	490?	28.63	727.1	30.37	771 4	40.3	4.6	71.8	1	3	1	.....	.....	.....	.....	2	23	.....	.....	6	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Metr's	Result of Simultaneous Observations for December, 1884. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation Inch.	Mill.
RUSSIAN—Con.	° ′	° ′																								
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.81	731 7	30.26	768.6	46.8	8.2	53.2	10	7	1	.....	4	7	1	.....	1	.....	.....	4	0.04	1.0
Vernoe	N. 43 16	E. 76 53	5.16 p.m.	2401?	732?	27.63	701.7	30.29	769 3	24.8	— 4.0	81.2	.....	.....	.....	.....	.....	.....	.....	...	31	.....	.....	3	.....	.....
Viatka. *a*	N. 58 36	E. 49 41	3.27 p.m.	581?	177?	29.27	743.4	29.94	760.5	17.2	— 8.2	91.9	3	3	4	6	6	4	2	.....	2	.....	.....	9	0.70	17.7
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.44	747.8	29.88	758.9	35.2	1.8	87.9	1	2	8	8	5	3	3	1	.....	.....	.....	8	1.97	50.0
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	2627	80?	30.06	763.4	30.38	771.6	3.4	—15.9	83.4	1	2	2	3	4	2	9	.....	8	.....	.....	6	1.27	32.3
Sub-Series.																										
Petrowsky Ac'y	N. 55 50	E. 37 38	2.39 p.m.	508	155	29.30	744.2	29.83	757.7	25.9	— 3.4	84.6	1	1	6	6	6	3	2	1	5	.....	.....	8	0.19	4.8
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.16 p.m.	138	42	29.91	759.7	30.08	764.0	49.8	9.9	68	3	5	11	6	4	.....	.....	2	.....	.....	.....	4	1.82	46.1
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.08	764.0	30.14	765.5	51.6	10.9	74	1	7	1	.....	1	8	1	.....	12	1392	2241	7	6.44	163.6
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.14	689.3	30.22	767.6	39.4	4.1	82	8	2	6	6	6	.....	...	3	.....	4339	6983	7	1.70	43.2
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.89	708 4	30.19	766.9	43.9	6.6	73.5	2	.....	1	7	5	7	3	6	.....	3347	5387	5	0.92	23.3
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.97	761.1	30.11	764.9	49.5	9.7	70.0	.	6	5	18	.. ...	.....	.....	2	.....	1186	1908	4	0.72	18.2
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	203	29.22	742.3	30.14	765.5	49.3	9.6	82.6	4	1	1	5	5	1	.....	11	3	5954	9582	8	4.31	109.5
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	30.02	762.5	30.09	764 2	69.8	21.0	87.0	3	.....	.....	...	.....	12	16	.....	.....	.....	.....	3	0.83	21.0
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.95	760.7	30.00	762.1	75.4	24.1	79.4	4	.....	1	1	.....	8	6	11	.....	3943	6345	5	2.43	61.7
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	30.10	764.5	30.20	767.1	55.9	13.3	70.4	9	4	2	3	1	.. ...	5	1	6	.....	.....	4	1.13	28.8
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.97	761.2	30.06	763.5	74.5	23.6	86	....	1	.....	5	3	10	9	3	.....	.....	.....	6	3.98	101.1
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.76	755.9	29.80	756.9	11.5	—11.4	97	9	.....	4	4	1	.....	3	6	4	.....	.....	7	0.27	6.8
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.71	754.6	29.76	755.9	16.9	— 8.4	95	2	5	3	3	2	4	2	6	4	.....	.....	8	1.34	34.1
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.68	753.8	29.73	755.1	20.8	— 6.2	90	4	.....	.....	1	2	1	3	9	11	.....	.....	7	3.42	86.9
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.53	750.0	29.71	754.5	29.8	— 1.2	90	2	5	3	2	1	3	3	....	12	.....	.....	9	2.10	53.2
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.63	752.6	29.69	754.1	34.7	1.5	89	2	4	6	2	5	4	7	1	.....	.....	.....	9	2.61	66.3
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.60	751 7	29.68	753.9	26.2	— 3.2	97.0	2	6	5	3	5	2	7	1	.....	.....	.....	8	1.93	49.0
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p m.	1338	408	28.58	726.0	30.07	763.7	40.3	4.6	75.9	6	3	1	7	6	1	5	2	.....	.....	.....	6	2.33	59.2
TURKISH.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.10	764.5	51.3	10.7	74	8	.....	...	17	.....	.....	.....	1	5	.....	.....	6	1.56	39.5
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	30.08	764.1	56.8	13.8	.....	.....	6	6	4	.....	5	1	9	.....	.....	.....	6	7.87	200.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	30.06	763.4	65.7	18.7	65.1	7	.....	3	11	.....	.....	.....	10	.....	.....	.....	5	0.24	6.1
UNITED STATES.																										
New Eng'd states.																										
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	30.00	762.0	30.07	763.8	24.2	— 4.3	79.2	8	6	3	4	2	1	4	.....	3	8219	13227	7	8.63	219.2
Portland	N. 43 39	W. 70 15	7.27 a.m.	45	14	30.06	763 5	30.11	764.8	28.4	— 2.0	78.1	9	6	7	7	1	.....	1	.....	.....	6426	10342	6	6.42	163.1
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.51	597.1	30.14	765 5	10.2	—12.1	93.1	2	18	8	2	1	.....	.....	.....	.....	.....	.....	2	4.70	119.4
Boston	N. 42 21	W. 71 04	7.24 a.m.	125	38	30.00	762.0	30.14	765.5	29.8	— 1.2	75.6	4	10	7	8	2	...	.....	.....	.....	8730	14049	6	4.46	113.3
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	30.13	765.3	30.16	766.1	35.2	1.8	85.9	6	5	4	6	2	.....	.....	8	.....	13603	21891	7	6.56	166.6
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	30.14	765.5	30.19	766.8	31.7	— 0.2	84.0	9	4	5	7	4	.....	.....	2	.....	6124	9855	6	7.36	186.9
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	30.06	763.5	30.18	766.6	27.9	— 2.3	84.8	7	4	6	5	.....	.....	1	6	2	6701	10784	5	6.41	162.8
Mid. Atlan. states.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	83	25	30.10	764.5	30.20	767.1	25.0	— 3.9	76.1	6	7	1	6	4	.....	.....	6	1	4841	7791	6	3.20	81.3
New York City	N. 40 43	W. 74 00	7.12 a.m.	164	50	30.01	762.2	30.20	767.1	31.7	— 0.2	84.9	4	6	8	4	.....	1	1	5	2	8419	13549	6	6.66	169.2
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	117	36	30.08	764.0	30.21	767.3	31.2	— 0.4	79.3	5	6	6	5	1	.....	.....	7	1	7593	12220	6	3.28	83.3
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	30.18	766.6	30.21	767.3	33.9	1.1	81.4	4	5	3	7	.....	2	7	3	... .	13861	22307	6	5.64	143.3
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	30.17	766.3	30.18	766.6	35.0	1.7	84.1	5	8	8	3	1	.....	2	3	1	6977	11228	5	7.71	195.8
Barnegat City	N. 39 46	W. 74 06	7.12 a.m.	22	7	30.16	766.1	30.18	766.6	35.9	2.2	85.5	7	6	5	6	1	.....	3	2	1	12077	19424	6	7.09	180.1
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.16	766.1	30.20	767.1	38.1	3.4	79.9	8	6	2	7	1	1	3	3	.....	12567	20224	7	6.87	174.8
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.18	766.6	30.20	767.1	37.5	3.1	86.4	5	7	1	10	2	2	.....	4	.....	13721	22081	6	3.22	81.8
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.18	766.6	30.22	767.6	33.8	1.0	68.9	11	7	4	2	1	1	4	1	.....	3928	6321	6	3.91	99.3
Washington City	N. 38 54	W. 77 02	7.00 a.m.	106	32	30.12	765.0	30.24	768.1	31.7	— 0.2	87.9	6	8	.....	.....	8	3	.....	2	4	4392	7068	6	4.70	119.4
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	8	2	30.20	767.1	30.21	767.3	37.9	3.3	83.8	12	4	2	3	4	3	.....	3	.....	9182	14777	7	5.75	146.0
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.19	766.8	30.21	767.3	41.9	5.5	80.5	11	3	1	3	4	3	.....	3	3	11185	18000	6	3.49	88.6
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.50	749.3	30.23	767.8	35.5	1.9	80.9	.....	2	3	4	3	.....	1	12	6	2728	4390	7	11.81	300.0
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.18	766.6	30.21	767.3	41.4	5.2	81.4	12	1	1	6	4	.....	1	6	.....	6308	10152	6	4.56	110.7
S Atlantic states.																										
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	9	3	30.19	766.8	30.20	767.1	45.9	7.7	83.9	8	4	5	4	.....	2	1	7	.....	12772	20554	7	5.65	141.5
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	12	4	30.18	766.6	30.19	766.8	48.8	9.3	86.6	8	3	3	3	1	1	.....	9	3	10336	16634	7	7.41	188.2
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.20	767.1	30.21	767.3	45.6	7.6	82.4	12	4	3	5	1	.....	2	4	.....	11824	19028	7	5.40	137.2
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.18	766 6	30.22	767.6	45.7	7.6	80.8	13	2	4	3	1	.....	2	5	1	7216	11613	5	2.93	74.4
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	30.16	766.1	30.22	767.6	46.4	8.0	80.4	10	4	2	4	2	2	2	4	1	5359	8624	6	3.72	94.5
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.34	745.2	30.23	767.8	39.1	3.9	80.5	2	2	1	3	2	3	.....	14	4	3861	6214	5	5.72	145.3
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	30.13	765.3	30.19	766 8	49.7	9.8	85.8	9	3	3	4	1	.....	.....	9	2	5112	8227	6	3.26	82.8
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	30.05	763.3	30.25	768.3	44.6	7.0	82.4	2	1	2	.....	1	1	.....	7	17	2116	3405	7	4.19	106.4
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	30.11	764.8	30.21	767.3	49.5	9.7	81.7	13	5	1	1	4	.....	2	4	1	4521	7276	6	3.21	81.5
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.14	765.5	30.18	766.6	53.6	12.0	92.8	6	6	2	3	4	.....	.....	6	4	4265	6864	6	4.04	102.6
Florida penin'la.																										
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.13	765.3	30.15	765 8	57.0	13.9	88.4	8	1	1	.....	6	2	4	9	.....	5774	9292	4	5.66	143.8
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.09	764.3	30.11	764.8	71.1	21.7	87.7	3	.....	.....	1	2	5	7	13	.....	7438	11648	5	1.68	42.7
Sanford	N. 28 48	W. 81 23	6.42 a.m.	35	11	30.11	764.8	30.15	765.8	62.2	16.8	84.9	8	8	1	4	3	1	2	4	.....	3735	6011	6	2.51	63.8
East Gulf states.																										
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1129	344	28.99	736.3	30.22	767.6	40.3	4.6	80.7	.....	13	1	4	.....	4	9	... .	.....	8192	13184	5	6.09	154.7
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.11	764.8	30.14	765.5	52.2	11.2	86.1	10	2	1	1	1	1	8	6	1	6294	10129	6	5.60	142.2
Mobile	N. 30 41	W. 88 02	6.16 a.m.	35	11	30.10	764.5	30.14	765.5	49.7	9.8	89.9	8	3	.....	1	3	2	9	3	2	5236	8426	6	5.10	129.5
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.92	760.0	30.16	766.1	46.1	7.8	84.5	4	5	3	.....	1	2	6	8	2	4636	7461	8	4.00	101.6
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.86	758.4	30.13	765.3	46.5	8.1	80.3	4	1	1	4	1	8	5	5	2	5750	9254	7	13.52	343.4
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	30.02	762.5	30.08	764.0	55.5	13.1	83.3	6	1	.....	4	2	5	7	4	2	7090	11410	6	8.01	203.5
West Gulf states.																										
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.84	757.9	30.09	764.3	42.1	5.6	85.6	4	5	1	1	4	3	.....	6	7	3907	6288	7	15.55	395.0
Fort Smith	N. 35 22	W. 94 24	5.50 a.m.	451	137	29.62	752.3	30.12	765.0	32.6	0.3	86.1	1	3	9	1	.....	1	4	7	5	4464	7184	6	6.30	160.0
Little Rock	N. 34 45	W. 92 06	6.00 a.m.	298	91	29.79	756.7	30.12	765.0	37.2	2.9	87.9	4	2	1	1	.....	2	4	7	10	3600	5794	6	16.92	429.8
Galveston	N. 29 18	W. 94 47	5.49 a.m.	40	12	30.01	762.2	30.05	763.3	55.7	13.2	86.6	6	2	4	1	7	2	3	5	1	9183	14778	6	9.44	239.8
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	30.01	762.2	30.04	763.0	51.0	10.6	91.1	11	3	2	3	5	.....	5	1	1	10921	17575	6	2.05	52.1
Palestine	N. 31 45	W. 95 40	5.45 a.m.	533	162	29.52	749 8	30.10	764.5	40.0	4.4	81.5	2	5	1	3	2	3	1	14	.....	7296	11742	6	6.94	176.3
Rio Grande valley.																										
Brownsville	N. 25 53	W. 97 26	5.38 a.m.	57	17	29.94	760.5	30.00	762.0	56.6	13.7	91.8	10	1	.....	3	8	1	2	3	3	6061	9754	5	1.33	33.8
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.84	757.9	30.09	764.3	52.0	11.1	82.6	8	2	1	.....	.....	6	5	3	6	3765	6059	5	0.33	8.4
Ohio val. & Tenn.																										
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.34	745.2	30.20	767.1	38.9	3.8	80.9	3	6	3	3	4	5	3	4	.....	4664	7506	7	6.80	172.7
Knoxville	N. 35 56	W. 83 58	6.32 a.m	980	299	29.13	739.9	30.21	767.3	34.8	1.6	86.6	7	.....	3	2	2	.....	3	10	4	4107	6610	7	6.11	155.2
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.79	756.7	30.15	765.8	37.5	3.1	84.2	4	5	2	1	.....	7	6	3	3	5459	8785	7	9.14	232.2
Nashville	N. 36 10	W. 86 47	6.21 a.m.	549	167	29.56	750.8	30.17	766.3	36.9	2.7	84.7	2	2	8	2	1	7	6	3	.....	5810	9350	8	3.78	96.0
Louisville	N. 38 15	W 85 45	6.25 a.m.	530	162	29.58	751.3	30.20	767.1	35.7	2.1	79.8	6	4	1	7	.....	7	3	1	2	6111	9834	8	5.11	129.8
Greencastle	N. 39 39	W. 86 51	6.21 a.m.	897	273	29.16	740.7	30.16	766.1	26.1	— 3.3	86.1	2	3	5	2	7	7	1	4	.....	6492	10448	9	6.74	171.2
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.30	744.2	30.16	766.1	27.5	— 2.5	89.8	3	6	3	4	2	9	1	3	.....	4829	7771	8	6.05	153.7
Cincinnati	N. 39 06	W. 84 30	6.30 a.m.	620	189	29.49	749 0	30.18	766.6	33.3	0.7	78.8	6	1	4	3	2	6	5	4	.....	4615	7427	8	3.99	101.3
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.26	743.2	30.17	766.3	29.3	— 1.5	87.5	4	3	2	4	9	4	4	1	.....	6282	10110	8	2.77	70.4
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	766	233	29.30	744.2	30.16	766.1	31.4	— 0.3	85.0	1	6	3	3	4	1	3	7	3	5018	8076	7	4.07	103.4
Lower lake region.																										
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.42	747.3	30.13	765.3	27.3	— 2.6	82.5	2	1	4	10	7	4	1	1	1	5388*n*	8671*n*	9	2.62	66.5
Buffalo	N. 42 53	W. 78 53	6.52 a.m	690	210	29.34	745.2	30.13	765.3	28.9	— 1.7	87.4	1	1	5	6	6	4	5	3	.....	10855	17469	9	3.07	78.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for December, 1884.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
U. S.—Continued.																											
Low'r lakereg.—Con	° ′	° ′																									
Oswego	N. 43 29	W. 76 35	7.02 a.m.	334	102	29.74	755.4	30.12	765 0	25.8	— 3.4	81.5	3	4	1	5	8	9	.....	1	.....	10638	17120	9	2.61	66.3
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.36	745.7	30.13	765.3	31.8	— 0.1	78.6	2	3	2	7	12	3	.....	2	.....	10465	16841	8	3.84	97.5
Sandusky	N 41 25	W. 82 40	6.37 a.m.	639	195	29.42	747 3	30.15	765.8	29.1	— 1.6	76.4	1	2	6	11	4	6	.....	1	.....	10380	16705	7	2.44	62.0
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.36	745.7	30.15	765.8	27.9	— 2.3	84.9	2	1	5	8	3	10	2	.....	.....	9598	15446	7	1.83	46.5
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.40	746.7	30.14	765.5	27.6	— 2.4	78.4	.....	3	5	8	6	2	3	2	2	6480	10428	8	2.03	51.6
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.36	745 7	30.12	765.0	27.7	— 2.4	71.4	2	3	5	6	10	1	2	2	.....	8601	13842	6	3.05	77.5
Upper lakeregion.																											
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.32	744.7	30.03	762.7	22.0	— 5.6	86.0	1	1	16	2	5	1	1	1	3	6102	9820	8	5.58	141.7
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	613	187	29.34	745.2	30.06	763 5	16.9	— 8.4	77.1	7	7	6	3	4	1	.....	.....	3	6719	10813	7	4.34	110.2
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.37	746.0	30.08	764 0	26.8	— 2.9	81.4	.....	5	5	2	6	2	8	2	1	9749	15689	9	6.80	172.7
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.33	745 0	30.03	762.7	24.5	— 4.2	83.1	4	3	3	7	3	2	7	2	.....	8041	12940	9	6.48	164 6
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.29	744 0	30.07	763.8	19.1	— 7.2	80.3	5	6	9	3	4	.....	2	1	1	7521	12104	8	8.65	219.7
Port Huron	N. 43 00	W. 82 26	6.38 a.m.	633	193	29.38	746.2	30.10	764.5	23.0	— 5.0	86.3	.....	2	7	6	11	.....	3	2	.....	8176	13158	6	3.01	76.5
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.37	746.0	30.13	765.3	25.4	— 3.7	82.8	.....	7	7	7	6	2	1	1	.....	6574	10580	8	4.21	106.9
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.30	744 2	30.11	764.8	20.2	— 6.6	86.3	3	8	6	6	4	2	1	1	.....	9338	15028	7	2.37	60.2
Duluth	N. 46 48	W. 92 06	6.00 a.m.	672	205	29.36	745.7	30.16	766.1	7.4	—13.7	79.9	2	7	5	11	4	.....	1	.....	1	5434	8745	7	1.22	31.0
Upper Miss. val.																											
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	801	244	29.22	742 2	30.17	766.3	12.1	—11.1	74.2	4	10	2	6	3	3	.....	.....	3	5522	8887	6	1.98	50.3
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.31	744 5	30.16	766.1	14.1	— 9.9	77.0	9	10	2	1	6	3	.....	.....	.....	5225	8409	7	2.25	57.1
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.45	748.0	30.16	766 1	22.8	— 5.1	79.3	4	8	5	5	2	1	1	5	.....	6034	9711	7	3.68	93.5
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.22	742.2	30.20	767.1	15.8	— 9.0	75.3	10	3	1	3	3	3	.....	6	2	4241	6825	7	1.93	49.0
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.39	746.5	30.16	766.1	18.5	— 7.5	75.3	5	8	5	.....	3	3	.....	.....	7	3071	4942	7	4.08	103.6
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.46	748 3	30 17	766.3	20.2	— 6.6	85.5	5	7	4	1	.....	5	5	.....	4	5215	8392	7	3.91	99.3
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.77	756.1	30.17	766.3	33.4	0.8	82.8	6	5	2	2	4	6	3	3	.....	7095	11418	7	8.99	228.3
Springfield	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.46	748.3	30.19	766.8	27.4	— 2.6	77.5	4	6	3	2	7	2	1	4	2	7006	11372	7	5.19	131.8
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	583	178	29.52	749 8	30.18	766.6	31.2	— 0.4	76.4	2	7	4	1	3	11	.....	3	.....	9294	14957	8	6.18	157.0
Missouri valley.																											
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.26	743 2	30.22	767.6	21.0	— 6.1	89.8	10	8	1	.....	3	4	1	.....	4	4862	7824	7	1.48	37.6
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28 96	735 6	30.25	768.3	14.5	— 9.7	81.1	11	6	1	1	3	2	.....	2	5	6662	10721	6	0.72	18.3
Fort Bennett	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.53	724.6	30.29	769 4	4.9	—15.1	88.5	2	11	.....	2	.....	5	.....	3	8	5094	8198	5	0.46	11.7
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.71	729.2	30.25	768.3	4.4	—15.3	75.4	4	9	1	2	5	5	.....	3	2	6671	10736	4	0.62	15.7
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.83	732 3	30.26	768.6	8.3	—13.2	79.6	6	9	2	.....	5	2	.....	1	6	5574	8970	5	0.80	20.3
Extreme N'thwest.																											
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	29.10	739.1	30.21	767.3	3.7	—15.7	85.0	8	2	5	3	9	1	.....	1	2	8104	13042	6	0.76	19.3
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.24	742.7	30.23	767.8	—2.4	—19.1	92.5	1	13	4	4	6	1	1	1	.....	6550	10541	4	0.85	21.6
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.25	717.5	30.27	768.8	3.3	—15.9	86.5	3	12	3	1	1	2	.....	1	8	4047	6513	5	1.71	43.4
Fort Buford	N. 48 00	W. 103 56	5.12 a.m.	1930	588	28.05	712.5	30.32	770.1	—0.9	—18.3	77.4	3	6	13	2	.....	1	4	2	.....	6062	9756	5	0.40	10.2
Fort Totten	N. 47 57	W. 98 57	5.32 a.m.	1500	457	28.44	722.4	30.24	768.1	—0.1	—17 8	78.3	2	14	4	6	1	3	1	.....	.....	9157	14736	5	0.48	12.2
Northern slope.																											
Fort Assinaboine	N. 48 32	W. 109 42	4.49 a.m.	2720	829	27.23	691.6	30 27	768.8	—0.1	—17.8	63.7	.....	4	3	17	.....	.....	4	1	2	8440	13583	4	0.72	18.3
Fort Benton	N. 47 50	W. 110 40	4.45 a.m.	2681	817	27.30	693.4	30.29	769.4	—4.8	—20.4	80.6	.....	1	1	11	.....	.....	3	5	10	4457	7173	5	1.01	25.7
Fort Custer	N. 45 42	W. 107 34	4.58 a.m.	3040	926	26.89	683.0	30.29	769 4	1.8	—16.5	83.8	9	4	3	1	3	5	3	3	.....	.....	.....	6	0.27	6.9
Fort Maginnis	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.52	648.2	30.15	765.8	2.2	—16.6	53.7	.....	4	12	1	.....	1	2	11	.....	7230	11635	5	0.82	20.8
Fort Shaw	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.35	669.3	30.18	766.6	—1.0	—18.3	66.5	2	2	18	4	1	.....	3	1	.....	5457	8782	3	2.47	62.7
Helena	N. 46 34	W. 112 04	4.40 a.m.	4044	1232	25 73	654.8	30.11	764.8	5.5	—14.7	71.3	5	11	12	1	.....	.....	.....	.....	2	2696	4339	3	1.56	39.6
Poplar River	N. 48 08	W 105 10	5.07 a.m.	2030	619	27.95	709 9	30.31	769.9	—8.2	—22.3	98.5	6	4	13	.....	.....	.....	3	1	4	3866	6222	6	0.22	5.6
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25 25	641.3	30.24	768.1	7.5	—13.6	78.9	.....	.....	4	9	2	1	1	7	7	1495	2406	5	1.79	45.5
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6105	1861	23.81	604 8	30.11	764.8	16.2	— 8.8	77.7	6	6	10	4	1	1	2	.....	2	7533	12123	5	0.67	17.0
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.09	688.1	30.25	768.3	11.6	—11.3	74.6	3	4	8	.....	2	4	3	.....	7	5695	9165	6	0.27	0.9
Middle slope.																											
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.48	444.0	30.14	765.5	3.6	—15.8	89.0	2	5	15	5	.....	1	.....	2	1	.....	.....	5	1.50	38.1
Denver *a*	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.60	624.8	30.12	765 0	19.9	— 6.7	65.7	8	2	3	3	11	1	2	.....	.....	5089	8190	3	0.76	19.3
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	25.96	659.4	30.11	764.8	12.1	—11.1	87.9	2	.....	12	.....	2	1	3	6	5	4557	7334	5	0.72	18.3
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2517	767	27.41	696.2	30.21	767.3	15.4	— 9.2	87.9	6	12	3	.....	1	7	1	.....	1	8882	14294	4	1.10	27.9
Fort Elliott	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.22	691.4	30.18	766.6	21.9	— 5.6	85.6	8	11	4	.....	3	3	.....	.....	2	9453	15213	4	3.05	77.5
Southern slope.																											
Fort Sill	N. 31 40	W. 98 23	5.34 a.m.	1200	366	28.84	732.5	30.17	766.3	25.9	— 3.4	94.5	12	1	1	1	7	.....	1	5	3	7608	12244	7	2.71	68.8
Fort Concho	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.12	714.2	30.14	765 5	33.8	1.0	87.6	4	2	3	8	1	1	3	6	3	7183	11560	5	3.57	90.7
Fort Stockton	N. 30 53	W. 102 53	5.16 a.m.	3010	917	26.97	685 0	30.11	764.8	38.1	3.4	79.6	2	4	.....	11	1	1	1	.....	11	4987	8026	5	1.27	32.3
Fort Davis	N. 30 38	W. 103 56	5.12 a.m.	4928	1502	25.22	640.6	30.15	765.8	35.0	1.7	87.8	5	.....	1	16	1	1	.....	.....	7	6085	9793	4	0.48	12.2
Southern plateau.																											
Santa Fé	N. 35 41	W. 105 57	5.04 a.m.	7026	2141	23 15	588.0	30.08	764.0	25.9	— 3.4	74.0	3	.....	3	4	5	2	3	11	.....	4497	7237	5	1.77	45.0
Fort Thomas	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.27	692 6	30.09	764.3	32.2	0.1	74 3	.....	1	4	5	5	15	1	.....	.....	.....	.....	5	5.16	131.1
Fort Apache	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	24.99	634.7	30.07	763.8	25.0	— 3.9	87.4	2	.....	.....	2	3	2	7	12	3	3684	5929	4	5.52	140.2
Fort Grant	N. 32 39	W. 109 57	4.48 a.m.	4856	1480	25.17	639.3	30.05	763 3	36.8	2.7	66.8	7	2	.....	.....	.....	.....	8	1	13	.....	7836	5	5.93	150.6
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5389	1642	24.61	625.1	30.03	762.7	26.8	— 2.9	81.6	3	.....	1	11	4	2	1	3	6	4920	7918	4	5.58	141.7
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.79	756.7	29.94	760.5	46.6	8.1	82.1	1	4	.....	.....	1	3	1	18	3	4014	6460	4	1.96	49.8
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3764	1147	26.22	666 0	30.08	764.0	39.2	4.0	66.2	1	9	11	1	.....	1	.....	6	2	3666	5900	4	2.07	52.6
Middle plateau.																											
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.49	647.4	30.03	762.7	32.2	0.1	63.6	3	7	.....	2	6	7	1	1	4	5410	8706	5	2.12	53.8
Winnemucca	N. 40 58	W. 117 43	4.17 a.m.	4358	1328	25.51	647.9	30.08	764.0	26.9	— 2.8	68.6	2	1	.....	17	.....	.....	2	8	1	7737	12451	5	3.29	83.6
Northern plateau.																											
Boisé City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.11	688.6	30.09	764.3	23.6	— 4.7	88.0	.....	6	7	.....	1	9	3	1	4	2529	4070	6	5.67	144.0
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.28	743.7	30.16	766.1	16.3	— 8.7	79.6	.....	1	.....	1	.....	.....	.....	.....	29	339	546	6	2.79	70.9
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1909	582	28.00	711.2	30.14	765.5	10.9	—11.7	86.7	1	4	5	6	1	2	2	5	5	1874	3016	8	3.28	83.3
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1667	508	28.28	718 3	30.12	765.0	13.7	—10.2	89.1	2	.....	3	8	2	1	.....	6	9	2385	3838	7	5.10	129.5
N. Pac. coast reg'n																											
Fort Canby	N. 46 16	W. 124 04	3.52 a.m.	179	54	29.72	754.9	29.92	760.0	34.7	1.5	87.9	8	3	5	.....	.....	2	8	5	.....	10348	16653	6	5.91	150.1
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	29.92	760.0	29.96	761.0	30.1	— 1.1	86.0	2	.....	2	1	8	.....	.....	2	16	1870	3009	8	5.82	147.8
Tatoosh Id.	N. 48 23	W. 124 44	3.49 a.m.	86	26	29.82	757.4	29.92	760.0	35.4	1.9	78.8	.....	3	.....	2	1	7	16	2	.....	12231	19684	6	12.47	316.7
Portland	N. 45 32	W. 122 43	3.57 a.m.	67	20	29.90	759.4	29.97	761.2	29.1	— 1.6	83.5	3	2	1	3	4	1	10	1	6	3437	5531	7	7.52	191.0
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	523	159	29.38	746.2	29.96	761.0	35.3	1.8	92.9	2	3	2	4	3	.....	3	1	13	1531	2404	8	9.20	233.7
Mid Pac. coast reg																											
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.20	741.7	29.90	759.4	46.7	8.2	80.8	6	7	.....	.....	9	5	1	1	2	16870	27149	8	2.58	65.5
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	332	101	29.61	752.1	29.98	761.5	42.9	6.1	72.7	7	11	1	.....	7	1	4	.....	.....	7752	12524	4	7.73	196.3
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	64	19	29.90	759.4	29.97	761.2	44.8	7.1	78.9	5	3	1	1	6	11	2	1	1	7817	12580	4	10.45	265.4
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.90	759 4	29.97	761.2	50.5	10.3	77.9	5	4	1	8	3	4	2	3	1	7266	11693	6	7.68	195.1
S. Pac. coast reg'n.																											
Los Angeles *a*	N. 34 03	W. 118 15	4.15 a.m.	299	91	29.62	752 3	30.02	762 5	46.8	8.2	85.3	2	1	2	.....	1	.....	3	16	5	4345	6976	3	4.65	118.1
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.91	759.7	29.98	761.5	50.2	10.1	82.8	5	2	7	1	.....	2	8	5	1	4039	7466	6	5.12	130.0
Alaska stations.																											
Ft. St. Michael's	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.93	760.2	29.97	761.2	12.7	—10.7	86.1	4	.....	.....	2	6	1	6	6	6	10687	17199	3	0.20	5.1
Sitka	N. 57 03	W. 135 19	3.07 a m.	63	19	29.93	760.2	30.00	762.0	31.6	— 0.2	74.4	.....	2	.....	2	.....	4	2	11	10	6838	11004	4	7.09	180.1
Unalaskka	N 53 53	W. 166 32	1.02 a.m.	13	4	29.61	752 1	29.63	752.6	35.1	1.7	83.7	1	1	1	5	4	11	6	.....	2	8480	13647	7	28.17	715.5
Sub-Series.																											
Behring Island	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.58	751 3	29.60	751.8	26.1	— 3.3	91.3	5	2	1	3	2	2	13	2	1	9490	15272	7	0.96	24.4
Bluefields	N. 12 00	W. 83 43	6.31 a.m.	20	6	29.95	760.7	29.97	761.2	73.5	23.1	92.2	9	16	.....	.....	.....	.....	.....	6	.....	.....	.....	6	11.15	283.2
Kingston	N. 18 58	W. 76 48	7.01 a m.	10	3	.....	.....	30.04	763.0	71.2	21.8	86.5	23	.....	.....	.....	.....	.....	1	.....	7	2150	3460	3	0	0
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.05	763.3	30.05	763.3	77.4	25.2	85.0	.....	.....	.....	.....	1	4	25	1	.....	.....	.....	4	2.97	75.4
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	.....	.....	.....	.....	77.0	25.0	89.0	.....	.....	1	.....	2	.....	.....	.....	28	.....	.....	6	3.07	78.0
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	29.86	758.4	30.02	762.5	74.5	23.6	84.8	.....	.....	.....	.....	.....	1	1	29	.....	.....	.....	3	2.24	56.9

OCEAN SQUARE DATA FOR DECEMBER, 1884.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5° W. 22.5°	30.01	762.2	77.8	25.4	1					1	18	11			3.4
12.5 27.5	30.02	762.5	77.6	25.3	1			1	1	3	24	1			3.5
12.5 32.5	30.0[illegible]	762.2	78.5	25.8	1		2		1	4	22	1			3.7
12.5 37.5	30.01	762.2	79.0	26.1					2	2	21	5	1		3.4
12.5 42.5	30.01	762.2	79.1	26.2						1	22	8			3.7
12.5 47.5	30.03	762.7	78.6	25.9							14	17			3.8
12.5 52.5	30.05	763.3	78.3	25.7	1						20	10			3.6
17.5 22.5	30.07	763.8	74.4	23.6	2						20	8	1		3.7
17.5 27.5	30.08	764.0	75.0	23.9	1				2	1	25	1	1		3.9
17.5 32.5	30.07	763.8	75.9	24.4	2				1	3	23	2			3.9
17.5 37.5	30.06	763.5	76.7	24.8	2					1	24	4			3.7
17.5 42.5	30.07	763.8	76.5	24.7	2						24	5			3.9
17.5 47.5	30.08	764.0	76.6	24.8	2					1	20	8			3.9
17.5 52.5	30.09	764.3	73.9	23.3						1	24	6			4.0
17.5 57.5	30.08	764.0	78.5	25.8						1	25	5			4.1
22.5 22.5	30.12	765.0	71.8	22.1	4	1				1	20	5			4.0
22.5 27.5	30.12	765.0	72.6	22.6	3	1				3	22	2			4.2
22.5 32.5	30.13	765.3	73.4	23.0	5					4	19	3			4.0
22.5 37.5	30.12	765.0	74.0	23.3	3					2	23	3			4.0
22.5 42.5	30.13	765.3	74.6	23.7	4					1	23	2		1	4.2
22.5 47.5	30.15	765.8	74.7	23.7	4					4	16	6		1	3.9
22.5 52.5	30.14	765.5	75.1	23.9	2				2	1	20	5		1	4.3
22.5 57.5	30.14	765.5	75.3	24.1	2				2	4	18	5			4.1
22.5 62.5	30.13	765.3	75.2	24.0	1				2	7	17	4			4.0
22.5 67.5	30.12	765.0	74.9	23.8	1				4	5	17	4			4.0
22.5 72.5	30.12	765.0	75.1	23.9	2	1				5	20	3			4.2
27.5 22.5	30.19	766.8	67.9	19.9	7			1	1	2	15	5			4.0
27.5 27.5	30.19	766.8	69.2	20.7	5		2			6	13	5			4.3
27.5 32.5	30.18	766.6	70.2	21.2	2	1	1		1	6	12	8			4.2
27.5 37.5	30.18	766.6	71.4	21.9	1	2			1	6	16	4		1	4.3
27.5 42.5	30.19	766.8	72.0	22.2		2			4	4	13	7		1	4.0
27.5 47.5	30.19	766.8	72.2	22.3	2	1			4	7	10	6		1	4.2
27.5 52.5	30.20	767.1	74.5	23.6	4	1		1	5	5	10	4		1	4.2
27.5 57.5	30.20	767.1	72.3	22.4	1	1	1	1	5	4	12	6			4.2
27.5 62.5	30.19	766.8	72.2	22.3	4		2	1	7	6	7	4			4.1
27.5 67.5	30.18	766.6	72.1	22.3	3		3		7	6	8	4			4.1
27.5 72.5	30.17	766.3	72.2	22.3	2	1	3	1	8	6	5	4	1		3.7
27.5 77.5	30.15	765.8	70.2	21.2	4			1	6	7	11	1		1	3.1
32.5 12.5	30.20	767.1	61.0	16.1	6	1		1	2	1	9	11			3.2
32.5 17.5	30.23	767.8	62.7	17.1	7	1		1	1	4	13	4			3.5
32.5 22.5	30.24	768.1	64.2	17.9	8			2	3	4	10	4			3.5
32.5 27.5	30.24	768.1	65.4	18.6	5		2		2	8	11	3			3.7
32.5 32.5	30.24	768.1	66.6	19.2	2	1	1		5	9	5	8			4.5
32.5 37.5	30.25	768.3	67.3	19.6	2	1	1	1	6	6	9	4		1	4.3
32.5 42.5	30.24	768.1	67.5	19.7	2	2	1	4	10	1	8	2		1	4.0
32.5 47.5	30.23	767.8	67.5	19.7	4	2	2	4	6	5	6	1		1	4.4
32.5 52.5	30.22	767.6	67.5	19.7	5	2	6	3	3	4	5	3			4.7
32.5 57.5	30.21	767.3	67.3	19.6	2	3	6	4	3	4	5	4			4.5
32.5 62.5	30.19	766.8	69.9	21.1	3	4	2	6	5	3	4	4			3.8
32.5 67.5	30.17	766.3	67.5	19.7	4	3	3	7	4	4	3	3			4.6
32.5 72.5	30.18	766.6	65.1	18.4	5	4	1	7	3	4	2	4	1		4.0
32.5 77.5	30.20	767.1	55.1	12.8	7	2	3	3	1	3	3	6	3		3.5
37.5 12.5	30.23	767.8	56.0	13.3	4	5	1	1	5	1	6	7	1		3.6
37.5 17.5	30.26	768.6	59.1	15.1	8	2	3	4	5	2	2	5			3.4
37.5 22.5	30.29	769.4	60.3	15.7	7		3	5	4	1	5	6			3.3
37.5 27.5	30.30	769.6	61.2	16.2	5	2	4	4	3	4	3	6			3.3
37.5 32.5	30.28	769.1	62.4	16.9	4	2	6	5	9		2	2		1	4.0
37.5 37.5	30.26	768.6	62.3	16.8	5	3	1	13	4		3	1		1	4.5
37.5 42.5	30.23	767.8	61.0	16.1	2	2	5	6	5	3	3	3		2	4.7
37.5 47.5	30.20	767.1	59.3	15.2	1	4	3	9	4	1	4	2		2	4.0
37.5 52.5	30.18	766.6	58.6	14.8	4	2	5	9	3	2	3	2		1	4.9
37.5 57.5	30.16	766.1	58.5	14.7	3	6	4	9	4		2	2		1	5.1
37.5 62.5	30.14	765.5	58.1	14.5	2	8	6	7	2		2	4			5.2
37.5 67.5	30.13	765.3	56.1	13.4	4	7	8	3	1	2	5		1		5.4
37.5 72.5	30.18	766.6	48.6	9.2	8	3	5	4	1	1	3	6			5.3
42.5 12.5	30.16	766.1	53.3	11.8	3	1	12	7	2		1	5			3.7
42.5 17.5	30.17	766.3	56.1	13.4	2	3	11	9			1	5			4.6
42.5 22.5	30.19	766.8	56.6	13.7	2		14	9			4	2			4.8
42.5 27.5	30.18	766.6	57.1	13.9	3	2	12	11			1	2			4.9
42.5 32.5	30.17	766.3	56.8	13.8	1	9	7	10		1		2		1	5.1
42.5 37.5	30.18	766.6	55.7	13.2	4	6	7	9	2			2		1	5.5
42.5 42.5	30.16	766.1	52.3	11.3	5	6	7	10	1	1					5.1
42.5 47.5	30.10	764.5	47.4	8.6	4	8	0	6	5			2			4.8
42.5 52.5	30.11	764.8	45.1	7.3	4	4	7	4	4	3	4	1			4.8
42.5 57.5	30.08	764.0	44.2	6.8	6	4	5	4	5	3	3	1			4.8
42.5 62.5	30.07	763.8	41.5	5.3	3	6	7	3	3	2	2	5			5.0
42.5 67.5	30.10	764.5	37.0	2.8	3	7	5	4	1	3	2	6			4.9
47.5 12.5	30.03	762.7	52.0	11.1	1	3	11	9	1		2	4			5.4
47.5 17.5	30.02	762.5	52.7	11.5	4	4	9	8	2			4			5.2
47.5 22.5	30.01	762.2	52.5	11.4	2	2	13	9	2		1	2			5.8
47.5 27.5	29.99	761.7	51.4	10.8	2	8	11	9			1				5.7
47.5 32.5	29.98	761.5	50.0	10.0	2	10	7	10	2						6.1
47.5 37.5	29.99	761.7	47.2	8.4		13	9	5	1		1			2	5.8
47.5 42.5	30.00	762.0	40.1	4.5	2	11	6	9	1						5.7
47.5 47.5	29.99	761.7	35.2	1.8	1	16	7	3	3		1				5.4
52.5 12.5	29.83	757.7	47.1	8.4	2	6	13	5	4		1				5.2
52.5 17.5	29.81	757.2	47.5	8.6		5	17	9							5.9
52.5 22.5	29.79	756.7	46.3	7.9	1	5	14	11							5.8
52.5 27.5	29.77	756.1	44.6	7.0	1	6	14	9			1				6.5
52.5 32.5	29.77	756.1	42.9	6.1	1	13	8	6	1				1	1	5.7
52.5 37.5	29.80	756.9	39.9	4.4	2	10	9	4	2					4	6.0
52.5 42.5	29.80	756.9			1	12	4	2	1					11	
52.5 47.5															
57.5 12.5	29.53	750.0	41.7	5.4	1	6	12	11	1						5.9
57.5 17.5	29.52	749.8	40.4	4.7	1	9	13	7	1						6.1
57.5 22.5	29.52	749.8	39.9	4.4		11	10	8	1					1	6.7
57.5 27.5	29.54	750.3	39.3	4.1		11	10	7						3	6.4
57.5 32.5						9	3	2	2					15	
57.5 37.5															
57.5 42.5															
57.5 47.5															

REVIEW.

INTERNATIONAL METEOROLOGY FOR DECEMBER, 1884.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of December, 1884. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from one simultaneous observation taken each day at 7 a. m., Washington, or 0 h. 8 m., p. m., Greenwich, mean time.

The area of lowest mean pressure in December, 1884, occupies Iceland, and is indicated by the isobar for 29.2 (741.7), the mean at Stykkisholm being 29.15 (740.4). To the southward and eastward of the area of barometric minima the gradient increases with moderate rapidity until the isobar for 30.0 (762.0) is reached, that isobar running from the Gulf of Saint Lawrence eastward over the Atlantic along the forty-seventh parallel to the European continent. Over the British Isles and that part of Europe lying north of the forty-seventh parallel, excepting a part of eastern Russia, the mean pressure ranges from 29.5 (749.3) to 30.0 (762.0); in the southern portion of Europe, except the Italian Peninsula, it exceeds the last-mentioned value. In the southern part of British India it ranges from 29.95 (760.7) to 30.0 (762.0), and over the northern part of Japan and the Sea of Okhotsk it ranges from 29.8 (756.9) to 30.0 (762.0); in all other parts of Asia from which reports are received, the mean pressure exceeds 30.0 (762.0). In the North American continent, except on the immediate Pacific coast, the mean pressure exceeds 30.0 (762.0).

Four areas of high mean pressure are shown on the chart; the first is enclosed by the isobar for 30.5 (774.7), and occupies Siberia, the highest mean pressure reported being 30.55 (776.0), at Nerchinsk. The second is shown over the Atlantic Ocean, in the vicinity of the Azores, where the mean pressure is 30.3 (769.6), while the isobar for 30.2 (767.1) covers the ocean between N. 28° and 40° and extends from the Iberian Peninsula westward to the sixtieth meridian. The third area is situated in the British Northwest Territories and extends into the United States, covering northern Montana; this area is indicated by the isobar for 30.3 (769.6), while that for 30.2 (767.1) extends over the northern Rocky Mountain region and southward and eastward over the Mississippi and Missouri Valleys. The fourth area of high pressures occupies the middle and south Atlantic states, and is enclosed by the isobar for 30.2 (767.1).

Compared with the chart for the preceding month (November, 1884), there has been a decrease of pressure over the western and southwestern districts of the United States, the area of high pressures, which in November occupied the plateau regions, having apparently withdrawn northward to the British dominions. Over the eastern part of the United States, and also throughout Canada, there has been an increase of pressure. Over the Atlantic Ocean south of the fiftieth parallel and west of the thirtieth meridian there has been an increase of pressure, while a considerable decrease has occurred over the region to the northward of the above-mentioned parallel. In Europe a considerable decrease of pressure has occurred in all parts of the continent, except Spain, where the pressure has undergone no change. In the northern peninsulas and the British Isles the decrease of pressure, as compared with that for November, is about .3 inch; in Germany it is .26 inch, and in France, Austria, Russia, and Italy it averages .16 inch. In Asia there has been a general increase of pressure.

Compared with the corresponding month of previous years, the mean pressure over the United States was below the normal over the western part of the country, and also in the Gulf States; in the Lake region and along the Atlantic coast it was above the normal. In Canada it was also above normal. In Europe the mean pressure was below the normal, the departures being greatest in the British Isles and the northern peninsulas.

The following table shows the mean pressure and mean temperature for December, 1884, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last seven years:

Countries.	Mean pressure.			Mean temperature.		
	Dec. mean of 7 (1877–'83) years.	Dec., 1884.	Departure.	Dec. mean of 7 (1877–'83) years.	Dec., 1884.	Departure.
				°	°	°
Algeria	30.12	.....	.....	56.9	.....	.....
Austro-Hungary	30.06	29.98	− 0.08	33.9	37.5	+ 3.6
British Isles	29.93	29.83	− 0.10	40.2	42.4	+ 2.2
Denmark	29.85	29.74	− 0.11	34.9	36.6	+ 1.7
France	30.09	30.02	− 0.07	42.1	43.5	+ 1.4
Germany	29.98	29.89	− 0.09	34.1	37.5	+ 3.4
India	30.01	30.05	+ 0.04	69.1	69.3	+ 0.2
Italy	30.03	29.99	− 0.04	48.1	48.6	+ 0.5
Norway	29.73	29.60	− 0.13	31.3	31.2	− 0.1
Portugal	.....	.....	.....	.....	.....	.....
Russia	30.02	29.95	− 0.07	26.6	30.6	+ 4.0
Spain *	30.14	30.15	+ 0.01	50.6	49.9	− 0.7
Sweden	29.79	29.73	− 0.06	25.6	23.3	− 2.3

* Means for six years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of December, 1884, as compared with the means for seven years:

Stations.	Mean pressure.			Mean temperature.		
	Dec. mean of 7 (1877–'83) years.	Dec., 1884.	Departure.	Dec. mean of 7 (1877–'83) years.	Dec., 1884.	Departure.
				°	°	°
Astrakhan, Russia	30.22	30.23	+ 0.01	28.6	37.0	+ 8.4
Archangel, Russia	29.82	29.86	+ 0.04	15.8	5.2	−10.6
Angra, Azores	.....	.....	.....	.....	.....	.....
Athens, Greece	30.03	30.06	+ 0.03	55.0	59.4	+ 4.4
Beirut, Turkey in Asia	30.02	30.06	+ 0.04	64.6	65.7	+ 1.1
Barnaul, Siberia, Asia	30.45	30.39	− 0.06	0.7	10.8	+ 0.1
Bridgetown, Barbadoes	.....	30.05	.....	.....	81.4	.....
Cape Town, Cape of Good Hope	.....	.....	.....	.....	75.5	.....
Cagliari, Sardinia, Italy	29.97	29.95	− 0.02	55.6	55.0	− 0.6
Ekaterinburg, Russia	30.23	30.06	− 0.17	8.8	17.1	+ 8.3
Fort Napier, Natal, South Africa	29.79	29.91	+ 0.12	76.9	78.7	+ 1.8
Freetown, Sierra Leone	29.89	29.93	+ 0.04	85.4	83.0	− 2.4
Funchal, Madeira Islands	30.18	.....	.....	65.7	.....	.....
Gibraltar †	30.16	.....	.....	59.3	58.1	− 1.2
Godthaab, Greenland	29.62	.....	.....	17.5	.....	.....
Havana, Cuba, W. I	30.10	30.09	− 0.01	70.2	69.8	− 0.4
Malta, Mediterranean Sea	30.00	30.00	0.00	61.6	59.8	− 1.8
Mauritius, Indian Ocean	29.97	30.00	+ 0.03	79.9	79.7	− 0.2
Melbourne, New South Wales	29.90	29.77	− 0.13	59.7	60.0	+ 0.3
Mexico, Mexico †	30.32	30.22	− 0.10	45.4	45.0	− 0.4
Nassau, Bahamas, W. I.	30.13	30.13	0.00	71.8	73.7	+ 1.9
Nikolaevsk on the Amoor, Asia	.....	.....	.....	− 6.2	− 2.4	+ 3.8
Paramaribo, D. Guiana, S. A	30.00	30.05	+ 0.05	79.2	77.4	− 1.8
Pekin, China	30.39	.....	.....	25.2	.....	.....
Ponta Delgada, Azores	30.17	30.30	+ 0.13	63.0	60.3	− 2.7
Sandwick Manse, Orkney Islands	29.73	.....	.....	38.9	.....	.....
San Juan de Puerto Rico, W. I	30.03	30.06	+ 0.03	75.9	74.5	− 1.4
Stykkisholm, Iceland	29.56	29.15	− 0.41	27.6	31.6	+ 4.0
Tashkend, Toorkistan, Asia	30.36	30.37	+ 0.01	35.0	40.3	+ 5.3
Thorshavn, Färöe Islands	29.69	29.30	− 0.39	39.2	40.5	+ 1.3
Tiflis, Russia	30.19	30.26	+ 0.07	43.3	46.8	+ 3.5
Tokei, Japan	30.01	30.05	+ 0.04	39.5	36.7	− 2.8
Yeniseisk, Siberia, Asia	30.51	30.38	− 0.13	− 8.4	3.4	+11.8
York Factory, B. A	30.04	.....	.....	−16.5	.....	.....
Zi-Ka-Wei, China	30.37	30.43	+ 0.06	39.1	35.8	− 3.3

† Means for six years only.

In the United States the mean temperature of the air was below normal in all districts, except those along the Atlantic coast and in the middle Pacific coast region, where it was but slightly above normal. In Europe it was mostly above the normal. In British India it was 0°.2 above the normal as determined from seven years' observations; the highest mean temperature there reported was 79°.7 Fahr. (26°.5 Cent.), at Bellary, and the lowest was 60°.2 Fahr. (15°.7 Cent.), at Allahabad.

The following are some of the extremes reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Sierra Leone	83.0	28.3	Nerchinsk, Siberia	−14.1	−25.6
Bridgetown, Barbadoes	81.4	27.4	Nikolaevsk on the Amoor, Asia	− 2.4	−19.1
Paramaribo, Dutch Guiana, S. A.	77.4	25.2	Yeniseisk, Siberia	3.4	−15.9
Puerto Berrio, S. A	77.0	25.0	Archangel, Russia	5.2	−14.9
Manila, Philippine Islands	75.4	24.1	Barnaul, Siberia	10.8	11.8

NOTE.—Report from York Factory, B. A., not received.

In the United States the prevailing winds were from west to northwest and north. Over the Atlantic Ocean they were westerly and northwesterly over the region north of 30° N. and from the American to the European coasts; south of 30° N. easterly winds prevailed. In Europe the winds were mostly from southwest and west.

The precipitation during December, 1884, was in excess of the average in the United States; in Europe it also exceeded the average.

TRACKS OF AREAS OF LOW PRESSURE FOR DECEMBER, 1884.

Chart iii for December, 1884, exhibits the paths of forty-two areas of low pressure which appeared in the northern hemisphere during that month. This chart continues the series of international charts begun in November, 1877, and in its preparation the following data have been used, viz.: Chart i, for each day of the month, containing the data of one simultaneous observation taken at 7 a. m., Washington, or 0 h. 8 m., p. m., Greenwich, mean time; abstracts of ships' logs; special reports; and other miscellaneous data on file at this office.

Ten areas of low pressure (i to x, inclusive) are traced over the North American continent; three of these entered the continent from the Pacific Ocean and moved eastward and southeastward across the country to the west Gulf states and thence northeastward over the Lake region to the Gulf of Saint Lawrence; two originated in, and moved over, the British dominions north of the United States; one passed from Texas northeastward over the southern part of the United States, and entered the Atlantic from the coast of Delaware; and the remaining disturbances developed over the region south of the Lakes, their general direction of movement being northeasterly. These disturbances, for the most part, were accompanied by abundant precipitation, in the form of rain and snow, and by dangerously high winds, which caused considerable damage to shipping and other property. Detailed descriptions of the same will be found under "Areas of low barometer" in the MONTHLY WEATHER REVIEW for December, 1884.

Thirteen areas of low pressure (xi to xxiii, inclusive) are shown over the north Atlantic Ocean; of this number, only two (xv and xx) appear to have been continuations of storms which had previously traversed the American continent. Three (numbers xi, xvi, and xviii) developed in the vicinity of Nova Scotia and the Banks of Newfoundland, and one (number xiii) over the ocean between Bermuda and the coast of the Carolinas. Three areas of low pressure (xii, xix, and xxii) appeared in the neighborhood of Iceland; one (xxi) apparently developed near the Madeira Islands, whence it moved in an east-northeasterly direction to southeastern Spain, where its course changed to the northward and westward, and the low area passed into the Bay of Biscay. The remaining disturbances (numbers xiv, xvii, and xxiii) are shown over the ocean between W. 30° and the British coasts; the path of the last-mentioned was decidedly abnormal, the low area having apparently moved from southeast to northwest during the last three days of the month, this abnormal movement being probably caused by the advance of an extensive area of high pressure, 30.6 (777.2) to 31.0 (787.4), which, during the above dates, had moved from southeastern Russia northwestward to northern Scandinavia. The general direction of movement of the areas of low pressure which traversed the Atlantic during December, 1884, was northeasterly, until they arrived off the northwestern coast of Scotland, when the course changed to east or slightly south of east. During the first and second decades of December, 1884, the weather over the north Atlantic Ocean was of an unsettled and stormy character. The depressions were generally deep, and exhibited much storm-energy; especially was this the case in the disturbances which appeared in the vicinity of Iceland and the northern part of the British Isles, the pressure near the centres of disturbances ranging from 28.2 (716.3) to 29.0 (736.6), and but seldom reaching the latter value. During the last decade the weather became more settled, and an area of high barometer occupied mid-ocean and extended northward to, and occasionally beyond, the fifty-fifth parallel. Towards the close of the period, however, the pressure again gave way on the formation of the low areas charted as numbers xxii and xxiii. Under "North Atlantic storms" in the MONTHLY WEATHER REVIEW for December, 1884, will be found data referring to the weather conditions over the Atlantic.

Of the eleven areas of low pressure traced over the British Isles and Europe, seven appeared in the northern districts of the continent during the first and second decades of the month, while areas of high pressure occupied, generally, the southern districts. The remaining low areas appeared in the southern districts during the last decade, while the high pressures, during that period, were transferred to the northern districts. The depressions in the north were mostly deep, the pressure rarely exceeding 29.3 (744.2), and frequently falling below 29.0 (736.6). They were attended by strong gales on the coasts and in the North Sea, causing numerous marine disasters, and also damage to property at inland stations. The area of low pressure traced as number xxxiii was the most severe of the month in Europe, and is noteworthy on account of its somewhat unusual track. It appeared on the 18th and 19th as a deep depression, with pressure near the centre less than 28.9 (734.0), then covering the northern part of the British Isles and the North Sea. By the 20th it had moved southward over the North Sea and was central near the coast of the Netherlands, with barometer down to 28.65 (727.7). By the following day it had reached the Italian Peninsula, where the pressure was 29.05 (737.9), and it continued over the basin of the Mediterranean until the 25th.

Eight areas of low pressure are traced over Japan and the Pacific Ocean; four of these traversed the northern part of Japan, and caused unsettled weather in that region; at stations in Japan the barometer did not fall below 29.5 (749,3). Three low areas occupied the Aleutian Archipelago and Alaska, and were apparently of great extent, covering the ocean southward as far as the thirtieth parallel; in these disturbances the atmospheric pressure ranged from 28.8 (731.5) to 29.4 (746.7). Number xl was a low area which appeared off the California coast from the 21st to 27th, with pressure ranging from 29.4 (746.7) to 29.6 (751.8).

TRACKS OF AREAS OF LOW PRESSURE FOR FEBRUARY, 1883.

Chart iii for February, 1883, shows the approximate paths of thirty-six areas of low pressure that appeared in the northern hemisphere during that month. Of this number, nine (i to ix, inclusive) are traced in the North American continent; thirteen (x to xxii, inclusive) over the Atlantic Ocean and in Greenland; five (xxiii to xxvii, inclusive) in Europe, or near the coasts of that continent, and the remaining nine (xxviii to xxxvi, inclusive) are traced over the Pacific Ocean.

Of the areas of low pressure traced in the North American continent, four (numbers iii, iv, vii, and ix) advanced from the British Northwest Territories toward the Lake region and thence eastward, passing into the Atlantic from the coasts of New England and Nova Scotia. One area (v) first appeared off the Alaskan coast and moved southeastward along the western coasts of the continent for three days, when it passed into California and moved eastward and southward across the country to Nebraska; its course then changed to northeasterly, and the disturbance moved over the Lakes and northern Canada to Greenland. Number viii appears to have developed near the Rio Grande, whence it passed northeastward over the country to the Lakes and the Gulf of Saint Lawrence. One disturbance (number i) occupied the southwestern districts, and the remaining two (ii and vi) are shown to the southward and westward of the Lake region. The more important of the above disturbances were numbers v and vii, the former being most violent on the Pacific coast, and the latter during its progress northeastward after leaving Texas. Many of the depressions were attended by abundant precipitation, frequently in the form of snow, and by strong winds to moderate gales. Descriptions of the areas of low pressure traced in the United

States will be found under "Areas of low pressure" in the MONTHLY WEATHER REVIEW for February, 1883.

Of the depressions traced over the Atlantic Ocean and in Greenland, five, viz., numbers xiii, xiv, xvi, xvii, and xxi, were continuations of low areas which had previously moved over the United States and Canada. One (x) appeared over the Gulf of Saint Lawrence, and one (xviii) to the southward of Nova Scotia; one (xi) was a continuation of a severe storm which occupied mid-ocean at the close of January, and one (xv) was first shown near N. 50°, W. 30°. The remaining low areas (numbers xii, xix, xx, and xxii) occupied Greenland and Iceland. Many of the above were cyclones of great extent, and were attended by furious gales, in which the wind-squalls were frequently reported as having attained the force of a hurricane. The most noteworthy of the cyclones of February, 1883, was number xvi, which, as regards depth and intensity, may be ranked as one of the most remarkable storms on record. On the 13th and 14th the barometer fell to the phenomenally low values of 27.72 (704.1), in N. 46°, W. 31°, on the first-mentioned date, and to 27.5 (698.5), in about N. 55°, W 24°, on the last-mentioned, while the attendant gales and stormy weather extended southward to the thirty-fifth parallel. The general direction of movement of the storm-centres was northeasterly, until they reached the thirtieth meridian, after which the direction of movement appears to have been materially affected by the distribution of pressure over northern and central Europe. On reaching the meridian mentioned, the storm-centres were forced to the northward and westward, and, in consequence of the steep barometric gradients which formed over the British Isles and western Europe, those districts experienced strong gales and generally unsettled and stormy weather during the first and second decades of the month. During the last decade of the month the area of maximum pressures occupied the southwestern districts of Europe and stretched westward to, and beyond, the Azores, while the region of low pressures now appeared in the northern and eastern parts of Europe. Over the ocean the most stormy period of the month was that from the 1st to about the 25th, and during that time the pressure over the ocean north of the fifty-fifth parallel remained almost constantly low, the barometer rarely exceeding 29.0 (736.0) throughout the entire period. Descriptions of the more important of the Atlantic storms, with special observations, will be found under "North Atlantic storms" in the MONTHLY WEATHER REVIEW for February, 1883.

The areas of low pressure which appeared in Europe were few in number, and of slight importance. Those areas, however, which entered the continent from the Atlantic were quite severe. Number xi passed northeastward over the British Isles and the North Sea to southern Scandinavia, and thence eastward and southeastward over Russia. During its passage over the British Isles and North Sea the barometer fell below 29.0 (736.0), but on reaching the Baltic the pressure increased to 29.8 (756.9); during the early part of its passage it was attended by heavy rains and strong gales. The next important low areas were those which appeared in northern Scandinavia from the 24th until the close of the month; the course was to the south of east, and the barometric pressures ranged from 28.9 (734.0) to 29.2 (741.7).

Four of the areas of low pressure traced over the Pacific Ocean appear to have passed northeastward near the eastern coast of Niphon; two appeared in the Sea of Okhotsk; one between the parallels of 30° and 40° N., and the meridians of 160° and 170° E; and the remaining low areas are traced over the ocean to the southeastward of the Alaska Peninsula. During the first twelve days of the month the atmospheric pressure over Alaska and over the Pacific ocean, from 180° eastward to W. 140°, was high, the barometer reading 31.21 (792.7), at Fort Saint Michael's, on the 11th. During the above period the pressure over the Pacific, between E. 155° and E. 175°, was comparatively low. On the 16th an area of low pressure (xxxiii), in which the barometer ranged from 29.15 (740.4) to 29.3 (744.2), appeared near N. 40°, W. 150°. It moved northward, with increasing pressure, and disappeared on the 20th, but was succeeded, three days later, by another low area, which remained in the vicinity of the Alaska Peninsula until the 26th.

SPECIAL NOTES.

DAILY BULLETIN.

On and after July 1, 1884, the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS will be discontinued. The daily chart accompanying this bulletin, or international chart No. i, will continue to be issued as heretofore, but on an enlarged scale, and will contain data referring to pressure (at sea-level), temperature, wind-direction, and state of weather for each day at all reporting stations in the northern hemisphere, and over the northern portions of the Atlantic and Pacific Oceans, as heretofore published in the DAILY BULLETIN.

The observations are taken at 7 h. 0 m., a. m., Washington, or 0 h. 8 m., p. m., Greenwich, mean time, except at the following stations, viz.: Arlon, Belgium, at 1 p. m., local time, or 28 minutes late; Upernavik, Greenland, at 8 a. m., local time, or 24 minutes early; Ivigtut, Greenland, at 8 a. m., or 56 minutes early; Brono, Norway, at 2 p. m., or 68 minutes late.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◒ fair; ◐ cloudy; ● precipitation (rain, snow, hail, sleet).

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

SYMBOLS.	FORCE.	VELOCITY.	
		MILES PER HOUR.	METRES PER SECOND.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at 7 a. m., Washington mean time.

International chart iii shows the tracks of centres of low barometer. The Arabic numerals show the location of the centres of low barometer at 7 a. m., Washington mean time of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Hobart Town, Tasmania, the observations are taken at 9 p. m. instead of at 9.57 p. m.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

NEW ENGLAND: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

MIDDLE ATLANTIC STATES: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

SOUTH ATLANTIC STATES: North Carolina, South Carolina, Georgia, Florida.

EASTERN GULF STATES: Georgia, Florida, Alabama, Mississippi, Louisiana.

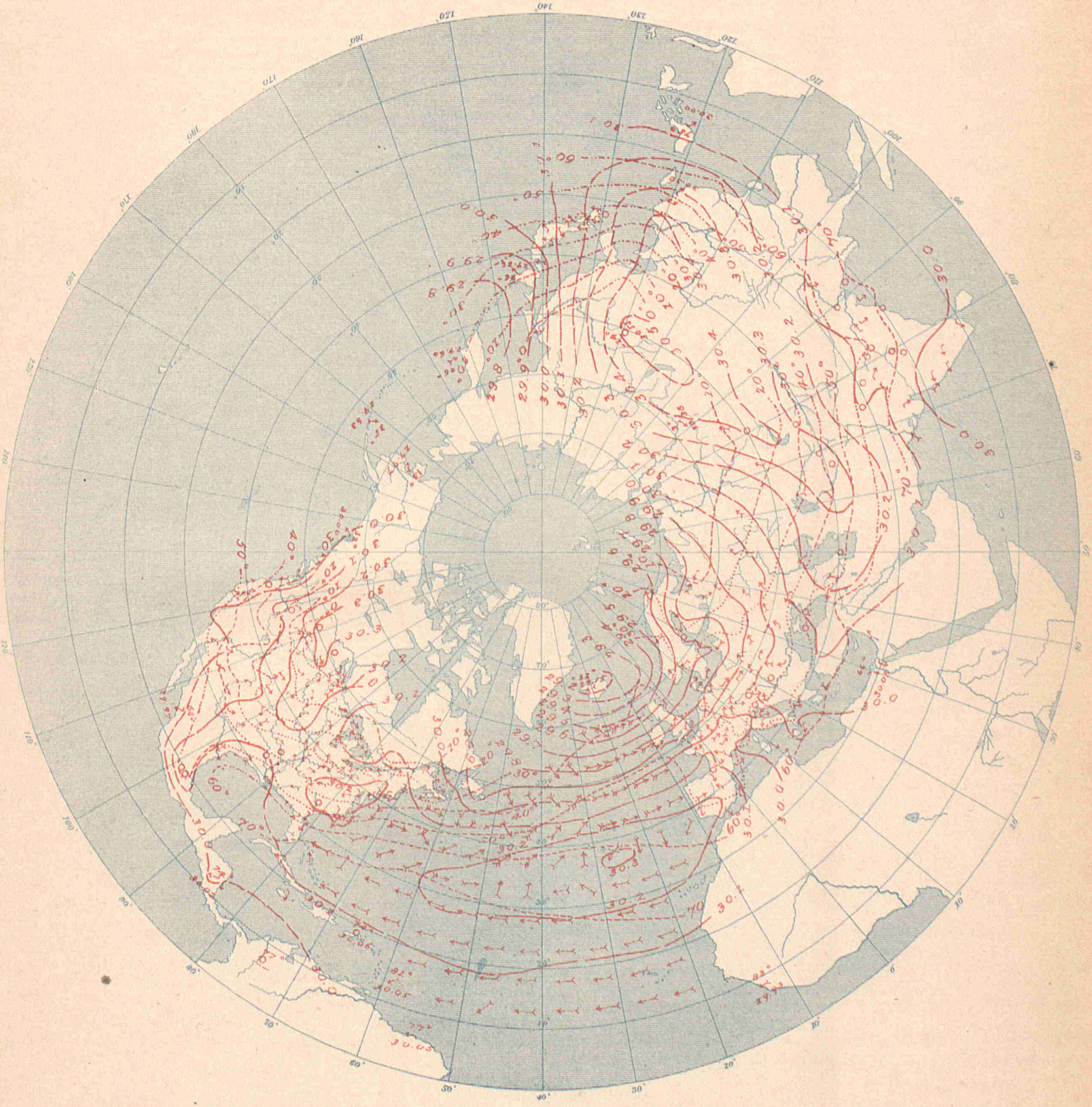
WESTERN GULF STATES: Louisiana, Arkansas, Indian Territory, Texas.
RIO GRANDE VALLEY: Texas.
OHIO VALLEY AND TENNESSEE: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.
LOWER LAKES: New York, Pennsylvania, Ohio, Michigan.
UPPER LAKES: Michigan, Indiana, Illinois, Wisconsin, Minnesota.
UPPER MISSISSIPPI VALLEY: Minnesota, Wisconsin, Iowa, Illinois, Missouri.
MISSOURI VALLEY: Missouri, Kansas, Nebraska, Iowa, Dakota.
EXTREME NORTHWEST: Minnesota, Dakota.
NORTHERN SLOPE: Montana, Dakota, Wyoming, Nebraska.
MIDDLE SLOPE: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.
SOUTHERN SLOPE: Indian Territory, Texas, New Mexico.
SOUTHERN PLATEAU: New Mexico, Arizona, California, Nevada.
MIDDLE PLATEAU: California, Nevada, Utah, Colorado, Wyoming.
NORTHERN PLATEAU: Wyoming, Montana, Idaho, Oregon, Washington.
NORTH PACIFIC COAST: Washington, Oregon.
MIDDLE PACIFIC COAST: California.
SOUTH PACIFIC COAST: California.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. December, 1884. Isobars, Isotherms, and Winds.

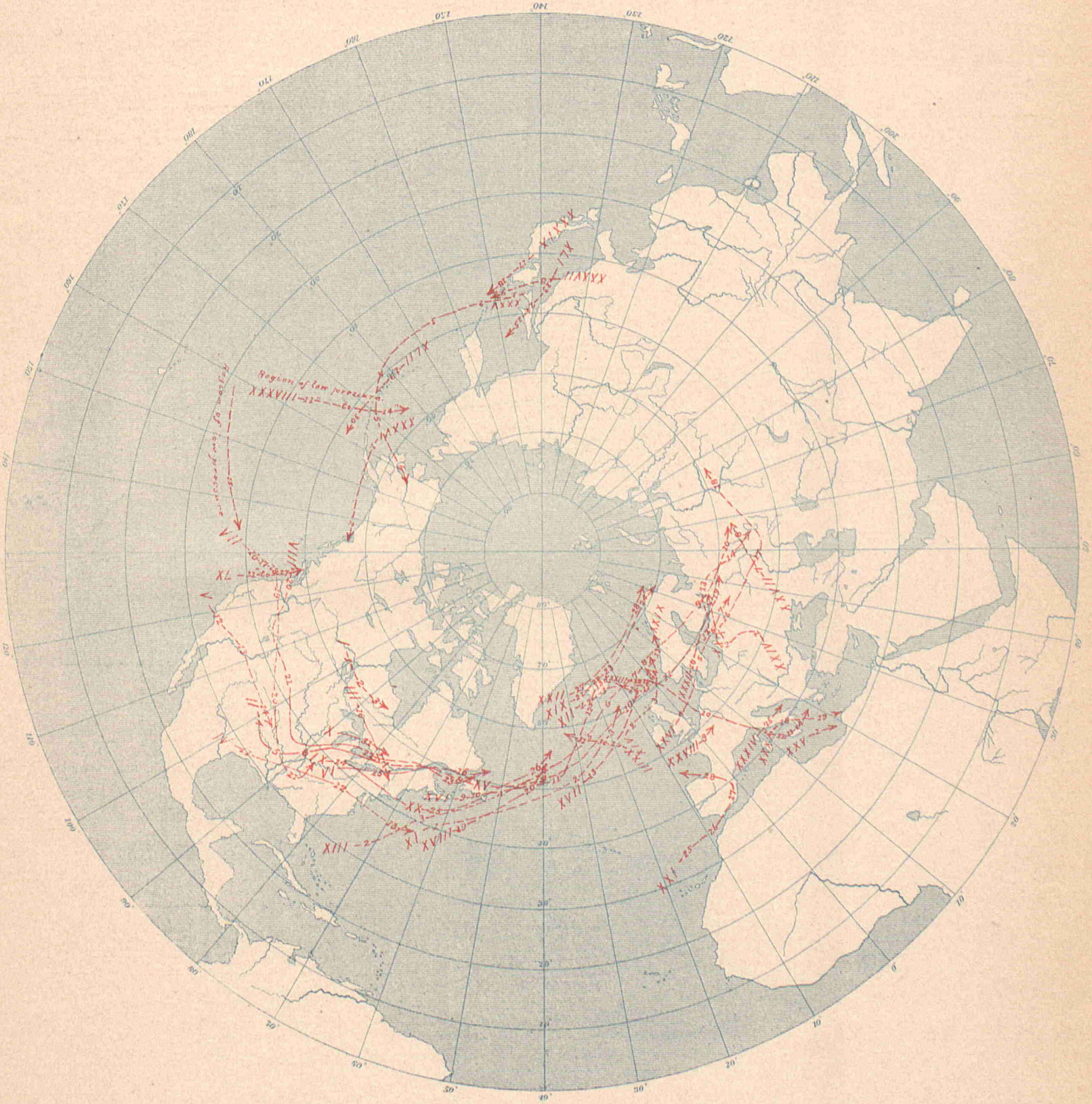


UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.

Signal Office Lith.

International Chart III. December, 1884. Tracks of Areas of Low Pressure.



UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W.B.Hazen, Chief Signal Officer.

Signal Office Lith

International Chart III. February, 1883. Tracks of Areas of Low Pressure.

UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W. B. Hazen, Chief Signal Officer.
Signal Office 14th.