U. S. DEPARTMENT OF AGRICULTURE.

WEATHER BUREAU.

REPORT

OF THE

CHIEF OF THE WEATHER BUREAU.

1897-98.

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LETTER OF TRANSMITTAL.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU,
Washington, D. C., September 23, 1898.

SIR: I have the honor to submit a report of the operations of the Weather Bureau during the year ended June 30, 1898.

The report naturally divides itself into three main heads. The first deals with administrative work (Part I); the second furnishes an account of the climatology of the year (Parts II, III, IV, V, and VI), and the third embraces the results of a preliminary investigation of the climate of Cuba and other miscellaneous papers (Part VII).

Very respectfully,

WILLIS L. MOORE,
Chief of Bureau.

Hon. JAMES WILSON,
Secretary of Agriculture.

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PART I.

ADMINISTRATIVE REPORT.

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REPORT OF THE CHIEF OF WEATHER BUREAU, 1897-98.

SECTION I.

NEW WORK AND SPECIAL INVESTIGATIONS.

Extension of West Indian hurricane service—New stations established—Cooperation of individuals, corporations, and officials of foreign Governments—Inspection of Mexican Telegraph Company's stations—Meteorological service of the Republic of Mexico—Establishment of additional observation stations in the arid and subarid regions of the West—Location of stations—International cloud observations—Status of reductions and computations—Aerial work—Kite construction—New improved meteorograph devised—Number and location of stations established—Instruction of observers—Number of ascensions—Value of kite observations in reduction of barometer observations to sea level—Meteorological chart of Great Lakes—Loss of farm property by lightning.

Extension of West Indian hurricane service.—During the latter part of the fiscal year it became apparent that the methods of gathering information of the approach of West Indian hurricanes, which served so admirably when warnings for the Gulf and Atlantic coasts only were issued, were wholly inadequate for a service that should cover the waters of the West Indies, in which upward of 200 naval and transport vessels of the United States were operating. The presence of this large fleet in the hurricane region made it imperative that precautionary measures, looking to its safety in time of severe atmospheric disturbances, be adopted at once. Accordingly a bill was drafted and submitted to Congress on June 16, 1898, authorizing the Bureau to establish and operate observing stations throughout the West Indies and along the shores of the Caribbean Sea. The provisions of the measure were incorporated in the general deficiency bill, which, it will be remembered, did not become law until after the close of the fiscal year that ended June 30, 1898.

New stations established.—At that time, however, arrangements had been made to establish stations for making meteorological observations and displaying hurricane signals at the following points: Kingston, Santiago de Cuba, Santo Domingo, St. Thomas, Barbados, Port of Spain, Curaçoa, and Barranquilla. At the above-named places observations will be made twice-daily and cabled to Kingston and the Central Office in Washington. It is expected that twice-daily observations will also be cabled from Martinique through the cooperation of the observers of the French meteorological service of that island.

Cooperation of individuals, corporations, and officials of foreign governments.—The Weather Bureau will receive, when the West Indian service is fully established, twice-daily telegraphic reports, not only from the stations above named, but also from Havana, Nassau, Vera Cruz, Tampico, Coatzacoalcos, and Merida, through international comity and the voluntary cooperation of private persons. For daily reports from Havana our heartiest acknowledgments are due to Prof. Louis G. Carbonell, superintendent naval service of the Antilles; from Nassau, to His Excellency Sir Ambrose Shea, governor of the Bahamas; from Vera Cruz, Tampico, and Coatzacoalcos, to the Mexican Telegraph Company; from Merida, to a private observer, Señor Felix Gomez Mendicuti, C. E. The action of Professor Carbonell in forwarding daily weather reports from Havana during the period of hostilities between Spain and the United States is exceptionally gratifying to the officials of the Bureau, as it must also be to scientists the world over.

Inspection of Mexican Telegraph Company's stations.—A thorough inspection of the three stations of the Mexican Telegraph Company was recently made by an official of the Weather Bureau. As a result the service was much improved and the system of observation was brought into much closer harmony with our own.

Thus it will be seen that ample provision has been made to extend the network of existing stations to the southward, so as to include all of the dangerous waters of the West Indies, the Caribbean Sea, and the Gulf of Mexico.

Although the protection of United States naval forces was the primary object in the organization of the new service, other considerations of scarcely less importance made the step a wise and beneficent one. First and foremost of these was the very material strengthening of the storm-warning system of the Gulf and South Atlantic coasts as a result of placing additional observing stations in the West Indies and on the northern coast of South America; second, the improvement in the existing service that would follow the substitution of skilled observers for special agents in the West Indies; and, finally, the need of an efficient storm-warning service for the benefit of commercial interests throughout the West Indies and the shores of the Caribbean Sea.

If, as now seems probable, the exigencies of war permit the removal of the greater part of the fleet from West Indian waters, the meteorological service will still serve a useful purpose in the protection it will afford to the growing commerce of that very extensive region.

Meteorological service of the Republic of Mexico.—I am informed by Señor Mariano Bárcena, director of the Central Meteorological and Magnetic Observatory of Mexico, that steps have been taken to thoroughly equip about 30 stations in the Mexican Republic with meteorological instruments of the most approved pattern, and to establish a meteorological service similar to our own at the earliest practicable date. An exchange of reports between the two services that will be mutually advantageous, especially as regards the approach of West Indian hurricanes and "northers" in the Gulf of Mexico, will doubtless be effected.

Establishment of additional observation stations in the arid and subarid regions of the West.—The places of observation in the arid and subarid regions of our country have been so widely separated hitherto that it has not been possible to secure a perfect survey of the distribution of temperature and pressure, the conditions so essential to the making of accurate forecasts, not only for those regions but for the extensive area farther to the eastward. On the recommendation of the Honorable Secretary of Agriculture, an appropriation was made by the last Congress for an increase in the number of stations in the above-named regions. Provisions have already been made for the installation and equipment of stations at Kalispel, Mont.; Boise City, Idaho; Mount Tamalpais, Cal.; Flagstaff, Ariz., and Forth Worth, Tex. Arrangements have also been made for the establishment of additional stations in the South and Central Valleys, as follows: Meridian, Miss.; Macon, Ga.; Lexington, Ky.; Elkins, W. Va.; Evansville, Ind., and Escanaba, Mich. The additional stations thus provided for will not only assist in the development of agricultural and industrial interests in the respective States in which they are located, but will also be of material benefit in improving the warnings and forecasts, especially for the regions west of the Rocky Mountains.

International cloud observations.—The series of observations undertaken in cooperation with the International Cloud Committee, extending over one complete year, was concluded on June 30, 1897. It embraced observations on the height, azimuth, and velocity of motion of clouds at Washington as a primary station and at 14 secondary stations in the States east of the Rocky Mountains, except a half year at Baker City, Oreg. The computation and the discussion of the observations have been going on during the past year, and are so far advanced that it has been possible to prepare several chapters of the final report. It is hoped that this portion of the work may be completed by the end of the year 1898.

Status of reductions and computations.—Among the results obtained in connection with these observations may be mentioned the construction of a fundamental set of constants and formulæ in the barometry and thermodynamics of the atmosphere; the application to the reduction of the pressures on the Rocky Mountain plateau of some new data; the delineation of the great atmospheric currents in several levels above areas of high and low pressure, respectively; the construction of the purely cyclonic and anticyclonic components which indicate quite clearly the structure of storms; the distribution of the eight types of clouds in height and the velocity of their movement in high and in low areas, respectively; a careful discussion of the vertical gradients of temperature, humidity, and pressure, besides many minor points of scientific interest and value.

Aerial work.—The work of producing a thoroughly satisfactory kite was begun in the latter part of 1895. The early experimental work naturally took a wide range. Various forms of kites were devised and thoroughly tested, and many valuable laws relating to the strength and efficiency

of kites were developed. At the date of last report a fairly satisfactory kite had been developed, but much still remained to be done in order to make the appliances and devices improvised during the experimental work suitable for permanent use in the hands of observers of only average skill and experience. The kite finally adopted for practical work was an improved form of the Hargrave cellular type, both theory and practice having indicated the general superiority of this type over all others where power, efficiency, structural strength for a given weight, and durability are to be considered. A popular idea prevails that any one possessed of a few materials and a little ingenuity can construct a thoroughgoing kite. This is not true as regards the present Weather Bureau kite. The size and construction of every detail have been worked out with reference to the several strains at the different points, securing thereby the maximum strength with the minimum weight. Another desideratum of not less importance is a device that will enable the kite to automatically adjust itself in all winds so as to pull a moderate amount only. This result, it is believed, has been secured to a greater degree in the Weather Bureau kite than in any form yet described. While there is still need of improvement in the present design, it is doubtful if such can be secured until we understand more completely than at present the precise nature of the sheltering effect the forward cell exerts upon the rear cell. This and other important details still remain obscure and undeveloped. Little or nothing was done during the past year to remove these obscurities, since the whole time was occupied in preparing for practical work. Briefly stated, the latter consisted in perfecting a complete working outfit of aerial apparatus based on the results of previous experimental work. Little difficulty was experienced in constructing a satisfactory reeling apparatus with its dynamometer, measuring dial, and graduated arc. Likewise the improved nephoscope devised by Professor Marvin in 1896 answered satisfactorily as an alt-azimuth instrument. A suitable form of automatic register for recording temperature, pressure, humidity, and velocity of the wind was not, however, to be had of the manufacturers of meteorological instruments. A form of instrument had previously been devised, but it was not satisfactory in all respects. Under these circumstances a wholly new form of kite meteorograph recording four elements—viz, wind velocity, temperature, pressure, and humidity—was devised by Professor Marvin. The instrument complete weighs 2.1 pounds. A special construction was adopted for the thermometers, securing an unusually high degree of sensitiveness. The thermometers are, in fact, nearly or quite as sensitive as our standard mercurial thermometers. This quality is especially necessary in a kite meteorograph, since the elevation of the kite is almost constantly changing, often considerably, and a sluggish thermograph will not show the temperature at a given spot correctly.

Another important feature in the improved meteorograph consists in the exposure of the thermometer bulb and hygrometer. These are placed inside a long tube, 2¼ inches in diameter, open at both ends, and so arranged upon the kite that the wind blows with full speed directly through the tube, thereby affording not only the most perfect ventilation of the instruments contained, but screening them at the same time from radiation. The tube is wholly inclosed within the case of the instrument, from which it is insulated in the heat sense by plates of ivory and rubber. Arrangements of this character have repeatedly been shown to be necessary in order to secure accurate results in the free air.

At the date of last report it was hoped to establish at least 20 stations during the coming fiscal year. We have been able, however, to completely equip but 16, as follows: Cairo, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Dodge City, Kans.; Dubuque, Iowa; Duluth, Minn.; Fort Smith, Ark.; Knoxville, Tenn.; Lansing, Mich.; Memphis, Tenn.; North Platte, Nebr.; Omaha, Nebr.; Pierre, S. Dak.; Sault Ste. Marie, Mich.; Springfield, Ill., and Topeka, Kans. Washington, D. C., was already equipped at the beginning of the year.

The observers chosen for the work were, with three exceptions, drawn from the list of eligibles on the register of the Civil Service Commission, the three additional men being drawn from the force at stations. All these men were called to Washington and given a practical course of instruction in the art of flying and managing kites. The whole period of instruction extended from the 17th of March to the 18th of April, but the same observers were not in attendance for the whole period.

The contractor for furnishing the meteorographs was seriously delinquent, and caused great

delay in beginning the observations. Many stations made ascensions without meteorographs for two or three weeks, and all stations were not fully equipped until the first week in June.

If each station had made an ascension daily during June, 510 ascensions could have been made; whereas 278 actual ascensions were made, in all of which the elevation attained exceeded 1,000 feet. Considering the great natural obstacles in this work, and the fact that June is one of the least windy months of the year, we are disposed to regard the number of ascensions made as on the whole a satisfactory percentage (54) of those possible. It is regretted that similar data as to the percentage of ascensions that can be made during windy seasons of the year are not also available at this time.

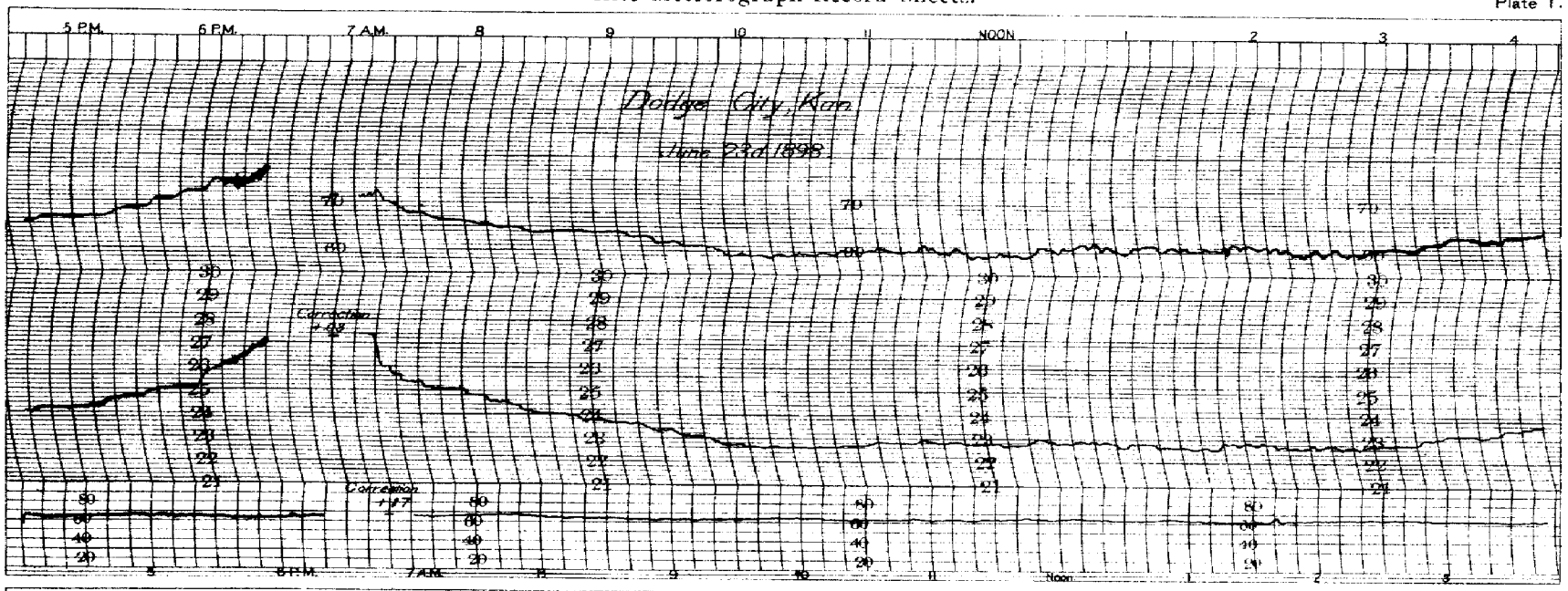
The standard kite employed contains about 68 square feet of supporting surface, and only one of these kites is required at a time. The practice adopted by some investigators of flying several small kites in tandem in order to gain power enough to sustain instruments proved to be much less satisfactory, on the whole, than our own practice of using one large kite. The latter is far easier to manage in critical situations, and also under unfavorable conditions of flight; it is, moreover, more efficient. Originally each station was supplied with two of the large kites. Subsequently additional kites were sent out in a few cases to replace those wrecked and rendered completely unserviceable by accidents. As yet, too short a time has elapsed to furnish data for a satisfactory estimate of the average life of a kite; this may prove to be something like six months, while we are not yet able to determine the probable losses of wire and meteorographs. The practice adopted of suspending the meteorograph within the kite structure completely shields it from injury in ordinary work with the kite. Notwithstanding numerous small and a few serious accidents to the kite itself, the meteorographs have thus far completely escaped injury, often in a seemingly remarkable manner. In one case, with 12,000 feet of wire out, the kite was struck by lightning, fusing the wire, and setting the kite adrift. Both the kite and the meteorograph were discovered the second day afterwards 20 miles away. The kite was but little injured, and the clock of the meteorograph was still running. In another case the kite broke away at great elevation and soon disappeared from sight. The most careful search failed to discover a trace of its whereabouts, and it was given up as lost, either in the waters of adjacent lakes, or the somewhat more distant Canadian forest. About three weeks later the meteorograph was found, and returned to the Weather Bureau, having suffered only such injury as resulted from the long exposure to the weather.

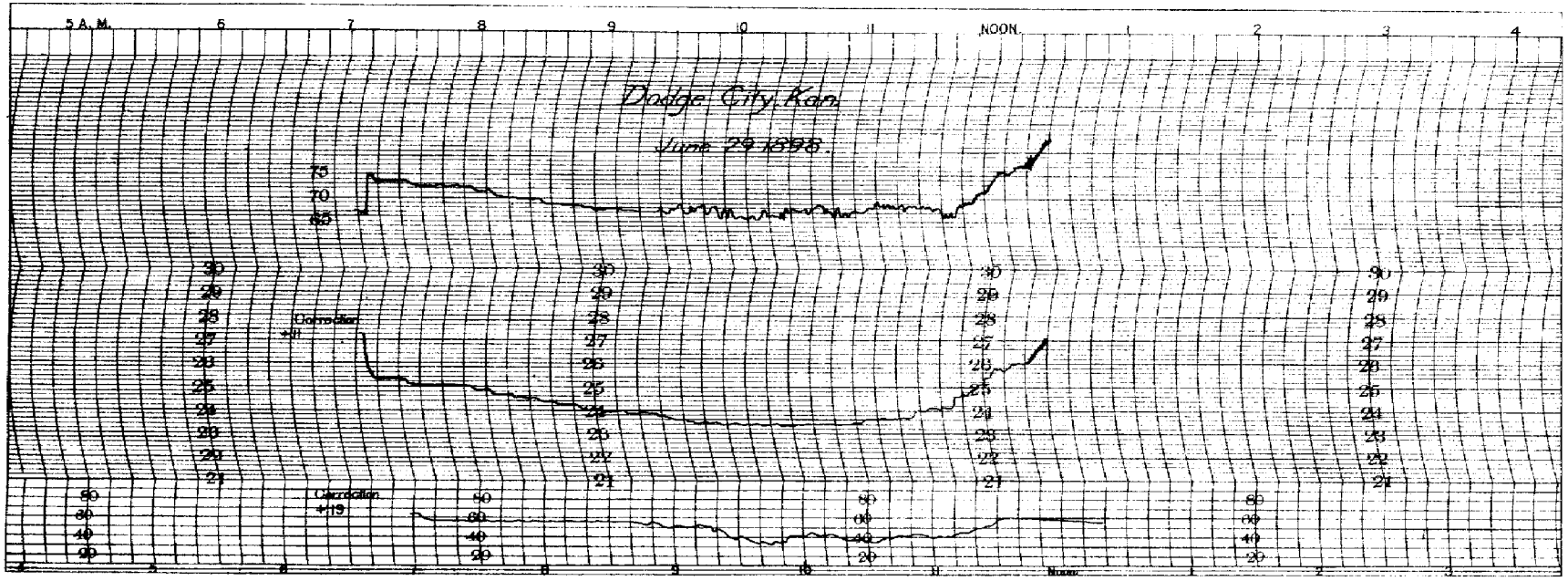
As a result of the year's work, 16 stations have been completely equipped, and the observers have already had the experience necessary to fit them for the more onerous work of the fall and winter months. We are now in a position, so far as means and appliances are concerned, to obtain a complete series of observations. It is yet too early to express an opinion as to the value of the observations already secured in the practical work of the Bureau. The observations contain much information that is new and of practical importance, aside from their value in making weather forecasts.

Plates I to V show the nature of the instrumental record made by the kite meteorograph, and Table I contains the numerical data obtained by the ascensions whose records are graphically shown on the plates above mentioned.

Kite Meteorograph Record Sheets.

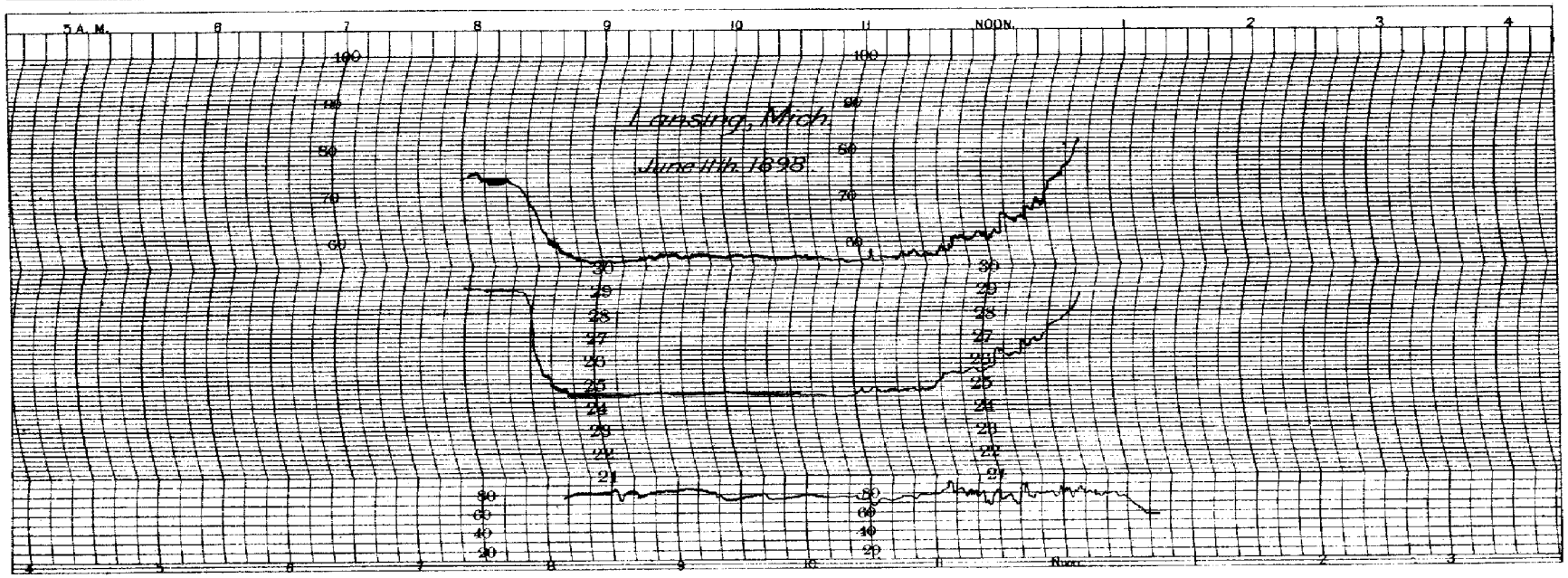
Plate I.





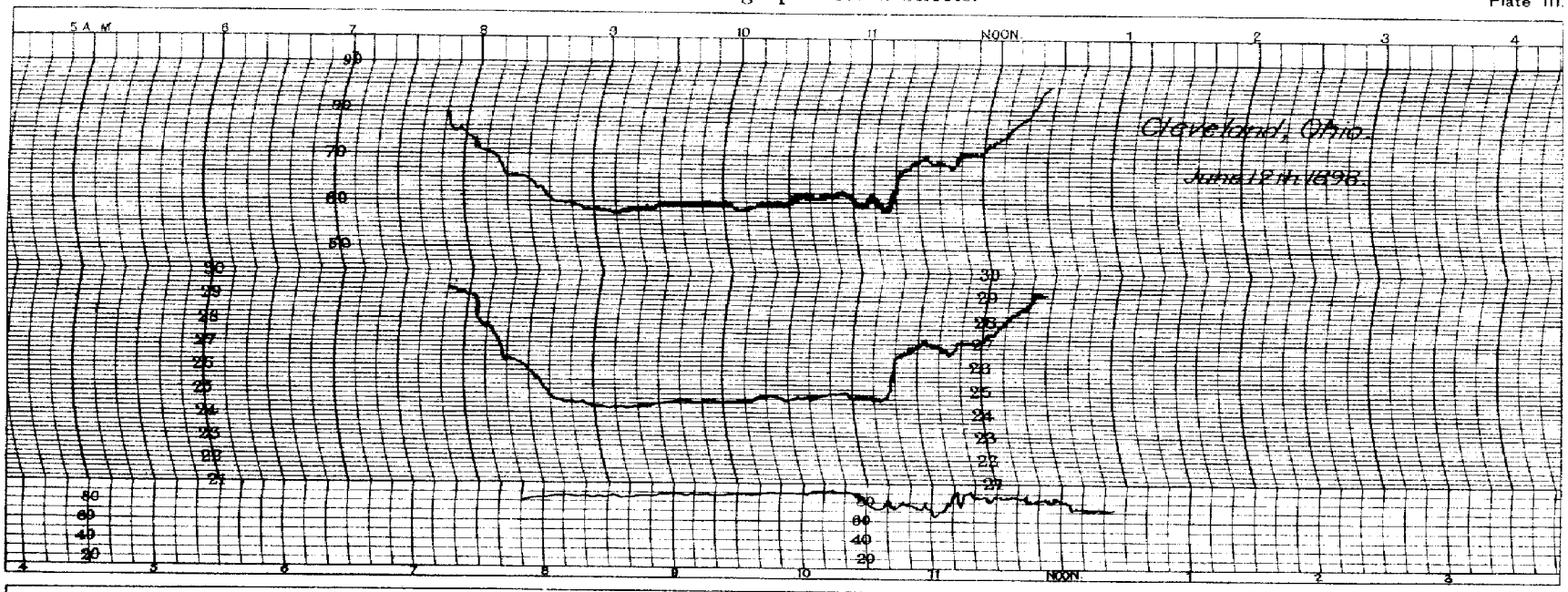
Kite Meteorograph Record Sheets.

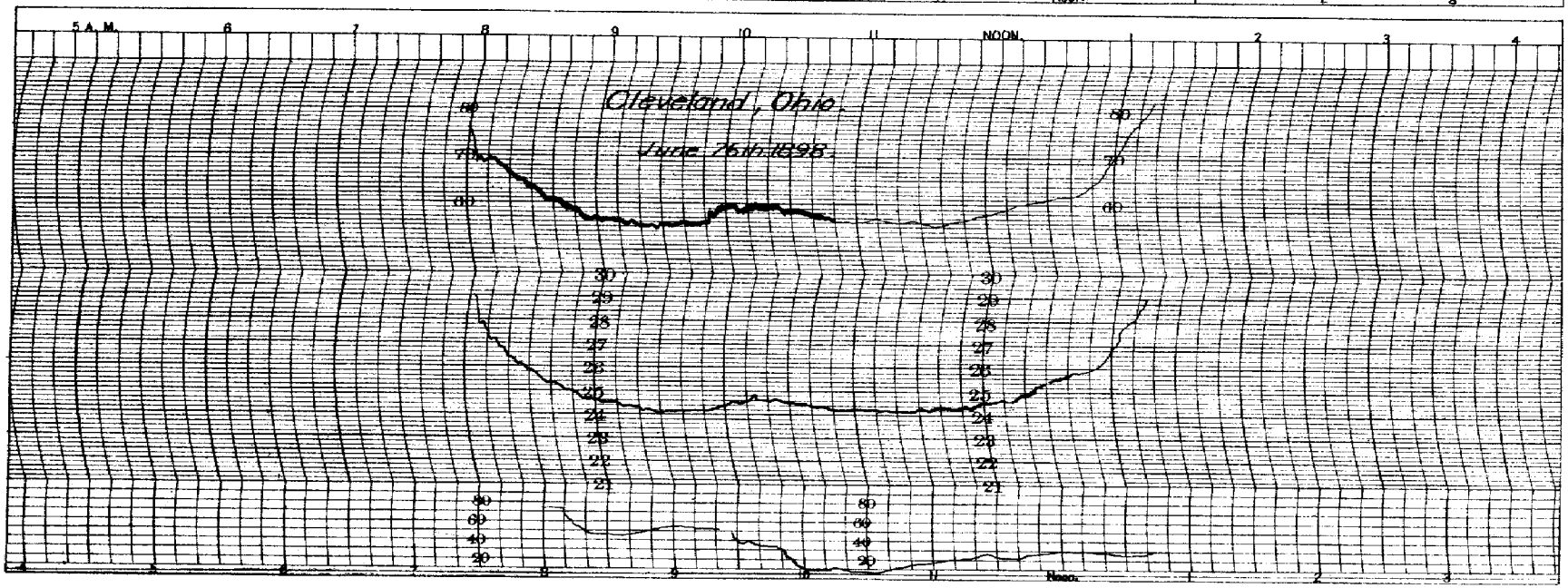
Plate II.



Kite Meteorograph Record Sheets.

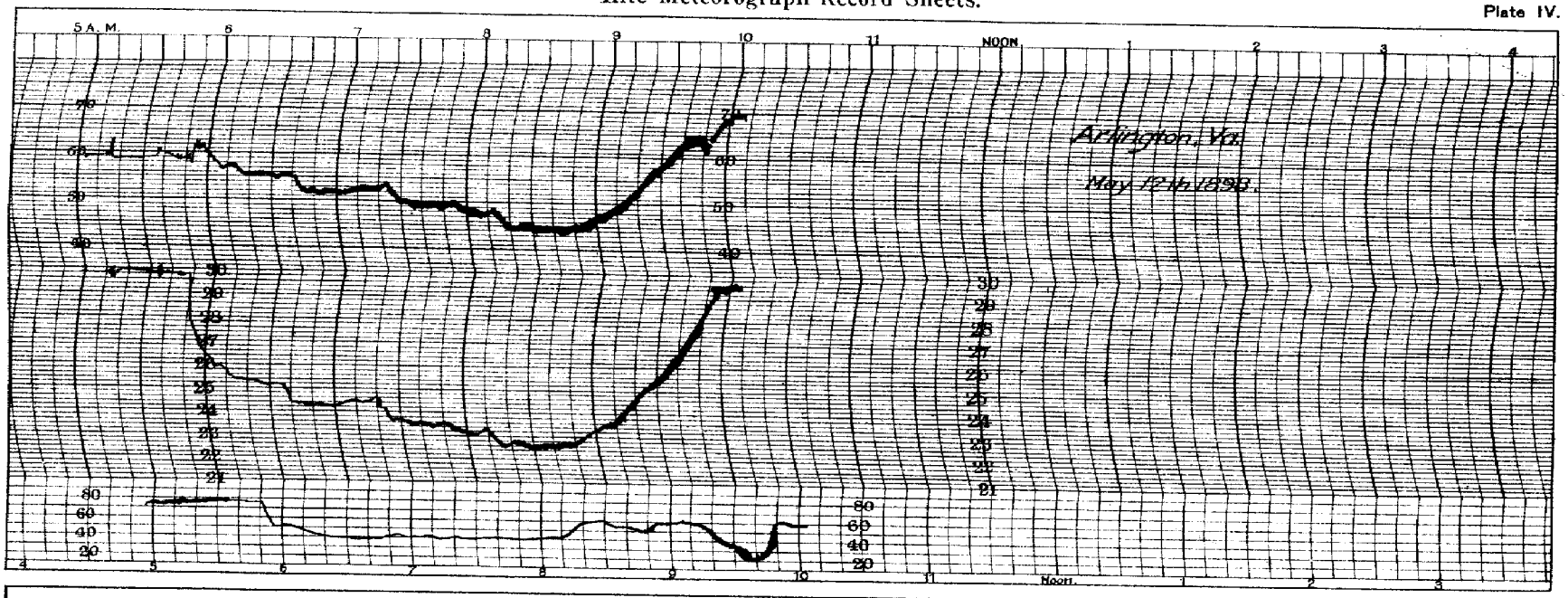
Plate III.

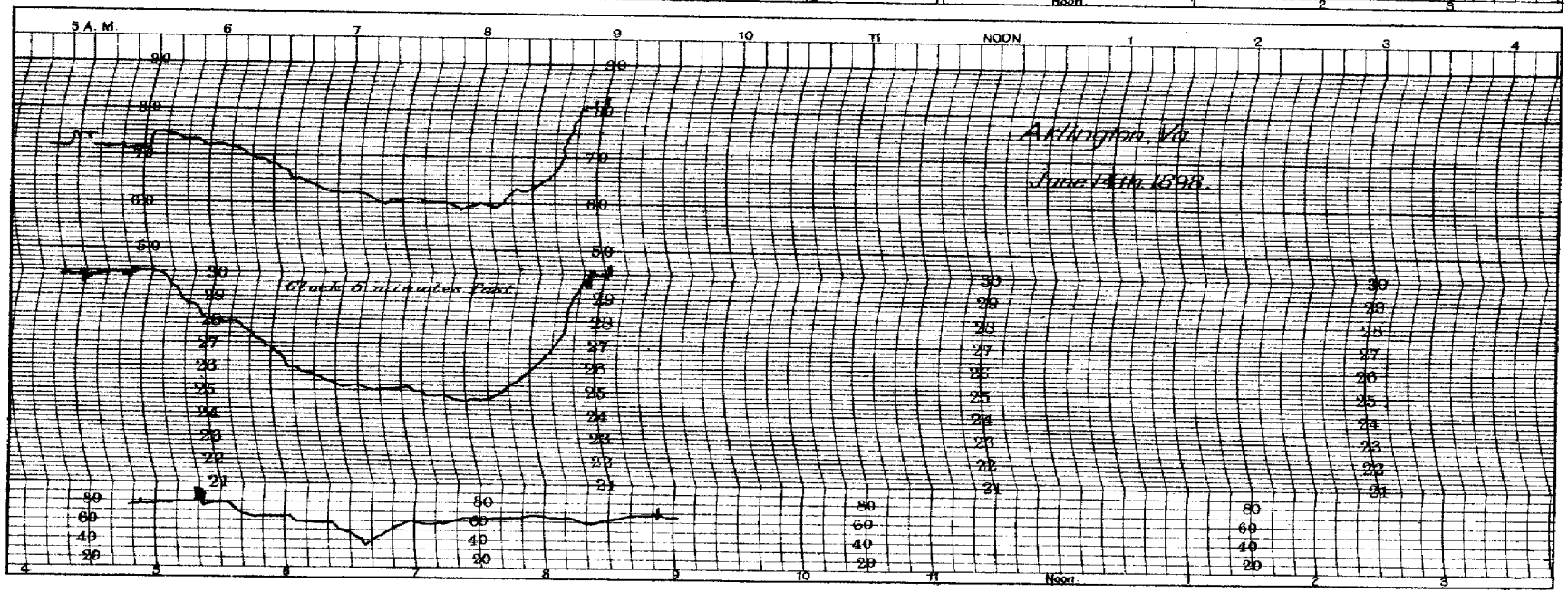




Kite Meteorograph Record Sheets.

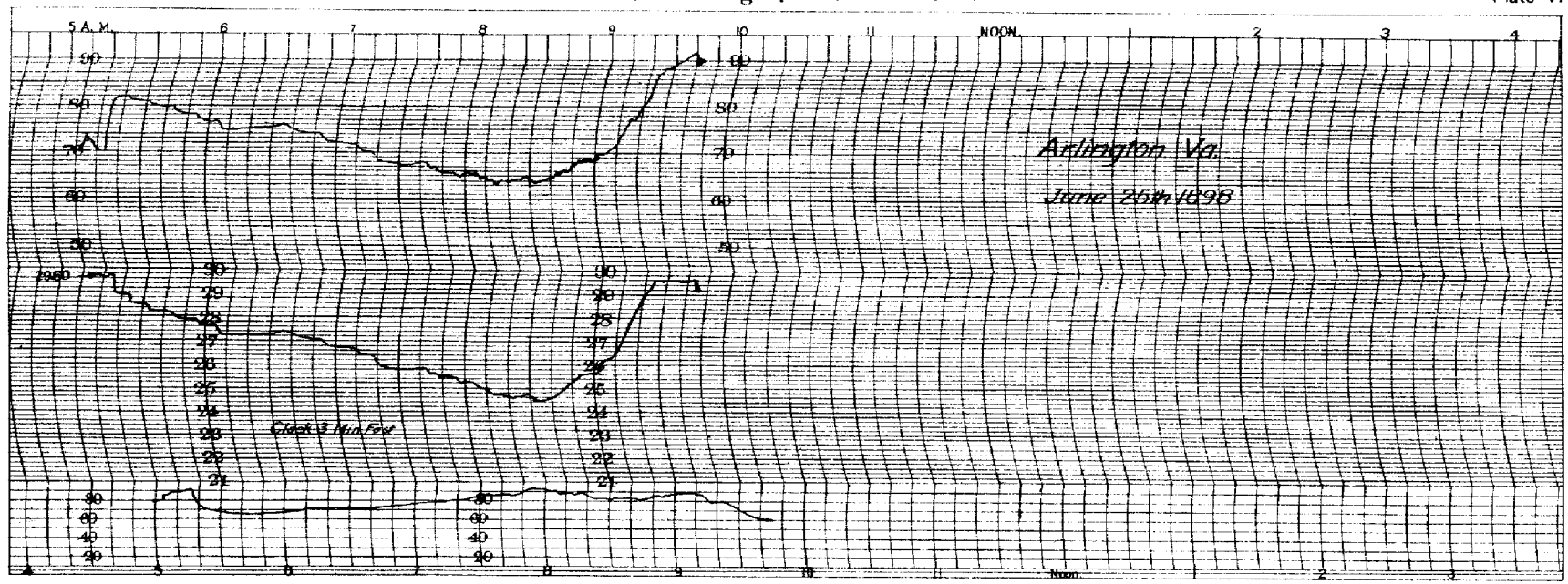
Plate IV.





Kite Meteorograph Record Sheets.

Plate V.



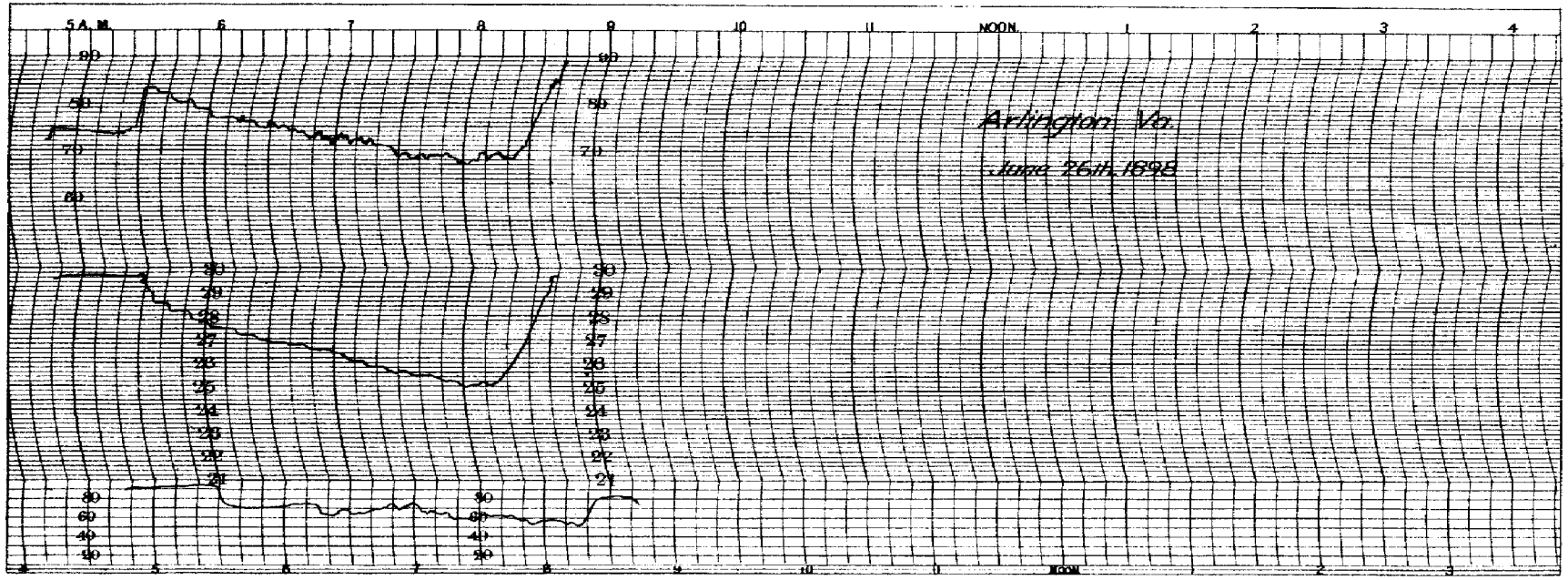


TABLE I.—ORIGINAL RECORD OF KITE OBSERVATIONS.

DODGE CITY, KANS.

[June 23, 1898.]

Time.	Length of line.		Angular elevation of kite.	Azimuth of kite.	Pull, lbs.	Inclination of wire at reel.	Corrected elevation of kite.	Surface conditions.				Conditions at kite.			Remarks.
	Dial.a	Feet.						Wet bulb.	Dry bulb.	Humidity.	Direction of wind.	Pressure.	Temperature.	Humidity.	
A. M.			°	°		°	Feet.	°	°			Inches.	°	Per ct.	
								68.0	72.0	.....	S.				Kite up 7.18 a. m.
7.25	403	2,000	55.0	133	44	60	1,638	68.0	72.5	.....	S.	26.00	70.0	83	
7.30	504	2,500	54.0	133	58	57	2,022	68.0	72.0	.....	S.	25.69	69.0	84	
7.40	605	3,000	52.5	133	65	54	2,380	68.0	72.0	.....	S.	25.38	67.7	84	
8.00	707	3,500	51.0	128	64	53	2,720	68.5	73.0	.....	S.	25.10	66.0	82	
8.10	809	4,000	50.0	125	70	52	3,064	69.0	74.5	.....	S.	24.79	65.5	81	
8.20	911	4,500	48.5	125	70	48	3,370	70.0	76.0	.....	S.	24.56	64.8	81	
8.25	1,013	5,000	45.5	127	63	44	3,208	70.0	76.0	.....	S.	24.40	64.7	80	
8.30	1,116	5,500	44.0	129	62	42	3,819	70.0	76.0	.....	S.	24.20	64.0	80	
8.35	1,219	6,000	42.0	132	55	37	4,008	69.0	75.0	.....	S.	24.09	64.0	80	
8.40	1,322	6,500	39.0	134	45	32	4,080	69.0	75.5	.....	S.	24.06	64.0	80	
8.45	1,425	7,000	36.0	136	42	29	4,109	69.0	75.0	.....	S.	24.05	64.0	80	
8.50	1,528	7,500	34.0	136	39	27	4,186	69.0	75.0	.....	S.	23.98	64.0	80	
9.00	1,632	8,000	33.0	137	41	26	4,350	69.5	76.0	.....	S.	23.80	64.0	80	
9.10	1,736	8,500	32.5	137	40	24	4,552	70.0	77.5	.....	S.	23.65	63.8	80	
9.20	1,840	9,000	30.5	139	36	21	4,540	70.5	78.0	.....	S.	23.60	63.0	80	
9.30	1,944	9,500	31.5	137	44	23	4,946	71.0	77.5	.....	S.	23.34	61.6	80	
9.40	2,049	10,000	31.0	140	48	21	5,127	70.5	79.5	.....	S.	23.15	61.2	80	
9.51	2,154	10,500	30.0	140	42	18	5,213	71.5	80.5	.....	S.	23.03	61.0	81	
10.00	2,259	11,000	31.5	140	52	19	5,707	71.0	80.5	.....	S.	22.73	59.0	81	
10.10	2,364	11,500	30.5	141	52	18	5,795	72.0	81.0	.....	S.	22.63	59.0	80	
10.43	2,259	11,000	31.5	145	52	19	5,707	70.5	82.0	.....	S.	22.65	59.4	80	
10.50	2,154	10,500	33.5	144	46	20	5,748	71.0	82.0	.....	S.	22.64	59.3	80	
11.10	2,049	10,000	31.5	145	40	17	5,174	71.0	82.5	.....	S.	22.84	60.3	80	
11.30	2,049	10,000	32.0	142	46	16	5,241	72.0	83.5	.....	S.	22.86	60.5	80	
11.50	2,049	10,000	31.5	135	54	24	5,208	72.0	82.5	.....	S.	22.82	59.5	81	
P. M.															
12.10	2,049	10,000	34.0	136	54	25	5,572	71.5	83.0	.....	S.	22.70	59.0	82	
12.30	2,049	10,000	30.5	141	56	22	5,060	72.0	82.0	.....	S.	22.90	60.8	80	
12.50	2,049	10,000	30.5	142	52	19	5,045	73.5	84.5	.....	S.	22.90	61.3	81	
1.10	2,049	10,000	32.0	140	59	22	5,278	74.0	86.0	.....	S.	22.81	61.0	80	
1.30	2,049	10,000	33.5	140	61	23	5,491	73.5	84.0	.....	S.	22.68	60.6	79	
1.50	2,049	10,000	32.0	143	50	22	5,278	73.0	85.0	.....	S.	22.70	60.5	80	
2.10	2,049	10,000	33.0	142	56	22	5,419	74.5	85.5	.....	S.	22.80	61.0	80	
2.30	2,049	10,000	33.0	144	58	20	5,408	72.5	84.0	.....	S.	22.70	59.5	81	
2.50	1,840	9,000	36.0	143	52	30	5,285	72.5	84.0	.....	S.	22.74	60.0	80	
3.30	1,528	7,500	38.5	141	61	32	4,661	72.0	83.0	.....	S.	23.05	62.0	80	
4.00	1,219	6,000	45.0	142	65	41	4,238	72.5	83.0	.....	S.	23.25	62.7	82	
5.00	911	4,500	49.0	159	69	47	3,396	72.5	83.0	.....	S.	24.23	66.5	82	
5.40	605	3,000	50.0	169	65	50	2,298	73.0	81.0	.....	S.	25.05	70.5	82	
6.13	302	1,500	44.0	169	59	51	1,043	72.0	79.5	.....	S.	26.17	74.0	82	
								72.5	79.0	.....	S.				Kite down 6.30 p. m.

[June 29, 1898.]

A. M.															
								63.5	67.0	83	S.				Kite up 7.13½ a. m.
7.30	605	3,000	48.5	134	50	48	2,247	64.0	68.5	78	S.	25.38	73.4	75	
8.00	707	3,500	48.0	136	44	46	2,601	65.0	71.0	72	S.	25.14	72.2	75	
8.10	809	4,000	44.5	134	42	40	2,800	66.0	72.0	73	S.	24.98	71.3	75	
8.20	911	4,500	43.5	136	42	38	3,090	66.0	72.5	71	S.	24.77	70.2	76	
8.30	1,013	5,000	41.5	135	41	36	3,305	67.0	74.0	70	S.	24.60	69.7	75	
8.40	1,116	5,500	40.0	135	41	31	3,522	67.5	75.0	68	S.	24.44	68.8	74	
8.50	1,219	6,000	36.5	136	38	29	3,564	67.5	75.0	68	S.	24.35	68.4	73	
9.00	1,322	6,500	37.5	144	42	29	3,943	67.5	76.0	64	S.	24.13	67.6	69	
9.20	1,528	7,500	33.5	148	42	25	4,125	68.0	77.0	63	S.	23.94	67.2	66	
9.30	1,632	8,000	32.5	147	44	24	4,285	68.0	78.0	60	S.	23.83	67.0	57	
9.40	1,736	8,500	32.0	147	42	20	4,477	68.0	78.5	58	S.	23.71	68.0	52	
9.50	1,840	9,000	31.0	145	42	19	4,605	68.5	79.0	58	S.	23.59	68.0	53	
10.00	1,944	9,500	30.5	144	38	16	4,778	69.0	80.0	57	S.	23.47	67.0	60	
11.12	1,632	8,000	31.5	144	26	17	4,140	69.0	84.0	46	S.	23.75	68.5	62	
11.20	1,425	7,000	36.0	144	29	22	4,082	69.0	84.5	45	S.	23.76	68.0	68	
11.30	1,219	6,000	36.0	145	36	26	3,513	69.0	85.0	44	S.	24.08	68.0	76	
11.40	1,013	5,000	44.0	147	36	40	3,471	68.5	85.0	42	S.	24.17	67.0	79	
11.50	809	4,000	44.0	147	30	35	2,768	69.0	86.0	42	S.	24.76	68.5	78	
Noon	605	3,000	47.0	147	30	46	2,194	69.0	86.0	42	S.	25.21	71.4	77	
P. M.															
12.10	403	2,000	48.0	154	41	56	1,486	69.0	86.0	42	S.	25.84	75.4	76	
12.20	302	1,500	51.0	166	35	60	1,165	69.5	87.0	41	S.	26.11	77.0	74	
								68.0	87.0	37	S.				Kite down 12.30 p. m.

a Number of revolutions of reel.

TABLE 1.—ORIGINAL RECORD OF KITE OBSERVATIONS—Continued.

PIERRE, S. DAK.

[June 22, 1898.]

Time.	Length of line.		Angular elevation of kite.	Azimuth of kite.	Pull, lbs.	Inclination of wire at reel.	Corrected elevation of kite.	Surface conditions.				Conditions at kite.			Remarks.
	Dial.	Feet.						Wet bulb.	Dry bulb.	Humidity.	Direction of wind.	Pressure.	Temperature.	Humidity.	
A. M.			°	°		°	Feet.	°	°			Inches.	°	Per ct.	
7.41	301	1,500	55	188	26	49	1,228	70.5	74.5	.....	SE.	27.25	68.4	95	Kite up at 7.30 a. m.
8.15	301	1,500	55	198	30	50	1,228	71.2	73.7	.....	SE.	27.23	69.8	100	
8.55	301	1,500	61	202	34	56	1,312	72.0	75.7	.....	SE.	27.16	68.8	100	
9.18	402	2,000	56	202	40	50	1,658	73.6	80.0	.....	SSE.	26.90	69.0	96	
9.23	503	2,500	50	191	30	43	1,911	73.6	80.0	.....	SSE.	26.62	70.0	96	
9.27	605	3,000	46	177	24	36	2,148	74.0	80.5	.....	SSE.	26.51	71.9	94	
9.31	707	3,500	44	161	40	36	2,422	74.5	81.6	.....	SSE.	26.22	76.7	84	
9.35	808	4,000	46	150	44	39	2,870	74.0	80.7	.....	SSE.	25.80	81.0	68	
9.43	910	4,500	45	148	50	38	3,173	74.0	82.0	.....	SSE.	25.60	79.8	66	
9.47	1,012	5,000	43	151	42	32	3,391	74.0	82.0	.....	SSE.	25.40	80.4	61	
9.50	1,115	5,500	40	149	38	28	3,514	74.0	81.5	.....	SSE.	25.36	80.3	60	
9.53	1,218	6,000	40	151	42	27	3,830	74.0	81.5	.....	SSE.	25.05	78.7	59	
9.57	1,321	6,500	41	151	34	25	4,222	75.2	84.4	.....	SSE.	24.76	76.9	59	
10.01	1,424	7,000	38	153	34	21	4,263	75.2	84.4	.....	SSE.	24.78	77.3	59	
10.05	1,527	7,500	37	149	28	15	4,433	74.4	83.0	.....	SSE.	24.75	76.7	59	
10.09	1,631	8,000	37	151	26	12	4,703	74.4	83.0	.....	SSE.	24.61	76.3	59	
10.16	1,735	8,500	35	152	28	11	4,768	75.2	85.0	.....	SSE.	24.49	75.7	58	
10.33	1,839	9,000	34	152	30	9	4,913	75.9	87.0	.....	SSE.	24.45	75.0	58	
10.43	1,839	9,000	36	151	34	13	5,184	75.2	85.0	.....	SSE.	24.20	76.5	50	
10.48	1,943	9,500	33	149	42	13	5,091	75.2	85.0	.....	SSE.	24.05	75.8	44	
10.52	1,943	9,500	36	151	42	15	5,492	76.0	87.0	.....	SSE.	23.86	75.3	43	

LANSING, MICH.

[June 11, 1898.]

A. M.															
8.45	1,641	8,000	37	95.0	65	25.0	4,785	70.0	75.0	.....	SW.	24.70	57.5	80	Kite up at 8.25 a. m.
8.53	1,870	9,095	35	98.0	71	22.0	5,181	71.0	75.0	.....	SW.	24.50	56.0	84	
9.00	1,870	9,095	35	95.0	64	20.5	5,173	70.5	76.0	.....	SW.	24.50	56.0	85	
9.30	1,850	9,000	34	94.0	70	21.5	5,001	71.3	78.0	.....	SW.	24.58	56.5	75	
10.04	1,850	9,000	34	91.5	70	22.0	5,003	74.0	83.5	.....	SW.	24.57	57.0	79	
10.30	1,850	9,000	35	95.0	63	21.0	5,112	74.0	85.0	.....	SW.	24.45	56.8	74	
10.58	1,850	9,000	37	100.0	47	19.0	5,351	73.0	81.0	.....	SW.	24.42	55.9	79	Kite down at 12.45 p. m

CLEVELAND, OHIO.

[June 12, 1898.]

A. M.															
8.09	402	2,000	54	102	20	48	1,618	74	78.0	.....	W.	27.70	70.5	87	Kite up 7.49 a. m.
8.22	1,013	5,000	42	89	12	23	3,303	73	78.0	.....	W.	26.30	66.0	86	
8.56	1,840	9,000	37	115	18	15	5,319	76	79.5	.....	W.	24.30	58.0	89	
10.00	1,840	9,000	37	125	22	12	5,291	75	80.0	.....	WSW.	24.45	59.0	90	Kite down 12.25 p. m.

[June 26, 1898.]

A. M.															
8.10	402	2,000	54	75	38	50	1,618	68.0	75.0	70	SW.	27.55	69.0	70	Kite up 7.58 a. m.
8.13	504	2,500	55	70	42	49	2,048	68.0	75.0	70	SW.	27.17	69.0	61	
8.18	605	3,000	54	74	50	50	2,427	68.0	75.0	70	SW.	26.80	68.0	53	
8.21	707	3,500	53	73	54	48	2,795	68.0	75.0	70	SW.	26.40	66.0	49	
8.25	809	4,000	52	72	54	45	3,146	68.5	76.0	68	SW.	26.15	65.0	47	
8.30	911	4,500	50	72	52	40	3,433	68.5	76.0	68	SW.	25.85	63.5	46	
8.36	1,013	5,000	48	71	54	40	3,705	69.0	76.0	70	SW.	25.50	61.0	46	
8.42	1,116	5,500	48	74	48	35	4,062	69.5	76.5	70	SW.	25.30	60.5	47	
8.48	1,219	6,000	47	69	54	35	4,364	69.0	77.0	67	SW.	25.00	59.0	50	
8.55	1,322	6,500	44	71	54	32	4,487	69.0	77.0	67	SW.	24.60	57.0	55	
9.00	1,425	7,000	44	69	56	32	4,832	69.0	77.0	67	SW.	24.60	57.0	55	
9.10	1,528	7,500	42	69	54	28	4,978	69.5	77.0	69	SW.	24.45	56.0	54	
9.18	1,632	8,000	40	71	52	26	5,101	69.5	77.0	69	SW.	24.30	55.5	52	
9.27	1,736	8,500	39	75	58	26	5,312	69.5	77.0	69	SW.	24.10	55.0	50	
11.50	1,736	8,500	38	47	64	24	5,191	65.0	82.5	54	W.	24.25	56.5	29	Kite down 1.15 p. m.

ARLINGTON, VA.

[May 12, 1898.]

A. M.															
6.10	1,386	7,000	37	N 54 E	35	14	4,133	56.5	57.5	.....	SW.	25.82	57.5	45	Kite up 5.52 a. m.
6.15	1,386	7,000	43	N 52 E	45	25	4,717	57.0	58.0	.....	SW.	25.65	56.5	43	
6.45	1,790	9,000	41	N 50 E	48	20	5,811	58.0	60.0	.....	SW.	24.27	52.0	38	
7.30	1,993	10,000	41	N 53 E	53	21	6,469	59.5	62.0	.....	SW.	23.65	50.0	40	
7.40	1,993	10,000	43	N 53 E	60	24	6,731	58.5	62.0	.....	SW.	23.50	49.0	40	
8.00	2,197	11,000	42	N 55 E	65	21	7,142	60.5	64.0	.....	SW.	23.20	48.0	41	
8.15	2,402	12,000	41	N 55 E	73	20	7,747	62.0	65.5	.....	S.	23.00	47.0	47	
8.30	2,402	12,000	44	N 55 E	75	23	8,211	62.0	67.0	.....	SSW.	22.55	44.5	60	
8.45	2,197	11,000	46	N 58 E	72	38	7,888	64.0	69.0	.....	SW.	22.60	44.5	52	
9.00	1,790	9,000	46	N 59 E	60	30	6,416	63.0	68.0	.....	S.	23.10	46.5	58	
9.22	1,185	6,000	53	N 57 E	56	40	4,763	66.0	72.0	.....	SSW.	24.60	54.5	41	Kite down 10 a. m.

TABLE I.—ORIGINAL RECORD OF KITE OBSERVATIONS—Continued.

ARLINGTON, VA.—Continued.

[June 14, 1898.]

Time.	Length of line.		Angular elevation of kite.	Azimuth of kite.	Pull, lbs.	Inclination of wire at reel.	Corrected elevation of kite.	Surface conditions.				Conditions at kite.			Remarks.
	Dial.	Feet.						Wet bulb.	Dry bulb.	Humidity.	Direction of wind.	Pressure.	Temperature.	Humidity.	
A. M.			°	°		°	*Feet.*	°	°			*Inches.*	°	*Per ct.*	
5.40	1,891	1,500	63	S 63 E	57	61	1,336	68.8	69.3	.....	W.	29.22	74.0	65	Kite up 5.30 a. m.
5.50	1,993	2,000	51	S 42 E	73	59	1,750	69.0	70.0	.....	W.	28.60	73.0	64	
6.00	2,095	2,500	59	S 41 E	50	55	2,143	69.8	71.5	.....	W.	28.10	72.4	60	
6.10	2,197	3,000	54	S 41 E	43	49	2,426	70.3	73.0	.....	NW.	27.85	71.5	58	
6.15	2,299	3,500	54	S 42 E	47	47	2,830	70.0	73.3	.....	NW.	27.48	69.9	58	
6.20	2,402	4,000	54	S 43 E	54	48	3,230	70.8	73.5	.....	W.	27.15	69.2	50	
6.25	2,505	4,500	52	S 45 E	50	44	3,535	70.2	73.5	.....	W.	26.85	68.2	47	
6.30	2,608	5,000	51	S 47 E	48	43	3,874	70.0	74.0	.....	NW.	26.45	67.0	35	
6.35	2,711	5,500	57	S 49 E	87	50	4,613	70.2	74.2	.....	NW.	25.93	65.2	40	
6.40	2,815	6,000	53	S 50 E	62	44	4,773	70.0	73.4	.....	W.	25.75	64.5	47	
6.50	2,919	6,500	53	S 53 E	58	44	5,170	70.1	73.1	.....	W.	25.48	62.6	57	
7.00	3,023	7,000	52	S 55 E	56	42	5,494	72.0	75.2	.....	W.	25.17	62.0	56	
7.10	3,128	7,500	48	S 54 E	45	34	5,534	72.2	76.0	.....	SW.	25.05	61.0	58	
7.30	3,232	8,000	45	S 56 E	53	32	5,583	75.0	79.0	.....	W.	24.95	60.8	64	
7.40	3,337	8,500	45	S 56 E	55	32	5,932	72.5	77.5	.....	W.	24.77	60.0	64	
7.50	3,442	9,000	45	S 56 E	45	28	6,301	73.3	79.0	.....	W.	24.55	59.0	65	
8.00	3,442	9,000	44	S 58 E	40	29	6,197	76.0	82.0	.....	W.	24.60	59.9	64	Kite down 8.50 a. m.

[June 25, 1898.]

A. M.															
5.20	1,790	1,000	62	N 60 E	45	61	883	66.0	67.3	.....	SW.	28.88	81.0	70	Kite up 5.13 a. m.
5.30	1,891	1,500	60	N 64 E	35	56	1,299	66.2	67.5	.....	SW.	28.50	80.0	65	
5.40	1,993	2,000	55	N 73 E	27	50	1,638	66.5	67.8	.....	SW.	28.18	79.0	65	
5.50	2,095	2,500	52	N 76 E	24	45	1,966	67.0	69.0	.....	SW.	27.85	78.0	66	
6.00	2,197	3,000	51	N 87 E	26	43	2,325	68.0	70.2	.....	SW.	27.55	77.5	68	
6.30	2,299	3,500	45	N 77 E	19	30	2,455	69.7	73.0	.....	SW.	27.27	75.5	72	
6.45	2,402	4,000	47	N 80 E	22	33	2,906	70.3	74.5	.....	SW.	27.08	74.0	73	
7.03	2,505	4,500	50	N 84 E	27	35	3,419	71.5	76.0	.....	SW.	26.80	71.8	77	
7.10	2,608	5,000	49	N 88 E	30	34	3,748	72.0	77.0	.....	SW.	26.38	70.2	78	
7.30	2,711	5,500	52	S 83 E	51	43	4,321	75.0	80.2	.....	SW.	25.75	67.5	86	
7.40	2,815	6,000	50	S 83 E	60	43	4,587	73.5	80.5	.....	SW.	25.55	67.0	86	
7.50	2,919	6,500	48	E.	70	40	4,816	75.8	80.8	.....	SW.	25.42	65.6	93	
7.55	3,023	7,000	47	S 86 E	75	40	5,110	75.7	82.0	.....	SW.	25.28	65.6	93	
8.00	3,128	7,500	46	S 79 E	64	36	5,373	75.0	82.7	.....	SW.	25.25	65.5	90	
8.10	3,232	8,000	47	S 80 E	57	35	5,822	75.3	83.0	.....	SW.	24.68	63.0	87	
8.20	3,337	8,500	44	S 78 E	52	31	5,864	76.5	84.5	.....	SW.	24.64	64.0	82	
8.30	3,442	9,000	43	S 80 E	56	30	6,095	75.5	84.0	.....	SW.	24.42	63.5	81	Kite down 9.25 a. m.

[June 26, 1898.]

A. M.															
5.30	1,790	1,000	58	S 86 E	31	58	848	70.0	71.6	.....	SW.	29.20	83.3	85	Kite up at 5.27 a. m.
5.40	1,891	1,500	60	S 79 E	40	58	1,299	70.0	72.0	.....	SW.	28.50	82.3	70	
5.50	1,993	2,000	58	S 68 E	53	56	1,695	70.5	72.8	.....	SW.	28.15	80.5	71	
6.00	2,095	2,500	56	S 68 E	58	54	2,072	70.7	73.3	.....	W.	27.80	78.7	73	
6.10	2,197	3,000	55	S 64 E	65	50	2,458	71.3	73.8	.....	SW.	27.44	77.0	75	
6.20	2,299	3,500	54	S 57 E	58	47	2,830	71.5	74.0	.....	WSW.	27.18	76.4	63	
6.30	2,402	4,000	51	S 55 E	78	46	3,105	72.0	75.0	.....	SW.	26.90	76.0	65	
6.50	2,505	4,500	52	S 57 E	68	46	3,540	74.0	77.0	.....	SW.	26.55	73.5	74	
7.00	2,608	5,000	48	S 57 E	65	41	3,709	74.0	77.5	.....	SW.	26.40	72.5	75	
7.10	2,711	5,500	48	S 58 E	64	40	4,075	74.5	78.5	.....	W.	26.05	72.3	65	
7.20	2,815	6,000	48	S 56 E	60	38	4,441	74.5	79.5	.....	WSW.	25.83	71.1	60	
7.30	2,919	6,500	47	S 56 E	55	36	4,730	75.5	80.5	.....	SW.	25.55	68.8	59	
7.40	3,023	7,000	44	S 60 E	55	33	4,834	76.2	81.3	.....	SW.	25.43	68.5	63	
7.45	3,023	7,000	46	S 60 E	64	36	5,015	76.4	82.3	.....	SW.	25.40	69.0	62	
7.50	3,128	7,500	44	S 60 E	52	31	5,174	76.4	82.8	.....	SW.	25.30	68.8	58	
8.00	3,232	8,000	43	S 60 E	58	31	5,423	76.5	83.0	.....	SW.	24.98	67.5	58	Kite down 8.37 a. m.

The problem of connecting barometric observations made on the Rocky Mountain plateau with those of low levels on either side will, in all probability, receive substantial aid from kite observations. The chief difficulty in this problem heretofore has been a lack of exact information respecting the temperature and moisture of the air column that would exist between the plateau station and sea level if the plateau were removed. It happens not infrequently that the temperatures a mile or more above sea level are not much less than on the plains in the same latitude near sea level. Applying a correction to these temperatures based on the present accepted rate of decrease of temperature with altitude gives a result generally too high to correspond with temperature on each side in the same latitude at sea level. It is expected that the kite observations will add largely to our knowledge of the temperature gradients aloft, and thus contribute to the solution of the problem of reducing barometer readings on the plateau to sea level. Anything

that will remove the uncertainty that at times exists in our present reductions to sea level will be a distinct gain in the forecast service.

The kite work of the present year, as in the past, has been conducted under the personal supervision of Prof. C. F. Marvin, to whose skill and inventive genius much of the success that has attended our efforts is due.

Meteorological chart of Great Lakes.—During a personal inspection of Weather Bureau stations on the Great Lakes in the summer of 1897 I became convinced that the usefulness of the Bureau in that region could be greatly increased. One of the measures adopted with that end in view was the issue of a monthly chart to vessel masters, the first issue of which was mailed on September 27, 1897. The chart shows, among other things, the lake ports at which storm warnings are displayed, the localities in port where information respecting the weather can be obtained, the regions of fog, the prevailing winds, and other statistical information respecting the winds and weather on the lakes.

The collection and publication of data relating to fog frequency has been productive of interesting results. It has been shown that fog prevails in mid-lake more frequently than on shore, and that some parts of the lakes are more liable to fog than others. Eventually it will be possible to map the areas of greatest fog frequency on the lakes for the guidance of lake captains. Whether it will be possible to predict the occurrence of fog on the lakes is a question the Bureau is not yet ready to answer.

Loss of farm property by lightning.—A number of inquiries have been received during the last few years relative to the frequency of thunderstorms. Several correspondents of the Bureau hold to the view that there has been a perceptible increase in the number of storms and fatalities by lightning stroke within a comparatively short period. This view is also held by insurance companies which include lightning risks in their business, and statistics have been adduced in support of this contention. Thus, to quote a single illustration: The Farmers' Mutual Fire Insurance Company, of Readington, N. J., a company that insures isolated farm property, mainly in central and northern New Jersey, paid in losses by lightning during the six years 1882–1887, $24,388; during the six years 1892–1897, $62,153.

The variation from one year to the next, as illustrated by the following example, is also a proper subject of investigation. The mutual fire insurance companies of Michigan sustained a loss of $37,563.64 in 1895, due to lightning stroke, of which there were 316. In the following year a loss of $143,841.26, on account of 1,509 cases of lightning stroke, was sustained.* Such a variation from year to year is perplexing alike to the insurer and the insured. The statistics of thunderstorms for Michigan, collected by the Weather Bureau, show that there were 14 per cent more storms in 1896 than in 1895, while the number of lightning strokes, as shown by reports received by the commissioner of insurance for Michigan, increased 377 per cent.

In order to determine the frequency of lightning stroke and the amount of property that is destroyed annually by that phenomenon, the Weather Bureau has undertaken to collect, through the cooperation of agents and adjusters of farmers' mutual insurance associations and many private persons, statistics of loss to farm property, including live stock in the fields. The data so collected will, in the course of time, afford means of determining an equitable rate on lightning risks.

* Michigan Insurance Reports, 1896–97.

SECTION II.

ROUTINE WORK.

Forecasts and warnings—Forecasts of severe storms—Forecasts of floods—Forecasts of minor atmospheric disturbances—Districts and personnel—Distribution of forecasts—Distribution of weather statistics by maps and bulletins—Climatic work—Cotton, corn, and wheat service—Climate and crop services—Establishment of climate and crop service in Alaska—Snowfall at high elevations in Wyoming—Publications—Monthly Weather Review—Rainfall and outflow of the Great Lakes—Minute oscillations of the Great Lakes—Weather Bureau telegraph lines—Instruction in meteorology—Improvement in instrumental equipment—Need of assistant chief of Bureau.

Forecasts and warnings.—The true measure of the efficiency of the Weather Bureau is found in the promptness and accuracy with which notice of the approach and force of severe atmospheric disturbances is given. The efficiency of the Bureau during the year just ended, judging from this criterion, was fully equal to the high standard of the previous year. While we were unable to discover new laws or principles the application of which would tend to improve the accuracy of forecasts of minor disturbances, it was possible by the exercise of constant vigilance to issue warnings of all severe storms that occurred.

Prof. E. B. Garriott, in charge of the Forecast Division, has prepared a brief account of the chief storms of the year and the work of the Bureau in announcing them. Professor Garriott's full report is herewith, as Section III, from which the following has been summarized.

Four hurricanes, all of which were duly announced, visited the Atlantic and Gulf coasts during the fall of the year. The most severe of the four was that of October 23–26, which moved slowly from off the Florida coast to the vicinity of Hatteras, where it increased greatly in intensity, causing violent northeast gales along the coast as far northward as New England.

The duration of the storm in the vicinity of Hatteras enabled the Bureau to make a definite prediction with regard to the tide at Norfolk, Va., where, owing to the low level of the city, much valuable property is liable to damage by inundation. In the case in question, cotton and other property valued at approximately $850,000, were removed to places of safety. It was also reported to the Weather Bureau that between 800 and 900 vessels remained in port along the north Atlantic coast as a result of the warnings issued for this storm.

Three severe storms passed from the interior to the eastern seaboard during November, 1897. In one of these the ill-fated steamer *Idaho* with 19 of her crew of 21 was lost on Lake Erie. This vessel, it will be remembered, left Buffalo on the afternoon of the 5th in the face of storm signals which had been flying since daybreak. The Chicago Chronicle, of November 12, 1897, commented on the wreck of the *Idaho* as follows:

> The wreck of the steamer *Idaho*, with the loss of 19 lives, off Long Point, last week, points a moral and adorns a tale for lake mariners. The disaster was the result of carelessness and temerity. The *Idaho* was 35 years old, and, though not exactly unseaworthy, should not have been exposed to a severe storm. The storm signals were flying when the boat put out of the port of Buffalo to make its way up Lake Erie. Captain Gillies trusted to his own judgment instead of to the warnings of science. He also trusted in the stoutness of an old craft, not fitted for the severe tempests of the season. Small as it is, Lake Erie sees the worst storms that sweep across the Lake basin.
>
> We are accustomed to jeer at the Weather Bureau when unheralded storms carry devastation in their tracks across land and sea. Sometimes, perhaps often, forecasts of storms are not fulfilled; but this is only in the case of minor changes from calm to disturbance not seriously affecting navigation nor the pursuits of trade and labor on land and sea. Serious warnings are seldom without cause.

A remarkably violent storm of wind and snow swept over eastern New York and New England on January 31–February 1, 1898. The greatest violence of the storm was manifested on the New England coast, on which nearly two score of mariners lost their lives and as many vessels were wrecked. At Boston heavy damp snow, driven by a 50-mile gale from the northeast, completely prostrated overhead wires of all sorts and paralyzed transportation lines, both steam and electric,

for several days. Warnings of this storm were given the widest possible distribution on the morning of the 31st.

Forecasts of freezing weather in Florida on January 2–4, 1898, also on February 2–4, were made in time to enable residents of that State to take such precautions as were possible to preserve early vegetables and fruit trees from destruction. Likewise in California during December, 1897, January and March, 1898, warnings well in advance of the unusually low temperatures that occurred in those months were issued. Frost occurred in the fruit region of California quite frequently during March, 1898. In spite of the efforts made to protect fruit, then in blossom, much damage was done owing to the severity of the frost.

In the middle and northern districts of the country the winter was one of the mildest on record; cold waves were neither widespread nor severe.

Forecasts of floods.—A brief description of the important floods of the year, of which there were five, will be found in Section III of this report. But for the timely warnings issued by the Weather Bureau the losses from these floods would have been far more severe than they were. The flood in the Ohio in January was anticipated and the dates on which the danger line would be passed at important points were accurately indicated.

Warnings relative to the March flood in the Ohio were sent to Cincinnati on the 22d, and as the flood continued to increase in volume, a warning was sent to Cairo on the 23d that the river would exceed the danger line considerably. This warning was supplemented each day, until the wave crest had passed, by others sent to all points between St. Louis and New Orleans.

At Cairo a stage of 48 feet was forecast for March 31, and on that date the gauge registered 47.6 feet; the rise continued, and culminated on April 6 with a reading of 49.8 feet.

These timely warnings saved thousands of dollars to steamboat men, lumber dealers, and farmers living in the riparian districts. Levees were strengthened at the weaker places, and the levee authorities stationed men with material and implements for strengthening and building up as occasion might require.

Warnings regarding the flood in the Arkansas were issued and widely disseminated by telegraph, telephone, and through the mails and press. The Little Rock Board of Trade, appreciating the value of the warning and realizing the great damage that would result from the high stage indicated, chartered the steamer *Irma* and sent her 70 miles down the river, with instructions to stop at every landing and settlement, to blow her whistle and distribute the flood warnings, and to give every person who came to the landing full information, in order that every precaution to save life and property might be taken.

In addition to flood forecasts, warnings of low water were issued as occasion required. Forecasts of this character were fully appreciated, since at certain low stages traffic is wholly or partially suspended, and at such times it is absolutely essential that boatmen should know the low-water stage expected in order to intelligently prosecute their work.

Weather and temperature forecasts.—Turning now to the forecasts of weather and temperature—the minor atmospheric disturbances—we may note that no substantial increase in accuracy has been attained. In the present state of knowledge respecting minor atmospheric changes it is not possible to forecast them with as great accuracy as might be desired. Experiments have been made with kites, and instruments have been sent aloft to secure observations of pressure, temperature, and humidity, but as yet the observations are too few in number to determine their real value in weather forecasting. The upper-air currents of summer, the only period during which observations have been secured, are feeble. Frequently, too, it has not been possible to make an ascension by reason of lack of movement in the surface currents. Observations are now being made as rapidly as circumstances will permit at 17 stations. The reduction of these observations is attended with some little uncertainty, but we hope to improve present methods and to eventually secure satisfactory data.

The discussion of the cloud observations, made in concert with foreign meteorological services during 1896–97, is in the hands of Prof. F. H. Bigelow. Professor Bigelow hopes to complete his work during the coming year. Fortunately the kite observations now being made can be used to supplement the cloud observations. The former also promise practical results along a line of work hitherto unsuspected, viz, that of reducing barometric observations on the Rocky

Mountain plateau to lower levels on either side, thus contributing to the better understanding of the actual pressure changes which occur in the plateau region.

Districts and personnel.—The forecast districts remain the same as last year, viz: Oregon and Washington, Local Forecast Official B. S. Pague, Portland, Oreg., in charge; California, Nevada, and Arizona, Forecast Official W. H. Hammon, San Francisco, Cal., in charge; Montana, Wyoming, Colorado, Kansas, Nebraska, North and South Dakota, Minnesota, Wisconsin, Iowa, Missouri, Illinois, Indiana, and Michigan, comprising the Chicago forecast district, Prof. E. B. Garriott in charge, with Forecast Official H. J. Cox as first assistant. Forecasts for the remainder of the country were made at the Central Office in this city. Lieut. Col. H. H. C. Dunwoody, supervising forecast official, was in charge of the Forecast Division of the Central Office until May 31, 1898, on which date he returned to duty in the Signal Corps of the Army, after twenty-six years of useful service in the Weather Bureau and its predecessor, the Signal Service. On Colonel Dunwoody's relief the charge of the Forecast Division was intrusted to Prof. Park Morrill. Professor Morrill entered upon his new duties with great zeal and energy. He was especially active in attending to the details of the storm-warning service then being established in the West Indies. In the midst of his labors he was stricken with fever, but remained on duty until compelled to take to his bed. His illness terminated fatally on August 7, 1898, at a time when a career of increased usefulness and activity was within his grasp.

Prof. E. B. Garriott, who was in charge of the Chicago forecast district at the time of Professor Morrill's illness, was called to the Central Office to take charge of the Forecast Division.

In the death of Professor Morrill the Bureau lost an intelligent and zealous official. He combined in a marked degree the qualities of the scientist and the executive.

Distribution of forecasts.—Forecasts and warnings were distributed with the utmost dispatch and in accordance with methods tried and proven by the experience of previous years. The daily press has contributed very greatly to the success that has attended our efforts to make a thorough distribution of the forecasts. Valuable aid has also been extended in disseminating special warnings of cold waves, storm winds, frosts, etc. The telephone appears to be a valuable medium of communication between the local observer and the public, and one that bids fair to eventually become of still greater usefulness in disseminating the warnings of the Bureau. The valuable cooperation of numerous telephone companies is here acknowledged.

The total number of forecasts distributed during the year, exclusive of those published in the daily papers, was, approximately, 23,531,500, as shown by the table below. Sixty-four per cent of the yearly distribution was by logotype cards sent through the mails or carried by messengers; 23 per cent by maps and bulletins; 10 per cent through the cooperation of railroad, telegraph, and telephone lines, while the remaining 3 per cent were distributed by telegraph and telephone at the expense of the Bureau.

The State receiving the largest number of forecasts was Ohio, 2,157,300; the next largest, New York, 2,033,400, followed by Michigan, Illinois, Missouri, and Pennsylvania, in the order named.

DISTRIBUTION OF FORECASTS.

States.	At Government expense.			Without expense to the United States, by—				By maps and bulletins.		Grand total.
	Forecasts and special warnings.	Special warnings only.	Emergency warnings.	Mail.	Telegraph or telephone.	Railroad bulletin.	Railroad train service.	Maps.	Bulletins.	
Alabama	8,400	0	63	163,500	5,100	8,700	6,300	122,100	0	314,100
Arizona	600	1	0	0	2,400	0	0	0	6,000	9,000
Arkansas	9,300	4	58	122,400	10,800	1,800	0	50,100	9,600	204,000
California	25,200	22	3	609,600	33,300	104,700	0	200,400	5,400	978,600
Colorado	3,900	13	47	166,800	0	1,800	2,100	25,400	0	270,000
Connecticut	3,600	6	32	220,800	14,700	3,600	45,300	0	0	288,000
Delaware	1,500	0	6	9,600	0	6,600	0	0	0	17,700
District of Columbia	0	0	0	314,100	3,900	0	0	282,000	0	600,000
Florida	15,300	44	32	129,600	600	20,100	0	47,400	5,400	218,400
Georgia	17,700	40	82	249,900	600	31,800	12,300	94,200	0	406,500
Idaho	2,400	0	0	75,000	600	0	0	0	0	78,000
Illinois	22,200	24	383	831,000	7,500	82,200	137,700	405,300	0	1,485,900
Indiana	29,700	1	98	613,800	2,700	53,100	86,100	111,000	0	896,400
Indian Territory	2,400	1	0	27,000	300	0	0	0	0	29,700
Iowa	34,800	5	183	473,700	11,100	3,300	0	161,400	15,000	699,300
Kansas	12,300	3	142	155,400	6,000	38,400	4,500	3,300	18,300	238,200
Kentucky	13,500	53	76	192,900	35,700	10,200	0	96,300	0	348,600
Louisiana	8,700	24	6	136,500	3,300	900	0	144,900	0	294,300
Maine	7,800	1	13	296,400	2,400	6,900	23,100	32,700	0	369,300

DISTRIBUTION OF FORECASTS—Continued.

States.	At Government expense.			Without expense to the United States, by—				By maps and bulletins.		Grand total.
	Forecasts and special warnings.	Special warnings only.	Emergency warnings.	Mail.	Telegraph or telephone.	Railroad bulletin.	Railroad train service.	Maps.	Bulletins.	
Maryland	7,800	2	17	323,100	9,900	29,400	0	129,300	0	499,500
Massachusetts	6,600	16	32	570,900	6,600	0	120,300	288,600	0	993,000
Michigan	32,100	13	167	1,029,000	20,400	114,600	137,100	197,100	0	1,530,300
Minnesota	14,400	11	87	373,800	1,500	2,400	0	145,800	0	537,900
Mississippi	15,900	12	62	117,900	16,200	4,800	0	145,800	0	306,600
Missouri	26,700	6	191	945,900	30,900	32,100	18,000	339,000	0	1,392,600
Montana	4,800	0	16	125,100	4,800	0	0	0	17,400	152,100
Nebraska	18,600	4	147	279,300	600	3,300	0	77,100	8,100	387,000
Nevada	1,200	0	0	21,600	900	0	0	0	0	23,700
New Hampshire	3,300	0	13	98,100	0	3,000	9,300	0	0	113,700
New Jersey	10,200	24	90	324,300	17,100	52,200	0	0	0	403,800
New Mexico	2,700	0	0	9,000	900	1,200	0	0	0	13,800
New York	35,100	22	201	1,182,900	87,000	78,000	50,400	600,000	0	2,033,400
North Carolina	18,300	14	114	211,500	5,700	2,100	4,800	85,800	0	328,200
North Dakota	6,000	10	96	1,500	4,200	0	0	300	0	12,000
Ohio	48,300	106	197	1,631,100	76,200	24,600	5,100	372,000	0	2,157,300
Oklahoma	1,200	1	8	13,500	3,000	0	0	0	0	17,700
Oregon	7,200	0	0	183,600	2,700	0	31,200	129,300	600	354,600
Pennsylvania	19,200	12	105	606,000	182,700	207,000	0	204,300	0	1,219,200
Rhode Island	900	0	5	6,600	0	0	8,100	0	0	15,600
South Carolina	15,600	5	65	174,600	18,600	12,300	3,000	65,400	0	289,500
South Dakota	12,000	24	76	149,400	3,600	0	0	34,500	12,900	212,400
Tennessee	10,500	4	93	335,100	19,200	11,700	600	143,700	0	520,800
Texas	16,200	28	184	267,600	54,100	19,200	0	74,700	5,400	437,200
Utah	4,200	0	0	130,200	0	0	0	0	4,500	138,000
Vermont	3,300	1	16	152,400	17,100	3,000	3,900	0	0	179,700
Virginia	27,300	11	91	277,500	22,800	20,400	28,800	123,600	0	500,400
Washington	7,200	2	0	135,600	1,200	0	8,700	48,900	0	201,600
West Virginia	5,100	7	44	161,400	21,900	8,100	0	16,800	0	213,300
Wisconsin	26,100	14	134	378,900	11,100	300	4,800	164,400	0	585,600
Wyoming	2,100	1	6	4,200	1,500	5,400	0	6,900	0	20,100
Total	629,400	592	3,481	15,009,600	783,400	1,009,200	751,500	5,239,800	108,600	23,531,500

Distribution of weather statistics by maps and bulletins.—Five million two hundred and thirty-nine thousand eight hundred weather maps of all classes and 108,600 bulletins were distributed during the year, an increase of about 600,000. Each map or bulletin contains a daily forecast and statistics showing the weather conditions over some part of the United States. In the larger cities, as New York, Chicago, and Philadelphia, the map contains a large number of reports. It is almost as complete, in fact, as the one issued at the Central Office. The maps are used largely by boards of trade, business houses, and public offices. There is also a very considerable number issued to the schools and colleges of the country for purely educational purposes.

Climatic work—Cotton, corn, and wheat service.—The special service maintained in the cotton, corn, and wheat regions consists in reporting the daily temperature and rainfall at 129 stations in the cotton region and 131 in the corn and wheat region. No changes have been made in either of these services during the past year. The information collected is promptly telegraphed to important commercial centers and displayed by bulletin or otherwise in public places.

Climate and crop services.—The climate and crop services of the various States and Territories were efficiently conducted during the year. Improved appliances for printing the monthly climate and crop reports in neat and uniform style have been installed in all but seven sections, viz, Idaho, Kansas, South Carolina, South Dakota, Utah, West Virginia, and Wyoming. The weekly bulletins of all of the sections except Nevada and Utah are printed in attractive form.

Establishment of climate and crop service in Alaska.—The establishment of an agricultural experiment station in Alaska in April, 1898, led to the detail of an official of the Weather Bureau for duty in organizing a climate and crop service in that Territory. Meteorological observations have been made at but few places in Alaska since the withdrawal of Signal Service observers in 1887, and while the climate of the coast is fairly well determined, comparatively little is known of interior Alaskan climate, especially in summer.

The central station of the new service is located at Sitka, at which point continuous registers of wind velocity, sunshine, temperature, and pressure will be made. Check observations of standard instruments at 8 a. m. and 8 p. m., local mean time, will also be made.

Snowfall at high levels in Wyoming.—The section director of the climate and crop service of Wyoming, in cooperation with a special agent of the Office of the Experiment Stations of the Department of Agriculture, has been directed to make a careful study of the precipitation at

voluntary stations in mountain regions, with a view of determining the amount of snowfall at high levels. He has been directed to secure as many additional voluntary observers as possible, and, wherever the reports are especially desirable, to arrange for paid observers. It is desired to know if a uniform ratio exists between precipitation at moderate levels and precipitation on high mountain ranges. It is true that the amount of snowfall determines in a great measure the volume of water available for the purpose of irrigation during the growing season of crops. If the ratio between mountain snowfall and the precipitation at lower levels be always the same, it will, of course, be possible to determine the amount of snow by the precipitation measured at our many stations on low levels, but if the ratio be not constant, it is apparent that accurate measurements of precipitation should be made on the elevated zone that supplies the streams of summer. From this and similar investigations it may be possible to make a fairly accurate estimate of the volume of water to be expected during each growing season. The subject is one that requires careful investigation, so that faulty conclusions be not reached.

Publications.—The business of the Publications Division differed materially from the corresponding period that closed with June, 1897, only in the quantity of work done. The excess of impressions, by letter presses, was 38 per cent, of completed copies, 86 per cent, while the increased product of the lithograph presses exceeded 16 per cent.

The regular publications include the morning Weather Map, 850 copies; the Monthly Weather Review, 4,000 copies; the Climate and Crop Bulletins, weekly during the crop season, April to September, inclusive, and monthly during the rest of the year, 4,000 copies; the Meteorological Chart of the Great Lakes, monthly except December, January, and February, 3,000 copies; the Snow and Ice Chart, weekly during the winter season, 1,600 copies, and the River Bulletin, monthly since January, 1898, 650 copies.

Monthly Weather Review.—The Monthly Weather Review has been edited by Prof. Cleveland Abbe and published regularly, the date of issue being six or seven weeks after the close of the month to which it refers. Each number now contains sections contributed by the Forecast, Climate and Crop, and Records Divisions, besides those by the librarian and the editor. In addition to these regular sections the Bureau is indebted to numerous friends throughout the world for "special contributions" that are oftentimes of great interest to meteorologists and especially to members of the service. The statistical matter in the Review forms a very comprehensive record of the climate of the several States and Territories. For reference and future investigation such a record is invaluable. The Review has also been enriched by regular monthly contributions of climatological data from Hawaii, Mexico, Jamaica, Haiti, Nicaragua, and Canada.

In size it has not exceeded the prescribed limit of fifty pages of text and ten charts, but a larger percentage of the text has been printed in smaller type than was formerly used. There are usually twenty pages of tabular matter, eight regular and several extra charts in each number.

The Annual Summary, together with the table of contents and index, completes each volume, which, in accordance with past precedents, is known as the "Monthly Weather Review and Annual Summary" for the respective years.

Rainfall and outflow of the Great Lakes.—In answer to a request from Mr. C. H. Keep, secretary of the Lake Carriers' Association, a report on the rainfall and outflow of the Great Lakes was made by Prof. C. Abbe and published in the Monthly Weather Review for April, 1898. The important result therein demonstrated is one that has in fact been long suspected, namely, that we know too little about the evaporation and the drainage from the watershed of the lake region to justify any minute conclusions. The "drainage or run-off" is a matter that should be determined by hydraulic engineers. In order that the Weather Bureau may respond satisfactorily to the public demands for information on evaporation, it will be necessary to establish a large number of evaporometers in the lake region in such positions as to give the evaporation from the water surface of the lake as distinguished from the measurements in thermometer shelters usually made by meteorologists.

Minute oscillations of the Great Lakes.—Mr. F. H. Dennison, of the Canadian meteorological service, having established a continuous record, on a large scale, of the oscillations on Lake Ontario, has shown that minute temporary waves have such a connection with atmospheric conditions that they may, perhaps, be used to predict distant thunderstorms. These oscillations are

of much interest from several points of view, and observations should be maintained at Weather Bureau stations in connection with the evaporometers before mentioned, and in addition to any similar stations that may be maintained by the Chief of Engineers, United States Army, or by the Director of the United States Geological Survey.

Weather Bureau telegraph lines.—At one time the Federal Government owned and operated about 5,000 miles of seacoast and frontier telegraph lines. In 1891, 633 miles of these lines, mainly on the seacoast, were turned over to the Weather Bureau as appropriate to a purely meteorological service. These lines traverse thinly settled regions or connect islands with the mainland by submarine cable at points where there is not enough commercial business to warrant the construction of a private line. The total revenue from Weather Bureau lines on account of commercial dispatches during the year was $4,220.19, which sum was covered into the United States Treasury, as required by law.

These lines serve a double purpose; first, they enable the Bureau to receive early information of changes in the weather at exposed points on our coast; and second, they permit of the display of storm warnings near several of the great highways of vessels entering or leaving our ports. They also contribute largely to the safety of vessels navigating our shores, as evidenced by the specific cases quoted below.

(1) The British Bark *Culdoon*, Captain Richter, Cape of Good Hope to Boston, went ashore March 23, 1898, on the south side of Nantucket Island. Wrecking companies were at once notified of the disaster, and by speedy action the vessel and cargo, valued at $100,000, were saved.

(2) The steamer *Tuscarora* and cargo, valued at $700,000, went ashore on Middle Island, Lake Huron, during a dense fog, October 24, 1897. By means of the Weather Bureau system of cables and telegraph lines connecting Thunder Bay and Middle Island with the observer's office in Alpena, assistance was summoned and the steamer was saved after lightering 800 tons of merchandise.

Instruction in meteorology.—The instruction given in meteorology in the United States varies in its character according as this subject is considered as a part of a course in climatology and geology, or as a course in mathematics and physics. The former method of treatment is appropriate to high schools and to the needs of those who contemplate becoming observers in the Weather Bureau; the latter method of treatment is appropriate to universities and should fit one for the prosecution of important work in dynamic meteorology.

The importance of the subject has been kept in mind, especially in the assignment of observers to duty at points where there are colleges or universities not already provided with instructors in meteorology. Prof. Cleveland Abbe, editor of the Monthly Weather Review, has been requested to prepare a report on the general condition of the subject in the United States. His report will doubtless stimulate interest in the matter and lead to a better conception of the standard of technical knowledge required for admission to the Weather Bureau service.

It is encouraging to be able to report that during the past year the courses in meteorology have been strengthened in a large number of high schools and academies.

The well-known course of Prof. William M. Davis, in Harvard University, now devolves upon Mr. R. DeC. Ward, who has published an "Outline of requirements in meteorology," intended to serve as an aid to teachers in preparing students for examination in elementary meteorology, presented for admission to Harvard College and the Lawrence Scientific School.

A meteorological observatory has been erected at Columbia University, New York City, under the direction of Prof. William Hallock, of the department of physics, and a complete course of instruction in this subject will undoubtedly follow.

A course of lectures on hydrodynamics in its application to the motions of the atmosphere has during the past year been offered by Prof. James McMahon, of Cornell University.

Mr. O. L. Fassig, of the Weather Bureau, on duty at Baltimore, was assigned to the duty of instructor in climatology at the Johns Hopkins University, in addition to his other duties. The course of lectures given by Mr. Fassig has undoubtedly stimulated interest in climatic research at the university and throughout the State. Already plans have been made for the study of two special climatic problems of considerable economic importance.

Improvement in instrumental equipment.—Early in the year a systematic plan for the better-

ment of the instrumental equipment of Weather Bureau stations was formulated, due regard being paid to the various local, educational, and other interests subserved at the several stations. This method secured a judicious distribution of the supplies that became available during the year, and, as a result, the equipment of all the stations is now in a more uniformly excellent condition than ever before.

The Weather Bureau stations at all important points are regularly visited by students and classes of local educational institutions. Advantage has been taken of the valuable opportunity thus afforded to instruct large numbers of pupils in the use of meteorological instruments as well as the methods of observation and general work of the Weather Bureau.

There are now in use at regular stations of the Bureau, not including either the stations of the West Indies or the Marine Service on the Great Lakes, 90 registers (double and triple) recording velocity and direction of the wind, and, with a few exceptions, sunshine and rainfall; 113 thermographs recording the air temperature, and 105 barographs recording air pressure. No other similar territory in the world is covered with such a complete equipment of instruments, recording climatic and meteorologic phenomena.

Need of assistant chief of Bureau.—I regret to have to report that almost my entire time has been consumed in executive work, leaving little or no time for personal study and investigations. The executive work is constantly growing. In addition to the work involved here in the city of Washington, there are 165 outlying completely equipped meteorological stations, at the majority of which conditions continually arise that require careful executive consideration. While I have no desire to shift the responsibility for a portion of the work to another official, I feel that for the best interests of the service an assistant to the Chief of Bureau should be available in times of emergency and when the Chief is absent from the city on official business.

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SECTION III.

STORMS, FLOODS, AND COLD WAVES OF THE YEAR.

By Prof. E. B. GARRIOTT.

Severe storms and hurricanes—Cold waves and frosts—Floods in the Ohio—Flood in the Mississippi—Flood in the Arkansas.

Four hurricanes visited the Atlantic and Gulf coasts. One of these was severe on the Texas coast September 13, 1897, where, owing to high winds and tides, 13 lives were lost, and the property loss was $150,000. The second hurricane skirted the south Atlantic coast September 21, 1897, and disappeared south of New England September 24. Reports of incoming vessels showed that this storm was quite severe off Hatteras September 22. In advance of both of these storms all shipping and ports in the Gulf of Mexico and along the Atlantic coast received, respectively, ample warning of high winds.

In October, 1897, two hurricanes moved northeastward along the Atlantic Seaboard; the first from the 19th to the 21st, and the other from the 23d to 26th. Reports received indicated that the benefits derived from hurricane warnings, issued in connection with these storms, were very great, more particularly in the case of the storm of the 23d to 26th, which from New York south to Hatteras was the most violent and destructive that had occurred for years. Danger warnings and special telegraphic bulletins were displayed at all ports from twelve to twenty-four hours in advance of the hurricane, and the information was widely disseminated by means of the telephone, telegraph, and signal rockets at night, and as a result few disasters to shipping occurred. Between 800 and 900 vessels were reported to have remained in port at harbors on the Atlantic coast as a result of the signals and warnings. At Norfolk, Va., it was estimated that the warnings saved $850,000 worth of cotton and other merchandise from damage by high tides.

Three severe storms occurred in November, 1897. The first of these advanced from Kansas to the Gulf of St. Lawrence from the 3d to 6th, causing high easterly to northerly winds on the upper lakes, and violent southerly to westerly gales on the lower lakes. This was the storm in which the ill-fated *Idaho* was lost on Lake Erie. This vessel left Buffalo Harbor the afternoon of the 5th in the face of the storm signals which had been flying since daybreak. The second storm appeared in Kansas on the 7th, crossed the lower lake region on the 9th, and moved eastward off the New England coast on the 10th, its passage being attended by gales, for which signals were ordered well in advance of the storm's arrival. The third storm of November advanced from the region north of Montana to New England from the 9th to 12th, attended by gales over the Great Lakes and along the New England coast. The daily press at the various lake cities published many commendary notes regarding the value of the warnings issued in connection with these storms, and the estimation in which they were held by the interests served.

The Chicago Chronicle of November 12, 1897, stated editorially:

> The wreck of the steamer *Idaho*, with the loss of nineteen lives, off Long Point, last week, points a moral and adorns a tale for lake mariners. The disaster was the result of carelessness and temerity. The *Idaho* was 35 years old, and though not exactly unseaworthy, should not have been exposed to a severe storm. The storm signals were flying when the boat put out of the port of Buffalo to make its way up Lake Erie. Captain Gillies trusted to his own judgment instead of to the warnings of science. He also trusted in the stoutness of an old craft, not fitted for the severe tempests of the season. Small as it is, Lake Erie sees the worst storms that sweep across the lake basin.
>
> We are accustomed to jeer at the Weather Bureau when unheralded storms carry devastation in their tracks across land and sea. Sometimes, perhaps often, forecasts of storms are not fulfilled; but this is only in case of minor changes from calm to disturbance not seriously affecting navigation nor the pursuits of trade and labor on land. Serious warnings are seldom without cause.

The Buffalo Times, November 14, 1897, contained the following:

During the past week the local Weather Bureau has done navigation interests invaluable service. It has given warnings of the storms which have prevailed during the week, and undoubtedly has in this way saved two or three million dollars' worth of property, and nobody knows how many lives. Yesterday morning 50 vessels left port after waiting for the storm to blow over. Certainly the navigation interests of the Queen City of the Lakes could ill afford to do without the services of the Weather Bureau.

Detroit papers commented as follows:

Detroit Tribune, November 12, 1897.—The weather bureau at this point issued warnings of the approaching storm last Wednesday and at once ordered up storm signals at points along the entire chain of lakes. The orders were repeated yesterday morning. That much attention was paid to the signals is shown by the fact that the vessel passages at Detroit yesterday were among the lightest in number on record.

Detroit Free Press, November 12, 1897.—It is deserving of praise that every storm this month was seen in the distance and predicted long before it reached the lakes. For a period of twenty-four to thirty-six hours ahead the inhabitants of the lake region have been told of the coming of each; and as it came closer and immediate condition could be gauged the public have been given exact details, including direction and velocity of wind. Some men say this is a matter of luck. There is some excuse for this remark, in view of the utter failure of predictions in time past. But there is another side to it. The Bureau has, without doubt, been brought to a high state of efficiency. The Chief and his assistants have profited by past experience just as every man of sense takes warning of what has gone before, and endeavors to improve on his record. The science of studying the origin and tracks of storms has been refined, and the process of refinement has by no means been completed. New instruments have had much to do with this, but study and application and reasonable deductions have had more.

The natural result is the greater respect paid to the Bureau, its bulletins, and charts than ever before. The November chart, containing diagrams of the courses of past storms for that month, has jumped into popular favor. Requests are made for it every day by lake masters, owners, and others. More heed is taken of storm warnings, for the lake sailor has come to look on them as worthy of trust. The one great exception was the starting of the steamer *Idaho* from Buffalo last Friday. The prediction of that storm and its attendant conditions had been made many hours before.

Four storms of marked severity developed in the southwest in January, 1898, and, following nearly the same path, moved northeastward across the central valleys, the lower lake region, and the New England coast, accompanied by heavy snow in the northern portion of the regions traversed and by high winds, causing considerable damage to various interests and interrupting traffic in northern Illinois, Wisconsin, and lower Michigan. The first storm, that of the 21st–23d, caused unusually high tides on the Massachusetts coast, which resulted in considerable damage to seaport cities and towns in that region. Warnings were thoroughly distributed well in advance of these storms and were of undoubted value. The warnings of heavy snow for the States named were ample and very accurate.

A wind and snow storm of unusual violence passed over eastern New York and New England January 31 and February 1, 1898. High wind, in connection with heavy snow, caused great destruction to shipping on the New England coast and great damage to railroads and telegraph and telephone lines throughout eastern New York and New England. The warnings issued the morning of the 31st were given the widest possible distribution throughout the threatened regions, and, as shown by reports received, were of great benefit. Conservative and reliable estimates place the loss by the storm to electric and steam railroads, telegraph and telephone companies in the city of Boston and neighboring cities and towns, and to corporations and individuals generally at about $1,500,000. The damage to shipping is estimated at from $150,000 to $200,000.

Severe storms also occurred on the New England coast February 15 and 16, and from February 18 to 22, 1898, a heavy snow and wind storm moved from Texas northeastward to New England. The warnings issued in connection with these storms were opportune, and the warnings of heavy snow and high north to northeast winds for the States of the Upper Mississippi Valley and the upper lake region, made mainly in the interest of transportation companies, were fully verified, the snowfall in portions of the upper lake region exceeding 18 inches.

From March 2 to 5, 1898, a storm moved from the eastern part of the Gulf of Mexico to the New England coast. All shipping was well warned and no serious losses were reported.

The severe storms of April, 1898, occurred over the lake region on the 13–15th and 18–20th, and along the Atlantic coast on the 26–29th. The coast storm was attended by unusually severe gales and high tides on the middle Atlantic coast, but owing to warnings disseminated very little damage resulted.

Cold waves and frosts.—The Florida freeze of January 2–4, 1898, was very destructive to early vegetables, and caused considerable damage to citrus trees and pineapples. From the 2d to the 4th the following minimum temperatures were reported from Jacksonville, Tampa, and Jupiter, respectively: January 2, 24°, 28°, 30°; January 3, 26°, 26°, 30°; January 4, 38°, 38°, 34°. Warnings of these injurious conditions were sent from Washington, and, although both of the days on which the messages were sent were holidays, making effective dissemination difficult, the warnings were, through the efforts of the Weather Bureau observers, by means of the mail, telegraph, and telephone services and the cooperation of the railroad officials, very widely distributed throughout the threatened districts, and enabled the adoption of effective measures for the protection of crops.

Severe cold weather prevailed in Florida February 2–4, 1898, with the following minimum temperatures at Jacksonville, Tampa, and Jupiter, respectively: February 2, 26°, 31°, 40°; February 3, 32°, 38°, 50°; February 4, 34°, 34°, 52°. The amount reported saved by warnings in Florida by fruit and vegetable growers alone reached $68,000, and these figures represent only a part of the total, there being hundreds of growers who were benefited, directly or indirectly, from whom no information could be obtained.

The Florida press complimented the Weather Bureau very highly upon the timely and accurate warnings given and agreed in placing the estimate of fruit trees and vegetables saved thereby at thousands of dollars.

Heavy frosts occurred the mornings of April 6 to 9, 1898, in the South Atlantic and Gulf States, with light frost on the 8th as far south as Jacksonville, Fla. Warnings of these frosts were issued from the central office the mornings of the 5th, 6th, and 7th, and extensively distributed throughout the regions named. The warnings were received in North Carolina fourteen hours, on the average, in advance of the frost, a period amply sufficient to employ methods for protecting crops. The saving to the berry crops was placed at thousands of dollars. Mr. H. T. Bauman, shipping master of the Fruit Growers' Association, estimates the saving in the State at $100,000 and the approximate value of the crops protected, principally strawberries, at $600,000 to $700,000.

In December, 1897, and January, 1898, frost and freezing weather occurred in the citrus fruit districts of California. On December 2 and 3 the temperature fell below freezing as far south as Los Angeles and Riverside counties, but the injury to the fruit interests was probably small. Warnings of these frosts were in every instance issued on the morning of the day preceding their occurrence. In March, 1898, frosts, in some instances quite destructive, occurred in the fruit regions of California nearly every night from the 12th to the 27th, inclusive, and on the 9th and 10th a severe norther, with gales on the coast, prevailed in California. Warnings of frost were distributed throughout the districts visited in advance of and during the period of frosts, and many efforts at protecting the fruit, then in blossom, were made, which were not generally successful owing to the extreme severity of the frost. In some instances even grain was severely injured.

The cold waves of the middle and northern districts of the country were neither severe nor widespread, the most notable visitations of this class occurring over the West and Northwest States March 22 to 23 and 24 to 28, 1898. All interests in the States lying between the lake region and the Rocky Mountains were warned of the approach of these cold waves, and an immense saving to property and stock on the cattle ranges of the north and northwest was effected.

FLOODS.

During the past fiscal year there were two floods of note in the Ohio River and its chief tributaries, the Cumberland and Tennessee; two in the Lower Mississippi River, and one in the Arkansas River.

Floods in the Ohio.—The first flood in the Ohio culminated at Cincinnati January 26, with a gauge reading of 52.2 feet; in the Cumberland at Nashville on January 22, with a reading of 38.6 feet, and in the Tennessee at Johnsonville January 29, with a reading of 29.1 feet, the danger line at these points being 45, 40, and 21 feet, respectively.

The tremendous outpour of the streams that empty into the Ohio within a few miles of the

gauge at Cincinnati was chiefly responsible for the several successive rises that were recorded. The Ohio had reached 38 feet on the 14th, when river interests in the bottoms began to prepare for prompt action in case of emergency. The danger line (36 feet) was passed at Point Pleasant on the 17th. The rise had only reached 44.6 feet at Cincinnati by midnight of the 17th, when, the local freshets having run out, a fall began. Steady and heavy rains on the 19th over the territory drained by the local streams caused a sudden rise in the Ohio at this point of 6 inches per hour, the danger line being passed on the 19th at midnight. This rise was a purely local one, attributed mainly to the Little Miami River. But for the concentration of several heavy rains, piling up a tremendous mass of water in front of Cincinnati, the storms of the month would hardly have swollen the river above the danger line.

Although the rise of 52.2 feet was unusual, submerging the valleys and lowlands, and causing inconvenience and expense in Cincinnati by necessitating the removal of goods, and from a temporary cessation of business, river interests did not suffer materially from this flood.

A second and more disastrous flood occurred in the Ohio River in March, the rising beginning on the 15th, coming largely from the northern tributaries of the river. The rise was continuous, and on the 29th at Cincinnati, reached a maximum height of 61.4 feet, the highest stage in March since the record began in 1858.

The conditions which prevailed in the Alleghany Valley and along the Monongahela, earlier in the month, due to the influence of fair and warmer weather, were followed by unusually heavy rains over the head-water tributaries of the Ohio, resulting in three freshets within the space of ten days, the first and last of which stopped a trifle short of the flood line, while the second, largely out of the Alleghany, reached a stage of 31 feet above low water on the 24th at Pittsburg, the highest record since February, 1891.

The heavy snowfall on the 1st and 2d of March is shown by the record of 5 inches at Cincinnati. This was followed by the fair weather already referred to which caused the freshets in northern tributaries of the Ohio. Then came the heavy rains of the 17th, the river rising sharply by the morning of the 18th, between Parkersburg and Louisville, and continuing to rise in consequence of the heavy and general rains, especially over its northern watershed. Four or five days later, about the time that the danger line (45 feet) was reached at Cincinnati, extraordinary rains occurred which inundated a large portion of the States of Ohio and Indiana, flooding the valleys of the Muskingum, Scioto, and Miami. At noon on the 24th the 50-foot mark was reached at Cincinnati, and on the morning of the 25th a further rise of 2 feet was recorded, the water now encroaching upon the lower levels of the city. The Grand Central Railway depot was abandoned at midnight.

On the 26th and 27th the Great Miami and Indiana streams were again employed in carrying a great volume of water into the Lower Ohio, the rains of the last date causing an increased and prolonged rise in the vicinity of Cincinnati, the river coming to a stand at 61.4 feet at 3 a. m. on the 29th, remaining stationary until 7 a. m., when it began to recede slowly.

By this flood many interests suffered incalculable damage other than the business interests immediately affected along the river; labor suffered severely through enforced idleness; eight or nine railroads were, for the time being, abandoned. At Zanesville, on the Muskingum River, the damage to property was paralyzing, a loss of $2,000,000 being estimated, while 4,000 people were driven from their homes.

Floods in the Mississippi.—The first flood in the Mississippi culminated at Cairo, Ill., on January 31, with a gauge reading of 44.4 feet. The second and more serious rise followed that which culminated in the Ohio at Cincinnati, March 29, with a gauge reading of 61.4 feet, the gauge indicating 49.8 feet at Cairo, April 6, on which date the highest point was reached.

The January flood was precipitated by the sudden rise from Cairo to Helena coming out of the Ohio and Cumberland rivers January 10 to 13, due to heavy rains over the entire watershed contiguous to these streams. At first the rise was only moderate, but the freshets in the small streams emptying into the main tributaries caused an increase at the rate of 2 to 3 feet daily. During eleven days, ending January 22, the amount added to the Memphis stage was 22.5 feet, while at Cairo and Helena the increase was over 27 feet. At Memphis the entire rise for the month amounted to 27.9 feet, the highest stage being 32.2 feet, reached on the 31st. In the Lower

Mississippi the January rise was the most rapid in recent years, Vicksburg's rise at the close of the month being 30 feet, and New Orleans about 9 feet.

The flood of the first week of April, while largely consequent upon the Ohio flood of the last days of March, was affected somewhat by the breaking up of ice, but more especially by heavy rainfalls which commenced about the 10th of the month and continued to the end, resulting in a total precipitation of more than twice the usual quantity for the month, filling and overflowing main tributaries.

As an example, at Hannibal, the total rainfall on the 27th was 3.42 inches, which caused an unprecedented overflow of the waters of Bear Creek, flooding 100 residences, washing out railroad bridges, and damaging roadbeds, with other destruction.

On April 1 the Mississippi River was above danger line from Cairo to Memphis, and a week later the Helena gauge indicated a like condition. The rise at Memphis averaged one-half foot per day until the 11th, when it stood at a 37.3-foot stage, remaining stationary two days before the fall set in. The total height of the flood wave was 27 feet, and this was reached at Memphis in twenty-seven days from the time of its first appearance at that place. The water was above danger line at Memphis twenty-two days. At New Orleans the danger line was reached on the 18th, and the forecasts of the Weather Bureau were to the effect that a nearly 50-foot stage would be reached at Vicksburg, and not to exceed 17 feet at New Orleans. Planters and others along the river were fully prepared, therefore, and while the water reached the exact stage anticipated, there were no serious overflows.

Flood in the Arkansas.—The flood in the Arkansas that occurred during May was the greatest known in years. On the 7th the river at Fort Smith, Ark., attained the unprecedented height of 35 feet. The crest of this rise reached Little Rock on the 11th, with a maximum stage of 27.5 feet, which was attained at 1.30 p. m. of that date. The danger line was passed on the 6th, and was exceeded during ten consecutive days thereafter. In consequence of the continued rapid rise in the upper Arkansas and its tributaries flood warnings were issued on the 5th forecasting a stage of 27.5 feet at Little Rock, or just 0.4 foot lower than the highest stage reached in 1892, when the lowlands along the Arkansas from Little Rock to the mouth were overflowed and devastated. The damage done along the Arkansas west of Little Rock was greater than from any previous flood. In the immediate neighborhood of Fort Smith the loss was from $2,000 to $2,500. Notwithstanding the precautions taken and the extra work done, levees were broken, resulting in immense overflows by which thousands of acres of growing crops were destroyed. The immediate cause of the flood was the general and heavy precipitation during the first few days of the month in the valleys drained by the Arkansas and its tributaries.

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PART II.

LIST OF OBSERVING STATIONS AND CHANGES THEREIN DURING 1897.

HOURLY AVERAGES OF ATMOSPHERIC PRESSURE, TEMPERATURE, AND WIND FROM THE RECORDS OF AUTOMATIC INSTRUMENTS AT TWENTY-EIGHT STATIONS.

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LIST OF OBSERVING STATIONS.

The following table contains the geographic coordinates of the several stations whose summaries are published in Part III, the height of the barometer cistern above mean sea level, and of other instruments above ground, the difference between local and standard time, and the date on which observations began. The standard time used by the Weather Bureau in all of its synchronous work is that of the seventy-fifth meridian (Eastern time), which standard is always understood unless otherwise expressed.

The elevations given are for January 1, 1897, except at stations established subsequent to that date. (See Table II.) Elevations preceded by the letter "B" have been determined by the barometer; all others are the results of precise levels. Changes made during 1897 are given in the second or third set of figures, as the case may be.

The significance of the bold-face letter or letters following the name of station is as follows:

P=continuous records of pressure (on December 31, 1897);

T=continuous records of temperature (on December 31, 1897);

W=continuous records of wind (direction and velocity) (on December 31, 1897);

V=continuous records of wind (velocity only) (on December 31, 1897);

R=continuous records of rainfall (on December 31, 1897);

S=continuous records of sunshine (on December 31, 1897).

Stations having no letter make an observation of temperature, precipitation, direction of the wind, and the state of the weather daily at 8 p. m.

Summary of stations in operation during the year.

Taking two observations daily (all elements)	125
Taking one observation daily (all elements)	11
Taking one observation daily (temperature, rainfall, wind, and weather)	9
Taking one observation daily (temperature and rainfall only, *cotton region*)	127
Taking one observation daily (temperature and rainfall only, *corn and wheat region*)	133
Taking one observation daily (river and rainfall only)	132
Taking one observation daily (rainfall only)	48
Total paid stations	585
Voluntary stations, about	2,800
Grand total	3,385

TABLE I.—LATITUDE, LONGITUDE, ELEVATION, ETC., OF WEATHER BUREAU STATIONS.

Stations.	Latitude.	Longitude.	Local meridian time faster or slower than 75th meridian.	Elevation December 31, 1897. Barometer above sea.	Thermometer above ground.	Rain gauge above ground.	Anemometer above ground.	Observations began.	Date of changes in elevation.
	° ′	° ′	h. m.	Feet.	Feet.	Feet.	Feet.		
Abilene, **P T W**	32 23	99 40	1 39 S.	1,749	a45	36	54	Sept. 14, 1885	
Albany, **P T W R S**	42 39	73 45	05 F.	97	84	99	113	Dec. 22, 1873	
Alpena, **P T W**	45 05	83 30	34 S.	609	a63	54	65	Sept. 10, 1872	
Amarillo, **T V**	35 13	101 50	1 47 S.	3,691	54	46	61	Jan. 1, 1892	
Astoria, **P**	46 57	124 00	3 15 S.	41	39	56	*60	Nov. 1, 1883	* Not in use.
				38	18	31		.....	Mar. 23, 1897.
Atlanta, **P T W R S**	33 45	84 23	37 S.	1,131	92	85	126	Sept. 25, 1878	
Atlantic City, **P T W R S**	39 22	74 25	03 F.	52	68	57	76	Dec. 10, 1873 Reopened Nov. 1, 1896	

a Redetermined.

TABLE I.—LATITUDE, LONGITUDE, ELEVATION, ETC., OF WEATHER BUREAU STATIONS—Continued.

Stations	Latitude.	Longitude.	Local meridian time faster or slower than 75th meridian.	Elevation December 31, 1897. Barometer above sea	Thermometer above ground.	Rain gauge above ground.	Anemometer above ground	Observations began.	Date of changes in elevation.
	° ′	° ′	h. m.	Feet.	Feet	Feet.	Feet.		
Augusta, P T W	33 28	81 54	27 S.	180	89	54	103	Nov. 2, 1870	
Baker City, T V	44 54	117 50	2 51 S.	3,470	49	38	55	July 9, 1889	
Baltimore, P T W R S	39 18	76 37	06 S.	123	68	73	82	Jan. 1, 1871	
Binghamton, P T W R S	42 08	75 55	04 S.	875	79	71	90	Oct. 1, 1896	
Bismarck, P T W R S	46 47	100 38	1 42 S.	1,674	16	2	29	Sept. 15, 1874	
Block Island, V	41 10	71 36	14 F.	27	39	3	48	Sept. 1, 1880	
Boston, P T W R S	42 21	71 04	16 F.	125	115	154	181	Nov. 1, 1870	
Buffalo, P T W R S	42 53	78 53	15 S.	768	178	168	206	.....do	
Cairo, P T W R	37 00	89 10	56 S.	359	87	78	93	June 1, 1871	
Canby, Fort, P V	46 16	124 04	3 16 S.	179	10	2	34	Sept. 1, 1883	
Cape Henry, V	36 56	76 00	04 S.	20	5	6	34	Dec. 15, 1873	
Cape May, T V	38 56	74 51	0	24	52	46	70	July 16, 1897	
Carson City, V	39 10	119 46	2 59 S	4,720	18 82	42 a77	 92	Dec. 1, 1887	Apr. 1, 1897.
Charleston, P T W R S	32 47	79 56	20 S.	52 48	60 14	55 76	72 92	Jan 5, 1871	Feb. 1, 1897.
Charlotte, T V	35 13	80 51	23 S.	773	68	60	76	Oct. 6, 1878	
Chattanooga, P T W S	35 04	85 15	41 S.	762	106	97	112	Sept. 12, 1875	
Cheyenne, T W S	41 08	104 48	1 59 S.	6,105	a56	a49	a64	Nov. 1, 1870	
Chicago, P T W R S	41 53	87 37	50 S.	824	241	238	274	.....do	
Cincinnati, P T W R S	39 06	84 30	38 S.	628	152	145	157	.....do	
Cleveland, P T W R S	41 30	81 42	27 S.	762	190	161	201	.....do	
Columbia, Mo., P T W	38 58	92 14	1 09 S.	783	4	2	84	Aug 21, 1889	
Columbia, S. C	34 00	81 03	24 S.	.....	5	3	.....	June 5, 1887	
Columbus, P T W R S	39 58	83 00	32 S.	824	87	81	100	July 1, 1878	
Concordia, V	39 35	97 41	1 31 S.	1,398	42	34	47	May 1, 1885	
Corpus Christi, V	27 49	97 25	1 30 S.	20	42	34	50	Feb. 1, 1887	
Davenport, P T W	41 30	90 38	1 02 S.	599	71	64	79	May 24, 1871	
Denver, P T W R S	39 45	105 00	2 00 S.	5,290	79	74	151	Nov. 19, 1871	
Des Moines, P T W R S	41 35	93 37	1 14 S.	867	84	75	88	July 29, 1877	
Detroit, P T W R S	42 20	83 03	32 S.	730	160	147	166	Nov. 1, 1870	
Dodge City, P T W R S	37 45	100 00	1 40 S.	2,504	44	36	52	Sept. 15, 1874	
Dubuque, P T W S	42 30	90 44	1 03 S.	698	a101	a92	a109	July 2, 1873	
Duluth, P T W R	46 47	92 06	1 08 S.	702	95	90	106	Nov. 1, 1870	
Eastport, P T W R S	44 54	66 59	32 F.	76	69	62	74	Apr. 1, 1873	
El Paso, P T W	31 47	106 30	2 06 S.	3,767	10	2	110	Apr. 1, 1878	
Erie, P T W R S	42 07	80 05	20 S.	714	92	82	102	May 25, 1873	
Eureka, P T V S	40 48	124 11	3 17 S.	64	60	52	69	Jan. 1, 1887	
Evansville, P T V	37 58	87 33	0 50 S.	434	72	66	82	Dec. 1, 1897	
Fort Smith, P T V	35 22	94 24	1 17 S.	481	63	56	72	Apr 13, 1879	
Fresno, P T W R S	36 43	119 49	2 59 S.	332	67	54	70	Aug. 18, 1887	
Galveston, P T W R S	29 18	94 50	1 19 S.	42	85	80	96	Apr. 19, 1871	
Grand Haven, P T W	43 05	86 13	45 S.	628	55	48	64	May 24, 1871	
Greenbay, T V	44 31	88 00	52 S.	617	49	41	57	Sept. 1, 1886	
Hannibal, P T V	39 41	91 20	1 05 S.	534	75	68	107	Apr. 16, 1892	
Harrisburg, P T W R S	40 16	76 52	07 S.	377	94	87	a104	July 1, 1888	
Hatteras, P R V	35 15	75 40	02 S.	11	17	2	36	Dec. 1, 1880	
Havre, P T W	48 34	109 40	2 19 S.	2,477 2,494	15 46	2 38	33 47	May 16, 1892	Jan. 12, 1897.
Helena, P T W S	46 34	112 04	2 28 S.	4,108	88	80	93	Apr. 1, 1880	
Huron, P T W R S	44 21	98 14	1 32 S.	1,310 1,306	63 56	56 52	72 67	July 1, 1881	Mar. 27, 1897.
Idaho Falls, P T W R S	43 29	112 04	2 28 S.	4,742	10	1	56	June 1, 1892	
Independence	36 48	118 12	2 53 S.	3,884	10	4	58	Dec. 1, 1894	
Indianapolis, P T W R S	39 46	86 10	44 S.	823	154	146	164	Feb. 10, 1871	
Jacksonville, P T W R S	30 20	81 39	26 S	43	69	59	84	Sept. 11, 1871	
Jupiter, V R	26 57	80 07	20 S.	28	13	1	30	Jan. 1. 1888	
Kansas City, P T W R	39 05	94 37	1 18 S.	963	78	81	95	Apr. 21, 1873	
Keokuk, V	40 22	91 26	1 06 S.	614	a63	56	78	July 16, 1871	
Key West, P T W R S	24 34	81 49	27 S.	22	42 43	44 34	50	Nov. 1, 1870	April 1, 1897.
Kittyhawk, V	36 00	75 42	03 S.	9	12	2	30	Jan. 15, 1875	
Knoxville, P T W R S	35 56	83 58	36 S.	980 1,004	80 10	71 3	88	Jan. 20, 1871	July 16, 1897.
Lacrosse, P T V	43 49	91 15	1 05 S.	720	70	61	78	Oct. 15, 1872	
Lander, T V	42 50	108 45	2 15 S.	5,372	28	17	36	Aug. 1, 1891	
Lansing	42 44	84 32	38 S.	881	72	3	79	Feb. 1, 1895	

a Redetermined.

TABLE I.—LATITUDE, LONGITUDE, ELEVATION, ETC., OF WEATHER BUREAU STATIONS—Continued.

Stations	Latitude.	Longitude.	Local meridian time faster or slower than 75th meridian.	Elevation December 31, 1897				Observations began.	Date of changes in elevation.
				Barometer above sea.	Thermometer above ground.	Rain gauge above ground.	Anemometer above ground.		
	° ′	° ′	h m.	Feet	Feet.	Feet.	Feet.		
Lincoln, P T W R	40 49	96 45	1 27 S	1,199	74 75	4	84	Aug. 8, 1894	April 20, 1897.
Little Rock, P T W R S	34 45	92 06	1 08 S.	302	71	62	79	Apr 21, 1873	
Los Angeles, P T W R S	34 03	118 15	2 53 S.	330	74	66	82	July 1, 1877	
Louisville, P T W R S	38 15	85 45	43 S.	525	114	106	136	Sept 11, 1871	
Lynchburg, P T W	37 25	79 09	16 S.	685	83	76	88	May 24, 1871	
Marquette, P T W	46 34	87 24	49 S.	734	67	58	95	May 11, 1871	
Memphis, P T W R	35 09	90 03	1 00 S.	399	140	134	154	Feb. 28, 1871	
Miles City, V	46 25	105 49	2 03 S.	2,372	41	34	49	Oct. 1, 1891	
Milwaukee, P T W R	43 02	87 54	51 S.	671	106	100	149	Nov. 1, 1870	
Minneapolis, P T W S	44 59	93 18	1 13 S.	.....	99	95	208	Nov. 6, 1890	
Mobile, P T V	30 41	88 02	52 S.	57	88	78	96	Nov. 7, 1870	
Montgomery, P T W R	32 23	86 18	45 S.	221	100	70	112	Nov. 9, 1870	
Moorhead, P T W	46 52	96 44	1 27 S.	935	54	44	60	Jan. 31, 1881	
Nantucket, P T W R	41 17	70 06	20 F.	14	43	38	54	Oct. 18, 1886	
Narragansett Pier	41 19	71 17	15 F.	22	10	1	38	Apr. 1, 1882	
Nashville, P T W R S	36 10	86 47	47 S.	545	128	116	134	Nov. 1, 1870	
New Haven, T W	41 18	72 56	08 F.	107	a 117	110	140	Dec. 10, 1872	
New Orleans, P T W R S	29 58	90 04	1 00 S.	54	112	111	120	Nov. 1, 1870	
New York, P T W R S	40 43	74 00	04 F.	314	298	a 258	326	do	
Norfolk, P T W R	36 51	76 17	05 S.	57	88	80	93	Jan 1, 1871	
Northfield, P T W R S	44 10	72 41	09 F.	872	15	2	a 65	Mar. 1, 1887	
North Platte, T V	41 08	100 45	1 43 S.	2,826	43	35	52	Sept. 18, 1874	
Oklahoma City, P T W R S	35 26	97 33	1 30 S.	1,218	54	45 46	53 62	Nov. 1, 1890	April 16, 1897.
Omaha, P T W R S	41 16	95 56	1 24 S.	1,103	92	86	97	Nov. 1, 1870	
Oswego, P T V	43 29	76 35	06 S.	335	76	68	87	Nov. 1, 1870	
Palestine, V	31 45	95 40	1 22 S.	510	54	54	61	Dec. 3, 1881	
Parkersburg, P T W R S	39 16	81 36	26 S.	638	77	69	84	July 1, 1888	
Pensacola, T V	30 25	87 13	49 S.	56	78	79	90	Oct. 27, 1879	
Philadelphia, P T W R S	39 57	75 09	0	117	168	166	184	Jan. 1, 1871	
Phœnix, T V S	33 28	112 00	2 28 S.	1,076	47	39	57	Aug. 6, 1895	
Pierre, V	44 22	100 17	1 41 S.	1,460	50	a 46	a 62	July 1, 1891	
Pittsburg, P T W R S	40 32	80 02	20 S.	842	116	101	123	Nov. 1, 1870	
Point Reyes Light, V	38 11	122 51	3 11 S.	.....	12	1	16	Mar. 1, 1889	
Port Angeles, V	48 07	123 06	3 14 S.	29	47	18 32	a 61	Nov. 1, 1883	Aug 15, 1897.
Port Huron, V	43 00	82 26	30 S.	639	70	63	108	July 25, 1874	
Portland, Me., P T W R S	43 39	70 15	19 F.	103	81	75 74	89	Jan. 15, 1871	May 29, 1897.
Portland, Oreg., P T W R S	45 32	122 43	3 11 S.	153	203	147 145	213	Nov. 1, 1870	Dec. 1 1897.
Pueblo, P T V	38 18	104 36	1 58 S.	4,713	74	65	81	July 1, 1888	
Pysht	48 12	124 04	3 16 S.	.....	5	4	.....	Dec. 1, 1883	
Raleigh, P T W R S	35 45	78 37	14 S.	375	93	85	101	Apr 1, 1884	
Rapid City, T V	44 04	103 12	1 53 S.	3,260 3,251	53 46	46 35	61 50	Jan. 24, 1881	Feb. 1, 1897.
Redbluff, T V	40 10	122 15	3 09 S.	334	54	44	58	July 1, 1877	
Richmond, P T W	37 32	77 27	10 S.	144	98	89	105	Oct. 5, 1897	
Rochester, P T W R S	43 08	77 42	11 S.	523	81	78	90	Nov. 1, 1870	
Roseburg, P T W	43 13	123 20	3 13 S.	521	56	48	67	July 15, 1877	
Sacramento, P T V	38 35	121 30	3 06 S.	71	106	100	117	July 1, 1877	
St. Louis, P T W R S	38 38	90 12	1 01 S.	567	110 111	100	210	Nov. 1, 1870	Jan. 22, 1897.
St. Paul, P T W R S	44 58	93 03	1 12 S.	837	114	93	124	Nov. 1, 1870	
Salt Lake City, P T W R S	40 46	111 54	2 27 S.	4,344	83	75	90	Mar. 19, 1874	
San Antonio, V	29 27	98 28	1 34 S.	704	95	a 81	104	Jan. 2, 1876	
San Diego, P T W R S	32 43	117 10	2 49 S.	69 87	59 94	52 86	70 102	Nov. 1, 1871	May 1, 1897
Sandusky, T V	41 25	82 40	30 S.	629	62	55	74	Aug. 2, 1877	
San Francisco, P T W R S	37 48	122 26	3 10 S.	153	161	154	167	Feb. 2, 1871	
San Luis Obispo, P V	35 18	120 39	3 03 S.	201	10	3	46	June 1, 1885	
Santa Fe, P T W S	35 41	105 57	2 04 S.	6,998	47	39	50	Nov. 20, 1871	
Sault Ste. Marie, P T W	46 28	84 22	37 S.	624	58	47	65	Aug. 5, 1877	
Savannah, P T W R S	32 05	81 05	24 S.	98 b 82	63	55 54	86 89	Jan 1, 1871	July 1, 1897

a Redetermined.

b Redetermined Dec. 9, 1897.

TABLE I.—LATITUDE, LONGITUDE, ELEVATION, ETC., OF WEATHER BUREAU STATIONS—Continued.

Stations.	Latitude.	Longitude.	Local meridian time faster or slower than 75th meridian.	Elevation December 31, 1897. Barometer above sea.	Thermometer above ground.	Rain gauge above ground.	Anemometer above ground.	Observations began.	Date of changes in elevation.
	° ′	° ′	h. m.	Feet.	Feet.	Feet.	Feet.		
Seattle, P T W R S	47 38	122 20	3 09 S.	119	a114	a107	a121	May 1, 1893	
Shreveport, T V	32 30	93 40	1 14 S.	249	77	76	84	Sept. 3, 1871	
Sioux City, V	42 29	96 24	1 26 S.	1,139	96	92 86	109 164	Dec. 1, 1887	March 15, 1897
Spokane, P T W R S	47 40	117 25	2 49 S.	1,943	99	90	107	Feb. 1, 1881	
Springfield, Ill., V	39 48	89 39	58 S.	644	82	60	92	July 1, 1879	
Springfield, Mo., V	37 12	93 18	1 13 S.	1,324	100	3	103	June 3, 1882	
Tacoma, P T W S	47 16	122 26	3 10 S.	213	113	104	120	May 1, 1897	
Tampa, P T W R S	27 57	82 27	30 S.	36	60	51	67	Mar. 13, 1890	
Tatoosh Island, P V	48 23	124 44	3 19 S.	86	7	1	21	Oct. 1, 1883	
Toledo, P T W	41 40	83 34	34 S.	674	122	113	127	Nov. 1, 1870	
Topeka, P T	39 03	95 41	1 23 S.	998	81	73	89	June 1, 1887	
Valentine, V	42 50	100 32	1 42 S.	2,593 2,596	37 39	26 30	38 40	Sept. 1, 1885	July 23, 1897
Vicksburg, P T W R S	32 22	90 53	1 03 S.	254	65	58	73	Sept. 10, 1871	
Vineyard Haven, V	41 26	70 43	17 F.	.....	20	3	55	Nov. 6, 1886	
Walla Walla, V	46 02	118 20	2 53 S.	1,018	65	56	73	Dec. 1, 1885	
Washington City, P T W R S.	38 54	77 03	08 S.	112	59	42	76	Nov. 1, 1870	
Wichita, V	37 41	97 20	1 29 S.	1,351	78	71	85	July 1, 1888	
Williston, T V	48 09	103 35	1 54 S.	1,875	15	22 4	31	Nov. 24, 1893	March 13, 1897
Wilmington, P T W R S	34 14	77 57	12 S.	78	82	76	90	Jan. 1, 1871	
Winnemucca	40 58	117 43	2 51 S.	4,340	59	52	70	July 1, 1877	
Woods Hole, V	41 33	70 40	17 F.	22	51	39	57	Jan. 1, 1873	
Yankton, P T W R S	42 54	97 28	1 30 S.	b1,234	51 52	43 45	57 58	Apr. 1, 1873	June 30, 1897
Yuma, V	32 45	114 36	2 38 S.	141	16	2	50	Oct. 4, 1875	

a Redetermined. b Redetermined April 30, 1897.

TABLE II.—CHANGES IN WEATHER BUREAU STATIONS DURING 1897.

ESTABLISHED.

Stations.	Latitude.	Longitude.	Date of establishment.	Stations.	Latitude.	Longitude.	Date of establishment.
	° ′	° ′			° ′	° ′	
Cape May, N. J	38 56	74 58	July 15, 1897	Bluff City, Tenn	36 27	82 16	July 1, 1897
Tacoma, Wash	47 16	122 26	May 1, 1897	Cumberland, Md	39 39	78 45	Do.
SPECIAL RIVER.				Gaffney City, S. C	35 04	81 45	Do.
				Greeneville, Tenn	36 10	82 51	Do.
Beardstown, Ill. a	40 01	90 29	July 1, 1897	Manhattan, Kans. c	39 12	96 37	Do.
Selinsgrove, Pa. b	40 48	76 55	Do.	Salisbury, N. C	35 40	80 30	Do.
Tehama, Cal	40 02	122 07	Do.	South McAlester, Ind. T.	34 56	95 47	May 1, 1897
Webbers Falls, Ind. T.	35 30	95 14	Do.	Tazewell, Tenn	36 26	83 33	Dec. 1, 1897
Weston, W. Va	39 01	80 27	Aug. 1, 1897	Terre Haute, Ind	39 29	87 25	July 1, 1897
Zanesville, Ohio	39 56	82 07	July 1, 1897	Tupelo, Miss	44 15	88 40	Do.
RAINFALL.				Warren, Pa	41 51	79 14	Do.
				Woodstock, Va	38 51	78 31	Do.
Arthur, Tenn	36 34	83 38	July 1, 1897				

a Reports from March to June, inclusive. b Reports from February to April, inclusive.
c Reports from October to March, inclusive.

TABLE II.—CHANGES IN WEATHER BUREAU STATIONS DURING 1897—Continued.

DISCONTINUED.

Stations.	Latitude.	Longitude.	Date of discontinuance.
COTTON REGION.	° ′	° ′	
Cordele, Ga	31 56	83 44	Sept. 5, 1897
Lufkin, Tex	31 22	94 38	Aug. 19, 1897
SPECIAL RIVER.			
Arkansas City, Ark	33 33	91 8	June 30, 1897
Bluff City, Tenn	36 27	82 16	Do.
Claiborne, Ala	31 33	87 30	Mar. 31, 1897
Cordova, Ala	33 46	87 8	June 30, 1897
Dublin, Ga	32 30	82 51	Do.
Loudon, Tenn	35 44	84 18	Do.
Louisa, Ky	38 10	82 37	Do.
Macon, Ga	32 50	83 38	Do.
Marietta, Ohio	39 25	81 28	Do.
Morgantown, W. Va	39 36	79 59	Do.
Rockwood, Tenn	35 53	84 37	Do.
Strawberry Plains, Tenn.	36 4	83 40	Do.
Terre Haute, Ind	39 29	87 25	Do.
Warren, Pa	41 51	79 14	Do.
Weston, W. Va	39 1	80 27	Do.
Wittsburg, Ark	35 15	90 40	Apr. 30, 1897
RAINFALL.			
Arthur, Tenn	36 34	83 38	Nov. 30, 1897
Beardstown, Ill	40 1	90 29	June 30, 1897
Burnside, Ky	37 00	84 37	Do.
Caledonia, Ohio	40 38	83 3	Mar. 31, 1897
Chapel Hill, N. C	35 58	79 4	June 30, 1897
Clinton, Tenn	36 5	84 6	Do.
Dubois, Pa	41 9	78 46	Do.
Eufaula, Ind. T	35 22	95 35	Apr. 30, 1897
Livingston, Ala	32 35	88 19	June 30, 1897
Loudon, Tenn	35 44	84 18	Do.
Marion, Ala	32 38	87 21	Do.
Plattsmouth, Nebr	41 0	95 50	Do.
Rockwood, Tenn	35 53	84 37	Do.
Rushville, Ind	39 37	85 26	Do.
St. Joseph, Mo	39 45	94 53	Do.
Wooster, Ohio	40 48	81 58	Do.

EXPLANATION OF THE TABLES.

(A. J. HENRY, *Chief of Division.*)

Pressure.—The barograph in use at the Washington station is described on page 43, Report of the Chief of the Weather Bureau, 1891–92. Richard barographs are in use at the remaining stations.

The readings of the mercurial barometer at 8 a. m. and 8 p. m. are adopted as the standard of reference, and corrections for intermediate hours, interpolated from the known differences at 8 a. m. and 8 p. m., are applied to the curve throughout the twenty-four hours. The averages given in the tables are therefore those of the standard mercurial barometer at 8 a. m. and 8 p. m., seventy-fifth meridian time, respectively, corrected for temperature and instrumental error, and the corrected barograph readings for the remaining hours.

The corrections applied to individual hourly readings vary in magnitude. The average is about 0.02 of an inch, while in extreme cases it may be 0.06 or 0.08 of an inch, depending somewhat upon the skill of the observer in keeping the instrument in adjustment.

The hourly values are read off to the nearest hundredth of an inch, but the averages in the tables are given to thousandths of an inch, in conformity with the plan adopted in the Monthly Weather Review.

A correction for reduction to standard gravity has not been applied, but it is given at the head of each table.

The probable uncertainty in the figures here given, due to errors in reading from the barograph sheets, and any systematic error of the barograph, not wholly eliminated by the comparison at 8 a. m. and 8 p. m., is about 0.02 of an inch.

Temperature.—The mean hourly temperatures given in the tables have been deduced from thermographs described and figured in the Report of the Chief of the Weather Bureau, 1891–92, page 29. These instruments are placed in the standard shelter with other thermometers, and are checked twice daily for time errors, and for argreement with the standard dry-bulb thermometer of the whirled psychrometer.

In transcribing the hourly values the readings of the dry-bulb thermometer at 8 a. m. and 8 p. m. are adopted as the standard of reference, and these readings are given in the appropriate columns of the tables. Corrections for intermediate hours, interpolated from the known differences at 8 a. m., 8 p. m., and at the time of occurrence of the daily maximum and minimum temperatures, respectively, are applied to the curve throughout the twenty-four hours, thus making it conform as closely as practicable to the readings of standard thermometers. The averages given in the tables are therefore those of the standard dry thermometer at 8 a. m. and 8 p. m., and the corrected thermograph readings for intermediate hours.

The means of the daily maximum and minimum temperatures have been derived from readings of standard self-registering maximum and minimum thermometers.

In general the magnitude of the corrections applied is about 1° F., although a number of instruments accord with the standard dry thermometer within less than a degree.

Wind.—The arithmetical means of the hourly movements of the wind ending with the respective hours, as registered automatically by the Robinson anemometer, in conjunction with an electrical recording mechanism described and illustrated in the Report of the Chief of the Weather Bureau, 1891–92, page 19, follow the temperature tables in this report. No corrections have been applied to reduce the registered velocities to true velocities.

In studying the diurnal variation of wind movement, the following facts should be kept in mind. In graduating the dials of the various sizes of Robinson anemometers, it has been assumed by the makers that the centers of the cups move only one-third as fast as the wind, although numerous experiments have demonstrated that cups and arms of various proportions require different formulæ and tables of reduction even in perfectly steady motion. Professor Marvin has shown that for ordinary gusty winds, when the anemometer cups rapidly vary their rate of rotation, the movement of inertia of the revolving parts is a most important factor. The instruments having the least inertia record most truly, and those having large inertia exceed these in proportion as the gusts are stronger; consequently the anemometer records are liable to be too large in the gusty winds of the daytime as compared with the more steady winds of nighttime. No correction for this inertia error has been determined, nor can be, unless we have simultaneous records with two anemometers having different moments of inertia; therefore the apparent diurnal variation of wind velocity includes a slight inertia error which is probably periodic in character between the winds of daytime and nighttime.

While the gustiness of the ordinary wind—that is, its sudden and momentary fluctuations of velocity—must be regarded as highly variable, yet in practical anemometry it is not possible to do more than make an average allowance for its effect upon an anemometer.

For the ordinary gusty winds of the free atmosphere Professor Marvin adopts the following equation, expressing the relation between the motion of the cups and the velocity of the wind at any moment:

$$\text{Log. } V = 0.509 + 0.9012 \text{ log. } v;$$

where V is velocity of wind in miles per hour and v is the linear velocity (also in miles per hour) of the cup centers. This equation applies strictly to anemometers that have 4-inch hemispherical brass cups on arms 6.72 inches long,

whose revolving parts weigh about 590 grams (22 ounces) and have a moment of inertia of about 50,000 C. G. S. units.

The following table gives the corrected velocities corresponding to observed velocities up to 90 miles per hour. The tabular values corresponding to indicated velocities greater than 60 miles per hour are uncertain, as direct experiments were not made at the higher velocity:

WIND VELOCITIES, AS INDICATED BY WEATHER BUREAU ANEMOMETER, CONVERTED TO TRUE VELOCITIES (IN MILES PER HOUR).

Indicated velocity.	0	1	2	3	4	5	6	7	8	9
0	.....	.....	.....	.....	.....	5.1	6.0	6.9	7.8	8.7
10	9.6	10.4	11.3	12.1	12.9	13.8	14.6	15.4	16.2	17.0
20	17.8	18.6	19.4	20.2	21.0	21.8	22.6	23.4	24.2	24.9
30	25.7	26.5	27.3	28.0	28.8	29.6	30.3	31.1	31.8	32.6
40	33.3	34.1	34.8	35.6	36.3	37.1	37.8	38.5	39.3	40.0
50	40.8	41.5	42.2	43.0	43.7	44.4	45.1	45.9	46.6	47.3
60	48.0	48.7	49.4	50.2	50.9	51.6	52.3	53.0	53.8	54.5
70	55.2	55.9	56.6	57.3	58.0	58.7	59.4	60.1	60.8	61.5
80	62.2	62.9	63.6	64.3	65.0	65.8	66.4	67.1	67.8	68.5
90	69.2	.....	.....	.....	.....	.....	.....	.....	.....	.....

The maximum wind velocity, in miles per hour, for a five-minute period, is given in the column headed "Max. vel."

The figures under the several headings, "N.," "NE.," etc., indicate the number of hours that the wind blew from the directions given at the top of the columns. In tabulating these data from the original records the direction of the wind at the even hour was considered as the prevailing direction for the hour ending at that time.

The references of former reports—H = Height of barometer above sea level; h_t = Height of thermometer above ground; h_a = Height of anemometer cups above ground—are continued in this.

AVERAGE PRESSURE, IN INCHES AND THOUSANDTHS, FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME.

BISMARCK, N. DAK.

[λ=46° 47′ N.; φ=100° 38′ W.]

1897	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.
Jan	28.302	.301	.302	.301	.295	.285	.276	.269	.271	.283	.286	.286	.282
Feb	28.186	.186	.186	.184	.177	.175	.173	.170	.166	.172	.171	.172	.164
Mar	28.225	.217	.214	.211	.207	.208	.207	.206	.210	.213	.215	.214	.209
Apr	28.264	.265	.262	.258	.257	.259	.262	.267	.272	.270	.269	.264	.261
May	28.231	.238	.241	.245	.251	.259	.267	.272	.276	.277	.272	.264	.251
June	28.136	.138	.136	.136	.141	.144	.151	.155	.159	.158	.153	.149	.145
July	28.125	.126	.126	.122	.126	.132	.137	.146	.151	.149	.147	.144	.135
Aug	28.275	.283	.276	.278	.284	.286	.288	.294	.301	.303	.303	.300	.288
Sept	28.244	.249	.251	.253	.254	.258	.264	.272	.278	.280	.280	.276	.262
Oct	28.226	.226	.228	.228	.228	.230	.233	.235	.239	.245	.245	.241	.234
Nov	28.275	.274	.270	.273	.268	.269	.271	.270	.275	.284	.289	.294	.292
Dec	28.245	.243	.243	.244	.246	.245	.247	.246	.243	.241	.247	.253	.243
Year	28.228	.229	.228	.228	.228	.229	.231	.234	.237	.240	.240	.238	.230

BOSTON, MASS.

[λ=42° 21′ N.; φ=71° 4′ W.]

Jan	29.903	.905	.904	.893	.887	.892	.904	.915	.918	.915	.900	.874	.858
Feb	29.918	.920	.918	.920	.921	.922	.928	.939	.941	.945	.942	.925	.908
Mar	29.915	.910	.904	.907	.911	.920	.929	.933	.935	.930	.917	.905	.884
Apr	29.921	.916	.912	.914	.920	.932	.940	.945	.945	.938	.924	.911	.901
May	29.818	.816	.814	.816	.826	.838	.847	.848	.843	.839	.831	.819	.807
June	29.795	.791	.784	.782	.790	.799	.807	.806	.802	.799	.793	.784	.774
July	29.845	.840	.837	.835	.839	.847	.856	.858	.856	.855	.853	.853	.845
Aug	29.822	.819	.819	.822	.831	.843	.848	.848	.850	.847	.842	.834	.827
Sept	29.968	.967	.967	.971	.978	.987	.994	.997	.997	.992	.984	.974	.963
Oct	30.010	.005	.005	.005	.011	.019	.029	.036	.036	.031	.024	.009	.997
Nov	29.899	.900	.895	.895	.902	.910	.922	.929	.930	.929	.914	.901	.889
Dec	29.907	.910	.908	.905	.908	.916	.928	.936	.942	.944	.929	.909	.895
Year	29.893	.892	.889	.889	.894	.902	.911	.916	.916	.914	.904	.892	.879

BUFFALO, N. Y.

[λ=42° 53′ N.; φ=78° 53′ W.]

Jan	29.207	.209	.215	.212	.207	.209	.218	.226	.233	.235	.231	.213	.199
Feb	29.202	.203	.201	.198	.199	.205	.209	.212	.225	.223	.225	.214	.198
Mar	29.189	.183	.175	.169	.169	.179	.187	.190	.196	.200	.202	.196	.190
Apr	29.247	.240	.236	.236	.235	.240	.249	.250	.251	.251	.247	.237	.231
May	29.129	.123	.121	.122	.128	.138	.143	.148	.150	.149	.144	.139	.133
June	29.129	.129	.125	.130	.137	.147	.154	.159	.164	.163	.161	.157	.149
July	29.111	.108	.107	.110	.119	.127	.134	.136	.136	.134	.133	.129	.122
Aug	29.160	.157	.157	.157	.162	.170	.177	.181	.185	.185	.179	.176	.170
Sept	29.334	.334	.333	.335	.343	.352	.362	.365	.372	.375	.370	.366	.355
Oct	29.278	.278	.276	.276	.282	.290	.297	.304	.314	.313	.308	.298	.285
Nov	29.188	.189	.189	.188	.183	.181	.190	.188	.194	.196	.193	.183	.173
Dec	29.192	.189	.190	.183	.177	.178	.185	.183	.188	.191	.185	.170	.156
Year	29.197	.195	.194	.193	.195	.201	.209	.221	.217	.218	.215	.206	.197

CHICAGO, ILL.

[λ=41° 53′ N.; φ=87° 37′ W.]

Jan	29.180	.180	.191	.189	.181	.178	.187	.200	.212	.223	.224	.210	.190
Feb	29.164	.158	.155	.155	.155	.157	.160	.170	.178	.178	.178	.176	.161
Mar	29.125	.128	.128	.122	.122	.127	.139	.147	.157	.163	.158	.158	.151
Apr	29.165	.155	.154	.154	.153	.164	.178	.187	.183	.183	.188	.181	.171
May	29.127	.121	.120	.123	.129	.139	.149	.159	.163	161	.164	.161	.153
June	29.092	.086	.085	.086	.096	.109	.116	.126	.127	.125	.119	.118	.115
July	29.078	.073	.073	.073	.079	.086	.095	.102	.106	.109	.109	.108	.102
Aug	29.127	.125	.125	.127	.134	.138	.147	.154	.153	.154	.154	.151	.145
Sept	29.277	.278	.281	.283	.288	.296	.305	.314	.321	.321	.319	.312	.301
Oct	29.194	.194	.195	.195	.201	.206	.218	.225	.230	.229	.226	.218	.203
Nov	29.165	.163	.163	.164	.168	.174	.181	.191	.197	.203	.207	.200	.187
Dec	29.151	.146	.145	.143	.145	.147	.158	.170	.173	.183	.184	.183	.169
Year	29.154	.151	.151	.151	.154	.160	.169	.179	.183	.186	.186	.181	.171

AVERAGE PRESSURE, IN INCHES AND THOUSANDTHS, FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME.

BISMARCK, N. DAK.

[H = 1,674 ft.; gravity correction, 0; local time, 1h 42m slow.]

2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Mid.	Mean.	Mean max.	Mean min.	1897.
.270	.264	.268	.281	.297	.305	.310	.315	.319	.320	.320	.292	.407	.179	Jan.
.152	.137	.131	.133	.141	.151	.155	.160	.168	.177	.185	.166	.306	.037	Feb.
.204	.195	.190	.191	.195	.203	.210	.219	.228	.231	.233	.211	.335	.104	Mar.
.251	.243	.237	.232	.231	.232	.234	.244	.255	.260	.261	.255	.382	.134	Apr.
.237	.225	.213	.201	.192	.187	.189	.197	.207	.216	.223	.235	.322	.127	May.
.137	.127	.119	.108	.102	.097	.099	.104	.113	.123	.129	.132	.220	.036	June.
.125	.116	.110	.104	.098	.095	.096	.098	.106	.119	.123	.123	.205	.039	July.
.277	.264	.252	.239	.233	.223	.220	.229	.249	.264	.269	.270	.346	.183	Aug.
.249	.235	.222	.212	.207	.211	.214	.225	.237	.245	.252	.247	.350	.150	Sept.
.221	.211	.202	.200	.200	.205	.211	.215	.220	.223	.226	.224	.340	.099	Oct.
.281	.268	.260	.263	.272	.280	.284	.286	.287	.287	.288	.278	.410	.139	Nov.
.229	.215	.207	.210	.218	.226	.229	.233	.237	.241	.245	.237	.357	.118	Dec.
.219	.208	.201	.198	.199	.201	.204	.210	.219	.226	.230	.222	.332	.112	Year.

BOSTON, MASS.

[H = 125 ft.; gravity correction, —.01; local time, 16m fast.]

.861	.868	.882	.888	.901	.910	.912	.912	.908	.906	.901	.896	.057	.734	Jan.
.898	.895	.899	.901	.908	.918	.921	.924	.929	.928	.925	.921	.059	.774	Feb.
.870	.862	.859	.865	.875	.885	.893	.899	.899	.899	.901	.900	.071	.725	Mar.
.892	.884	.881	.882	.885	.895	.902	.914	.917	.917	.917	.913	.036	.784	Apr.
.799	.789	.786	.784	.789	.795	.801	.810	.813	.814	.813	.815	.894	.733	May.
.766	.763	.761	.759	.764	.773	.783	.795	.797	.799	.798	.786	.869	.714	June.
.839	.834	.828	.826	.829	.836	.845	.854	.853	.854	.851	.844	.912	.777	July.
.817	.811	.809	.809	.813	.822	.829	.834	.835	.836	.834	.829	.894	.768	Aug.
.951	.946	.943	.945	.949	.958	.965	.969	.970	.970	.969	.970	.051	.886	Sept.
.990	.985	.988	.994	.001	.012	.015	.018	.015	.016	.015	.011	.127	.893	Oct.
.886	.887	.890	.898	.903	.904	.906	.907	.906	.905	.900	.904	.051	.736	Nov.
.891	.894	.894	.897	.902	.901	.898	.896	.895	.887	.877	.907	.039	.732	Dec.
.872	.868	.868	.871	.877	.884	.889	.894	.895	.894	.892	.891	.005	.771	Year.

BUFFALO, N. Y.

[H = 768 ft.; gravity correction, 0; local time, 15m slow.]

.194	.195	.200	.204	.215	.223	.224	.221	.218	.214	.211	.214	.332	.076	Jan.
.186	.181	.184	.189	.196	.200	.204	.206	.206	.209	.208	.203	.335	.062	Feb.
.176	.173	.174	.179	.184	.190	.198	.203	.203	.197	.191	.187	.352	.999	Mar.
.223	.213	.209	.212	.214	.216	.221	.234	.235	.232	.230	.233	.343	.119	Apr.
.131	.126	.125	.124	.124	.124	.126	.136	.140	.141	.139	.133	.222	.036	May.
.143	.136	.130	.126	.123	.123	.124	.131	.132	.133	.130	.139	.193	.070	June.
.111	.102	.098	.100	.101	.103	.105	.113	.117	.119	.119	.116	.165	.063	July.
.163	.155	.149	.145	.145	.147	.150	.158	.163	.163	.166	.163	.223	.100	Aug.
.345	.335	.329	.328	.326	.330	.336	.341	.340	.342	.342	.345	.411	.268	Sept.
.272	.266	.260	.260	.260	.265	.267	.269	.268	.270	.269	.280	.381	.161	Oct.
.170	.175	.179	.185	.193	.199	.199	.202	.199	.197	.198	.189	.322	.042	Nov.
.145	.146	.150	.162	.171	.181	.186	.188	.192	.193	.188	.178	.328	.036	Dec.
.188	.184	.182	.184	.188	.192	.195	.200	.201	.201	.199	.198	.301	.086	Year.

CHICAGO, ILL.

[H = 824 ft.; gravity correction, —.01; local time, 50m slow.]

.177	.180	.185	.189	.192	.198	.202	.201	.200	.197	.191	.194	.293	.079	Jan.
.146	.137	.136	.137	.143	.148	.154	.161	.163	.161	.161	.158	.277	.042	Feb.
.134	.119	.116	.112	.114	.115	.120	.125	.126	.128	.125	.132	.293	.950	Mar.
.164	.154	.145	.144	.144	.141	.145	.156	.162	.159	.155	.162	.267	.040	Apr.
.147	.139	.131	.125	.121	.119	.121	.129	.135	.134	.132	.138	.210	.056	May.
.108	.102	.096	.092	.084	.083	.079	.082	.091	.092	.093	.100	.169	.022	June.
.095	.087	.079	.071	.067	.060	.058	.067	.074	.076	.076	.083	.131	.031	July.
.136	.129	.124	.115	.111	.109	.108	.121	.126	.129	.129	.132	.188	.066	Aug.
.290	.278	.268	.261	.260	.260	.263	.276	.282	.283	.284	.288	.354	.221	Sept.
.186	.172	.166	.165	.166	.168	.170	.176	.183	.183	.179	.194	.283	.100	Oct.
.177	.164	.164	.165	.167	.169	.171	.175	.173	.170	.168	.176	.314	.019	Nov.
.154	.156	.160	.165	.173	.174	.172	.175	.173	.172	.167	.164	.283	.040	Dec.
.160	.151	.148	.145	.145	.145	.147	.154	.157	.157	.155	.160	.255	.056	Year.

AVERAGE PRESSURE, IN INCHES AND THOUSANDTHS, FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

CINCINNATI, OHIO.

[λ=39° 6′ N.; φ=84° 30′ W.]

1897.	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.
Jan	29.484	.483	.490	.489	.487	.485	.494	.501	.516	.523	.520	.502	.477
Feb	29.387	.389	.389	.385	.386	.392	.398	.406	.416	.414	.412	.410	.390
Mar	29.365	.371	.370	.364	.371	.383	.394	.404	.413	.416	.414	.407	.397
Apr	29.421	.417	.409	.408	.408	.414	.428	.439	.448	.447	.447	.437	.423
May	29.354	.350	.344	.345	.350	.360	.372	.383	.386	.387	.387	.384	.374
June ...	29.332	.329	.330	.328	.333	.346	.351	.357	.365	.361	.362	.357	.348
July....	29.299	.298	.294	.293	.299	.307	.316	.325	.328	.327	.328	.323	.316
Aug	29.345	.339	.336	.340	.335	.347	.358	.366	.370	.371	.370	.363	.352
Sept....	29.495	.496	.495	.499	.507	.517	.531	.542	.547	.551	.548	.535	.523
Oct.....	29.428	.429	.428	.431	.436	.447	.456	.465	.473	.475	.472	.459	.439
Nov	29.444	.442	.444	.440	.443	.444	.453	.464	.474	.478	.483	.473	.451
Dec	29.422	.417	.421	.418	.415	.419	.429	.434	.447	.458	.460	.446	.423
Year....	29.398	.397	.396	.395	.398	.405	.415	.424	.432	.434	.434	.425	.409

CLEVELAND, OHIO.

[λ=41° 30′ N.; φ=81° 42′ W.]

Jan	29.261	.265	.272	.270	.264	.264	.267	.256	.281	.283	.284	.272	.253
Feb	29.212	.215	.214	.210	.212	.211	.211	.211	.223	.223	.221	.221	.210
Mar	29.183	.178	.176	.169	.177	.187	.196	.204	.210	.213	.215	.212	.206
Apr	29.256	.249	.244	.244	.247	.252	.264	.269	.273	.271	.264	.254	.246
May	29.163	.159	.155	.155	.163	.169	.168	.182	.190	.190	.190	.187	.180
June ...	29.160	.158	.158	.160	.168	.174	.184	.194	.203	.202	.201	.196	.188
July....	29.132	.129	.129	.131	.136	.143	.148	.152	.162	.163	.161	.156	.149
Aug	29.186	.186	.185	.183	.187	.193	.201	.207	.215	.215	.213	.210	.201
Sept....	29.350	.349	.350	.354	.359	.370	.379	.386	.396	.398	.396	.392	.381
Oct.....	29.277	.279	.276	.277	.283	.288	.299	.306	.315	.315	.312	.302	.281
Nov	29.226	.221	.220	.215	.218	.222	.228	.234	.245	.246	.247	.240	.224
Dec	29.214	.213	.217	.212	.210	.209	.218	.220	.228	.232	.230	.213	.194
Year....	29.218	.217	.216	.215	.219	.224	.230	.235	.245	.246	.244	.238	.226

DETROIT, MICH.

[λ=42° 20′ N.; φ=83° 3′ W.]

Jan	29.275	.278	.285	.284	.276	.274	.277	.286	.295	.297	.297	.284	.266
Feb	29.259	.255	.256	.251	.250	.254	.260	.264	.272	.273	.274	.269	.256
Mar	29.236	.235	.228	.221	.225	.228	.240	.246	.253	.257	.256	.256	.249
Apr	29.283	.277	.268	.268	.267	.275	.286	.292	.290	.290	.292	.284	.276
May	29.196	.193	.187	.185	.189	.194	.201	.205	.207	.206	.205	.199	.195
June ...	29.193	.192	.191	.193	.204	.208	.217	.221	.222	.222	.218	.211	.207
July....	29.162	.161	.157	.156	.162	.167	.176	.179	.182	.180	.179	.176	.169
Aug	29.218	.216	.214	.215	.223	.227	.236	.241	.243	.242	.239	.234	.225
Sept....	29.385	.388	.388	.388	.394	.402	.415	.421	.427	.429	.421	.415	.404
Oct.....	29.310	.312	.308	.309	.316	.322	.330	.340	.348	.346	.339	.330	.310
Nov	29.253	.250	.247	.244	.242	.246	.248	.260	.267	.268	.271	.266	.252
Dec	29.242	.240	.242	.239	.232	.231	.239	.243	.250	.253	.255	.245	.228
Year....	29.251	.250	.248	.246	.248	.252	.260	.266	.271	.272	.270	.264	.253

DODGE CITY, KANS.

[λ=37° 45′ N.; φ=100° W.]

Jan	27.482	.483	.484	.492	.496	.493	.494	.495	.498	.505	.515	.514	.501
Feb	27.338	.340	.341	.344	.340	.340	.347	.351	.361	.370	.371	.368	.362
Mar	27.280	.277	.279	.280	.274	.275	.287	.293	.306	.311	.315	.313	.300
Apr	27.392	.394	.398	.397	.400	.400	.407	.414	.422	.424	.425	.425	.409
May	27.448	.450	.445	.441	.441	.443	.449	.459	.463	.462	.462	.457	.453
June ...	27.309	.307	.305	.302	.304	.306	.318	.328	.333	.336	.334	.330	.325
July....	27.390	.391	.386	.385	.381	.386	.397	.406	.414	.417	.415	.409	.402
Aug	27.460	.462	.461	.463	.461	.456	.461	.467	.476	.481	.483	.481	.471
Sept....	27.501	.506	.504	.506	.506	.510	.517	.525	.536	.543	.549	.543	.529
Oct.....	27.436	.437	.437	.439	.435	.436	.442	.446	.456	.464	.467	.464	.450
Nov	27.466	.464	.455	.456	.449	.446	.449	.454	.462	.468	.471	.468	.446
Dec	27.478	.473	.465	.467	.466	.461	.463	.467	.470	.473	.482	.486	.468
Year....	27.415	.415	.413	.414	.413	.413	.419	.425	.433	.438	.441	.438	.426

AVERAGE PRESSURE, IN INCHES AND THOUSANDTHS, FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

CINCINNATI, OHIO.

[H = 628 ft.; gravity correction, —.02; local time, 38m slow.]

2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Mid.	Mean.	Mean max.	Mean min.	1897.
.468	.465	.466	.469	.474	.482	.486	.492	.492	.492	.490	.489	.591	.375	Jan.
.374	.365	.361	.362	.368	.379	.384	.386	.390	.393	.389	.389	.510	.279	Feb.
.378	.365	.355	.343	.344	.349	.355	.361	.365	.368	.366	.376	.518	.215	Mar.
.416	.405	.396	.394	.394	.397	.401	.410	.417	.415	.411	.417	.513	.320	Apr.
.368	.360	.354	.351	.349	.351	.355	.359	.366	.368	.365	.363	.431	.290	May.
.337	.328	.315	.308	.302	.303	.309	.316	.325	.332	.331	.333	.389	.273	June.
.302	.293	.282	.277	.276	.279	.285	.292	.303	.308	.306	.302	.346	.251	July.
.340	.333	.321	.315	.311	.314	.317	.326	.337	.340	.343	.341	.395	.284	Aug.
.502	.487	.473	.467	.470	.469	.477	.487	.492	.499	.503	.505	.564	.444	Sept.
.418	.408	.400	.396	.398	.403	.408	.413	.418	.420	.416	.431	.504	.349	Oct.
.437	.431	.431	.434	.439	.444	.445	.450	.451	.451	.450	.450	.579	.305	Nov.
.414	.409	.413	.418	.427	.433	.435	.438	.438	.439	.434	.430	.540	.320	Dec.
.396	.387	.381	.378	.379	.384	.388	.394	.400	.402	.400	.402	.490	.309	Year.

CLEVELAND, OHIO.

[H = 762 ft.; gravity correction, —.01; local time, 27m slow.]

.242	.249	.249	.254	.256	.264	.266	.269	.268	.269	.266	.264	.372	.142	Jan.
.196	.189	.192	.197	.203	.206	.210	.212	.216	.214	.215	.210	.335	.086	Feb.
.192	.185	.187	.186	.185	.191	.194	.195	.195	.195	.188	.192	.351	.011	Mar.
.242	.229	.226	.222	.222	.228	.231	.243	.242	.239	.237	.246	.351	.135	Apr.
.176	.167	.166	.165	.161	.163	.165	.172	.177	.176	.175	.171	.248	.084	May.
.181	.168	.159	.152	.148	.146	.148	.152	.157	.161	.157	.170	.231	.099	June.
.142	.132	.122	.116	.113	.116	.117	.131	.138	.140	.141	.138	.181	.085	July.
.192	.185	.179	.171	.166	.165	.164	.173	.178	.182	.184	.188	.250	.123	Aug.
.369	.353	.346	.340	.338	.342	.344	.351	.354	.355	.358	.363	.424	.290	Sept.
.266	.258	.253	.250	.253	.256	.256	.263	.266	.267	.266	.278	.367	.175	Oct.
.216	.212	.213	.220	.227	.231	.232	.234	.233	.232	.229	.228	.364	.069	Nov.
.183	.186	.195	.203	.208	.216	.224	.228	.225	.225	.221	.214	.345	.085	Dec.
.216	.209	.207	.206	.207	.210	.213	.219	.221	.221	.220	.222	.318	.115	Year.

DETROIT, MICH.

[H = 730 ft.; gravity correction, —.01; local time, 32m slow.]

.260	.264	.266	.272	.281	.290	.295	.291	.287	.283	.279	.281	.387	.157	Jan.
.243	.236	.239	.241	.246	.258	.260	.261	.262	.264	.261	.257	.376	.140	Feb.
.238	.231	.230	.231	.231	.239	.242	.246	.249	.245	.235	.239	.406	.049	Mar.
.269	.259	.252	.252	.254	.252	.257	.265	.267	.268	.265	.271	.379	.156	Apr.
.192	.187	.184	.184	.185	.188	.194	.204	.207	.207	.206	.196	.279	.111	May.
.199	.189	.184	.181	.174	.175	.177	.186	.192	.194	.194	.198	.259	.131	June.
.160	.153	.145	.140	.136	.141	.147	.157	.165	.169	.170	.162	.208	.115	July.
.217	.203	.195	.192	.193	.196	.199	.214	.216	.216	.217	.218	.279	.152	Aug.
.395	.379	.375	.369	.370	.373	.379	.387	.390	.392	.393	.395	.459	.325	Sept.
.296	.288	.286	.286	.287	.293	.298	.305	.307	.303	.299	.311	.404	.206	Oct.
.245	.241	.245	.251	.259	.263	.268	.266	.266	.261	.259	.256	.388	.103	Nov.
.222	.223	.228	.239	.246	.254	.263	.264	.263	.259	.256	.244	.381	.116	Dec.
.245	.238	.236	.236	.238	.244	.248	.254	.256	.255	.253	.252	.350	.147	Year.

DODGE CITY, KANS.

[H = 2,504 ft.; gravity correction, —.02; local time, 1h 40m slow.]

.480	.460	.452	.450	.453	.462	.475	.490	.495	.498	.499	.486	.599	.369	Jan.
.345	.323	.302	.299	.295	.303	.312	.317	.320	.327	.331	.335	.445	.228	Feb.
.280	.257	.240	.233	.228	.230	.240	.252	.259	.266	.268	.273	.381	.170	Mar.
.393	.381	.367	.353	.346	.349	.354	.364	.384	.401	.400	.392	.500	.275	Apr.
.440	.428	.416	.398	.390	.389	.388	.400	.414	.429	.433	.433	.510	.361	May.
.315	.301	.287	.275	.263	.259	.268	.278	.289	.303	.313	.304	.369	.232	June.
.391	.376	.359	.349	.339	.334	.340	.350	.361	.376	.385	.381	.443	.311	July.
.458	.447	.431	.419	.411	.410	.410	.419	.433	.447	.452	.451	.507	.391	Aug.
.516	.497	.479	.468	.465	.465	.472	.481	.494	.504	.510	.505	.563	.440	Sept.
.432	.408	.397	.393	.392	.397	.407	.415	.425	.431	.433	.431	.504	.354	Oct.
.426	.409	.402	.406	.412	.421	.439	.447	.454	.459	.461	.445	.587	.323	Nov.
.447	.438	.438	.438	.447	.459	.480	.486	.488	.493	.496	.468	.583	.365	Dec.
.410	.394	.381	.373	.370	.373	.382	.392	.401	.411	.415	.409	.499	.318	Year.

AVERAGE PRESSURE, IN INCHES AND THOUSANDTHS, FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

EASTPORT, ME.

[λ=44° 54′ N.; φ=66° 59′ W.]

1897.	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.
Jan	29.870	.876	.875	.872	.873	.885	.903	.919	.927	.925	.905	.887	.873
Feb	29.923	.922	.917	.918	.920	.923	.936	.945	.952	.954	.947	.934	.919
Mar	29.876	.872	.871	.875	.884	.893	.908	918	.924	.923	.916	.911	.895
Apr	29.925	.921	.920	.919	.924	.933	.942	.946	.952	.950	.945	.937	.929
May	29.878	.877	.876	.882	.890	.900	.907	.914	.917	.915	.910	.905	.898
June	29.800	.801	.803	.807	.813	.819	.824	.826	.824	.823	.817	.811	.802
July	29.908	.905	.904	.908	.914	.919	.925	.930	.934	.935	.932	.929	.923
Aug	29.857	.850	.847	.849	.854	.862	.869	.873	.876	.877	.875	.870	.863
Sept	29.942	.943	.942	.944	.950	.959	.965	.971	.971	.968	.962	.952	.943
Oct	30.016	.014	.013	.015	.017	.025	.034	.041	.041	.037	.026	.016	.005
Nov	29.886	.892	.890	.889	.888	.892	.903	.913	.916	.915	.901	.888	.880
Dec	29.891	.893	.892	.888	.888	.898	.911	.926	.935	.934	.918	.906	.896
Year	29.898	.897	.896	.897	901	.909	.919	.927	.931	.930	.921	.912	.902

GALVESTON, TEX.

[λ=29° 18′ N.; φ=94° 50′ W.]

Jan	30.181	.178	.178	.178	.177	.175	.182	.189	.200	.218	.228	.224	.197
Feb	30.042	.036	.031	.025	.023	.019	.027	.039	.048	.061	.065	.064	.056
Mar	29.955	.949	.940	.931	.926	.930	.942	.952	.963	.975	.979	.978	.969
Apr	30.035	.030	.025	.014	.016	.024	.035	.053	.059	.066	.073	.077	.067
May	30.027	.023	.015	.014	.016	.019	.029	.036	.044	.050	.058	.064	.052
June	29.990	.983	.979	.977	.977	.983	.992	.995	.998	.009	.014	.016	.016
July	29.997	.993	.986	.982	.987	.994	.001	.007	.015	.021	.027	.028	.023
Aug	30.006	.000	.998	.994	.993	.998	.006	.012	.023	.033	.034	.031	.021
Sept	30.028	.027	.023	.022	.024	.031	.042	.052	.061	.069	.072	.073	.062
Oct	29.974	.970	.963	.958	.955	.962	.971	.978	.988	.997	.003	.998	.983
Nov	30.104	.100	.096	.096	.096	.099	.108	.119	.134	.141	.144	.137	.118
Dec	30.095	.091	.088	.083	.083	.088	.098	.107	.124	.128	.131	.126	.104
Year	30.036	.032	.027	.023	.023	.027	.036	.045	.055	.064	.069	.068	.056

HAVRE, MONT.

[λ=48° 34′ N.; φ=109° 40′ W.]

Jan	27.415	.414	.411	.409	.419	.417	.413	.408	.417	426	.437	.444	.445
Feb	27.212	.215	.215	.215	.218	.216	.220	.222	.226	.232	.238	.242	.246
Mar	27.265	.265	.266	.265	.262	.262	.265	.269	.272	.273	.274	.273	.271
Apr	27.356	.357	.354	.352	.354	.355	.360	.366	.373	.376	.374	.372	.366
May	27.322	.324	.325	.327	.332	.335	.342	.347	.351	.354	.349	.344	.336
June	27.243	.247	.248	.246	.245	.249	.257	.260	.261	.261	.260	.260	.253
July	27.281	.284	.284	.283	.283	.285	.293	.299	.305	.307	.302	.297	.295
Aug	27.382	.385	.387	.388	.391	.395	.400	.407	.416	.418	.414	.409	.398
Sept	27.348	.351	.355	.359	.363	.364	.369	.376	.384	.387	.385	.382	.371
Oct	27.329	.334	.337	.341	.342	.340	.345	.347	.354	.361	.363	.362	.355
Nov	27.359	.363	.367	.371	.377	.378	.382	.384	.388	.394	.399	.401	.402
Dec	27.333	.330	.327	.325	.328	.328	.325	.326	.332	.336	.345	.354	.360
Year	27.320	.322	.323	.323	.326	.327	.331	.334	.340	.344	.345	.345	.342

KANSAS CITY, MO.

[λ=39° 5′ N.; φ=94° 37′ W.]

Jan	29.121	.120	.126	.131	.126	.123	.125	.129	.138	.149	.160	.166	.144
Feb	29.017	.014	.006	.005	.000	.000	.004	.010	.021	.034	.041	.047	.041
Mar	28.963	.958	.953	.944	.938	.944	.951	.956	.965	.970	.970	.967	.953
Apr	29.006	.001	.999	.000	.997	.006	.021	.027	.033	.039	.040	.039	.024
May	29.047	.048	.047	.049	.054	.061	.071	.079	.091	.092	.089	.083	.070
June	28.928	.932	.927	.925	.931	.944	.948	.957	.962	.961	.959	.954	.946
July	28.995	.954	.953	.953	.956	.965	.974	.982	.989	.986	.985	.980	.970
Aug	29.039	.036	.033	.032	.039	.044	.049	.051	.071	.078	.077	.072	.062
Sept	29.111	.114	.115	.119	.128	.137	.147	.155	.168	.175	.176	.167	.154
Oct	29.042	.041	.044	.045	.050	.055	.062	.071	.084	.089	.087	.081	.063
Nov	29.100	.100	.102	.103	.101	.102	.105	.109	.115	.120	.121	.116	.093
Dec	29.101	.099	.095	.097	.096	.094	.095	.099	.108	.117	.129	.129	.106
Year	29.036	.035	.033	.034	.035	.040	.046	.052	.062	.068	.070	.067	.052

AVERAGE PRESSURE, IN INCHES AND THOUSANDTHS, FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

EASTPORT, ME.

[H = 76 ft.; gravity correction, 0; local time, 32m fast.]

2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Mid.	Mean.	Mean max.	Mean min.	1897.
.871	.875	.876	.882	.884	.891	.891	.887	.879	872	.869	.886	.060	.685	Jan.
.912	.910	.912	.917	.927	.935	.939	.936	.932	.927	.928	.929	.054	.794	Feb.
.884	.881	.877	.878	.884	.889	.890	.888	.883	.878	.872	.890	.063	.694	Mar.
.921	.913	.912	.918	.922	.931	.935	.939	.939	.932	.930	.931	.060	.789	Apr.
.889	.880	.875	.871	.871	.876	.880	.880	.876	.871	.865	.888	.962	.795	May.
.794	.791	.786	.784	.789	.795	.801	.809	.810	.810	.806	.806	.874	.736	June.
.917	.913	.908	.904	.906	.911	.914	.918	.920	.919	.917	.917	.980	.846	July.
.857	.849	.842	.846	.848	.854	.861	.865	.865	.865	.864	.860	.918	.789	Aug.
.934	.925	.923	.923	.929	.939	.943	.944	.945	.945	.945	.946	.049	.841	Sept.
.999	.998	.998	.006	.013	.023	.026	.029	027	.027	.026	.020	.141	.892	Oct.
.876	.876	.876	.881	.885	.887	.885	.886	.882	.881	.881	.890	068	.687	Nov.
.893	.899	.902	.903	.905	.906	.907	.902	.895	.883	.874	902	.041	.738	Dec.
.896	.892	.891	.893	.897	.903	.906	.907	.904	.901	.898	.905	.022	.774	Year.

GALVESTON, TEX.

[H = 42 ft.; gravity correction, —.04; local time, 1h 19m slow.]

.165	.144	.135	.132	.136	.150	.163	.172	.182	.190	.192	.178	.266	.099	Jan.
.032	.013	.002	996	.996	.000	.005	.016	.028	.035	.041	.029	.112	.960	Feb.
.947	.932	.914	.905	.903	.905	.907	.924	.936	.945	.944	.940	.007	.871	Mar.
.052	.043	.026	.012	.007	.006	.009	.020	.034	.040	.041	.036	.090	.983	Apr.
.044	.032	.017	.002	.994	.990	.993	.005	.016	.025	.027	.025	.070	.976	May.
.006	.995	.980	.970	.960	.955	.956	.961	.978	.989	.996	.987	.029	.944	June.
.015	.000	.986	.973	.963	.963	.970	.975	.983	.995	.997	.995	.033	.952	July.
.014	.001	.987	.977	.971	.971	.970	.981	.994	.002	.003	.001	.038	.962	Aug.
.046	.032	.019	.010	.009	.011	.014	.022	.031	.034	.035	.035	.087	.980	Sept.
.966	.950	.942	.936	.937	.943	.950	961	.970	.975	.972	.967	.025	.910	Oct.
.099	083	.077	.074	.077	.086	.096	.103	.108	.110	.110	.105	.179	.031	Nov.
.080	.066	063	.066	.072	.079	.090	.098	.105	.111	.116	.096	.183	.017	Dec.
.039	.024	.012	.004	.002	.005	.010	.020	.030	.038	.040	.033	.093	.974	Year.

HAVRE, MONT.

[H = 2,494 ft.; gravity correction, +.01; local time, 2h 19m slow.]

.432	.415	.408	.410	.411	.411	.409	.412	.412	.413	.415	.418	.531	.298	Jan.
.243	.232	.222	.218	.218	.215	.215	.220	.220	.220	.222	.223	.338	.088	Feb.
.268	.259	.251	.248	.243	.243	.245	.254	.259	.264	.265	.262	.383	.148	Mar.
.359	.346	.336	.327	.320	.314	.312	.318	.328	.334	.338	.348	.462	.222	Apr.
.326	.313	.303	.295	.287	.284	.279	.284	.295	.308	.315	.320	.403	.225	May.
.247	.243	.234	.226	.221	.216	.215	.226	.234	.245	.247	.244	.318	.165	June.
.287	.279	.272	.265	.257	.254	.252	.256	.263	.277	.282	.281	.353	.207	July.
.386	.377	.368	.358	.349	.343	.341	.344	.356	.365	.370	.381	.450	.302	Aug.
.360	.347	.335	.323	.318	.313	.311	.325	.337	.344	.347	.352	.433	.252	Sept.
.342	.328	.316	.309	.308	.307	.311	.317	.323	.330	.334	.335	.452	.215	Oct.
.387	.374	.362	.352	.351	.354	.355	.359	.360	.365	.368	.373	.485	.255	Nov.
.350	.339	.329	.328	.331	.335	.338	.336	.338	.339	.340	.336	.463	.201	Dec.
.332	.321	.311	.305	.301	.299	.299	.304	.310	.317	.320	.323	.423	.215	Year.

KANSAS CITY, MO.

[H = 963 ft.; gravity correction, —.01; local time 1h 18m slow.]

.127	.115	.114	.116	.120	.125	.130	.135	.140	.137	.136	.131	.244	.008	Jan.
.024	.004	.996	.995	.995	.001	.005	.010	.014	.016	.015	.013	.117	.900	Feb.
.941	.924	.915	.909	.909	.918	.928	.939	.949	.952	.957	.945	.061	.818	Mar.
.009	.995	.987	.980	.981	.983	.981	.999	.011	.015	.015	.008	.090	.915	Apr.
.053	.038	.024	.011	.003	.000	.004	.015	.026	.035	.039	.047	.111	.977	May.
.934	.923	.910	.897	.889	.889	.893	.891	.909	.920	.928	.927	.995	.855	June.
.960	.951	.940	.928	.921	.918	.924	.929	.940	.946	.951	.955	.010	.901	July.
.049	.034	.021	.010	.003	.998	.991	.006	.021	.028	.031	.036	.093	.973	Aug.
.136	.115	.100	.087	.079	.075	.081	.097	.106	.110	.117	.124	.193	.053	Sept.
.038	.022	.011	.006	.006	.013	.017	.025	.030	.035	.034	.044	.116	.968	Oct.
.070	.053	.051	.052	.051	.063	.070	.078	.085	.093	.098	.090	.228	.955	Nov.
.087	.073	.072	.081	.087	.096	.106	.117	.118	.121	.122	.102	.209	.995	Dec.
.036	.021	.012	.006	.004	.007	.011	.020	.029	.034	.037	.035	.122	.943	Year.

AVERAGE PRESSURE, IN INCHES AND THOUSANDTHS, FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

KEY WEST, FLA.

[λ = 24° 34′ N.; φ = 81° 49′ W.]

1897.	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.
Jan	30.134	.126	.118	.115	.110	.114	.129	.148	.164	.176	.169	.150	.127
Feb	30.084	.076	.065	.060	.060	.068	.080	.095	.109	.120	.121	.110	.091
Mar	30.095	.083	.070	.065	.065	.068	.082	.098	.109	.113	.116	.107	.085
Apr	30.064	.048	.038	.037	.042	.045	.060	.066	.076	.079	.078	.070	.062
May	30.005	.996	.988	.986	.989	.996	.010	.019	.023	.028	.026	.021	.012
June ...	30.041	.033	.023	.019	.021	.028	.039	.052	.057	.060	.061	.061	.053
July	30.046	.033	.020	.020	.018	.022	.033	.047	.055	.060	.064	.062	.054
Aug	30.059	.046	.034	.030	.031	.038	.051	.060	.069	.071	.071	.063	.053
Sept....	29.982	.971	.964	.961	.965	.972	.985	.996	.009	.014	.015	.010	.996
Oct.....	29.947	.939	.934	.931	.935	.944	.959	.972	.982	.985	.980	.965	.945
Nov	30.101	.092	.085	.082	.082	.089	.102	.117	.130	.136	.130	.114	.093
Dec	30.118	.108	.101	.098	.098	.105	.118	.134	.151	.159	.151	.133	.107
Year....	30.056	.046	.037	.034	.035	.041	.054	.067	.078	.083	.082	.072	.056

MARQUETTE, MICH.

[λ = 46° 34′ N.; φ = 87° 24′ W.]

Jan	29.163	.165	.171	.167	.161	.157	.159	.162	.166	.169	.169	.163	.152
Feb	29.188	.186	.189	.189	.186	.192	.195	.199	.200	.200	.202	.200	.189
Mar	29.222	.220	.215	.210	.208	.211	.218	.221	.221	.221	.223	.221	.215
Apr	29.224	.219	.214	.214	.218	.220	.226	.232	.228	.225	.223	.220	.215
May	29.161	.159	.158	.159	.162	.167	.175	.179	.180	.182	.179	.178	.172
June ...	29.121	.119	.119	.121	.129	.136	.144	.152	.152	.151	.148	.145	.145
July	29.100	.097	.095	.098	.105	.110	.115	.119	.124	.122	.120	.120	.118
Aug	29.157	.152	.150	.147	.149	.154	.156	.163	.162	.161	.158	.155	.152
Sept....	29.297	.294	.296	.295	.302	.307	.314	.313	.318	.319	.317	.312	.304
Oct.....	29.218	.218	.213	.212	.218	.218	.224	.225	.229	.228	.224	.216	.205
Nov	29.194	.193	.194	.195	.195	.196	.200	.203	.207	.208	.207	.202	.187
Dec	29.142	.138	.143	.144	.141	.142	.148	.152	.158	.167	.170	.167	.158
Year....	29.182	.180	.180	.179	.181	.184	.190	.193	.195	.196	.195	.192	.184

MEMPHIS, TENN.

[λ = 35° 9′ N.; φ = 90° 3′ W.]

Jan	29.759	.755	.762	.766	.761	.758	.762	.774	.789	.805	.815	.808	.783
Feb	29.624	.625	.624	.621	.615	.618	.630	.639	.648	.660	.662	.660	.642
Mar	29.580	.585	.585	.581	.585	.590	.600	.614	.624	.633	.641	.635	.620
Apr	29.641	.639	.634	.632	.637	.642	.657	.672	.682	.685	.688	.683	.671
May	29.625	.625	.622	.625	.630	.639	.655	.666	.678	.684	.685	.681	.668
June ...	29.575	.568	.564	.567	.576	.584	.601	.613	.624	.624	.626	.627	.615
July	29.578	.574	.566	.565	.567	.574	.585	.595	.611	.616	.618	.620	.609
Aug	29.595	.590	.587	.585	.588	.594	.607	.618	.627	.634	.636	.633	.622
Sept....	29.698	.698	.696	.696	.700	.708	.724	.738	.753	.764	.767	.763	.746
Oct.....	29.648	.648	.646	.645	.645	.653	.664	.674	.686	.694	.697	.693	.674
Nov	29.731	.730	.730	.730	.732	.738	.745	.753	.769	.778	.786	.784	.764
Dec	29.702	.699	.697	.698	.694	.696	.700	.706	.715	.726	.736	.735	.707
Year....	29.646	.645	.643	.643	.644	.650	.661	.672	.684	.692	.696	.694	.677

NEW ORLEANS, LA.

[λ = 29° 58′ N.; φ = 90° 4′ W.]

Jan	30.147	.145	.142	.140	.138	.139	.149	.161	.178	.191	.194	.185	.159
Feb	30.005	.007	.004	.000	.999	.009	.021	.037	.053	.065	.073	.066	.051
Mar	29.986	.983	.977	.970	.965	.971	.977	.986	.002	.014	.016	.012	.998
Apr	30.021	.013	.006	.003	.008	.020	.033	.049	.057	.067	.069	.063	.049
May	29.991	.985	.986	.988	.993	.005	.018	.026	.034	.037	.034	.027	.014
June ...	29.959	.953	.952	.953	.958	.968	.982	.993	.997	.998	.990	.986	.977
July	29.957	.953	.950	.951	.957	.968	.981	.994	.999	.000	.997	.992	.980
Aug	29.982	.975	.970	.972	.975	.985	.996	.003	.009	.009	.009	.003	.992
Sept....	29.998	.991	.985	.983	.988	.997	.009	.019	.028	.034	.034	.027	.015
Oct.....	29.985	.984	.976	.975	.977	.986	.994	.009	.019	.023	.017	.008	.985
Nov	30.113	.110	.106	.106	.110	.120	.131	.146	.160	.165	.160	.145	.120
Dec	30.096	.090	.087	.085	.084	.087	.098	.113	.130	.140	.141	.125	.096
Year....	30.020	.016	.012	.010	.013	.021	.032	.045	.056	.062	.061	.053	.036

AVERAGE PRESSURE, IN INCHES AND THOUSANDTHS, FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

KEY WEST, FLA.

[H = 22 ft.; gravity correction, —.05; local time, 27m slow.]

2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Mid.	Mean.	Mean max.	Mean min.	1897.
.107	.101	.102	.105	.115	.126	.137	.144	.149	.148	.141	.131	.192	.082	Jan.
.070	.058	.050	.052	.059	.071	.083	.094	.103	.104	.098	.082	.138	.030	Feb.
.067	.055	.045	.043	.050	.063	.077	.091	.100	.100	.093	.081	.127	.036	Mar.
.049	.032	.023	.017	.025	.037	.051	.066	.075	.074	.068	.053	.101	.006	Apr.
.999	.984	.975	.971	.976	.987	.001	.011	.019	.022	.018	.003	.042	.962	May
.041	.030	.022	.017	.018	.029	.039	.051	.057	.060	.052	.040	.074	.004	June.
.043	.028	.021	.014	.015	.025	.035	.046	.054	.058	.055	.039	.081	.996	July.
.041	.025	.011	.008	.018	.034	.046	.061	.068	.067	.064	.047	.086	.000	Aug.
.976	.959	.952	.952	.958	.968	.982	.992	.998	.997	.991	.982	.025	.940	Sept.
.930	.918	.910	.914	.924	.936	.948	.959	.964	.961	.954	.947	.994	.903	Oct.
.077	.069	.064	.069	.078	.088	.103	.111	.115	.116	.109	.098	.143	.060	Nov.
.090	.085	.082	.088	.095	.108	.120	.131	.136	.135	.129	.116	.170	.069	Dec.
.041	.029	.021	.021	.028	.039	.052	.063	.070	.070	.064	.052	.098	.007	Year.

MARQUETTE, MICH.

[H = 734 ft.; gravity correction, —.02; local time, 49m slow.]

.148	.155	.163	.170	.174	.179	.181	.177	.175	.176	.174	.167	.275	.050	Jan.
.175	.171	.173	.176	.180	.189	.191	.194	.193	.193	.194	.189	.310	.062	Feb.
.208	.205	.206	.206	.212	.220	.226	.229	.231	.233	.229	.218	.363	.068	Mar.
.208	.199	.196	.193	.197	.198	.202	.213	.218	.215	.213	.214	.328	.089	Apr.
.169	.165	.162	.159	.157	.158	.158	.165	.168	.167	.165	.167	.250	.074	May.
.138	.133	.129	.125	.123	.121	.120	.117	.121	.119	.117	.131	.207	.038	June.
.113	.108	.103	.099	.095	.095	.096	.102	.105	.106	.106	.107	.165	.045	July.
.149	.146	.144	.148	.148	.150	.152	.158	.160	.161	.160	.154	.222	.085	Aug.
.292	.285	.282	.278	.279	.280	.282	.290	.292	.294	.297	.297	.391	.195	Sept.
.200	.198	.196	.199	.202	.211	.212	.216	.215	.210	.209	.213	.325	.101	Oct.
.177	.176	.183	.191	.196	.199	.199	.198	.196	.196	.195	.195	.313	.061	Nov.
.155	.155	.160	.166	.172	.174	.180	.176	.173	.168	.164	.158	.294	.007	Dec.
.178	.175	.175	.176	.178	.181	.183	.186	.187	.186	.185	.184	.287	.073	Year.

MEMPHIS, TENN.

[H = 399 ft.; gravity correction, —.03; local time, 1h slow.]

.756	.743	.742	.746	.750	.752	.760	.765	.768	.773	.769	.767	.874	.654	Jan.
.618	.601	.594	.591	.593	.601	.611	.619	.626	.631	.632	.624	.722	.524	Feb.
.596	.576	.560	.548	.546	.548	.554	.558	.561	.562	.565	.585	.685	.462	Mar.
.656	.640	.622	.614	.612	.612	.616	.626	.636	.641	.643	.645	.716	.572	Apr.
.655	.639	.624	.610	.603	.596	.600	.609	.618	.625	.628	.637	.693	.574	May.
.604	.586	.569	.552	.540	.537	.540	.545	.556	.571	.578	.581	.638	.516	June.
.598	.579	.565	.552	.545	.538	.543	.556	.567	.573	.576	.578	.624	.529	July.
.611	.591	.575	.570	.562	.561	.566	.576	.586	.593	.595	.596	.644	.549	Aug.
.727	.707	.687	.675	.671	.670	.674	.685	.694	.702	.705	.710	.772	.659	Sept.
.653	.630	.618	.611	.611	.614	.619	.626	.631	.635	.633	.648	.714	.582	Oct.
.746	.723	.715	.711	.714	.719	.726	.730	.735	.739	.741	.740	.845	.627	Nov.
.687	.673	.672	.682	.688	.697	.705	.714	.716	.719	.720	.704	.795	.612	Dec.
.659	.641	.629	.622	.620	.620	.626	.634	.641	.647	.649	.651	.727	.572	Year.

NEW ORLEANS, LA.

[H = 54 ft.; gravity correction, —.04; local time, 1h slow.]

.131	.118	.115	.116	.122	.128	.134	.142	.150	.153	.151	.147	.226	.073	Jan.
.027	.008	.999	.993	.996	.999	.011	.017	.022	.024	.023	.021	.098	.934	Feb.
.973	.957	.946	.940	.941	.945	.951	.961	.972	.978	.976	.975	.044	.908	Mar.
.036	.016	.001	.989	.989	.993	.996	.009	.021	.025	.025	.023	.083	.970	Apr.
.002	.983	.968	.960	.957	.958	.965	.973	.985	.992	.993	.995	.043	.945	May.
.967	.953	.942	.933	.926	.928	.934	.944	.952	.957	.960	.961	.004	.916	June.
.970	.957	.944	.933	.929	.933	.941	.948	.958	.963	.963	.963	.006	.919	July.
.980	.965	.955	.950	.948	.954	.960	.976	.984	.987	.985	.980	.021	.937	Aug.
.996	.981	.972	.967	.973	.978	.987	.002	.009	.010	.006	.000	.052	.947	Sept.
.965	.956	.951	.945	.946	.954	.962	.971	.980	.980	.977	.980	.038	.926	Oct.
.099	.087	.080	.082	.089	.100	.111	.119	.125	.125	.124	.118	.187	.054	Nov.
.074	.063	.062	.065	.066	.073	.085	.098	.109	.114	.113	.096	.172	.028	Dec.
.018	.004	.995	.989	.990	.995	.003	.013	.022	.026	.025	.022	.081	.963	Year.

AVERAGE PRESSURE, IN INCHES AND THOUSANDTHS, FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

NEW YORK, N. Y.

[λ=40° 43′ N.; φ=74° 0′ W.]

1897.	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.
Jan	29.748	.747	.743	.735	.730	.732	.743	.758	.770	.776	.765	.750	.738
Feb	29.734	.727	.722	.718	.718	.721	.736	.752	.757	.757	.753	.737	.719
Mar	29.746	.741	.728	.728	.731	.739	.746	.755	.757	.754	.740	.725	.709
Apr	29.761	.755	.751	.750	.756	.767	.781	.786	.786	.782	.766	.750	.742
May	29.629	.623	.621	.621	.627	.635	.645	.651	.651	.648	.640	.630	.617
June ...	29.629	.624	.621	.623	.628	.636	.641	.645	.640	.637	.631	.623	.614
July....	29.640	.635	.635	.637	.641	.648	.656	.662	.663	.662	.660	.655	.648
Aug	29.655	.649	.645	.645	.654	.662	.674	.676	.676	.675	.670	.663	.653
Sept....	29.804	.801	.798	.797	.805	.812	.822	.826	.828	.826	.821	.813	.802
Oct.....	29.809	.805	.804	.805	.809	.816	.828	.838	.840	.838	.831	.818	.803
Nov	29.745	.747	.744	.741	.742	.746	.754	.764	.769	.768	.752	.736	.721
Dec	29.739	.740	.740	.736	.737	.744	.755	.764	.772	.775	.759	.734	.710
Year....	29.720	.716	.713	.711	.715	.722	.732	.740	.742	.742	.732	.720	.706

PHILADELPHIA, PA.

[λ=39° 57′ N.; φ=75° 9′ W.]

Jan	29.991	.997	.000	.996	.996	.999	.012	.027	.039	.044	.036	.016	.998
Feb	29.958	.956	.958	.958	.960	.963	.976	.987	.992	.991	.986	.972	.954
Mar	29.974	.973	.964	.960	.964	.970	.976	.990	.995	.989	.976	.966	.949
Apr	29.996	.990	.985	.984	.991	.000	.012	.018	.020	.018	.010	.997	.982
May	29.844	.840	.442	.843	.848	.854	.863	.872	.876	.875	.870	.858	.843
June ...	29.843	.839	.837	.840	.847	.852	.861	.868	.867	.865	.859	.848	.836
July....	29.844	.840	.839	.842	.846	.854	.862	.869	.870	.870	.866	.860	.846
Aug	29.868	.865	.861	.863	.867	.873	.881	.886	.892	.894	.891	.883	.874
Sept....	30.016	.018	.016	.018	.024	.032	.042	.050	.053	.050	.046	.035	.022
Oct.....	30.015	.012	.009	.011	.015	.019	.031	.044	.046	.047	.042	.030	.012
Nov	29.988	.989	.986	.982	.987	.990	.000	.008	.011	.008	.996	.997	.962
Dec	29.978	.981	.983	.984	.984	.989	.993	.004	.014	.015	.001	.978	.959
Year....	29.943	.942	.940	.940	.944	.950	.959	.969	.973	.972	.965	.952	.936

PITTSBURG, PA.

[λ=40° 32′ N.; φ=80° 2′ W.]

Jan	29.224	.228	.231	.229	.225	.226	.231	.233	.241	.245	.239	.226	.213
Feb	29.156	.160	.157	.160	.160	.162	.166	.169	.172	.171	.168	.159	.143
Mar	29.149	.148	.136	.138	.145	.152	.160	.164	.166	.169	.168	.160	.145
Apr	29.205	.199	.195	.196	.200	.206	.216	.216	.216	.214	.212	.198	.186
May....	29.107	.104	.102	.099	.101	.104	.115	.121	.123	.122	.119	.115	.105
June ...	29.093	.092	.091	.093	.098	.107	.116	.119	.122	.121	.120	.114	.103
July....	29.089	.088	.084	.088	.094	.100	.109	.111	.113	.112	.108	.100	.093
Aug	29.124	.121	.120	.119	.123	.132	.140	.146	.147	.149	.144	.135	.129
Sept ..	29.357	.355	.359	.363	.369	.377	.395	.401	.403	.402	.393	.379	.363
Oct.....	29.226	.226	.225	.228	.233	.240	.248	.258	.263	.259	.255	.240	.218
Nov	29.190	.191	.198	.198	.197	.196	.195	.198	.207	.207	.213	.201	.185
Dec	29.175	.174	.175	.167	.165	.168	.171	.169	.174	.179	.174	.158	.144
Year....	29.175	.174	.173	.173	.176	.181	.188	.192	.196	.196	.193	.182	.169

PORTLAND, OREG.

[λ=45° 32′ N.; φ=122° 43′ W.]

Jan	29.945	.945	.943	.944	.946	.949	.943	.937	.934	.935	.941	.952	.960
Feb	29.815	.817	.816	.817	.814	.810	.807	.804	.803	.805	.813	.824	.826
Mar	29.783	.785	.780	.781	.776	.772	.767	.764	.767	.771	.776	.785	.791
Apr	29.991	.999	.002	.003	.002	.002	.004	.005	.010	.022	.031	.033	.036
May....	29.875	.880	.887	.891	.894	.897	.901	.908	.915	.920	.923	.924	.923
June ...	29.839	.841	.846	.847	.847	.848	.849	.853	.855	.857	.859	.860	.857
July....	29.914	.922	.929	.932	.935	.937	.941	.946	.952	.955	.958	.957	.955
Aug	29.795	.800	.810	.813	.815	.818	.820	.822	.827	.835	.842	.843	.838
Sept....	29.875	.878	.882	.884	.885	.888	.889	.889	.894	.900	.906	.911	.910
Oct.....	29.885	.890	.894	.898	.901	.899	.899	.903	.905	.909	.918	.924	.925
Nov	29.897	.902	.906	.906	.903	.903	.893	.890	.886	.887	.893	.901	.907
Dec	29.980	.983	.982	.981	.977	.978	.971	.965	.964	.967	.966	.975	.986
Year....	29.883	.887	.890	.891	.891	.892	.890	.890	.893	.897	.902	.907	.910

* All values, except mean maximum and mean minimum, are for 15 days only.

AVERAGE PRESSURE, IN INCHES AND THOUSANDTHS, FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

NEW YORK, N. Y.

[H = 314 ft.; gravity correction, —.01; local time, 4m fast.]

2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Mid.	Mean.	Mean max.	Mean min.	1897.
.735	.742	.748	.757	.764	.768	.768	.770	.767	.763	.757	.753	.882	.608	Jan.
.709	.707	.709	.716	.721	.726	.725	.730	.735	.739	.741	.729	.884	.578	Feb.
.697	.690	.689	.696	.703	.709	.715	.727	.734	.736	.735	.726	.882	.572	Mar.
.729	.717	.712	.713	.713	.725	.737	.752	.758	.759	.758	.750	.865	.636	Apr.
.607	.598	.593	.596	.602	.608	.613	.625	.630	.635	.633	.624	.698	.548	May.
.606	.597	.591	.591	.594	.600	608	.622	.631	.633	.631	.621	.694	.553	June.
.640	.630	.627	.625	.627	.632	.637	.647	.651	.651	.649	.644	.704	.582	July.
.645	.637	.634	.633	.633	.639	.647	.655	.661	.665	.664	.655	.716	.597	Aug.
.791	.781	.778	.778	.782	.791	.796	.804	.809	.811	.810	.804	.878	.735	Sept.
.794	.788	.788	.793	.797	.801	.806	.813	.815	.814	.812	.811	.919	.707	Oct.
.711	.709	.714	.720	.725	.729	.733	.742	.749	.752	.752	.740	.876	.606	Nov.
.698	.694	.699	.703	.706	.709	.712	.714	.718	.716	.715	.729	.869	.567	Dec.
.697	.791	.690	.693	.697	.703	.708	.717	.722	.723	.721	.716	.822	.607	Year.

PHILADELPHIA, PA.

[H = 117 ft.; gravity correction, —.01; local time, 0m.]

.994	.998	.000	.005	.011	.014	.015	.015	.014	.009	.002	.009	.125	.864	Jan.
.939	.935	.933	.936	.942	.951	.952	.961	.962	.964	.960	.960	.112	.801	Feb.
.936	.928	.924	.924	.930	.940	.947	.959	.961	.962	.963	.959	.100	.813	Mar.
.970	.953	.945	.943	.943	.954	.970	.982	.983	.986	.984	.984	.095	.869	Apr.
.828	.818	.815	.812	.813	.819	.828	.838	.843	.845	.845	.843	.920	.759	May.
.827	.817	.811	.808	.812	.818	.822	.836	.840	.844	.845	.839	.908	.770	June.
.835	.826	.820	.819	.824	.830	.836	.846	.851	.852	.851	.846	.901	.787	July.
.863	.853	.848	.847	.847	.855	.862	.870	.876	.877	.876	.870	.929	.815	Aug.
.009	.999	.992	.995	.995	.004	.014	.019	.021	.023	.028	.022	.099	.949	Sept.
.000	.993	.991	.993	.999	.009	.017	.022	.020	.020	.017	.017	.129	.912	Oct.
.950	.952	.954	.958	.966	.973	979	.989	.993	.993	.991	.983	.114	.853	Nov.
.945	.941	.943	.946	.948	.954	.955	.964	.965	.961	.957	.973	.103	.814	Dec.
.925	.918	.915	.916	.919	.927	.933	.942	.944	.945	.943	.942	.045	.834	Year.

PITTSBURG, PA.

[H = 842 ft.; gravity correction, —.01; local time, 20m slow.]

.207	.207	.210	.215	.216	.220	.224	.222	.222	.223	.224	.224	.330	.110	Jan.
.128	.126	.128	.132	.140	.152	.154	.155	.155	.155	.158	.154	.275	.025	Feb.
.128	.128	.124	.128	.136	.142	.146	.151	.149	.148	.145	.147	.294	.993	Mar.
.171	.161	.157	.162	.164	.173	.185	.193	.194	.189	.185	.191	.294	.087	Apr.
.099	.090	.087	.086	.088	.093	.102	.110	.115	.115	.115	.106	.189	.026	May.
.094	.082	.077	.074	.072	.073	.079	.084	.089	.090	.090	.096	.151	.035	June.
.082	.071	.063	.058	.058	.068	.078	.083	.088	.093	.094	.088	.140	.041	July.
.116	.108	.101	.097	.098	.102	.113	.116	.118	.120	.123	.122	.183	.064	Aug.
.343	.329	.319	.317	.317	.319	.327	.333	.340	.347	.349	.356	.411	.300	Sept.
.204	.196	.193	.197	.200	.204	.207	.207	.211	.208	.212	.223	.319	.122	Oct.
.174	.172	.179	.186	.193	.199	.202	.199	.196	.193	.192	.194	.325	.043	Nov.
.137	.137	.144	.155	.159	.169	.175	.173	.172	.171	.170	.165	.289	.040	Dec.
.157	.151	.148	.151	.153	.160	.166	.169	.171	.171	.171	.172	.267	.074	Year.

PORTLAND, OREG.

[H = 153 ft.; gravity correction, 0; local time, 3h 11m slow.]

.965	.952	.935	.924	.922	.921	.920	.920	.923	.925	.928	.938	.014	.863	Jan.
.828	.818	.804	.799	.797	.794	.793	.799	.806	.806	.814	.809	.914	.700	Feb.
.795	.790	.786	.776	.775	.773	.772	.770	.777	.784	.788	.779	.897	.664	Mar.
.029	.017	.002	.992	.978	.970	.962	.961	.963	.972	.984	.999	.086	.896	Apr.
.919	.906	.896	.883	.868	.856	.846	.842	.846	.854	.866	.888	.964	.787	May.
.854	.845	.840	.831	.826	.819	.813	.811	.813	.818	.826	.840	.894	.776	June.
.951	.943	.934	.919	.910	.904	.895	.894	.896	.905	.916	.929	.978	.865	July.
.831	.815	.805	.785	.774	.759	.751	.748	.752	.765	.777	.802	.857	.731	Aug.
.906	.897	.888	.874	.865	.857	.854	.854	.857	.864	.871	.882	.937	.811	Sept.
.922	.911	.900	.886	.880	.873	.871	.870	.875	.881	.886	.896	.983	.793	Oct.
.911	.902	.895	.888	.883	.882	.877	.880	.884	.887	.891	.894	.972	.802	Nov.
.991	.975	.965	.955	.955	.957	.956	.959	.962	.967	.975	.971	.082	.865	Dec.
.908	.898	.888	.876	.869	.864	.859	.859	.863	.869	.877	.886	.965	.796	Year.

AVERAGE PRESSURE, IN INCHES AND THOUSANDTHS, FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

ST. LOUIS, MO.

[λ=38° 38′ N.; φ=90° 12′ W.]

1897.	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.
Jan	29.540	.541	.549	.554	.548	.548	.551	.556	.564	.574	.583	.579	.556
Feb	29.463	.459	.460	.455	.451	.456	.459	.465	.474	.483	.486	.481	.468
Mar	29.414	.415	.417	.412	.412	.416	.420	.431	.437	.439	.432	.423	.417
Apr	29.445	.443	.439	.441	.446	.453	.467	.479	.480	.478	.477	.470	.459
May	29.451	.448	.448	.450	.456	.468	.481	.492	.499	.500	.493	.487	.475
June ...	29.380	.378	.379	.380	.385	.396	.409	.417	.417	.420	.415	.409	.401
July....	29.371	.368	.365	.365	.372	.380	.392	.403	.409	.410	.408	.404	.396
Aug	29.422	.418	.419	.417	.423	.432	.445	.452	.456	.460	.456	.448	.435
Sept....	29.530	.532	.534	.537	.546	.556	.570	.583	.590	.593	.590	.583	.565
Oct.....	29.472	.474	.475	.475	.482	.488	.498	.508	.519	.521	.515	.504	.481
Nov	29.500	.496	.501	.502	.507	.513	.525	.535	.549	.551	.552	.543	.517
Dec	29.492	.487	.493	.495	.493	.495	.505	.513	.521	.530	.537	.525	.503
Year....	29.457	.455	.457	.457	.460	.467	.477	.486	.493	.497	.495	.488	.473

ST. PAUL, MINN.

[λ=44° 58′ N.; φ=93° 3′ W.]

Jan	29.163	.170	.177	.187	.189	.183	.180	.178	.185	.197	.198	.199	.183
Feb	29.110	.110	.110	.110	.107	.107	.105	.106	.110	.118	.124	.122	.115
Mar	29.122	.125	.131	.127	.123	.126	.131	.133	.140	.143	.142	.140	.132
Apr	29.112	.114	.109	.110	.108	.110	.119	.127	.132	.132	.133	.131	.122
May	29.106	.108	.105	.107	.105	.113	.124	.130	.134	.131	.123	.115	.103
June ...	29.016	.013	.015	.019	.018	.023	.029	.029	.034	.033	.030	.026	.016
July....	29.011	.010	.010	.012	.009	.010	.016	.021	.022	.025	.025	.026	.020
Aug	29.099	.097	.094	.094	.097	.103	.113	.116	.116	.121	.123	.122	.115
Sept....	29.174	.177	.178	.180	.186	.192	.202	.209	.215	.215	.219	.214	.203
Oct.....	29.108	.114	.115	.114	.117	.121	.126	.129	.135	.137	.135	.130	.115
Nov	29.168	.169	.171	.176	.170	.170	.167	.167	.172	.176	.176	.171	.155
Dec	29.129	.133	.141	.149	.149	.150	.157	.160	.163	.173	.182	.185	.166
Year....	29.110	.112	.113	.115	.115	.117	.122	.125	.130	.133	.134	.132	.120

SALT LAKE CITY, UTAH.

[λ=40° 46′ N.; φ=111° 54′ W.]

Jan	25.721	.722	.718	.721	.726	.725	.718	.716	.721	.728	.740	.750	.752
Feb	25.601	.598	.598	.595	.591	.591	.594	.596	.599	.606	.615	.622	.627
Mar	25.542	.540	.539	.540	.532	.525	.525	.530	.534	.536	.543	.546	.550
Apr	25.693	.695	.698	.695	.697	.696	.700	.709	.718	.720	.723	.726	.724
May	25.641	.643	.643	.642	.643	.643	.647	.653	.662	.665	.663	.661	.656
June ...	25.559	.562	.566	.567	.570	.572	.583	.590	.601	.606	.610	.609	.603
July....	25.662	.663	.661	.661	.664	.667	.676	.687	.696	.705	.711	.710	.706
Aug	25.678	.682	.684	.684	.686	.686	.694	.704	.714	.721	.727	.730	.723
Sept....	25.687	.692	.694	.693	.695	.697	.706	.613	.727	.734	.742	.744	.738
Oct.....	25.679	.679	.679	.682	.679	.676	.677	.685	.690	.701	.703	.706	.699
Nov	25 712	.713	.711	.713	.710	.707	.707	.709	.716	.726	.739	.747	.747
Dec	25.789	.793	.789	.789	.792	.785	.784	.787	.793	.798	.809	.822	.827
Year....	25.664	.665	.665	.665	.665	.664	.668	.676	.681	.687	.694	.698	.696

SAN DIEGO, CAL.

[λ=32° 43′ N.; φ=117° 10′ W.]

Jan	29.982	.981	.974	.973	.972	.972	.967	.964	.965	.971	.985	.999	.008
Feb	29.998	.000	.992	.991	.986	.977	.966	.970	.967	.977	.993	.010	.015
Mar	29.978	.977	.971	.969	.960	.952	.944	.947	.957	.966	.979	.993	.998
Apr	29.948	.948	.945	.937	.929	.923	.922	.922	.933	.946	.952	.959	.959
May	29.885	.885	.879	.872	.863	.858	.855	.856	.868	.875	.881	.884	.887
June ...	29.836	.833	.825	.818	.812	.811	.812	.818	.826	.835	.843	.846	.849
July....	29.863	.862	.860	.850	.845	.844	.843	.849	.861	.871	.875	.878	.880
Aug	29.840	.841	.839	.830	.826	.823	.819	.823	.834	.842	.849	.854	.855
Sept....	29.845	.846	.845	.843	.838	.835	.833	.835	.840	.853	.863	.871	.870
Oct.....	29.905	.905	.902	.901	.895	.890	.888	.893	.903	.915	.927	.835	.933
Nov	29.981	.981	.975	.972	.967	.963	.959	.961	.968	.977	.990	.005	.003
Dec	30.053	.052	.050	.047	.047	.041	.034	.037	.043	.055	.067	.084	.086
Year....	29.926	.926	.921	.917	.912	.907	.904	.906	.914	.924	.934	.943	.945

AVERAGE PRESSURE, IN INCHES AND THOUSANDTHS, FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

ST. LOUIS, MO.

[H=567 ft.; gravity correction, —.02; local time, 1h 1m slow.]

2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Mid.	Mean.	Mean max.	Mean min.	1897.
.540	.534	.536	.541	.543	.548	.552	.553	.554	.553	.552	.552	.655	.438	Jan.
.449	.432	.429	.424	.427	.434	.442	.449	.456	.461	.460	.455	.569	.345	Feb.
.397	.380	.370	.365	.367	.370	.371	.383	.393	.397	.406	.403	.536	.258	Mar.
.448	.431	.422	.415	.416	.418	.425	.435	.443	.447	.447	.447	.532	.352	Apr.
.466	.452	.439	.430	.423	.420	.420	.427	.440	.449	.451	.457	.523	.390	May.
.390	.376	.366	.359	.353	.352	.350	.350	.363	.375	.376	.383	.444	.323	June.
.385	.373	.364	.351	.344	.343	.345	.353	.361	.369	.372	.375	.421	.328	July.
.425	.408	.396	.387	.381	.382	.386	.399	.408	.417	.418	.420	.471	.367	Aug.
.547	.526	.515	.504	.502	.504	.508	.525	.530	.535	.538	.543	.607	.479	Sept.
.461	.443	.435	.429	.428	.436	.440	.447	.453	.457	.455	.471	.542	.401	Oct.
.501	.486	.482	.482	.483	.488	.493	.497	.501	.503	.505	.509	.637	.371	Nov.
.485	.478	.482	.487	.491	.499	.503	.507	.509	.511	.514	.502	.610	.389	Dec.
.458	.443	.436	.431	.430	.433	.436	.444	.451	.456	.458	.460	.546	.370	Year.

ST. PAUL, MINN.

[H=837 ft.; gravity correction, 0; local time, 1h 12m slow.]

.162	.147	.147	.149	.152	.153	.162	.166	.168	.171	.173	.172	.302	.038	Jan.
.100	.088	.081	.083	.085	.092	.101	.101	.103	.106	.105	.104	.213	.989	Feb.
.119	.107	.100	.096	.096	.099	.107	.112	.115	.119	.122	.121	.260	.982	Mar.
.112	.103	.093	.084	.082	.080	.082	.091	.100	.104	.109	.108	.226	.989	Apr.
.093	.086	.076	.069	.062	.060	.062	.071	.086	.095	.101	.098	.187	.014	May.
.005	.999	.993	.986	.983	.980	.978	.980	.991	.000	.005	.008	.088	.918	June.
.013	.004	.998	.990	.987	.979	.980	.986	.001	.011	.012	.007	.076	.932	July.
.106	.098	.089	.086	.082	.078	.078	.087	.092	.093	.097	.100	.164	.026	Aug.
.191	.178	.168	.161	.155	.155	.156	.168	.173	.179	.182	.185	.260	.095	Sept.
.099	.085	.079	.076	.079	.083	.089	.093	.098	.102	.104	.108	.217	.994	Oct.
.139	.128	.123	.127	.133	.139	.146	.150	.154	.158	.162	.157	.280	.031	Nov.
.149	.137	.128	.131	.132	.136	.139	.140	.135	.134	.139	.147	.268	.992	Dec.
.107	.097	.090	.086	.086	.086	.090	.095	.101	.106	.109	.110	.212	.000	Year.

SALT LAKE CITY, UTAH.

[H=4,344 ft.; gravity correction, —.01; local time, 2h 27m slow.]

.740	.724	.712	.713	.717	.719	.719	.722	.724	.724	.725	.725	.798	.655	Jan.
.621	.609	.595	.592	.588	.585	.585	.586	.587	.589	.589	.598	.676	.510	Feb.
.546	.540	.529	.522	.521	.524	.530	.532	.540	.547	.549	.536	.623	.453	Mar.
.716	.703	.693	.681	.670	.674	.671	.667	.672	.682	.688	.696	.773	.609	Apr.
.645	.635	.622	.609	.598	.592	.593	.598	.607	.620	.628	.634	.689	.566	May.
.598	.585	.574	.563	.555	.546	.543	.545	.548	.557	.564	.574	.627	.509	June.
.697	.686	.674	.665	.649	.639	.636	.636	.644	.653	.660	.671	.732	.603	July.
.712	.698	.686	.675	.662	.654	.649	.652	.660	.668	.671	.687	.736	.638	Aug.
.727	.713	.697	.678	.666	.660	.655	.659	.669	.678	.685	.698	.752	.638	Sept.
.692	.679	.666	.660	.663	.664	.672	.677	.679	.682	.686	.681	.755	.616	Oct.
.731	.717	.706	.700	.703	.703	.709	.709	.706	.701	.701	.714	.803	.618	Nov.
.813	.795	.787	.785	.790	.794	.801	.801	804	.801	.805	.797	.897	.702	Dec.
.686	.674	.662	.654	.648	.646	.647	.649	.653	.658	.663	.668	.738	.592	Year.

SAN DIEGO, CAL.

[H=87 ft.; gravity correction, —.03; local time, 2h 49m slow.]

.000	.968	.947	.937	.937	.941	.944	.954	.964	.972	.980	.969	.036	.907	Jan.
.018	.006	.987	.969	.958	.956	.955	.959	.966	.976	.984	.982	.038	.932	Feb.
.997	.989	.975	.959	.952	.947	.946	.949	.956	.968	.975	.967	.025	.912	Mar.
.953	.942	.936	.923	.913	.906	.907	.909	.918	.931	.942	.934	.985	.885	Apr.
.885	.882	.878	.868	.860	.854	.850	.851	.859	.869	.877	.870	.915	.832	May.
.848	.843	.839	.834	.829	.820	.812	.813	.817	.824	.835	.828	.865	.796	June.
.880	.876	.869	.860	.851	.843	.835	.838	.843	.852	.861	.858	.895	.820	July.
.853	.842	.834	.822	.810	.803	.797	.800	.807	.817	.829	.829	.867	.787	Aug.
.866	.855	.841	.830	.824	.819	.818	.821	.829	.842	.850	.842	.882	.804	Sept.
.921	.901	.886	.877	.872	.867	.870	.881	.889	.899	.906	.898	.949	.853	Oct.
.993	.968	.951	.938	.934	.935	.939	.948	.956	.965	.971	.967	.022	.921	Nov.
.071	.043	.022	.012	.008	.007	.012	.024	.036	.044	.047	.043	.109	.979	Dec.
.940	.926	.914	.902	.896	.892	.890	.896	.902	.913	.922	.916	.966	.869	Year.

AVERAGE PRESSURE, IN INCHES AND THOUSANDTHS, FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

SAN FRANCISCO, CAL.

[λ=37° 48′ N.; φ=122° 26′ W.]

1897.	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p.m.
Jan	29.964	.963	.962	.960	.964	.964	.955	.950	.955	.964	.974	.985	.993
Feb	29.950	.951	.955	.955	.956	.949	.942	.938	.940	.948	.964	.972	.977
Mar	29.939	.938	.939	.936	.931	.925	.921	.926	.933	.941	.949	.959	.967
Apr	29.964	.965	.965	.960	.952	.949	.949	.951	.964	.974	.980	.986	.991
May	29.850	.849	.846	.841	.836	.834	.834	.835	.846	.854	.860	.862	.863
June ...	29.811	.808	.805	.802	.799	.799	.800	.803	.813	.821	.828	.831	.831
July	29.809	.807	.802	.799	.795	.795	.800	.805	.818	.828	.836	.839	.840
Aug	29.825	.827	.825	.824	.822	.819	.819	.825	.838	.845	.854	.862	.862
Sept....	29.850	.848	.850	.849	.846	.846	.848	.853	.866	.878	.888	.893	.893
Oct.....	29.889	.887	.889	.890	.888	.881	.881	.885	.889	.898	.909	.916	.917
Nov	30.012	.013	.016	.014	.016	.016	.014	.016	.017	.025	.039	.048	.051
Dec	30.075	.078	.081	.075	.079	.080	.073	.074	.072	.081	.090	.105	.114
Year....	29.912	.911	.911	.909	.907	.905	.903	.905	.913	.921	.931	.938	.942

SANTA FE, N. MEX.

[λ=35° 41′ N.; φ=105° 57′ W.]

Jan	23.221	.221	.220	.221	.222	.218	.214	.215	.220	.228	.242	.249	.243
Feb	23.158	.155	.150	.150	.149	.146	.147	.150	.159	.167	.172	.175	.172
Mar	23.123	.121	.123	.120	.111	.108	.110	.112	.119	.125	.132	.134	.127
Apr	23.265	.268	.264	.259	.258	.259	.264	.272	.282	.289	.292	.291	.283
May	23.345	.340	.337	.336	.336	.337	.337	.343	.350	.354	.356	.356	.352
June ...	23.300	.302	.304	.304	.305	.308	.315	.323	.330	.335	.338	.338	.333
July	23.415	.417	.415	.413	.411	.413	.419	.426	.434	.439	.439	.437	.432
Aug	23.442	.444	.445	.442	.441	.441	.444	.448	.455	.459	.460	.458	.450
Sept....	23.452	451	.449	.446	.444	.445	.448	.455	.461	.469	.476	.476	.469
Oct.....	23.331	.329	.327	.324	.320	.320	.323	.326	.332	.342	.346	.348	.342
Nov	23.334	.332	.330	.328	.326	.325	.325	.326	.331	.338	.344	.346	.339
Dec	23.266	.264	.258	.256	.255	.250	.250	.257	.261	.267	.278	.287	.283
Year....	23.304	.304	.302	.300	.298	.298	.300	.304	.311	.318	.323	.325	.319

SAVANNAH, GA.

[λ=32° 5′ N.; φ=81° 5′ W.]

Jan	30.103	.107	.113	.112	.109	.113	.126	.140	.153	.163	.158	.136	.104
Feb	29.986	.986	.987	.985	.985	.997	.007	.018	.027	.030	.030	.021	.000
Mar	30.045	.043	.032	.026	.027	.039	.051	.059	.067	.075	.073	.065	.046
Apr	30.026	.019	.015	.014	.021	.031	.047	.056	.062	.067	.068	.057	.043
May	29.933	.930	.928	.930	.938	.951	.966	.976	.981	.980	.975	.963	.945
June ...	29.923	.916	.912	.915	.924	.933	.944	.951	.955	.955	.950	.940	.923
July ...	29.928	.922	.917	.918	.926	.935	.946	.955	.963	.964	.962	.957	.941
Aug	29.957	.951	.946	.946	.952	.962	.969	.976	.984	.987	.982	.975	.963
Sept....	30.023	.016	.008	.008	.014	.026	.039	.046	.059	.065	.060	.055	.041
Oct	29.970	.967	.961	.963	.971	.979	.991	.000	.009	.011	.007	.996	.973
Nov	30.099	.097	.095	.096	.099	.107	.120	.129	.139	.144	.137	.118	.088
Dec	30.077	.078	.073	.075	.072	.081	.091	.098	.111	.121	.115	.099	.071
Year ...	30.006	.003	.999	.999	.003	.013	.025	.034	.042	.047	.043	.032	.012

WASHINGTON, D. C.

[λ=38° 54′ N.; φ=77° 3′ W.]

Jan	30.038	.044	.048	.048	.047	.054	.069	.080	.097	.102	.094	.075	.050
Feb	29.976	.976	.971	.967	.976	.983	.989	.000	.008	.003	.000	.986	.962
Mar	29.988	.985	.978	.976	.979	.989	.000	.006	.011	.008	.000	.988	.966
Apr	30.015	.011	.009	.011	.018	.030	.036	.042	.044	.042	.031	.015	.996
May	29.872	.867	.864	.868	.872	.882	.887	.891	.891	.889	.882	.870	.858
June ...	29.863	.862	.860	.861	.870	.878	.885	.889	.889	.892	.889	.881	.866
July	29.853	.848	.843	.845	.853	.861	.871	.876	.875	.878	.875	.871	.861
Aug	29.884	.879	.876	.876	.881	.891	.900	.905	.908	.907	.905	.898	.889
Sept....	30.039	.035	.035	.037	.045	.053	.063	.072	.079	.079	.074	.062	.043
Oct	30.020	.016	.010	.012	.017	.024	.033	.043	.048	.051	.045	.032	.009
Nov	30.012	.012	.013	.012	.016	.019	.027	.038	.043	.045	.036	.010	.988
Dec	30.000	.002	.005	.000	.000	.007	.015	.021	.030	.037	.021	.997	.972
Year ...	29.963	.961	.959	.959	.964	.973	.981	.989	.994	.994	.988	.974	.955

AVERAGE PRESSURE, IN INCHES AND THOUSANDTHS, FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

SAN FRANCISCO, CAL.

[H = 153 ft.; gravity correction, —.02; local time, 3h 10m slow.]

2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Mid.	Mean.	Mean max.	Mean min.	1897.
.987	.960	.940	.933	.932	.930	.928	.932	.938	.940	.945	.955	.025	.888	Jan.
.979	.962	.948	.931	.924	.920	.918	.924	.931	.937	.941	.946	.024	.865	Feb.
.968	.958	.947	.931	.926	.921	.918	.920	.927	.936	.942	.937	.008	.863	Mar.
.986	.974	.965	.950	.939	.931	.927	.926	.932	.951	.959	.958	.013	.901	Apr.
.861	.855	.847	.836	.824	.819	.814	.815	.821	.836	.845	.841	.889	.792	May.
.831	.827	.820	.811	.802	.795	.787	.788	.791	.798	.809	.809	.848	.764	June.
.838	.830	.821	.809	.797	.789	.781	.781	.786	.796	.806	.809	.849	.763	July.
.856	.846	.836	.824	.807	.798	.792	.792	.801	.814	.820	.826	.869	.777	Aug.
.887	.875	.862	.847	.835	.828	.822	.823	.831	.846	.853	.855	.904	.806	Sept.
.912	.897	.886	.874	.871	.864	.864	.875	.879	.887	.893	.888	.945	.828	Oct.
.042	.016	.004	.992	.986	.981	.980	.988	.991	.998	.004	.012	.068	.953	Nov.
.105	.075	.058	.047	.044	.046	.047	.055	.062	.071	.073	.073	.136	.003	Dec.
.938	.923	.911	.898	.891	.885	.882	.885	.891	.901	.908	.909	.965	.850	Year.

SANTA FE, N. MEX.

[H = 6,998 ft.; gravity correction, —.02; local time, 2h 4m slow.]

.225	.208	.200	.200	.202	.205	.214	.220	.225	.227	.231	.220	.292	.153	Jan.
.161	.146	.132	.125	.125	.128	.132	.143	.147	.152	.155	.150	.212	.086	Feb.
.118	.098	.084	.074	.070	.073	.079	.091	.102	.115	.118	.108	.173	.044	Mar.
.272	.261	.249	.237	.231	.230	.233	.239	.252	.265	.270	.262	.325	.194	Apr.
.343	.331	.332	.310	.301	.293	.290	.299	.306	.322	.329	.330	.376	.278	May.
.326	.314	.303	.292	.282	.279	.273	.273	.282	.298	.306	.307	.351	.253	June.
.424	.414	.405	.391	.383	.377	.376	.382	.390	.407	.412	.411	.456	.364	July.
.440	.427	.417	.404	.395	.392	.389	.396	.409	.426	.432	.431	.472	.381	Aug.
.459	.445	.432	.423	.418	.417	.418	.426	.439	.451	.455	.447	.485	.406	Sept.
.330	.313	.305	.302	.300	.303	.308	.316	.325	.330	.332	.324	.380	.278	Oct.
.325	.309	.300	.296	.299	.307	.314	.318	.322	.328	.329	.324	.393	.264	Nov.
.267	.251	.243	.243	.245	.251	.257	.264	.269	.274	.275	.261	.335	.192	Dec.
.308	.293	.283	.275	.271	.271	.274	.281	.289	.300	.304	.298	.354	.241	Year.

SAVANNAH, GA.

[H = 82 ft.; gravity correction, —.03; local time, 24m slow.]

.082	.070	.065	.067	.074	.084	.097	.100	.101	.104	.105	.108	.191	.029	Jan.
.976	.961	.955	.956	.960	.970	.983	.986	.992	.998	.995	.991	.092	.888	Feb.
.023	.005	.998	.995	.995	.002	.012	.024	.030	.033	.031	.033	.117	.952	Mar.
.026	.008	.994	.989	.991	.997	.003	.012	.016	.016	.015	.025	.097	.946	Apr.
.929	.914	.904	.899	.900	.906	.917	.929	.939	.944	.946	.938	.997	.878	May.
.907	.893	.882	.881	.884	.907	.915	.926	.933	.933	.931	.922	.974	.862	June.
.927	.915	.906	.902	.904	.915	.922	.934	.940	.942	.940	.933	.980	.885	July.
.947	.933	.927	.926	.931	.943	.951	.964	.970	.966	.964	.957	.997	.912	Aug.
.024	.013	.008	.010	.014	.017	.025	.035	.038	.039	.035	.030	.075	.985	Sept.
.958	.949	.946	.948	.953	.962	.967	.972	.974	.970	.964	.973	.033	.907	Oct.
.072	.065	.065	.070	.079	.089	.099	.102	.105	.109	.109	.101	.177	.035	Nov.
.055	.047	.049	.052	.055	.065	.073	.075	.081	.080	.075	.078	.156	.987	Dec.
.994	.981	.975	.975	.978	.988	.997	.005	.010	.011	.009	.007	.074	939	Year.

WASHINGTON, D. C.

[H = 112 ft.; gravity correction, —.02; local time, 8m slow.]

.041	.036	.037	.039	.047	.056	.061	.060	.056	.051	.044	.057	.171	.913	Jan.
.949	.942	.943	.948	.954	.965	.969	.974	.976	.976	.976	.974	.127	.810	Feb.
.947	.936	.929	.932	.943	.952	.966	.973	.980	.982	.979	.975	.112	.826	Mar.
.981	.959	.952	.950	.952	.962	.976	.993	.997	.001	.002	.001	.110	.882	Apr.
.847	.839	.832	.827	.834	.844	.850	.863	.869	.875	.878	.865	.951	.786	May.
.854	.842	.838	.836	.835	.839	.847	.857	.863	.866	.863	.864	.925	.792	June.
.848	.837	.831	.828	.829	.834	.839	.851	.860	.863	.862	.854	.907	.800	July.
.875	.865	.859	.856	.855	.860	.868	.880	.884	.885	.888	.882	.939	.828	Aug.
.029	.016	.010	.008	.008	.013	.023	.030	.036	.041	.042	.041	.114	.967	Sept.
.999	.992	.990	.993	.002	.010	.018	.024	.026	.024	.020	.019	.131	.916	Oct.
.977	.978	.981	.985	.996	.008	.016	.020	.024	.019	.021	.012	.146	.875	Nov.
.962	.960	.964	.970	.979	.987	.990	.993	.995	.994	.988	.995	.132	.843	Dec.
.942	.934	.930	.931	.936	.944	.952	.960	.964	.965	.964	.962	.064	.853	Year.

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AVERAGE TEMPERATURE (DEGREES FAHRENHEIT) FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME.

BISMARCK, N. DAK.

[λ = 46° 47′ N.; φ = 100° 38′ W.]

1897.	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.
Jan	4.2	3.8	2.7	2.4	2.5	2.5	2.5	2.5	2.1	2.4	3.4	5.0	6.4
Feb	4.4	3.4	2.6	2.7	2.4	1.6	2.0	2.1	1.6	2.8	4.8	6.5	7.9
Mar	9.4	8.8	7.5	7.2	6.9	6.7	6.4	6.5	6.2	7.5	10.0	12.7	14.5
Apr	38.5	37.4	36.4	35.8	35.2	34.7	34.3	35.1	36.2	38.9	41.3	43.9	45.9
May	52.5	51.1	49.4	47.9	46.6	45.4	44.9	47.3	50.8	54.9	58.4	61.4	63.8
June ...	58.3	57.0	56.0	55.4	54.8	53.9	54.1	56.3	58.3	60.8	63.3	65.6	67.0
July	64.4	63.3	62.6	61.5	60.5	59.5	59.4	61.7	63.8	67.5	71.0	74.0	76.3
Aug	60.3	58.9	57.8	56.8	55.8	55.1	54.1	55.6	58.4	62.2	66.1	69.5	71.5
Sept	61.3	59.6	57.8	56.3	55.5	54.6	53.9	53.6	56.2	60.9	66.1	70.6	73.9
Oct.	43.9	43.0	41.8	41.1	40.0	39.0	38.5	38.0	38.4	41.4	45.4	49.4	51.9
Nov	20.6	20.0	18.6	17.6	17.2	16.1	15.8	16.0	15.2	16.7	19.5	23.3	26.8
Dec	12.1	11.1	10.5	10.0	9.6	9.0	8.4	8.3	7.9	8.0	10.3	13.0	15.8
Year	35.8	34.8	33.6	32.9	32.2	31.5	31.2	31.9	32.9	35.3	38.3	41.2	43.5

BOSTON, MASS.

[λ = 42° 21′ N.; φ = 71° 4′ W.]

Jan	26.5	26.5	26.5	26.2	25.8	25.7	26.0	26.4	27.6	28.8	30.3	32.0	33.1
Feb	29.2	28.5	28.1	27.6	27.3	27.1	26.8	27.4	28.8	30.1	31.7	33.3	34.7
Mar	33.9	33.4	32.9	32.4	32.3	32.1	32.9	34.3	35.6	37.0	38.4	39.7	40.3
Apr	43.9	43.7	43.3	42.8	42.5	42.4	43.5	46.0	48.4	50.5	52.8	53.5	53.5
May	53.4	52.9	52.6	52.3	52.2	52.3	53.6	55.5	57.1	58.5	59.3	60.0	60.1
June ...	57.6	57.0	56.5	56.1	55.7	56.4	58.5	61.0	63.1	64.5	65.1	65.7	66.2
July	67.5	67.0	66.9	66.6	66.4	66.9	68.5	69.8	71.8	73.2	73.9	74.8	75.2
Aug	65.4	64.8	64.3	63.7	63.4	63.2	65.0	67.2	69.2	71.2	72.3	73.6	74.5
Sept	59.1	58.4	57.6	57.2	56.7	56.5	57.6	60.0	62.2	63.9	65.9	67.3	68.6
Oct.	51.1	50.3	49.8	49.2	48.8	48.7	49.0	51.0	53.1	55.2	57.2	59.2	60.2
Nov	39.9	39.7	39.3	39.1	38.6	38.2	38.2	38.8	40.0	41.2	43.0	44.4	45.4
Dec	32.9	32.7	32.2	32.0	31.8	31.4	31.2	31.1	31.5	32.5	34.2	35.4	36.4
Year	46.7	46.2	45.8	45.4	45.1	45.1	45.9	47.4	49.0	50.6	52.0	53.2	54.0

BUFFALO, N. Y.

[λ = 42° 53′ N.; φ = 78° 53′ W.]

Jan	23.7	23.3	23.0	23.2	23.1	22.8	23.2	23.7	23.8	24.9	26.3	27.2	27.1
Feb	26.1	26.2	26.3	26.0	26.0	26.2	26.2	26.5	27.1	27.5	28.1	28.5	29.1
Mar	31.6	31.6	31.7	31.1	31.0	31.2	31.7	32.5	33.5	34.3	35.4	36.5	37.2
Apr	41.1	40.9	41.2	40.0	39.4	39.1	40.5	41.4	42.6	43.8	45.4	46.0	46.8
May	51.1	51.0	50.8	50.3	49.7	50.1	51.2	52.8	54.2	55.6	56.9	57.5	57.1
June ...	59.2	58.3	57.6	57.1	57.2	57.9	59.2	60.5	61.7	63.0	63.6	64.6	65.1
July	69.7	69.4	69.0	68.6	68.5	69.3	70.7	71.3	73.5	75.4	76.5	77.7	78.7
Aug	63.8	63.6	63.2	62.7	62.1	62.4	63.6	64.8	67.4	68.9	70.1	70.9	71.5
Sept	60.4	59.9	59.8	59.2	58.9	58.9	60.1	61.0	63.2	64.8	65.9	67.2	68.0
Oct	52.6	51.8	51.3	50.8	50.4	50.1	50.3	51.0	53.3	55.1	56.6	58.0	58.8
Nov	40.0	39.5	39.5	39.3	38.9	38.9	38.6	39.0	39.5	40.3	41.1	41.6	41.9
Dec	29.5	29.5	29.5	29.5	29.3	29.2	29.5	29.6	30.5	31.2	32.1	32.6	33.2
Year	45.7	45.4	45.2	44.8	44.5	44.7	45.4	46.2	47.5	48.7	49.8	50.7	51.2

CHICAGO, ILL.

[λ = 41° 53′ N.; φ = 87° 37′ W.]

Jan	22.0	21.5	21.2	20.8	20.6	20.3	20.0	20.1	19.9	20.4	21.3	22.2	23.2
Feb	28.1	27.7	27.2	26.8	26.5	26.1	26.0	26.5	26.2	26.9	28.0	29.0	29.7
Mar	33.8	33.3	32.6	32.0	31.8	31.5	31.1	31.9	31.7	32.3	33.2	34.0	34.6
Apr	43.3	43.0	42.7	42.4	42.0	41.6	41.4	42.4	43.4	43.9	44.6	45.4	45.7
May	52.4	51.6	51.2	50.5	49.7	49.2	49.8	51.7	52.9	54.8	56.8	57.3	57.7
June ...	62.8	62.3	61.8	61.6	60.8	60.4	60.8	62.8	63.6	64.9	65.4	66.1	66.2
July	71.8	71.1	70.2	69.9	69.4	69.2	70.5	72.2	73.9	74.9	75.5	76.3	76.5
Aug	68.0	67.1	66.2	65.4	64.9	64.1	64.2	65.7	67.5	69.0	69.7	70.9	71.4
Sept	68.5	67.5	66.6	65.7	64.8	63.7	63.1	64.7	65.9	68.7	70.6	72.2	72.3
Oct.	57.7	57.0	56.3	55.5	54.9	54.1	53.8	54.6	55.7	57.1	58.8	59.5	60.9
Nov	38.4	37.9	37.3	36.8	36.4	35.8	35.4	35.6	35.4	36.0	37.5	39.1	40.2
Dec	24.6	24.5	24.5	24.3	23.8	23.1	22.9	23.4	23.4	23.9	24.6	25.5	26.2
Year	47.6	47.0	46.5	46.0	45.5	44.9	44.9	46.0	46.6	47.7	48.8	49.8	50.4

AVERAGE TEMPERATURE (DEGREES FAHRENHEIT) FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME.

BISMARCK, N. DAK.

[h_t = 16 ft.. local time $1^h\ 42^m$ slow.]

2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Mid.	Mean.	Mean max.	Mean min.	1897.
8.0	9.5	9.9	9.9	9.5	8.2	6.9	5.8	5.1	4.5	4.4	5.2	14.1	—2.5	Jan.
10.0	11.8	13.3	13.9	13.7	12.5	10.3	8.8	7.9	6.6	5.4	6.6	16.9	—3.6	Feb.
16.4	17.8	18.7	18.9	18.7	17.8	16.0	14.0	12.7	12.2	11.5	11.9	21.2	2.4	Mar.
47.7	48.6	49.4	49.5	49.7	49.3	48.0	45.6	43.1	41.2	39.8	41.9	52.4	32.1	Apr.
65.4	67.2	68.4	68.9	68.7	67.7	66.1	62.7	58.5	56.0	54.0	57.4	71.1	43.4	May.
68.6	70.0	71.0	71.8	71.5	70.7	69.7	66.8	63.9	61.6	59.9	62.8	73.6	52.0	June.
78.0	79.4	80.5	80.5	79.4	78.5	76.7	74.5	70.7	68.1	66.1	69.9	82.5	58.2	July.
73.5	75.6	76.9	77.5	77.1	76.5	74.7	71.0	66.1	63.4	61.5	65.7	78.9	53.1	Aug.
76.8	78.9	80.2	80.4	80.0	78.4	74.7	70.3	67.5	64.7	62.5	66.4	82.6	51.6	Sept.
53.9	55.7	56.5	57.0	56.4	53.6	50.4	48.1	46.4	45.2	43.7	46.6	59.7	34.7	Oct.
29.2	31.1	31.9	31.6	29.7	26.4	24.4	22.9	22.5	21.3	20.5	22.3	35.0	11.2	Nov.
18.2	19.9	21.4	21.8	20.3	18.1	16.6	15.1	14.6	14.4	13.4	13.7	23.9	4.0	Dec.
45.5	47.1	48.2	48.5	47.9	46.5	44.5	42.1	39.9	38.3	36.9	39.2	51.0	28.0	Year.

BOSTON, MASS.

[h_t = 115 ft.; local time, 16^m fast.]

33.7	33.4	32.6	31.7	30.9	29.9	29.0	28.2	27.7	26.9	26.7	28.8	36.1	20.8	Jan.
35.6	36.0	35.8	34.8	33.5	32.6	31.9	31.5	30.9	29.8	29.2	30.9	37.6	24.2	Feb.
40.9	40.7	40.9	40.2	39.4	38.4	37.8	37.3	36.5	35.8	35.3	36.6	44.5	29.3	Mar.
54.1	54.3	54.2	53.3	52.7	51.0	49.2	48.2	47.1	46.1	45.4	48.4	58.4	39.7	Apr.
61.2	62.3	61.7	61.6	61.3	60.0	58.1	57.0	56.0	54.7	54.1	57.0	65.6	49.7	May.
66.3	67.1	67.0	66.9	66.0	64.4	61.9	61.0	59.9	59.0	58.5	61.7	70.6	54.0	June.
75.9	74.9	74.9	74.3	74.2	72.6	71.0	70.1	69.4	68.9	68.2	71.0	79.2	64.1	July.
74.8	75.0	74.6	73.5	72.7	70.7	69.1	68.3	67.4	66.7	66.0	69.0	77.3	61.9	Aug.
69.6	69.7	68.6	67.9	66.6	64.6	63.0	62.3	61.4	60.5	59.9	62.7	72.0	54.2	Sept.
60.8	60.7	59.9	58.4	57.3	55.7	54.5	53.8	53.0	52.0	51.0	54.2	63.4	45.5	Oct.
45.0	46.0	45.5	44.8	43.7	42.7	42.1	41.7	40.7	39.7	39.1	41.6	49.6	33.2	Nov.
37.0	37.0	36.6	36.3	35.7	34.9	34.4	34.0	33.6	33.6	33.3	33.8	40.3	27.7	Dec.
54.6	54.8	54.4	53.6	52.8	51.5	50.2	49.4	48.6	47.8	47.2	49.6	57.9	42.0	Year.

BUFFALO, N. Y.

[h_t = 178 ft.; local time, 15^m slow.]

27.4	27.6	27.5	26.9	26.1	25.4	25.5	24.7	24.3	24.1	23.8	25.0	31.4	18.4	Jan.
29.5	29.7	29.4	28.7	28.0	27.7	27.2	27.2	26.6	26.2	25.5	27.3	33.0	22.1	Feb.
37.6	37.4	37.3	36.2	35.0	34.5	34.5	33.7	33.1	32.8	32.4	33.9	41.9	27.0	Mar.
47.0	47.8	47.3	46.4	45.5	44.4	44.5	43.4	42.9	42.9	42.6	43.5	52.7	35.8	Apr.
57.0	57.0	56.6	55.9	55.5	54.3	54.3	52.7	52.3	51.5	50.9	53.6	61.0	46.7	May.
65.2	65.0	65.1	64.9	64.4	63.6	63.1	62.1	61.5	60.8	60.2	61.7	67.9	55.4	June.
79.3	79.5	78.6	77.7	76.8	75.4	74.9	73.5	72.4	71.5	70.5	73.7	81.4	66.7	July.
71.8	72.2	72.4	72.3	71.3	70.3	69.7	68.0	66.7	65.5	64.5	67.5	74.1	60.0	Aug.
68.7	68.8	68.7	68.0	66.8	65.3	64.5	63.2	62.4	61.9	61.3	63.6	70.8	55.5	Sept.
59.8	60.5	60.5	59.3	57.6	55.9	55.5	54.1	53.6	53.5	52.8	54.7	63.1	45.8	Oct.
41.8	41.8	41.8	41.3	41.2	40.5	40.9	39.8	39.9	39.6	39.3	40.2	46.1	34.4	Nov.
33.5	33.5	33.2	32.8	32.1	31.8	31.5	30.8	30.1	29.8	29.5	31.0	36.0	24.6	Dec.
51.6	51.7	51.5	50.9	50.0	49.1	48.8	47.8	47.2	46.7	46.1	48.0	55.0	41.0	Year.

CHICAGO, ILL.

[h_t = 241 ft.; local time, 50^m slow.]

23.5	24.0	24.1	24.2	23.8	23.4	23.1	22.6	22.6	22.4	22.0	22.1	28.3	15.4	Jan.
30.3	30.9	31.1	31.2	31.0	30.6	30.2	29.7	29.2	28.7	28.2	28.6	33.5	23.6	Feb.
34.9	35.8	35.9	36.3	36.1	35.8	36.0	35.6	35.1	34.7	34.3	33.9	41.1	28.3	Mar.
46.0	47.1	47.7	48.1	47.7	47.4	46.6	46.1	45.8	44.8	43.7	44.7	52.8	39.2	Apr.
58.4	59.4	59.6	58.8	58.9	57.8	57.1	56.5	55.3	54.3	53.5	54.8	63.3	46.6	May.
66.7	66.5	66.3	66.7	66.8	66.2	65.4	64.5	64.3	63.8	63.9	64.2	72.9	57.4	June.
77.4	77.9	77.7	77.9	77.8	77.0	76.0	75.1	74.2	73.6	73.1	74.1	80.0	68.4	July.
71.8	72.5	72.9	72.6	73.0	72.1	70.7	70.4	69.7	69.0	68.5	69.0	74.9	63.0	Aug.
72.7	72.9	73.4	74.0	74.0	73.1	71.8	71.2	70.8	70.2	69.5	69.5	76.8	62.2	Sept.
61.5	62.1	62.6	62.7	62.1	61.3	60.6	59.9	59.1	58.5	58.0	58.5	65.4	51.4	Oct.
40.9	41.5	43.1	41.8	41.3	40.8	40.5	39.8	39.0	38.6	38.1	38.6	46.1	31.3	Nov.
27.0	27.7	27.7	27.7	27.0	26.7	26.5	25.6	25.3	25.0	24.6	25.2	31.1	19.0	Dec.
50.9	51.5	51.8	51.8	51.6	51.0	50.4	49.8	49.2	48.6	48.1	48.6	55.5	42.2	Year.

AVERAGE TEMPERATURE (DEGREES FAHRENHEIT) FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

CINCINNATI, OHIO.

[λ=39° 6′ N.; φ=84° 30′ W.]

1897.	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.
Jan	27.8	27.5	26.9	26.4	26.0	25.4	25.0	25.2	25.2	25.7	27.1	28.9	29.9
Feb	34.7	34.0	33.6	33.0	32.5	32.1	32.1	32.7	32.8	33.8	35.4	37.1	38.4
Mar	44.0	43.3	42.9	42.4	42.0	41.5	40.9	41.7	42.2	43.3	45.2	47.1	48.2
Apr	50.1	49.3	48.7	48.1	47.8	47.1	47.2	48.2	49.2	51.2	53.0	54.8	56.1
May	55.9	54.8	54.0	53.2	52.7	52.1	52.6	54.3	56.6	59.2	61.4	62.9	63.5
June	67.2	66.1	65.2	64.5	64.0	63.7	64.7	66.3	68.7	71.5	73.3	75.0	76.5
July	74.2	73.1	72.3	71.3	70.4	69.8	70.4	72.1	74.2	76.9	79.1	81.1	82.7
Aug	70.2	68.8	68.1	66.8	66.0	65.0	64.6	66.5	69.0	72.5	75.5	78.1	79.5
Sept	66.4	64.5	63.3	62.0	61.0	59.9	58.9	60.7	64.2	69.2	73.7	77.6	79.6
Oct	59.1	57.8	56.7	55.3	54.3	53.1	52.1	52.9	54.4	58.4	62.5	66.2	68.7
Nov	45.3	45.0	44.5	44.1	43.3	42.7	42.3	42.2	42.2	43.4	45.2	46.5	47.8
Dec	35.4	35.1	34.6	34.4	34.2	34.0	33.5	33.7	33.6	34.3	35.4	37.0	37.9
Year	52.5	51.6	50.9	50.1	49.5	48.9	48.7	49.7	51.0	53.3	55.6	57.7	59.1

CLEVELAND, OHIO.

[λ=41° 30′ N.; φ=81° 42′ W.]

Jan	23.5	23.3	23.2	23.0	22.7	22.6	22.7	22.4	22.5	23.0	23.7	25.1	26.0
Feb	28.4	28.1	28.1	28.1	28.1	27.8	27.8	27.8	28.0	28.8	29.4	30.1	30.7
Mar	36.8	36.5	35.7	35.4	35.1	34.9	34.6	35.1	36.4	37.1	37.2	37.7	37.6
Apr	44.6	44.3	43.9	43.5	43.1	42.6	42.6	43.4	45.5	46.8	48.0	47.3	48.0
May	52.4	52.0	51.3	50.4	49.7	49.1	50.3	51.2	53.7	55.1	56.2	56.4	57.2
June	61.8	61.2	60.4	59.3	58.9	58.4	59.6	61.2	62.7	63.3	64.7	65.3	66.6
July	71.1	70.3	69.3	68.9	68.5	68.3	68.9	70.8	73.5	74.6	76.1	76.5	76.4
Aug	65.4	64.4	63.7	62.5	61.9	61.5	62.2	63.9	68.2	69.2	70.5	71.0	71.7
Sept	61.9	60.9	60.1	59.9	59.1	58.9	58.6	60.0	64.9	67.3	69.3	69.7	69.9
Oct	54.3	53.4	52.9	52.1	51.5	51.1	50.9	51.3	53.2	55.9	58.8	60.8	62.0
Nov	41.2	41.2	41.0	40.7	39.9	39.8	39.4	39.4	39.7	40.3	41.1	42.0	42.6
Dec	30.6	30.6	30.1	29.6	29.8	29.9	30.0	30.0	29.9	30.6	31.7	32.4	33.2
Year	47.7	47.2	46.6	46.1	45.7	45.4	45.6	46.4	48.2	49.3	50.6	51.2	51.8

DETROIT, MICH.

[λ=42° 20′ N.; φ=83° 3′ W.]

Jan	21.9	21.7	21.5	21.3	21.2	20.9	20.7	21.0	20.6	21.8	23.0	24.1	24.8
Feb	26.3	25.9	25.9	25.7	25.5	25.4	25.1	25.0	25.5	26.3	27.3	28.6	29.2
Mar	31.8	31.7	31.3	31.0	30.8	30.6	30.5	31.3	32.3	33.3	34.6	35.6	36.8
Apr	42.3	41.6	41.1	40.3	39.9	39.6	39.7	41.3	42.9	45.0	46.4	47.8	48.5
May	51.1	50.3	49.7	49.3	48.9	48.9	49.8	51.5	53.7	56.0	57.6	58.8	59.8
June	60.2	59.4	58.4	58.0	57.4	57.2	58.5	60.6	63.1	65.2	67.0	68.2	69.1
July	71.3	70.2	69.2	68.7	68.1	67.7	68.8	71.4	73.6	75.5	77.2	78.5	79.4
Aug	64.0	63.3	62.5	61.9	61.1	60.7	61.3	63.6	66.3	68.1	70.0	71.5	72.4
Sept	61.8	61.2	60.3	59.5	59.0	58.6	58.4	60.1	63.2	66.3	69.3	71.3	73.1
Oct	53.1	52.5	51.8	51.5	50.8	50.5	50.1	50.6	52.4	54.8	57.8	59.5	61.3
Nov	37.7	37.4	36.9	36.9	36.5	36.4	36.5	36.6	37.1	38.2	39.3	40.2	40.6
Dec	27.0	27.0	26.6	26.4	26.1	26.2	26.1	26.2	26.5	27.5	28.8	29.5	30.2
Year	45.7	45.2	44.6	44.2	43.8	43.6	43.8	44.9	46.4	48.2	49.9	51.1	52.1

DODGE CITY, KANS.

[λ=37° 45′ N.; φ=100° 0′ W.]

Jan	23.9	23.6	23.3	23.1	23.0	22.6	22.4	22.5	22.4	23.4	25.5	27.8	30.3
Feb	30.9	30.2	29.6	28.6	27.8	27.3	27.0	26.1	25.6	26.4	28.8	31.8	34.9
Mar	37.6	36.4	35.2	34.7	33.8	33.4	32.6	32.1	33.6	37.5	41.9	45.5	48.5
Apr	47.7	47.3	45.9	45.3	44.5	43.6	42.9	43.3	46.3	49.6	53.6	56.9	59.5
May	58.1	57.3	56.8	55.9	55.2	54.5	54.0	55.3	58.1	62.2	65.5	68.1	70.1
June	67 7	66.6	65.5	64.8	64.0	63.6	63.2	65.1	68.0	71.3	74.3	77.4	80.2
July	72.7	71.3	69.9	68.8	67.9	67.0	66.1	68.5	72.6	77.0	80.3	83.5	86.5
Aug	70.1	69.2	68.3	67.0	65.9	65.3	64.6	65.1	68.4	73.2	76.9	80.6	83.1
Sept	67.8	66.8	65.4	64.3	63.2	61.5	60.7	60.0	64.1	70.9	76.1	79.8	82.2
Oct	55.2	53.7	52.4	51.4	50.5	49.6	48.7	47.8	49.2	54.3	59.1	62.8	66.1
Nov	37.0	36 0	34.9	34.1	33.5	32.5	31.1	30.1	29.7	32.8	38.5	43.9	47.9
Dec	25.6	25.0	24.6	23.9	23.5	23.0	22.5	22.4	22.0	23.3	29.0	33.5	36.4
Year	49.5	48.6	47.6	46.8	46.1	45.3	44.6	44.9	46.7	50.2	54.6	57.6	60.5

AVERAGE TEMPERATURE (DEGREES FAHRENHEIT) FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

CINCINNATI, OHIO.

[h_t=152 ft.; local time, 38^m slow.]

2^h	3^h	4^h	5^h	6^h	7^h	8^h	9^h	10^h	11^h	Mid.	Mean.	Mean max.	Mean min.	1897.
31.1	32.0	32.7	32.9	32.6	31.7	31.0	30.0	29.3	28.6	27.8	28.6	36.3	21.7	Jan.
38.8	39.4	40.1	40.4	40.0	39.2	38.6	37.3	36.6	36.0	35.4	36.0	42.8	30.1	Feb.
49.4	50.7	51.4	51.8	51.8	50.8	50.0	48.6	47.5	46.2	45.3	46.2	54.9	37.9	Mar.
57.4	57.9	58.4	58.6	58.3	57.1	56.1	54.7	53.4	52.1	50.9	52.7	60.7	44.2	Apr.
64.8	65.5	65.9	65.7	65.8	64.9	64.0	62.4	60.7	59.1	57.6	59.6	68.8	50.2	May.
77.9	78.8	79.6	80.0	79.7	78.3	77.1	75.0	73.2	71.2	69.8	72.0	81.1	62.5	June.
83.5	84.1	84.7	84.7	84.3	83.0	81.2	80.1	78.6	77.1	75.6	77.7	86.7	69.1	July.
80.3	80.7	81.2	81.6	81.1	79.5	77.8	76.5	74.4	73.0	71.4	73.7	83.4	64.1	Aug.
81.5	82.7	83.2	83.5	82.2	80.3	77.6	75.5	72.6	70.3	67.7	71.6	84.3	58.5	Sept.
70.7	72.2	72.7	72.9	71.9	70.1	67.5	65.9	63.7	62.1	60.0	62.6	73.7	51.4	Oct.
48.8	49.8	50.2	50.3	49.4	48.4	47.4	46.7	46.2	45.4	45.1	45.9	54.1	37.9	Nov.
38.9	39.2	39.3	39.0	38.2	37.8	37.5	36.9	36.4	35.6	35.4	36.1	42.2	30.4	Dec.
60.3	61.1	61.6	61.8	61.3	60.1	58.8	57.5	56.0	54.7	53.5	55.2	64.1	46.5	Year.

CLEVELAND, OHIO.

[h_t=190 ft.; local time, 27^m slow.]

26.7	27.0	27.5	27.1	26.7	26.0	25.4	25.0	24.3	23.9	23.2	24.4	30.6	17.4	Jan.
31.5	31.5	31.6	31.6	31.2	30.9	30.4	30.1	29.7	29.3	28.8	29.5	35.2	24.0	Feb.
38.4	38.8	39.1	39.7	40.2	39.7	39.3	39.1	38.3	37.9	37.8	37.4	46.1	29.8	Mar.
47.6	48.1	48.6	49.2	49.3	48.7	47.9	46.9	46.1	45.5	45.1	46.1	54.8	38.6	Apr.
57.1	57.5	57.0	57.7	58.2	58.0	57.4	56.4	55.6	54.5	53.6	54.5	62.4	47.1	May.
66.9	67.3	68.2	69.3	69.5	69.0	68.1	66.4	65.4	64.2	63.4	64.2	72.1	56.9	June.
76.4	76.9	77.7	78.3	78.4	78.4	77.0	75.5	74.5	73.1	71.9	73.8	80.9	66.7	July.
71.9	71.6	71.8	72.4	72.4	71.3	70.5	68.9	67.9	67.0	66.0	67.8	74.3	59.9	Aug.
70.0	70.4	70.2	71.1	70.5	69.9	68.8	66.7	65.2	63.8	62.8	65.4	74.1	56.2	Sept.
62.4	62.9	62.9	62.7	62.2	61.0	59.5	58.4	57.5	56.1	55.2	57.0	66.3	48.1	Oct.
43.2	43.8	44.0	43.8	43.4	42.9	42.3	41.5	40.9	41.0	40.6	41.5	48.2	34.8	Nov.
33.7	34.0	33.9	33.5	33.2	32.6	32.2	31.5	31.2	30.6	30.5	31.5	36.7	26.4	Dec.
52.2	52.5	52.7	53.0	52.9	52.4	51.6	50.5	49.7	48.9	48.2	49.4	56.8	42.2	Year.

DETROIT, MICH.

[h_t=160 ft.; local time, 32^m slow.]

25.8	26.2	25.9	25.5	24.8	24.2	23.9	23.1	22.6	22.2	21.6	22.9	29.3	16.6	Jan.
29.7	30.1	30.3	30.1	29.6	28.6	28.2	27.5	27.0	26.7	26.5	27.3	32.2	22.7	Feb.
37.6	38.4	38.9	39.1	38.3	36.9	35.8	34.5	34.1	33.4	32.8	34.2	42.0	27.3	Mar.
49.4	50.2	50.4	50.3	49.3	48.0	46.9	45.1	44.3	43.8	43.0	44.9	53.3	37.1	Apr.
60.5	61.2	61.1	60.9	59.6	58.3	56.6	55.2	54.4	53.1	52.0	54.9	63.0	46.6	May.
70.4	71.4	71.7	71.5	70.7	69.0	67.6	65.2	64.0	62.7	61.6	64.5	73.3	55.9	June.
80.0	80.4	80.3	80.4	80.5	79.2	77.3	75.2	74.1	73.0	72.0	74.7	82.9	66.7	July.
73.0	73.4	73.5	74.0	72.7	71.3	69.7	68.0	66.9	65.6	65.0	67.5	75.8	59.8	Aug.
74.0	73.9	73.9	73.3	72.8	70.2	67.9	66.1	64.9	63.6	62.6	66.1	75.7	56.9	Sept.
62.3	63.2	63.2	61.7	60.6	58.5	56.9	55.6	54.7	53.9	53.3	55.8	64.6	47.3	Oct.
41.5	42.0	41.8	41.3	40.5	39.8	39.5	39.0	38.7	38.1	37.7	38.8	45.3	32.2	Nov.
30.3	30.5	30.4	30.1	29.6	28.8	28.8	27.9	27.7	27.1	26.8	28.0	33.0	22.0	Dec.
52.9	53.4	53.4	53.2	52.4	51.1	49.9	48.5	47.8	46.9	46.2	48.3	55.9	40.9	Year.

DODGE CITY, KANS.

[h_t=44 ft.; local time, 1^h 40^m slow.]

32.4	33.8	35.3	36.1	35.9	32.8	29.2	27.9	26.6	25.6	24.5	27.2	37.5	19.0	Jan.
36.8	38.6	40.0	41.0	41.1	39.9	36.3	35.0	33.8	32.7	31.8	32.6	43.4	23.6	Feb.
50.4	52.2	52.9	53.1	53.0	51.7	48.0	44.4	42.5	40.7	39.6	42.1	55.8	29.5	Mar.
61.3	62.8	64.0	64.3	64.3	62.7	60.2	56.0	53.4	51.3	49.5	53.2	66.5	41.2	Apr.
71.7	73.0	74.0	74.0	73.6	72.3	69.4	65.9	62.8	61.2	60.0	63.7	75.9	52.9	May.
82.3	83.7	84.3	84.3	83.5	81.4	78.7	75.4	72.7	70.4	69.3	73.2	86.2	61.7	June.
88.3	89.7	90.4	90.2	90.1	88.8	86.4	82.8	79.2	76.7	75.0	78.7	92.4	65.2	July.
84.7	86.1	87.1	86.0	85.5	84.0	81.3	77.5	74.8	72.7	71.4	75.4	88.5	63.5	Aug.
83.7	84.5	85.2	84.4	83.8	81.8	77.4	73.9	71.5	69.6	68.5	72.8	87.0	59.4	Sept.
68.4	69.8	71.0	71.0	69.9	67.2	62.2	60.1	58.2	56.6	55.7	58.8	73.2	46.4	Oct.
50.5	53.1	54.4	55.1	53.4	48.6	43.6	42.3	40.2	38.7	38.0	40.8	58.1	28.0	Nov.
38.5	39.5	40.2	40.4	39.5	35.4	31.3	29.4	28.2	26.9	26.5	29.6	42.7	18.7	Dec.
62.4	63.9	64.9	65.0	64.5	62.2	58.7	55.9	53.7	51.9	50.8	54.0	67.3	42.4	Year.

AVERAGE TEMPERATURE (DEGREES FAHRENHEIT) FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

EASTPORT, ME.

[λ=44° 54′ N.; φ=66° 59′ W.]

1897.	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.
Jan	19.8	19.5	19.1	18.8	18.8	18.9	18.8	18.7	19.3	20.1	21.1	22.1	23.2
Feb	22.8	22.2	21.9	21.4	21.2	20.9	20.7	20.8	21.7	22.7	24.1	25.3	26.4
Mar	27.4	27.1	26.8	26.4	25.7	25.4	25.2	25.9	27.0	28.0	29.0	30.0	30.8
Apr	35.7	35.1	34.8	34.6	34.2	34.5	35.5	37.0	38.4	39.5	40.9	41.6	42.4
May	44.0	43.8	43.2	42.8	42.7	43.0	43.5	44.8	46.1	47.0	48.3	48.9	49.7
June ...	48.4	48.3	47.6	47.4	47.8	48.9	50.3	52.3	53.9	55.2	56.2	56.9	57.0
July	54.4	54.1	53.8	53.9	54.3	55.4	56.5	57.8	60.0	60.8	61.7	62.4	62.7
Aug	55.6	55.5	54.8	54.6	54.8	55.3	56.7	58.9	60.9	62.4	63.9	64.7	64.7
Sept	52.0	51.5	51.2	50.8	50.6	50.6	51.7	53.1	55.7	57.5	58.4	59.4	60.0
Oct.	45.3	44.8	44.4	44.0	43.7	43.5	43.8	45.1	47.3	49.0	51.1	52.3	53.1
Nov	35.5	35.3	35.0	34.7	34.5	34.4	34.4	34.5	35.1	36.0	36.5	37.4	37.8
Dec	25.8	25.8	25.8	25.9	25.6	25.5	25.2	25.2	25.7	26.5	27.7	28.7	29.3
Year....	38.9	38.6	38.2	37.9	37.8	38.0	38.5	39.5	40.9	42.1	43.2	44.1	44.8

GALVESTON, TEX.

[λ=29° 18′ N.; φ=94° 50′ W.]

Jan	51.2	50.7	50.5	49.9	49.3	48.7	48.3	47.9	47.8	48.1	48.7	50.1	51.3
Feb	55.6	55.5	55.0	54.6	54.1	53.9	53.4	53.6	53.4	54.8	55.9	57.4	58.4
Mar	65.6	65.5	65.5	64.9	64.6	64.6	64.4	64.3	64.1	65.0	66.1	67.4	68.3
Apr	68.1	67.9	67.5	67.2	66.9	66.7	66.0	66.4	66.8	67.9	69.2	70.5	71.7
May	73.3	72.9	72.6	72.5	72.1	71.6	71.4	72.3	72.7	73.9	75.0	75.9	76.5
June ...	79.5	79.4	79.2	79.0	78.7	78.4	78.2	79.4	80.0	81.1	82.1	83.1	83.9
July	82.2	82.0	81.8	81.5	81.2	80.8	80.7	82.0	82.3	83.7	85.1	86.1	86.6
Aug	81.1	80.8	80.7	80.4	80.3	80.1	79.8	80.3	80.5	81.7	83.1	83.7	84.6
Sept	78.5	78.1	77.6	77.2	76.6	76.3	75.9	76.1	76.3	77.1	78.6	79.7	80.9
Oct.	74.8	74.6	74.5	74.1	73.9	73.4	73.2	72.8	73.5	74.6	76.2	77.4	78.1
Nov	64.6	64.4	64.2	63.9	63.2	63.0	62.5	62.2	62.3	63.0	64.4	65.3	66.1
Dec	54.6	54.2	53.9	53.7	53.5	53.0	52.7	52.2	52.0	52.2	53.4	54.5	55.6
Year....	69.1	68.8	68.6	68.2	67.9	67.5	67.2	67.5	67.6	68.6	69.8	70.9	71.8

HAVRE, MONT.

[λ=48° 34′ N.; φ=109° 40′ W.]

Jan	11.5	11.6	11.3	11.0	10.6	10.6	10.1	10.5	8.5	8.0	8.0	10.6	13.7
Feb	9.9	8.7	7.4	7.0	8.1	7.5	6.8	6.5	6.2	5.9	6.8	8.7	11.2
Mar	8.6	7.5	6.9	6.2	5.5	5.5	4.4	3.9	3.3	3.8	6.2	8.8	11.7
Apr	42.9	41.3	39.7	38.6	37.7	37.3	36.6	36.5	38.5	41.8	45.5	48.1	50.5
May	56.7	55.3	53.2	51.6	50.3	48.4	47.3	48.6	53.3	57.3	62.2	65.3	68.0
June ...	56.8	55.8	54.6	54.1	52.8	51.9	51.1	52.9	55.5	58.1	60.6	63.2	65.8
July	61.3	60.1	58.7	57.4	56.3	54.7	53.8	55.4	58.7	61.8	65.3	68.3	71.2
Aug	64.0	61.8	59.6	58.3	56.5	54.9	53.8	54.0	56.7	61.9	67.3	71.5	75.5
Sept	54.5	53.0	51.9	51.0	49.5	48.4	46.5	45.7	45.4	49.9	56.2	60.8	64.2
Oct.	41.9	40.0	39.2	39.1	37.7	36.8	36.1	35.9	34.3	35.5	40.1	45.0	49.0
Nov	17.4	17.0	17.1	16.4	16.5	15.9	15.7	15.5	15.2	14.3	15.0	16.8	18.7
Dec	16.7	16.8	17.1	17.3	17.9	17.6	16.9	16.7	16.0	15.7	16.1	17.3	18.8
Year....	36.8	35.7	34.7	34.0	33.3	32.5	31.6	31.8	32.6	34.5	37.4	40.4	43.2

KANSAS CITY, MO.

[λ=39° 5′ N.; φ=94° 37′ W.]

Jan	26.4	25.6	25.1	24.8	24.1	23.5	23.0	22.9	22.7	23.5	25.2	27.0	28.4
Feb	31.8	31.2	30.9	30.5	29.9	29.7	29.4	29.9	29.8	30.4	31.5	32.6	33.6
Mar	39.1	38.3	37.3	36.8	36.5	36.2	35.9	35.9	36.3	38.0	40.1	42.2	44.2
Apr	51.7	50.7	50.2	49.3	48.7	48.1	47.7	47.5	48.9	51.0	53.9	55.7	57.4
May	61.2	60.0	59.0	57.8	56.9	55.9	55.8	56.4	58.9	61.6	64.4	67.2	69.0
June ...	71.1	70.2	69.3	68.8	68.1	67.6	67.5	68.3	70.4	72.3	74.3	76.5	78.5
July	76.0	74.9	74.1	73.6	72.7	72.0	71.8	72.9	75.8	78.6	81.0	83.4	85.4
Aug	70.9	69.9	69.1	67.9	67.5	66.8	66.2	66.8	69.2	71.8	75.1	77.8	79.7
Sept	73.0	71.8	70.7	69.7	68.8	67.9	66.9	66.6	69.5	73.5	77.3	80.7	82.8
Oct.	61.4	60.2	59.2	58.1	57.1	55.5	54.5	54.2	55.9	59.2	63.3	67.1	69.5
Nov	41.1	40.4	39.6	38.3	37.6	37.2	36.5	36.3	36.5	38.5	41.2	43.9	46.4
Dec	26.0	25.7	25.8	25.4	25.2	25.1	24.8	25.2	25.0	25.5	26.7	28.2	29.5
Year....	52.5	51.6	50.9	50.1	49.4	48.8	48.3	48.6	49.9	52.0	54.5	56.9	58.7

AVERAGE TEMPERATURE (DEGREES FAHRENHEIT) FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

EASTPORT, ME.

[h_t=69 ft.; local time, 32m fast.]

2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Mid.	Mean.	Mean max.	Mean min.	1897.
23.6	23.9	24.1	23.5	23.1	22.7	22.6	22.2	21.6	21.2	20.8	21.1	28.2	14.3	Jan.
27.2	28.0	28.1	27.4	26.7	25.8	25.1	24.3	23.5	22.9	22.6	23.9	30.1	16.6	Feb.
31.6	32.0	32.1	31.6	31.3	30.6	30.2	29.7	29.4	28.9	28.5	28.8	35.4	22.5	Mar.
42.7	42.5	42.4	41.7	40.6	39.3	38.6	37.8	37.5	36.8	36.3	38.3	44.9	32.3	Apr.
49.6	49.6	49.2	48.5	47.9	46.8	46.2	45.5	44.9	44.9	44.5	46.1	52.5	40.7	May.
56.8	57.3	57.1	56.1	54.8	53.0	52.1	50.9	50.2	49.5	49.1	52.4	60.2	46.1	June.
62.6	62.3	62.2	61.7	61.2	58.9	57.3	56.7	55.9	55.1	54.9	58.2	66.4	51.5	July.
65.4	65.7	65.0	64.2	62.7	60.1	58.7	58.0	57.7	56.9	56.3	59.7	67.9	53.1	Aug.
59.7	60.0	59.3	58.2	56.8	55.7	54.7	54.1	53.6	53.0	52.5	55.0	62.3	48.2	Sept.
53.2	53.0	52.0	50.4	49.2	48.1	47.3	46.6	46.1	45.7	45.4	47.7	55.8	40.9	Oct.
38.0	37.8	37.5	37.1	36.7	36.3	36.1	35.6	35.3	35.3	35.1	35.9	42.3	30.0	Nov.
29.6	29.6	29.5	29.0	28.4	28.2	28.0	27.5	27.4	27.0	26.7	27.2	33.4	20.8	Dec.
45.0	45.1	44.9	44.1	43.3	42.1	41.4	40.7	40.3	39.8	39.4	41.2	48.3	34.8	Year.

GALVESTON, TEX.

[h_t=85 ft.; local time, 1h 19m slow.]

52.2	53.0	53.4	53.4	53.0	52.3	52.0	51.8	51.3	50.9	50.7	50.7	56.5	45.3	Jan.
59.2	59.4	59.6	59.8	59.5	58.5	57.9	57.4	57.2	56.7	56.6	56.5	61.5	51.9	Feb.
68.7	69.2	69.1	68.8	68.3	67.6	66.9	66.6	66.4	66.1	65.9	66.4	71.0	62.0	Mar.
72.5	72.8	72.3	71.9	71.4	70.8	70.0	69.3	68.9	68.6	68.2	69.2	74.1	64.8	Apr.
77.2	77.9	78.2	78.2	77.7	76.6	75.7	75.2	74.3	74.0	73.8	74.6	79.1	70.6	May.
84.5	85.0	84.9	84.4	83.7	82.9	81.9	81.3	80.6	80.0	79.7	81.3	85.7	77.7	June.
87.2	87.2	87.3	87.2	86.3	85.4	84.3	83.3	82.8	82.6	82.5	83.8	88.4	80.1	July.
85.0	84.7	84.8	84.8	84.2	83.2	82.7	82.1	81.6	81.4	81.3	82.2	86.8	78.7	Aug.
81.6	82.5	82.8	82.8	82.0	81.6	80.6	80.0	79.6	79.2	78.8	79.2	84.0	74.2	Sept.
78.7	78.7	78.8	78.4	77.8	77.0	76.3	76.1	75.9	75.2	74.6	75.8	80.3	71.5	Oct.
66.9	67.5	67.6	67.8	67.2	66.4	65.9	65.6	65.4	65.0	64.7	65.0	70.2	60.1	Nov.
56.3	56.9	57.3	57.2	57.0	56.2	55.9	55.5	55.1	55.0	54.6	54.7	60.9	49.8	Dec.
72.5	72.9	73.0	72.9	72.3	71.5	70.8	70.4	69.9	69.6	69.3	70.0	74.9	65.6	Year.

HAVRE, MONT.

[h_t=46 ft.; local time, 2h 19m slow.]

16.0	18.0	18.8	19.3	18.9	17.2	15.3	13.8	13.3	12.9	12.4	13.0	23.4	3.3	Jan.
12.9	14.6	16.5	17.1	17.0	16.1	16.4	14.8	13.4	11.7	10.5	10.9	22.5	—0.2	Feb.
13.4	16.0	17.4	18.5	19.4	18.8	17.3	15.2	13.1	11.7	11.0	10.6	21.7	0.1	Mar.
52.5	54.4	55.7	56.5	56.7	56.6	55.6	53.2	49.5	46.8	45.4	46.6	58.9	34.2	Apr.
69.7	71.3	72.5	73.0	72.6	71.8	71.3	69.2	64.9	61.5	58.6	61.4	75.6	45.6	May.
67.1	69.0	70.1	71.2	71.2	70.7	69.4	68.3	64.9	61.7	59.2	61.5	72.9	49.8	June.
72.9	74.5	75.6	76.2	76.9	76.9	76.1	74.4	70.8	66.5	63.7	66.1	78.9	52.5	July.
78.0	80.3	81.5	82.4	82.4	82.4	81.2	78.2	73.3	69.4	66.0	68.8	84.4	52.2	Aug.
67.4	70.3	72.5	73.5	74.3	73.5	71.4	66.5	63.0	59.4	56.7	59.4	75.5	43.3	Sept.
52.2	55.4	57.3	58.5	58.7	57.0	52.7	48.8	46.5	44.6	43.1	45.2	60.1	31.8	Oct.
19.8	20.4	20.7	21.8	21.4	20.4	19.4	18.5	17.9	17.4	16.6	17.7	26.9	9.5	Nov.
20.5	21.1	21.5	22.5	22.9	21.6	20.2	19.8	18.8	18.5	17.8	18.6	28.3	8.6	Dec.
45.2	47.1	48.3	49.2	49.4	48.6	47.2	45.1	42.4	40.2	38.4	40.0	52.4	27.6	Year.

KANSAS CITY, MO.

[h_t=78 ft.; local time, 1h 18m slow.]

29.7	30.9	31.6	31.6	30.4	29.6	29.5	28.1	27.3	26.6	26.2	26.8	34.6	20.1	Jan.
34.7	35.4	36.2	36.4	36.4	35.8	34.9	34.1	33.4	32.8	32.4	32.6	38.9	26.9	Feb.
46.0	47.8	48.8	49.5	49.0	47.9	46.7	44.5	43.2	42.0	41.0	41.8	51.5	32.8	Mar.
58.7	60.4	61.4	61.6	61.3	60.6	58.7	57.1	55.7	54.0	52.8	54.3	63.6	45.8	Apr.
70.8	72.0	72.7	73.2	72.9	71.6	69.9	67.9	66.2	64.6	62.9	64.5	74.5	54.5	May.
80.6	81.9	82.6	83.5	82.9	81.3	78.8	76.6	74.8	73.6	72.3	74.7	84.5	65.7	June.
86.9	87.7	88.4	88.6	87.8	86.5	84.9	82.5	80.4	78.7	77.4	80.1	90.1	70.8	July.
81.6	82.6	83.3	83.2	81.9	80.8	78.8	76.5	74.3	72.8	71.5	74.4	84.8	65.1	Aug.
84.7	86.1	86.7	87.2	86.9	85.3	82.5	79.9	77.7	75.8	74.5	76.9	88.4	65.1	Sept.
71.7	73.0	73.8	73.5	72.2	69.9	67.5	65.4	63.8	62.6	61.3	63.8	75.2	52.5	Oct.
48.5	50.3	50.8	51.0	50.1	48.5	46.7	45.2	44.0	42.8	41.8	43.1	53.9	33.9	Nov.
30.8	32.1	33.1	33.0	32.3	31.1	29.2	28.1	27.5	26.7	26.1	27.8	34.8	21.2	Dec.
60.4	61.7	62.4	62.7	62.0	60.7	59.0	57.2	55.7	54.4	53.4	55.1	64.6	46.2	Year.

AVERAGE TEMPERATURE (DEGREES FAHRENHEIT) FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

KEY WEST, FLA.

[λ=24° 34′ N.; φ=81° 49′ W.]

1897.	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.
Jan	66.6	66.5	66.5	66.2	66.1	66.0	65.8	65.9	66.6	67.2	68.1	68.6	68.8
Feb	70.3	70.2	70.2	70.3	70.3	70.4	70.6	71.1	72.8	73.9	74.5	75.1	75.3
Mar	73.8	73.5	73.3	73.2	73.3	73.1	73.9	74.8	76.5	77.5	78.7	78.9	79.5
Apr	73.3	73.3	73.1	72.9	72.9	73.0	74.0	74.5	76.0	76.6	77.6	78.2	78.1
May	76.0	75.9	75.7	75.5	75.3	75.5	76.7	77.4	78.4	79.1	80.0	80.3	80.7
June ...	80.0	79.7	79.6	79.7	79.5	79.8	81.2	82.3	83.2	84.0	84.4	84.8	84.4
July	80.9	80.8	80.9	80.5	80.5	80.5	81.3	82.7	83.6	84.0	84.8	84.9	85.0
Aug	81.7	81.5	81.3	81.3	81.1	81.4	82.4	83.9	85.5	86.5	87.2	87.5	87.7
Sept	79.5	79.3	79.1	79.1	79.2	79.1	79.8	80.8	81.6	82.1	82.6	82.5	82.4
Oct	77.3	77.1	77.1	77.0	76.8	76.7	77.1	78.1	79.2	79.8	80.7	80.8	80.9
Nov	74.2	74.1	74.0	73.7	73.8	73.8	74.0	74.5	75.7	76.3	77.0	77.4	77.5
Dec	71.2	71.0	71.0	71.0	70.8	71.0	70.6	71.0	72.2	73.0	73.5	73.8	74.5
Year	75.4	75.2	75.2	75.0	75.0	75.0	75.6	76.4	77.6	78.3	79.1	79.4	79.6

MARQUETTE, MICH.

[λ=46° 34′ N.; φ=87° 24′ W.]

Jan	17.1	17.3	17.3	17.3	17.1	16.8	16.6	16.9	16.8	17.4	19.0	20.2	21.2
Feb	19.7	19.1	18.5	18.2	17.9	17.6	17.7	17.5	17.8	18.8	20.2	21.8	23.0
Mar	21.6	21.4	21.1	20.8	20.4	20.2	20.4	21.1	22.1	23.6	25.4	26.8	27.9
Apr	35.0	34.7	34.8	34.5	33.8	33.7	34.4	36.4	37.7	39.3	40.6	41.4	41.8
May	45.5	45.2	44.9	44.3	43.7	43.5	44.6	46.6	47.8	48.6	49.5	49.2	50.2
June ...	51.2	50.9	50.9	50.7	49.7	49.8	52.0	53.8	54.5	55.6	57.1	57.3	56.4
July	65.8	65.4	64.9	64.4	63.8	63.6	65.4	67.6	69.9	71.0	73.4	74.0	72.4
Aug	58.8	58.6	58.3	58.3	57.8	57.5	58.6	60.8	63.0	65.1	66.3	66.6	67.2
Sept	58.8	58.5	58.5	58.3	57.7	57.3	57.3	58.2	59.9	62.3	65.0	67.1	68.7
Oct	47.9	47.4	46.9	46.6	46.3	46.3	45.9	46.1	46.9	48.6	50.7	52.2	53.4
Nov	29.9	29.6	29.4	29.3	29.0	28.6	28.6	28.7	29.2	29.9	30.8	31.6	31.9
Dec	20.2	20.1	19.9	19.6	19.5	19.2	19.5	19.2	19.0	19.6	20.6	21.6	22.5
Year	39.3	39.0	38.8	38.5	38.1	37.8	38.4	39.4	40.4	41.6	43.2	44.2	44.7

MEMPHIS, TENN.

[λ=35° 9′ N.; φ=90° 3′ W.]

Jan	40.0	39.4	38.8	38.0	37.3	36.2	34.3	35.7	35.7	36.1	37.2	38.8	40.4
Feb	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mar	54.5	53.5	52.9	52.4	51.7	51.2	50.3	50.3	50.5	51.5	52.1	54.8	56.6
Apr	58.9	58.1	57.4	56.8	56.2	55.8	54.9	56.4	57.4	58.8	60.6	62.8	64.4
May	65.5	64.9	63.6	62.6	61.8	60.5	59.6	62.2	64.0	66.5	68.7	70.9	72.4
June ...	74.2	73.4	72.3	71.2	70.5	69.8	70.0	72.9	74.9	77.2	79.5	81.7	83.2
July	78.9	77.6	76.5	75.7	75.2	74.5	74.6	76.3	78.4	80.3	82.6	84.7	86.4
Aug	76.5	75.9	74.9	73.7	72.8	72.3	71.9	72.8	75.1	77.6	80.0	82.7	84.8
Sept	74.5	73.6	72.5	71.4	70.3	69.6	68.5	68.8	71.4	74.5	78.7	81.3	83.5
Oct	67.1	65.8	64.3	63.3	62.1	61.3	60.5	60.5	61.9	65.2	70.2	73.4	76.0
Nov	51.2	50.1	49.7	49.0	48.0	47.3	47.0	46.7	46.9	49.0	51.3	53.7	55.5
Dec	40.3	39.7	39.3	39.2	39.3	38.6	37.8	37.8	37.5	38.5	39.5	41.2	42.4
Year	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NEW ORLEANS, LA.

[λ=29° 58′ N.; φ=90° 4′ W.]

Jan	49.8	49.3	49.1	48.9	48.4	48.0	47.4	47.1	47.3	48.4	49.8	50.8	51.8
Feb	55.8	55.1	54.8	54.5	54.0	53.8	53.5	53.1	53.3	54.4	56.4	58.8	60.5
Mar	65.6	65.5	65.0	64.8	64.7	64.6	64.5	65.0	66.0	67.5	69.5	71.3	73.1
Apr	64.9	64.4	63.9	63.4	63.2	62.9	62.8	63.7	65.9	67.7	69.5	70.9	71.6
May	69.5	68.7	68.3	67.6	67.5	67.1	66.9	68.9	71.3	73.8	75.7	77.3	79.0
June ...	77.8	77.2	76.6	76.0	75.6	75.3	75.2	78.5	81.0	83.0	84.4	85.5	86.3
July	79.6	79.1	78.7	78.5	78.2	77.6	77.9	80.3	82.7	84.5	85.9	86.5	88.6
Aug	77.6	77.4	77.1	76.9	76.7	76.7	76.6	77.8	80.2	82.0	84.1	84.1	86.3
Sept	75.2	74.9	74.7	74.3	74.0	73.3	73.2	73.8	76.4	78.6	81.1	82.4	83.3
Oct	69.8	69.5	69.4	69.0	68.5	68.2	67.9	68.8	71.3	73.9	76.5	77.9	79.2
Nov	60.3	59.9	59.3	58.8	58.4	57.7	57.3	57.8	58.8	61.8	65.1	67.6	69.0
Dec	54.6	54.4	54.2	53.9	53.7	53.6	53.4	53.4	54.3	55.8	58.1	59.9	61.2
Year	66.7	66.3	65.9	65.6	65.2	64.9	64.7	65.7	67.4	69.3	71.3	72.8	74.2

AVERAGE TEMPERATURE (DEGREES FAHRENHEIT) FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

KEY WEST, FLA.

[h_t=43 ft.; local time, 27^m slow.]

2^h	3^h	4^h	5^h	6^h	7^h	8^h	9^h	10^h	11^h	Mid.	Mean.	Mean max.	Mean min.	1897.
68.9	69.0	68.8	68.5	67.8	67.5	67.2	67.0	67.0	66.9	66.9	67.3	71.5	63.7	Jan.
75.2	75.4	75.1	74.6	73.6	72.7	72.1	71.8	71.1	70.7	70.4	72.4	77.1	68.3	Feb.
79.5	79.0	78.5	77.7	76.5	75.5	75.2	74.8	74.8	74.4	74.3	75.8	80.6	72.4	Mar.
78.4	78.0	78.1	77.5	76.1	74.9	74.7	74.4	74.1	73.8	73.4	75.3	79.8	71.2	Apr.
80.7	80.8	80.4	80.0	78.9	77.5	77.4	76.9	76.7	76.5	76.3	77.9	81.8	73.9	May.
84.2	84.2	83.8	83.8	83.1	82.6	82.0	81.3	81.1	80.8	80.4	82.1	85.9	78.6	June.
85.2	85.2	85.1	85.0	84.1	83.6	83.0	82.2	81.6	81.1	81.0	82.8	86.8	78.5	July.
87.2	86.5	86.5	86.2	85.1	83.8	83.4	82.8	82.4	82.0	81.9	84.0	88.8	78.7	Aug.
82.7	82.1	82.1	81.7	80.8	80.1	80.2	79.9	79.6	79.4	79.3	80.6	84.7	76.6	Sept.
81.1	80.5	80.5	79.6	79.1	78.3	78.3	78.2	78.0	77.9	77.7	78.7	82.3	74.7	Oct.
77.5	77.6	77.1	76.6	75.8	75.3	75.2	74.7	74.6	74.3	74.1	75.4	78.7	72.6	Nov.
74.6	74.8	74.3	73.5	72.4	72.2	72.3	71.7	71.5	71.4	71.5	72.3	75.8	68.9	Dec.
79.6	79.4	79.2	78.7	77.8	77.0	76.8	76.3	76.0	75.8	75.6	77.0	81.2	73.2	Year.

MARQUETTE, MICH.

[h_t=67 ft.; local time, 49^m slow.]

21.4	21.5	21.4	21.0	20.2	18.7	17.8	17.5	17.1	16.9	16.8	18.4	24.9	11.4	Jan.
23.2	23.6	23.9	23.9	23.4	22.4	21.6	21.0	20.3	19.6	19.3	20.4	26.8	15.0	Feb.
28.8	29.1	29.2	28.6	28.3	27.0	26.0	24.9	24.2	23.6	23.2	24.4	31.3	17.3	Mar.
41.8	42.3	42.2	42.1	41.9	40.6	38.3	37.4	36.4	35.6	35.4	38.0	45.9	29.6	Apr.
50.3	49.4	49.0	49.2	49.2	49.0	48.4	47.2	46.6	46.4	45.8	47.3	55.1	40.0	May.
56.7	56.8	56.4	56.6	55.7	56.1	55.8	54.5	53.3	52.8	52.0	54.0	62.6	46.5	June.
72.0	72.1	71.6	71.5	70.9	71.1	69.7	68.4	67.6	66.4	65.8	68.7	77.3	60.9	July.
66.9	67.0	66.8	65.7	65.1	63.8	62.2	60.3	59.6	59.3	58.8	62.2	70.6	54.6	Aug.
69.5	70.8	69.8	68.8	67.0	64.8	62.9	61.6	61.0	60.6	59.8	62.7	73.0	53.7	Sept.
54.2	54.3	53.9	53.4	52.7	51.0	49.8	48.9	48.4	47.7	47.4	49.5	56.5	43.3	Oct.
32.2	32.4	32.3	31.8	31.1	30.1	29.6	29.4	29.4	29.2	29.2	30.1	34.9	25.2	Nov.
23.0	23.2	23.3	22.7	22.0	21.3	21.0	20.8	20.6	20.2	20.2	20.8	26.1	14.9	Dec.
45.0	45.2	45.0	44.6	44.0	43.0	41.9	41.0	40.4	39.9	39.5	41.4	48.8	34.4	Year.

MEMPHIS, TENN.

[h_t=140 ft.; local time, 1^h 0^m slow.]

41.4	42.4	43.3	43.9	44.2	43.1	42.2	41.6	41.1	40.5	39.8	39.6	47.5	31.4	Jan.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	54.2	38.7	Feb.
57.3	58.4	59.0	59.8	59.9	59.7	59.0	58.1	57.6	57.0	55.5	55.2	63.8	47.1	Mar.
65.8	66.9	67.1	67.6	67.2	66.1	64.7	63.3	61.7	60.4	59.4	61.2	69.4	53.3	Apr.
73.9	75.2	76.1	76.4	76.0	75.1	73.5	71.5	70.0	68.7	67.1	68.6	77.4	58.9	May.
84.5	85.7	85.7	86.7	85.9	84.9	83.9	80.8	79.9	78.0	76.2	78.5	88.0	68.3	June.
87.5	88.1	88.8	88.4	88.1	87.4	85.9	83.6	82.5	81.2	80.0	81.8	90.5	73.7	July.
86.4	87.7	87.9	86.9	86.4	84.9	83.5	81.3	80.0	78.7	77.9	79.7	89.2	70.8	Aug.
85.0	86.2	87.2	87.4	86.9	83.9	82.6	80.6	78.9	77.5	76.1	78.0	88.4	67.6	Sept.
77.3	78.7	79.4	78.8	77.7	75.0	73.7	71.7	70.3	68.7	67.2	69.6	80.2	59.6	Oct.
57.2	58.7	59.7	59.9	58.7	56.9	55.4	54.2	53.2	52.3	51.3	52.6	62.5	43.4	Nov.
43.6	44.7	45.4	45.5	44.9	44.0	43.5	42.6	41.9	41.2	40.6	41.2	48.5	34.4	Dec.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	71.6	53.9	Year.

NEW ORLEANS, LA.

[h_t=112 ft.; local time, 1^h 0^m slow.]

52.7	53.8	54.1	54.2	53.7	53.1	52.3	51.5	50.6	49.9	49.6	50.5	57.9	44.3	Jan.
61.8	62.4	63.1	62.6	62.4	60.8	59.3	58.2	57.5	56.9	56.4	57.5	65.6	50.5	Feb.
73.9	74.5	74.5	74.2	73.3	71.8	70.2	68.8	67.9	67.1	66.5	68.7	76.5	62.3	Mar.
71.7	72.6	72.8	72.9	72.5	71.6	69.3	68.0	67.0	66.2	65.4	67.7	75.3	60.8	Apr.
79.7	79.7	80.8	80.5	79.5	77.9	76.0	74.1	72.6	71.5	70.5	73.5	82.3	66.3	May.
85.7	86.2	84.8	84.9	85.0	84.6	82.7	81.2	80.1	79.3	78.6	81.1	89.3	74.2	June.
87.8	87.6	87.0	87.2	86.6	85.4	84.1	82.7	81.7	80.9	80.3	82.9	90.9	76.4	July.
86.1	86.4	86.5	85.8	85.1	83.9	82.5	80.5	79.6	78.7	78.1	81.1	89.2	75.5	Aug.
84.7	85.2	84.7	84.4	83.1	81.0	79.5	78.1	77.3	76.5	75.8	78.6	86.8	71.8	Sept.
79.2	79.4	79.3	78.7	77.3	75.5	74.2	72.7	71.7	70.9	70.1	73.3	81.5	67.2	Oct.
69.9	69.8	69.7	69.0	67.1	64.9	63.4	62.5	61.6	61.2	60.7	63.0	71.9	55.5	Nov.
62.3	62.6	62.6	62.1	60.7	59.2	58.0	56.4	55.4	54.7	54.4	57.0	64.3	49.8	Dec.
74.6	75.0	75.0	74.7	73.9	72.5	71.0	69.6	68.6	67.8	67.2	69.6	77.6	62.9	Year.

AVERAGE TEMPERATURE (DEGREES FAHRENHEIT) FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

NEW YORK, N. Y.

[λ=40° 43′ N.; φ=74° 0′ W.]

1897.	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.
Jan	27.8	28.0	27.2	27.1	27.1	26.9	26.5	26.5	27.1	28.2	29.9	30.5	31.4
Feb	30.8	30.2	29.9	29.8	29.5	29.0	28.6	29.0	29.8	30.5	32.0	33.3	34.4
Mar	36.8	35.9	35.2	34.7	34.3	34.1	34.2	35.2	35.9	37.2	38.8	40.3	41.9
Apr	45.1	44.3	43.9	42.9	42.4	42.4	43.0	44.1	46.4	48.3	50.8	52.7	53.5
May	55.2	54.9	54.4	54.1	53.4	53.6	54.5	55.8	57.6	59.5	60.8	62.4	63.3
June ...	60.9	60.2	59.7	59.3	59.2	59.5	60.5	62.3	64.3	66.1	68.0	69.1	69.8
July....	69.1	68.7	68.1	67.8	67.4	67.5	68.4	69.9	71.6	73.4	74.3	75.5	75.9
Aug	68.0	67.2	66.8	66.5	65.9	65.8	66.5	68.0	69.5	71.0	72.6	73.7	74.7
Sept....	62.5	62.0	61.4	61.1	60.4	59.7	59.9	61.2	62.6	64.5	66.4	68.0	69.8
Oct.....	53.8	53.2	52.4	52.1	51.5	51.1	51.7	52.3	53.1	54.9	57.0	58.7	59.8
Nov	42.9	42.4	42.0	41.8	41.5	41.7	41.7	41.9	42.5	43.5	45.1	46.3	46.5
Dec	34.2	33.8	33.4	33.1	33.0	32.6	32.6	32.7	33.0	34.0	35.0	36.2	36.9
Year....	48.9	48.4	47.9	47.5	47.1	47.0	47.3	48.2	49.4	50.9	52.6	53.9	54.8

PHILADELPHIA, PA.

[λ=39° 57′ N.; φ=75° 9′ W.]

Jan	29.5	29.7	29.7	29.1	28.3	27.8	27.4	27.8	28.3	29.6	30.9	32.0	33.1
Feb	33.4	33.0	32.5	32.0	31.8	31.8	31.9	32.4	33.4	35.0	36.0	37.4	38.1
Mar	40.1	39.1	38.4	37.9	37.6	37.5	37.7	39.1	40.3	41.8	43.5	45.2	47.0
Apr	47.2	46.6	46.2	45.5	45.9	44.8	45.8	48.2	50.3	52.6	55.2	56.8	58.8
May....	57.3	56.5	55.9	55.7	55.2	55.9	57.7	60.0	62.2	64.0	65.6	67.2	68.8
June ...	63.6	63.0	62.1	61.6	61.1	61.7	64.0	66.2	67.9	70.0	71.5	73.0	74.7
July....	71.0	70.6	70.2	69.8	69.6	70.0	71.4	73.0	75.2	77.1	78.6	80.2	81.6
Aug	69.9	69.1	68.6	68.0	67.2	67.1	68.7	70.6	72.8	75.2	77.3	78.6	79.8
Sept....	63.8	62.7	62.1	61.4	60.8	60.6	61.9	64.1	66.7	69.3	71.5	73.6	75.3
Oct.....	54.6	53.7	53.1	52.7	52.0	51.6	51.7	53.5	55.4	57.4	59.9	61.8	63.3
Nov	43.8	43.3	42.8	42.4	42.2	42.1	42.1	43.0	44.5	46.1	47.6	49.1	50.2
Dec	36.5	36.1	35.5	34.8	34.4	34.3	34.4	34.6	35.0	36.3	37.9	39.8	41.0
Year....	50.9	50.3	49.8	49.2	48.8	48.6	49.6	51.0	52.7	54.5	56.3	57.9	59.3

PITTSBURG, PA.

[λ=40° 32′ N.; φ=80° 2′ W.]

Jan *a*...	20.4	19.6	19.4	18.8	18.2	18.0	18.3	18.4	18.7	19.8	21.6	22.6	23.8
Feb	32.4	31.8	31.4	31.1	30.8	30.8	31.4	32.0	32.7	33.5	34.9	35.9	37.1
Mar	42.0	40.9	40.2	39.8	39.4	39.5	39.5	40.5	41.8	43.3	45.3	46.6	47.3
Apr	47.4	46.4	45.7	44.8	44.1	44.0	45.0	46.7	49.2	51.0	53.1	54.6	56.1
May	54.7	53.4	52.3	51.7	50.9	50.7	51.7	54.3	56.8	59.6	61.4	63.0	64.3
June ...	63.2	62.2	61.4	60.9	60.2	60.6	62.2	64.7	67.4	69.7	70.6	72.5	73.3
July....	71.6	70.8	70.3	69.5	68.7	68.5	69.9	72.4	75.3	77.4	79.4	80.6	82.0
Aug	66.1	65.2	64.1	63.3	62.7	61.9	62.3	64.3	67.3	71.0	73.7	75.7	77.3
Sept....	61.4	60.2	59.2	58.3	57.4	56.7	56.5	58.5	61.1	65.4	69.9	73.8	75.9
Oct.....	55.1	53.8	52.6	51.7	50.8	50.4	49.7	50.9	53.5	57.4	60.8	64.2	66.7
Nov	43.7	43.2	42.9	42.2	41.9	41.9	42.4	42.4	42.9	44.5	46.1	47.2	47.8
Dec	35.3	35.0	34.6	34.3	34.1	34.1	34.1	34.5	34.7	36.0	37.0	38.0	39.1
Year....	49.4	48.5	47.8	47.2	46.6	46.4	46.9	48.3	50.1	52.4	54.5	56.2	57.6

PORTLAND, OREG.

[λ=45° 32′ N.; φ=122° 43′ W.]

Jan	38.6	38.5	37.7	37.5	36.9	36.9	36.6	36.7	36.6	36.0	36.1	36.3	36.9
Feb	41.9	41.3	40.5	40.1	40.0	39.8	39.8	39.9	39.7	39.6	39.4	40.1	41.0
Mar	40.2	40.0	39.4	38.9	38.5	38.4	38.0	38.0	37.3	37.1	37.5	38.5	39.5
Apr	53.7	52.2	51.0	50.1	48.9	48.0	46.7	46.3	45.1	45.7	47.4	49.5	52.4
May	60.5	58.7	57.0	55.8	54.7	53.7	52.5	52.1	51.9	53.2	55.2	57.2	59.4
June ...	60.2	58.9	57.9	57.0	56.2	55.4	54.3	54.3	54.0	55.7	57.3	58.9	60.5
July....	63.5	62.0	60.6	59.4	58.3	57.2	56.5	55.9	55.9	57.7	59.2	60.7	63.0
Aug	71.2	69.7	68.1	66.6	64.8	63.7	62.1	61.5	60.3	61.0	63.2	65.5	68.1
Sept....	59.1	58.0	56.9	55.8	54.9	54.0	53.3	53.3	52.2	52.4	53.8	55.6	57.1
Oct.....	52.4	51.6	51.0	50.4	49.7	49.2	48.4	48.3	47.6	47.5	47.8	49.8	51.9
Nov	44.6	44.2	43.5	43.2	43.1	42.6	42.2	42.3	42.0	41.8	41.5	42.1	42.7
Dec	42.5	42.3	42.2	41.9	41.8	41.5	41.4	41.6	41.3	41.1	40.9	41.0	42.0
Year....	52.4	51.4	50.5	49.7	49.0	48.4	47.6	47.5	47.0	47.4	48.3	49.6	51.2

a All values, except mean maximum and mean minimum, are for the last 17 days only.

AVERAGE TEMPERATURE (DEGREES FAHRENHEIT) FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

NEW YORK, N. Y.

[h_t=298 ft.; local time, 4^m fast.]

2^h	3^h	4^h	5^h	6^h	7^h	8^h	9^h	10^h	11^h	Mid.	Mean.	Mean max.	Mean min.	1897.
31.9	32.7	32.6	31.4	30.5	29.9	29.4	28.8	28.5	28.2	27.8	29.0	36.1	22.6	Jan.
34.9	35.5	35.5	34.6	34.1	33.3	33.4	32.6	32.2	31.8	31.0	31.9	38.4	26.9	Feb.
43.1	43.2	43.5	42.7	41.8	40.9	40.7	39.5	39.1	38.5	37.8	38.6	46.5	31.9	Mar.
53.8	54.0	54.0	53.2	52.2	50.2	49.7	48.7	48.3	47.4	46.7	48.3	56.6	40.6	Apr.
64.5	64.7	63.8	62.8	61.2	59.5	58.9	57.7	57.3	56.4	55.8	58.4	67.0	51.6	May.
70.2	70.2	70.4	70.0	68.7	67.7	67.0	65.6	64.3	63.4	62.3	64.9	72.6	57.9	June.
76.6	76.1	74.4	74.2	73.6	73.1	72.5	71.4	70.7	70.4	69.6	71.7	79.1	66.4	July.
74.4	75.4	75.0	74.6	73.6	72.2	72.1	70.8	69.9	69.3	68.8	70.5	77.1	64.9	Aug.
71.0	71.5	71.5	71.0	69.1	67.9	67.2	65.8	64.7	63.9	63.1	65.3	73.4	57.5	Sept.
60.7	60.9	60.9	59.8	58.4	57.2	56.8	56.0	55.3	54.6	53.9	55.7	63.5	49.1	Oct.
47.6	46.9	46.4	45.6	44.9	44.5	44.5	43.5	43.2	42.7	42.4	43.8	50.4	37.8	Nov.
37.2	37.8	37.8	37.4	36.8	36.4	36.4	35.7	35.6	35.2	34.8	35.1	41.7	30.0	Dec.
55.5	55.7	55.5	54.8	53.7	52.7	52.4	51.3	50.8	50.2	49.5	51.1	58.5	44.8	Year.

PHILADELPHIA, PA.

[h_t=168 ft.; local time, 0^m.]

33.5	33.6	33.4	33.1	32.4	31.9	31.9	31.1	30.5	29.9	29.4	30.6	37.3	24.2	Jan.
38.6	39.0	39.1	38.5	37.3	36.4	36.2	35.4	34.9	34.2	33.9	35.1	40.8	29.7	Feb.
48.3	49.0	49.3	49.3	48.1	46.4	45.1	44.0	43.0	42.1	41.3	43.0	50.8	35.4	Mar.
60.2	61.1	61.4	61.0	59.0	56.1	54.0	51.7	50.4	49.4	48.6	52.3	62.6	42.7	Apr.
70.2	70.3	70.1	69.4	67.9	65.5	63.7	61.4	60.1	59.1	58.2	62.4	71.8	53.5	May.
75.4	76.0	76.1	75.5	72.9	71.6	70.0	68.1	66.9	66.0	65.0	68.5	77.6	60.2	June.
82.7	82.5	81.8	81.3	79.1	77.4	75.8	74.0	73.0	72.0	71.5	75.4	84.1	68.6	July.
80.7	81.4	81.1	80.5	78.8	76.4	74.6	73.2	71.9	71.1	70.4	73.9	82.5	66.2	Aug.
76.2	76.8	76.8	75.9	73.6	71.4	69.8	67.9	66.4	65.5	64.7	68.3	78.1	58.7	Sept.
64.4	65.0	65.0	63.8	61.9	59.9	58.7	57.4	56.5	55.7	55.2	57.7	66.9	49.6	Oct.
50.7	50.7	50.3	49.3	48.4	47.4	46.7	45.5	45.1	44.3	43.6	45.9	53.1	38.7	Nov.
41.7	42.1	41.8	41.2	40.0	39.0	38.7	38.0	37.6	37.1	36.9	37.7	44.4	31.8	Dec.
60.2	60.6	60.5	59.9	58.3	56.6	55.4	54.0	53.0	52.2	51.6	54.2	62.5	46.6	Year.

PITTSBURG, PA.

[h_t=116 ft.; local time, 20^m slow.]

24.9	26.1	26.5	26.2	25.7	25.2	24.5	23.8	22.6	21.5	19.9	21.9	34.5	20.2	Jan.
37.8	38.4	38.4	38.2	37.5	36.7	36.2	35.2	34.3	34.0	33.4	34.4	41.6	28.4	Feb.
49.1	49.6	49.6	49.7	49.0	48.0	47.0	45.9	45.0	44.1	43.4	44.4	54.0	35.2	Mar.
57.3	57.2	57.3	56.8	56.0	54.5	53.5	52.3	51.3	50.4	49.2	51.0	60.4	41.6	Apr.
64.9	65.0	65.2	65.0	64.3	63.0	61.3	59.4	58.0	56.6	55.0	58.5	67.8	48.2	May.
74.4	75.1	75.8	75.8	75.3	73.5	72.1	69.9	68.1	66.5	65.4	68.4	77.1	58.7	June.
82.7	82.4	82.9	83.0	82.2	79.5	77.4	76.1	75.0	73.3	72.1	76.0	85.3	67.2	July.
77.9	77.7	77.9	78.3	76.8	75.0	73.4	71.6	70.0	68.5	67.2	70.4	80.0	61.0	Aug.
77.2	78.3	78.2	77.7	76.7	73.9	71.3	68.7	65.9	64.2	62.5	67.0	79.8	55.5	Sept.
68.2	68.6	68.7	68.1	66.4	64.7	63.0	61.2	59.5	57.9	56.5	59.2	70.5	47.9	Oct.
48.4	48.8	48.4	47.9	47.0	46.2	45.5	44.9	44.4	43.8	43.0	44.9	52.6	37.2	Nov.
39.6	40.0	39.6	39.2	38.8	38.1	37.6	37.1	36.5	36.2	36.0	36.6	42.9	30.9	Dec.
58.5	58.9	59.0	58.8	58.0	56.5	55.2	53.8	52.6	51.4	50.3	52.7	62.2	44.3	Year.

PORTLAND, OREG.

[h_t=203 ft.; local time, 3^h 11^m slow.]

37.8	39.0	39.9	40.9	41.3	41.2	40.8	40.0	39.4	39.3	38.9	38.3	43.4	34.1	Jan.
42.3	43.2	44.2	44.7	44.9	45.2	44.8	44.4	43.5	42.9	42.6	41.9	47.4	37.2	Feb.
40.9	41.9	42.7	42.8	43.1	43.3	43.2	42.5	41.5	41.1	40.5	40.2	45.7	35.3	Mar.
55.0	56.9	59.0	61.5	62.5	62.6	62.7	61.9	60.0	57.5	55.8	53.8	65.6	44.4	Apr.
61.1	64.1	65.5	67.6	68.8	69.7	69.0	68.9	67.1	64.4	62.5	60.4	71.9	50.9	May.
62.2	63.9	65.1	67.1	67.7	68.0	66.3	66.1	65.1	63.6	62.0	60.7	69.1	53.2	June.
64.9	66.6	68.6	70.7	71.7	72.7	71.7	71.4	70.1	67.7	65.1	63.8	74.1	55.1	July.
70.5	73.6	76.0	78.7	80.5	81.4	81.1	80.3	78.2	75.1	72.7	70.6	82.3	59.9	Aug.
59.2	61.7	64.0	66.1	67.2	67.4	66.0	65.3	63.2	61.7	60.1	59.1	68.7	51.3	Sept.
54.1	56.6	58.6	60.0	60.5	61.0	59.5	57.9	56.6	55.3	53.7	53.3	62.4	46.1	Oct.
43.9	45.3	46.2	46.7	47.2	47.6	46.6	45.8	45.0	44.7	44.5	44.1	49.9	39.5	Nov.
43.0	44.5	44.8	45.0	44.9	44.1	43.4	43.4	43.4	43.3	43.0	42.7	47.8	38.5	Dec.
52.9	54.8	56.2	57.6	58.4	58.7	57.9	57.3	56.1	54.7	53.4	52.4	60.7	45.5	Year.

AVERAGE TEMPERATURE (DEGREES FAHRENHEIT) FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

ST. LOUIS, MO.

[λ=38° 38′ N.; φ=90° 12′ W.]

1897.	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.
Jan	29.8	29.4	28.8	28.5	28.2	27.7	27.6	27.5	27.5	28.1	28.7	29.7	31.1
Feb	34.5	33.8	33.2	32.9	32.4	32.1	32.0	32.1	31.9	33.0	34.3	36.2	37.9
Mar	44.1	43.5	42.6	42.1	41.4	41.0	40.8	41.0	41.5	42.5	44.4	46.4	47.9
Apr	53.4	52.9	52.3	51.5	50.5	49.9	49.6	50.1	51.1	52.4	54.2	56.5	57.7
May	60.7	59.6	58.5	57.7	56.8	55.7	55.5	57.9	59.2	61.5	63.7	66.4	68.2
June ...	71.1	70.3	69.5	68.9	68.1	67.5	67.6	69.5	71.5	73.5	75.8	77.7	79.4
July	76.6	75.9	74.9	74.3	73.5	73.2	73.4	75.4	77.7	79.4	81.1	83.4	85.2
Aug	73.3	72.0	70.8	69.9	68.8	68.0	67.9	69.5	72.0	74.9	77.6	80.0	82.0
Sept	73.5	72.2	70.9	70.0	68.6	67.6	66.6	68.0	69.9	73.2	78.2	81.8	83.8
Oct	62.9	61.4	59.9	58.9	58.1	57.2	56.3	56.9	58.8	62.1	66.2	70.3	73.1
Nov	44.6	44.5	43.8	43.3	42.4	41.8	40.8	40.3	40.5	42.1	43.9	46.2	48.1
Dec	32.3	32.0	31.6	31.1	30.6	30.3	29.7	29.8	29.8	30.5	31.4	32.4	33.6
Year	54.7	54.0	53.1	52.4	51.6	51.0	50.6	51.5	52.6	54.4	56.6	58.9	60.7

ST. PAUL, MINN.

[λ=44° 58′ N.; φ=93° 3′ W.]

Jan	8.8	8.2	7.7	7.4	6.8	6.0	5.6	5.5	5.2	5.7	6.6	8.5	10.7
Feb	18.6	17.7	16.9	16.2	15.6	15.4	15.1	15.5	15.0	15.7	17.3	18.9	20.8
Mar	23.2	22.5	21.9	20.9	20.5	20.1	19.8	19.6	19.8	20.7	22.6	24.4	26.4
Apr	43.4	42.5	41.7	40.8	40.0	39.4	38.7	39.7	41.0	43.2	45.7	47.5	49.0
May	53.1	51.7	50.4	49.4	48.1	47.2	47.1	48.7	51.7	54.6	57.2	59.2	61.5
June ...	60.1	58.9	57.8	56.9	56.2	55.7	56.5	58.1	60.4	62.6	64.7	67.2	69.3
July	70.6	69.6	68.7	68.0	67.2	66.2	66.4	68.2	70.6	72.8	74.9	76.8	78.3
Aug	62.4	61.5	60.5	59.6	59.1	58.6	58.1	59.2	61.8	64.4	67.1	69.1	71.0
Sept	63.1	62.3	61.6	61.1	60.2	59.5	58.6	58.7	60.4	63.5	67.1	70.3	73.2
Oct	50.6	49.9	49.2	48.5	48.1	47.4	46.6	46.6	46.8	48.9	51.4	53.7	56.4
Nov	27.5	26.9	26.2	25.8	25.4	24.9	24.5	24.6	24.4	25.0	26.7	28.9	31.2
Dec	14.3	13.8	13.2	12.8	12.3	12.2	11.6	11.8	11.1	11.1	12.3	13.8	15.6
Year	41.3	40.5	39.6	39.0	38.3	37.7	37.4	38.0	39.0	40.7	42.8	44.9	47.0

SALT LAKE CITY, UTAH.

[λ=40° 46′ N.; φ=111° 54′ W.]

Jan	26.3	26.4	25.7	25.5	25.5	25.6	25.2	25.3	24.8	24.7	25.6	27.2	29.7
Feb	30.9	30.7	30.4	30.0	29.5	29.2	28.9	28.9	27.7	27.1	27.8	29.4	30.9
Mar	32.2	31.9	31.6	31.8	31.3	30.6	30.2	30.4	29.9	29.9	31.6	33.7	36.0
Apr	46.6	45.8	45.3	44.5	43.7	42.9	41.8	41.6	41.4	44.2	47.3	50.7	53.2
May	61.0	59.4	57.3	56.8	55.8	55.4	54.9	55.7	57.8	61.7	64.9	67.1	69.4
June ...	63.9	62.3	60.6	59.6	58.3	57.4	57.0	58.3	59.8	62.9	65.9	69.2	70.9
July	69.4	68.0	66.7	65.7	64.9	64.0	63.7	63.5	65.6	68.9	72.3	75.2	77.6
Aug	72.7	72.2	71.0	69.3	68.8	67.1	66.5	65.9	67.5	70.3	74.4	78.8	82.2
Sept	63.2	61.1	61.1	60.1	59.2	59.0	58.2	57.9	58.4	60.8	65.5	69.3	71.8
Oct	48.7	48.0	47.4	46.5	46.1	45.8	45.4	45.8	44.5	45.4	47.4	50.6	53.6
Nov	40.6	40.0	40.0	39.0	38.5	38.5	38.9	39.3	38.0	37.9	39.1	41.9	44.6
Dec	25.8	25.5	25.4	24.4	24.2	23.9	24.5	24.9	23.8	23.5	24.6	26.9	28.5
Year	48.4	47.6	46.9	46.1	45.5	45.0	44.6	44.8	44.9	46.4	48.9	51.7	54.0

SAN DIEGO, CAL.

[λ=32° 43′ N.; φ=117° 10′ W.]

Jan	52.8	52.5	52.0	51.4	51.2	50.6	50.2	50.6	49.9	50.2	51.9	55.3	58.5
Feb	53.0	52.4	51.4	51.1	50.7	50.2	49.7	49.6	49.1	49.7	52.3	55.8	57.5
Mar	51.9	51.3	50.5	50.2	49.5	49.2	49.1	48.8	48.6	49.5	52.8	55.5	57.3
Apr	56.6	56.0	55.4	55.1	54.9	54.7	54.2	53.8	53.5	56.2	58.8	61.6	63.3
May	59.5	59.3	58.9	58.9	58.8	58.5	58.1	57.9	57.9	58.6	59.6	60.9	61.9
June ...	61.8	61.5	61.0	60.8	60.7	60.4	60.3	60.2	60.0	61.0	62.3	63.7	64.9
July	64.5	64.4	64.1	63.8	63.8	63.8	63.6	63.6	63.8	64.7	66.0	67.7	68.8
Aug	67.2	67.1	67.4	67.1	67.0	66.5	66.6	66.4	66.3	67.1	68.3	70.1	71.3
Sept	66.0	65.4	65.2	64.9	64.8	64.6	64.4	64.4	64.2	65.0	66.5	69.1	70.6
Oct	60.3	59.9	59.5	59.1	58.5	58.1	57.5	57.5	57.1	58.2	60.8	63.9	66.0
Nov	56.8	56.4	55.8	55.5	54.8	54.3	53.8	53.8	53.4	53.7	56.2	60.9	64.2
Dec	51.4	51.1	49.9	49.5	49.0	48.6	47.9	47.7	47.5	47.5	49.2	54.6	58.4
Year	58.5	58.1	57.6	57.3	57.0	56.6	56.3	56.2	55.9	56.8	58.7	61.6	63.6

AVERAGE TEMPERATURE (DEGREES FAHRENHEIT) FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

ST. LOUIS, MO.

[h_t=111 ft.; local time, 1h 1m slow.]

2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Mid.	Mean.	Mean max.	Mean min.	1897.
31.8	32.8	33.4	33.7	33.2	32.5	31.8	31.3	30.7	30.2	29.8	30.2	36.9	24.4	Jan.
39.5	40.7	41.2	41.4	40.4	39.2	38.1	37.3	36.9	36.0	35.4	36.0	43.3	30.2	Feb.
49.3	50.6	51.0	51.6	50.9	49.6	48.6	47.9	47.0	46.5	45.7	45.8	54.6	38.7	Mar.
58.4	59.5	60.4	60.4	60.3	59.3	57.2	56.4	55.5	54.6	53.8	54.9	64.2	47.7	Apr.
69.0	70.1	70.5	70.4	70.5	69.7	68.0	67.0	65.1	63.5	62.4	63.6	72.3	54.7	May.
80.7	82.2	82.6	82.5	81.4	79.9	78.1	77.1	75.5	73.9	72.6	74.9	83.9	66.4	June.
86.2	86.9	87.4	87.7	86.9	85.6	84.0	82.1	80.6	79.2	78.2	80.4	88.9	72.2	July.
83.4	84.3	85.1	85.5	84.2	82.4	80.8	78.9	77.5	75.8	74.4	76.6	86.2	67.4	Aug.
86.0	87.2	88.0	87.7	87.0	84.8	82.5	80.1	78.4	76.5	74.8	77.4	88.9	65.9	Sept.
74.8	76.5	76.7	76.0	74.5	72.4	70.6	68.4	66.6	64.7	63.2	66.1	77.3	55.3	Oct.
49.7	50.7	51.6	51.5	50.4	48.9	47.8	47.1	46.5	45.8	45.3	45.7	54.8	37.4	Nov.
35.0	35.3	35.7	35.5	34.8	34.3	33.9	33.7	33.1	32.6	32.0	32.5	39.1	26.5	Dec.
62.0	63.1	63.6	63.7	62.9	61.6	60.1	58.9	57.8	56.6	55.6	57.0	65.9	48.9	Year.

ST. PAUL, MINN.

[h_t=114 ft.; local time, 1h 12m slow.]

12.0	13.6	14.2	14.5	14.1	13.4	12.9	12.0	10.9	9.9	9.4	9.6	17.7	1.2	Jan.
21.9	22.7	23.6	24.2	23.9	22.8	21.9	21.0	20.4	19.6	18.8	19.1	25.8	11.4	Feb.
27.8	28.9	29.7	30.3	30.3	29.5	28.0	27.1	26.2	25.5	24.8	24.6	31.8	16.7	Mar.
50.4	51.7	52.6	52.7	52.4	51.6	50.3	48.6	47.2	45.6	44.3	45.8	54.8	36.9	Apr.
62.9	64.3	65.4	66.1	66.4	65.5	63.7	61.4	59.4	56.9	54.7	56.9	67.8	45.9	May.
70.6	71.0	71.3	70.6	70.6	70.0	69.3	67.8	65.9	64.2	62.8	64.1	73.6	54.7	June.
79.0	80.0	80.1	80.9	80.9	80.0	78.7	76.3	74.1	72.4	71.4	73.8	82.8	64.9	July.
72.3	73.4	74.3	74.1	73.1	72.0	70.5	68.0	66.2	64.5	63.3	66.0	75.7	56.9	Aug.
74.4	75.7	76.5	77.1	76.0	74.0	71.5	68.9	66.9	65.7	64.7	67.1	78.0	57.2	Sept.
58.2	59.6	60.5	60.2	59.0	56.8	55.3	53.5	52.3	51.3	50.7	52.6	61.4	44.5	Oct.
32.7	34.3	34.9	34.9	34.2	32.6	31.6	30.2	29.3	28.3	27.2	28.8	37.3	21.3	Nov.
17.5	18.8	19.6	19.8	19.1	18.0	17.5	16.7	15.9	15.3	14.6	14.9	22.8	8.1	Dec.
48.3	49.5	50.2	50.4	50.0	48.8	47.6	46.0	44.6	43.3	42.2	43.6	52.5	35.0	Year.

SALT LAKE CITY, UTAH.

[h_t=83 ft.; local time, 2h 27m slow.]

31.9	32.6	34.0	34.7	34.6	33.7	31.7	30.3	29.3	28.1	27.1	28.6	36.5	21.1	Jan.
32.1	33.2	34.0	34.5	34.5	34.6	34.2	33.1	32.2	31.8	31.4	31.1	37.3	24.5	Feb.
36.7	37.4	37.5	38.4	38.7	38.5	37.6	36.4	34.9	33.6	32.7	33.9	41.2	25.9	Mar.
54.3	55.8	56.6	57.0	57.0	57.0	56.0	54.8	52.2	50.0	48.9	49.5	59.6	38.5	Apr.
70.9	70.7	71.0	71.7	71.7	71.5	71.4	70.2	67.2	64.5	62.7	64.2	75.5	51.4	May.
72.6	73.9	74.8	75.3	75.2	75.1	75.1	74.0	70.8	68.1	66.3	67.0	77.7	54.2	June.
78.8	80.5	81.3	81.9	82.3	82.5	81.9	79.9	76.4	72.8	71.1	73.1	84.8	59.0	July.
84.2	85.3	84.7	84.8	85.4	85.4	84.3	82.3	78.9	76.0	74.3	76.3	88.0	62.4	Aug.
73.6	74.5	75.7	76.3	77.0	76.2	74.7	71.6	68.3	66.2	64.6	66.9	78.5	54.0	Sept.
54.7	56.1	57.3	58.1	57.4	57.0	54.8	52.7	51.1	49.9	48.6	50.5	61.0	40.8	Oct.
47.0	48.1	48.8	48.7	48.1	46.5	44.0	43.0	41.9	40.8	41.0	42.3	52.7	33.8	Nov.
30.2	31.8	32.9	33.2	32.7	31.2	29.3	27.8	26.9	26.0	25.4	27.2	35.2	19.5	Dec.
55.6	56.7	57.4	57.9	57.9	57.4	56.2	54.7	52.5	50.6	49.5	50.9	60.7	40.4	Year.

SAN DIEGO, CAL.

[h_t=94 ft.; local time, 2h 49m slow.]

60.1	61.6	62.3	62.3	61.7	60.5	59.1	57.3	55.9	54.7	53.7	55.3	63.3	48.2	Jan.
59.2	60.0	60.2	61.0	60.6	59.6	59.0	57.5	56.3	54.7	53.8	54.8	61.7	47.7	Feb.
58.3	59.2	59.2	59.7	59.5	58.4	57.7	56.0	55.1	53.9	52.9	53.9	60.5	47.8	Mar.
64.1	65.0	65.3	65.4	65.1	64.4	63.4	61.9	59.6	59.0	57.8	59.4	66.8	52.7	Apr.
62.6	63.5	63.6	63.7	63.2	62.8	62.3	61.5	60.7	60.2	60.0	60.5	64.3	57.5	May.
65.3	65.8	66.0	66.5	66.2	65.9	65.4	64.4	63.1	62.4	62.2	63.0	67.1	59.6	June.
69.4	70.0	70.1	70.1	69.9	69.3	68.8	67.8	66.3	65.3	64.8	66.4	71.1	62.9	July.
71.7	72.4	72.9	73.1	72.8	71.7	71.3	69.9	68.7	68.1	67.9	69.1	74.2	65.6	Aug.
71.3	71.7	72.1	71.6	71.8	70.7	69.8	68.2	67.4	66.8	66.4	67.6	73.0	63.2	Sept.
66.8	67.9	67.9	67.6	67.1	66.3	65.1	63.7	62.8	62.1	61.1	62.3	68.7	56.2	Oct.
65.9	66.0	66.2	66.1	65.2	64.0	62.1	60.9	59.7	58.3	57.7	59.2	68.1	52.2	Nov.
61.0	61.7	61.8	61.7	60.8	59.9	58.2	56.5	54.7	53.2	52.1	53.9	63.9	46.0	Dec.
64.6	65.4	65.6	65.7	65.3	64.5	63.5	62.1	60.9	59.9	59.2	60.4	66.9	55.0	Year.

AVERAGE TEMPERATURE (DEGREES FAHRENHEIT) FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

SAN FRANCISCO, CAL.

[λ=37° 48′ N.; φ=122° 26′ W.]

1897.	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.
Jan	47.9	47.4	47.0	46.8	46.6	46.5	45.9	45.7	45.5	45.5	45.2	45.9	46.7
Feb	50.0	49.6	49.4	48.9	48.7	48.5	48.1	47.9	47.7	47.3	47.8	48.4	49.5
Mar	47.5	47.1	46.8	46.7	46.2	45.8	45.5	45.5	45.4	45.3	46.4	47.7	49.5
Apr	54.3	53.6	52.7	52.0	51.7	51.6	51.1	51.2	51.3	52.2	54.3	56.4	58.9
May	54.4	53.9	53.7	53.5	53.2	53.2	53.3	53.2	52.8	54.1	55.4	56.8	59.1
June ...	55.3	54.6	54.3	54.1	53.6	53.6	53.6	53.5	53.9	55.5	57.8	60.1	62.3
July....	54.0	53.7	53.2	53.0	52.6	52.5	52.3	52.5	52.7	53.8	55.4	57.5	59.7
Aug	54.4	54.1	53.9	53.6	53.5	53.5	53.4	53.6	53.6	53.6	54.3	55.5	57.1
Sept....	57.7	57.4	56.7	56.4	56.4	56.0	55.9	55.6	55.3	55.6	57.1	58.7	61.6
Oct.....	56.2	56.1	55.7	55.5	55.3	55.1	54.7	54.6	54.6	54.4	55.4	56.7	58.5
Nov	52.2	51.5	51.0	50.6	50.1	49.8	49.6	49.4	49.3	48.9	49.1	50.2	51.6
Dec	50.1	49.7	49.2	48.6	48.0	47.7	47.3	47.1	46.6	46.1	46.0	46.8	48.5
Year....	52.8	52.4	52.0	51.6	51.3	51.2	50.9	50.8	50.7	51.0	52.0	53.4	55.2

SANTA FE, N. MEX.

[λ=35° 41′ N.; φ=105° 57′ W.]

Jan	24.9	24.7	24.3	23.7	23.0	22.2	21.5	21.6	21.3	22.4	25.2	27.5	29.4
Feb	28.0	27.7	27.2	26.6	26.5	26.0	25.5	25.1	24.5	26.2	29.1	30.8	32.5
Mar	34.1	33.2	32.5	31.3	30.7	29.9	29.3	28.9	30.0	33.0	35.9	37.9	39.6
Apr	43.3	41.9	40.9	40.5	39.4	38.7	37.9	38.1	42.2	44.9	47.9	50.0	52.1
May	53.1	52.3	51.1	50.2	49.3	48.6	48.5	49.3	53.5	55.6	57.9	59.9	61.6
June ...	60.9	59.5	58.2	57.3	56.0	54.8	54.2	55.9	60.4	63.5	65.9	67.7	69.7
July....	62.7	61.3	60.2	59.5	58.5	57.5	57.4	58.4	63.3	65.9	68.1	70.2	72.6
Aug	62.5	61.8	60.3	59.3	58.0	57.4	56.7	57.3	63.0	65.8	68.3	70.7	72.5
Sept....	57.4	56.9	56.3	55.6	55.0	54.4	53.9	53.6	57.0	60.0	62.7	64.9	67.1
Oct.....	46.5	45.6	44.9	44.2	43.2	42.5	42.2	41.9	44.2	47.4	49.6	51.2	53.6
Nov	36.8	36.2	35.3	34.8	33.8	33.0	32.0	32.3	32.6	37.7	42.4	44.4	47.0
Dec	27.2	26.5	26.0	25.0	24.2	23.4	22.5	23.1	22.2	24.0	27.8	29.5	32.0
Year....	44.8	44.0	43.1	42.3	41.5	40.7	40.1	40.5	42.8	45.5	48.4	50.4	52.5

SAVANNAH, GA.

[λ=32° 5′ N.; φ=81° 5′ W.]

Jan	45.1	44.8	44.1	43.5	42.6	42.5	42.2	42.8	44.4	47.8	50.4	52.5	54.2
Feb	52.9	52.4	51.9	51.5	51.0	51.1	51.0	51.6	53.9	56.5	58.7	60.2	62.0
Mar	58.7	58.0	57.8	57.5	57.0	56.9	57.3	59.2	60.9	63.6	65.2	67.0	68.3
Apr	61.7	61.3	60.6	60.1	59.3	58.9	59.5	62.0	64.7	67.2	69.5	71.3	72.4
May	67.3	66.5	65.7	64.9	64.3	63.7	65.1	68.7	71.6	74.6	77.4	79.6	80.2
June ...	75.4	74.8	74.4	73.9	73.5	73.7	75.6	79.6	82.2	85.1	87.3	88.5	89.6
July....	76.7	76.0	75.3	75.0	74.6	74.3	75.7	79.1	82.1	84.5	86.9	87.7	88.2
Aug	75.8	75.3	74.6	74.1	73.8	73.5	74.2	76.9	79.3	82.8	85.2	86.4	87.0
Sept....	70.2	69.6	69.3	68.9	68.4	67.8	68.0	70.5	73.3	75.9	77.7	79.0	79.0
Oct.....	65.1	64.4	63.7	63.3	62.9	62.5	62.4	64.0	66.5	69.3	71.9	73.7	74.5
Nov	57.5	56.8	55.9	55.2	54.3	54.0	53.2	54.5	57.6	61.6	65.0	67.4	68.7
Dec	50.5	49.4	48.9	48.6	48.1	47.5	47.5	47.8	49.5	53.0	55.8	58.3	59.5
Year....	63.1	62.4	61.8	61.4	60.8	60.5	61.0	63.1	65.5	68.5	70.9	72.6	73.6

WASHINGTON, D. C.

[λ=38° 54′ N.; φ=77° 3′ W.]

Jan	29.4	28.3	27.4	26.8	26.5	26.0	25.6	25.9	27.0	28.7	31.3	33.2	34.5
Feb	33.7	33.1	32.6	32.4	32.0	31.9	32.1	33.1	34.0	35.6	37.1	39.0	40.5
Mar	41.9	41.3	40.6	39.6	39.0	38.8	38.9	40.8	42.8	44.9	47.1	48.9	50.5
Apr	46.9	46.0	44.8	44.2	43.3	43.1	45.3	48.2	50.9	53.4	56.2	58.6	60.5
May	57.3	56.5	56.0	55.2	54.4	54.7	56.8	59.6	62.4	64.5	66.5	67.6	68.6
June ...	63.6	63.2	62.4	61.7	61.1	61.6	64.4	67.1	69.6	71.6	73.2	75.0	76.1
July....	71.8	71.1	70.5	69.7	69.4	69.4	71.0	73.5	75.6	77.7	79.7	81.2	83.1
Aug	68.0	67.5	66.7	66.0	65.4	64.9	66.5	70.1	73.2	76.0	77.9	79.3	80.5
Sept....	62.7	62.0	61.0	60.0	59.3	58.4	59.2	62.5	66.7	70.1	72.9	75.0	77.1
Oct.....	53.3	52.6	52.1	52.2	51.7	51.0	51.0	53.1	55.9	58.4	61.1	63.0	64.7
Nov	43.3	42.6	41.9	41.7	41.3	41.1	41.1	42.2	44.3	46.3	48.4	49.7	51.1
Dec	35.7	35.5	34.6	34.2	33.7	33.4	33.5	34.1	35.4	37.1	39.2	40.9	42.3
Year....	50.6	50.0	49.2	48.6	48.1	47.9	48.8	50.8	53.2	55.4	57.6	59.3	60.8

AVERAGE TEMPERATURE (DEGREES FAHRENHEIT) FOR EACH HOUR OF SEVENTY-FIFTH MERIDIAN TIME—Continued.

SAN FRANCISCO, CAL.

[h_t=161 ft.; local time, 3^h 10^m slow.]

2^h	3^h	4^h	5^h	6^h	7^h	8^h	9^h	10^h	11^h	Mid.	Mean.	Mean max.	Mean min.	1897.
48.2	49.1	50.2	51.1	51.8	52.0	51.1	50.1	49.6	49.0	48.5	48.1	53.2	44.0	Jan.
50.6	52.2	53.4	53.9	54.0	53.4	52.9	52.0	51.2	50.8	50.5	50.3	55.3	46.1	Feb.
50.3	51.8	52.0	52.5	52.1	51.3	50.7	49.3	48.9	48.1	47.9	48.3	53.9	43.9	Mar.
60.1	61.4	63.0	63.6	62.9	61.6	60.2	57.9	56.7	55.5	54.9	56.2	65.1	49.7	Apr.
60.4	61.3	61.4	61.4	60.5	59.3	58.3	56.9	55.6	54.9	54.5	56.3	63.6	51.3	May.
63.7	63.0	63.1	62.8	61.9	61.4	60.3	59.1	58.1	56.4	55.8	57.8	65.8	52.0	June.
61.4	62.3	63.1	62.8	62.1	60.9	59.0	58.0	56.5	54.9	54.5	56.6	65.1	51.2	July.
59.1	60.3	61.0	61.3	61.0	59.8	58.4	56.8	55.8	55.2	54.9	56.2	62.8	52.3	Aug.
63.7	65.1	65.6	65.3	64.5	63.5	62.2	60.6	59.2	58.5	58.1	59.4	67.5	54.1	Sept.
60.0	61.6	62.6	62.8	62.3	61.1	59.5	58.3	57.5	56.8	56.7	57.6	64.3	52.6	Oct.
52.8	54.8	55.9	56.7	57.1	56.3	54.4	53.9	53.5	52.9	52.4	52.2	58.5	47.7	Nov.
50.4	51.7	53.4	54.9	55.5	55.0	53.5	52.8	52.1	51.3	50.7	50.1	56.2	45.2	Dec.
56.7	57.9	58.7	59.1	58.8	58.0	56.7	55.5	54.6	53.7	53.3	54.1	60.9	49.2	Year.

SANTA FE, N. MEX.

[h_t=47 ft.; local time, 2^h 4^m slow.]

30.8	32.3	33.6	34.0	33.9	32.2	29.6	27.6	26.7	26.4	25.8	26.9	35.8	19.0	Jan.
34.0	35.6	36.7	37.1	36.6	35.5	34.2	31.7	30.9	29.8	28.9	30.3	39.0	22.4	Feb.
41.2	43.4	44.6	45.4	45.3	44.7	43.4	39.7	37.6	36.1	34.9	36.8	46.9	26.5	Mar.
53.7	54.9	55.9	56.5	55.7	54.8	54.0	50.9	47.7	45.8	44.6	47.2	58.8	35.7	Apr.
63.0	64.5	64.4	64.0	63.7	63.2	62.2	59.1	56.8	55.2	54.4	56.7	67.3	46.5	May.
70.8	71.7	72.4	72.8	72.8	71.6	71.6	69.3	65.7	63.5	62.1	64.5	76.0	52.5	June.
74.2	74.4	74.2	74.2	74.2	73.3	72.6	70.0	67.0	65.0	63.9	66.6	78.4	55.5	July.
74.0	74.6	73.5	73.6	74.1	72.6	71.4	68.2	66.7	65.2	63.9	66.3	77.9	55.2	Aug.
68.5	69.8	69.3	68.7	67.3	65.4	63.9	61.4	60.1	58.9	58.1	61.1	71.5	52.3	Sept.
55.2	56.4	56.6	56.6	55.5	53.3	51.8	48.3	47.6	47.3	46.4	48.8	58.7	39.4	Oct.
48.3	50.0	50.9	51.3	50.1	45.6	42.9	40.0	39.4	38.1	37.5	40.5	53.0	29.7	Nov.
33.8	35.8	36.5	37.2	36.1	32.6	30.8	29.2	28.8	27.6	27.4	28.7	39.2	19.1	Dec.
54.0	55.3	55.7	56.0	55.4	53.7	52.4	49.6	47.9	46.6	45.7	47.9	58.5	37.8	Year.

SAVANNAH, GA.

[h_t=63 ft.; local time, 24^m slow.]

55.2	55.7	55.0	53.7	51.8	50.4	49.4	48.4	47.6	46.5	45.7	48.2	56.8	39.5	Jan.
62.6	63.1	62.3	60.9	59.0	57.1	56.4	55.4	54.8	54.1	53.6	56.0	64.8	48.4	Feb.
68.8	69.4	68.4	67.4	65.7	63.5	62.2	61.1	60.6	60.2	59.6	62.3	71.2	54.5	Mar.
72.3	72.7	72.1	71.0	69.5	67.2	65.0	64.0	63.6	63.1	62.5	65.5	74.7	57.7	Apr.
80.5	80.2	79.9	78.5	76.5	74.3	72.3	71.2	70.4	69.4	68.7	72.1	82.4	63.1	May.
89.8	88.8	87.8	85.7	83.7	81.6	80.1	78.8	77.8	77.2	76.7	80.9	91.9	71.6	June.
88.3	87.5	85.8	84.3	83.3	82.3	80.8	79.5	78.8	78.1	77.5	80.9	90.7	73.2	July.
87.6	87.5	86.0	83.9	81.4	80.0	78.7	77.4	77.2	76.8	76.4	79.7	89.7	72.4	Aug.
79.4	79.6	78.6	77.7	76.2	74.4	73.3	72.5	72.0	71.5	70.7	73.5	81.8	66.5	Sept.
75.5	75.6	75.3	73.7	71.2	69.6	68.9	67.9	67.1	66.5	65.8	68.4	76.9	61.5	Oct.
69.3	68.7	68.5	66.6	64.4	62.8	61.6	60.8	59.7	58.6	57.7	60.9	70.5	51.9	Nov.
60.4	61.0	60.7	58.8	56.6	55.2	54.1	53.2	52.5	51.9	51.2	53.3	62.7	44.7	Dec.
74.1	74.2	73.4	71.8	69.9	68.2	66.9	65.8	65.2	64.5	63.8	66.8	76.2	58.8	Year.

WASHINGTON, D. C.

[h_t=59 ft.; local time, 8^m slow.]

35.9	36.7	36.7	36.1	34.7	33.1	31.9	31.0	30.5	29.8	29.5	30.7	38.9	23.2	Jan.
41.6	41.9	42.0	41.5	40.4	38.9	38.0	37.1	36.3	35.6	34.9	36.5	43.7	29.4	Feb.
52.0	52.7	53.3	53.1	52.2	49.8	48.3	46.7	45.5	44.1	43.1	45.7	55.7	36.2	Mar.
62.1	62.7	62.4	61.5	60.3	57.7	56.1	54.0	52.0	50.3	49.0	52.9	64.2	41.6	Apr.
69.3	69.7	70.0	69.6	67.9	66.0	64.1	62.0	60.6	59.8	58.2	62.4	72.3	52.4	May.
77.4	77.3	76.6	75.6	74.9	73.1	71.1	69.2	67.9	66.4	65.7	69.4	78.9	60.2	June.
83.5	83.6	83.1	82.3	81.7	79.3	77.4	75.9	74.6	73.5	72.6	76.3	85.5	68.3	July.
81.5	81.7	81.9	81.3	79.9	76.3	74.0	71.8	70.3	69.3	68.5	73.3	83.3	63.6	Aug.
78.2	78.8	78.6	77.5	75.0	71.5	68.8	66.7	65.3	63.7	62.7	68.1	79.7	56.8	Sept.
65.8	66.0	65.6	64.3	62.4	59.7	58.2	57.0	55.9	55.1	54.1	57.7	67.5	48.6	Oct.
52.1	52.4	51.8	50.6	49.1	47.7	46.3	45.2	44.4	43.6	43.1	45.9	54.6	37.3	Nov.
43.7	44.1	43.5	42.2	41.1	39.6	39.0	37.9	37.2	36.6	36.1	37.9	45.7	30.5	Dec.
61.9	62.3	62.1	61.3	60.0	57.7	56.1	54.5	53.4	52.3	51.5	54.7	64.2	45.7	Year.

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WIND—VELOCITY AND FREQUENCY

BISMARCK, N. DAK.

[λ=46° 47′ N.; φ=100° 38′ W.] [Seventy-fifth Meridian Time.]

1897.	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h
Jan	10.9	11.5	10.2	9.5	9.6	10.4	9.4	9.7	9.5	9.6	9.9	11.3	12.4	12.2	13.8	13.5	12.5
Feb	7.5	6.7	6.8	6.9	6.8	6.4	6.7	6.7	6.8	6.6	7.3	8.4	9.8	10.8	11.2	11.4	10.8
Mar	7.7	7.9	8.4	8.7	7.8	8.4	8.6	8.5	7.7	8.5	9.2	9.2	10.1	10.2	10.3	10.5	10.8
Apr	8.4	8.3	7.6	7.0	6.7	6.6	7.2	7.5	8.7	10.1	10.9	11.9	13.1	14.2	15.6	15.6	15.9
May	8.3	8.0	7.7	7.7	7.2	6.6	7.4	8.7	10.6	11.6	13.6	14.1	15.4	15.6	15.8	16.0	15.4
June	7.1	6.3	6.6	6.0	6.8	6.5	6.7	7.6	8.6	9.7	10.6	11.9	12.3	12.8	13.5	12.9	12.6
July	7.1	6.0	7.0	6.6	6.3	6.6	6.4	6.0	6.8	7.9	8.4	9.1	10.3	10.8	11.3	11.3	11.1
Aug	6.1	6.3	6.7	5.9	5.5	5.3	5.5	6.2	6.7	7.6	8.6	9.8	10.4	11.2	11.1	11.6	11.1
Sept	7.0	6.9	7.8	6.7	6.4	6.2	6.2	5.8	6.3	8.2	9.9	10.6	12.0	12.9	13.5	14.0	14.0
Oct	7.6	8.9	8.7	7.8	7.5	7.4	7.4	7.2	7.3	8.5	10.0	11.7	13.4	13.7	14.1	14.2	14.3
Nov	5.4	5.3	5.9	5.5	6.0	5.9	6.5	6.7	6.1	6.9	9.0	9.9	11.4	12.7	12.9	12.9	12.3
Dec	7.3	6.3	6.0	6.3	6.6	6.4	6.0	5.5	5.2	5.6	6.6	8.1	9.5	9.8	10.3	10.9	10.5
Year	7.5	7.4	7.4	7.0	6.9	6.9	7.0	7.2	7.5	8.4	9.5	10.5	11.7	12.2	12.8	12.9	12.6

BOSTON, MASS.

[λ=42° 21′ N.; φ=71° 4′ W.]

Jan	12.4	13.0	13.0	12.7	13.1	13.0	12.9	12.4	13.3	13.9	13.8	14.0	13.7	14.0	14.6	13.7	13.7
Feb	11.4	11.7	11.4	11.6	11.4	10.9	11.1	11.4	10.9	12.0	12.4	13.0	13.0	13.6	13.5	13.0	12.8
Mar	11.4	11.3	11.7	11.4	11.3	10.9	11.0	12.1	13.0	13.3	14.4	15.2	15.4	15.7	16.0	15.7	15.0
Apr	11.1	10.7	10.2	10.1	9.6	10.0	10.9	11.1	11.8	12.0	12.7	13.3	13.5	14.1	14.5	14.4	13.9
May	8.9	8.8	8.9	9.3	9.1	8.9	10.2	10.3	11.3	11.8	11.9	12.7	13.2	13.1	12.8	12.7	12.2
June	9.6	8.9	9.2	9.0	9.1	9.2	10.0	9.8	10.5	11.2	12.3	12.7	13.0	13.8	14.4	14.9	14.3
July	8.7	9.2	9.1	9.3	9.4	9.0	9.3	9.8	10.8	11.3	12.5	12.0	12.5	13.3	13.4	12.9	12.0
Aug	8.0	7.7	8.5	8.2	8.1	8.2	8.3	8.9	9.3	10.0	10.7	10.9	11.3	11.8	11.7	11.4	11.1
Sept	9.4	9.2	9.3	9.2	9.1	9.4	9.6	10.2	11.0	11.4	11.0	11.4	11.9	12.6	12.9	12.2	11.4
Oct	10.8	10.5	10.7	11.0	10.5	10.8	11.2	10.6	11.1	11.5	11.9	11.7	12.5	12.0	11.8	11.5	10.7
Nov	12.3	12.0	11.3	11.5	11.4	11.1	11.5	11.7	12.2	13.0	13.0	12.6	13.1	13.4	13.3	12.5	11.8
Dec	10.9	11.1	11.1	11.4	11.3	10.9	11.3	11.0	11.5	12.3	12.8	12.5	12.4	12.6	12.9	12.3	11.8
Year	10.4	10.3	10.4	10.4	10.3	10.2	10.6	10.8	11.4	12.0	12.4	12.7	13.0	13.3	13.5	13.1	12.6

BUFFALO, N. Y.

[λ=42° 53′ N.; φ=78° 53′ W.]

Jan	18.8	18.7	18.1	18.1	18.6	18.4	18.3	18.6	19.4	18.5	18.8	19.8	20.5	19.8	19.1	19.5	20.4
Feb	16.4	16.1	15.0	15.6	16.2	16.5	16.6	17.2	18.8	18.8	18.5	18.1	18.1	18.2	18.3	18.4	17.8
Mar	15.7	16.2	16.6	16.5	16.5	15.6	15.9	15.8	17.0	17.5	18.7	19.7	19.9	20.2	20.7	20.9	20.9
Apr	14.1	14.4	14.1	14.3	14.4	14.0	13.9	14.3	16.1	16.4	16.5	17.1	17.8	17.3	16.0	15.5	15.2
May	12.3	12.2	11.9	11.9	13.0	12.4	11.9	13.5	12.9	12.9	13.9	13.8	14.9	15.2	14.9	15.5	15.8
June	10.3	10.7	10.7	10.2	10.3	9.7	9.6	10.7	11.1	12.2	12.1	12.0	13.1	13.7	13.9	14.3	13.5
July	11.8	11.8	10.5	10.7	10.1	9.9	9.5	10.2	11.3	11.7	12.3	12.3	13.2	13.0	13.2	13.9	13.3
Aug	9.5	9.5	9.5	9.1	9.2	9.3	8.5	9.1	10.5	11.5	11.6	13.0	14.1	14.8	15.3	14.9	13.9
Sept	10.3	10.8	11.0	10.4	9.5	9.0	9.4	9.6	9.8	11.4	11.3	11.2	12.4	13.2	13.4	13.2	12.9
Oct	11.5	12.0	11.6	12.1	12.7	12.8	12.4	12.9	13.0	13.5	13.4	12.7	12.8	13.4	13.6	13.5	13.5
Nov	20.1	20.4	20.5	21.0	20.0	19.9	19.1	18.5	18.7	18.8	18.8	19.5	18.8	18.8	19.1	19.1	17.8
Dec	16.0	16.0	15.2	14.5	15.8	15.8	16.2	16.7	17.3	18.0	18.1	18.2	19.4	19.7	19.5	18.5	19.5
Year	13.9	14.1	13.7	13.7	13.9	13.6	13.4	13.9	14.7	15.1	15.3	15.6	16.2	16.4	16.4	16.4	16.2

CHICAGO, ILL.

[λ=41° 53′ N.; φ=87° 37′ W.]

Jan	18.7	19.4	19.4	18.3	18.5	18.5	17.9	18.1	18.6	18.2	17.5	17.7	18.3	18.3	18.7	19.0	19.9
Feb	15.8	15.0	15.5	15.1	14.1	13.8	13.8	14.8	15.3	16.7	17.0	17.6	18.6	18.5	18.9	18.7	18.4
Mar	19.1	18.8	17.7	18.1	17.5	18.2	18.0	19.0	19.1	18.9	18.8	18.7	20.0	20.6	21.1	22.2	21.5
Apr	18.7	19.1	19.2	18.9	19.4	19.3	20.0	19.8	20.4	21.8	22.2	22.1	23.0	22.0	22.8	21.9	21.8
May	15.4	16.1	16.3	15.7	16.7	16.9	16.7	16.3	17.3	17.5	18.0	18.9	18.8	18.0	18.5	17.1	16.3
June	13.7	15.0	15.5	15.8	14.4	14.5	15.0	14.2	14.8	16.1	15.6	17.0	16.6	15.9	16.1	16.2	15.7
July	13.2	12.6	12.4	11.4	10.7	11.1	11.6	12.4	12.8	12.9	12.6	13.2	14.5	15.3	16.0	16.4	16.1
Aug	13.7	14.1	13.5	13.5	13.5	14.3	15.3	14.9	14.2	15.0	16.0	15.7	16.1	16.1	17.3	18.0	17.2
Sept	17.3	17.7	18.0	18.0	17.0	15.7	15.4	14.5	14.3	13.8	14.4	14.0	15.4	15.7	16.4	16.2	15.8
Oct	18.1	18.4	17.8	17.3	17.6	17.6	17.7	17.7	17.1	16.5	15.4	15.4	16.3	15.6	15.7	16.1	15.9
Nov	20.1	19.4	19.8	19.6	19.1	19.1	19.1	18.9	20.0	19.7	20.2	20.3	20.9	19.1	19.2	19.7	19.7
Dec	19.2	19.0	18.8	18.5	18.3	18.5	19.0	18.5	17.6	18.3	17.5	17.7	17.3	17.3	17.4	17.5	17.1
Year	16.9	17.0	17.0	16.7	16.4	16.5	16.6	16.6	16.8	17.1	17.1	17.4	18.0	17.7	18.2	18.2	18.0

WIND—VELOCITY AND FREQUENCY.

BISMARCK, N. DAK.

[h_a=29 ft.; local time, 1h 42m slow.] [Seventy-fifth Meridian Time.]

6h	7h	8h	9h	10h	11h	Mid.	Mean.	Max. vel.	N.	NE.	E.	SE.	S.	SW.	W.	NW.	Calm.	1897.
11.8	10.5	9.9	9.4	9.5	9.4	10.4	10.7	47	31	37	46	80	24	20	18	403	85	Jan.
10.5	9.4	8.8	7.9	8.1	7.7	7.6	8.2	48	31	129	91	63	20	31	33	184	90	Feb.
10.8	9.9	8.6	7.6	8.0	8.1	7.8	8.9	35	97	96	109	107	26	16	40	194	59	Mar.
15.0	14.5	12.8	10.5	9.5	8.9	8.7	10.6	47	148	42	60	128	47	32	64	169	30	Apr.
14.6	14.8	13.9	10.7	8.7	7.9	8.4	11.2	36	113	61	95	148	102	23	14	183	5	May.
12.4	11.3	10.3	9.5	7.8	7.6	7.0	9.3	41	97	51	94	187	70	40	25	135	21	June.
10.7	10.8	10.7	9.2	7.7	7.9	7.8	8.5	35	97	52	90	165	76	35	38	147	44	July.
10.6	9.9	9.5	8.5	7.8	7.0	6.4	8.1	48	69	91	114	146	79	11	34	173	27	Aug.
13.0	12.1	9.7	7.9	7.6	7.9	7.3	9.2	34	22	36	134	165	65	29	27	210	32	Sept.
12.5	10.5	8.2	7.1	7.4	8.2	7.2	9.6	39	72	31	58	137	66	33	46	280	21	Oct.
10.5	8.5	7.4	7.1	6.5	6.3	5.3	8.0	36	92	56	90	68	43	33	44	253	41	Nov.
8.2	6.6	7.9	7.8	7.9	7.7	7.5	7.5	40	26	63	53	112	52	21	66	305	46	Dec.
11.7	10.7	9.8	8.6	8.0	7.9	7.6	9.2	.....	895	745	1,034	1,506	670	324	449	2,636	501	Year.

BOSTON, MASS.

[h_a=181 ft.; local time, 16m fast.]

12.3	12.6	12.3	13.3	13.2	12.9	12.7	13.2	42	69	13	28	44	64	196	180	150	0	Jan.
11.3	11.4	11.2	11.4	11.9	11.8	11.2	11.9	32	95	38	45	20	25	106	153	190	0	Feb.
13.9	12.4	11.3	11.1	11.3	11.3	11.3	12.8	42	79	45	67	58	45	72	129	249	0	Mar.
12.5	11.3	10.7	11.4	11.6	11.3	10.3	11.8	36	55	66	62	39	70	176	137	115	0	Apr.
11.7	10.7	10.2	10.3	10.2	10.0	9.1	10.8	36	74	91	101	38	109	143	89	98	1	May.
12.8	11.4	11.0	10.2	10.3	9.8	9.1	11.1	30	52	100	132	17	26	139	140	114	0	June.
11.6	11.6	10.7	10.2	10.0	9.3	9.2	10.7	48	22	99	121	20	120	229	101	32	0	July.
10.1	9.4	8.9	8.7	8.8	8.2	8.0	9.4	35	35	43	91	24	64	185	196	106	0	Aug.
10.7	9.9	9.9	9.5	10.2	10.4	9.5	10.5	30	62	77	56	20	48	112	177	168	0	Sept.
10.1	10.1	10.3	9.8	9.8	10.1	10.0	10.9	38	112	129	42	26	58	133	105	139	0	Oct.
11.3	11.9	11.2	11.6	11.6	11.6	11.7	12.0	46	92	37	36	38	59	117	165	176	0	Nov.
11.7	11.6	11.0	11.4	11.0	11.2	10.9	11.6	42	80	34	36	16	63	149	178	188	0	Dec.
11.7	11.2	10.7	10.7	10.8	10.7	10.2	11.4	.....	827	772	817	360	751	1,757	1,750	1,725	1	Year.

BUFFALO, N. Y.

[h_a=206 ft.; local time, 15m slow.]

21.1	21.4	19.8	20.0	19.2	19.2	18.0	19.2	59	23	25	58	54	120	111	288	64	1	Jan.
16.6	17.1	18.2	18.1	18.2	16.5	15.7	17.3	59	23	118	85	38	50	123	170	65	0	Feb.
19.8	19.6	19.9	18.3	16.7	17.3	16.5	18.0	76	51	89	98	33	71	131	198	72	1	Mar.
15.4	15.5	15.3	15.3	15.4	14.0	14.5	15.3	54	42	78	70	22	74	231	160	43	0	Apr.
15.2	14.6	14.5	13.9	14.1	12.7	12.4	13.6	48	57	45	42	49	57	220	236	38	0	May.
13.0	12.4	10.8	10.3	10.1	9.9	9.8	11.4	47	86	64	19	23	68	218	189	51	2	June.
12.8	11.2	10.4	10.0	10.3	10.6	11.9	11.5	45	32	54	69	60	129	180	174	46	0	July.
13.6	12.8	12.9	11.6	11.4	11.0	10.3	11.5	48	58	69	36	7	100	179	203	85	7	Aug.
12.1	12.1	12.2	12.7	12.9	12.3	11.3	11.4	43	101	88	72	18	69	233	104	34	1	Sept.
12.9	13.9	13.9	13.4	13.2	12.6	11.6	12.9	47	54	100	99	81	118	149	85	56	2	Oct.
17.6	17.5	17.8	17.7	18.7	19.2	19.2	19.0	56	34	44	36	42	113	133	225	93	0	Nov.
18.3	19.1	19.3	18.3	17.6	17.3	16.4	17.5	60	40	50	73	44	91	115	242	88	1	Dec.
15.7	15.6	15.4	15.0	14.8	14.4	14.0	14.9	.....	601	824	757	471	1,060	2,023	2,274	735	15	Year.

CHICAGO, ILL.

[h_a=274 ft.; local time, 50m slow.]

19.5	19.8	19.3	19.6	18.8	18.5	18.1	18.7	62	31	28	38	74	161	25	303	84	0	Jan.
17.8	17.6	17.6	17.0	17.3	17.1	16.6	16.6	51	80	62	104	62	100	38	128	98	0	Feb.
20.4	20.4	19.5	20.0	19.5	19.1	18.7	19.4	49	96	111	101	142	48	56	114	76	0	Mar.
21.3	20.5	20.1	19.3	18.4	18.2	18.1	20.4	67	70	144	86	74	135	95	58	58	0	Apr.
15.1	14.6	14.5	14.5	14.4	13.9	14.6	16.3	49	156	78	49	54	79	119	143	66	0	May.
15.6	15.2	14.2	13.5	13.3	14.0	13.7	15.1	55	96	153	55	86	126	77	110	17	0	June.
15.3	15.2	13.9	13.2	13.5	12.6	12.3	13.4	72	229	65	95	49	94	39	102	69	2	July.
17.4	16.6	15.0	13.8	13.6	13.6	13.2	15.1	56	146	129	84	68	86	52	96	82	1	Aug.
16.2	16.1	15.1	14.7	14.9	15.5	16.0	15.7	39	61	147	88	81	130	138	62	10	3	Sept.
15.3	15.7	16.2	16.6	16.7	16.7	17.5	16.7	47	46	114	63	145	105	94	95	82	0	Oct.
19.8	20.3	20.1	20.7	20.8	20.7	20.5	19.9	55	57	92	3	36	178	121	91	142	0	Nov.
17.6	18.4	18.1	18.5	19.1	19.4	19.2	18.2	56	80	75	27	24	107	100	169	161	1	Dec.
17.6	17.5	17.0	16.8	16.7	16.6	16.5	17.1	.....	1,148	1,198	793	895	1,349	954	1,471	945	7	Year.

WIND—VELOCITY AND FREQUENCY—Continued.

CINCINNATI, OHIO.

[λ=39° 6′ N.; φ=84° 30′ W.] [Seventy-fifth Meridian Time.]

1897.	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h
Jan	8.8	8.7	9.0	8.8	8.2	8.6	8.3	8.9	8.9	10.0	10.5	10.9	11.3	11.4	11.4	11.5	10.6
Feb	7.6	7.6	7.5	7.2	7.2	7.0	6.6	6.7	7.8	8.0	8.5	9.5	10.3	10.4	10.1	10.5	10.4
Mar	8.7	8.3	8.1	8.2	8.2	8.6	9.0	9.5	10.5	10.8	10.5	11.1	11.1	11.2	11.4	11.6	11.2
Apr	7.4	7.2	6.9	7.0	6.8	7.0	6.9	7.8	8.8	10.2	11.7	12.2	12.2	12.4	12.7	12.2	12.1
May	4.4	4.8	4.6	4.4	4.3	4.4	5.2	6.4	7.4	8.6	9.4	9.8	10.1	10.0	10.4	10.2	10.2
June	4.5	4.6	4.5	4.3	4.4	4.0	4.4	5.4	6.4	7.7	8.3	9.1	9.0	9.4	10.3	10.3	10.4
July	4.6	4.5	4.5	4.0	4.5	3.7	4.1	5.3	5.8	6.6	6.9	7.6	8.5	8.8	9.3	9.5	9.4
Aug	3.3	3.5	3.6	3.5	3.1	3.0	3.7	4.1	5.0	5.7	6.7	8.0	8.6	8.8	9.5	9.2	9.3
Sept	2.3	2.5	2.4	2.3	2.5	2.4	3.1	2.9	3.7	5.0	5.6	6.4	7.5	7.0	7.3	7.4	7.6
Oct	3.7	3.7	3.9	4.2	4.0	4.1	4.3	4.5	5.4	6.3	6.6	7.6	8.5	8.2	8.3	8.1	8.2
Nov	7.1	7.1	7.3	7.0	7.3	7.0	7.2	8.5	9.0	10.1	10.2	10.5	10.3	10.1	10.2	9.7	8.7
Dec	8.0	7.7	8.0	7.8	8.3	7.8	8.0	8.4	8.4	8.9	9.1	9.8	10.6	11.1	10.0	10.2	9.6
Year	5.9	5.8	5.9	5.7	5.7	5.6	5.9	6.5	7.3	8.2	8.7	9.4	9.8	9.9	10.1	10.0	9.8

CLEVELAND, OHIO.

[λ=41° 30′ N.; φ=81° 42′ W.]

Jan	16.9	17.2	17.3	16.9	16.1	15.6	15.8	16.4	16.5	17.2	17.7	18.1	17.7	17.5	17.5	17.3	17.3
Feb	15.1	15.5	14.7	13.5	13.2	13.4	13.2	13.5	13.2	13.4	13.6	13.7	13.8	14.0	15.0	14.7	14.1
Mar	17.2	17.8	19.0	18.4	18.1	16.5	16.5	16.5	16.1	15.8	16.8	16.9	17.7	18.4	18.1	18.2	17.1
Apr	14.6	15.2	14.7	14.6	14.3	15.1	15.4	16.6	16.8	17.0	17.7	16.7	16.7	17.5	17.8	17.6	16.0
May	11.9	11.9	11.6	12.4	12.7	12.3	11.6	11.7	11.8	12.5	13.5	13.8	14.2	13.7	14.0	13.6	12.9
June	10.8	11.2	10.7	11.3	11.4	11.0	10.5	11.2	10.7	11.3	11.8	12.9	13.1	12.8	12.3	11.9	11.1
July	10.2	10.2	10.7	10.2	10.0	9.6	9.7	9.5	9.7	10.2	10.9	11.5	12.7	12.4	13.2	13.2	12.0
Aug	11.3	11.5	11.3	11.5	11.8	12.0	11.6	10.6	10.3	10.8	11.7	12.4	13.2	13.4	13.7	13.2	12.1
Sept	12.6	12.7	13.4	14.0	13.9	13.1	12.1	11.5	10.4	10.1	9.9	11.3	11.6	11.5	11.3	11.5	10.9
Oct	15.2	15.3	14.8	14.9	15.6	15.5	15.7	16.2	15.8	14.7	14.7	14.7	15.2	15.9	15.9	15.1	14.4
Nov	20.4	20.4	19.9	19.6	19.1	18.3	19.1	20.1	19.2	18.8	19.4	18.7	18.6	18.2	17.9	17.5	18.3
Dec	15.3	15.5	15.3	15.4	15.1	14.9	14.9	15.7	15.4	15.9	16.9	17.6	18.5	17.5	17.6	16.6	15.7
Year	14.3	14.5	14.4	14.4	14.3	13.9	13.8	14.1	13.8	14.0	14.6	14.9	15.2	15.2	15.4	15.0	14.3

DETROIT, MICH.

[λ=42° 20′ N.; φ=83° 3′ W.]

Jan	10.6	10.2	10.3	9.7	9.7	10.0	10.1	10.6	10.3	10.7	12.1	12.1	12.8	13.3	12.9	12.6	12.2
Feb	9.4	9.5	9.8	10.2	10.1	10.0	9.9	9.6	9.5	9.6	9.4	10.5	10.6	11.6	11.9	11.4	11.2
Mar	9.8	9.4	9.1	8.9	8.8	9.3	9.3	9.7	10.4	11.3	12.4	12.8	13.6	13.6	13.5	12.9	12.9
Apr	9.5	9.3	8.8	9.6	9.5	9.3	9.6	9.6	10.6	11.6	12.5	12.5	13.2	12.7	12.4	12.7	12.7
May	6.9	7.2	6.9	7.2	7.3	7.2	7.3	7.9	8.2	8.9	9.7	10.8	11.4	11.5	11.8	11.7	11.2
June	6.2	6.1	6.3	6.6	6.7	7.1	7.1	7.1	7.8	8.6	8.9	9.8	10.5	10.7	10.6	10.4	10.5
July	5.8	6.1	6.3	5.8	5.9	6.3	5.9	6.6	7.3	7.7	8.1	9.3	10.2	10.3	10.7	10.5	10.2
Aug	6.6	6.6	6.7	6.4	6.6	6.3	5.7	6.0	6.8	8.1	9.0	9.8	9.9	10.0	9.5	9.7	9.4
Sept	6.7	6.6	6.4	6.5	6.3	6.1	6.2	6.3	6.4	6.7	7.0	7.4	8.0	8.7	9.4	9.0	9.0
Oct	7.5	7.3	7.1	7.7	7.4	7.6	8.1	8.1	8.6	9.6	9.8	9.7	10.2	10.7	10.5	10.0	9.6
Nov	7.8	7.5	7.8	8.1	8.3	7.9	8.0	8.1	7.8	8.9	9.1	9.1	9.4	8.9	9.0	9.1	8.6
Dec	8.8	8.5	8.2	8.3	9.2	9.1	9.8	9.9	9.9	10.6	11.0	10.8	11.4	11.2	10.8	10.1	10.2
Year	8.0	7.9	7.8	7.9	8.0	8.0	8.1	8.3	8.6	9.4	9.9	10.4	10.9	11.1	11.1	10.8	10.6

DODGE CITY, KANS.

[λ=37° 45′ N.; φ=100° W.]

Jan	9.2	10.2	10.0	10.7	11.3	11.8	11.1	11.1	11.8	12.6	13.4	13.6	13.5	13.5	12.8	11.8	10.6
Feb	9.1	8.8	8.1	8.5	8.4	8.6	8.9	9.0	9.3	9.5	10.2	10.2	10.9	11.7	11.2	11.5	11.1
Mar	12.7	11.5	10.4	9.9	9.6	9.8	10.3	10.2	11.0	12.8	14.2	14.0	14.5	15.2	15.3	16.4	16.1
Apr	11.6	11.6	11.6	11.3	10.0	10.1	10.9	11.6	14.0	15.8	16.5	16.6	15.8	15.5	15.1	14.8	14.3
May	9.2	8.2	7.7	7.3	7.1	6.4	6.8	6.9	9.0	10.6	12.4	13.0	13.8	13.8	13.9	14.8	14.9
June	12.1	10.7	9.5	9.4	9.1	8.6	8.2	8.8	10.9	12.6	14.0	14.2	14.3	15.6	16.8	17.5	17.8
July	11.4	10.7	10.2	8.9	7.6	6.8	6.9	7.3	9.8	12.5	14.3	15.3	15.1	15.5	16.1	16.2	16.7
Aug	7.3	6.3	5.9	6.0	6.3	6.7	5.9	5.9	7.4	9.1	10.1	10.2	10.6	10.8	10.8	11.1	10.8
Sept	10.4	9.4	8.3	7.0	7.5	6.8	5.6	6.1	6.8	10.5	13.2	14.5	15.3	15.8	15.7	15.8	15.8
Oct	10.5	10.7	11.0	10.4	10.0	9.0	8.2	7.7	8.6	11.1	13.5	14.4	15.2	15.0	15.3	15.2	15.0
Nov	8.8	8.3	9.0	8.9	8.7	8.3	8.2	8.4	8.0	10.0	12.4	12.8	13.6	14.3	14.3	13.8	13.4
Dec	9.0	9.3	9.1	8.8	8.9	9.2	9.4	8.8	9.2	10.2	12.3	13.6	14.8	14.7	15.8	14.4	14.5
Year	10.1	9.6	9.2	8.9	8.7	8.5	8.4	8.5	9.6	11.4	13.0	13.5	14.0	14.3	14.4	14.4	14.2

WIND—VELOCITY AND FREQUENCY—Continued.

CINCINNATI, OHIO.

[h_a=157 ft.; local time, 38^m slow.] [Seventy-fifth Meridian Time.]

6^h	7^h	8^h	9^h	10^h	11^h	Mid.	Mean.	Max. vel.	N.	NE.	E.	SE.	S.	SW.	W.	NW.	Calm.	1897.
10.3	9.5	9.7	9.6	9.3	9.4	9.1	9.7	41	33	30	84	140	87	111	149	110	0	Jan.
9.7	9.3	8.6	8.8	8.9	8.3	8.1	8.5	27	101	91	93	62	66	39	70	150	0	Feb.
10.2	10.3	10.0	10.3	9.6	9.0	8.8	9.8	36	37	68	146	120	98	50	123	102	0	Mar.
11.3	10.5	9.1	8.8	8.0	8.4	7.4	9.4	36	52	65	107	116	114	67	81	117	1	Apr.
8.9	7.6	6.4	5.6	5.5	5.5	4.6	7.0	33	58	35	62	94	79	94	113	171	38	May
9.2	8.6	7.7	6.9	5.4	5.0	5.0	6.9	33	93	43	80	77	92	100	123	100	12	June.
9.1	8.5	7.4	5.7	5.1	4.7	4.6	6.4	26	18	19	68	111	131	125	122	138	12	July.
8.7	7.9	6.0	4.9	4.5	4.5	3.6	5.8	28	68	80	62	127	71	75	70	137	54	Aug.
7.3	5.6	4.5	3.7	3.1	2.7	2.8	4.5	36	76	98	107	129	40	36	46	30	158	Sept.
7.1	6.5	5.0	4.5	4.3	4.4	4.3	5.7	30	120	121	75	117	57	67	51	79	57	Oct.
8.0	7.4	7.2	7.2	7.3	7.2	7.2	8.3	36	31	46	58	143	145	79	83	133	2	Nov.
9.4	9.1	8.9	8.6	8.8	8.9	8.4	8.9	29	30	69	80	93	97	152	113	110	0	Dec.
9.1	8.4	7.5	7.0	6.6	6.5	6.2	7.6	.....	717	765	1,022	1,329	1,077	995	1,144	1,377	334	Year.

CLEVELAND, OHIO.

[h_a=201 ft.; local time, 27^m slow.]

16.8	16.8	17.3	18.7	18.8	17.8	17.0	17.2	51	27	41	10	147	98	251	114	56	0	Jan.
13.5	13.5	13.5	14.5	15.5	13.5	15.9	14.1	57	61	121	28	88	62	94	138	80	0	Feb.
15.9	15.6	15.6	14.9	15.4	15.7	15.6	16.8	56	38	164	23	112	88	74	126	119	0	Mar.
14.4	12.6	13.2	13.9	13.7	14.1	13.9	15.4	49	67	110	33	113	143	72	88	94	0	Apr.
11.5	11.4	10.5	10.8	10.9	11.2	11.6	12.3	40	102	52	15	73	126	126	103	146	1	May.
10.7	10.0	9.2	9.5	10.3	10.6	10.8	11.1	34	127	88	21	87	119	81	92	105	0	June.
10.6	10.8	9.8	9.9	10.1	10.2	10.3	10.7	39	94	59	30	132	145	102	71	110	1	July.
11.6	10.2	9.5	9.3	9.6	10.0	10.6	11.4	42	80	98	48	138	130	78	61	111	0	Aug.
10.1	9.3	9.2	10.6	11.9	13.1	12.9	11.6	66	120	132	42	186	90	50	24	75	1	Sept.
13.4	12.9	13.3	13.6	14.1	14.4	14.6	14.8	47	65	119	27	193	167	59	53	61	0	Oct.
18.6	18.8	19.3	19.6	19.3	19.7	20.1	19.1	68	36	42	7	81	235	97	91	131	0	Nov.
15.6	15.7	15.8	15.2	16.0	16.5	15.8	16.0	56	30	42	23	73	152	152	209	63	0	Dec.
13.6	13.1	13.0	13.4	13.8	13.9	14.1	14.2	.....	847	1,068	307	1,423	1,555	1,236	1,170	1,151	3	Year.

DETROIT, MICH.

[h_a=166 ft.; local time, 32^m slow.]

11.9	11.6	11.1	10.8	10.7	10.3	10.4	11.1	48	22	70	35	70	101	242	171	33	0	Jan.
11.0	10.2	10.4	10.8	10.9	10.9	10.5	10.4	36	72	143	53	33	17	172	141	41	0	Feb.
12.9	12.4	11.7	11.8	10.8	10.7	10.4	11.2	48	57	200	83	47	49	119	130	59	0	Mar.
11.8	10.5	10.1	10.1	10.1	9.8	9.7	10.8	37	66	150	48	54	81	171	77	73	0	Apr.
10.3	9.2	8.0	7.0	6.8	6.8	6.8	8.7	33	72	67	37	25	80	241	129	93	0	May.
10.0	8.9	7.5	6.6	6.7	6.9	6.5	8.1	29	107	120	46	53	71	167	106	47	3	June.
9.3	8.0	6.5	6.1	5.6	5.8	5.7	7.5	28	109	126	65	67	83	108	101	81	4	July.
8.5	7.5	6.7	6.0	5.7	6.4	6.3	7.5	32	73	102	63	34	69	162	119	112	10	Aug.
7.0	6.2	6.3	6.7	6.9	6.6	7.0	7.1	27	109	110	59	44	71	230	62	30	5	Sept.
8.2	7.4	7.6	8.1	8.1	7.9	7.8	8.5	35	93	152	102	42	84	127	100	43	1	Oct.
7.9	8.0	8.3	8.1	8.0	7.9	8.0	8.3	35	53	57	28	42	115	170	195	58	2	Nov.
9.7	9.0	8.8	8.7	9.0	9.2	8.5	9.6	36	43	84	22	20	68	207	234	65	1	Dec.
9.9	9.1	8.6	8.4	8.3	8.3	8.1	9.1	.....	876	1,381	641	531	889	2,116	1,565	735	26	Year.

DODGE CITY, KANS.

[h_a=52 ft.; local time, 1^h 40^m slow.]

9.3	8.2	8.0	8.4	9.1	9.0	8.7	10.8	36	121	79	7	43	140	92	71	182	9	Jan.
10.4	8.4	6.8	7.7	7.9	7.8	7.9	9.2	36	105	124	17	106	68	76	51	117	8	Feb.
15.8	15.5	13.7	12.9	13.0	14.0	13.5	13.0	51	96	106	32	148	124	95	42	95	6	Mar.
13.8	13.3	12.4	11.0	11.6	11.2	11.1	13.0	50	127	61	21	119	117	62	24	179	10	Apr.
15.2	14.9	13.5	10.1	9.5	9.9	9.7	10.8	40	45	112	40	199	233	78	6	15	16	May.
18.0	18.1	16.0	13.2	13.3	13.4	13.2	13.1	67	65	70	13	118	351	73	10	18	2	June.
16.0	16.1	14.8	12.2	10.5	11.2	11.1	12.2	41	53	52	14	82	376	81	9	68	9	July.
10.9	10.5	9.5	7.7	7.2	7.2	7.6	8.4	32	48	110	30	145	245	89	39	33	5	Aug.
15.3	14.9	12.2	10.8	10.0	10.0	9.8	11.1	40	48	45	8	118	448	28	12	2	11	Sept.
15.0	12.8	10.2	10.2	10.2	10.4	10.5	11.7	39	84	72	3	73	302	74	64	69	3	Oct.
12.1	9.4	8.7	9.1	9.0	9.0	9.4	10.3	37	110	41	5	65	193	118	42	137	9	Nov.
12.0	9.3	8.3	8.2	7.7	7.3	7.4	10.5	48	115	61	16	65	77	89	97	219	5	Dec.
13.6	12.6	11.2	10.1	9.9	10.0	10.0	11.2	.....	1,017	933	206	1,281	2,674	955	467	1,134	93	Year.

WIND—VELOCITY AND FREQUENCY—Continued.

EASTPORT, ME.

[λ = 44° 54′ N.; φ = 66° 59′ W.] [Seventy-fifth Meridian Time.]

1897.	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h
Jan	13.5	14.4	14.3	14.1	14.3	15.0	14.4	14.9	15.3	15.8	15.8	15.9	15.1	14.7	14.7	14.3	13.6
Feb	11.2	10.8	11.5	11.3	12.2	13.2	12.4	13.3	13.9	13.8	13.6	13.5	12.8	12.3	12.3	12.3	12.0
Mar	12.5	12.0	11.7	11.8	11.2	11.8	11.6	12.4	13.1	12.7	13.0	12.5	12.7	13.0	13.9	14.4	14.8
Apr	10.5	10.0	9.8	9.9	10.0	10.4	10.5	10.1	10.4	10.9	11.4	12.0	12.7	13.1	13.2	13.0	12.0
May	9.6	9.6	9.9	9.9	9.8	9.5	9.5	10.3	10.5	10.0	10.4	10.6	10.5	11.1	10.7	10.8	10.5
June	6.3	6.6	6.9	6.8	6.5	7.5	7.9	8.0	8.7	8.6	9.5	10.5	10.7	11.8	12.3	11.2	10.6
July	7.1	6.9	6.9	7.0	6.6	7.0	7.2	8.2	7.9	9.2	10.1	10.3	11.0	11.7	11.7	11.5	10.0
Aug	6.8	7.0	6.1	6.5	6.3	6.8	7.0	7.4	8.0	8.0	8.9	9.6	9.6	10.5	10.5	11.2	10.1
Sept	7.9	8.8	7.9	8.4	8.9	9.1	8.9	10.3	10.7	11.3	11.5	12.0	12.1	12.3	12.0	11.7	11.0
Oct	8.7	8.4	8.6	8.3	8.3	9.2	9.1	9.6	9.5	9.9	10.1	10.5	10.6	11.5	11.7	11.8	9.8
Nov	12.5	12.3	12.5	13.0	13.7	14.3	15.6	16.8	17.0	17.3	17.4	17.7	16.0	15.6	15.7	14.9	14.8
Dec	12.1	12.4	12.5	13.3	12.6	13.0	13.7	13.6	13.4	13.3	13.0	13.2	13.3	13.5	13.0	12.2	12.3
Year	9.9	9.9	9.9	10.0	10.0	10.6	10.6	11.2	11.5	11.7	12.1	12.4	12.3	12.6	12.6	12.4	11.8

GALVESTON, TEX.

[λ = 29° 18′ N.; φ = 94° 50′ W.]

Jan	13.8	13.5	13.5	13.2	13.6	12.9	13.4	13.3	12.9	12.5	12.8	12.8	13.1	12.5	12.5	12.3	12.1
Feb	12.6	12.0	12.0	12.1	11.9	12.1	11.6	10.9	10.9	10.6	11.1	11.4	11.6	11.1	11.5	11.0	10.6
Mar	11.5	11.5	11.9	11.9	12.0	11.6	11.2	10.6	10.7	11.4	11.9	12.5	13.1	12.6	12.8	12.5	12.5
Apr	11.3	11.1	11.0	10.9	10.2	9.2	10.1	10.6	10.9	11.6	12.0	12.5	12.5	12.3	12.4	13.1	13.0
May	7.4	7.7	7.3	6.9	6.8	6.8	7.0	7.5	8.2	8.8	9.2	9.8	10.2	9.8	10.1	10.1	10.4
June	11.0	11.7	11.2	11.0	10.5	9.7	9.7	9.7	10.5	10.8	11.3	11.0	11.7	11.7	11.8	11.9	12.5
July	9.0	9.0	9.0	8.5	7.8	7.3	6.0	6.4	7.7	8.3	8.8	9.5	10.5	10.9	12.0	12.5	12.2
Aug	7.6	8.6	8.3	8.3	7.8	7.1	6.8	7.3	8.1	8.6	9.5	10.1	10.4	10.7	11.7	11.6	11.0
Sept	9.4	9.8	10.0	9.5	9.7	9.4	9.6	11.2	11.5	12.0	12.0	12.0	12.0	11.8	11.8	11.4	10.8
Oct	9.7	10.1	10.1	10.1	9.8	9.6	9.7	10.5	11.2	11.7	11.6	11.4	11.8	11.5	11.5	11.3	10.9
Nov	11.3	11.3	11.2	10.7	11.5	10.9	11.5	12.7	13.2	13.2	13.1	13.0	13.0	12.9	12.7	12.6	12.3
Dec	11.1	11.5	11.1	10.9	11.1	11.2	11.1	11.6	11.9	11.8	12.4	12.4	13.0	12.3	12.5	12.7	12.9
Year	10.5	10.6	10.6	10.3	10.2	9.8	9.8	10.2	10.6	10.9	11.3	11.5	11.9	11.7	11.9	11.9	11.8

HAVRE, MONT.

[λ = 48° 34′ N.; φ = 109° 40′ W.]

Jan	9.2	8.7	9.3	9.5	9.3	9.5	8.9	9.5	9.2	8.1	7.5	8.0	9.7	9.8	10.4	10.0	10.3
Feb	9.2	8.5	8.3	7.9	7.4	7.6	7.8	7.0	7.3	7.6	7.8	7.8	9.1	9.9	10.2	9.5	9.7
Mar	7.3	8.0	6.7	6.2	6.9	6.6	6.5	7.1	7.1	7.7	8.2	9.2	10.6	11.4	11.0	11.6	11.7
Apr	9.2	9.0	8.2	9.0	9.1	9.0	9.7	9.1	9.9	11.3	13.1	14.5	15.7	16.2	16.5	16.3	15.3
May	7.5	8.1	8.2	8.3	7.3	7.3	7.7	8.5	9.1	10.4	11.5	11.9	12.4	13.0	13.1	13.5	14.1
June	7.3	7.2	8.3	7.4	7.7	7.4	6.9	7.0	7.9	9.0	9.8	9.8	10.4	10.9	10.9	11.9	11.9
July	6.2	5.5	6.5	7.6	7.3	7.3	8.5	8.5	9.2	11.0	12.3	12.6	13.7	12.9	13.6	14.0	13.1
Aug	5.6	5.5	5.8	5.7	6.1	6.1	5.8	5.9	5.9	6.5	8.0	9.4	10.0	9.6	9.7	10.5	10.4
Sept	5.7	5.7	5.9	6.7	7.4	7.1	6.9	6.9	7.1	7.9	10.2	11.3	13.0	12.6	12.6	12.4	12.0
Oct	6.7	6.9	7.4	7.5	7.2	6.9	7.5	7.1	8.2	7.9	9.0	10.8	12.6	13.2	13.2	13.3	12.9
Nov	9.3	8.4	9.3	9.0	9.0	8.8	8.7	9.4	8.8	8.4	8.2	8.7	10.3	11.0	11.6	11.0	11.2
Dec	10.5	11.5	12.2	12.1	13.0	13.4	13.6	13.6	13.3	13.0	12.5	12.9	14.3	14.6	14.1	14.3	13.3
Year	7.8	7.8	8.0	8.1	8.1	8.1	8.2	8.3	8.6	9.1	9.8	10.6	11.8	12.1	12.2	12.4	12.2

KANSAS CITY, MO.

[λ = 39° 5′ N.; φ = 94° 37′ W.]

Jan	8.8	8.3	8.1	8.2	8.3	8.8	8.7	8.9	8.9	9.5	10.0	10.1	11.0	11.5	11.3	11.2	11.0
Feb	7.7	7.5	7.9	8.4	8.2	8.1	7.8	7.8	8.3	8.0	8.5	8.4	8.8	9.2	9.0	8.5	8.6
Mar	8.1	8.5	8.6	7.8	7.6	8.1	8.2	9.0	9.2	10.1	9.8	10.3	10.9	11.2	10.6	10.6	10.6
Apr	10.2	10.2	9.9	9.4	9.5	9.0	8.5	9.0	9.1	10.0	11.2	12.1	13.0	13.1	13.4	13.8	13.9
May	6.1	5.9	5.8	5.9	5.5	5.6	5.8	6.5	7.0	7.9	8.6	8.7	9.6	9.4	10.0	9.6	9.5
June	7.6	8.0	7.9	7.6	7.3	6.4	5.9	6.8	7.9	8.6	8.9	9.5	10.0	10.1	10.5	10.7	10.8
July	6.0	6.1	6.2	6.2	6.5	6.0	6.4	6.7	7.3	8.1	8.7	9.4	9.4	9.8	9.7	9.5	9.5
Aug	5.9	6.0	5.6	5.7	5.3	4.8	5.1	5.3	5.7	6.3	7.3	7.8	8.4	8.3	8.8	9.1	8.9
Sept	6.5	6.0	6.0	6.2	5.9	5.6	5.6	5.5	6.2	6.7	7.1	7.2	7.9	7.9	8.2	7.9	7.8
Oct	7.2	6.7	6.6	5.8	6.0	6.0	5.7	5.9	6.1	6.8	7.5	7.9	8.8	9.0	9.6	9.6	9.5
Nov	9.2	9.9	9.3	8.8	9.0	9.0	9.1	8.7	9.0	9.5	10.6	11.0	11.7	11.4	11.3	11.1	10.6
Dec	8.2	8.1	8.0	8.2	8.5	8.4	8.2	8.0	8.1	8.7	9.0	8.7	9.5	9.2	9.1	9.2	9.3
Year	7.6	7.6	7.5	7.4	7.3	7.2	7.1	7.3	7.7	8.4	8.9	9.3	9.9	10.0	10.1	10.1	10.0

WIND—VELOCITY AND FREQUENCY—Continued.

EASTPORT, ME.

[h_a = 74 ft.; local time, 32m fast.] [Seventy-fifth Meridian Time.]

6h	7h	8h	9h	10h	11h	Mid.	Mean.	Max. vel.	N.	NE.	E.	SE.	S.	SW.	W.	NW.	Calm.	1897.
14.7	15.0	14.8	14.7	13.9	13.4	13.4	14.6	66	140	76	34	25	63	96	134	173	3	Jan.
11.7	11.3	11.7	11.5	11.8	12.0	12.2	12.3	48	120	57	56	22	25	52	147	181	12	Feb.
14.2	14.1	14.0	14.8	14.7	13.9	13.3	13.1	50	107	22	101	31	74	85	116	195	13	Mar.
11.3	11.0	10.5	10.6	9.3	9.9	10.5	11.0	41	132	103	49	20	124	153	81	55	3	Apr.
10.5	9.8	9.6	10.1	10.2	9.9	9.7	10.1	32	126	98	98	26	245	80	32	29	10	May.
9.8	9.2	8.1	8.0	6.9	6.9	6.4	8.6	44	59	117	81	16	142	81	136	71	17	June.
9.1	8.6	8.2	8.3	8.3	8.4	7.8	8.7	31	63	70	65	23	332	121	24	12	34	July.
9.7	8.5	8.2	7.7	7.6	7.0	7.2	8.2	38	81	31	50	9	261	134	119	45	14	Aug.
9.6	8.6	8.1	8.0	7.7	8.0	8.0	9.7	30	108	29	48	13	73	124	143	171	11	Sept.
9.1	8.6	8.5	8.7	8.5	9.1	8.6	9.5	48	122	69	15	7	144	150	79	108	50	Oct.
14.8	14.4	14.2	13.4	14.0	13.3	13.5	14.8	60	62	52	47	41	59	98	132	218	11	Nov.
13.3	13.4	13.5	13.0	13.0	13.5	12.9	13.0	42	91	54	32	28	50	117	170	201	1	Dec.
11.5	11.0	10.8	10.7	10.5	10.4	10.3	11.1	.....	1,211	778	676	261	1,592	1,291	1,313	1,459	179	Year.

GALVESTON, TEX.

[h_a = 96 ft.; local time, 1h 19m slow.]

12.3	12.5	11.7	11.7	11.5	12.1	13.3	12.7	44	110	210	79	26	81	84	46	107	1	Jan.
10.1	10.2	10.9	11.2	12.1	12.2	12.3	11.4	28	92	72	96	99	217	24	12	60	0	Feb.
12.4	13.0	12.3	11.3	10.9	11.5	11.2	11.9	48	38	65	49	131	268	172	10	11	0	Mar.
12.9	12.7	12.2	11.7	12.2	11.8	11.2	11.6	46	49	85	47	280	164	45	2	44	4	Apr.
10.1	9.6	8.6	8.0	8.2	8.3	8.3	8.5	24	44	59	110	223	162	90	41	13	2	May.
11.7	12.0	12.0	10.9	11.5	11.2	11.1	11.2	50	42	44	8	215	338	36	31	6	0	June.
12.3	10.9	11.0	10.1	9.7	9.6	9.3	9.5	36	20	46	47	154	282	145	29	18	3	July.
10.7	10.4	9.5	8.4	8.2	8.1	7.6	9.0	36	45	53	115	118	193	153	38	24	5	Aug.
9.8	8.8	8.9	8.4	8.9	9.1	9.8	10.3	37	175	100	179	129	52	10	5	69	1	Sept.
10.8	10.2	9.6	10.0	9.9	10.5	10.7	10.6	33	85	82	168	208	50	73	46	29	3	Oct.
11.4	10.6	10.7	11.1	11.2	11.3	10.7	11.8	37	145	133	82	147	131	21	20	41	0	Nov.
12.0	11.9	11.3	12.3	12.5	12.0	11.5	11.9	41	201	78	22	86	136	53	45	123	0	Dec.
11.4	11.1	10.7	10.4	10.6	10.6	10.6	10.9	.....	1,046	1,027	1,002	1,816	2,074	906	325	545	19	Year.

HAVRE, MONT.

[h_a = 47 ft.; local time, 2h 19m slow.]

9.3	8.4	7.7	7.2	8.3	9.3	10.0	9.0	50	46	149	2	6	0	107	313	65	56	Jan.
10.1	9.1	8.1	8.5	8.2	7.8	8.2	8.4	54	12	187	18	1	0	64	258	95	37	Feb.
11.5	11.5	11.4	10.0	8.9	8.3	7.5	8.9	38	19	312	19	0	0	65	238	60	31	Mar.
15.5	14.1	13.3	11.5	8.9	9.2	8.5	11.8	48	77	134	56	13	2	137	207	76	18	Apr.
14.0	14.5	13.5	11.4	10.7	10.2	8.3	10.6	47	47	155	92	22	36	131	182	66	13	May.
12.3	11.9	12.3	11.8	11.9	10.6	9.3	9.7	48	63	165	83	19	12	134	130	92	22	June.
12.0	11.0	11.1	8.6	8.0	6.4	6.5	9.7	48	31	35	36	8	1	272	272	78	11	July.
11.1	10.1	9.9	8.4	6.8	4.9	4.4	7.6	38	68	219	59	19	21	72	159	110	17	Aug.
11.9	11.0	9.8	7.5	7.0	6.0	5.2	8.7	42	41	92	24	17	0	172	270	73	31	Sept.
12.5	11.0	8.7	7.0	6.5	7.1	7.4	9.1	40	42	83	15	0	0	316	204	62	22	Oct.
10.3	9.3	8.7	8.6	8.4	9.0	9.2	9.4	40	54	211	28	0	0	216	145	31	35	Nov.
13.0	12.2	11.5	11.3	10.9	10.8	11.0	12.6	60	24	84	0	0	0	373	156	47	60	Dec.
12.0	11.2	10.5	9.3	8.7	8.3	8.0	9.6	.....	524	1,826	432	105	72	2,059	2,534	855	353	Year.

KANSAS CITY, MO.

[h_a = 95 ft.; local time, 1h 18m slow.]

10.3	9.7	9.4	9.9	9.5	8.8	8.7	9.5	34	99	40	19	130	63	77	36	280	0	Jan.
7.8	7.6	7.5	7.1	7.4	7.4	7.5	8.0	26	109	92	132	99	43	62	79	55	1	Feb.
10.3	9.7	9.0	9.5	9.1	8.7	8.3	9.3	27	90	111	124	179	58	67	21	94	0	Mar.
12.8	12.2	10.8	10.1	10.2	10.7	10.1	10.9	36	144	41	49	80	180	54	41	127	4	Apr.
9.7	9.1	7.5	5.3	5.3	6.1	6.0	7.3	29	204	78	47	135	89	51	51	86	3	May.
10.2	9.0	9.0	7.9	7.7	7.9	7.6	8.5	29	37	44	24	171	178	191	11	63	1	June.
8.7	8.6	7.5	6.5	6.3	6.8	7.1	7.6	24	99	18	46	161	180	133	13	94	0	July.
8.4	7.1	6.0	5.3	5.3	5.3	5.3	6.5	32	165	149	69	72	102	104	12	67	4	Aug.
7.0	6.1	5.4	5.4	5.4	5.6	5.7	6.4	24	135	21	18	103	268	143	10	16	6	Sept.
8.7	7.2	6.9	7.4	7.7	7.7	7.5	7.4	29	139	83	33	110	179	121	25	54	0	Oct.
9.8	9.6	9.5	9.6	9.2	9.8	9.2	9.8	30	94	32	28	118	168	40	37	203	0	Nov.
8.9	8.4	8.4	8.1	8.3	8.5	8.5	8.6	31	87	93	16	84	54	42	42	326	0	Dec.
9.4	8.7	8.1	7.7	7.6	7.8	7.6	8.3	.....	1,402	802	605	1,442	1,562	1,085	378	1,465	19	Year.

WIND—VELOCITY AND FREQUENCY—Continued.

KEY WEST, FLA.

[λ=24° 34′ N.; φ=81° 49′ W.] [Seventy-fifth Meridian Time.]

1897.	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h
Jan.....	10.9	11.0	10.9	10.9	11.2	10.5	10.3	10.7	10.5	10.6	11.1	10.9	11.0	11.2	11.5	11.2	11.2
Feb.....	8.5	8.4	8.2	8.8	8.8	8.8	8.5	9.1	9.5	10.1	11.2	11.0	11.2	11.6	11.2	10.6	9.6
Mar.....	9.6	9.5	9.5	9.4	9.6	9.6	9.3	10.1	11.2	12.3	12.7	12.9	12.5	12.6	12.2	11.8	11.7
Apr.....	11.9	12.1	11.6	11.8	12.3	12.4	11.9	12.8	13.1	13.7	14.1	13.6	13.7	13.5	12.1	11.8	11.4
May	11.0	10.9	10.7	10.9	11.0	11.0	11.1	11.5	11.5	11.5	11.8	11.3	11.5	11.8	11.7	12.6	12.6
June....	5.1	4.7	4.7	4.6	4.4	4.7	4.8	5.8	6.2	6.6	6.8	7.0	7.0	7.7	7.3	7.3	6.9
July....	6.1	6.1	6.1	5.8	6.0	6.2	6.4	7.0	7.7	7.9	8.3	7.8	7.8	8.5	8.7	9.0	8.7
Aug	6.2	6.0	5.5	4.7	5.3	5.1	5.1	5.8	7.1	7.5	7.4	7.5	7.9	8.0	8.8	8.4	7.8
Sept	8.3	8.5	8.7	8.4	8.8	8.1	7.5	8.1	8.6	9.4	9.5	9.0	8.9	8.2	8.0	8.3	7.9
Oct.....	8.6	8.6	8.5	8.2	8.6	9.0	9.0	9.5	9.8	9.8	9.9	10.0	10.3	10.4	10.0	10.5	10.5
Nov.....	12.3	12.4	12.5	12.3	12.7	12.9	12.7	12.3	13.1	13.5	13.8	14.0	14.6	14.0	13.5	13.5	13.4
Dec.....	10.6	10.3	10.1	9.5	9.8	9.6	10.2	10.2	10.5	10.7	11.0	11.3	11.5	11.9	11.9	11.7	11.0
Year....	9.1	9.0	8.9	8.8	9.0	9.0	8.9	9.4	9.9	10.3	10.6	10.5	10.7	10.8	10.6	10.6	10.2

MARQUETTE, MICH.

[λ=46° 34′ N.; φ=87° 24′ W.]

Jan.....	11.3	11.6	10.5	10.0	10.1	9.8	9.4	10.4	10.1	10.3	10.3	11.8	13.0	13.4	12.7	11.6	11.5
Feb.....	8.1	8.6	9.5	8.8	9.3	9.4	9.0	9.1	8.3	8.6	8.3	8.4	8.9	8.6	9.1	8.8	8.3
Mar.....	8.0	8.0	8.2	7.6	8.1	7.3	8.0	8.5	9.0	9.8	10.3	10.8	11.9	12.2	12.7	12.0	11.9
Apr.....	9.9	9.9	10.3	10.9	10.7	10.2	10.8	10.8	11.3	11.6	13.2	14.6	14.7	15.2	14.8	14.3	13.3
May	9.5	9.8	9.8	9.7	9.6	9.4	9.1	10.2	10.4	11.4	11.3	10.6	11.8	12.1	12.2	11.0	9.7
June....	6.5	7.0	7.2	6.9	6.5	5.5	6.4	7.3	7.1	7.7	8.1	8.9	9.5	8.6	8.6	9.0	8.1
July....	7.7	7.7	8.1	8.5	7.1	7.5	6.9	7.5	7.2	7.8	8.1	8.4	9.4	9.5	8.6	8.1	8.4
Aug	8.6	8.9	9.3	9.8	9.6	9.3	7.5	7.7	8.6	10.1	11.5	12.2	12.0	12.0	11.6	11.2	10.4
Sept	9.5	9.6	9.5	10.0	10.4	10.4	10.4	11.2	11.1	11.4	11.3	11.5	12.1	12.0	12.5	12.1	10.6
Oct.....	9.6	9.3	9.0	9.4	9.0	8.7	8.3	8.3	8.8	9.7	10.2	10.6	11.6	11.1	11.6	11.0	10.5
Nov.....	10.0	10.6	10.5	10.5	10.1	10.6	10.3	11.1	11.5	12.3	13.1	13.5	12.6	12.5	12.4	11.3	10.0
Dec.....	10.4	11.0	10.3	10.4	10.6	10.6	10.8	10.9	11.4	11.9	10.7	11.4	10.7	11.2	10.6	10.6	9.3
Year....	9.1	9.3	9.4	9.4	9.3	9.1	8.9	9.4	9.6	10.2	10.5	11.1	11.5	11.5	11.4	10.9	10.2

MEMPHIS, TENN.

[λ=35° 9′ N.; φ=90° 3′ W.]

Jan	12.2	12.4	12.1	12.4	12.4	12.5	12.1	11.8	12.1	12.5	12.4	12.1	12.1	12.4	12.0	12.5	12.4
Feb	9.5	10.6	9.8	9.7	10.4	10.7	9.8	10.0	10.7	11.5	11.6	11.7	10.9	11.1	11.4	11.2	11.2
Mar.....	13.8	13.9	14.3	13.6	13.5	13.9	14.0	14.6	14.0	13.8	14.3	14.1	13.9	13.4	13.3	13.4	13.4
Apr.....	11.9	11.5	11.4	11.5	10.5	10.8	10.5	10.0	10.5	10.9	11.4	10.9	11.4	11.8	11.2	11.7	11.7
May	7.9	8.2	8.2	7.6	7.8	7.9	7.9	7.7	8.0	8.2	8.6	8.9	8.9	8.8	9.0	9.9	10.0
June	7.4	7.5	7.3	8.1	7.4	6.7	6.4	6.7	7.5	7.1	8.0	9.1	9.9	9.3	10.1	10.6	9.9
July	6.6	6.6	7.0	6.8	6.6	6.6	6.4	6.6	6.8	7.0	7.7	8.5	8.6	8.9	9.5	9.2	9.5
Aug.....	6.1	5.7	5.7	5.9	5.3	5.7	6.0	5.6	5.9	6.2	6.6	6.8	7.1	7.2	7.5	7.6	7.7
Sept	8.1	8.5	8.0	7.7	7.3	7.2	6.7	6.8	6.8	7.6	7.6	7.2	8.4	8.5	9.4	10.1	10.1
Oct	7.8	7.5	7.5	7.7	8.1	7.7	7.3	7.4	7.0	7.5	7.0	6.5	7.5	8.1	8.4	8.4	8.5
Nov.....	11.6	12.4	12.0	11.4	11.5	11.4	11.2	11.8	12.0	12.5	12.8	12.7	12.9	12.7	12.5	11.8	11.6
Dec	11.1	11.1	10.3	10.0	9.8	9.2	9.4	9.8	9.7	10.6	11.5	11.3	11.6	10.3	10.3	10.7	10.4
Year	9.5	9.7	9.5	9.4	9.2	9.2	9.0	9.1	9.2	9.6	10.0	10.0	10.3	10.2	10.4	10.6	10.5

NEW ORLEANS, LA.

[λ=29° 58′ N.; φ=90° 4′ W.]

Jan	9.9	10.0	10.0	10.6	10.9	10.8	11.1	10.7	11.3	11.7	12.2	12.1	12.2	12.2	11.9	11.9	11.5
Feb	8.6	9.5	9.2	8.9	9.0	8.8	9.0	9.2	9.6	9.9	10.4	11.0	11.2	11.9	12.4	11.9	11.4
Mar.....	9.6	9.5	8.5	8.9	8.2	7.7	8.6	9.1	9.6	10.8	11.5	12.5	13.0	13.6	13.8	13.4	13.2
Apr.....	8.4	8.2	8.4	8.4	8.1	7.7	7.3	7.5	8.8	10.4	11.2	11.8	11.8	11.9	11.2	10.9	11.4
May	7.0	6.7	6.1	6.3	6.0	6.0	6.2	6.6	8.2	8.9	9.0	8.4	8.9	9.8	10.4	9.7	10.0
June	5.6	5.6	5.7	5.6	4.8	4.2	4.4	4.4	6.5	7.2	7.3	7.2	8.0	8.2	8.4	8.3	8.9
July	5.5	5.1	5.0	4.8	5.0	4.8	4.5	5.0	6.5	7.7	7.8	8.1	8.1	8.3	8.8	8.2	8.7
Aug.....	5.5	5.1	4.8	4.9	4.4	4.6	5.4	5.6	6.1	7.3	7.7	9.0	9.2	8.9	9.0	9.5	9.9
Sept	7.8	7.7	7.5	8.3	9.0	8.7	9.2	9.8	10.9	12.2	12.7	13.6	13.6	13.6	13.1	13.5	12.2
Oct	5.9	5.8	6.1	6.2	6.4	6.5	6.4	7.0	7.4	8.5	9.0	9.2	9.6	10.0	9.9	9.1	7.7
Nov.....	8.0	7.5	7.8	7.7	7.4	7.8	7.8	7.8	7.7	8.7	9.6	10.1	10.1	10.2	10.8	10.8	10.7
Dec	8.4	8.1	8.0	8.2	7.7	7.5	7.8	8.2	9.0	10.1	10.9	11.7	11.3	11.0	10.9	11.4	11.3
Year	7.5	7.4	7.3	7.4	7.2	7.1	7.3	7.6	8.5	9.4	9.9	10.4	10.6	10.8	10.9	10.7	10.6

WIND—VELOCITY AND FREQUENCY—Continued.

KEY WEST, FLA.

[h_a = 50 ft.; local time, 27^m slow.] [Seventy-fifth Meridian Time.]

6^h	7^h	8^h	9^h	10^h	11^h	Mid.	Mean.	Max. vel.	N.	NE.	E.	SE.	S.	SW.	W.	NW.	Calm.	1897.
10.7	10.5	11.1	11.6	11.6	11.4	11.5	11.0	34	152	281	183	67	18	25	5	12	1	Jan.
9.3	8.1	8.5	8.8	9.4	9.8	9.1	9.5	48	27	113	74	271	77	40	20	50	0	Feb.
11.5	10.6	10.6	10.7	10.4	10.1	9.5	10.8	37	81	52	221	289	59	25	5	10	2	Mar.
10.9	11.1	11.2	10.9	11.2	12.4	12.1	12.2	36	51	218	209	132	43	12	11	42	2	Apr.
12.2	12.1	12.2	12.0	12.0	11.3	11.1	11.6	34	119	130	223	121	19	24	31	77	0	May.
6.7	6.0	5.3	5.4	5.9	5.6	5.3	5.9	22	14	58	197	273	85	72	4	15	2	June.
8.7	8.0	7.6	6.7	6.6	6.5	6.8	7.3	37	27	45	227	193	33	165	36	18	0	July.
7.9	7.4	7.1	6.5	6.1	6.5	6.8	6.8	25	22	55	215	294	78	28	28	23	1	Aug.
8.2	7.7	8.3	8.8	8.6	8.6	8.8	8.5	29	38	217	142	128	110	39	13	33	0	Sept.
10.5	11.1	10.7	10.0	9.6	9.5	9.2	9.7	36	120	228	229	103	5	9	7	41	2	Oct.
12.8	12.1	13.0	12.9	13.0	13.2	12.7	13.0	36	21	504	142	5	11	5	1	31	0	Nov.
10.7	10.1	10.3	10.1	10.5	11.1	10.8	10.6	30	62	409	91	73	59	17	5	25	3	Dec.
10.0	9.6	9.7	9.5	9.6	9.7	9.5	9.7	.....	734	2,310	2,153	1,949	597	461	166	377	13	Year.

MARQUETTE, MICH.

[h_a = 95 ft.; local time, 49^m slow.]

10.5	11.0	12.3	12.5	12.7	12.3	11.6	11.3	40	46	2	9	36	181	51	187	231	1	Jan.
7.7	7.2	7.8	7.6	8.7	8.0	7.9	8.5	40	66	38	79	52	61	49	106	207	14	Feb.
11.6	9.7	8.5	8.3	8.1	7.9	8.0	9.4	38	177	81	32	98	77	21	77	178	3	Mar.
11.6	10.3	9.6	9.2	9.3	10.1	10.0	11.5	43	208	69	23	35	80	82	57	161	5	Apr.
9.9	9.0	7.9	7.7	8.2	8.3	9.2	9.9	34	177	87	22	41	70	68	54	223	2	May.
7.1	6.1	5.9	5.4	5.7	6.0	6.4	7.1	34	188	76	32	62	65	56	51	183	7	June.
7.0	6.1	5.3	4.5	5.5	7.0	8.1	7.5	40	170	68	35	60	97	123	56	130	5	July.
9.3	6.8	6.1	5.6	6.5	7.5	8.2	9.2	34	172	74	16	24	78	108	105	167	0	Aug.
9.9	7.6	7.7	8.8	10.0	10.8	10.4	10.5	36	100	68	10	40	130	160	44	167	1	Sept.
10.0	10.2	10.2	10.3	10.6	11.1	11.0	10.0	39	71	55	10	100	171	132	49	153	3	Oct.
9.3	8.8	9.0	9.5	9.9	10.9	10.1	10.9	38	112	20	11	45	67	118	163	183	1	Nov.
8.8	9.4	10.3	10.5	10.3	10.7	10.1	10.5	34	63	27	1	33	120	123	183	194	0	Dec.
9.4	8.5	8.4	8.3	8.8	9.2	9.2	9.7	.....	1,550	665	280	626	1,197	1,091	1,132	2,177	42	Year.

MEMPHIS, TENN.

[h_a = 154 ft.; local time, 1^h slow.]

12.2	11.6	11.7	11.5	11.2	12.5	12.1	12.1	46	69	109	46	108	64	125	88	134	1	Jan.
10.2	10.5	10.8	10.6	10.4	10.2	9.4	10.6	43	91	101	82	89	88	67	44	110	0	Feb.
12.6	11.9	10.9	10.9	11.7	12.6	13.5	13.3	41	63	144	84	161	102	90	39	61	0	Mar.
11.0	10.4	9.5	9.3	10.5	10.5	11.2	10.9	40	63	50	62	119	105	104	67	150	0	Apr.
9.6	8.5	7.1	7.0	7.5	7.2	8.0	8.3	26	62	137	92	41	52	140	80	140	0	May.
9.0	8.4	7.0	6.7	5.8	6.5	7.8	7.9	46	60	54	86	43	89	180	81	113	14	June.
8.9	7.2	6.8	5.6	5.8	6.3	6.6	7.3	35	58	19	45	74	123	187	94	126	18	July.
7.2	6.3	5.4	4.9	5.1	5.4	5.5	6.2	43	92	76	66	33	78	126	76	178	19	Aug.
9.5	8.3	7.3	7.8	8.1	7.9	8.0	8.0	25	181	59	103	79	55	79	62	87	15	Sept.
8.1	6.8	7.6	8.1	8.1	8.4	8.3	7.7	23	122	111	80	119	63	77	48	117	7	Oct.
10.9	9.3	9.9	10.9	11.0	11.3	11.5	11.7	49	102	77	35	100	162	102	69	73	0	Nov.
10.0	9.5	11.0	11.0	10.7	11.0	11.4	10.5	48	64	107	42	80	102	141	81	123	4	Dec.
9.9	9.1	8.8	8.7	8.8	9.2	9.4	9.5	.....	1,027	1,044	823	1,046	1,083	1,418	829	1,412	78	Year.

NEW ORLEANS, LA.

[h_a = 120 ft.; local time, 1^h slow.]

9.8	7.8	7.9	8.4	9.0	9.4	9.4	10.5	40	141	199	32	97	47	66	51	111	0	Jan.
10.7	9.5	9.5	8.6	8.6	8.7	7.9	9.8	33	75	140	43	126	107	57	48	75	1	Feb.
11.5	11.7	10.5	10.0	9.7	9.7	9.6	10.6	36	14	68	62	242	221	80	15	42	0	Mar.
11.4	10.9	9.7	8.7	9.0	9.1	8.8	9.6	36	94	99	94	204	62	68	18	79	2	Apr.
10.0	9.5	7.9	7.1	6.8	6.6	7.0	7.9	32	69	151	23	221	85	84	38	67	6	May.
9.0	9.0	7.4	6.9	6.7	6.3	5.9	6.7	24	38	58	11	185	176	148	26	77	1	June.
8.9	8.1	6.8	6.5	5.9	5.8	5.7	6.6	26	39	75	6	147	109	159	103	103	3	July.
9.3	8.3	7.4	6.8	6.5	6.3	5.5	6.9	25	31	75	30	163	120	179	91	55	0	Aug.
9.9	8.8	8.0	7.8	7.6	7.5	8.0	10.0	42	109	326	82	108	7	18	20	45	5	Sept.
7.3	5.5	5.0	5.1	5.2	5.6	5.8	7.1	24	119	202	158	123	50	38	13	39	2	Oct.
9.5	9.0	8.5	8.0	8.0	8.0	8.0	8.7	34	114	167	84	168	79	29	27	52	0	Nov.
10.5	9.6	9.3	10.1	9.8	9.1	9.3	9.5	35	98	73	19	173	124	63	64	130	0	Dec.
9.8	9.0	8.2	7.8	7.7	7.7	7.6	8.7	.....	941	1,633	644	1,957	1,187	989	514	875	20	Year.

WIND—VELOCITY AND FREQUENCY—Continued.

NEW YORK, N. Y.

[λ=40° 43′ N.; φ=74° W.] [Seventy-fifth Meridian Time.]

1897.	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h
Jan	16.0	16.1	15.4	15.4	14.9	14.8	14.8	15.0	14.5	15.3	14.6	15.2	16.1	15.3	15.5	15.6	15.1
Feb	12.9	13.0	12.2	12.0	12.1	12.8	13.8	14.0	12.8	14.2	14.9	14.9	15.6	15.4	15.7	16.3	15.6
Mar	15.0	14.7	13.1	14.4	15.1	15.2	15.5	15.3	15.7	16.6	16.8	16.8	15.7	16.6	16.6	16.9	17.3
Apr	12.4	11.2	10.8	11.1	11.6	11.6	12.9	13.4	12.4	12.0	12.5	13.0	14.1	15.4	16.7	17.1	17.4
May	12.2	12.7	12.7	11.9	12.9	12.8	12.0	11.8	12.6	13.6	14.2	14.7	15.2	15.4	16.4	16.2	15.4
June	10.8	10.1	10.4	9.4	10.2	9.4	9.5	10.1	10.9	11.7	12.9	14.0	14.3	14.5	15.3	16.7	16.8
July	10.8	9.5	9.4	8.7	8.6	8.5	8.2	7.9	8.1	8.2	8.9	9.4	10.4	11.1	12.9	14.3	13.8
Aug	7.8	8.3	8.2	7.3	8.1	7.5	7.0	7.8	8.4	8.9	9.0	9.8	10.7	11.6	11.9	12.0	12.8
Sept	12.1	11.9	11.8	11.7	10.7	10.5	10.1	10.2	10.9	11.5	12.2	12.2	12.6	13.0	14.2	14.7	15.4
Oct	12.8	12.9	13.2	13.1	13.0	12.6	12.1	12.6	13.8	13.4	13.6	12.9	12.9	13.9	14.1	13.7	14.2
Nov	14.4	14.4	12.6	12.9	12.9	11.9	12.1	11.9	13.0	14.8	15.8	16.2	17.2	17.3	17.7	17.9	17.6
Dec	11.5	11.3	11.3	11.4	11.2	10.5	11.5	11.5	11.9	11.8	12.2	12.4	12.5	13.3	13.3	13.4	13.5
Year	12.4	12.2	11.8	11.6	11.8	11.5	11.6	11.8	12.1	12.7	13.1	13.5	13.9	14.4	15.0	15.4	15.4

PHILADELPHIA, PA.

[λ=39° 57′ N.; φ=75° 9′ W.]

Jan	10.3	10.1	10.2	10.6	10.6	10.5	10.7	11.0	11.4	11.9	11.9	12.2	13.0	13.2	13.1	12.7	11.8
Feb	9.3	9.8	10.0	10.0	9.5	9.3	10.0	10.7	11.2	12.0	12.9	13.1	13.4	13.7	13.6	13.1	12.6
Mar	10.3	10.5	10.1	9.3	9.3	9.4	9.7	11.0	11.7	11.8	11.8	11.7	11.7	12.6	12.9	11.9	11.7
Apr	9.6	9.3	9.8	9.8	9.6	9.1	9.5	10.9	12.2	12.3	12.0	11.7	12.1	12.2	12.6	12.2	12.1
May	9.4	9.8	9.5	8.8	8.8	8.9	9.7	11.6	12.3	12.8	13.4	13.4	13.8	14.1	14.6	13.6	13.1
June	7.8	8.5	8.0	7.4	7.4	7.7	8.3	10.4	10.2	10.4	11.1	11.3	12.4	13.4	13.8	13.3	13.0
July	6.7	7.2	6.8	6.6	6.8	6.2	7.3	7.9	7.8	8.2	9.1	9.2	9.9	10.5	10.9	11.1	11.4
Aug	5.4	5.1	4.8	5.3	5.3	5.6	6.3	7.1	8.0	8.6	9.3	8.9	9.8	10.7	11.0	10.7	10.4
Sept	8.0	8.2	8.3	8.4	8.1	8.0	8.9	9.7	10.2	10.3	10.7	10.4	10.7	10.8	11.9	11.4	11.3
Oct	9.8	10.4	10.2	10.1	10.9	10.3	10.1	10.9	11.6	11.6	11.1	11.2	11.5	11.6	11.7	11.6	11.3
Nov	8.6	8.2	8.0	7.7	7.2	7.2	7.2	7.5	8.9	10.4	11.7	12.2	13.6	13.4	13.2	12.0	11.3
Dec	8.4	8.3	8.4	8.6	8.9	8.4	8.6	9.5	9.7	10.8	11.1	11.7	13.0	13.0	13.1	12.5	10.9
Year	8.6	8.8	8.7	8.6	8.5	8.4	8.9	9.8	10.4	10.9	11.3	11.4	12.1	12.4	12.7	12.2	11.7

PITTSBURG, PA.

[λ=40° 32′ N.; φ=80° 2′ W.]

Jan	7.7	7.4	7.0	7.2	7.3	7.1	7.1	7.3	7.9	7.8	7.8	8.0	8.4	9.1	8.5	8.5	8.1
Feb	6.5	6.8	6.2	6.2	6.6	6.6	6.6	6.2	6.6	6.9	7.4	7.3	7.4	7.7	7.4	7.9	7.1
Mar	6.8	7.2	7.8	7.3	7.1	7.3	8.2	7.3	7.8	8.2	8.2	8.1	8.9	8.9	9.6	9.1	9.1
Apr	5.4	5.5	5.3	5.2	5.4	5.2	5.6	6.2	7.1	7.7	8.5	8.7	8.7	9.3	9.5	9.2	8.5
May	3.7	3.7	4.5	4.4	4.3	4.5	4.6	4.8	5.8	6.8	7.5	7.6	8.4	8.4	9.1	9.0	8.5
June	3.4	3.4	3.1	3.4	3.4	3.6	4.3	5.0	6.1	6.4	6.9	6.8	7.2	8.2	8.0	8.0	8.3
July	3.8	3.6	3.2	3.3	3.5	3.5	3.8	4.6	5.0	5.8	6.5	6.6	7.0	7.6	8.0	7.3	7.6
Aug	3.1	3.2	3.2	3.4	2.9	3.4	3.3	3.6	4.2	5.3	5.8	6.0	6.2	7.0	6.6	6.8	6.8
Sept	2.3	2.5	2.5	2.7	2.8	2.8	2.6	2.7	3.3	3.4	4.5	5.0	5.7	6.0	6.3	6.2	5.9
Oct	3.8	3.7	3.6	3.0	3.7	3.1	3.3	3.7	4.1	5.7	6.5	6.6	7.3	7.5	7.8	7.4	7.4
Nov	7.3	7.4	7.1	7.0	6.9	6.9	6.6	7.6	8.2	8.0	8.7	9.5	9.4	9.8	9.8	8.8	7.9
Dec	7.2	7.3	7.1	7.2	7.0	7.3	7.7	7.8	7.8	7.9	8.5	8.6	8.9	8.8	8.4	8.3	7.9
Year	5.1	5.1	5.0	5.0	5.1	5.1	5.3	5.6	6.2	6.7	7.2	7.4	7.8	8.2	8.2	8.0	7.8

PORTLAND, OREG.

[λ=45° 32′ N.; φ=122° 43′ W.]

Jan	6.5	7.2	6.7	6.7	7.0	7.5	7.3	7.0	6.7	6.8	7.2	7.3	8.2	8.0	9.1	9.1	8.9
Feb	8.6	7.7	8.1	8.1	7.8	7.9	8.2	8.1	8.1	9.0	9.5	9.4	10.1	10.8	12.3	11.8	10.7
Mar	8.9	9.8	10.7	10.9	11.7	10.9	10.7	10.8	10.2	10.2	11.3	11.3	12.6	12.6	13.2	14.0	12.9
Apr	9.5	8.9	8.9	8.0	7.6	7.0	6.8	6.5	6.4	6.4	7.4	8.2	8.7	8.5	8.8	9.6	9.8
May	9.7	9.4	8.2	8.6	8.1	6.5	6.3	5.4	5.9	6.8	8.4	8.4	9.2	9.2	8.6	8.9	9.1
June	7.4	7.4	6.2	6.0	5.5	4.3	4.8	4.9	4.6	5.5	6.3	6.8	8.1	7.7	7.7	8.2	8.2
July	9.2	8.3	6.7	6.0	5.5	5.0	4.9	4.7	4.7	5.4	7.1	8.4	8.4	7.8	8.3	8.9	9.4
Aug	11.1	9.8	8.3	8.1	8.0	7.4	6.3	6.2	5.9	6.0	7.0	7.2	8.8	9.1	9.1	10.1	11.0
Sept	6.9	6.6	5.7	5.4	6.2	5.5	5.0	5.6	6.0	5.5	5.9	6.5	6.1	6.6	6.8	7.6	8.3
Oct	5.4	6.8	6.9	6.4	6.2	6.1	5.9	5.5	6.0	6.4	6.3	6.1	6.8	7.4	7.8	7.9	7.5
Nov	11.4	11.4	10.8	10.5	9.4	9.5	8.7	8.2	8.0	8.6	8.4	8.5	10.1	10.5	11.0	11.5	11.6
Dec	10.2	11.0	11.3	11.6	11.4	11.0	10.4	10.3	10.6	11.6	11.1	10.7	10.8	11.3	11.5	12.2	11.7
Year	8.7	8.7	8.2	8.0	7.9	7.4	7.1	6.9	6.9	7.4	8.0	8.2	9.0	9.1	9.5	10.0	9.9

WIND—VELOCITY AND FREQUENCY—Continued.

NEW YORK, N. Y.

[h_a=326 ft.; local time, 4^m fast.] [Seventy-fifth Meridian Time.]

6^h	7^h	8^h	9^h	10^h	11^h	Mid.	Mean.	Max. vel.	N.	NE.	E.	SE.	S.	SW.	W.	NW.	Calm.	1897.
15.5	16.2	15.7	16.2	16.0	16.1	15.6	15.5	60	44	93	39	42	54	158	121	192	1	Jan.
14.5	14.3	14.0	14.7	13.1	12.9	13.7	14.0	60	67	104	42	19	44	106	94	196	0	Feb.
17.1	16.2	14.9	14.7	15.0	14.4	14.6	15.6	57	42	98	68	70	72	121	75	198	0	Mar.
16.4	16.7	15.4	14.1	12.2	11.3	11.5	13.5	58	46	49	20	91	132	133	65	184	0	Apr.
15.5	15.0	14.5	13.4	13.2	12.9	11.9	13.7	48	67	67	49	69	139	128	56	169	0	May.
16.6	15.2	14.4	13.6	12.7	12.2	11.0	12.6	53	35	45	39	39	119	130	95	218	0	June.
13.1	11.9	11.3	10.9	10.6	10.5	10.6	10.3	54	18	64	77	110	222	131	79	43	0	July.
12.6	12.1	11.3	10.8	10.1	9.5	8.5	9.7	49	46	44	53	59	187	112	124	119	0	Aug.
14.3	14.2	14.2	13.7	12.6	12.4	12.5	12.5	42	49	93	14	34	93	183	73	181	0	Sept.
13.4	14.0	13.8	13.7	14.0	13.7	13.6	13.4	60	63	224	51	31	78	139	43	115	0	Oct.
17.4	17.3	16.7	16.6	15.3	14.6	13.6	15.1	54	22	69	38	54	110	121	87	219	0	Nov.
13.7	13.9	13.5	12.6	12.5	12.1	12.0	12.3	48	51	74	57	27	72	145	112	205	1	Dec.
15.0	14.8	14.1	13.8	13.1	12.7	12.4	13.2	.....	550	1,024	547	645	1,322	1,607	1,024	2,039	2	Year.

PHILADELPHIA, PA.

[h_a=184 ft.; local time, .0^m.]

11.0	11.0	11.4	10.7	11.1	11.1	10.2	11.3	36	80	131	38	48	39	51	74	280	3	Jan.
11.7	10.9	10.1	9.2	9.2	9.4	9.9	11.0	46	97	121	70	22	38	74	72	178	0	Feb.
11.5	10.5	10.2	10.1	10.3	10.1	10.3	10.9	34	97	82	77	37	95	120	46	189	1	Mar.
12.6	11.6	11.3	10.4	9.0	9.2	9.2	10.9	37	52	70	43	46	86	167	67	189	0	Apr.
12.0	11.4	11.5	11.5	10.7	9.7	9.6	11.4	34	122	46	20	49	122	155	81	149	0	May.
12.9	10.2	9.6	9.4	9.1	8.3	8.0	10.1	38	132	52	42	10	94	112	78	200	0	June.
10.6	8.8	8.1	8.3	7.9	7.7	7.1	8.4	40	28	50	97	75	191	112	86	105	0	July.
9.5	8.6	7.5	6.8	6.4	5.8	5.5	7.6	34	67	71	58	57	115	131	88	154	3	Aug.
10.0	9.1	9.0	9.4	8.9	8.7	8.5	9.5	27	98	124	52	16	49	154	98	129	0	Sept.
10.3	10.6	10.5	10.3	10.1	9.8	9.7	10.7	44	94	251	53	40	56	136	46	68	0	Oct.
10.2	10.3	9.8	9.4	8.4	8.5	8.3	9.7	38	59	71	53	37	103	94	98	205	0	Nov.
10.2	10.1	9.9	10.1	9.5	10.0	9.4	10.2	37	75	102	23	51	77	137	72	207	0	Dec.
11.0	10.3	9.9	9.6	9.2	9.0	8.8	10.1	.....	1,001	1,171	626	488	1,065	1,443	906	2,053	7	Year.

PITTSBURG, PA.

[h_a=123 ft.; local time, 20^m slow.]

7.5	7.5	7.6	7.3	7.5	7.9	7.4	7.7	34	12	34	45	116	82	133	273	49	0	Jan.
7.2	6.9	6.4	6.5	6.8	7.0	6.7	6.9	29	42	44	49	132	43	53	194	114	1	Feb.
8.3	7.0	6.3	6.5	7.1	7.3	7.3	7.8	43	46	47	48	113	92	120	184	91	3	Mar.
7.8	7.6	7.2	7.0	6.2	5.8	5.6	7.0	34	31	30	40	151	81	132	164	90	1	Apr.
7.2	6.5	6.3	6.0	4.9	4.1	4.1	6.0	28	89	27	6	68	70	153	183	115	33	May.
7.3	5.8	5.2	4.8	4.7	4.3	3.4	5.5	30	111	27	17	60	74	124	122	163	22	June.
7.5	6.6	6.1	5.1	4.7	4.6	5.0	5.4	28	18	8	27	159	135	127	138	118	14	July.
6.9	5.6	4.8	4.1	3.5	3.4	3.3	4.7	32	122	59	45	67	56	90	141	136	28	Aug.
4.9	4.1	2.9	2.6	2.8	2.8	3.6	3.7	24	141	47	98	35	16	61	54	152	116	Sept.
6.3	5.5	5.4	5.6	5.5	4.6	4.2	5.2	32	79	68	124	98	82	74	79	98	42	Oct.
7.5	7.2	7.0	6.9	6.6	6.4	7.1	7.7	30	3	1	13	100	161	153	209	69	11	Nov.
7.8	7.7	7.1	7.2	6.8	6.5	6.8	7.7	28	19	22	64	112	123	184	152	65	3	Dec.
7.2	6.5	6.0	5.8	5.6	5.4	5.3	6.3	.....	713	414	576	1,211	1,015	1,404	1,893	1,260	274	Year.

PORTLAND, OREG.

[h_a=213 ft.; local time, 3^h 11^m slow.]

9.3	9.6	8.8	8.6	8.3	7.7	7.2	7.8	35	52	64	140	131	81	9	16	248	3	Jan.
10.8	9.6	8.7	7.1	6.9	7.8	8.0	9.0	43	32	32	57	140	219	53	19	114	6	Feb.
12.6	12.2	11.4	11.1	10.6	9.5	9.3	11.2	55	17	23	51	82	278	127	42	120	4	Mar.
10.1	10.4	9.8	9.5	9.5	8.8	10.0	8.6	34	30	16	13	98	85	68	67	340	3	Apr.
9.3	9.1	8.8	8.4	8.4	8.4	9.4	8.3	37	54	7	11	64	66	40	42	449	11	May.
8.4	8.3	9.2	9.2	9.7	8.8	8.2	7.1	26	46	9	23	70	79	67	85	326	15	June.
9.1	9.5	11.2	12.0	11.3	10.3	9.8	8.0	30	78	8	23	29	26	55	41	467	17	July.
11.5	12.0	11.6	12.1	11.8	12.8	11.9	9.3	35	48	13	11	101	65	12	16	465	13	Aug.
8.9	9.1	9.7	8.3	7.5	7.1	6.8	6.8	45	43	21	15	107	82	33	25	363	31	Sept.
8.0	8.0	7.1	6.3	6.0	6.4	5.9	6.6	42	36	21	68	119	72	21	47	315	45	Oct.
10.4	9.9	9.2	9.8	10.2	9.8	10.3	9.9	52	13	20	58	194	196	62	22	139	16	Nov.
10.9	10.6	11.1	11.4	11.2	12.6	11.9	11.2	48	31	43	147	167	218	33	21	82	2	Dec.
9.9	9.9	9.7	9.5	9.3	9.2	9.1	8.6	.....	480	277	617	1,302	1,467	580	443	3,428	166	Year.

WIND—VELOCITY AND FREQUENCY—Continued.

ST. LOUIS, MO.

[λ = 38° 38′ N.; φ = 90° 12′ W.] [Seventy-fifth Meridian Time.]

1897.	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h
Jan	12.7	11.9	12.8	12.6	12.1	11.4	11.4	12.1	12.3	12.4	13.2	13.5	13.2	13.5	13.3	13.0	13.2
Feb	9.5	9.4	9.0	9.2	9.5	9.8	10.2	10.5	11.0	11.0	11.5	12.1	11.5	12.0	12.6	11.7	11.7
Mar	10.1	11.0	10.5	10.1	10.0	9.7	10.1	9.5	10.1	10.5	10.7	11.8	12.3	12.7	13.6	13.7	13.6
Apr	10.9	10.6	10.7	10.8	11.3	11.2	11.6	12.8	13.2	14.6	14.8	14.2	14.2	14.1	14.8	14.0	13.2
May	7.4	6.8	7.4	8.0	7.8	7.7	6.9	7.4	8.9	9.4	9.2	9.4	10.0	10.4	10.6	11.1	10.5
June	7.6	8.2	7.2	8.1	7.7	7.2	7.5	8.0	8.4	9.4	9.0	9.7	10.6	10.4	10.2	10.8	10.6
July	7.2	7.1	7.6	6.8	6.9	6.6	6.8	6.6	7.2	8.3	8.8	9.3	9.8	10.3	10.4	10.3	10.3
Aug	6.5	6.6	7.0	7.0	6.9	6.3	6.5	7.3	7.5	7.8	8.4	8.6	9.2	9.5	9.5	9.1	9.8
Sept	8.0	7.7	7.1	6.4	6.2	6.2	5.5	5.5	6.0	6.1	6.9	7.4	7.8	8.0	8.3	8.3	8.3
Oct	8.1	7.8	7.6	8.1	8.2	7.4	6.9	6.3	6.7	7.5	7.9	7.8	8.0	8.2	7.9	8.5	8.6
Nov	10.8	10.9	10.3	10.4	9.8	9.9	10.3	11.2	11.1	10.8	11.1	11.2	11.1	11.1	11.2	11.1	11.0
Dec	9.3	9.3	9.2	9.6	10.3	10.4	10.5	10.0	9.9	10.1	10.5	10.5	9.6	9.5	9.9	9.8	10.3
Year	9.0	8.9	8.9	8.9	8.9	8.6	8.7	8.9	9.4	9.8	10.2	10.5	10.6	10.8	11.0	11.0	10.9

ST. PAUL, MINN.

[λ = 44° 58′ N.; φ = 93° 3′ W.]

Jan	8.2	7.8	7.4	7.6	7.2	7.4	7.2	7.1	7.1	7.1	7.9	8.7	9.0	9.9	10.3	10.2	10.0
Feb	6.6	6.9	7.2	7.1	6.8	6.2	6.1	5.9	6.2	6.4	7.6	8.1	8.5	9.0	9.4	9.0	9.4
Mar	6.9	7.0	6.9	7.3	7.2	7.2	7.3	7.7	8.1	8.3	9.1	9.4	9.5	9.5	10.2	9.6	9.6
Apr	6.8	7.0	7.3	7.2	7.6	7.8	8.0	8.6	10.0	10.1	10.7	11.8	12.1	12.4	12.4	12.1	12.2
May	5.9	5.9	5.9	6.0	6.0	6.0	6.1	6.9	6.9	7.9	8.5	9.4	9.6	10.4	10.9	11.5	11.2
June	5.5	5.7	5.4	5.2	5.0	5.2	5.4	6.4	6.3	7.5	7.4	7.4	8.1	8.6	8.8	9.0	9.0
July	6.4	6.7	6.0	5.9	5.9	5.4	5.3	6.2	7.1	7.3	7.8	8.4	9.1	9.5	9.9	10.3	10.0
Aug	3.9	4.0	3.9	4.5	4.6	5.1	5.0	5.5	6.6	6.8	7.7	8.6	9.0	9.6	8.9	9.1	9.3
Sept	5.1	5.1	5.3	5.6	5.8	5.6	5.4	5.7	6.1	6.9	7.3	7.8	8.6	9.1	9.2	9.8	9.3
Oct	5.6	5.3	5.1	6.0	6.2	5.8	6.0	6.2	6.2	7.6	8.8	9.7	9.9	10.1	10.2	10.5	9.9
Nov	6.8	6.7	6.7	7.0	7.0	7.2	6.6	6.4	7.0	7.7	7.6	7.6	8.3	8.5	8.5	8.7	7.9
Dec	7.1	7.3	7.2	7.3	7.2	7.0	7.4	7.6	7.8	7.6	8.0	7.8	8.3	8.0	8.5	9.0	8.4
Year	6.2	6.3	6.2	6.4	6.4	6.3	6.3	6.7	7.1	7.6	8.2	8.7	9.2	9.6	9.8	9.9	9.7

SALT LAKE CITY, UTAH.

[λ = 40° 46′ N.; φ = 111° 54′ W.]

Jan	3.4	3.0	3.3	3.2	3.4	3.3	3.0	3.3	3.4	3.8	4.1	3.6	4.0	4.6	4.8	4.5	4.7
Feb	4.5	5.1	4.8	5.0	4.7	5.4	5.4	5.3	5.5	5.0	4.8	5.0	6.2	6.6	7.2	7.7	7.6
Mar	5.9	5.2	5.3	5.4	5.7	6.0	6.1	5.3	4.9	5.3	7.3	7.6	9.2	10.5	11.7	11.4	10.5
Apr	5.4	4.7	5.7	5.5	5.4	5.6	5.8	5.4	5.4	5.2	5.8	7.0	8.6	9.4	9.8	10.2	11.1
May	6.3	5.4	4.9	4.9	4.6	4.1	4.8	4.4	4.6	4.0	5.8	6.9	8.5	8.9	9.4	10.1	10.2
June	6.1	4.8	4.9	5.0	4.9	4.8	5.0	3.8	3.6	3.8	4.5	6.3	8.4	8.7	9.1	10.0	9.8
July	5.5	5.0	5.0	5.1	5.1	4.4	4.2	4.5	4.0	3.9	4.7	5.5	7.6	8.6	8.9	8.7	9.4
Aug	5.6	4.5	4.8	4.5	4.1	4.0	3.9	4.0	4.1	3.5	3.5	3.9	4.9	6.3	6.9	8.3	9.1
Sept	4.8	4.3	4.2	4.1	4.5	4.8	5.3	4.5	4.2	3.7	4.0	5.3	9.0	10.4	11.6	11.4	11.5
Oct	4.5	5.1	5.2	4.4	4.6	4.3	4.2	3.9	4.4	3.7	3.8	4.9	6.0	7.5	8.8	8.9	10.0
Nov	4.7	4.4	5.3	4.8	4.4	4.2	4.5	4.8	4.7	5.1	4.4	4.0	5.3	5.7	6.5	7.0	6.7
Dec	4.0	4.0	4.5	4.5	5.0	4.5	4.1	4.3	4.5	4.5	4.5	4.6	5.0	5.2	6.0	5.8	6.0
Year	5.1	4.6	4.8	4.7	4.7	4.6	4.7	4.5	4.4	4.3	4.8	5.4	6.9	7.7	8.4	8.7	8.9

SAN DIEGO, CAL.

[λ = 32° 43′ N.; φ = 117° 10′ W.]

Jan	4.6	4.8	4.5	4.3	4.5	4.7	4.7	3.9	4.5	4.1	3.8	3.5	4.1	4.5	5.6	6.6	7.5
Feb	4.2	4.9	4.8	5.0	4.1	4.0	3.8	4.0	3.8	4.8	4.1	4.4	5.5	6.1	7.2	8.2	9.0
Mar	3.7	4.2	4.1	4.7	4.5	4.7	5.0	5.5	5.2	4.8	4.6	5.1	5.9	7.2	8.5	9.5	9.6
Apr	2.2	2.4	2.7	2.5	2.6	2.3	2.7	2.6	2.8	2.6	2.6	3.4	6.3	8.3	9.3	10.2	10.0
May	4.0	3.8	3.4	3.7	3.5	3.6	3.6	3.5	3.2	3.1	3.5	5.3	7.9	8.9	9.7	10.3	10.3
June	3.1	3.5	3.6	3.3	3.9	4.1	3.5	3.6	3.9	4.2	4.1	6.0	8.0	9.3	10.3	10.7	10.6
July	3.0	2.7	2.7	2.8	2.8	2.7	3.0	3.1	3.2	3.5	4.2	5.9	7.7	9.1	10.2	10.3	10.7
Aug	3.3	2.4	2.9	2.5	2.7	3.1	3.0	2.7	3.1	3.2	3.6	5.1	7.2	9.1	10.4	10.7	10.8
Sept	3.1	3.1	3.4	3.2	3.5	3.8	3.5	3.5	3.5	3.5	3.9	4.8	6.5	9.0	10.5	11.1	11.0
Oct	3.9	3.7	4.3	4.1	4.4	4.2	4.0	4.4	4.8	4.2	3.5	4.3	5.8	7.4	9.4	10.8	11.0
Nov	3.2	3.6	3.8	3.9	3.9	4.7	3.7	4.2	4.2	4.2	2.9	2.6	3.9	6.1	8.4	9.7	10.1
Dec	4.5	5.1	5.0	4.8	4.4	4.0	3.8	4.1	4.7	4.3	4.0	3.0	3.6	4.9	6.5	8.3	9.5
Year	3.6	3.7	3.8	3.7	3.7	3.8	3.7	3.8	3.9	3.9	3.7	4.4	6.0	7.5	8.8	9.7	10.0

WIND—VELOCITY AND FREQUENCY—Continued.

ST. LOUIS, MO.

[h_a = 210 ft.; local time, 1h 1m slow.] [Seventy-fifth Meridian Time.]

6h	7h	8h	9h	10h	11h	Mid.	Mean.	Max. vel.	N.	NE.	E.	SE.	S.	SW.	W.	NW.	Calm.	1897.
12.1	12.2	12.2	12.3	12.7	12.6	12.1	12.5	50	42	27	38	121	119	79	215	103	0	Jan.
11.8	10.7	10.4	9.8	10.1	10.2	9.4	10.6	31	112	72	91	68	82	37	91	118	1	Feb.
12.7	12.7	11.6	11.5	11.2	11.8	11.4	11.4	38	57	71	150	140	102	32	111	80	1	Mar.
13.2	13.6	12.9	11.8	11.6	11.1	10.4	12.6	43	117	48	91	91	138	58	86	91	0	Apr.
10.2	9.4	8.5	7.9	8.2	7.9	7.7	8.7	29	56	42	73	111	185	47	95	124	11	May.
10.0	9.2	8.5	7.7	7.4	7.4	7.7	8.7	38	39	31	62	127	214	125	96	25	1	June.
10.7	9.5	8.5	7.5	7.4	7.0	7.4	8.3	28	44	49	82	126	165	95	67	109	7	July.
10.1	9.1	8.0	7.3	7.2	7.2	6.9	7.9	30	140	132	50	45	102	81	83	106	5	Aug.
8.1	7.6	7.4	7.6	8.0	8.4	8.1	7.3	34	75	51	100	162	206	49	37	35	5	Sept.
8.0	7.0	7.3	7.9	8.0	8.6	8.6	7.8	26	98	73	102	117	165	69	68	44	8	Oct.
10.2	9.8	10.2	10.8	10.8	11.0	10.4	10.7	37	102	13	63	74	247	35	86	100	0	Nov.
9.8	9.7	9.6	9.2	9.7	9.8	9.4	9.8	28	100	77	23	79	118	94	128	125	0	Dec.
10.6	10.0	9.6	9.3	9.4	9.4	9.1	9.7	.....	982	686	925	1,261	1,843	801	1,163	1,060	39	Year.

ST. PAUL, MINN.

[h_a = 124 ft.; local time, 1h 12m slow.]

9.6	9.0	8.8	8.5	7.7	7.3	7.6	8.3	30	20	28	35	142	60	106	161	187	5	Jan.
8.6	7.0	6.7	6.5	6.6	6.8	6.6	7.3	29	7	46	52	203	45	78	106	98	37	Feb.
9.5	8.5	7.7	7.3	7.4	6.9	6.8	8.1	30	35	74	77	164	16	50	108	213	7	Mar.
11.8	11.0	9.4	7.7	7.6	8.0	7.6	9.5	40	116	85	41	36	98	77	67	185	15	Apr.
9.9	9.8	8.3	6.6	6.0	5.6	5.6	7.8	31	119	26	15	61	136	96	61	209	21	May.
8.2	7.6	7.1	6.0	5.4	6.1	6.0	6.8	40	61	34	55	145	100	87	85	128	25	June.
9.2	8.4	7.9	6.9	5.7	5.7	6.2	7.4	36	61	16	22	144	181	131	56	105	28	July.
8.9	7.8	6.6	5.0	4.6	4.7	4.1	6.4	29	101	46	30	80	95	111	70	169	42	Aug.
8.7	7.4	6.6	6.6	6.0	5.1	5.1	6.8	32	51	39	51	200	157	84	23	77	38	Sept.
8.8	8.3	7.8	8.3	7.2	6.9	6.3	7.6	27	69	24	34	152	139	55	73	182	16	Oct.
7.2	6.5	6.4	6.8	6.6	6.2	6.7	7.2	28	96	33	31	113	93	56	74	187	37	Nov.
8.1	7.5	7.2	6.8	6.7	6.6	7.1	7.6	26	72	14	17	98	115	51	94	279	4	Dec.
9.0	8.2	7.5	6.9	6.5	6.3	6.3	7.6	.....	808	465	460	1,538	1,235	982	978	2,019	275	Year.

SALT LAKE CITY, UTAH.

[h_a = 90 ft.; local time, 2h 27m slow.]

4.8	4.0	2.6	2.8	2.6	2.9	2.9	3.6	15	45	38	87	124	125	83	133	109	0	Jan.
7.5	6.5	5.1	5.1	4.4	4.5	4.6	5.6	32	23	42	42	182	159	57	71	95	1	Feb.
10.6	10.0	8.6	7.5	6.0	5.6	5.5	7.4	38	42	47	70	193	126	35	80	150	1	Mar.
11.0	11.1	10.8	8.6	5.7	5.6	5.1	7.2	40	62	66	63	151	52	41	81	199	5	Apr.
10.0	10.4	9.1	7.0	5.6	6.2	5.7	6.7	40	53	74	105	169	89	40	53	161	0	May.
9.8	8.5	7.5	7.1	6.5	6.5	6.3	6.5	31	48	79	85	228	85	33	35	125	2	June.
9.4	8.6	7.7	6.6	6.3	6.7	5.7	6.3	32	40	53	54	225	112	44	38	129	1	July.
8.7	8.5	8.9	7.6	6.0	5.7	5.4	5.7	32	35	65	74	196	86	44	40	156	0	Aug.
11.4	9.3	7.3	6.0	4.6	4.2	4.1	6.4	30	28	49	69	266	127	30	31	103	17	Sept.
10.2	8.9	6.9	5.7	5.0	5.0	4.7	5.9	36	27	65	66	182	86	43	74	180	21	Oct.
5.8	4.8	4.0	4.1	4.2	4.5	4.6	4.9	33	30	31	52	209	93	49	95	130	31	Nov.
5.9	4.9	4.1	4.1	3.5	3.5	3.8	4.6	30	33	46	44	236	102	64	108	106	5	Dec.
8.8	8.0	6.9	6.0	5.0	5.1	4.9	5.9	.....	466	655	817	2,361	1,242	563	839	1,643	84	Year.

SAN DIEGO, CAL.

[h_a = 102 ft.; local time, 2h 49m slow.]

8.2	7.4	5.9	4.3	3.5	3.8	3.8	4.9	35	39	173	81	72	52	111	70	102	44	Jan.
9.0	9.0	8.2	6.6	4.8	4.4	4.6	5.6	33	38	133	65	31	43	45	143	132	42	Feb.
9.9	9.6	8.8	7.4	5.3	4.3	3.9	6.1	24	33	125	40	47	67	133	133	141	25	Mar.
9.8	9.1	8.0	6.8	4.8	3.6	3.0	5.0	19	54	92	37	18	7	74	169	212	57	Apr.
9.7	9.2	8.6	7.5	6.3	5.3	4.4	5.9	23	82	22	16	29	60	199	80	213	43	May.
10.1	9.2	8.5	7.6	5.9	4.5	3.7	6.0	20	44	26	16	28	74	249	98	158	27	June.
10.1	9.6	8.9	7.9	6.6	5.5	4.0	5.8	18	71	17	5	13	48	207	114	230	39	July.
10.5	10.3	8.7	7.6	6.2	4.5	3.1	5.7	24	66	20	3	8	38	140	126	318	25	Aug.
10.5	9.2	8.3	7.1	5.4	3.7	3.4	5.8	24	88	21	23	51	48	123	82	252	32	Sept.
10.8	10.2	8.9	6.6	4.8	4.1	3.8	6.0	24	86	116	49	29	19	74	87	246	38	Oct.
9.7	8.7	6.3	4.3	2.8	3.4	3.4	5.1	18	89	135	82	31	25	35	53	244	26	Nov.
9.6	8.0	6.5	5.3	4.6	4.5	4.7	5.3	23	105	208	93	29	25	45	42	181	16	Dec.
9.8	9.1	8.0	6.6	5.1	4.3	3.8	5.6	.....	795	1,088	510	386	506	1,435	1,197	2,429	414	Year.

WIND—VELOCITY AND FREQUENCY—Continued.

SAN FRANCISCO, CAL.

[λ = 37° 48′ N.; φ = 122° 26′ W.] [Seventy-fifth Meridian Time.]

1897.	1h a. m.	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h
Jan.	6.4	6.7	5.8	5.7	5.4	5.7	5.5	5.8	5.4	5.6	6.2	6.7	7.4	7.9	7.9	8.1	7.7
Feb.	8.9	8.4	8.3	7.8	8.6	7.2	7.4	8.5	8.0	8.2	8.3	8.5	9.2	8.6	8.8	10.1	11.6
Mar.	9.7	9.7	9.3	9.2	8.8	8.2	7.8	8.5	7.8	8.2	9.0	9.3	10.3	10.3	10.8	12.4	15.8
Apr.	10.1	8.8	8.5	7.6	7.5	7.3	7.1	7.3	7.3	7.8	8.3	8.1	8.7	9.8	12.3	13.4	15.5
May	11.9	10.8	10.4	10.4	10.0	8.9	8.4	8.3	7.8	8.3	9.0	9.9	11.2	12.8	15.5	18.2	20.9
June	12.4	11.8	11.0	9.1	9.4	7.6	7.5	6.6	6.4	6.8	8.4	8.3	10.1	12.7	16.8	19.1	22.0
July	13.2	11.7	11.5	9.9	9.3	8.7	8.8	8.4	7.6	7.6	8.1	8.2	9.5	12.5	15.9	18.9	21.6
Aug	13.4	12.9	12.0	11.3	10.1	8.9	8.3	8.1	7.4	7.3	8.3	9.0	10.1	12.3	15.4	18.1	20.8
Sept	9.9	9.2	8.4	8.2	7.8	7.4	7.7	7.4	6.8	7.5	7.3	7.8	8.1	9.2	12.0	15.3	17.8
Oct	9.9	9.3	8.6	8.8	7.8	6.6	7.1	6.7	6.5	6.0	6.6	7.1	7.8	8.1	8.8	10.4	12.8
Nov	7.3	6.8	6.3	6.5	6.4	6.4	6.4	6.5	6.4	5.5	5.9	5.6	6.7	7.2	7.4	7.5	8.4
Dec.	5.6	5.7	5.8	4.9	5.9	5.7	6.0	6.2	6.2	7.2	7.8	7.3	8.5	8.0	7.8	7.5	7.6
Year	9.9	9.3	8.8	8.3	8.1	7.4	7.3	7.4	7.0	7.2	7.8	8.0	9.0	10.0	11.6	13.2	15.2

SANTA FE, N. MEX.

[λ = 35° 41′ N.; φ = 105° 57′ W.]

Jan.	4.7	4.9	4.6	4.6	4.0	4.7	5.2	5.4	5.4	6.4	6.6	6.9	8.1	9.0	8.7	8.4	8.3
Feb.	6.8	7.1	7.6	6.9	5.8	5.9	5.6	6.0	5.8	6.4	7.9	9.3	9.7	10.0	10.3	10.1	9.2
Mar.	5.9	6.1	6.1	5.6	5.0	5.5	6.5	6.3	5.7	6.9	8.5	9.5	10.7	11.6	12.5	13.4	13.5
Apr.	5.7	5.8	5.1	4.7	4.3	4.7	4.9	5.0	4.7	6.0	8.2	9.3	11.3	12.0	13.7	12.0	12.1
May	6.4	6.5	6.4	5.3	4.7	4.0	4.3	3.7	3.8	4.5	5.1	6.4	8.7	9.7	9.7	9.7	9.5
June	6.1	6.7	6.0	5.7	5.2	4.7	4.5	4.1	4.4	4.4	5.8	7.2	8.8	9.1	9.6	10.5	10.9
July	5.6	5.9	4.9	4.1	3.2	3.2	3.2	3.5	3.0	3.5	4.1	5.2	6.7	6.4	7.6	8.3	9.2
Aug	7.5	6.7	5.1	4.3	3.4	3.1	3.1	3.0	2.5	2.5	4.4	5.1	5.9	6.3	7.5	8.6	8.2
Sept	4.4	4.5	4.4	3.8	4.0	3.1	2.6	2.2	1.7	2.2	3.4	4.7	6.1	6.8	6.9	7.6	7.6
Oct.	6.2	6.1	6.0	5.6	4.9	4.3	4.5	4.8	5.0	5.2	6.9	8.1	8.4	8.5	9.3	9.2	9.1
Nov	3.8	3.6	3.5	4.2	4.2	3.7	4.1	4.1	4.6	4.9	5.9	7.7	9.2	9.0	8.8	8.9	7.8
Dec.	7.1	7.2	6.6	7.2	6.7	7.2	6.7	6.4	7.2	7.3	7.3	9.2	9.7	9.6	10.3	9.7	8.6
Year	5.8	5.9	5.5	5.2	4.6	4.5	4.6	4.5	4.5	5.0	6.2	7.4	8.6	9.0	9.6	9.7	9.5

SAVANNAH, GA.

[λ = 32° 5′ N.; φ = 81° 5′ W.]

Jan.	8.5	8.6	8.3	8.5	8.4	8.0	8.3	8.5	8.6	8.7	9.5	9.7	10.6	10.6	10.3	10.2	10.4
Feb.	8.6	8.9	8.5	9.1	8.7	9.3	8.0	7.9	8.3	8.5	9.6	10.6	10.1	9.9	10.5	10.2	10.0
Mar.	7.3	7.0	6.4	6.2	7.0	7.1	7.5	7.8	9.4	10.5	11.1	11.1	11.5	11.7	11.9	12.0	11.9
Apr.	8.1	8.1	8.1	8.3	7.8	7.9	8.0	8.4	9.1	9.8	10.0	10.3	11.4	12.0	11.9	12.3	12.2
May	6.7	6.9	6.5	6.4	6.4	6.2	6.6	8.1	9.5	9.3	8.9	9.8	10.6	11.4	12.0	11.9	11.8
June	5.3	5.6	5.4	5.3	5.3	5.0	5.2	6.1	6.8	6.9	7.3	7.4	7.9	8.8	10.3	10.2	10.4
July	4.8	5.1	4.7	4.4	4.4	4.2	4.9	6.1	6.8	6.5	6.4	7.0	7.9	8.4	9.5	10.0	10.2
Aug.	4.9	5.3	4.7	4.6	4.5	4.5	4.5	5.0	5.6	5.7	6.5	6.0	6.3	7.1	7.3	7.6	8.3
Sept	7.1	7.2	7.7	7.7	7.7	7.7	7.7	8.2	9.1	10.2	10.6	10.3	11.6	12.3	13.0	12.7	11.9
Oct	7.4	7.8	7.8	7.9	7.7	7.7	7.7	7.8	8.4	9.4	10.2	9.9	10.6	11.1	11.0	10.9	10.0
Nov	6.9	7.1	7.2	7.1	7.1	6.7	6.7	6.9	7.4	8.9	9.0	9.9	10.2	10.0	10.1	9.3	9.0
Dec	7.4	6.9	6.6	6.6	6.8	6.8	6.8	6.8	7.2	7.5	7.6	7.8	8.3	7.8	7.4	7.9	7.4
Year	6.9	7.0	6.8	6.8	6.8	6.8	6.8	7.3	8.0	8.5	8.9	9.2	9.8	10.1	10.4	10.4	10.3

WASHINGTON, D. C.

[λ = 38° 54′ N.; φ = 77° 3′ W.]

Jan.	7.3	7.3	7.5	7.6	7.0	7.1	6.9	7.2	7.5	8.9	9.8	9.7	10.8	11.2	11.8	11.5	10.0
Feb.	5.7	5.8	5.8	6.2	6.1	6.3	6.9	7.0	8.7	9.8	10.1	9.9	10.1	10.1	9.8	9.5	8.9
Mar.	6.1	6.0	6.3	6.4	5.8	6.1	6.1	6.6	8.0	8.7	9.3	9.7	9.9	10.7	11.1	11.0	10.5
Apr.	6.4	5.8	5.7	5.5	5.4	4.7	5.5	7.0	8.0	8.5	8.4	8.8	9.9	10.1	10.4	11.2	10.8
May	5.0	4.9	4.8	5.1	5.4	5.7	6.5	8.5	9.6	10.3	11.0	10.9	10.4	10.7	11.0	10.1	8.9
June	3.8	4.1	4.2	3.8	3.9	4.2	4.7	5.8	7.1	8.1	8.5	9.3	9.9	10.0	10.5	9.7	8.8
July	3.6	3.5	3.5	3.4	3.3	3.8	4.1	5.1	6.0	6.9	6.7	7.4	7.8	8.4	8.0	7.8	7.2
Aug.	2.8	2.9	2.5	2.8	3.2	2.5	2.7	3.8	5.3	6.1	6.7	7.1	7.5	6.8	7.2	7.0	6.3
Sept	3.7	4.3	4.2	4.0	4.1	3.9	4.0	4.9	5.9	6.8	7.0	7.6	7.9	8.0	8.2	7.6	7.2
Oct	4.5	4.5	4.6	5.2	5.8	5.6	4.9	5.9	6.4	6.9	7.6	8.1	8.4	8.4	8.7	8.0	8.1
Nov.	5.8	5.5	5.0	4.6	4.9	5.3	5.7	5.9	8.2	9.8	9.5	10.1	9.6	10.8	10.6	10.1	8.2
Dec.	5.2	5.1	4.5	4.6	5.2	5.3	5.3	5.0	6.5	8.1	8.9	9.3	9.5	9.7	9.8	9.4	7.8
Year	5.0	5.0	4.9	4.9	5.0	5.0	5.3	6.1	7.3	8.2	8.6	9.0	9.3	9.6	9.8	9.4	8.6

WIND—VELOCITY AND FREQUENCY—Continued.

SAN FRANCISCO, CAL.

[h_a = 167 ft.; local time, 3h 10m slow.] [Seventy-fifth Meridian Time.]

6h	7h	8h	9h	10h	11h	Mid.	Mean.	Max. vel.	N.	NE.	E.	SE.	S.	SW.	W.	NW.	Calm.	1897.
7.2	7.8	7.8	7.9	7.9	7.2	6.7	6.8	37	291	72	67	87	38	12	46	131	0	Jan.
12.1	12.7	11.9	11.4	11.4	10.9	9.5	9.4	37	100	23	18	65	49	73	252	90	2	Feb.
17.4	18.1	17.6	15.9	13.5	12.0	10.9	11.3	36	80	28	27	29	69	71	354	86	0	Mar.
16.3	17.4	18.5	19.1	17.8	15.5	10.8	11.3	35	58	23	13	20	28	192	322	58	6	Apr.
21.6	22.0	21.7	20.6	18.4	15.2	12.2	13.5	45	27	5	4	12	36	278	357	24	1	May.
22.0	23.0	22.5	21.7	19.4	17.2	14.6	13.6	39	7	10	6	27	31	225	405	7	2	June.
23.6	25.5	25.4	23.7	20.7	18.2	14.5	14.3	39	0	3	2	7	13	330	388	1	0	July.
22.6	23.7	23.2	22.5	20.0	18.1	15.9	14.1	36	1	0	0	1	19	238	483	2	0	Aug.
20.2	20.9	20.2	19.4	18.1	14.6	11.0	11.8	37	17	8	12	19	30	115	491	23	5	Sept.
14.3	14.7	15.3	13.7	12.9	12.0	11.2	9.7	37	49	13	7	42	34	143	377	77	2	Oct.
9.1	9.9	10.7	9.7	9.1	8.1	7.2	7.4	29	197	34	16	35	21	56	236	123	2	Nov.
7.7	7.6	7.6	7.5	6.5	5.9	5.3	6.7	34	318	55	34	63	38	29	85	117	5	Dec.
16.2	16.9	16.9	16.1	14.6	12.9	10.8	10.8	.....	1,145	274	206	407	406	1,762	3,796	739	25	Year.

SANTA FE, N. MEX.

[h_a = 50 ft.; local time, 2h 4m slow.]

7.6	6.8	5.1	4.5	4.2	4.9	5.2	6.0	24	85	269	39	63	71	82	24	59	52	Jan.
8.8	8.0	7.0	6.5	6.8	7.5	7.0	7.6	40	125	147	16	75	56	97	42	86	28	Feb.
13.3	13.1	12.1	8.2	7.5	7.0	6.0	8.6	35	63	93	20	102	81	155	81	124	25	Mar.
12.9	11.9	11.3	8.4	6.5	6.2	5.6	8.0	40	76	126	33	129	82	84	38	129	23	Apr.
10.2	9.5	8.3	7.0	5.7	6.1	6.6	6.7	36	42	102	83	179	85	128	51	54	20	May.
11.0	11.9	9.9	9.0	6.4	6.1	6.8	7.3	40	33	64	45	190	88	157	61	64	18	June.
8.3	8.6	8.7	8.0	6.3	6.1	6.1	5.8	33	42	99	65	166	103	137	48	61	23	July.
8.0	6.9	7.4	7.2	7.4	7.8	7.5	5.8	30	43	81	92	216	93	88	42	47	42	Aug.
6.8	6.4	6.2	4.9	5.2	6.2	5.5	4.9	27	35	61	64	166	109	99	35	41	110	Sept.
9.0	8.2	5.3	5.3	5.8	6.7	7.1	6.6	33	75	96	50	151	128	114	20	38	72	Oct.
7.0	5.0	2.9	3.7	4.2	4.2	3.8	5.4	30	98	117	34	138	18	71	36	78	130	Nov.
7.5	5.3	4.2	4.8	5.7	6.0	6.7	7.3	36	106	242	21	77	109	46	14	66	63	Dec.
9.2	8.5	7.4	6.5	6.0	6.2	6.2	6.7	.....	823	1,497	562	1,652	1,023	1,258	492	847	606	Year.

SAVANNAH, GA.

[h_a = 89 ft.; local time, 24m slow.]

9.3	8.5	8.5	8.8	8.7	8.8	8.9	9.0	28	69	153	46	26	39	69	131	210	1	Jan.
9.3	9.0	9.6	9.4	9.0	9.0	8.6	9.2	27	42	61	91	63	105	103	101	106	0	Feb.
10.5	9.7	9.4	8.7	8.3	8.2	7.7	9.2	30	73	142	79	76	138	91	90	55	0	Mar.
11.8	9.8	8.8	8.9	9.2	9.0	8.6	9.6	36	38	102	99	101	155	95	34	96	0	Apr.
10.7	9.3	7.6	7.8	7.8	7.8	7.5	8.6	25	75	46	49	106	157	126	96	88	1	May.
9.3	8.8	8.0	6.8	7.0	6.7	5.7	7.1	40	39	47	40	128	105	156	130	72	3	June.
9.2	7.8	6.2	5.5	4.7	4.5	4.2	6.4	36	32	35	79	133	137	148	118	49	13	July.
8.5	7.3	7.1	6.4	5.7	5.5	5.6	6.0	26	54	37	48	61	160	193	110	69	12	Aug.
10.3	9.0	8.0	8.2	8.1	7.6	7.4	9.2	40	74	224	152	101	31	47	48	31	12	Sept.
8.3	7.8	7.8	7.8	7.4	7.3	7.4	8.6	30	179	173	75	68	62	19	33	130	5	Oct.
7.0	7.6	7.7	7.9	8.2	8.0	7.3	8.0	26	66	117	49	60	92	136	79	114	7	Nov.
7.0	6.6	6.8	7.1	7.2	7.8	8.4	7.3	27	83	112	75	28	77	103	129	132	5	Dec.
9.3	8.4	8.0	7.8	7.6	7.5	7.3	8.2	.....	824	1,249	882	951	1,258	1,286	1,099	1,152	59	Year.

WASHINGTON, D. C.

[h_a = 76 ft.; local time, 8m slow.]

8.7	8.7	8.5	7.7	7.3	7.0	6.7	8.5	40	129	78	59	34	99	28	32	267	18	Jan.
7.4	6.0	6.3	6.4	6.3	5.4	5.3	7.5	36	193	95	77	32	77	47	23	112	16	Feb.
9.4	8.4	8.1	8.1	7.6	7.5	6.9	8.1	36	106	83	99	41	197	35	34	142	7	Mar.
10.0	8.2	7.3	6.8	7.4	7.7	7.1	7.8	35	109	42	62	66	188	53	24	155	21	Apr.
8.3	7.3	5.5	5.3	5.8	5.4	5.4	7.6	32	168	36	23	51	172	70	44	166	14	May.
7.6	6.0	5.2	4.8	4.3	4.3	4.3	6.4	25	161	48	46	33	154	44	50	162	22	June.
6.5	6.0	4.9	4.5	4.0	4.2	3.8	5.4	34	59	48	70	59	225	76	89	101	17	July.
5.7	4.9	3.6	3.6	3.4	3.1	3.1	4.6	30	130	78	34	44	168	61	94	99	36	Aug.
6.0	4.6	4.1	3.8	4.1	4.0	3.9	5.4	28	144	132	41	42	136	57	47	95	26	Sept.
7.0	6.3	5.9	5.5	5.1	5.0	5.3	6.3	30	174	213	29	27	162	36	33	37	33	Oct.
6.5	6.3	7.1	6.9	5.9	5.8	5.6	7.2	47	53	56	28	24	209	47	71	214	18	Nov.
6.9	6.3	6.1	6.4	6.0	6.4	5.8	6.8	34	135	77	34	28	185	60	56	150	19	Dec.
7.5	6.6	6.0	5.8	5.6	5.5	5.3	6.8	.....	1,561	986	602	481	1,972	614	597	1,700	247	Year.

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PART III.

MONTHLY AND ANNUAL METEOROLOGICAL SUMMARIES FOR ONE HUNDRED AND FORTY-FIVE WEATHER BUREAU STATIONS.

EXPLANATION OF THE TABLES.

(A. J. HENRY, Chief of Division.)

For a detailed account of the methods of reduction, etc., the reader is referred to the article on that subject, page 37, Report of the Chief of the Weather Bureau, 1891-92.

Pressure.—The barometer used at Weather Bureau stations for personal observations is the ordinary portable mercurial open cistern. Each instrument is compared with the substandard at Washington before being issued, and a certificate is given showing both the corrections to the attached thermometer and the so-called correction for instrumental error. The latter is not applied except when it exceeds $\pm$ .006 inch.

The monthly means and the extremes given in the summaries have been reduced to 32° F., but not to standard gravity. The latter correction is given for each station at the head of the table. The means have been deduced from the personal observations at 8 a. m. and 8 p. m., seventy-fifth meridian time, and the extremes from the 8 a. m. and 8 p. m., and all special observations.

Temperature.—The temperature of the air at 8 a. m. and 8 p. m., seventy-fifth meridian time, is obtained by the use of the whirled dry-bulb thermometer. The latter is a part of the whirled psychrometer and is mounted in the wooden-roof thermometer shelter adopted in 1885. The means of these observations are given in the columns headed 8 a. m. and 8 p. m., respectively.

The maximum thermometer used is of the mercurial Negretti and Zambra pattern, having a constriction in the bore of the tube below the scale.

The minimum temperature is obtained by the use of the ordinary Rutherford alcohol minimum thermometer. Both instruments are read and recorded twice daily, at 8 a. m. and 8 p. m., seventy-fifth meridian time. The maximum and minimum thermometers are set daily at 8 a. m. and 8 p. m. The extremes given in the summaries are for the civil day, midnight to midnight. The monthly means have been obtained by dividing the sum of the mean maxima and mean minima temperatures by 2.

Moisture.—The monthly means of the dew-point, relative humidity, and vapor pressure are given as computed directly from the original daily observations.

In using the tables by means of which the amount of atmospheric moisture is computed from the readings of the whirled psychrometer, that one which gives the influence on the psychrometer of the prevailing pressure has been neglected. Caution should be exercised in using the published vapor pressure, dew-point, and relative humidity for high stations as computed by tables appropriate for low stations. The accuracy at present attained is confessedly below the demands of special laboratory studies, the needs of climatologists, and others, but answers fairly well for the use of forecast officials in the current daily routine of weather predictions.

The rain gauges used at the regular Weather Bureau stations have a circular catchment area of about 8 inches diameter, and the snow, hail, or sleet caught within them is melted and measured as water. The rain gauge proper is set within an inclosing cylinder of 8 inches diameter and 2 feet high, which serves as an overflow attachment in the case of heavy rains and as a snow gauge in the winter season.

The sum total of the depth of rain and melted snow is measured to within 0.01 inch not only at the end of every shower, but also at 8 a. m. and 8 p. m., standard time, daily. By adding these two regular observations we obtain the total precipitation for the twenty-four hours preceding 8 p. m. of the civil day to which it is accredited.

The snow caught and retained in the gauge is melted and measured as water. No correction is applied for the snow that is lost out of the gauge by the eddying action of the wind; consequently in some cases the record is less than would be given if the observer had measured cylinders of snow cut from the spots representing the average snowfall on the ground. When it is known that the catch of the snow gauge is markedly deficient, an independent ground measurement is made and used as the official record. The loss of both rain and snow caused by high winds is undoubtedly larger at the regular telegraph stations of the Weather Bureau than is the case at the voluntary stations whose gauges are located in the open country and near the ground, but this loss does not appear to be so large as to make the monthly and annual sums derived from these two classes of gauges wholly inconsistent with each other; on the contrary, except at a few stations, the differences between the annual rainfall at city and country gauges are not larger than is plausibly due to actual differences in the geographical distribution of rain.

By the maximum precipitation in twenty-four hours is meant the actual measurements for any twenty-four hours; it does not refer to the rate of rainfall for twenty-four hours, as deduced from short, heavy showers.

The number of days with precipitation amounting to 0.01 and 0.04 inch, respectively, relates to the rainfall from 8 p. m. to 8 p. m. and not from midnight to midnight.

The cloudiness recorded in the summaries is derived from personal observations. The proportion of sky covered with clouds is estimated by the observer at 8 a. m. and 8 p. m., seventy-fifth meridian time, on a scale of 0-10.

The two simultaneous observations can not be combined into a normal daily mean in the present state of our knowledge of the diurnal variation in cloudiness, and are therefore given separately. In order, however, to obtain a general record of the sunshine as affecting the growth of plants, the observer keeps some memoranda of the cloudiness, sufficient to enable him at the end of the day to assign a percentage representing the average condition of the sky from sunrise to sunset; the resulting average for each month is given in the column of "daylight."

The number of days that are clear, as given under "number of days, etc.," include those on which the daylight cloudiness has been 0, 1, 2, or 3 tenths; the days partly cloudy are those on which the daylight cloudiness has been 4, 5, 6, or 7 tenths; the cloudy days are those having 8, 9, or 10 tenths of cloudiness during daylight.

Wind.—The velocity of the wind is recorded at all Weather Bureau stations; the direction and velocity are recorded at about one-half of the stations on what is known as the "triple register." The records from 28 of the stations that are furnished with triple registers will be found in Part II. On some of these instruments the direction of the wind is recorded every five minutes, while on the latest pattern a record is made every minute.

The maximum velocities given are for five-minute periods.

A wind velocity of 40 miles per hour is considered as a gale.

Number of days.—The number of days with snow includes all of those on which at least 0.01 inch of melted snow, corresponding to about one-tenth of an inch of unmelted snow, has fallen in the twenty-four hours preceding 8 p. m.

The number of days with hail includes all of those on which at least a trace of hail fell.

No record of amounts of dew is given.

The number of days with fog includes all of those on which fog prevailed for at least an hour, and was dense enough to obscure objects 1,000 feet distant.

References and abbreviations.—H=height of barometer cistern above mean sea level; h_t=height of thermometer above ground; h_r=height of rain gauge above ground; h_a=height of anemometer above ground.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897

ABILENE, TEX.

[λ = 32° 23′ N.; φ = 99° 40′ W.; gravity corr., —0.03.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	28.35	28.70	27.92	33.3	41.9	49.0	31.0	40.0	71	5	30	32	88	70	.182	.199	1.28	0.48	4.9	4.9	5.5
February	28.17	28.78	27.83	40.8	58.2	64.6	39.1	51.8	85	22	35	35	81	47	.216	.215	.02	.02	2.6	2.9	3.7
March	28.10	28.45	27.71	48.5	62.6	68.9	46.4	57.6	82	26	41	39	77	49	.280	.267	4.02	1.81	4.7	4.4	4.7
April	28.21	28.47	27.82	52.8	69.5	75.3	50.9	63.1	93	36	44	44	73	44	.300	.308	.74	.60	2.3	3.9	4.1
May	28.21	28.46	27.94	61.7	75.6	80.5	60.4	70.4	89	48	57	56	86	53	.472	.461	4.73	1.12	5.0	4.1	5.2
June	28.13	28.35	27.92	70.5	84.5	88.8	68.2	78.5	101	51	64	60	79	46	.595	.522	3.90	2.12	3.5	3.6	4.0
July	28.18	28.36	27.92	73.8	91.9	95.5	72.3	83.9	105	61	63	58	71	35	.590	.505	2.00	1.00	2.4	2.1	2.7
August	28.23	28.38	28.07	71.0	85.6	91.3	70.3	80.8	101	63	65	60	82	46	.626	.532	1.87	1.18	2.4	3.9	4.9
September	28.31	28.56	27.97	64.0	78.7	86.4	63.0	74.7	95	52	57	56	80	51	.493	.471	2.89	1.31	1.8	2.8	4.1
October	28.25	28.54	27.86	56.8	70.9	78.5	55.7	67.1	89	34	51	50	81	52	.389	.381	1.32	.47	2.4	1.8	3.6
November	28.32	28.80	27.95	45.0	59.6	68.2	42.1	55.2	84	20	34	34	65	39	.222	.210	.01	.01	1.9	1.2	2.5
December	28.32	28.88	27.86	34.0	45.4	54.1	31.4	42.8	79	15	27	28	76	56	.148	.163	.52	.28	3.5	3.5	4.7
Year	28.23	28.88	27.71	54.4	68.7	75.1	52.6	63.8	105	5	47	46	78	49	.376	.353	23.30	2.12	3.1	3.3	4.1

ALBANY, N. Y.

[λ = 42° 39′ N.; φ = 73° 45′ W.; gravity corr., —0.01.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	30.00	30.70	29.32	22.6	25.5	31.9	17.5	24.7	52	— 4	18	20	82	80	.111	.118	1.62	0.96	6.8	5.5	7.0
February	30.01	30.56	29.51	22.0	27.7	33.8	18.1	26.0	48	— 5	18	21	82	75	.104	.117	2.05	.89	6.1	4.9	6.4
March	29.97	30.75	29.09	32.0	36.0	43.5	27.1	35.3	58	4	27	28	80	75	.152	.162	1.85	.79	6.1	5.2	6.0
April	29.98	30.52	29.54	43.2	49.4	57.9	38.1	48.0	83	21	36	35	75	59	.216	.216	3.12	1.22	5.8	5.0	6.2
May	29.86	30.31	29.54	55.8	59.7	68.4	49.2	58.8	77	38	47	45	74	61	.332	.317	4.69	1.80	5.8	7.0	5.8
June	29.84	30.14	29.59	62.1	66.1	74.4	54.8	64.6	85	48	54	53	75	66	.420	.426	4.45	1.91	5.7	5.7	5.5
July	29.86	30.25	29.55	71.1	74.2	83.3	66.1	74.7	96	56	64	66	80	76	.605	.641	6.67	3.12	6.5	7.2	5.9
August	29.88	30.12	29.52	65.6	69.6	79.2	59.8	69.5	89	50	61	62	85	78	.543	.568	4.43	1.71	4.3	5.1	4.5
September	30.05	30.33	29.68	56.8	63.2	73.4	51.9	62.6	94	38	51	54	82	72	.396	.436	1.87	.87	4.3	3.2	4.0
October	30.07	30.60	29.58	45.8	53.6	64.4	41.5	53.0	88	28	42	44	88	71	.284	.303	1.01	.81	4.2	2.9	3.9
November	29.98	30.53	29.07	36.2	39.1	45.8	32.0	38.9	61	12	33	32	86	75	.195	.193	4.65	1.96	8.4	5.9	7.8
December	29.98	30.50	29.29	27.4	31.2	36.3	23.9	30.1	58	4	24	26	85	80	.139	.149	4.38	1.69	6.9	7.3	7.7
Year	29.96	30.75	29.07	45.0	49.6	57.7	40.0	48.8	96	— 5	40	40	81	72	.291	.304	40.79	3.12	5.9	5.4	5.9

ALPENA, MICH.

[λ = 45° 5′ N.; φ = 83° 30′ W.; gravity corr., 0.00.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	29.34	29.94	28.57	19.7	22.2	27.4	15.8	21.6	49	— 7	15	18	81	80	.097	.105	3.00	1.10	8.0	6.8	7.5
February	29.36	30.01	28.82	21.2	24.3	28.5	17.4	23.0	40	— 5	17	19	82	80	.099	.107	1.09	.24	6.6	5.2	6.0
March	29.38	30.06	28.55	24.7	29.0	33.7	20.8	27.2	52	— 3	20	24	82	80	.117	.131	2.11	.50	6.4	6.5	5.9
April	29.39	30.01	28.84	36.5	40.1	46.6	31.5	39.0	73	10	32	34	83	79	.187	.203	4.59	1.10	6.7	5.8	6.5
May	29.30	29.70	28.86	47.2	48.6	56.5	40.6	48.6	80	34	40	41	79	76	.260	.258	5.43	1.21	6.0	5.8	6.2
June	29.29	29.56	28.92	55.4	58.9	66.1	48.7	57.4	79	37	48	49	77	70	.346	.353	1.62	.46	5.4	5.4	5.4
July	29.27	29.58	29.02	67.5	71.2	76.7	61.2	69.0	98	52	62	61	82	72	.553	.535	3.81	1.23	5.3	3.7	4.9
August	29.31	29.67	28.96	59.3	64.4	71.2	52.7	62.0	83	42	54	56	83	76	.424	.459	1.77	.58	4.3	3.7	4.5
September	29.49	29.78	29.02	56.7	62.3	70.5	51.3	60.9	94	34	52	56	86	80	.411	.461	0.87	.32	3.7	3.0	3.7
October	29.42	29.84	28.71	47.5	51.1	57.5	44.0	50.8	84	33	44	46	90	85	.304	.330	4.33	1.63	5.0	4.6	6.0
November	29.34	29.87	28.66	32.1	34.6	39.8	28.9	34.4	60	13	29	31	88	85	.168	.180	1.50	.42	7.6	7.2	7.4
December	29.31	29.85	28.77	23.9	25.9	29.6	20.0	24.8	49	0	21	22	86	83	.118	.123	2.47	.52	9.1	8.6	8.5
Year	29.35	30.06	28.55	41.0	44.4	50.3	36.1	43.2	98	— 7	36	38	83	79	.257	.270	32.59	1.63	6.2	5.4	6.0

AMARILLO, TEX.

[λ = 35° 13′ N.; φ = 101° 50′ W.; gravity corr., — 0.03.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	26.31	26.63	25.85	24.1	29.6	35.0	20.2	27.6	55	— 1	19	22	82	76	.109	.127	2.26	1.20	4.0	4.7	4.7
February	26.16	26.69	25.83	30.4	43.1	51.0	28.0	39.5	69	20	26	29	85	61	.142	.161	.65	.53	3.9	5.5	4.7
March	26.11	26.35	25.73	34.8	51.7	58.5	31.9	45.2	80	13	26	22	71	38	.146	.127	.47	.15	2.9	4.4	4.7
April	26.25	26.49	25.82	44.0	62.7	68.6	42.0	55.3	83	29	35	29	74	35	.224	.189	1.08	.50	3.8	3.7	4.3
May	26.29	26.50	26.06	55.2	68.1	73.5	53.1	63.3	82	45	51	50	87	57	.382	.377	4.44	1.66	6.4	7.2	6.9
June	26.22	26.47	25.98	62.8	79.9	85.0	59.7	72.4	102	46	55	47	79	38	.449	.349	2.32	.92	4.8	5.7	5.4
July	26.30	26.53	25.98	66.3	82.9	88.3	64.6	76.4	97	55	57	52	74	39	.479	.411	2.16	.84	3.3	4.2	3.7
August	26.35	26.53	26.20	64.0	78.1	84.4	62.8	73.6	92	58	58	55	82	48	.481	.439	2.71	.70	5.2	4.7	4.9
September	26.40	26.69	26.18	58.9	74.3	81.3	57.2	69.2	88	42	51	48	78	43	.389	.349	.78	.38	3.4	4.7	3.9
October	26.31	26.56	25.89	47.9	62.6	70.6	46.1	58.4	85	27	41	41	78	50	.264	.276	1.63	1.00	3.5	4.4	4.1
November	26.31	26.79	25.95	36.6	50.7	61.8	31.9	46.8	82	12	24	23	63	36	.130	.150	.08	.08	2.6	2.5	2.8
December	26.31	26.87	25.78	26.8	37.0	45.5	22.5	34.0	72	— 1	17	20	69	55	.095	.108	.63	.26	3.0	3.7	3.4
Year	26.28	26.87	25.73	46.0	60.1	67.0	43.3	55.1	102	— 1	38	36	77	48	.274	.254	19.16	1.66	3.9	4.6	4.5

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897.

ABILENE, TEX.

[H=1,749 ft.; h_t=47 ft.; h_r=36 ft.; h_a=54 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. (a)	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	8.1	N.	32	NW.	0	13	7	5	5	5	7	10	10	0	12	7	12	10	7	6	0	1	4	0	17	0	0
February	9.9	SW.	84	SW.	0	8	6	1	9	7	12	4	9	0	15	8	5	1	0	0	0	2	0	0	7	0	0
March	10.1	SE.	45	W.	3	8	9	5	11	12	5	5	7	0	14	8	9	11	7	0	1	4	0	0	2	5	0
April	12.0	SE.	36	SW.	0	10	6	1	21	9	3	3	7	0	15	7	8	5	3	0	2	0	0	1	0	5	0
May	9.3	SE.	46	NW.	2	8	6	4	29	7	6	1	1	0	7	15	9	10	8	0	1	0	0	0	0	12	0
June	12.1	SE.	31	SE.	0	1	2	3	39	8	5	2	0	0	14	10	6	3	2	0	1	0	0	15	0	5	0
July	9.0	SE.	40	NE.	1	6	3	0	26	11	11	3	2	0	19	12	0	5	4	0	0	0	0	29	0	6	0
August	6.3	SE.	35	SW.	0	2	3	8	30	11	5	2	1	0	9	14	8	6	5	0	0	0	0	21	0	7	0
September	7.2	SE.	30	NE.	0	4	3	5	24	13	5	1	5	0	13	11	6	11	9	0	0	0	0	9	0	2	0
October	8.2	SE.	36	SE.	0	7	3	2	25	12	5	4	4	0	15	12	4	7	7	0	0	2	0	0	0	1	0
November	10.9	SW.	30	W.	0	11	3	1	8	18	12	0	7	0	18	10	2	1	0	0	0	0	0	0	4	0	0
December	9.3	N.	48	NW.	1	17	5	0	3	13	8	5	11	0	15	4	12	6	4	1	0	2	3	0	17	1	0
Year	9.4	SE.	48	NW.	7	95	56	35	230	126	84	40	64	0	166	118	81	76	56	7	5	11	7	75	47	44	0

ALBANY, N. Y.

[H=97 ft.; h_t=84 ft.; h_r=99 ft.; h_a=113 ft.]

Month.	Average hourly velocity.	Prevailing direction. (a)	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	8.8	W.	42	SE.	1	11	4	0	4	14	2	16	11	0	6	9	16	8	3	5	0	1	16	0	27	0	0
February	8.3	N.	32	SE.	0	16	1	1	6	9	1	10	12	0	6	12	10	10	4	5	0	0	11	0	25	0	0
March	10.2	S.	36	SE.	0	15	1	0	3	18	0	13	12	0	10	5	16	14	9	4	1	0	2	0	20	1	0
April	9.0	S.	36	SE.	0	17	0	0	2	16	1	11	13	0	7	8	15	13	8	0	0	1	0	0	7	0	2
May	8.6	S.	36	SE.	0	10	3	1	4	20	2	10	12	0	11	8	12	16	13	0	0	0	0	0	0	2	0
June	7.8	S.	26	S.	0	4	1	0	9	18	1	14	13	0	11	11	8	12	10	0	0	0	0	0	0	5	0
July	6.1	S.	30	SE.	0	7	3	2	8	32	0	8	2	0	7	15	9	16	10	0	0	0	0	5	0	7	0
August	6.3	S.	29	S.	0	14	0	0	5	24	3	6	10	0	13	14	4	9	8	0	0	0	0	0	0	5	0
September	6.5	S.	31	N.	0	15	4	1	1	21	1	10	7	0	16	9	5	7	7	0	0	5	0	1	0	1	0
October	6.1	S.	28	SE.	0	10	7	1	3	24	1	7	9	0	16	11	4	7	4	0	0	4	0	0	2	1	0
November	9.3	S.	34	W.	0	10	3	1	5	17	1	14	9	0	1	12	17	17	14	4	0	1	2	0	16	0	0
December	8.0	S.	30	S.	0	9	1	2	7	20	1	6	16	0	5	4	22	15	9	9	0	3	11	0	22	0	0
Year	7.9	S.	42	SE.	1	138	28	9	57	233	14	125	126	0	109	118	138	144	99	27	1	15	42	6	119	22	2

ALPENA, MICH.

[H=609 ft.; h_t=61 ft.; h_r=54 ft.; h_a=65 ft.]

Month.	Average hourly velocity.	Prevailing direction. (a)	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	9.8	NW.	36	NW.	0	2	0	1	7	8	12	14	18	0	5	6	20	17	9	13	0	1	23	0	28	0	0
February	10.2	W.	38	E.	0	5	6	6	5	5	7	12	10	0	8	10	10	12	6	12	0	0	17	0	28	0	0
March	10.6	NW.	36	NE.	0	3	3	11	10	5	1	11	18	0	9	11	11	12	8	9	0	0	10	0	24	0	0
April	10.1	SE.	42	SW.	2	9	4	6	12	6	7	3	13	0	6	13	11	13	12	1	0	2	0	0	16	2	0
May	9.2	NW.	35	SW.	0	9	3	5	15	2	4	8	16	0	7	13	11	17	15	0	0	1	0	0	0	2	0
June	7.9	SE.	26	E.	0	7	3	5	14	8	5	3	15	0	9	15	6	13	9	0	0	0	0	0	0	2	0
July	7.7	SE.	25	SE.	0	7	8	7	12	5	3	6	14	0	12	14	5	11	8	0	0	3	0	1	0	2	1
August	7.7	NW.	34	NW.	0	6	6	3	5	3	11	11	17	0	13	12	6	11	8	0	0	0	0	0	0	3	0
September	7.6	W.	28	N.	0	10	4	7	7	6	8	5	13	0	14	13	3	10	6	0	0	1	0	2	0	3	0
October	9.2	SE.	31	NW.	0	5	4	9	12	7	12	3	10	0	6	14	11	12	9	1	0	7	0	0	0	3	0
November	11.2	NW.	36	NW.	0	5	2	1	6	9	8	14	15	0	2	12	16	15	10	9	0	1	8	0	18	0	0
December	9.1	W.	32	NW.	0	1	0	7	5	9	3	24	12	1	0	11	20	16	13	13	0	2	16	0	28	0	0
Year	9.2	NW.	42	SW.	2	69	43	68	110	73	81	114	171	1	91	144	130	159	113	58	0	18	74	3	142	17	1

AMARILLO, TEX.

[H=3,691 ft., h_t=54 ft.; h_r=46 ft.; h_a=61 ft.]

Month.	Average hourly velocity.	Prevailing direction. (a)	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	14.4	S.	54	N.	3	13	4	0	2	16	11	8	8	0	15	8	8	7	5	7	0	3	9	0	29	1	0
February	14.9	SW.	52	W.	5	12	4	3	3	13	15	4	2	0	11	9	8	8	5	6	0	2	0	0	22	0	0
March	18.5	S.	64	SW.	11	9	2	4	9	14	12	10	2	0	10	15	6	7	4	1	0	5	2	0	16	0	0
April	17.4	S.	60	SE.	11	9	2	7	7	13	6	10	6	0	12	12	6	11	5	2	1	0	0	0	1	2	0
May	14.8	S.	44	N.	2	11	5	6	4	25	6	3	2	0	2	14	15	11	9	0	0	2	0	0	0	8	0
June	16.5	S.	66	W.	6	6	2	1	1	33	9	5	0	3	9	10	11	11	9	0	0	0	0	8	0	4	0
July	14.9	S.	52	W.	5	6	0	2	4	33	7	6	4	0	16	10	5	9	9	0	1	0	0	11	0	9	0
August	12.3	S.	36	E.	0	3	2	8	4	33	5	6	1	0	9	13	9	12	11	0	0	0	0	3	0	10	0
September	14.0	S.	40	N.	1	2	0	2	1	44	8	1	2	0	16	10	4	3	3	0	0	0	0	0	0	2	0
October	16.5	S.	48	N.	7	14	2	1	2	33	6	1	3	0	16	8	7	7	6	0	0	1	0	0	3	2	0
November	16.4	S.	46	SW.	7	11	0	2	0	28	6	9	4	0	20	8	2	1	1	0	0	0	0	0	14	0	0
December	13.8	N.	56	N.	4	16	3	8	5	9	4	7	9	1	19	7	5	7	5	6	0	0	8	0	27	0	0
Year	15.4	S.	66	W.	62	112	26	44	42	294	95	70	43	4	155	124	86	94	72	22	2	13	19	22	112	38	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

ASTORIA, OREG.

[λ=46° 57′ N.; φ=124° W.; gravity corr., 0.00.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	.....	.....	.....	.....	.....	45.2	37.6	41.4	53.5	25.0	.....	.....	.....	.....	.....	.....	9.84	1.36	.....	.....	.....
February	.....	.....	.....	.....	.....	47.7	38.2	43.0	56.0	31.5	.....	.....	.....	.....	.....	.....	12.89	1.67	.....	.....	.....
March	.....	.....	.....	.....	.....	46.9	36.3	41.6	56.0	24.3	.....	.....	.....	.....	.....	.....	11.88	1.38	.....	.....	.....
April	.....	.....	.....	.....	.....	59.0	44.3	51.6	78.2	36.6	.....	.....	.....	.....	.....	.....	3.14	.74	.....	.....	.....
May	.....	.....	.....	.....	.....	64.6	50.0	57.3	80.3	40.1	.....	.....	.....	.....	.....	.....	2.38	.96	.....	.....	.....
June	.....	.....	.....	.....	.....	65.7	54.5	60.1	75.0	49.0	.....	.....	.....	.....	.....	.....	4.49	1.70	.....	.....	.....
July	.....	.....	.....	.....	.....	66.3	53.8	60.0	74.2	47.4	.....	.....	.....	.....	.....	.....	1.66	.54	.....	.....	.....
August	.....	.....	.....	.....	.....	71.2	55.5	63.4	84.0	49.0	.....	.....	.....	.....	.....	.....	.87	.77	.....	.....	.....
September	.....	.....	.....	.....	.....	64.4	51.5	58.0	78.3	45.0	.....	.....	.....	.....	.....	.....	3.43	1.14	.....	.....	.....
October	.....	.....	.....	.....	.....	60.1	48.8	54.4	74.2	40.2	.....	.....	.....	.....	.....	.....	3.07	.65	.....	.....	.....
November	.....	.....	.....	.....	.....	51.2	41.7	46.4	62.5	34.0	.....	.....	.....	.....	.....	.....	15.36	2.58	.....	.....	.....
December	.....	.....	.....	.....	.....	49.4	41.1	45.2	56.0	33.0	.....	.....	.....	.....	.....	.....	16.05	2.58	.....	.....	.....
Year	.....	.....	.....	.....	.....	57.5	46.1	51.9	69.0	37.9	.....	.....	.....	.....	.....	.....	85.06	16.07	.....	.....	.....

ATLANTA, GA.

[λ=33° 45′ N.; φ=84° 23′ W.; gravity corr., —0.03.]

January	28.99	29.28	28.71	33.9	41.3	46.5	31.2	38.8	63	6	28	31	79	68	.170	.188	3.48	1.12	5.4	4.1	5.7
February	28.88	29.36	28.51	42.4	50.2	55.1	40.3	47.7	74	22	39	40	88	70	.255	.263	4.59	1.05	6.0	4.8	6.2
March	28.90	29.32	28.50	49.5	58.0	62.8	47.0	54.9	80	32	45	49	86	74	.325	.368	5.74	2.02	7.1	7.3	7.8
April	28.93	29.34	28.55	53.4	63.8	69.4	50.2	59.8	84	38	46	44	77	86	.320	.302	5.06	1.23	3.5	4.1	4.6
May	28.87	29.17	28.55	61.9	72.5	78.1	57.7	67.9	88	41	51	52	68	49	.382	.392	0.34	.20	2.8	3.4	3.8
June	28.86	29.02	28.74	73.2	82.3	89.2	68.1	78.6	97	58	64	62	75	53	.611	.568	2.07	1.20	3.5	4.6	4.7
July	28.87	29.07	28.61	73.4	80.2	87.5	69.3	78.4	97	59	67	68	81	67	.669	.683	4.74	2.09	5.3	5.9	6.3
August	28.89	29.06	28.67	70.8	78.3	84.3	68.0	76.2	96	62	66	66	87	68	.653	.647	6.01	1.61	5.5	5.3	5.3
September	28.98	29.17	28.79	67.4	77.3	84.4	64.5	74.4	95	50	59	58	75	54	.513	.507	.14	.14	3.5	2.8	3.9
October	28.92	29.24	28.67	58.6	69.1	76.3	56.0	66.2	88	45	52	51	81	56	.401	.390	1.80	1.50	3.1	2.2	2.9
November	29.00	29.30	28.44	47.3	55.5	63.0	43.4	53.2	75	29	45	45	92	71	.308	.314	2.29	.98	3.3	2.7	3.5
December	28.95	29.20	28.49	41.3	47.2	52.5	38.1	45.3	67	27	40	41	94	80	.253	.267	3.00	.70	6.0	4.9	7.2
Year	28.92	29.36	28.44	56.1	64.6	70.8	52.8	61.8	97	6	50	51	82	66	.405	.407	39.26	2.09	4.6	4.3	5.2

ATLANTIC CITY, N. J.

[λ=39° 22′ N.; φ=74° 25′ W.; gravity corr., —0.01.]

January	30.09	30.65	29.50	28.3	31.6	37.7	24.0	30.8	54	6	24	25	82	74	.143	.146	2.50	1.14	5.1	3.5	5.2
February	30.04	30.60	29.45	32.6	35.1	40.2	29.4	34.8	54	18	28	30	82	81	.156	.167	2.96	.86	6.2	5.8	6.2
March	30.04	30.72	29.22	38.9	41.2	47.2	34.9	41.0	63	23	34	35	82	79	.204	.208	2.20	.90	5.2	3.5	5.9
April	30.07	30.62	29.50	47.0	48.9	55.3	41.6	48.4	69	28	41	42	79	77	.263	.269	3.42	1.53	3.5	4.4	4.3
May	29.93	30.32	29.57	57.6	57.6	64.0	51.9	58.0	76	45	51	52	81	84	.383	.400	1.71	.66	3.6	4.8	5.0
June	29.92	30.20	29.63	64.2	65.9	71.9	59.4	65.6	92	48	59	60	85	83	.511	.530	2.62	.93	4.8	5.7	5.4
July	29.93	30.27	29.61	71.6	71.9	77.3	67.7	72.5	87	62	68	69	90	90	.696	.704	3.01	3.76	5.3	5.8	5.4
August	29.95	30.15	29.64	71.9	73.1	78.3	66.5	72.4	88	59	66	67	84	82	.657	.670	2.07	1.16	3.8	3.9	3.7
September	30.10	30.32	29.79	66.3	67.9	74.2	59.6	66.9	94	41	59	60	78	77	.526	.539	.36	.23	2.9	2.1	3.3
October	30.09	30.52	29.58	56.3	58.3	63.5	51.2	57.4	86	40	52	53	85	82	.395	.410	2.21	.61	4.9	4.7	5.3
November	30.07	30.52	29.27	45.4	46.5	53.0	39.5	46.2	64	22	41	41	85	82	.276	.280	4.04	1.55	5.8	4.2	5.6
December	30.05	30.52	29.31	36.3	39.1	44.7	32.0	38.4	58	15	33	35	89	84	.202	.212	3.55	1.48	6.4	4.4	6.1
Year	30.02	30.72	29.22	51.4	53.1	58.9	46.5	52.7	94	6	46	47	84	81	.368	.378	35.65	3.76	4.8	4.4	5.1

AUGUSTA, GA.

[λ=33° 28′ N.; φ=81° 54′ W.; gravity corr., —0.03.]

January	30.01	30.36	29.67	37.9	45.9	53.5	34.6	44.0	69	12	31	33	77	62	.190	.207	3.24	1.95	5.8	3.8	5.5
February	29.89	30.44	29.50	46.0	54.6	61.0	43.4	52.2	75	27	42	43	86	66	.283	.292	8.57	3.25	6.0	4.8	5.7
March	29.92	30.39	29.51	53.2	61.7	68.0	50.4	59.2	87	35	48	50	83	69	.364	.391	4.72	1.81	7.5	6.7	7.3
April	29.92	30.39	29.52	57.2	66.5	74.5	52.3	63.4	88	42	50	50	77	59	.372	.380	3.75	2.09	4.4	4.1	3.8
May	29.83	30.15	29.46	64.4	74.2	82.2	59.4	70.8	93	48	56	57	76	56	.467	.476	2.22	.92	3.1	3.2	3.2
June	29.81	29.99	29.66	75.5	81.4	92.2	70.7	81.4	100	62	70	70	83	71	.735	.740	3.56	1.26	4.9	6.0	5.0
July	29.82	30.06	29.49	76.5	81.6	91.5	71.6	81.6	101	62	71	70	82	71	.753	.747	6.10	3.82	4.3	5.4	5.0
August	29.84	30.01	29.59	73.7	80.0	87.7	70.2	79.0	97	64	70	70	87	74	.721	.737	10.39	2.54	5.0	5.7	5.0
September	29.94	30.14	29.66	67.4	76.1	84.9	64.4	74.6	98	46	62	63	84	65	.578	.593	3.66	3.17	4.0	3.7	4.1
October	29.89	30.20	29.60	59.3	67.9	77.0	56.8	66.9	90	46	55	59	88	73	.451	.501	2.62	1.23	3.9	3.4	3.8
November	30.00	30.33	29.56	47.8	57.8	67.5	44.6	56.0	80	34	42	45	83	64	.290	.309	1.02	.52	3.5	3.0	3.4
December	29.97	30.25	29.56	41.9	50.5	58.8	38.5	48.6	72	29	38	42	87	72	.241	.276	1.98	1.38	5.1	4.4	5.7
Year	29.90	30.44	29.46	58.4	66.5	74.9	54.7	64.8	101	12	53	54	83	67	.454	.471	51.83	3.82	4.8	4.5	4.8

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

ASTORIA, OREG.

[H= — ft.; h_t=18 ft.; h_r=31 ft.; h_a= — ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. (a)	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	.....	E.	....	.....	....	0	7	16	2	2	2	0	2	0	7	1	23	20	18	1	....	....	0	0	4	....	0
February	.....	SW.	....	.....	....	0	4	5	3	3	6	4	3	0	3	7	18	24	22	1	....	....	0	0	2	....	0
March	.....	W.	....	.....	....	1	2	3	3	3	5	12	2	0	3	8	20	24	23	4	....	....	0	0	2	....	0
April	.....	W.	....	.....	....	2	1	0	3	2	5	9	8	0	16	6	8	13	9	0	....	....	0	0	0	....	0
May	.....	W.	....	.....	....	0	0	0	0	4	8	12	7	0	17	3	11	10	10	0	....	....	0	0	0	....	0
June	.....	W.	....	.....	....	2	1	0	0	3	10	13	1	0	4	10	16	14	13	0	....	....	0	0	0	....	0
July	.....	NW.	....	.....	....	0	0	1	0	0	6	11	13	0	13	7	11	9	6	0	....	....	0	0	0	....	0
August	.....	W.	....	.....	....	0	0	0	1	3	11	13	3	0	17	5	9	2	2	0	....	....	0	0	0	....	0
September	.....	SW.	....	.....	....	6	0	1	3	0	8	7	5	0	12	9	9	11	10	0	....	....	0	0	0	....	0
October	.....	SW.	....	.....	....	0	2	4	2	4	9	6	4	0	14	2	15	9	9	0	....	....	0	0	0	....	0
November	.....	W.	....	.....	....	2	2	1	5	4	5	6	5	0	1	2	27	27	26	0	....	....	0	0	0	....	0
December	.....	E.	....	.....	....	2	0	11	2	6	6	3	1	0	3	5	23	21	21	0	....	....	0	0	0	....	0
Year	.....	W.	....	.....	....	15	19	42	24	34	81	96	54	0	110	65	190	184	169	6	....	....	0	0	8	....	0

ATLANTA, GA.

[H=1,131 ft.; h_t=92 ft.; h_r=85 ft.; h_a=126 ft.]

Month.	Average hourly velocity.	Prevailing direction. (a)	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	12.0	NW.	34	E.	0	3	4	16	1	1	0	14	23	0	8	9	14	10	7	1	0	4	5	0	14	0	0
February	11.4	NW.	37	E.	0	2	5	8	4	7	5	7	18	0	7	6	15	13	10	0	0	5	0	0	4	1	0
March	11.3	E.	52	N.	3	1	9	14	9	6	7	3	13	0	5	4	22	17	11	0	0	4	0	0	0	8	0
April	10.7	NW.	48	W.	2	1	6	10	11	4	5	8	15	0	14	6	10	9	8	0	1	2	0	0	0	6	0
May	9.4	NW.	36	W.	0	3	7	2	7	4	10	9	20	0	13	12	6	3	2	0	0	0	0	0	0	1	0
June	7.8	NW.	36	SW.	0	6	7	3	8	5	7	13	11	0	11	16	3	11	9	0	0	0	0	14	0	10	0
July	7.4	NW.	28	NE.	0	3	7	6	6	4	7	12	16	1	7	12	12	12	10	0	0	0	0	8	0	12	0
August	6.9	W.	36	E.	0	2	7	7	4	4	13	11	14	0	12	6	13	13	10	0	1	0	0	8	0	4	0
September	8.4	NE.	28	NE.	0	3	20	12	8	3	2	4	8	0	15	10	5	2	1	0	0	0	0	6	0	1	0
October	8.4	NE.	34	NE.	0	3	22	9	7	1	1	6	13	0	20	7	4	5	4	0	0	1	0	0	0	2	0
November	10.4	NW.	32	NW.	0	1	10	4	6	7	7	9	16	0	17	6	7	6	5	0	0	2	0	0	1	1	0
December	9.8	NW.	36	NW.	0	3	5	11	2	8	6	14	13	0	4	10	17	15	13	0	0	11	0	0	9	0	0
Year	9.5	NW.	52	N.	5	31	109	102	73	54	70	110	180	1	133	104	128	116	90	1	2	29	5	36	28	46	0

ATLANTIC CITY, N. J.

[H=52 ft.; h_t=68 ft.; h_r=57 ft.; h_a=76 ft.

Month.	Average hourly velocity.	Prevailing direction. (a)	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	12.9	NW.	43	NW.	1	8	6	7	5	3	2	14	17	0	11	10	10	11	9	4	1	2	11	0	22	0	0
February	12.5	NW.	52	NE.	3	7	9	7	3	3	5	7	15	0	5	11	12	12	11	6	0	1	1	0	20	0	0
March	12.5	SW.	41	W.	1	5	8	7	3	6	14	6	13	0	8	12	11	10	8	0	0	11	0	0	9	1	0
April	11.8	SW.	37	NW.	0	3	4	6	3	7	17	5	15	0	13	15	2	8	8	0	0	3	0	0	1	1	0
May	11.4	SW.	36	S.	0	5	5	1	6	9	20	4	12	0	9	13	9	12	8	0	0	4	0	0	0	2	0
June	10.4	SW.	39	N.	0	8	7	5	0	5	15	4	16	0	7	17	6	12	8	0	0	1	0	1	0	5	0
July	8.6	SW.	34	SW.	0	1	2	11	10	5	21	5	7	0	8	17	6	16	12	0	0	1	0	0	0	5	0
August	8.5	SW.	32	NW.	0	9	4	4	6	5	24	3	7	0	15	12	4	9	5	0	0	0	0	0	0	6	0
September	11.2	SW.	31	NE.	0	10	6	7	3	3	14	10	7	0	19	7	4	3	3	0	0	1	0	1	0	1	0
October	13.8	NE.	53	NE.	2	9	19	11	1	5	11	3	3	0	12	7	12	10	7	0	0	3	0	0	0	0	0
November	12.7	NW.	42	NW.	2	8	0	1	4	4	16	14	13	0	10	12	8	11	11	0	0	2	0	0	6	0	0
December	11.3	NW.	41	NW.	2	11	1	5	3	6	11	8	17	0	8	13	10	13	12	1	0	5	2	0	13	0	0
Year	11.5	SW.	53	NE.	11	84	71	72	47	61	170	83	142	0	125	146	94	127	102	11	1	34	14	2	71	21	0

AUGUSTA, GA.

[H=180 ft.; h_t=89 ft.; h_r=54 ft.; h_a=103 ft.]

Month.	Average hourly velocity.	Prevailing direction. (a)	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	7.2	W.	27	W.	0	5	10	6	4	2	7	13	15	0	11	8	12	10	9	0	0	2	1	0	11	0	0
February	6.7	W.	27	W.	0	1	3	10	4	9	7	14	7	1	11	5	12	13	11	0	0	1	0	0	2	0	0
March	6.9	NE.	31	W.	0	5	14	4	12	3	10	8	5	1	5	7	19	13	10	0	0	1	0	0	0	4	0
April	6.5	SE.	38	SW.	0	3	8	8	11	7	10	12	1	0	18	6	6	11	8	0	0	0	0	0	0	3	0
May	6.6	W.	33	NW.	0	17	4	4	7	9	5	10	6	0	17	9	5	5	5	0	0	0	0	2	0	4	0
June	5.4	S.	38	NW.	0	9	6	4	11	10	2	9	9	0	11	12	7	12	10	0	0	0	0	21	0	10	0
July	4.8	S.	32	NW.	0	6	5	5	11	17	8	7	3	0	9	17	5	12	10	0	0	0	0	20	0	10	0
August	4.7	SW.	33	W.	0	5	9	3	6	6	8	14	10	1	14	5	12	11	8	0	0	0	0	15	0	6	0
September	6.2	NE.	24	NW.	0	6	18	5	14	7	2	2	6	0	14	9	7	5	4	0	0	1	0	8	0	3	0
October	6.1	N.	24	NE.	0	15	9	5	5	1	0	7	20	0	16	9	6	6	5	0	0	3	0	0	0	1	0
November	6.0	W.	26	SW.	0	8	7	0	5	4	13	12	6	5	18	4	8	5	5	0	0	1	0	0	0	0	0
December	5.8	W.	36	SW.	0	4	8	2	3	6	11	19	8	1	12	7	12	10	8	0	0	5	0	0	3	0	0
Year	6.1	W.	38	SW.	0	84	101	56	93	81	83	127	96	9	156	98	111	113	93	0	0	14	1	66	16	41	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

BAKER CITY, OREG.

[λ=44° 50′ N.; φ=117° 50′ W.; gravity corr., 0.00.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	26.52	26.80	26.17	23.3	29.0	33.4	20.5	27.0	45	— 4	19	23	84	77	.107	.123	0.74	0.27	6.5	7.4	7.2
February	26.35	26.84	25.89	24.4	33.4	37.3	21.9	29.6	47	5	20	26	82	72	.109	.138	1.82	.42	6.4	8.7	7.9
March	26.29	26.70	25.71	23.7	33.2	36.5	21.1	28.8	54	0	17	21	74	60	.099	.113	2.08	.28	6.7	7.5	7.6
April	26.52	26.81	26.20	36.2	56.5	58.9	35.2	47.0	80	27	28	26	71	34	.152	.148	.64	.26	4.9	4.8	5.2
May	26.46	26.71	26.25	46.3	67.0	71.3	45.2	58.2	88	31	36	36	70	36	.222	.222	1.55	.76	4.4	5.5	5.0
June	26.38	26.65	26.14	47.3	65.7	68.5	46.3	57.4	84	35	38	39	70	41	.238	.249	1.93	1.37	6.8	7.0	6.8
July	26.48	26.75	26.23	49.1	73.2	76.0	48.5	62.2	93	37	36	38	64	31	.217	.235	.24	.23	2.8	3.3	3.3
August	26.46	26.60	26.29	55.0	82.5	85.8	54.2	70.0	98	43	35	35	50	21	.212	.211	.90	.47	2.4	2.8	2.5
September	26.48	26.78	26.18	45.1	65.5	69.1	43.7	56.4	86	35	36	36	72	38	.216	.221	1.11	.34	4.9	5.3	5.1
October	26.49	26.83	26.05	36.9	55.3	60.4	34.0	47.2	77	22	27	30	68	40	.152	.171	.33	.13	3.3	4.8	4.2
November	26.45	26.67	26.03	32.0	37.9	44.0	28.7	36.4	65	16	25	29	74	69	.139	.161	1.80	.46	5.8	6.7	7.1
December	26.57	26.92	26.00	26.4	29.9	33.9	23.1	28.5	45	5	21	23	79	75	.113	.125	1.54	.24	6.6	7.6	7.3
Year	26.45	26.92	25.71	37.1	52.4	56.3	35.2	45.7	98	— 4	28	30	72	50	.165	.176	14.68	1.37	5.1	6.0	5.8

BALTIMORE, MD.

[λ=39° 18′ N.; φ=76° 37′ W.; gravity corr., —0.01.]

January	30.03	30.59	29.54	27.8	31.6	37.9	25.2	31.6	60	8	20	22	70	68	.115	.132	2.05	0.94	5.0	3.5	5.5
February	29.96	30.51	29.43	33.8	36.9	42.6	30.9	36.8	56	18	27	29	75	73	.147	.165	5.13	1.70	7.2	5.6	6.7
March	29.96	30.58	29.25	41.3	46.6	52.9	37.0	45.0	72	28	32	33	69	60	.192	.199	2.40	.57	6.0	5.2	5.7
April	29.98	30.50	29.47	49.3	54.4	62.6	43.3	53.0	84	29	35	37	60	54	.218	.234	3.19	1.32	4.3	3.4	4.5
May	29.84	30.28	29.40	61.2	64.2	72.0	53.7	62.8	84	44	48	49	63	60	.348	.360	6.88	1.73	4.4	5.6	5.2
June	29.84	30.13	29.57	68.0	70.8	79.0	61.2	70.1	95	48	55	57	65	64	.454	.482	2.57	.83	5.8	5.6	5.5
July	29.83	30.17	29.50	74.9	77.5	84.6	69.2	76.9	94	62	66	66	75	69	.645	.643	6.93	2.10	5.1	5.3	5.6
August	29.86	30.07	29.55	72.3	74.9	83.1	65.5	74.3	90	60	62	64	71	68	.564	.592	4.71	1.80	3.8	4.1	4.6
September	30.03	30.27	29.70	65.6	70.0	79.3	58.4	68.8	97	45	55	58	70	66	.458	.501	2.17	1.42	3.2	1.7	2.3
October	30.01	30.48	29.54	55.0	58.8	66.8	49.7	58.2	90	38	47	50	75	73	.335	.371	3.67	1.91	6.3	4.3	5.4
November	30.00	30.46	29.28	42.9	46.5	53.3	39.3	46.3	75	27	35	36	74	66	.218	.227	4.39	1.57	4.4	3.8	5.2
December *a*	29.97	30.42	29.36	35.3	39.2	44.9	32.2	38.6	66	16	30	30	81	70	.174	.181	3.40	1.25	6.2	5.1	5.8
Year	29.94	30.59	29.25	52.3	56.0	63.2	47.1	55.2	97	8	43	44	71	66	.322	.341	47.49	2.10	5.1	4.4	5.2

BINGHAMTON, N. Y. *b*

[λ=42° 08′ N.; φ=75° 55′ W.; gravity corr., —0.01.]

January	29.14	29.77	28.66	21.0	.....	30.1	17.4	23.8	57	0	17	....	80	....	.103	.....	1.12	0.39	8.6	.....	7.5
February	29.14	29.58	28.69	21.8	.....	34.2	18.0	26.1	50	—6	16	....	78	....	.099	.....	1.37	.65	7.1	.....	7.0
March	29.13	29.73	28.40	30.7	.....	43.6	25.6	34.6	65	2	25	....	78	....	.143	.....	2.66	.79	6.9	.....	6.3
April	29.18	29.67	28.80	41.9	.....	56.9	34.9	45.9	82	18	34	....	73	....	.202	.....	1.98	.81	5.9	.....	5.8
May	29.06	29.48	28.77	52.1	.....	65.6	44.9	55.2	81	32	45	....	77	....	.302	.....	4.01	1.04	5.4	.....	6.2
June	29.07	29.30	28.84	58.7	.....	71.5	50.3	60.9	85	40	50	....	74	....	.375	.....	2.93	.86	5.2	.....	5.1
July	29.07	29.42	28.76	68.6	.....	81.2	63.0	72.1	95	53	62	....	80	....	.557	.....	2.30	.92	6.0	.....	6.3
August	29.10	29.34	28.75	61.2	.....	76.8	55.3	66.0	86	42	55	....	81	....	.441	.....	1.37	.70	4.6	.....	5.0
September	29.27	29.50	28.96	53.2	.....	73.2	47.7	60.4	92	33	48	....	82	....	.345	.....	3.03	1.15	3.9	.....	3.9
October	29.25	29.72	28.83	43.6	.....	63.5	38.7	51.1	87	25	38	....	83	....	.248	.....	.66	.33	4.3	.....	4.7
November	29.13	29.62	28.27	36.2	.....	45.6	30.7	38.6	66	11	30	....	79	....	.181	.....	2.43	.97	7.4	.....	7.6
December	29.12	29.55	28.56	27.4	.....	36.2	24.3	30.2	61	0	22	....	80	....	.131	.....	3.23	1.23	8.5	.....	7.7
Year	29.14	29.77	28.27	43.1	.....	56.6	37.6	47.1	95	—6	37	....	79	....	.261	.....	27.09	1.23	6.2	.....	6.1

BISMARCK, N. DAK.

[λ=46° 47′ N.; φ=100° 38′ W.; gravity corr., 0.00.]

January	28.29	28.84	27.59	2.5	6.9	14.1	—2.5	5.8	42	—30	—3	—3	75	63	.039	.038	1.11	0.52	6.3	4.2	6.5
February	28.16	28.86	27.39	2.1	10.2	16.9	—3.6	6.6	33	—25	—3	2	77	66	.040	.048	1.32	.78	7.0	5.5	5.7
March	28.21	28.70	27.68	6.5	16.0	21.2	2.4	11.8	48	—36	1	8	77	68	.060	.072	.91	.44	5.9	4.1	4.6
April	28.25	28.74	27.65	35.1	48.1	52.4	32.1	42.2	81	19	28	32	74	57	.153	.179	1.40	.86	6.5	5.8	5.9
May	28.23	28.63	27.86	47.4	66.2	71.1	43.4	57.2	90	28	36	39	67	39	.222	.253	1.10	.88	3.3	4.0	3.5
June	28.13	28.53	27.69	56.4	69.7	73.6	52.0	62.8	95	33	49	52	78	56	.367	.407	3.44	1.17	6.6	4.7	5.1
July	28.12	28.48	27.56	61.8	75.7	82.5	58.2	70.4	99	47	55	55	79	51	.423	.449	1.53	.60	5.6	4.8	4.4
August	28.26	28.59	27.74	55.7	74.7	78.9	53.1	66.0	93	43	50	54	81	50	.364	.419	2.25	.88	4.4	3.2	3.2
September	28.24	28.76	27.80	53.6	74.7	82.6	51.6	67.1	102	32	45	47	73	40	.310	.334	.30	.10	3.7	3.0	2.7
October	28.22	28.65	27.67	38.1	50.3	59.7	34.7	47.2	89	13	30	35	73	58	.171	.213	.42	.28	5.9	4.4	4.7
November	28.28	28.76	27.51	16.1	24.3	35.0	11.2	23.1	72	—15	9	15	72	65	.076	.099	.25	.10	6.0	3.6	4.9
December	28.24	28.80	27.70	8.3	16.6	23.9	4.0	14.0	52	—23	2	4	73	55	.057	.059	.30	.12	5.0	3.5	5.5
Year	28.22	28.86	27.39	32.0	44.5	51.0	28.0	39.5	102	—36	25	28	75	56	.191	.214	14.33	1.17	5.5	4.2	4.7

a One 8 a. m. observation missed. *b* One observation daily.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

BAKER CITY, OREG.

[H=3,470 ft.; h_t=49 ft.; h_r=38 ft.; h_a=55 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a.m. and 8 p.m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	4.9	SE.	22	NE.	0	2	6	0	22	15	4	1	10	2	6	5	20	10	5	9	0	1	12	0	31	0	0
February	5.7	NW.	30	SW.	0	3	4	2	14	10	3	1	18	1	1	9	18	18	14	15	0	0	3	0	25	0	0
March	6.4	S.	26	S.	0	1	4	0	13	16	11	1	15	1	3	10	18	21	14	18	0	0	6	0	27	0	0
April	6.6	S.	26	NW.	0	6	7	1	12	17	4	1	12	0	8	14	8	7	5	1	1	0	0	0	9	0	0
May	6.8	S.	29	SW.	0	14	4	0	11	16	3	0	14	0	10	13	8	6	6	1	0	0	0	0	1	6	0
June	5.6	NW.	26	S.	0	8	5	1	10	14	5	2	15	0	3	12	15	10	7	0	1	0	0	0	0	2	0
July	5.9	S.	20	N.	0	13	2	0	6	23	2	1	15	0	16	10	5	2	1	0	0	0	0	3	0	0	0
August	6.2	S.	25	W.	0	11	1	0	2	29	2	1	16	0	23	5	3	5	3	0	0	0	0	13	0	3	0
September	5.6	S.	35	SW.	0	10	3	0	7	18	3	1	15	3	12	8	10	9	6	0	0	0	0	0	0	3	0
October	6.6	S.	40	S.	1	7	4	1	14	25	1	0	9	1	16	7	8	6	4	0	0	0	0	0	12	0	0
November	5.8	NW.	36	SW.	0	2	3	0	12	15	5	3	16	4	6	4	20	17	13	9	0	1	1	0	22	0	0
December	5.8	SE.	27	W.	0	1	1	2	19	14	5	1	11	8	4	9	18	16	12	12	0	0	12	0	27	0	0
Year	6.0	S.	40	S.	1	78	44	7	142	212	48	13	166	20	108	106	151	127	90	65	2	2	34	16	154	14	0

BALTIMORE, MD.

[H=123 ft.; h_t=68 ft.; h_r=73 ft.; h_a=82 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	6.1	W.	28	W.	0	7	4	11	3	1	9	19	8	0	10	8	13	13	9	6	0	1	6	0	22	0	1
February	5.7	W.	30	N.	0	11	4	11	1	1	1	17	9	1	7	5	16	13	9	5	0	1	1	0	14	1	0
March	5.8	E.	25	W.	0	8	12	20	0	0	0	17	5	0	9	10	12	12	11	1	0	2	0	0	6	0	0
April	5.5	W.	29	NW.	0	5	4	12	9	5	3	12	10	0	12	11	7	10	9	0	0	1	0	0	1	1	0
May	5.6	NW.	26	SE.	0	9	1	5	11	5	7	10	14	0	12	8	11	13	11	0	1	0	0	0	0	3	0
June	4.8	NW.	22	W.	0	11	7	7	6	3	8	12	6	0	7	16	7	12	11	0	0	0	0	2	0	6	0
July	4.8	W.	29	E.	0	3	5	10	7	10	12	10	5	0	6	15	10	14	12	0	0	0	0	2	0	7	0
August	3.9	NW.	22	SW.	0	8	8	7	11	4	6	7	11	0	11	13	7	8	8	0	1	0	0	0	0	4	0
September	4.6	N. b	17	N.	0	14	3	8	8	2	12	8	5	0	22	6	2	4	3	0	0	0	0	4	0	2	0
October	5.6	N.	25	NE.	0	15	13	7	9	3	6	3	6	0	11	8	12	12	9	0	0	0	0	0	0	2	0
November	4.8	W.	26	W.	0	2	7	6	7	3	8	15	11	1	11	9	10	15	13	0	0	2	0	0	4	0	0
December	4.7	NW.	22	W.	0	5	6	8	3	3	12	16	9	0	8	13	10	15	11	3	0	1	1	0	13	0	0
Year	5.2	W.	30	N.	0	98	74	112	.75	40	84	146	99	2	126	122	117	141	116	15	2	8	8	8	60	26	1

BINGHAMTON, N. Y.

[H = 875 ft.; h_t=79 ft.; h_r=71 ft.; h_a=90 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	.....	W.	43	S.	1	1	2	1	5	3	3	9	7	0	2	10	19	13	7	14	0	0	18	0	27	0	0
February	.....	NW.	38	SE.	0	6	5	5	1	1	1	4	5	0	5	9	14	10	7	5	0	0	11	0	26	0	0
March	.....	W.	36	S.	0	3	3	0	7	4	2	6	6	0	10	5	16	17	13	8	0	0	2	0	22	2	0
April	.....	NW.	36	S.	0	7	2	2	1	3	3	6	6	0	8	12	10	9	7	1	2	0	0	0	11	0	0
May	.....	NW.	31	S.	0	4	3	3	0	5	3	7	6	0	7	13	11	14	12	0	0	0	0	0	0	2	0
June	.....	NW.	24	N.	0	4	5	1	1	4	2	7	6	0	13	8	9	14	9	0	0	0	0	0	0	3	0
July	.....	SE.	27	SW.	0	2	2	9	8	1	1	4	4	0	3	19	9	12	9	0	0	0	0	5	0	6	0
August	.....	NW.	33	W.	0	3	5	7	2	2	1	3	8	0	11	14	6	9	4	0	0	5	0	0	0	2	0
September	.....	NE.	24	N.	0	4	13	3	1	1	1	3	4	0	17	9	4	9	7	0	0	8	0	2	0	4	0
October	.....	E.	25	S.	0	4	8	9	3	2	0	4	1	0	14	11	6	7	5	0	0	8	0	0	12	1	0
November	.....	W.	36	NW.	0	0	5	1	3	5	1	7	8	0	2	10	18	15	11	2	0	0	3	0	16	0	0
December	.....	W.	27	SE.	0	4	3	4	5	2	2	9	2	0	4	7	20	18	11	13	0	0	12	0	20	0	0
Year	.....	W.	43	S.	1	42	56	45	37	33	20	69	63	0	96	127	142	147	102	44	2	21	46	7	134	20	0

BISMARCK, N. DAK.

[H=1,674 ft.; h_t=16 ft.; h_r=2 ft.; h_a=29 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	10.7	NW.	47	NW.	2	2	2	6	9	3	1	1	34	4	6	9	16	8	5	7	0	0	28	0	31	0	1
February	8.2	NW.	48	NW.	2	4	10	10	3	2	2	2	14	9	8	10	10	14	5	14	0	0	26	0	28	0	1
March	8.9	NW.	35	N.	0	8	8	8	11	1	0	5	17	4	18	6	7	9	5	7	1	0	22	0	28	0	1
April	10.6	NW.	47	NW.	1	10	5	5	10	5	3	5	14	3	10	8	12	9	6	3	0	0	0	0	16	0	0
May	11.2	NW.	36	NW.	0	11	6	8	10	9	1	1	15	1	19	11	1	6	4	0	1	0	0	0	3	2	0
June	9.3	SE.	41	SE.	1	10	6	9	14	7	4	1	9	0	11	12	7	12	11	0	1	0	0	1	0	10	0
July	8.5	SE.	35	SW.	0	10	3	7	15	6	2	3	12	4	12	17	2	10	8	0	1	1	0	5	0	7	0
August	8.1	NW.	48	NW.	1	6	7	11	12	5	1	1	15	4	19	10	2	9	9	0	1	0	0	3	0	6	0
September	9.2	NW.	34	S.	0	2	2	13	15	2	3	3	16	4	24	4	2	4	4	0	0	0	0	8	0	1	0
October	9.6	NW.	39	NW.	0	6	1	4	14	3	2	3	25	4	15	8	8	5	2	2	0	1	0	0	11	0	0
November	8.0	NW.	36	NW.	0	7	5	10	4	3	3	5	23	0	13	8	9	5	2	5	0	1	12	0	28	0	0
December	7.5	NW.	40	NW.	1	2	4	7	9	6	2	3	26	3	14	5	12	7	2	7	0	1	21	0	30	0	0
Year	9.2	NW.	48	NW.	8	78	59	98	126	52	24	33	220	40	169	108	88	98	63	45	5	4	109	17	175	26	3

a By eye observations at 8 a.m. and 8 p.m. when there is no self-register at station. b Record by self-register for 607 hours only.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

BLOCK ISLAND, R. I.

[λ=41° 10′ N.; φ=71° 36′ W.; gravity corr., —0.01.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	30.07	30.71	29.37	30.3	31.1	36.7	25.0	30.4	55	9	23	24	72	72	.137	.136	3.93	1.30	5.6	4.0	5.3
February	30.05	30.54	29.51	30.8	32.7	35.9	27.8	31.8	44	18	24	26	74	76	.133	.143	2.83	1.00	4.7	5.1	5.7
March	30.05	30.81	29.21	35.2	37.3	41.1	32.0	36.6	49	15	28	31	74	78	.159	.178	3.06	1.06	3.6	3.0	5.7
April	30.07	30.62	29.52	43.2	44.1	49.5	38.9	44.2	62	26	37	38	80	81	.230	.235	5.70	3.73	4.2	2.9	4.6
May	29.94	30.26	29.64	52.8	52.2	57.8	48.4	53.1	68	42	48	48	84	88	.337	.344	4.31	1.47	3.9	4.6	5.6
June	29.92	30.23	29.64	59.7	59.6	66.2	55.2	60.7	78	49	54	54	82	83	.421	.424	3.06	1.57	4.7	4.2	5.1
July	29.97	30.31	29.65	68.1	68.2	73.5	64.2	68.8	78	56	66	66	93	94	.645	.651	5.08	1.01	4.5	4.8	6.2
August	29.97	30.18	29.64	68.0	68.1	73.2	64.0	68.6	77	57	63	64	85	88	.586	.605	3.41	1.02	4.8	3.5	5.0
September	30.10	30.37	29.71	62.9	63.0	68.6	58.1	63.4	86	45	56	57	79	82	.470	.483	3.95	2.56	2.8	3.3	3.4
October	30.13	30.59	29.55	54.3	55.0	59.7	50.2	55.0	75	38	48	48	80	79	.351	.355	1.83	.71	3.7	3.5	4.2
November	30.05	30.55	29.14	44.9	45.8	49.8	39.6	44.7	63	18	38	38	76	76	.253	.253	9.42	4.54	5.7	5.5	6.0
December	30.04	30.53	29.34	35.6	38.4	41.5	32.0	36.8	57	13	28	32	76	78	.177	.200	5.61	1.90	6.1	5.8	5.8
Year	30.03	30.81	29.14	48.8	49.6	54.4	44.6	49.5	86	9	43	44	80	81	.325	.334	52.19	4.54	4.5	4.2	5.2

BOSTON, MASS.

[λ=42° 21′ N.; φ=71° 4′ W.; gravity corr., —0.01.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	29.91	30.62	28.84	26.5	29.0	36.1	20.8	28.4	60	2	18	21	69	71	.118	.124	3.16	1.48	6.1	3.8	6.1
February	29.93	30.42	29.40	27.5	32.0	37.6	24.2	30.9	52	12	20	23	72	70	.116	.129	2.12	.88	5.6	4.5	5.1
March	29.91	30.75	29.02	34.3	37.8	44.5	29.3	36.9	57	7	25	27	68	66	.144	.156	2.79	1.14	5.0	4.8	6.1
April	29.92	30.49	29.42	46.0	49.2	58.4	39.7	49.0	81	21	35	37	68	66	.217	.236	3.17	1.65	4.8	3.7	5.0
May	29.82	30.22	29.51	55.5	58.2	65.6	49.7	57.6	76	39	48	50	78	77	.343	.376	4.00	1.15	6.7	5.5	6.5
June	29.79	30.17	29.54	60.9	62.0	70.6	54.0	62.3	87	47	51	52	71	72	.380	.391	4.46	1.94	5.5	5.8	5.7
July	29.85	30.24	29.49	69.8	71.0	79.2	64.1	71.6	94	55	64	65	81	81	.592	.622	4.22	1.48	6.5	7.3	6.5
August	29.84	30.06	29.52	67.2	69.1	77.3	61.9	69.6	86	53	59	61	77	76	.511	.543	3.95	1.45	4.7	3.9	4.8
September	29.98	30.27	29.60	60.0	63.1	72.0	54.2	63.1	94	41	52	54	75	74	.400	.444	2.38	.74	3.3	3.0	4.0
October	30.03	30.54	29.41	51.1	54.5	63.4	45.5	54.4	88	32	42	44	72	68	.283	.304	.41	.28	3.7	3.5	4.1
November	29.92	30.48	28.95	38.9	42.1	49.6	33.2	41.4	68	13	33	35	79	77	.208	.221	6.19	2.02	6.6	5.6	6.8
December	29.92	30.46	29.25	31.1	34.3	40.3	27.7	34.0	64	9	24	28	76	78	.152	.172	3.92	2.17	6.6	6.2	6.4
Year	29.90	30.75	28.84	47.4	50.2	57.9	42.0	49.9	94	2	39	41	74	73	.289	.310	40.77	2.17	5.4	4.8	5.6

BUFFALO, N. Y.

[λ=42° 53′ N.; φ=78° 53′ W.; gravity corr., —0.01.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	29.22	29.86	28.56	23.7	25.6	31.4	18.4	24.9	59	0	18	19	80	74	.108	.108	3.60	1.18	8.4	7.1	7.9
February	29.21	29.80	28.70	26.4	27.3	33.0	22.1	27.6	45	6	20	21	76	75	.113	.114	3.13	1.58	8.2	6.5	7.7
March	29.19	29.83	28.42	32.4	34.6	41.9	27.0	34.4	57	4	26	26	76	70	.151	.143	3.54	.88	6.8	5.5	6.1
April	29.24	29.83	28.80	41.5	44.5	52.7	35.8	44.2	74	21	32	32	70	64	.184	.190	2.56	.94	6.8	7.6	6.7
May	29.14	29.57	28.70	52.6	54.2	61.0	46.7	53.8	75	41	42	44	68	71	.275	.297	2.62	.54	6.7	6.7	6.2
June	29.14	29.38	28.94	60.6	63.2	67.9	55.4	61.6	77	44	50	50	69	65	.368	.375	1.95	.90	6.3	6.1	5.6
July	29.12	29.42	28.86	71.4	75.0	81.4	66.7	74.0	95	58	62	63	75	68	.568	.570	8.29	2.10	6.1	6.5	6.5
August	29.17	29.46	28.86	64.8	69.6	74.1	60.0	67.0	85	53	56	57	73	65	.451	.470	2.12	.78	5.4	5.8	5.1
September	29.35	29.61	29.00	61.1	64.6	70.8	55.5	63.2	84	42	50	52	69	64	.383	.406	.31	.16	6.0	2.7	4.4
October	29.29	29.75	28.83	51.0	55.5	63.1	45.8	54.4	76	33	41	43	69	64	.264	.287	.80	.37	5.5	3.8	6.3
November	29.19	29.66	28.35	39.1	40.9	46.1	34.4	40.2	66	19	31	34	74	76	.184	.210	5.21	1.08	8.9	7.6	8.8
December	29.19	29.66	28.75	29.6	31.6	36.0	24.6	30.3	59	1	23	25	75	74	.133	.140	3.59	1.79	9.4	7.6	8.8
Year	29.20	29.86	28.35	46.2	48.9	55.0	41.0	48.0	95	0	38	39	73	69	.265	.277	37.72	2.10	7.0	6.1	6.7

CAIRO, ILL.

[λ=37° N.; φ=89° 10′ W.; gravity corr., —0.02.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	29.79	30.15	29.23	30.1	36.5	42.1	27.3	34.7	66	4	26	25	84	63	.163	.153	3.89	1.40	5.5	5.6	6.2
February	29.65	30.34	29.20	36.0	43.2	48.2	33.8	41.0	69	11	30	32	80	67	.179	.195	3.95	1.05	6.8	7.1	7.0
March	29.61	30.06	29.02	45.7	53.3	58.5	42.8	50.6	76	31	38	44	75	71	.251	.303	7.50	1.52	7.2	7.0	6.9
April	29.66	30.20	29.31	53.5	61.2	65.1	50.4	57.8	80	36	46	47	76	61	.319	.334	6.49	1.62	6.4	6.3	5.9
May	29.66	29.98	29.41	58.6	69.0	73.6	55.5	64.6	85	42	51	53	77	58	.388	.416	1.12	.40	5.0	5.5	4.9
June	29.60	29.74	29.37	70.0	80.2	85.0	65.9	75.4	94	56	63	66	80	63	.595	.659	6.87	4.59	6.0	5.4	5.5
July	29.59	29.77	29.40	75.3	82.8	88.3	71.6	80.0	98	60	69	71	82	68	.725	.760	2.76	1.06	3.9	4.9	4.8
August	29.61	29.84	29.46	70.3	79.9	87.1	68.2	77.6	98	59	64	68	82	68	.613	.694	.89	.23	3.9	4.7	4.9
September	29.75	29.97	29.59	66.4	78.9	87.4	64.3	75.8	96	46	58	61	76	55	.507	.555	.53	.28	1.3	1.5	1.9
October	29.68	29.94	29.24	55.7	69.2	77.6	54.5	66.0	90	38	51	54	84	60	.379	.428	.91	.40	2.6	2.1	3.2
November	29.75	30.26	29.17	43.9	51.0	58.5	40.5	49.5	75	21	39	41	85	70	.261	.276	5.50	2.24	6.1	5.7	6.0
December	29.72	30.15	29.06	34.2	38.3	43.2	30.5	36.8	68	16	32	33	93	83	.191	.203	3.69	1.09	8.0	7.8	8.2
Year	29.67	30.34	29.02	53.3	62.0	67.9	50.4	59.2	98	4	47	50	81	66	.381	.415	44.10	4.59	5.2	5.3	5.4

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

BLOCK ISLAND, R. I.

[H=27 ft.; h_t=39 ft.; h_r=3 ft.; h_a=48 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction.a	Maximum velocity	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	18.6	NW.	53	NW.	7	1	8	4	3	4	7	13	22	0	9	15	7	10	8	8	0	3	10	0	24	0	1
February	17.8	NW.	70	NE.	5	3	10	5	2	1	8	10	17	0	7	10	11	11	7	4	0	0	6	0	17	0	1
March	16.5	NW.	49	SW.	6	5	6	5	4	4	12	8	18	0	9	12	10	11	9	1	0	13	2	0	12	0	0
April	14.6	SW.	40	SW.	1	5	5	1	1	3	21	13	11	0	9	17	4	7	6	0	0	2	0	0	3	0	0
May	14.8	SW.	40	W.	1	0	13	3	3	0	25	10	7	1	8	15	8	13	12	0	0	9	0	0	0	2	0
June	14.5	SW.	38	NE.	0	0	8	7	1	1	19	13	10	1	10	14	6	7	6	0	0	5	0	0	0	0	0
July	14.2	SW.	42	E.	3	0	6	7	1	0	38	6	4	0	5	16	10	12	12	0	0	11	0	0	0	0	0
August	10.2	SW.	42	NE.	1	1	11	3	4	1	25	10	6	1	9	15	7	6	5	0	0	1	0	0	0	3	0
September	14.8	SW.	42	NE.	1	1	14	3	2	1	18	9	12	0	16	12	2	9	5	0	0	2	0	0	0	2	0
October	18.4	NE.	59	NE.	6	4	26	3	1	1	14	6	6	1	15	9	7	7	5	0	0	2	0	0	0	0	0
November	17.6	NW.	54	NW.	6	3	4	4	9	2	11	5	22	0	6	13	11	16	16	2	0	0	1	0	7	0	0
December	17.2	NW.	54	E.	4	3	7	7	3	2	12	6	22	0	6	14	11	17	16	5	0	2	4	0	17	0	0
Year	15.8	SW.	70	NE.	41	26	118	52	34	20	210	109	157	4	109	162	94	126	107	20	0	50	23	0	80	7	2

BOSTON, MASS.

[H=125 ft.; h_t=115 ft.; h_r=154 ft.; h_a=181 ft.]

Month.	Average hourly velocity.	Prevailing direction.a	Maximum velocity	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	13.2	SW.	42	NE.	2	7	1	3	4	3	16	16	12	0	9	6	16	5	5	3	0	3	13	0	27	0	1
February	11.9	NW.	32	N.	0	9	1	4	2	1	10	11	18	0	13	4	11	6	5	3	0	0	6	0	25	0	0
March	12.8	NW.	42	NW.	1	9	5	3	3	6	4	12	20	0	11	1	19	13	8	5	0	2	2	0	12	0	0
April	11.8	SW.	36	SW.	0	3	8	4	2	5	16	11	11	0	11	9	10	12	9	1	0	0	0	0	5	0	0
May	10.8	SW.	36	SW.	0	6	8	5	4	10	11	10	8	0	9	5	17	15	14	0	0	1	0	0	0	2	0
June	11.1	W.	30	SW.	0	7	12	8	0	4	9	12	8	0	10	7	13	11	7	0	0	0	0	0	0	3	0
July	10.7	SW.	48	S.	2	4	8	8	0	11	19	11	1	0	7	8	16	10	8	0	0	2	0	3	0	2	0
August	9.4	W.	35	SW.	0	5	3	8	1	10	10	17	8	0	14	8	9	9	7	0	0	0	0	0	0	5	0
September	10.5	W.	30	NW.	0	4	10	1	1	5	7	14	18	0	16	6	8	7	7	0	0	0	0	1	0	2	0
October	10.9	NW.	38	NW.	0	9	11	3	0	6	12	9	12	0	17	5	9	3	2	0	0	2	0	0	0	0	0
November	12.0	NW.	46	NW.	2	6	2	3	2	4	11	19	13	0	7	6	17	15	11	3	0	1	1	0	12	0	0
December	11.6	NW.	42	E.	1	7	3	3	0	6	13	17	13	0	9	5	17	15	10	9	0	0	7	0	20	0	0
Year	11.4	SW.	48	S.	8	76	72	53	19	71	138	159	142	0	133	70	162	121	93	24	0	11	29	4	101	14	1

BUFFALO, N. Y.

[H=768 ft.; h_t=178 ft.; h_r=168 ft.; h_a=206 ft.]

Month.	Average hourly velocity.	Prevailing direction.a	Maximum velocity	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	19.2	W.	59	W.	13	1	1	8	4	12	6	24	6	0	1	12	18	16	10	13	0	0	16	0	27	0	0
February	17.3	W.	59	W.	6	2	12	6	2	4	15	11	4	0	2	8	18	14	10	11	0	1	11	0	25	0	0
March	18.0	W.	76	W.	6	4	11	8	2	6	13	11	7	0	9	12	10	14	12	7	0	3	4	0	20	0	0
April	15.3	SW.	54	W.	2	1	9	5	1	10	21	8	5	0	4	12	14	18	12	4	0	3	0	0	8	3	0
May	13.6	W.	48	W.	5	5	3	7	4	2	24	13	4	0	6	16	9	13	11	0	0	1	0	0	0	1	0
June	11.4	SW.	47	W.	1	9	6	3	1	5	18	15	3	0	8	16	6	8	5	0	0	1	0	0	0	2	0
July	11.5	SW.	45	SW.	2	1	7	4	7	12	17	8	6	0	4	16	11	14	13	0	1	0	0	5	0	15	0
August	11.5	W.	48	W.	3	3	8	3	0	7	13	17	11	0	11	14	6	8	7	0	0	0	0	0	0	6	0
September	11.4	SW.	43	W.	1	7	7	8	2	6	21	6	3	0	13	13	4	5	2	0	0	0	0	0	0	1	0
October	12.9	SW.	47	SW.	3	2	11	9	7	10	11	5	7	0	6	14	11	8	5	0	0	5	0	0	0	0	0
November	19.0	W.	56	W.	8	3	2	4	4	9	13	13	12	0	1	5	24	19	17	5	1	2	2	0	10	1	0
December	17.5	W.	60	W.	7	3	5	6	5	8	9	20	6	0	0	7	24	19	13	15	0	2	11	0	21	0	0
Year	14.9	W.	76	W.	57	41	82	71	39	91	181	151	74	0	65	145	155	156	117	55	2	18	44	5	111	29	0

CAIRO, ILL.

[H=359 ft.; h_t=87 ft.; h_r=78 ft.; h_a=93 ft.]

Month.	Average hourly velocity.	Prevailing direction.a	Maximum velocity	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	10.4	NW.	38	W.	0	7	4	5	8	10	6	4	18	0	9	7	15	9	8	2	0	1	7	0	16	1	0
February	9.0	N.	26	N.	0	11	9	9	6	7	1	5	8	0	5	7	16	13	12	1	0	2	2	0	10	4	0
March	12.2	S.	56	S.	2	10	6	10	11	15	0	2	8	0	3	12	16	18	18	0	0	1	0	0	1	5	0
April	11.1	S.	36	NW.	0	9	8	6	3	19	4	5	5	1	7	11	12	15	12	0	1	0	0	0	0	8	0
May	7.0	N.	32	N.	0	15	15	4	5	6	7	4	6	0	10	12	9	8	5	0	0	0	0	0	0	4	0
June	6.7	SW.	46	NW.	4	7	6	5	11	10	15	3	3	0	3	22	5	10	8	0	0	0	0	10	0	13	0
July	5.9	S.	29	SE.	0	5	6	5	7	14	12	3	10	0	11	12	8	6	6	0	0	0	0	14	0	11	0
August	5.5	SW.	33	W.	0	9	12	3	4	11	14	2	7	0	12	11	8	10	6	0	0	0	0	9	0	6	0
September	5.3	S.	45	NW.	1	12	8	6	4	15	6	2	6	1	24	4	2	3	2	0	0	0	0	16	0	2	0
October	5.5	NE.	36	S.	0	9	15	2	6	12	5	4	8	1	19	9	3	4	3	0	0	2	0	0	0	0	0
November	10.3	S.	40	W.	1	11	3	3	5	23	2	6	6	1	8	9	13	10	9	0	0	1	0	0	7	5	0
December	9.1	SW.	36	NE.	0	10	3	2	8	10	12	7	10	0	2	5	24	11	8	1	0	0	1	0	17	0	0
Year	8.2	S.	56	S.	8	115	95	60	78	152	84	47	95	4	113	121	131	117	97	4	1	7	10	49	51	59	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

FORT CANBY, WASH.

[λ = 46° 16′ N.; φ = 124° 4′ W.; gravity corr., 0.00.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	29.82	30.16	29.36	41.6	43.6	46.3	38.7	42.5	56	26	40	40	94	89	252	.257	9.58	1.71	6.8	6.5	8.0
February	29.72	30.33	29.10	41.5	43.8	46.9	38.4	42.6	58	32	39	41	92	89	.243	.255	10.24	1.40	7.5	7.5	8.1
March	29.68	30.13	29.11	39.8	42.4	45.4	36.4	40.9	51	26	37	38	91	86	.226	.232	9.15	1.22	6.4	7.7	7.5
April	29.95	30.21	29.67	46.3	51.1	55.4	44.3	49.8	80	40	44	44	91	78	.286	.290	2.88	.67	6.6	5.1	5.7
May	29.87	30.17	29.56	50.5	54.9	59.9	48.3	54.1	85	43	47	47	90	77	.328	.331	1.85	.73	5.7	5.0	5.4
June	29.81	30.05	29.56	53.8	57.8	61.9	52.3	57.1	71	47	50	52	89	83	.371	.400	3.98	1.28	8.1	7.6	7.6
July	29.92	30.21	29.47	54.7	58.9	62.5	53.2	57.8	69	49	52	54	92	84	.390	.422	1.21	.43	8.1	5.4	6.2
August	29.81	30.05	29.58	55.7	59.6	64.3	53.7	59.0	85	49	54	55	94	86	.416	.435	1.04	.81	3.1	3.4	5.3
September	29.85	30.18	29.28	53.5	57.3	61.7	52.5	57.1	81	47	50	50	88	80	.357	.369	3.63	1.79	5.9	4.2	5.2
October	29.83	30.29	29.08	51.9	55.1	58.4	49.9	54.2	80	43	48	48	87	79	.334	.337	2.49	.80	5.5	5.5	5.8
November	29.81	30.09	29.40	44.6	46.2	49.1	42.5	45.8	54	34	42	43	91	88	.271	.276	14.99	2.03	8.4	9.2	8.8
December	29.85	30.31	29.06	44.5	45.5	47.4	41.5	44.4	52	33	41	41	88	86	.264	.263	14.11	2.19	7.1	8.1	7.8
Year	29.83	30.33	29.06	48.2	51.4	54.9	46.0	50.4	85	26	45	46	91	84	.312	.322	75.15	2.19	6.6	6.3	6.8

CAPE HENRY, VA.

[λ = 36° 56′ N.; φ = 76° W.; gravity corr., —0.02.]

January						44.0	31.6	37.8	60	11							0.92	0.36			
February						48.0	35.8	41.9	70	22							3.98	.68			
March						59.4	41.6	50.5	80	33							4.01	1.15			
April						63.0	46.8	54.9	79	34							1.47	.85			
May						72.5	56.3	64.4	86	45							5.32	1.15			
June						80.1	66.5	73.3	96	60							2.09	.75			
July						84.6	72.0	78.3	96	67							5.63	1.63			
August						84.5	70.3	77.4	96	66							1.53	.74			
September						79.1	65.6	72.4	94	52							.32	.22			
October						68.7	59.4	64.0	83	51							7.11	2.10			
November						61.7	47.2	54.4	77	34							2.02	1.01			
December						51.9	38.4	45.2	71	19							3.57	1.10			
Year						66.5	52.6	59.5	96	11							37.97	2.10			

CARSON CITY, NEV.

[λ = 39° 10′ N.; φ = 119° 46′ W.; gravity corr., —0.02.]

January	25.28	25.56	24.77	24.8	38.9	44.4	22.5	33.4	55	10	20	27	81	62	.108	.147	1.36	0.71	3.3	5.4	5.6
February	25.21	25.62	24.73	22.9	36.8	41.8	18.4	30.1	56	—14	17	24	78	62	.103	.129	4.30	1.42	3.4	6.2	5.3
March	25.14	25.47	24.71	27.5	40.2	43.7	24.1	33.9	65	10	20	22	73	48	.110	.118	2.78	1.06	3.6	5.4	5.0
April	25.32	25.59	25.09	38.0	59.7	63.2	34.6	48.9	78	25	25	17	59	20	.136	.096	.03	.01	2.2	2.8	2.6
May	25.26	25.46	25.06	47.1	69.2	73.9	45.0	59.4	85	29	33	30	59	25	.194	.177	.23	.09	2.5	4.3	3.8
June	25.22	25.43	24.99	48.3	68.2	72.9	45.8	59.4	87	34	34	32	59	28	.195	.189	.12	.05	2.6	4.3	3.6
July	25.30	25.53	25.07	53.8	78.5	82.2	51.5	66.8	91	39	35	31	49	19	.208	.187	.31	.29	1.0	1.0	1.1
August	25.30	25.46	25.14	55.8	80.1	86.9	52.5	69.7	95	37	37	36	51	23	.224	.225	.41	.33	1.3	3.4	2.5
September	25.29	25.52	25.02	47.5	68.2	73.8	43.6	58.7	83	31	32	31	57	26	.184	.175	T.	T.	2.1	3.1	2.9
October	25.30	25.56	24.95	38.5	55.3	61.3	34.0	47.6	77	22	29	28	69	38	.160	.155	1.53	.78	2.9	4.5	4.0
November	25.32	25.53	25.06	33.6	49.0	56.2	29.2	42.7	72	15	23	23	66	36	.127	.124	.85	.58	1.9	4.7	4.5
December	25.39	25.68	24.91	24.5	36.8	45.0	19.6	32.3	61	4	18	23	77	57	.101	.122	1.71	1.35	3.5	4.8	4.6
Year	25.28	25.68	24.71	38.5	56.7	62.1	35.1	48.6	95	—14	27	27	65	37	.154	.154	13.63	1.42	2.5	4.2	3.8

CHARLESTON, S. C.

[λ = 32° 47′ N.; φ = 79° 56′ W.; gravity corr., —0.03.]

January	30.17	30.46	29.82	43.0	47.9	54.5	40.4	47.4	71	19	34	38	72	69	.217	.247	0.84	0.40	5.6	4.6	4.9
February	30.06	30.61	29.71	50.9	54.8	61.0	48.9	55.0	74	38	45	46	82	74	.320	.324	7.61	2.32	5.8	5.3	5.7
March	30.11	30.55	29.72	57.8	60.6	67.5	54.2	60.8	86	41	51	54	79	80	.393	.432	4.38	1.79	6.4	7.0	6.4
April	30.11	30.53	29.69	62.3	64.6	71.6	59.7	65.6	82	49	55	57	77	78	.443	.478	1.89	.48	5.1	3.7	3.9
May	30.01	30.31	29.59	69.2	72.2	79.0	65.5	72.2	92	53	59	61	70	69	.511	.547	1.20	.52	2.9	2.8	3.0
June	29.99	30.16	29.85	78.2	79.6	86.7	74.0	80.4	96	68	70	72	77	79	.737	.792	5.47	1.50	4.6	6.5	5.0
July	30.00	30.25	29.69	79.9	81.1	87.3	75.9	81.6	99	71	70	71	74	72	.748	.763	9.42	3.29	4.7	5.8	4.9
August	30.02	30.17	29.76	78.4	80.2	86.8	75.5	81.2	94	71	71	73	78	79	.755	.811	7.34	2.25	5.5	6.0	5.6
September	30.10	30.26	29.57	72.2	75.4	80.7	70.0	75.4	90	56	65	68	78	78	.625	.694	2.61	1.49	3.4	5.1	4.6
October	30.04	30.35	29.72	65.8	69.9	75.0	64.3	69.6	84	55	59	62	80	77	.512	.569	7.04	5.30	5.6	4.3	5.5
November	30.18	30.45	29.73	56.6	61.5	69.3	54.4	61.8	80	42	48	49	74	66	.354	.376	.50	.30	4.1	2.9	3.8
December	30.14	30.46	29.75	49.6	54.3	61.3	46.7	54.0	72	39	43	44	78	71	.292	.312	2.35	1.59	5.9	4.7	5.7
Year	30.08	30.61	29.57	63.7	66.8	73.4	60.8	67.1	99	19	56	58	77	74	.492	.529	50.65	5.30	5.0	4.9	4.9

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

FORT CANBY, WASH.

[H = 179 ft.; h_t = 10 ft.; h_r = 2 ft.; h_a = 34 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	16.6	E.	54	E.	11	5	0	24	20	8	1	1	3	0	4	3	24	18	18	0	0	8	0	0	3	0	0
February	15.0	SE.	52	SE.	8	5	3	10	13	9	3	2	11	0	3	5	20	24	24	2	4	5	0	0	0	0	0
March	16.7	W.	95	S.	10	3	5	12	8	8	0	21	5	0	2	10	19	26	24	5	8	4	0	0	1	0	0
April	11.8	N.	52	S.	3	17	0	2	9	10	1	9	12	0	8	12	10	13	11	0	1	2	0	0	0	0	0
May	11.3	N.	57	S.	2	20	1	4	2	16	1	9	9	0	11	9	11	13	8	0	1	3	0	0	0	0	0
June	10.2	W.	54	S.	2	9	2	5	5	8	2	19	10	0	3	7	20	19	14	0	0	2	0	0	0	0	0
July	9.5	N.	57	S.	1	25	2	0	1	5	1	12	15	1	9	8	14	14	8	0	0	1	0	0	0	0	0
August	12.4	N.	52	S.	3	33	1	0	2	18	0	2	4	2	13	6	12	6	2	0	0	15	0	0	0	0	0
September	11.2	N.	48	S.	2	25	0	4	11	9	1	5	5	0	10	9	11	12	8	0	0	6	0	0	0	0	0
October	12.5	S.	76	SE.	5	9	1	13	10	14	4	9	2	0	11	6	14	13	10	0	0	2	0	0	0	0	0
November	16.3	E.	88	SE.	11	6	2	15	13	6	1	10	7	0	1	5	24	30	28	0	0	2	0	0	0	0	0
December	21.6	E.	86	S.	17	8	2	22	6	15	3	5	1	0	5	5	21	22	22	0	0	1	0	0	0	0	0
Year	13.8	N.	95	S.	75	165	19	111	100	126	18	104	84	3	80	85	200	210	177	7	14	51	0	0	4	0	0

CAPE HENRY, VA.

[H = 20 ft.; h_t = 5 ft.; h_r = 6 ft.; h_a = 34 ft.]

Month.	Average hourly velocity.	Prevailing direction.	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	13.4	N.	....	.....	....	7	3	0	7	2	3	2	7	0	13	8	10	8	5	4	0	5	4	0	10	0	0
February	12.6	SE.	....	.....	....	4	3	3	8	1	2	3	4	0	8	6	14	11	11	2	0	3	0	0	5	0	0
March	13.3	SE.	....	.....	....	2	6	0	10	2	6	4	1	0	10	10	11	12	9	0	0	3	0	0	0	2	0
April	13.8	SE.	....	.....	....	1	6	0	18	0	4	0	1	0	5	10	15	8	4	0	0	1	0	0	0	0	0
May	13.1	SE.	....	.....	....	1	4	1	9	6	3	1	6	0	9	6	16	15	14	0	0	0	0	0	0	3	0
June	11.1	SE.	....	.....	....	4	2	1	9	3	5	0	6	0	4	10	16	11	9	0	0	2	0	3	0	1	0
July	9.0	SE.	....	.....	....	0	1	1	12	6	8	1	2	0	9	11	11	11	11	0	0	0	0	3	0	6	0
August	9.7	SE.	....	.....	....	2	4	3	13	5	3	0	1	0	12	11	8	6	5	0	0	0	0	7	0	3	0
September	13.4	SE.	....	.....	....	2	5	1	11	3	3	1	4	0	17	8	5	4	4	0	0	0	0	2	0	0	0
October	17.6	NE.	....	.....	....	4	12	1	5	2	4	3	0	0	11	0	20	10	8	0	0	1	0	0	0	0	0
November	14.9	SE.	....	.....	....	6	2	0	8	1	6	3	4	0	9	14	7	7	4	0	0	0	0	0	0	0	0
December	13.3	NW.	....	.....	....	3	2	0	4	5	8	0	9	0	9	6	16	10	9	1	0	3	0	0	5	0	0
Year	12.9	SE.	....	.....	....	36	50	11	114	36	55	18	45	0	116	100	149	113	93	7	0	18	4	15	20	15	0

CARSON CITY, NEV.

[H = 4,720 ft.; h_t = 82 ft.; h_r = 77 ft.; h_a = 92 ft.]

Month.	Average hourly velocity.	Prevailing direction.	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	(b)	NE.	(b)	.....	(b)	4	14	0	2	5	8	0	11	18	10	10	11	5	4	5	0	0	0	0	30	0	0
February	(b)	SW.	(b)	.....	(b)	3	2	0	9	8	16	1	8	9	9	10	9	13	12	10	0	0	4	0	25	0	0
March	9.0	SW.	54	SW.	3	3	3	1	3	11	20	8	12	1	13	10	8	10	9	9	0	0	0	0	29	0	0
April	7.8	SW.	59	W.	1	4	8	0	1	5	15	13	10	4	18	10	2	3	0	2	0	0	0	0	11	0	0
May	7.6	NW.	47	W.	2	5	6	0	2	3	10	14	19	3	15	14	2	5	2	0	1	0	0	0	2	6	0
June	8.2	W.	40	SW.	1	1	1	0	1	7	11	21	14	4	14	13	3	5	1	0	0	0	0	0	0	2	0
July	6.9	W.	32	W.	0	5	2	0	3	4	12	20	13	3	28	3	0	3	1	0	0	0	0	2	0	2	0
August	6.2	W.	40	SW.	1	3	1	0	2	13	12	19	10	2	22	8	1	3	2	0	0	0	0	8	0	5	0
September	7.2	W.	40	S.	1	7	3	0	2	4	13	17	12	2	17	12	1	0	0	0	0	0	0	0	2	1	0
October	5.6	NE.	47	SW.	1	5	15	1	2	3	11	9	10	6	15	10	6	10	7	1	0	0	0	0	13	3	0
November	7.6	SW.	59	SW.	7	6	0	1	7	6	12	11	12	5	12	14	4	3	3	1	0	0	0	0	19	0	0
December	5.7	SW.	57	SW.	3	4	5	1	6	11	12	7	11	5	12	12	7	8	5	5	0	0	4	0	27	0	0
Year	.....	SW.	....	.....	....	50	60	4	40	80	152	140	142	62	185	126	54	68	46	33	1	0	8	10	158	19	0

CHARLESTON, S. C.

[H = 48 ft.; h_t = 14 ft.; h_r = 76 ft.; h_a = 92 ft.]

Month.	Average hourly velocity.	Prevailing direction.	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	8.6	NE.	30	NE.	0	12	14	5	3	2	7	9	10	0	12	13	6	7	4	0	0	3	1	0	5	0	0
February	11.9	SW.	56	SE.	2	9	9	5	3	1	14	10	5	0	8	10	10	12	8	0	0	5	0	0	0	1	0
March	11.6	SW.	38	NE.	0	8	13	4	4	5	15	10	3	0	6	14	11	15	13	0	0	5	0	0	0	2	0
April	12.1	S.	44	NE.	3	7	9	10	6	15	8	1	4	0	16	10	4	11	9	0	0	0	0	0	0	5	0
May	11.5	S.	34	W.	0	8	7	7	5	14	10	9	2	0	20	10	1	5	4	0	0	0	0	2	0	3	0
June	9.6	SW.	44	NW.	1	4	2	10	4	11	18	7	4	0	4	23	3	14	9	0	0	1	0	10	0	18	0
July	8.4	SW.	34	NW.	0	2	7	4	8	11	10	15	5	0	6	22	2	16	13	0	0	0	0	5	0	17	0
August	8.4	SW.	36	SE.	0	4	2	5	8	9	15	16	3	0	7	18	6	15	13	0	0	1	0	6	0	15	0
September	12.5	NE.	50	N.	2	7	23	11	5	4	2	5	3	0	11	14	5	8	5	0	1	1	0	0	0	6	0
October	12.2	N.	41	NE.	1	18	15	9	2	6	3	3	6	0	7	15	9	7	7	0	0	3	0	0	0	2	0
November	10.4	NE.	34	S.	0	10	11	3	4	9	11	7	5	0	15	12	3	7	3	0	0	1	0	0	0	0	0
December	9.2	N.	33	NW.	0	12	12	2	3	4	10	8	11	0	7	15	9	9	5	0	0	4	0	0	0	0	0
Year	10.5	NE.	56	SE.	9	101	124	75	55	91	123	100	61	0	119	177	69	126	93	0	1	24	1	23	5	69	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-registerat station.

b Use of anemometer began March 1.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

CHARLOTTE, N. C.

[λ = 35° 13′ N.; φ = 80° 51′ W.; gravity corr., —0.02.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	29.34	29.76	28.98	31.3	39.3	44.9	29.3	37.1	62	6	26	28	80	66	.151	.162	2.53	1.12	3.6	3.6	5.2
February	29.22	29.76	28.74	40.2	48.9	54.8	38.1	46.4	74	25	35	36	83	64	.215	.226	5.44	2.10	5.7	3.8	5.8
March	29.28	29.76	28.76	46.9	54.6	60.4	44.1	52.2	80	28	41	43	81	69	.275	.304	6.21	1.74	6.6	6.4	6.6
April	29.28	29.79	28.79	52.7	63.4	70.0	49.2	59.6	86	35	42	43	69	50	.283	.287	3.94	2.18	4.2	3.8	4.1
May	29.19	29.52	28.75	60.1	69.5	76.8	56.4	66.6	88	43	52	52	74	57	.399	.408	3.72	1.10	3.6	4.3	4.1
June	29.19	29.40	29.01	70.6	78.2	86.8	66.4	76.6	96	60	64	64	81	64	.606	.604	3.63	2.08	5.5	5.4	4.5
July	29.20	29.47	28.91	73.8	78.4	88.3	68.7	78.5	98	61	67	66	80	68	.672	.649	5.08	1.63	6.0	6.7	6.8
August	29.22	29.40	28.95	70.1	76.9	85.2	66.3	75.8	95	58	65	66	84	70	.620	.636	3.92	1.60	4.7	5.9	4.7
September	29.34	29.55	29.08	64.6	74.6	83.7	61.6	72.6	97	50	57	56	77	53	.483	.462	.90	.56	3.0	2.3	3.4
October	29.29	29.64	28.97	56.5	66.2	73.8	54.5	64.2	89	42	50	51	79	61	.370	.389	1.39	.65	4.5	3.4	4.8
November	29.34	29.71	28.84	45.5	53.7	61.4	41.4	51.4	73	28	37	37	73	54	.240	.237	3.11	1.08	3.8	3.1	3.7
December	29.30	29.63	28.86	39.8	45.5	51.7	36.8	44.2	69	24	36	36	85	70	.218	.221	2.52	.62	6.4	5.4	5.9
Year	29.27	29.79	28.74	54.3	62.4	69.8	51.1	60.4	98	6	48	48	79	62	.378	.382	42.39	2.18	4.8	4.5	5.0

CHATTANOOGA, TENN.

[λ = 35° 4′ N.; φ = 85° 15′ W.; gravity corr., —0.03.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	29.40	29.70	29.03	32.8	40.6	47.0	30.1*	38.6	64	6	25	28	73	60	.158	.169	3.06	0.70	5.3	5.9	5.9
February	29.27	29.82	28.86	42.3	50.0	55.1	39.0	47.0	76	19	37	37	83	63	.238	.238	5.52	2.06	7.6	5.4	6.5
March	29.28	29.70	28.82	49.7	56.7	61.5	46.3	53.9	80	32	43	43	80	65	.301	.301	11.22	2.48	8.1	6.3	7.0
April	29.31	29.72	28.96	53.2	63.1	69.7	49.3	59.5	85	36	44	43	74	52	.306	.293	4.18	1.31	5.5	4.1	5.3
May	29.26	29.58	28.97	60.5	70.1	75.8	55.7	65.8	87	42	51	49	73	50	.389	.370	3.26	1.18	4.3	4.1	4.7
June	29.23	29.38	29.12	71.9	80.9	88.3	66.6	77.4	96	54	63	63	75	56	.592	.585	1.03	.37	4.6	4.2	4.4
July	29.24	29.46	29.00	73.0	79.7	88.0	69.2	78.6	98	57	67	66	82	66	.675	.655	3.43	1.30	5.6	6.5	5.4
August	29.25	29.40	29.03	70.6	80.1	86.8	66.9	76.8	97	60	66	66	86	64	.645	.641	2.10	1.38	4.8	5.0	5.0
September	29.37	29.58	29.17	65.8	79.0	87.2	61.7	74.4	96	46	56	54	72	44	.480	.445	.07	.06	2.8	2.3	3.4
October	29.31	29.62	28.98	55.0	70.4	78.2	52.5	65.4	89	39	51	50	86	52	.377	.371	3.33	1.77	3.0	2.0	2.5
November	29.39	29.73	28.82	44.5	53.5	62.2	40.7	51.4	76	29	39	40	82	62	.248	.263	1.18	.41	4.9	2.8	4.8
December	29.35	29.62	28.84	39.5	45.2	51.1	36.5	43.8	66	24	36	38	86	78	.218	.242	6.91	1.81	7.5	7.1	7.4
Year	29.30	29.82	28.82	54.9	64.1	70.0	51.2	61.0	98	6	48	48	79	59	.386	.381	45.29	2.48	5.3	4.6	5.2

CHEYENNE, WYO.

[λ = 41° 8′ N.; φ = 104° 48′ W.; gravity corr., —0.01.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	23.96	24.24	23.45	18.9	25.3	35.2	12.3	23.8	56	—21	5	3	57	42	.056	.052	0.27	0.10	1.9	4.8	5.4
February	23.83	24.24	23.46	20.9	28.4	35.8	15.9	25.8	52	5	10	11	63	51	.068	.073	.57	.46	4.4	6.9	5.8
March	23.79	24.02	23.45	22.5	33.7	39.6	18.6	29.1	62	0	12	13	64	47	.078	.084	2.32	1.02	4.6	6.5	5.1
April	24.01	24.26	23.71	31.8	45.7	51.2	28.9	40.0	71	13	22	23	68	46	.118	.122	.60	.30	4.6	5.0	4.8
May	24.07	24.40	23.78	44.6	61.4	68.4	41.6	55.0	79	28	34	32	69	37	.206	.197	3.07	1.54	3.0	5.6	5.7
June	24.01	24.26	23.70	52.2	65.9	71.6	47.9	59.8	86	36	41	38	69	42	.264	.234	1.60	.48	4.0	6.1	4.9
July	24.10	24.31	23.74	55.6	72.5	79.5	50.5	65.0	92	40	40	36	58	33	.248	.221	3.77	1.75	3.3	5.6	4.4
August	24.16	24.32	23.95	53.6	71.6	78.1	51.4	64.8	88	41	43	39	70	36	.287	.255	1.66	.54	3.7	4.5	4.5
September	24.16	24.44	23.86	50.2	68.9	75.8	47.9	61.8	86	32	37	34	63	32	.226	.204	.41	.31	3.8	4.9	4.2
October	24.05	24.40	23.70	38.3	49.4	59.3	33.4	46.4	75	20	24	25	58	43	.133	.139	1.03	.36	3.9	5.1	4.6
November	23.97	24.27	23.67	33.3	38.9	50.2	24.7	37.4	72	5	14	17	53	46	.086	.096	.68	.27	3.5	3.9	4.8
December	23.96	24.44	23.45	22.6	24.9	35.0	14.9	25.0	52	— 6	7	11	53	55	.064	.070	1.27	.64	3.2	3.8	4.9
Year	24.01	24.44	23.45	37.0	48.9	56.6	32.3	44.5	92	—21	24	24	62	42	.153	.146	17.25	1.75	3.7	5.2	4.9

CHICAGO, ILL.

[λ = 41° 53′ N.; φ = 87° 37′ W.; gravity corr., —0.01.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	29.20	29.67	28.39	20.2	23.1	28.3	15.4	21.8	57	—20	16	19	83	83	.119	.125	4.53	1.24	6.5	5.8	6.3
February	29.16	29.66	28.70	26.5	30.2	33.5	23.6	28.6	44	— 6	22	25	81	80	.122	.139	2.22	.45	7.1	7.4	7.1
March	29.13	29.74	28.37	31.9	36.0	41.1	28.2	34.7	58	17	27	31	83	82	.156	.182	3.56	1.00	6.2	7.0	5.4
April	29.17	29.82	28.71	42.4	46.6	52.8	39.2	46.0	78	24	37	38	80	74	.228	.246	2.23	.54	7.0	6.9	5.4
May	29.14	29.45	28.76	51.8	57.2	63.2	46.6	55.0	81	33	42	42	72	60	.277	.275	.84	.45	4.6	5.6	4.3
June	29.10	29.34	28.85	62.8	65.4	72.9	57.4	65.2	93	44	54	55	74	70	.437	.459	3.60	2.01	5.8	6.0	5.3
July	29.08	29.30	28.87	72.0	76.0	80.0	68.4	74.2	95	56	64	65	75	70	.600	.627	1.47	.37	3.4	4.1	4.1
August	29.13	29.45	28.85	65.8	70.7	74.9	63.0	69.0	90	54	56	59	73	68	.468	.511	1.70	.83	4.9	4.5	4.5
September	29.29	29.53	28.98	64.7	71.8	76.8	62.2	69.5	94	42	52	55	65	60	.406	.467	.84	.43	4.1	1.7	2.9
October	29.20	29.58	28.57	54.6	60.5	65.4	51.4	58.4	87	38	44	47	69	63	.296	.334	.18	.18	4.5	2.3	2.9
November	29.18	29.68	28.63	35.6	40.5	46.1	31.3	38.7	66	7	30	32	78	71	.181	.191	3.06	.85	6.3	5.3	6.9
December	29.17	29.66	28.78	23.4	26.4	31.1	19.0	25.0	57	— 2	19	23	82	87	.113	.134	1.62	.56	6.5	5.6	6.9
Year	29.16	29.82	28.37	46.0	50.4	55.5	42.2	48.8	95	—20	39	41	76	72	.284	.308	25.85	2.01	5.6	5.2	5.2

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

CHARLOTTE, N. C.

[H = 773 ft.; h_t = 68 ft.; h_r = 60 ft.; h_a = 76 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	6.6	E.	26	SW.	0	3	12	14	7	3	11	7	4	1	14	5	12	10	9	3	0	5	3	0	18	0	0
February	8.0	S.	34	SW.	0	2	9	12	4	15	7	3	4	0	11	6	11	13	12	0	0	1	0	0	4	0	0
March	8.0	SW.	34	S.	0	2	11	12	10	8	14	2	3	0	8	7	16	19	13	0	0	1	0	0	1	2	0
April	7.4	S.	36	SW.	0	4	9	14	7	16	8	1	1	0	16	7	7	10	8	0	0	0	0	0	0	5	0
May	6.6	NE.	29	S.	0	2	14	12	5	14	6	5	3	1	14	10	7	12	10	0	1	0	0	0	0	7	0
June	5.8	E.	32	W.	0	2	10	14	9	8	13	1	3	0	12	15	3	12	8	0	0	0	0	12	0	11	0
July	4.4	SE.	24	SE.	0	0	9	8	17	13	10	1	1	3	5	11	15	15	13	0	0	0	0	10	0	10	0
August	5.0	NE.	28	SW.	0	2	16	4	11	15	9	2	0	3	13	12	6	8	7	0	0	0	0	8	0	6	0
September	6.0	NE.	24	NE.	0	2	20	8	5	18	5	0	2	0	19	7	4	4	4	0	0	0	0	10	0	2	0
October	6.7	NE.	26	NE.	0	4	26	7	5	7	4	2	2	5	13	6	12	6	5	0	0	2	0	0	0	1	0
November	7.8	S.	28	S.	0	3	14	5	5	14	12	4	2	1	20	4	6	7	5	0	0	1	0	0	3	0	0
December	6.7	NE.	30	SW.	0	4	16	5	4	15	10	5	2	1	10	10	11	15	12	0	0	0	0	0	8	0	0
Year	6.6	NE.	36	SW.	0	30	166	115	89	146	109	33	27	15	155	100	110	131	106	3	1	10	3	40	34	44	0

CHATTANOOGA, TENN.

[H = 762 ft.; h_t = 106 ft.; h_r = 97 ft.; h_a = 112 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	8.8	NW.	34	SE.	0	7	7	1	7	7	8	9	16	0	7	11	13	9	6	2	0	4	5	0	16	0	0
February	8.4	W.	37	W.	0	6	9	3	5	8	7	10	8	0	6	9	13	11	10	0	0	3	0	0	3	3	0
March	9.4	S.	40	S.	1	5	11	3	7	16	7	2	11	0	4	12	15	19	17	0	1	2	0	0	0	11	0
April	8.1	S.	37	SW.	0	4	10	6	9	10	5	7	9	0	9	13	8	12	12	0	0	1	0	0	0	5	0
May	6.9	SW.	32	SW.	0	11	12	1	2	7	13	3	13	0	13	13	5	7	5	0	0	0	0	0	0	5	0
June	6.2	NE.	44	SW.	1	11	15	4	2	4	10	6	8	0	11	18	1	8	6	0	0	0	0	14	0	12	0
July	5.9	SW.	32	S.	0	6	8	2	4	8	17	9	8	0	8	15	8	13	10	0	0	0	0	13	0	15	0
August	5.5	SW.	31	NW.	0	6	8	1	6	13	14	9	5	0	9	14	8	5	5	0	0	2	0	10	0	10	0
September	5.3	NE.	28	SE.	0	8	17	5	7	4	3	7	9	0	15	15	0	2	1	0	0	0	0	11	0	6	0
October	4.6	NW.	30	SE.	0	8	12	3	12	7	3	4	13	0	23	5	3	4	4	0	0	5	0	0	0	1	0
November	7.3	S.	45	W.	2	7	3	2	7	16	10	5	10	0	11	12	7	9	6	0	0	5	0	0	2	0	0
December	7.4	SW.	40	W.	1	3	8	3	12	7	17	4	8	0	1	13	17	17	15	0	0	5	0	0	8	0	0
Year	7.0	NE.	45	W.	5	82	120	34	80	107	114	75	118	0	117	150	98	116	97	2	1	27	5	48	29	68	0

CHEYENNE, WYO.

[H = 6,105 ft.; h_t = 56 ft.; h_r = 49 ft.; h_a = 64 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	11.7	NW.	48	NW.	2	10	3	1	3	4	3	12	26	0	12	10	9	5	3	5	0	0	11	0	31	0	0
February	11.4	NW.	48	NW.	2	4	3	0	0	2	10	20	17	0	7	13	8	5	2	5	0	0	12	0	28	0	0
March	12.7	NW.	48	NW.	2	9	2	0	9	8	5	13	16	0	11	14	6	8	6	8	0	1	7	0	28	1	0
April	11.9	NW.	36	S.	0	16	2	2	1	9	2	8	20	0	12	14	4	10	4	7	0	0	1	0	17	1	0
May	8.9	S.	35	SW.	0	8	6	2	4	14	3	7	18	0	7	17	7	15	8	0	0	0	0	0	1	12	0
June	9.8	NW.	48	NW.	2	7	4	1	7	8	6	10	17	0	13	11	6	11	6	0	2	0	0	0	0	10	0
July	8.8	NW.	35	NW.	0	10	2	2	0	10	3	11	24	0	15	12	4	11	10	0	0	0	0	3	0	5	0
August	7.4	NW.	27	S.	0	7	6	4	1	14	6	9	15	0	14	13	4	13	8	0	1	0	0	0	0	6	0
September	7.8	NW.	27	SW.	0	4	5	0	5	18	1	7	20	0	15	12	3	5	2	0	0	1	0	0	0	3	0
October	10.2	NW.	39	NW.	0	13	3	1	4	8	3	12	16	2	13	11	7	9	6	6	0	0	2	0	14	0	0
November	11.9	W.	54	W.	3	6	3	1	0	7	10	16	17	0	10	14	6	7	5	7	0	0	3	0	23	1	0
December	13.6	NW.	50	W.	5	8	1	0	2	3	8	9	30	1	9	15	7	7	6	7	0	0	11	0	28	0	0
Year	10.5	NW.	54	W.	16	102	40	14	36	105	60	134	236	3	138	156	71	106	66	45	3	2	47	3	170	39	0

CHICAGO, ILL.

[H = 824 ft.; h_t = 241 ft.; h_r = 238 ft.; h_a = 274 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	18.7	W.	62	W.	4	2	3	3	4	12	4	24	10	0	10	5	16	16	11	12	0	1	16	0	28	1	0
February	16.6	W.	51	E.	7	8	3	9	5	8	1	10	12	0	5	7	16	10	9	8	0	2	10	0	26	1	0
March	19.4	SE.	49	E.	8	7	14	5	11	7	2	7	9	0	12	7	12	16	13	4	4	4	5	0	19	3	0
April	20.4	NE.	67	S.	12	5	13	4	8	9	8	5	8	0	11	9	10	18	11	2	1	0	0	0	4	4	0
May	16.3	N.	49	N.	6	20	2	2	6	4	9	14	5	0	12	14	5	10	4	0	0	0	0	0	0	5	0
June	15.1	NE.	55	S.	4	6	10	8	9	5	8	10	4	0	10	15	5	14	12	0	2	0	0	2	0	7	0
July	13.4	N.	72	W.	2	20	4	6	6	8	5	8	5	0	12	16	3	9	6	0	0	0	0	4	0	3	0
August	15.1	N.	56	NE.	4	14	8	5	7	6	6	8	8	0	12	13	6	7	5	0	0	0	0	1	0	4	0
September	15.7	NE.	39	NE.	0	3	9	8	6	10	12	9	3	0	18	10	2	2	2	0	0	0	0	5	0	1	0
October	16.7	SE.	47	SW.	1	4	8	9	8	11	7	8	7	0	20	7	4	1	1	0	0	2	0	0	0	0	0
November	19.9	S.	55	SW.	8	7	6	0	5	16	6	8	12	0	9	4	17	10	10	0	0	3	4	0	14	0	0
December	18.2	W.	56	SW.	10	7	6	1	5	7	8	16	12	0	6	7	18	12	8	7	0	2	16	0	28	0	1
Year	17.1	W.	72	W.	66	103	86	60	80	103	76	127	95	0	137	114	114	125	92	33	7	14	51	12	119	29	1

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

CINCINNATI, OHIO.

[λ = 39° 6′ N.; φ = 84° 30′ W.; gravity corr., — 0.02.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	29.49	29.96	28.90	25.2	31.0	36.3	21.7	29.0	66	—10	19	22	76	68	.121	.131	2.48	0.63	6.5	4.5	6.3
February	29.39	29.99	28.92	32.8	38.5	42.8	30.1	36.4	63	9	26	28	74	67	.144	.164	5.27	1.79	6.9	6.5	6.6
March	29.38	29.91	28.72	41.6	49.9	54.9	37.9	46.4	73	25	34	36	74	59	.211	.231	9.89	4.97	5.8	6.7	6.5
April	29.42	30.02	29.00	48.3	56.1	60.7	44.2	52.4	81	26	40	38	73	54	.254	.246	3.08	.78	5.4	6.0	5.6
May	29.37	29.71	29.02	54.3	63.9	68.8	50.2	59.5	84	33	47	46	76	54	.326	.311	2.46	.85	3.5	4.1	4.5
June	29.33	29.52	29.10	66.3	77.0	81.1	62.5	71.8	94	50	57	56	72	50	.482	.471	1.87	.62	4.0	4.9	4.2
July	29.30	29.53	29.11	72.1	81.2	86.7	69.1	77.9	98	57	65	65	80	59	.638	.627	6.71	2.39	3.9	4.3	3.9
August	29.34	29.56	29.12	66.6	77.8	83.4	64.1	73.8	96	57	60	62	80	59	.533	.559	1.91	.53	3.6	4.4	3.3
September	29.51	29.72	29.28	60.8	77.6	84.3	58.5	71.4	97	42	53	55	76	48	.419	.460	.64	.52	1.9	1.6	2.0
October	29.44	29.73	28.96	53.0	67.6	73.7	51.4	62.6	88	39	44	51	73	57	.297	.383	.46	.29	2.3	1.7	2.1
November	29.45	29.95	28.84	42.2	47.5	54.1	37.9	46.0	68	19	35	38	76	71	.216	.247	6.80	1.95	5.7	5.2	5.7
December	29.43	29.85	29.00	33.7	37.5	42.2	30.4	36.3	66	10	28	32	78	79	.159	.188	2.32	.63	6.9	7.0	7.1
Year	29.40	30.02	28.72	49.7	58.8	64.1	46.5	55.3	98	—10	42	44	76	60	.317	.335	43.89	4.97	4.7	4.7	4.8

CLEVELAND, OHIO.

[λ = 41° 30′ N.; φ = 81° 42′ W.; gravity corr., — 0.01.]

January	29.26	29.80	28.66	22.5	25.4	30.6	17.4	24.0	61	—15	20	20	88	78	.123	.121	1.85	0.37	8.1	7.2	8.2
February	29.21	29.74	28.69	27.7	30.4	35.2	24.0	29.6	52	4	24	24	84	78	.130	.134	1.52	.81	7.8	6.8	8.2
March	29.20	29.82	28.52	35.1	39.3	46.1	29.8	38.0	62	18	30	32	82	76	.179	.197	2.47	.53	4.9	6.2	5.8
April	29.25	29.87	28.87	43.4	48.0	54.8	38.6	46.7	79	26	37	39	80	73	.232	.254	1.34	.45	7.2	7.3	7.4
May	29.17	29.51	28.77	51.1	57.4	62.4	47.1	54.8	80	38	43	46	75	69	.283	.324	3.73	1.07	5.4	5.5	6.1
June	29.17	29.46	28.96	61.2	68.1	72.1	56.9	64.5	87	43	53	54	74	61	.410	.427	1.05	.51	6.1	5.3	5.7
July	29.13	29.38	28.90	70.8	76.9	80.9	66.7	73.8	97	56	63	63	78	64	.589	.588	2.48	.86	4.8	4.2	4.8
August	29.19	29.48	28.87	63.9	70.5	74.3	59.9	67.1	85	51	55	59	74	67	.446	.501	2.63	.69	3.6	5.2	4.7
September	29.36	29.60	29.05	60.0	68.8	74.1	56.2	65.2	87	39	49	53	67	60	.357	.426	0.66	.32	3.4	2.9	3.6
October	29.28	29.65	28.75	51.2	59.6	66.3	48.1	57.2	85	36	41	45	70	62	.269	.312	1.32	.68	5.2	3.5	5.4
November	29.23	29.72	28.43	39.4	42.4	48.2	34.8	41.5	65	18	33	36	76	79	.197	.226	4.13	1.26	8.2	7.3	8.4
December	29.22	29.68	28.83	30.0	32.4	36.7	26.4	31.6	60	8	24	26	77	76	.138	.149	1.36	.39	8.8	7.6	9.1
Year	29.22	29.87	28.43	46.4	51.6	56.8	42.2	49.5	97	—15	39	41	77	70	.279	.305	24.54	1.26	6.1	5.8	6.4

COLUMBIA, MO. *a*

[λ = 38° 58′ N.; φ = 92° 14′ W.; gravity corr., — 0.02.]

January	29.29	29.65	28.68	.....	28.1	38.1	19.6	28.8	69	— 4	....	23	....	80	.....	.142	6.87	3.88	.....	5.6	6.8
February	29.18	29.86	28.77	.....	34.6	43.2	27.5	35.4	68	4	....	28	....	77	.....	.157	1.22	.84	.....	7.6	7.7
March	29.11	29.55	28.58	.....	45.9	55.0	34.5	44.8	72	10	....	38	....	74	.....	.245	5.33	1.79	.....	6.5	7.1
April	29.16	29.65	28.84	.....	56.6	66.4	44.5	55.4	84	29	....	45	....	66	.....	.320	4.83	1.25	.....	6.2	6.8
May	29.18	29.40	28.86	.....	65.9	75.2	50.2	62.7	86	38	....	53	....	64	.....	.416	3.19	1.00	.....	5.2	5.2
June	29.09	29.25	28.86	.....	75.2	84.2	62.5	73.4	96	42	....	68	....	79	.....	.699	6.59	1.84	.....	6.7	6.8
July	29.10	29.22	28.89	.....	82.4	90.3	67.3	78.8	100	51	....	75	....	74	.....	.830	4.28	1.64	.....	2.7	3.7
August	29.16	29.37	29.04	.....	75.2	87.2	60.5	73.8	102	48	....	66	....	73	.....	.644	1.89	.59	.....	3.5	4.5
September	29.26	29.52	29.10	.....	74.7	92.4	59.2	75.8	102	35	....	60	....	62	.....	.543	.51	.51	.....	2.1	2.4
October	29.19	29.45	28.77	.....	62.8	79.5	48.7	64.1	94	27	....	49	....	62	.....	.359	.69	.33	.....	2.2	3.3
November	29.23	29.80	28.82	.....	44.7	55.7	31.3	43.5	80	8	....	34	....	69	.....	.211	2.55	.78	.....	4.9	6.0
December	29.26	29.68	28.77	.....	29.8	37.7	21.1	29.4	66	5	....	25	....	84	.....	.147	2.20	1.01	.....	5.6	7.7
Year	29.18	29.86	28.58	.....	56.3	67.1	43.9	55.5	102	— 4	....	47	....	72	.....	.393	40.15	3.88	.....	4.9	5.7

COLUMBIA, S. C.

[λ = 34° N.; φ = 81° 3′ W.; gravity corr., — 0.03.]

January	.....	.....	.....	.....	.....	51.1	33.0	42.0	67	10	....	....	....	....	.....	.....	2.28	0.86	.....	.....	....
February	.....	.....	.....	.....	.....	60.1	41.2	50.6	79	25	....	....	....	....	.....	.....	9.11	2.71	.....	.....	....
March	.....	.....	.....	.....	.....	65.7	45.9	55.8	85	30	....	....	....	....	.....	.....	3.66	.71	.....	.....	....
April	.....	.....	.....	.....	.....	74.0	51.4	62.7	87	39	....	....	....	....	.....	.....	2.32	1.05	.....	.....	....
May	.....	.....	.....	.....	.....	82.4	58.4	70.4	95	46	....	....	....	....	.....	.....	1.30	.67	.....	.....	....
June	.....	.....	.....	.....	.....	91.2	68.5	79.8	100	57	....	....	....	....	.....	.....	4.43	1.24	.....	.....	....
July	.....	.....	.....	.....	.....	91.3	70.7	81.0	102	62	....	....	....	....	.....	.....	9.66	2.11	.....	.....	....
August	.....	.....	.....	.....	.....	87.9	69.1	78.5	96	62	....	....	....	....	.....	.....	5.13	1.39	.....	.....	....
September	.....	.....	.....	.....	.....	84.9	63.0	74.0	100	45	....	....	....	....	.....	.....	2.49	1.59	.....	.....	....
October	.....	.....	.....	.....	.....	76.3	55.7	66.0	91	45	....	....	....	....	.....	.....	1.87	1.01	.....	.....	....
November	.....	.....	.....	.....	.....	67.3	44.3	55.8	79	30	....	....	....	....	.....	.....	1.06	.47	.....	.....	....
December	.....	.....	.....	.....	.....	57.7	36.6	47.2	75	27	....	....	....	....	.....	.....	1.90	.93	.....	.....	....
Year	.....	.....	.....	.....	.....	74.2	53.2	63.6	102	10	....	....	....	....	.....	.....	45.21	2.71	.....	.....	....

a Only one observation daily.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

CINCINNATI, OHIO.

[H = 628 ft.; h_t = 152 ft.; h_r = 145 ft.; h_a = 157 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	9.7	W.	41	W.	1	2	2	7	11	9	9	11	11	0	9	6	16	12	11	7	0	4	11	0	23	0	0
February	8.5	NW.	27	NW.	0	12	9	7	7	3	2	6	10	0	8	4	16	11	9	4	0	1	2	0	15	2	0
March	9.8	E.	36	W.	0	1	11	8	12	4	9	5	12	0	7	11	13	15	12	1	1	2	0	0	12	4	0
April	9.4	NW.	36	W.	0	5	5	9	12	9	6	4	10	0	10	8	12	13	8	1	0	0	0	0	3	0	0
May	7.0	NW.	33	W.	0	6	4	6	11	8	5	8	14	0	13	10	8	10	7	1	1	0	0	0	0	4	0
June	6.9	W.	33	N.	0	8	5	6	8	7	8	9	9	0	12	15	3	10	8	0	0	0	0	4	0	7	0
July	6.4	NW.	26	NW.	0	1	2	5	9	7	11	14	13	0	16	10	5	10	9	0	0	0	0	11	0	4	0
August	5.8	NW.	28	N.	0	6	12	6	11	4	8	3	12	0	21	9	1	5	5	0	0	0	0	4	0	5	0
September	4.5	SE.	36	NW.	0	7	11	8	16	7	1	4	2	4	25	5	0	4	3	0	0	0	0	10	0	2	0
October	5.7	NE.	30	SW.	0	8	14	6	11	5	7	5	6	0	24	4	3	5	3	0	0	0	0	0	0	0	0
November	8.3	S.	36	W.	0	1	5	5	12	12	5	6	14	0	12	7	11	12	12	0	0	1	0	0	8	3	0
December	8.9	SW.	29	NW.	0	2	7	5	10	4	13	7	14	0	5	10	16	14	9	5	0	1	5	0	17	0	0
Year	7.6	NW.	41	W.	1	59	87	78	130	79	84	82	127	4	162	99	104	121	96	19	2	9	18	29	78	31	0

CLEVELAND, OHIO.

[H = 762 ft.; h_t = 190 ft.; h_r = 161 ft.; h_a = 201 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	17.2	SW.	51	W.	4	1	4	2	13	8	18	12	4	0	3	4	24	19	13	15	0	0	17	0	27	1	0
February	14.1	W.	57	W.	5	4	12	2	8	5	7	15	3	0	4	2	22	15	9	9	0	2	10	0	25	0	0
March	16.8	NE.	56	W.	4	3	12	5	10	7	6	10	9	0	10	8	13	18	14	4	0	1	2	0	18	1	0
April	15.4	S.	49	NW.	5	3	9	3	10	13	4	10	8	0	4	9	17	13	9	2	0	1	0	0	7	0	0
May	12.3	NW.	40	NW.	1	9	4	2	2	14	11	9	11	0	10	10	11	13	10	0	0	0	0	0	0	2	0
June	11.1	N.	34	SW.	0	10	9	1	6	9	7	10	8	0	4	21	5	8	6	0	0	0	0	0	0	5	0
July	10.7	S.	39	W.	0	8	7	3	10	13	9	6	6	0	10	14	7	13	10	0	2	1	0	4	0	8	0
August	11.4	SE.	42	SW.	2	5	10	5	9	18	4	3	8	0	11	11	9	10	10	0	0	1	0	0	0	6	0
September	11.6	SE.	66	NW.	2	4	13	3	20	11	6	1	2	0	17	7	6	4	4	0	1	3	0	0	0	2	0
October	14.8	SE.	47	N.	3	7	5	6	21	13	4	1	5	0	7	15	9	4	3	0	1	3	0	0	0	0	0
November	19.1	S.	68	W.	5	3	5	0	6	19	10	5	12	0	3	4	23	20	15	3	0	1	1	0	9	1	0
December	16.0	W.	56	NW.	4	2	3	0	9	11	18	14	5	0	0	4	27	14	9	9	0	3	9	0	22	0	0
Year	14.2	S.	68	W.	35	59	93	32	124	141	104	96	81	0	83	109	173	151	112	42	4	16	39	4	108	26	0

COLUMBIA, MO.

[H = 783 ft.; h_t = 4 ft.; h_r = 2 ft.; h_a = 84 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	10.6	NW.	39	NW.	0	1	0	1	4	3	6	7	9	0	6	8	17	11	5	6	0	0	9	0	26	1	0
February	9.7	NW.	33	NE.	0	5	4	3	6	0	3	1	6	0	3	6	19	8	6	6	0	1	1	0	23	0	0
March	11.6	SE.	35	E.	0	3	5	2	8	2	2	3	6	0	7	6	18	17	10	2	1	1	0	0	14	6	0
April	11.8	SE.	44	E.	1	5	3	2	6	3	4	2	5	0	6	9	15	12	11	0	1	0	0	0	2	6	0
May	7.1	NW.	30	NW.	0	1	5	3	6	2	2	3	8	1	13	8	10	9	8	0	0	0	0	0	0	5	0
June	6.9	SE.	59	NW.	1	1	1	1	4	9	8	4	1	2	0	5	14	11	15	12	0	3	0	0	9	0	19
July	6.4	SE.	28	W.	0	1	0	2	12	4	4	1	7	0	17	10	4	8	5	0	0	0	0	0	17	0	9
August	6.1	N.	24	SW.	0	7	6	4	3	0	2	4	5	0	12	15	4	8	6	0	0	0	0	0	9	0	6
September	6.2	SE.	25	W.	0	6	3	6	7	1	3	3	1	0	21	8	1	2	2	0	0	0	0	0	23	0	2
October	7.1	S.	24	SW.	0	3	2	10	4	4	3	3	2	0	19	7	5	4	4	0	0	0	0	0	7	1	1
November	9.6	S.	29	SW.	0	4	0	4	3	8	2	4	5	0	9	7	14	8	6	0	1	0	1	0	14	2	0
December	9.5	N.	38	NW.	0	4	8	2	3	3	4	4	3	0	3	9	19	9	8	6	0	0	9	0	28	0	0
Year	8.6	SE.	59	NW.	2	41	37	43	71	38	39	36	59	1	121	107	137	111	83	20	6	2	20	65	108	57	0

COLUMBIA, S. C.

[H = — ft.; h_t = 5 ft.; h_r = 3 ft.; h_a = — ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	.....	NE.	....	.....	....	1	11	2	1	0	0	5	10	1	10	8	13	9	7	1	0	2	1	0	12	0	0
February	.....	W.	....	.....	....	2	2	6	3	1	1	7	6	0	9	8	11	12	11	0	0	1	0	0	4	0	0
March	.....	NE.	....	.....	....	2	10	2	4	1	8	2	2	0	7	5	19	12	11	0	0	1	0	0	1	4	0
April	.....	NW.	....	.....	....	1	6	4	2	1	5	4	7	0	14	8	8	9	7	0	0	0	0	0	0	2	0
May	.....	NE.	....	.....	....	3	9	2	1	1	8	2	5	0	18	6	7	7	7	0	0	0	0	5	0	5	0
June	.....	E.	....	.....	....	2	3	6	5	2	2	5	5	0	6	18	6	14	10	0	1	0	0	20	0	12	0
July	.....	SW.	....	.....	....	0	5	2	3	2	10	7	2	0	10	16	5	14	13	0	0	0	0	16	0	10	0
August	.....	W.	....	.....	....	1	5	4	3	1	6	7	4	0	11	10	10	9	6	0	0	0	0	13	0	3	0
September	.....	NE.	....	.....	....	2	13	4	2	0	3	3	3	0	14	8	8	4	4	0	0	0	0	9	0	2	0
October	.....	NE.	....	.....	....	6	15	1	2	1	1	1	4	0	12	9	10	5	4	0	0	3	0	1	0	2	0
November	.....	SW.	....	.....	....	3	7	1	0	2	8	2	7	0	16	5	9	6	6	0	0	0	0	0	1	0	0
December	.....	NW.	....	.....	....	1	7	1	1	1	7	5	8	0	11	4	16	10	9	0	0	2	0	0	7	0	0
Year	.....	NE.	....	.....	....	24	93	35	27	13	59	50	63	1	138	105	122	111	95	1	1	9	1	64	25	40	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station. C. = Calm.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

COLUMBUS, OHIO.

[λ = 39° 58′ N.; φ = 83° W; gravity corr., — 0.01.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	29.25	29.72	28.75	22.7	27.2	33.6	19.3	26.4	64	—10	20	20	90	75	.126	.123	1.54	0.48	8.1	5.6	7.4
February	29.17	29.71	28.71	30.3	35.0	40.0	28.1	34.0	59	6	26	28	85	77	.145	.162	3.71	1.16	7.8	7.7	7.8
March	29.16	29.71	28.50	39.1	45.2	51.7	34.8	43.2	73	24	34	37	82	73	.209	.236	5.45	2.87	6.1	6.9	7.0
April	29.20	29.80	28.74	46.5	52.8	59.4	41.7	50.6	82	23	38	42	74	70	.245	.283	4.27	1.96	6.7	6.8	7.0
May	29.14	29.48	28.78	53.7	61.4	68.0	47.8	57.9	82	33	47	49	78	66	.327	.356	3.68	1.13	5.4	4.8	5.1
June	29.12	29.31	28.93	65.2	74.4	81.0	58.6	69.8	96	46	58	58	78	59	.498	.508	2.45	1.09	5.5	4.6	5.0
July	29.08	29.32	28.87	72.0	79.9	87.3	67.0	77.2	102	55	67	68	84	68	.660	.689	6.95	3.81	4.7	4.3	4.8
August	29.13	29.38	28.88	65.0	74.3	81.6	60.6	71.1	96	52	58	63	79	68	.492	.577	1.95	.38	4.3	4.6	4.7
September	29.30	29.52	29.04	58.6	73.8	83.7	54.0	68.8	97	37	50	56	74	56	.378	.472	.82	.48	2.2	1.1	2.4
October	29.23	29.55	28.76	50.1	63.3	72.2	47.3	59.8	90	34	42	48	74	58	.274	.344	.36	.34	3.1	2.5	3.5
November	29.22	29.68	28.54	39.4	43.6	50.9	34.5	42.7	65	16	34	37	82	79	.212	.237	7.54	1.51	7.2	5.9	7.3
December	29.19	29.61	28.82	30.6	34.7	39.9	27.5	33.7	64	7	27	30	85	84	.156	.182	2.43	.56	7.1	7.4	6.9
Year	29.18	29.80	28.50	47.8	55.5	62.4	43.4	52.9	102	—10	42	45	80	69	.310	.347	41.15	3.81	5.7	5.2	5.7

CONCORDIA, KANS.

[λ = 39° 35′ N.; φ = 97° 41′ W.; gravity corr., — 0.01.]

January	28.63	29.08	27.94	22.5	28.6	36.2	19.8	28.0	59	— 6	18	22	80	75	.106	.120	0.91	0.52	3.9	5.2	5.0
February	28.51	29.20	28.03	24.9	33.8	38.4	23.1	30.8	59	0	20	26	80	72	.108	.140	.52	.27	7.8	6.3	6.2
March	28.44	28.82	27.86	31.8	44.5	52.2	29.8	41.0	79	4	26	30	79	59	.157	.178	1.44	.66	5.6	4.7	5.1
April	28.50	28.94	28.02	45.0	57.9	63.9	42.2	53.0	85	30	38	40	77	55	.242	.262	4.20	1.16	4.6	5.6	5.3
May	28.55	28.77	28.28	54.6	70.1	75.7	50.6	63.2	89	35	46	47	73	46	.324	.337	2.13	1.08	4.2	4.5	4.8
June	28.40	28.65	28.08	66.7	80.2	85.7	62.6	74.2	102	45	60	61	79	55	.533	.569	6.82	2.12	6.1	5.6	6.4
July	28.45	28.72	27.97	70.8	86.9	92.3	67.1	79.7	102	56	62	64	75	48	.561	.610	5.31	2.94	3.3	2.8	3.8
August	28.54	28.78	28.26	64.7	80.2	87.0	62.0	74.5	101	51	59	62	82	57	.505	.571	1.88	1.19	3.8	4.0	4.4
September	28.60	29.01	28.35	62.6	80.2	89.5	61.1	75.3	100	44	53	54	72	42	.417	.432	1.20	.82	1.8	2.2	2.9
October	28.54	28.86	28.13	50.2	63.3	72.2	48.6	60.4	90	33	43	46	78	57	.287	.315	5.80	2.59	3.6	3.6	3.9
November	28.59	29.16	28.16	31.4	41.8	51.7	28.9	40.3	79	3	26	31	79	68	.148	.184	.39	.34	4.2	3.7	4.6
December	28.62	29.13	27.99	21.5	27.7	35.7	19.3	27.5	61	— 5	18	23	87	83	.106	.131	.85	.52	4.0	3.3	4.9
Year	28.53	29.20	27.86	45.6	57.9	65.0	42.9	54.0	102	— 6	39	42	78	60	.291	.321	31.45	2.94	4.4	4.3	4.8

CORPUS CHRISTI, TEX.

[λ = 27° 49′ N.; φ = 97° 25′ W.; gravity corr., — 0.04.]

January	30.18	30.52	29.69	49.1	54.5	58.3	47.2	52.8	76	22	46	48	90	81	.353	.371	2.57	0.94	6.7	6.0	6.7
February	30.00	30.59	29.66	56.6	62.7	67.9	54.8	61.4	84	32	54	57	92	84	.440	.481	.06	.05	4.6	3.8	4.4
March	29.90	30.20	29.53	65.2	69.4	75.3	63.1	69.2	92	47	63	64	93	86	.603	.628	1.61	1.25	6.3	5.8	6.5
April	30.01	30.28	29.72	68.0	72.6	75.3	65.6	70.4	83	52	62	64	83	76	.588	.614	.83	.66	4.8	5.1	5.0
May	29.99	30.19	29.75	74.0	77.4	80.0	71.6	75.8	88	60	69	69	84	76	.707	.712	2.28	1.67	4.2	4.3	4.3
June	29.95	30.12	29.79	78.6	82.0	84.7	76.4	80.6	88	65	74	75	87	81	.852	.882	1.81	1.47	2.6	3.6	3.4
July	29.97	30.09	29.82	79.5	84.3	88.0	77.3	82.6	96	72	76	76	89	76	.890	.886	.00	.00	.9	.9	1.5
August	29.98	30.09	29.85	79.2	83.2	86.4	77.6	82.0	91	73	76	75	88	77	.883	.860	3.24	1.17	4.0	4.2	5.3
September	30.03	30.20	29.69	74.2	81.8	85.2	72.6	78.9	92	58	69	70	85	69	.738	.749	.98	.42	2.6	2.3	3.0
October	29.99	30.25	29.67	71.2	76.3	80.5	69.1	74.8	90	55	68	68	89	77	.687	.703	3.79	1.51	4.0	2.8	4.0
November	30.13	30.55	29.84	61.4	67.4	71.4	59.6	65.5	86	43	56	59	84	75	.494	.536	.11	.09	3.8	3.5	4.7
December	30.14	30.58	29.68	49.0	56.0	61.3	48.0	54.6	78	29	46	50	88	82	.327	.384	1.08	.42	4.4	3.7	4.9
Year	30.02	30.59	29.53	67.2	72.3	76.2	65.2	70.7	96	22	63	65	88	78	.630	.650	18.36	1.67	4.1	3.8	4.5

DAVENPORT, IOWA.

[λ = 41° 30′ N.; φ = 90° 38′ W.; gravity corr., — 0.01.]

January	29.45	29.85	28.67	17.4	22.2	27.6	14.1	20.8	63	—19	14	17	84	77	.109	.110	3.58	1.38	5.7	5.1	6.1
February	29.39	30.01	28.91	24.8	29.5	33.8	22.1	28.0	48	— 3	21	23	86	76	.120	.129	1.57	.39	7.4	7.1	7.3
March	29.34	29.88	28.55	30.3	38.5	42.6	27.8	35.2	64	6	26	31	84	74	.149	.183	2.82	.84	6.3	6.1	7.0
April	29.36	29.97	28.98	44.0	52.0	56.9	41.2	49.0	78	28	36	39	75	62	.225	.248	3.69	1.31	7.3	7.6	7.0
May	29.36	29.65	28.99	53.1	65.6	70.1	49.1	59.6	82	36	43	43	69	46	.287	.286	1.91	.78	4.2	5.2	4.5
June	29.28	29.51	28.98	64.5	75.9	79.9	60.9	70.4	98	44	56	60	75	58	.476	.541	1.37	.53	7.9	6.3	6.8
July	29.28	29.52	29.04	71.5	82.6	87.2	67.5	77.4	99	54	64	64	77	55	.599	.605	3.21	1.98	3.9	3.1	4.6
August	29.34	29.67	29.13	64.1	75.8	81.1	60.5	70.8	96	50	56	56	77	51	.464	.463	.68	.41	4.1	3.8	4.8
September	29.48	29.79	29.22	63.2	76.2	83.6	60.3	72.2	95	39	54	55	73	49	.439	.465	1.52	.87	4.7	1.5	2.8
October	29.40	29.77	28.80	50.1	62.5	70.5	47.8	59.2	90	32	42	42	75	49	.283	.279	.35	.35	4.2	2.2	4.0
November	29.42	29.96	28.85	32.4	40.1	46.6	28.9	37.8	72	2	26	27	77	60	.152	.159	1.68	.48	6.9	4.9	6.2
December	29.42	29.94	28.98	19.5	24.1	30.6	15.2	22.9	57	— 4	15	17	83	72	.098	.107	1.53	.52	7.2	5.3	6.5
Year	29.38	30.01	28.55	44.6	53.8	59.2	41.3	50.3	99	—19	38	40	78	61	.283	.298	23.91	1.98	5.8	4.8	5.6

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

COLUMBUS, OHIO.

[H = 824 ft.; h_t = 87 ft.; h_r = 81 ft.; h_a = 100 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	9.1	NW.	35	NW.	0	2	3	5	11	1	12	15	13	0	5	7	19	12	8	8	0	0	14	0	25	0	0
February	8.5	W.	25	W.	0	8	6	11	4	3	5	13	6	0	3	4	21	9	9	2	0	1	2	0	19	0	0
March	9.7	W.	34	W.	0	2	11	8	7	5	6	15	8	0	6	10	15	13	12	3	0	0	0	0	15	0	0
April	8.6	SW.	35	NE.	0	3	6	5	9	4	12	9	9	3	4	7	19	13	10	1	0	0	0	0	4	2	0
May	6.4	W.	30	W.	0	5	6	2	5	4	13	16	10	1	11	9	11	11	9	0	1	0	0	0	0	1	0
June	6.2	W.	30	W.	0	7	10	3	6	4	9	11	9	1	10	14	6	8	6	0	1	0	0	5	0	4	0
July	5.7	W.	27	NW.	0	1	8	5	9	9	7	11	11	1	12	14	5	11	11	0	0	0	0	10	0	7	0
August	5.8	NW.	39	NW.	0	5	10	4	11	6	8	7	7	4	12	14	5	13	9	0	0	0	0	2	0	5	0
September	4.8	NE.	44	NW.	1	10	12	4	8	12	8	2	3	1	22	6	2	3	2	0	0	1	0	11	0	2	0
October	6.5	NE.	25	NW.	0	5	13	10	9	9	7	2	7	0	18	7	6	3	2	0	0	1	0	0	0	0	0
November	8.6	SW.	31	W.	0	0	2	4	11	11	7	10	15	0	3	11	16	14	12	0	0	0	1	0	11	3	0
December	8.6	W.	27	SE.	0	1	7	4	6	6	12	15	11	0	5	10	16	10	8	3	0	0	7	0	20	0	0
Year	7.4	W.	44	NW.	1	49	94	65	96	74	106	126	109	11	111	113	141	120	98	17	2	3	24	28	94	24	0

CONCORDIA, KANS.

[H = 1,398 ft.; h_t = 42 ft.; h_r = 34 ft.; h_a = 47 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	8.0	S.	36	NW.	0	16	0	0	5	17	11	2	10	1	14	7	10	9	4	6	0	0	10	0	27	0	0
February	6.5	S.	25	NW.	0	9	10	5	5	13	4	2	6	2	9	6	13	4	3	4	0	0	4	0	27	0	0
March	9.0	N.	28	NE.	0	12	8	11	8	11	3	5	4	0	13	7	11	9	8	3	0	0	4	0	19	2	0
April	9.7	N.	42	S.	1	12	6	7	7	11	1	7	9	0	12	7	11	10	8	0	1	0	0	0	1	2	0
May	7.3	S.	24	S.	0	9	4	7	9	18	7	4	3	1	11	16	4	9	8	0	0	0	0	0	0	3	0
June	8.0	S.	40	NW.	1	7	3	14	7	18	3	2	2	4	2	21	7	16	13	0	1	0	0	10	0	17	0
July	7.1	S.	30	S.	0	3	3	5	10	29	1	2	8	1	16	11	4	6	4	0	0	0	0	18	0	8	0
August	5.1	S.	32	W.	0	5	9	10	11	12	4	5	3	3	15	11	5	5	5	0	0	0	0	10	0	3	0
September	6.9	S.	26	S.	0	3	0	3	8	30	4	3	2	7	20	7	3	5	4	0	0	0	0	19	0	0	0
October	7.6	S.	30	S.	0	11	3	3	12	21	5	2	1	4	17	8	6	7	6	0	0	1	0	1	0	0	0
November	6.9	S.	27	N.	0	15	3	2	5	18	6	3	4	4	14	7	9	3	2	1	0	0	2	0	17	0	0
December	6.2	S.	27	NW.	0	9	6	4	3	10	9	9	6	6	13	11	7	8	5	8	0	0	11	0	28	0	0
Year	7.4	S.	42	S.	2	111	55	71	90	208	58	46	58	33	156	119	90	91	70	22	2	1	31	58	119	35	0

CORPUS CHRISTI, TEX.

[H = 20 ft.; h_t = 42 ft.; h_r = 34 ft.; h_a = 50 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	11.1	N.	35	SE.	0	19	4	7	10	6	0	1	15	0	5	7	19	13	7	3	0	1	1	0	5	0	0
February	11.3	SE.	31	N.	0	9	7	9	18	6	1	4	2	0	15	3	10	3	0	0	0	2	0	0	1	0	0
March	13.6	SE.	36	SE.	0	8	6	6	28	9	2	0	3	0	6	9	16	6	4	0	0	4	0	1	0	1	0
April	14.1	SE.	36	N.	0	8	4	11	29	5	1	0	2	0	9	13	8	7	3	0	0	1	0	0	0	3	0
May	12.8	SE.	48	N.	1	4	2	14	37	2	0	1	2	0	10	20	1	6	4	0	0	0	0	0	0	3	0
June	14.5	SE.	48	N.	1	0	2	4	47	3	1	0	3	0	16	11	3	5	3	0	0	0	0	0	0	3	0
July	12.5	SE.	32	SE.	0	1	0	2	37	16	2	1	2	1	30	1	0	0	0	0	0	0	0	6	0	1	0
August	10.4	SE.	27	SE.	0	8	3	5	26	11	2	1	5	1	10	10	11	14	11	0	0	0	0	3	0	3	0
September	9.7	E.	31	E.	0	14	7	21	5	3	3	2	5	0	17	9	4	10	8	0	0	0	0	1	0	4	0
October	10.9	SE.	36	N.	0	12	8	7	20	4	2	3	6	0	17	6	8	10	10	0	0	2	0	0	0	4	0
November	10.2	N.	31	N.	0	21	8	6	15	3	0	0	5	2	13	7	10	3	1	0	0	3	0	0	0	0	0
December	10.3	N.	34	N.	0	23	3	4	11	8	1	4	8	0	12	9	10	12	6	0	0	3	0	0	1	0	0
Year	11.8	SE.	48	N.	2	127	54	96	283	76	15	17	58	4	160	105	100	89	57	3	0	16	1	11	7	22	0

DAVENPORT, IOWA.

[H = 599 ft.; h_t = 71 ft.; h_r = 64 ft.; h_a = 79 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	9.7	W.	36	W.	0	2	4	8	7	3	6	19	13	0	9	10	12	14	10	10	1	1	18	0	27	1	0
February	8.6	NW.	32	NE.	0	4	6	10	3	6	5	10	12	0	4	9	15	11	8	9	0	1	10	0	28	1	0
March	9.8	E.	38	NE.	0	3	10	16	3	2	5	11	12	0	6	4	21	11	10	4	0	1	5	0	21	3	0
April	10.1	E.	38	SW.	0	4	10	11	8	5	6	10	6	0	6	6	18	13	12	1	0	0	0	0	3	4	0
May	7.3	NW.	36	NW.	0	4	7	3	5	6	12	10	15	0	13	11	7	10	8	0	1	0	0	0	0	3	0
June	7.2	SW.	33	E.	0	2	5	10	10	7	13	9	4	0	4	12	14	6	6	0	1	0	0	5	0	7	0
July	6.6	E.	26	W.	0	3	10	8	8	4	9	9	10	1	14	9	8	6	4	0	0	0	0	8	0	7	0
August	6.0	W.	30	S.	0	8	9	9	3	0	10	12	10	1	13	10	8	8	3	0	0	0	0	3	0	5	0
September	5.7	SW.	20	SW.	0	5	4	10	10	8	11	3	4	5	21	5	4	5	5	0	0	0	0	7	0	3	0
October	6.4	E.	23	SW.	0	0	6	17	5	5	7	10	9	3	15	9	7	2	2	0	0	0	0	1	1	0	0
November	7.9	NW.	27	NW.	0	7	3	9	5	7	7	10	12	0	9	6	15	11	9	1	0	0	4	0	16	2	0
December	7.8	NW.	40	W.	1	1	10	6	3	4	7	13	17	1	7	9	15	9	7	8	0	0	16	0	29	0	0
Year	7.8	W.	40	W.	1	43	84	117	70	57	98	126	124	11	121	100	144	106	84	33	3	3	53	24	125	36	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

DENVER, COLO.

[λ=39° 45′ N.; φ=105° W.; gravity corr., —0.01.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	24.72	25.01	24.28	19.2	31.2	38.6	14.7	26.6	59	—14	8	14	59	51	.063	.084	0.58	0.50	2.3	4.4	4.6
February	24.58	25.03	24.23	23.3	35.9	42.9	19.6	31.2	65	8	11	16	60	47	.072	.092	.82	.22	4.4	6.1	5.0
March	24.52	24.80	24.04	27.4	41.6	47.2	24.1	35.7	69	5	16	17	62	43	.092	.099	.90	.40	4.8	5.5	5.7
April	24.74	25.02	24.40	37.6	53.8	59.7	35.2	47.4	77	15	26	25	65	39	.144	.139	1.31	.48	4.9	6.1	4.9
May	24.78	25.15	24.51	50.1	66.7	73.5	47.7	60.6	84	40	40	39	69	38	.252	.243	3.15	1.41	4.6	6.8	5.7
June	24.71	24.97	24.39	54.8	71.3	78.4	51.9	65.2	90	40	44	42	68	40	.288	.279	2.16	1.06	4.6	6.8	5.6
July	24.81	25.02	24.38	58.9	77.6	84.0	55.5	69.8	96	43	44	40	60	32	.290	.261	2.06	.94	3.4	5.6	5.0
August	24.87	25.05	24.62	58.3	75.9	82.7	56.6	69.6	94	49	47	43	69	36	.334	.298	1.44	.76	3.2	6.3	4.5
September	24.85	25.19	24.56	54.2	73.4	80.1	52.5	66.3	93	40	42	40	64	33	.267	.252	.44	.37	4.6	6.5	5.3
October	24.77	25.14	24.36	41.8	56.1	64.5	37.6	51.0	81	19	27	29	59	42	.149	.161	1.64	1.12	5.7	4.8	5.0
November	24.72	25.06	24.36	33.0	43.5	53.6	28.1	40.8	77	7	18	24	60	49	.100	.128	.24	.12	5.1	3.9	5.3
December	24.72	25.26	24.21	22.4	30.6	41.1	15.5	28.3	62	— 8	8	12	57	50	.064	.075	.63	.31	3.4	4.1	4.5
Year	24.73	25.26	24.04	40.1	54.8	62.2	36.6	49.4	96	—14	28	28	63	42	.176	.176	15.37	1.41	4.2	5.6	5.1

DES MOINES, IOWA.

[λ=41° 35′ N.; φ=93° 37′ W.; gravity corr., —0.01.]

January	29.20	29.65	28.50	15.3	22.4	28.3	10.7	19.5	61	—17	7	15	69	72	.074	.100	2.02	0.44	6.2	3.9	4.7
February	29.12	29.76	28.54	23.7	29.2	34.0	19.4	26.7	48	—14	18	22	79	72	.108	.119	.71	.41	6.1	6.0	6.5
March	29.08	29.52	28.35	30.1	38.2	43.1	26.4	34.8	60	— 2	25	29	79	69	.146	.171	2.13	.57	6.7	5.8	6.3
April	29.10	29.60	28.72	43.6	53.6	58.5	40.2	49.4	79	29	38	39	80	61	.234	.250	7.37	2.95	6.8	6.3	5.6
May	29.13	29.35	28.83	52.4	65.8	70.9	48.5	59.7	83	39	43	43	70	46	.287	.297	2.31	1.11	3.3	4.2	3.3
June	29.01	29.27	28.68	64.0	75.5	79.5	60.6	70.0	94	41	58	60	80	60	.500	.545	3.15	.64	6.1	4.8	5.0
July	29.03	29.23	28.64	70.3	82.0	86.6	66.3	76.4	98	52	64	65	81	57	.605	.623	2.88	1.08	3.5	2.5	3.1
August	29.10	29.42	28.89	61.9	76.2	81.3	59.4	70.4	94	44	56	58	82	55	.462	.504	1.77	1.25	4.1	3.7	2.8
September	29.19	29.56	28.93	62.7	78.0	86.5	60.9	73.7	98	38	54	58	74	51	.443	.494	1.56	1.07	2.6	2.2	2.0
October	29.13	29.48	28.67	49.0	62.5	70.6	46.5	58.6	90	30	40	43	73	52	.259	.289	.85	.39	4.4	3.3	4.0
November	29.17	29.69	28.60	29.7	39.6	47.1	25.8	36.4	76	— 1	22	24	74	54	.132	.141	.34	.17	5.0	3.6	4.5
December	29.19	29.72	28.64	16.8	21.7	27.9	11.4	19.6	49	—13	12	17	81	81	.086	.103	1.98	1.01	6.4	5.0	5.2
Year	29.12	29.76	28.35	43.3	53.7	59.5	39.7	49.6	98	—17	36	39	77	61	.278	.303	27.07	2.95	5.1	4.3	4.4

DETROIT, MICH.

[λ=42° 20′ N.; φ=83° 3′ W.; gravity corr., —0.01.]

January	29.29	29.87	28.62	21.0	23.9	29.3	16.6	23.0	58	—16	18	20	87	85	.114	.121	1.65	0.40	8.0	7.1	7.3
February	29.26	29.78	28.84	25.1	28.1	32.2	22.7	27.4	44	4	21	23	85	79	.116	.124	1.14	.34	8.3	7.4	7.6
March	29.24	29.87	28.52	31.3	35.8	42.0	27.3	34.6	57	13	27	29	84	76	.154	.167	3.70	.94	6.4	6.3	6.1
April	29.27	29.91	28.83	41.5	46.9	53.3	37.1	45.2	73	20	35	38	79	71	.216	.240	2.09	.48	6.6	6.2	6.7
May	29.20	29.57	28.79	51.5	56.6	63.0	46.6	54.8	79	36	44	47	76	71	.295	.328	4.03	.84	6.0	5.5	5.8
June	29.20	29.43	28.90	60.6	67.6	73.3	55.9	64.6	89	41	51	54	73	62	.396	.429	3.52	1.43	4.6	5.2	4.2
July	29.16	29.40	28.95	71.5	77.3	82.9	66.7	74.8	94	57	63	62	75	62	.584	.565	1.70	.74	4.5	3.2	3.8
August	29.22	29.53	28.90	63.6	69.6	75.8	59.8	67.8	84	49	56	57	78	65	.467	.472	3.10	.68	4.5	3.9	4.4
September	29.40	29.65	29.05	60.3	68.0	75.7	56.9	66.3	93	39	52	53	75	61	.407	.422	1.02	.72	2.8	2.9	3.1
October	29.32	29.70	28.75	50.7	56.9	64.6	47.3	56.0	88	37	44	46	80	69	.303	.324	1.31	.64	5.1	4.2	4.7
November	29.26	29.78	28.61	36.7	39.7	45.3	32.2	38.8	59	18	32	33	82	78	.192	.201	5.13	1.38	7.2	6.0	7.7
December	29.25	29.74	28.80	26.3	28.8	33.0	22.0	27.5	54	— 2	23	25	86	84	.132	.143	1.95	.55	8.1	7.8	7.1
Year	29.26	29.91	28.52	45.0	49.9	55.9	40.9	48.4	94	—16	39	41	80	72	.281	.295	30.34	1.43	6.0	5.5	5.7

DODGE CITY, KANS.

[λ=37° 45′ N.; φ=100° W.; gravity corr., —0.02.]

January	27.48	27.82	26.85	22.6	29.2	37.5	19.0	28.2	58	—3	18	23	82	77	.107	.133	1.44	0.89	4.3	3.4	3.9
February	27.33	27.93	26.84	26.1	36.2	43.4	23.6	33.5	65	4	23	29	88	76	.127	.162	2.38	.72	5.4	5.1	4.6
March	27.27	27.57	26.86	32.2	48.0	55.8	29.5	42.6	81	11	28	28	86	50	.165	.163	0.26	.08	4.0	3.7	4.2
April	27.38	27.75	26.87	43.3	60.1	66.5	41.2	53.8	87	31	38	38	82	48	.237	.239	3.21	1.52	3.9	4.1	4.3
May	27.42	27.66	27.12	55.2	69.4	75.9	52.9	64.4	87	39	50	52	84	57	.373	.401	1.49	.49	4.7	4.3	4.2
June	27.30	27.56	26.98	65.1	78.7	86.2	61.7	74.0	98	48	58	61	79	56	.490	.536	2.31	.95	4.0	4.8	3.9
July	27.37	27.63	26.92	68.5	86.5	92.4	65.2	78.8	100	53	60	55	75	36	.524	.441	3.91	3.48	2.6	3.3	2.7
August	27.44	27.64	27.22	65.2	81.3	88.5	63.5	76.0	101	54	58	58	78	47	.484	.489	3.06	1.30	3.6	3.3	3.1
September	27.50	27.86	27.28	59.9	77.5	87.0	59.4	73.2	94	46	52	51	75	41	.398	.384	.60	.42	2.2	3.0	2.7
October	27.43	27.70	27.05	47.9	62.2	73.2	46.4	59.8	90	28	42	43	80	53	.276	.286	2.66	1.10	3.3	3.8	3.7
November	27.45	27.97	27.06	30.1	43.6	58.1	28.0	43.0	84	7	24	27	76	53	.130	.152	0.06	.03	3.3	2.8	3.4
December	27.47	28.02	26.79	22.4	31.3	42.7	18.7	30.7	68	—1	16	18	75	58	.093	.103	0.20	.14	3.3	3.4	3.6
Year	27.40	28.02	26.79	44.9	58.7	67.3	42.4	54.8	101	—3	39	40	80	54	.284	.291	21.58	3.48	3.7	3.8	3.7

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

DENVER, COLO.

[H = 5,290 ft.; h_t = 79 ft.; h_r = 74 ft.; h_a = 151 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	7.1	S.	45	NE.	2	7	12	3	7	20	1	6	6	0	10	16	5	4	2	4	0	1	9	0	30	0	0
February	7.5	S.	46	W.	1	7	5	3	4	14	9	7	7	0	8	13	7	9	6	9	0	1	3	0	27	0	0
March	8.8	S.	38	NW.	0	10	8	6	12	11	6	2	7	0	8	12	11	9	5	9	0	2	4	0	25	0	0
April	8.9	S.	46	SW.	1	11	10	3	7	12	3	5	9	0	9	13	8	11	8	6	0	0	0	0	9	1	0
May	7.4	S.	42	N.	1	4	4	5	8	18	4	8	11	0	6	17	8	9	7	0	3	0	0	0	0	10	0
June	7.9	S.	60	SE.	2	8	8	2	4	19	6	2	11	0	5	17	8	10	6	0	2	0	0	0	0	12	0
July	7.6	S.	48	W.	2	8	6	3	4	24	9	4	4	0	9	15	7	9	6	0	0	1	0	7	0	6	0
August	6.6	S.	39	W.	0	8	8	3	2	19	4	10	8	0	11	16	4	7	6	0	0	0	0	4	0	10	0
September	6.8	S.	33	NW.	0	10	4	3	6	23	4	5	5	0	5	21	4	3	2	0	0	0	0	2	0	2	0
October	8.4	S.	36	N.	0	5	7	2	4	22	10	3	9	0	9	13	9	6	5	3	0	0	0	0	9	0	0
November	7.8	S.	51	W.	2	7	8	1	4	24	9	3	4	0	4	18	8	4	2	4	0	2	2	0	20	0	0
December	8.9	S.	53	W.	3	5	4	0	2	23	12	6	10	0	14	9	8	8	3	8	0	0	9	0	27	0	0
Year	7.8	S.	60	SE.	14	90	84	34	64	229	77	61	91	0	98	180	87	89	58	43	5	7	27	13	147	41	0

DES MOINES, IOWA.

[H = 867 ft.; h_t = 84 ft.; h_r = 75 ft.; h_a = 88 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	8.8	NW.	33	NW.	0	10	1	4	6	5	7	7	22	0	15	5	11	14	13	12	0	0	13	0	29	0	0
February	8.1	NW.	28	W.	0	8	3	7	7	6	10	6	9	0	7	8	13	6	5	6	0	0	8	0	28	0	0
March	10.0	SE.	36	E.	0	7	12	6	17	1	3	2	14	0	10	4	17	11	9	4	1	2	6	0	20	4	0
April	11.0	N.	44	SW.	2	10	7	5	10	5	8	4	11	0	10	9	11	13	12	0	3	0	0	0	2	6	0
May	7.9	N.	37	SW.	0	16	4	2	8	7	5	6	14	0	18	9	4	7	7	0	0	0	0	0	0	4	0
June	7.9	SW.	40	SW.	1	5	9	6	7	6	18	4	4	1	12	10	8	11	8	0	1	0	0	3	0	9	0
July	7.6	SE.	50	NW.	1	2	8	5	16	6	10	3	11	1	20	8	3	10	7	0	1	1	0	8	0	10	1
August	6.2	N.	25	NW.	0	12	7	6	10	4	8	2	12	1	22	9	0	8	4	0	0	0	0	3	0	4	0
September	6.4	SW.	28	SW.	0	7	4	2	7	11	21	2	1	5	23	5	2	5	4	0	0	0	0	13	0	3	0
October	7.2	SW.	36	SW.	0	8	5	6	11	6	8	5	9	4	17	7	7	5	5	0	0	1	0	1	1	2	0
November	8.5	SW.	32	SW.	0	6	9	5	8	4	10	3	14	1	14	5	11	7	4	2	0	0	4	0	20	0	0
December	7.8	NW.	28	NW.	0	8	15	4	6	3	5	7	14	0	15	3	13	12	8	10	0	0	19	0	31	0	0
Year	8.1	NW.	50	NW.	4	99	84	58	113	64	113	51	135	13	183	82	100	109	86	34	6	4	50	28	131	42	1

DETROIT, MICH.

[H = 730 ft.; h_t = 160 ft.; h_r = 147 ft.; h_a = 166 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	11.1	SW.	48	SW.	1	2	8	2	7	9	19	12	3	0	6	7	18	16	11	11	0	1	18	0	27	1	0
February	10.4	SW.	36	SW.	0	10	7	6	4	1	13	10	5	0	4	6	18	11	4	10	0	1	12	0	26	0	0
March	11.2	NE.	48	SW.	1	6	16	8	3	4	13	8	4	0	10	8	13	16	16	5	0	4	3	0	21	3	0
April	10.8	SW.	37	W.	0	8	12	3	3	9	14	5	5	1	7	6	17	12	9	3	0	1	0	0	5	1	0
May	8.7	SW.	33	SW.	0	4	8	2	1	6	21	13	7	0	8	12	11	10	9	0	0	0	0	0	0	4	0
June	8.1	SW.	29	SW.	0	7	12	5	9	1	15	9	2	0	16	10	4	8	8	0	0	0	0	0	0	7	0
July	7.5	NE.	28	W.	0	7	17	3	7	5	9	7	7	0	18	8	5	10	6	0	0	0	0	4	0	8	0
August	7.5	SW.	32	SW.	0	7	11	4	3	5	10	14	7	1	14	10	7	12	9	0	0	0	0	0	0	9	0
September	7.1	SW.	27	W.	0	9	12	3	7	8	12	6	1	2	20	7	3	4	3	0	0	1	0	2	0	2	0
October	8.5	NE.	35	S.	0	7	14	9	1	6	11	10	4	0	13	11	7	6	4	0	0	5	0	0	0	0	0
November	8.3	W.	35	SW.	0	6	2	4	3	11	14	17	3	0	4	7	19	14	11	2	0	3	3	0	13	0	0
December	9.6	W.	36	S.	0	3	8	1	2	8	16	18	6	0	5	9	17	14	11	10	0	2	16	0	24	0	0
Year	9.1	SW.	48	SW.	2	76	127	50	50	73	167	129	54	4	125	101	139	133	101	41	0	18	52	6	116	35	0

DODGE CITY, KANS.

[H = 2,504 ft.; h_t = 44 ft.; h_r = 36 ft.; h_a = 52 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	10.8	NW.	36	N.	0	14	3	2	4	12	7	8	12	0	14	10	7	6	4	6	0	0	9	0	29	0	0
February	9.2	NE.	36	SW.	0	11	9	2	9	5	5	7	8	0	12	10	6	7	6	6	0	2	1	0	27	0	0
March	13.0	SE.	51	SW.	1	11	8	2	11	9	9	6	6	0	17	8	6	10	3	3	0	6	1	0	18	0	0
April	13.0	NW.	50	N.	5	13	7	1	11	8	1	4	15	0	11	14	5	7	7	0	1	0	0	0	1	5	0
May	10.8	S.	40	S.	1	6	9	4	14	17	6	2	3	1	10	19	2	10	8	0	0	2	0	0	0	6	0
June	13.1	S.	67	S.	4	6	6	2	8	29	5	3	1	0	15	15	0	9	7	0	1	1	0	12	0	10	0
July	12.2	S.	41	S.	2	6	4	1	9	30	5	3	4	0	21	8	2	6	5	0	0	1	0	21	0	6	0
August	8.4	S.	32	S.	0	4	10	3	11	20	8	4	2	0	19	11	1	6	6	0	0	0	0	10	0	6	0
September	11.1	S.	40	S.	1	4	5	0	9	35	2	4	0	1	24	5	1	5	4	0	0	0	0	8	0	2	0
October	11.7	S.	39	S.	0	9	5	0	3	29	4	6	6	0	18	8	5	7	5	1	0	0	0	1	2	2	0
November	10.3	S.	37	NE.	0	10	3	1	7	14	6	6	13	0	16	11	3	2	0	0	0	0	1	0	19	0	0
December	10.5	NW.	48	NW.	1	15	3	1	6	7	4	10	15	1	20	5	6	3	2	3	0	0	8	0	30	0	0
Year	11.2	S.	67	S.	15	109	72	19	102	215	62	63	85	3	197	124	44	78	57	19	2	12	20	52	126	37	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

DUBUQUE, IOWA.

[λ=42° 30′ N.; φ=90° 44′ W.; gravity corr., —0.01.]

Month.	Pressure			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	29.34	29.76	28.56	14.3	19.6	25.7	9.9	17.8	63	—23	12	13	88	75	.092	.092	2.55	0.75	6.6	5.5	6.1
February	29.28	29.87	28.81	21.3	26.7	31.6	17.9	24.8	40	—10	19	21	91	77	.111	.114	1.43	.45	7.4	6.0	6.4
March	29.26	29.79	28.50	27.6	35.2	39.5	25.5	32.5	60	7	23	28	83	73	.130	.157	2.97	1.07	6.1	5.2	5.8
April	29.26	29.86	28.81	42.7	51.1	55.5	39.6	47.6	77	25	35	37	75	60	.216	.229	3.39	1.53	6.0	6.8	5.1
May	29.26	29.55	28.88	51.8	64.0	69.6	47.8	58.7	84	35	41	41	68	46	.279	.278	2.09	1.00	3.5	3.8	2.5
June	29.18	29.40	28.86	62.4	73.7	78.2	58.1	68.2	99	40	54	56	74	58	.435	.495	2.36	.72	4.9	5.0	4.5
July	29.19	29.43	28.88	69.4	80.5	86.4	65.5	76.0	98	55	62	63	78	59	.562	.592	4.34	2.20	2.8	3.4	3.1
August	29.25	29.60	29.00	61.5	73.6	78.9	58.4	68.6	92	46	55	56	80	55	.442	.460	1.51	.48	3.5	4.2	3.8
September	29.38	29.70	29.14	61.1	73.6	81.2	58.6	69.9	93	38	55	56	80	56	.449	.477	3.19	2.00	3.2	1.2	2.4
October	29.30	29.72	28.71	49.0	60.4	68.6	46.2	57.4	89	32	42	48	78	64	.280	.346	1.02	.70	3.9	2.4	2.8
November	29.31	29.81	28.70	30.2	37.3	43.4	26.7	35.0	70	0	25	29	81	72	.144	.173	1.23	.42	6.3	4.9	5.5
December	29.32	29.83	28.86	16.0	20.9	27.4	12.2	19.8	46	— 6	13	14	86	72	.088	.088	2.08	.60	7.5	4.1	5.9
Year	29.28	29.87	28.50	42.3	51.4	57.2	38.9	48.0	99	—23	36	38	80	64	.269	.292	28.16	2.20	5.1	4.4	4.5

DULUTH, MINN.

[λ=46° 47′ N.; φ=92° 6′ W.; gravity corr., 0.00.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	29.28	29.65	28.59	6.0	11.6	17.6	1.2	9.4	43	—29	3	8	86	85	.061	.073	1.48	0.41	5.2	4.1	4.7
February	29.24	29.87	28.47	14.9	20.9	24.5	12.8	18.6	34	—20	12	17	88	86	.085	.102	2.21	.40	7.0	6.6	6.5
March	29.28	29.88	28.57	17.6	25.1	28.6	14.9	21.8	42	—11	13	20	81	79	.090	.114	1.34	.26	6.0	4.7	5.1
April	29.26	29.74	28.50	36.3	43.3	48.0	32.0	40.0	78	14	29	28	74	55	.161	.155	.72	.36	4.3	5.0	4.0
May	29.24	29.56	28.70	44.2	51.5	56.7	40.2	48.4	87	32	35	35	71	57	.206	.207	1.63	.54	4.5	4.5	5.0
June	29.16	29.47	28.78	50.8	57.2	62.9	45.6	54.2	87	33	45	46	81	69	.305	.319	3.48	1.35	5.4	5.3	6.1
July	29.14	29.43	28.68	63.3	68.3	74.3	58.5	66.4	87	52	58	59	84	75	.491	.501	9.29	4.20	5.5	5.7	5.1
August	29.22	29.60	28.78	59.6	65.7	70.9	56.7	63.8	81	48	53	54	79	68	.408	.430	3.91	1.36	4.3	4.2	5.3
September	29.32	29.66	29.03	57.4	63.8	70.5	54.7	62.6	89	39	50	52	78	68	.386	.410	3.14	1.09	5.2	3.5	3.5
October	29.24	29.73	28.52	45.5	49.0	54.5	42.7	48.6	74	29	40	41	82	75	.259	.267	2.11	1.06	6.0	5.6	6.2
November	29.29	29.74	28.61	22.5	27.2	32.5	19.8	26.2	56	— 8	19	22	84	80	.114	.127	.78	.27	4.6	4.0	5.5
December	29.26	29.79	28.66	10.4	15.8	21.1	7.2	14.2	40	—15	7	12	85	86	.070	.085	.85	.28	5.1	5.5	6.1
Year	29.24	29.88	28.47	35.7	41.6	46.8	32.2	39.5	89	—29	30	33	81	74	.220	.232	30.94	4.20	5.3	4.9	5.3

EASTPORT, ME.

[λ=44° 54′ N.; φ=66° 59′ W.; gravity corr., 0.00.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	29.90	30.67	29.00	18.7	22.6	28.2	14.3	21.2	52	—14	12	16	74	74	.094	.110	3.14	1.03	4.9	4.1	6.5
February	29.94	30.37	29.52	20.8	25.1	30.1	16.6	23.4	44	0	14	18	72	72	.088	.103	1.45	.63	5.0	4.0	5.0
March	29.90	30.82	28.96	25.9	30.2	35.4	22.5	28.9	46	— 4	19	23	73	76	.114	.133	4.03	.59	5.7	4.7	6.5
April	29.94	30.54	29.37	37.0	38.6	44.9	32.3	38.6	59	15	31	33	78	81	.181	.197	3.35	.89	5.6	3.6	6.3
May	29.90	30.24	29.58	44.8	46.1	52.5	40.7	46.6	64	32	42	43	89	89	.267	.278	7.88	2.05	6.7	6.0	8.0
June	29.81	30.27	29.53	52.2	52.1	60.2	46.1	53.2	70	42	46	47	80	84	.309	.325	3.32	.86	6.1	5.7	6.8
July	29.92	30.28	29.60	57.8	57.3	66.4	51.5	59.0	81	48	54	54	88	90	.422	.423	2.78	.90	3.6	4.6	7.0
August	29.87	30.02	29.55	58.9	58.8	67.9	53.1	60.5	78	49	54	54	85	84	.421	.418	2.79	1.55	4.2	3.5	6.2
September	29.96	30.27	29.54	53.2	54.8	62.3	48.2	55.2	89	38	48	50	82	83	.337	.364	1.82	.56	4.2	4.0	6.7
October	30.03	30.55	29.37	45.2	47.3	55.8	40.9	48.4	74	29	40	41	81	79	.255	.265	.61	.53	3.8	3.2	4.7
November	29.90	30.57	28.94	34.5	36.1	42.3	30.0	36.2	55	8	29	31	80	80	.177	.188	5.79	1.08	6.3	6.0	7.4
December	29.92	30.45	29.29	25.2	27.9	33.4	20.8	27.1	54	4	19	21	75	74	.120	.131	2.61	.88	5.7	5.3	6.8
Year	29.92	30.82	28.94	39.5	41.4	48.3	34.8	41.5	89	—14	34	36	80	80	.232	.245	39.57	2.05	5.2	4.6	6.5

EL PASO, TEX.

[λ=31° 47′ N.; φ=106° 30′ W.; gravity corr., —0.03.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	26.23	26.47	25.97	31.9	47.3	53.4	29.6	41.5	66	17	25	26	77	44	.138	.140	0.54	0.17	3.0	4.7	4.8
February	26.14	26.48	25.90	38.0	59.2	63.9	35.4	49.6	76	26	19	10	44	15	.102	.072	.00	.0	1.3	3.6	3.1
March	26.08	26.41	25.81	41.7	65.7	70.1	40.2	55.2	79	24	15	3	35	11	.096	.067	.05	.05	2.6	2.5	3.2
April	26.15	26.36	25.90	49.4	76.3	79.9	49.2	64.6	88	35	21	11	34	10	.126	.086	.14	.14	1.4	2.9	2.4
May	26.14	26.36	25.94	60.8	83.7	87.9	60.1	74.0	94	51	40	27	48	15	.262	.168	.46	.41	1.7	3.3	3.2
June	26.11	26.29	25.92	68.6	88.8	93.2	67.5	80.4	102	58	41	33	42	18	.289	.216	2.17	1.82	2.4	3.3	2.8
July	26.21	26.39	25.98	69.5	86.4	91.1	68.9	80.0	99	57	56	51	65	33	.461	.391	2.89	2.75	4.3	5.2	4.0
August	26.22	26.41	26.06	67.7	84.6	88.6	67.1	77.8	95	59	57	52	70	36	.477	.401	2.57	1.04	4.2	4.3	4.5
September	26.27	26.48	26.06	62.1	76.9	82.3	61.6	72.0	89	54	54	54	77	48	.435	.426	2.73	.68	4.6	4.7	4.6
October	26.20	26.45	25.86	50.8	68.6	76.2	49.7	63.0	87	33	39	39	66	37	.250	.246	.77	.61	2.5	2.5	3.4
November	26.27	26.60	26.04	41.5	62.4	71.0	39.5	55.2	83	29	25	24	54	24	.140	.136	T.	T.	1.4	2.7	2.3
December	26.27	26.65	25.88	32.5	49.9	58.5	30.0	44.2	71	18	17	16	54	27	.096	.092	0.09	.08	1.9	2.1	2.5
Year	26.19	26.65	25.81	51.2	70.8	76.3	49.9	63.1	102	17	34	29	56	26	.239	.203	12.41	2.75	2.6	3.5	3.4

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

DUBUQUE, IOWA.

[H = 698 ft.; h_t = 101 ft.; h_r = 92 ft.; h_a = 109 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	6.4	W.	36	W.	0	3	4	3	5	8	9	16	14	0	12	2	17	12	11	9	0	1	17	0	29	0	0
February	6.4	W.	28	NE.	0	1	5	9	6	5	3	12	14	1	9	3	16	9	8	8	0	0	14	0	28	0	0
March	8.1	NW.	30	E.	0	4	7	9	11	3	3	7	18	0	11	5	15	14	10	6	0	3	7	0	22	2	0
April	9.3	NW.	36	NW.	0	5	4	10	9	7	4	11	10	0	13	5	12	12	10	1	0	0	0	0	4	2	0
May	7.5	NW.	28	NW.	0	7	1	2	7	9	4	20	12	0	22	7	2	7	5	0	0	1	0	0	0	2	0
June	6.6	SE.	30	NW.	0	3	2	7	13	9	3	16	7	0	15	6	9	14	11	0	0	1	0	5	0	9	0
July	5.9	NW.	28	NW.	0	2	1	9	14	10	3	10	13	0	22	5	4	9	8	0	0	1	0	7	0	6	0
August	5.9	NW.	28	NW.	0	6	4	5	8	4	5	12	18	0	17	8	6	7	6	0	0	1	0	1	0	4	2
September	5.6	S.	38	SW.	0	6	2	7	9	17	9	1	9	0	20	8	2	7	5	0	0	0	0	6	0	4	0
October	6.1	SE.	28	NW.	0	0	3	2	17	14	5	11	10	0	21	5	5	4	3	0	0	0	0	0	2	0	0
November	7.7	NW.	30	NW.	0	3	5	3	5	16	5	7	16	0	9	8	13	7	6	1	0	3	5	0	21	0	0
December	7.4	NW.	26	NW.	0	5	6	1	5	7	8	11	18	1	10	10	11	11	9	10	0	0	19	0	29	1	0
Year	6.9	NW.	38	SW.	0	45	44	67	109	109	61	134	159	2	181	72	112	113	92	35	0	11	62	19	135	30	2

DULUTH, MINN.

[H = 702 ft.; h_t = 95 ft.; h_r = 90 ft.; h_a = 106 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	10.1	NW.	38	NW.	0	1	3	0	0	10	7	18	23	0	10	13	8	11	6	10	0	0	29	0	30	0	0
February	10.0	NE.	45	NW.	1	8	15	5	2	3	9	4	10	0	7	9	12	14	11	14	0	0	23	0	28	0	0
March	10.4	NE.	40	NE.	1	11	25	0	0	3	10	5	8	0	11	10	10	13	12	11	0	1	18	0	28	0	1
April	11.7	NE.	44	SW.	1	8	28	1	0	0	11	5	7	0	15	11	4	9	6	0	0	0	0	0	11	2	5
May	9.1	NE.	36	NE.	0	4	27	4	3	2	7	3	12	0	10	12	9	13	10	0	0	1	0	0	0	3	1
June	8.8	NE.	38	NE.	0	2	36	0	2	4	6	4	6	0	5	16	9	13	11	0	0	3	0	0	0	7	0
July	7.9	NE.	48	NW.	1	11	19	5	2	1	6	5	13	0	9	16	6	15	11	0	0	0	0	0	0	10	1
August	9.0	NW.	50	NW.	1	7	19	0	1	4	9	5	16	1	8	15	8	13	8	0	2	0	0	0	0	5	4
September	10.0	NE.	35	NW.	0	9	22	1	0	0	12	5	9	2	18	9	3	6	6	0	0	0	0	0	0	7	1
October	9.2	NE.	35	NW.	0	9	14	0	1	1	12	8	16	1	5	16	10	12	9	1	0	0	0	0	1	2	2
November	10.1	SW.	36	NW.	0	9	6	5	1	0	12	17	10	0	10	10	10	11	5	8	0	1	13	0	24	0	0
December	9.0	SW.	46	NW.	1	4	2	2	0	5	21	8	20	0	8	9	14	8	5	7	0	0	27	0	31	0	0
Year	9.6	NE.	50	NW.	6	83	216	23	12	33	122	87	150	4	116	146	103	138	100	51	2	6	110	0	153	36	15

EASTPORT, ME.

[H = 76 ft.; h_t = 69 ft.; h_r = 62 ft.; h_a = 74 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	14.6	NW.	66	E.	4	11	6	4	3	4	10	9	15	0	9	9	13	13	11	9	0	9	19	0	27	0	0
February	12.3	NW.	48	NE.	3	7	6	6	1	1	3	15	16	1	11	10	7	10	7	8	0	8	14	0	26	0	2
March	13.1	NW.	50	SE.	6	12	3	7	5	4	8	10	13	0	10	4	17	21	16	14	0	12	8	0	28	0	4
April	11.0	SW.	41	S.	1	8	8	6	1	8	15	6	8	0	10	5	15	17	15	4	0	11	1	0	12	0	1
May	10.1	S.	32	S.	0	8	7	9	4	17	7	4	4	2	3	6	22	18	15	0	0	17	0	0	0	1	1
June	8.6	S.	44	E.	1	3	12	7	1	9	7	9	9	3	5	14	11	14	13	0	1	6	0	0	0	5	0
July	8.7	S.	31	S.	0	4	6	6	0	29	9	1	2	5	5	10	16	13	9	0	0	22	0	0	0	3	0
August	8.2	S.	38	E.	0	5	3	4	0	17	13	11	8	1	10	7	14	16	13	0	0	18	0	0	0	4	0
September	9.7	NW.	30	NW.	0	11	3	7	0	3	12	10	11	3	7	6	17	10	7	0	0	7	0	0	0	4	1
October	9.5	SW.	48	NW.	1	7	7	0	1	10	16	4	11	6	15	7	9	6	2	0	0	6	0	0	3	0	2
November	14.8	NW.	60	NE.	5	7	3	4	5	3	9	14	15	0	6	5	19	14	14	4	0	10	6	0	15	1	0
December	13.0	NW.	42	S.	3	6	5	3	3	4	9	13	19	0	5	12	14	13	10	7	0	3	12	0	22	0	1
Year	11.1	S.	66	E.	24	89	69	63	24	109	118	106	131	21	96	95	174	165	132	46	1	129	60	0	133	18	12

EL PASO, TEX.

[H = 3,767 ft.; h_t = 10 ft.; h_r = 2 ft.; h_a = 110 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	9.6	NW.	42	NW.	1	2	5	10	3	0	5	16	20	1	11	12	8	8	4	3	0	1	0	0	23	0	0
February	14.1	NW	57	SW.	4	1	5	2	2	0	5	19	22	0	16	11	1	0	0	0	0	0	0	0	7	0	0
March	15.9	NW.	60	SW.	13	0	4	2	0	4	4	18	29	1	16	11	4	1	1	0	0	0	0	0	5	0	0
April	12.6	NW.	60	SW.	5	0	10	11	2	1	5	11	20	0	20	8	2	2	2	0	0	0	0	0	0	1	0
May	11.1	E.	48	S.	1	0	17	14	6	2	1	10	12	0	17	11	3	4	1	0	0	0	0	13	0	2	0
June	11.0	NW.	42	SE.	2	0	15	8	7	2	4	9	15	0	19	7	4	5	3	0	0	0	0	22	0	4	0
July	9.8	NE.	60	SW.	5	1	21	11	6	0	2	5	16	0	13	16	2	7	6	0	0	0	0	21	0	7	0
August	7.9	E.	36	NE.	0	1	13	23	13	1	2	4	5	0	12	15	4	8	6	0	0	0	0	15	0	4	0
September	7.9	E.	38	W.	0	0	11	23	17	0	2	0	6	1	13	9	8	10	9	0	0	0	0	0	0	2	0
October	9.9	NE.	42	NW.	1	1	11	12	9	2	5	5	17	0	16	13	2	4	4	0	0	1	0	0	0	2	0
November	9.5	NW.	44	W.	1	2	8	14	4	0	3	12	17	0	22	7	1	0	0	0	0	0	0	0	3	0	0
December	10.5	NW.	45	NW.	4	4	7	7	3	0	1	11	28	1	20	8	3	2	1	0	0	0	0	0	20	0	0
Year	10.8	NW.	60	SW.	37	12	127	137	72	12	39	120	207	4	195	128	42	51	37	3	0	2	0	71	58	22	0

a By eye observations, at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

ERIE, PA.

[λ = 42° 7′ N.; φ = 80° 5′ W.; gravity corr., —0.01.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	29.31	29.88	28.66	22.8	25.1	30.8	18.2	24.5	62	—5	18	20	83	81	.107	.116	2.57	0.39	8.0	7.3	7.8
February	29.27	29.84	28.76	27.2	28.2	33.4	23.1	28.2	47	7	23	24	86	85	.128	.131	1.74	1.00	8.4	5.9	7.8
March	29.26	29.88	28.55	33.9	36.4	44.0	28.8	36.4	60	7	28	29	81	76	.165	.166	2.79	.68	6.3	6.3	6.6
April	29.31	29.89	28.92	43.2	45.0	52.8	37.1	45.0	76	23	34	36	73	73	.204	.230	1.55	.57	6.8	6.8	6.0
May	29.22	29.59	28.82	53.0	54.5	60.9	46.5	53.7	79	40	47	48	80	80	.325	.342	3.04	.68	5.9	5.4	5.3
June	29.22	29.46	29.03	61.8	64.7	69.3	55.3	62.3	81	42	52	54	73	68	.408	.426	3.01	1.50	6.1	5.6	5.2
July	29.19	29.45	28.95	72.2	74.6	80.0	65.9	73.0	94	59	64	64	76	70	.597	.596	5.81	1.55	5.1	5.4	5.4
August	29.24	29.53	28.97	65.6	68.1	73.7	59.4	66.6	84	50	57	60	75	77	.474	.529	4.70	1.99	5.1	5.0	4.8
September	29.42	29.67	29.09	62.1	64.5	72.0	56.1	64.0	88	40	50	52	66	66	.382	.419	.54	.36	4.4	2.5	4.1
October	29.35	29.80	28.87	51.9	56.7	63.8	47.0	55.4	82	35	42	45	71	67	.279	.314	1.24	.80	4.4	3.4	5.1
November	29.28	29.75	28.38	40.4	42.2	47.7	35.4	41.6	66	22	35	36	83	80	.216	.228	4.62	.77	7.6	7.1	7.4
December	29.27	29.72	28.86	31.1	32.7	37.7	27.1	32.4	61	9	27	28	86	83	.157	.162	2.73	1.09	8.9	8.5	8.2
Year	29.28	29.89	28.38	47.1	49.4	55.5	41.7	48.6	94	—5	40	41	78	76	.287	.305	34.34	1.99	6.4	5.8	6.1

EUREKA, CAL.

[λ = 40° 48′ N.; φ = 124° 11′ W.; gravity corr., —0.01.]

January	30.02	30.35	29.55	44.3	50.9	54.4	41.8	48.1	62	34	42	45	91	81	.266	.302	3.04	1.16	3.9	6.2	6.6
February	30.00	30.41	29.32	43.6	49.9	53.1	41.4	47.2	58	31	41	44	92	81	.265	.294	11.23	2.48	7.1	6.6	6.6
March	30.02	30.32	29.42	41.3	47.5	52.0	38.5	45.2	62	30	37	40	86	76	.225	.249	9.85	1.56	6.5	6.3	6.4
April	30.11	30.41	29.89	46.1	53.4	57.6	44.3	51.0	72	36	45	47	94	79	.296	.322	2.55	0.99	5.1	4.3	4.9
May	30.01	30.32	29.71	48.6	54.5	58.4	47.3	52.8	70	39	47	50	96	84	.328	.357	0.75	0.25	6.3	4.7	5.3
June	29.99	30.19	29.73	52.2	57.1	61.0	50.7	55.8	69	43	50	51	93	81	.362	.380	1.60	0.62	7.8	5.3	5.5
July	30.02	30.14	29.84	52.3	54.6	60.7	50.8	55.8	67	46	50	51	94	78	.365	.375	0.03	0.02	6.8	2.3	3.9
August	29.95	30.12	29.80	53.2	57.6	61.5	51.5	56.5	70	47	52	53	96	85	.386	.403	0.15	0.08	6.1	6.5	6.0
September	29.99	30.14	29.76	51.1	57.0	61.4	49.1	55.2	82	45	49	52	94	83	.354	.382	1.05	0.75	3.3	5.3	5.0
October	30.00	30.30	29.55	49.6	56.4	60.9	46.7	53.8	84	39	46	48	89	76	.315	.333	2.63	1.09	3.8	4.5	4.9
November	30.10	30.32	29.71	47.0	52.0	55.5	43.4	49.4	70	33	42	45	86	80	.278	.306	5.44	1.54	6.1	6.6	6.7
December	30.14	30.44	29.62	45.5	51.7	55.4	41.9	48.6	64	32	41	44	86	76	.258	.290	6.18	1.88	4.9	5.0	5.1
Year	30.03	30.44	29.32	47.9	53.6	57.7	45.6	51.6	84	30	45	48	91	80	.308	.333	44.50	2.48	5.6	5.3	5.6

EVANSVILLE, IND.

[λ = 37° 58′ N.; φ = 87° 33′ W.; gravity corr., —0.02.]

January				27.2		38.5	21.5	30.0	66	—1							3.14	1.06			
February				33.3		44.9	28.9	36.9	67	9							4.66	2.05			
March				43.9		56.1	38.1	47.1	80	27							10.96	1.48			
April				51.2		64.8	44.0	54.4	86	29							5.89	1.35			
May				60.5		73.4	49.8	61.6	90	41							2.89	.79			
June				71.6		86.4	63.4	74.9	97	48							4.95	1.49			
July				72.3		89.1	68.3	78.7	98	56							9.09	4.75			
August				72.7		87.8	63.0	75.4	100	54							.43	.12			
September				73.3		89.2	56.1	72.6	99	37							.52	.50			
October				55.9		77.6	48.4	63.0	93	33							2.05	.67			
November				40.8		55.7	35.3	45.5	74	18							5.21	1.91			
December	29.65	30.10	29.22	33.5		42.1	30.6	36.4	68	15	30		86		.172		2.91	.92	6.7		7.1
Year				53.0		67.1	45.6	56.4	100	—1							52.70	4.75			

FORT SMITH, ARK.

[λ = 35° 22′ N.; φ = 94° 24′ W.; gravity corr., —0.03.]

January	29.66	30.02	29.10	33.1	40.6	46.9	29.5	38.2	72	7	26	30	72	68	.152	.182	4.83	3.64	5.5	4.5	5.5
February	29.49	30.18	29.09	39.0	49.5	55.4	36.9	46.2	82	20	32	36	77	62	.192	.219	.45	.37	6.6	4.4	5.5
March	29.42	29.78	28.98	48.5	58.3	64.0	45.3	54.6	81	27	42	44	78	63	.281	.304	5.72	2.17	5.9	5.7	5.2
April	29.51	29.88	29.18	55.1	66.6	72.6	50.8	61.7	84	39	48	49	77	55	.339	.357	3.17	1.50	3.8	4.5	4.5
May	29.52	29.82	29.28	62.8	74.5	80.5	58.0	69.2	89	47	54	57	75	56	.435	.469	2.90	.91	4.5	3.5	4.1
June	29.44	29.61	29.17	73.5	82.7	87.8	68.1	78.0	96	55	66	69	78	64	.650	.711	3.98	.91	4.5	2.7	3.9
July	29.45	29.61	29.22	76.9	89.2	94.5	71.6	83.0	102	59	68	69	75	53	.701	.708	3.26	2.01	2.8	2.2	2.9
August	29.49	29.64	29.34	70.8	84.2	91.4	67.1	79.2	103	58	66	67	84	58	.636	.668	5.97	4.25	2.8	3.2	3.7
September	29.59	29.82	29.36	66.1	80.5	89.2	63.4	76.3	98	44	60	63	82	58	.546	.598	2.87	2.11	2.3	2.2	2.7
October	29.52	29.79	29.12	56.3	72.0	81.5	54.3	67.9	92	35	50	53	81	54	.376	.418	1.17	.85	2.3	2.6	3.3
November	29.62	30.11	29.18	42.8	54.8	62.8	39.4	51.1	80	25	37	41	81	61	.241	.275	1.55	.77	4.2	2.6	3.3
December	29.60	30.07	28.95	32.9	42.3	47.8	30.3	39.0	72	14	28	33	82	72	.158	.199	6.04	2.66	5.6	4.5	6.0
Year	29.53	30.18	28.95	54.8	66.3	72.9	51.2	62.0	103	7	48	51	78	60	.392	.426	41.91	4.25	4.2	3.6	4.2

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

ERIE, PA.

[H = 714 ft.; h_t = 92 ft.; h_r = 82 ft.; h_a = 102 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction.a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	15.0	SW.	42	NW.	1	3	0	2	7	13	14	11	12	0	2	8	21	19	16	17	1	0	19	0	26	1	0
February	11.6	W.	45	S.	2	3	4	14	3	6	7	17	2	0	0	7	21	12	6	10	0	0	11	0	25	0	0
March	14.2	W.	54	S.	2	3	6	14	3	10	4	14	8	0	6	8	17	17	14	4	0	0	4	0	18	1	0
April	12.2	W.	42	S.	1	7	3	8	1	14	7	14	6	0	10	6	14	13	8	1	2	0	0	0	8	2	0
May	9.5	W.	40	W.	1	2	4	5	1	8	15	21	6	0	12	8	11	13	11	0	0	1	0	0	0	3	0
June	8.5	W.	28	SW.	0	5	7	5	0	12	6	17	8	0	10	12	8	11	7	0	0	0	0	0	0	6	0
July	9.3	S.	29	W.	0	0	6	8	2	17	10	7	12	0	11	8	12	15	11	0	0	0	0	2	0	12	0
August	8.7	S.	28	SW.	0	4	7	3	3	17	10	9	9	0	13	14	4	9	8	0	0	0	0	0	0	6	0
September	8.6	S.	26	W.	0	10	3	11	4	16	14	2	0	0	20	7	3	4	4	0	0	0	0	0	0	2	0
October	11.2	S.	36	S.	0	5	2	10	7	25	8	3	2	0	13	12	6	5	5	0	0	0	0	0	0	0	0
November	15.3	NW.	42	NW.	1	3	2	4	1	20	11	1	18	0	1	6	23	19	14	3	4	0	1	0	7	2	0
December	13.2	SW.	45	S.	3	2	2	8	1	12	19	11	7	0	0	5	26	21	13	16	0	0	8	0	21	0	0
Year	11.4	S.	54	S.	11	47	46	92	33	170	125	127	90	0	98	101	166	158	117	51	7	1	43	2	105	35	0

EUREKA, CAL.

[H = 64 ft.; h_t = 60 ft.; h_r = 52 ft.; h_a = 69 ft.]

Month.	Average hourly velocity.	Prevailing direction.a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	4.7	NW.	34	NW.	0	8	1	8	10	7	8	4	15	1	4	13	14	13	12	0	0	10	0	0	0	0	0
February	5.9	SE.	36	NW.	0	2	2	9	9	6	9	8	8	3	5	9	14	20	20	0	2	2	0	0	2	0	0
March	8.4	NW.	45	W.	2	7	3	8	9	7	10	7	10	1	4	17	10	26	24	3	3	0	0	0	1	1	0
April	b7.1	NW.	36	NW.	0	6	2	7	2	2	15	4	20	2	9	13	8	8	8	0	0	6	0	0	0	0	0
May	7.3	NW.	32	NW.	0	7	2	3	3	5	9	7	26	0	9	16	6	7	4	0	0	7	0	0	0	0	0
June	6.7	NW.	34	NW.	0	3	0	2	4	5	11	7	24	4	3	22	5	10	9	0	0	2	0	0	0	0	0
July	8.2	NW.	44	NW.	2	4	0	0	2	5	12	4	33	2	15	13	3	2	0	0	0	3	0	0	0	0	0
August	4.8	NW.	24	NW.	0	4	1	0	7	8	15	6	19	2	4	17	10	3	2	0	0	9	0	0	0	0	0
September	5.2	NW.	33	NW.	0	4	0	4	5	2	14	7	18	6	11	11	8	9	4	0	0	15	0	0	0	0	0
October	5.1	NW.	33	SE.	0	8	3	6	12	3	9	2	12	7	12	10	9	9	7	0	0	10	0	0	0	0	0
November	4.7	SE.	29	SE.	0	5	3	5	20	3	6	4	12	2	4	13	13	18	16	0	1	7	0	0	0	0	0
December	5.7	SW.	33	SE.	0	4	3	11	13	3	16	0	11	1	12	8	11	15	14	0	1	3	0	0	1	0	0
Year	6.2	NW.	45	W.	4	62	20	63	96	56	134	60	208	31	92	162	111	140	120	3	7	74	0	0	4	1	0

EVANSVILLE, IND.

[H = 434 ft.; h_t = 72 ft.; h_r = 66 ft.; h_a = 82 ft.]

Month.	Average hourly velocity.	Prevailing direction.a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	.....	W.	....	.....	....	5	2	1	4	4	5	7	3	0	....	....	....	12	10	3	0	0	9	0	24	0	0
February	.....	N.	....	.....	....	6	3	4	4	2	3	5	1	0	....	....	....	10	9	0	0	0	2	0	21	2	0
March	.....	E.	....	.....	....	3	0	11	3	5	2	6	1	0	....	....	....	16	14	0	1	0	0	0	9	5	0
April	.....	SE.	....	.....	....	4	3	5	5	4	4	3	2	0	....	....	....	12	12	0	0	0	0	0	2	0	0
May	.....	N.	....	.....	....	7	1	5	1	5	4	5	3	0	....	....	....	12	11	0	0	0	0	0	0	0	0
June	.....	SW.	....	.....	....	3	2	3	2	7	9	3	0	1	....	....	....	11	9	0	0	0	0	12	0	2	0
July	.....	SW.	....	.....	....	3	2	4	1	8	9	3	1	0	....	....	....	9	9	0	0	0	0	14	0	0	0
August	.....	SW.	....	.....	....	2	7	4	2	2	7	4	2	1	....	....	....	4	4	0	0	0	0	10	0	0	0
September	.....	E.	....	.....	....	5	5	7	4	1	2	3	3	0	....	....	....	2	1	0	0	0	0	14	0	0	0
October	.....	S.	....	.....	....	3	7	3	3	9	4	1	1	0	....	....	....	3	3	0	0	0	0	3	0	0	0
November	.....	S.	....	.....	....	6	4	1	0	10	1	5	3	0	....	....	....	11	8	0	0	0	0	0	10	1	0
December	c8.0	SW.	26	SW.	0	1	6	4	1	5	8	6	0	0	6	6	19	12	11	3	0	0	3	0	17	0	0
Year	.....	S.	....	.....	....	48	42	52	30	62	58	51	20	2	....	....	....	114	101	6	1	0	14	53	83	10	0

FORT SMITH, ARK.

[H = 481 ft.; h_t = 63 ft.; h_r = 56 ft.; h_a = 72 ft.]

Month.	Average hourly velocity.	Prevailing direction.a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	7.7	E.	26	W.	0	9	3	21	1	3	3	17	3	2	14	2	15	9	7	4	0	1	4	0	17	2	0
February	8.7	E.	28	NE.	0	8	7	20	2	5	2	7	5	0	10	7	11	4	2	0	0	0	0	0	8	0	0
March	9.6	E.	18	S.	1	6	3	33	1	1	6	8	3	1	14	3	14	16	12	0	0	0	0	0	1	9	0
April	8.1	E.	36	SW.	0	6	4	13	7	5	3	9	10	3	14	8	8	8	6	0	0	0	0	0	0	5	0
May	5.5	E.	20	E.	0	7	8	21	5	3	7	7	3	1	18	5	8	9	7	0	0	0	0	0	0	5	0
June	6.1	E.	44	S.	1	0	5	22	6	14	5	3	3	2	19	4	7	8	8	0	0	0	0	15	0	11	0
July	5.2	E.	26	NE.	0	2	11	21	1	8	7	4	3	5	23	4	4	8	6	0	0	0	0	23	0	4	0
August	3.8	E.	24	E.	0	7	10	18	4	4	5	4	5	5	17	8	6	8	6	0	0	2	0	17	0	6	0
September	4.8	E.	19	SE.	0	5	15	18	9	1	8	0	3	1	21	3	6	5	4	0	0	0	0	15	0	3	0
October	5.0	E.	16	E.	0	6	11	26	4	2	6	4	2	1	17	9	5	4	3	0	0	0	0	3	0	1	0
November	7.7	E.	30	S.	0	4	4	24	4	7	1	7	8	1	20	4	6	5	5	0	0	0	0	0	6	2	0
December	d7.3	E.	35	NW.	0	5	0	21	2	2	4	14	8	6	9	7	15	11	10	4	0	1	1	0	19	2	0
Year	6.6	E.	48	S.	2	65	81	258	46	55	57	84	56	28	196	64	105	95	76	8	0	4	5	73	51	50	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.
b For 684 hours.
c For 702 hours.
d For 723½ hours.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

FRESNO, CAL.

[λ = 36° 43′ N.; φ = 119° 49′ W.; gravity corr., — 0.02.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	29.75	30.02	29.21	39.8	47.5	49.4	38.0	43.7	61	30	38	41	95	81	.233	.263	1.93	0.73	2.6	6.2	7.8
February	29.73	30.02	29.30	42.5	54.9	57.5	40.8	49.2	73	31	40	41	92	60	.256	.259	2.65	1.16	3.3	4.6	5.0
March	29.69	29.98	29.38	40.5	56.4	58.5	38.7	48.6	71	31	38	35	90	46	.227	.209	1.64	.50	2.5	4.3	3.4
April	29.67	30.02	29.37	50.1	76.2	78.1	48.9	63.5	94	39	44	40	82	29	.297	.251	.30	.30	1.4	1.2	1.2
May	29.52	29.83	29.32	56.8	86.6	87.7	55.7	71.7	99	45	46	41	69	22	.318	.266	.00	.00	1.9	2.2	1.7
June	29.50	29.70	29.30	60.3	88.0	89.1	59.5	74.3	105	50	46	41	61	20	.314	.257	T.	T.	1.2	2.5	1.7
July	29.48	29.65	29.34	66.7	99.4	100.5	65.1	82.8	110	52	46	40	48	13	.315	.251	.00	.00	0.9	0.9	0.9
August	29.49	29.76	29.32	65.3	97.2	98.7	63.5	81.1	108	54	47	44	54	17	.326	.291	T.	T.	1.0	0.8	1.2
September	29.54	29.72	29.30	59.5	86.7	88.3	57.3	72.8	98	47	45	41	61	21	.308	.266	T.	T.	1.6	1.1	1.5
October	29.61	29.86	29.36	51.1	70.8	73.3	49.0	61.2	87	40	46	45	83	43	.313	.312	1.19	.48	1.9	2.4	2.8
November	29.74	29.99	29.51	42.6	59.7	64.0	40.1	52.0	78	28	38	40	84	49	.229	.251	.22	.13	1.7	4.2	3.7
December	29.83	30.13	29.38	36.5	52.9	55.9	34.1	45.0	64	23	34	39	92	60	.202	.241	.48	.25	2.3	3.0	3.3
Year	29.63	30.13	29.21	51.0	73.0	75.1	49.2	62.2	110	23	42	41	76	38	.278	.260	8.41	1.16	1.9	2.8	2.8

GALVESTON, TEX.

[λ = 29° 18′ N.; φ = 94° 50′ W.; gravity corr., — 0.04.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	30.18	30.50	29.75	47.9	51.9	56.5	45.3	50.9	71	21	43	45	84	78	.315	.332	2.97	1.21	6.4	7.0	6.1
February	30.02	30.65	29.71	53.6	57.9	61.5	51.9	56.7	73	33	49	52	86	84	.369	.408	2.25	1.14	5.9	6.1	5.5
March	29.93	30.22	29.56	64.5	66.9	71.0	62.0	66.5	79	51	62	62	92	87	.568	.584	4.59	2.03	5.4	7.0	6.5
April	30.03	30.30	29.74	66.4	70.2	74.1	64.8	69.4	81	50	61	62	83	77	.558	.580	1.24	.82	6.1	6.4	3.6
May	30.01	30.24	29.81	72.4	75.8	79.1	70.6	74.8	83	62	67	68	84	76	.670	.682	1.27	.85	5.4	4.4	3.2
June	29.98	30.14	29.86	79.4	82.1	85.7	77.7	81.7	96	66	74	74	83	78	.830	.857	.37	.37	3.9	4.2	2.1
July	29.99	30.10	29.86	81.9	84.3	88.4	80.1	84.2	93	70	75	74	80	72	.874	.842	.78	.71	3.3	4.7	2.1
August	29.99	30.09	29.87	80.4	82.7	86.8	78.7	82.8	97	71	74	74	82	76	.840	.842	4.65	2.00	5.4	4.9	5.0
September	30.03	30.19	29.54	76.2	80.6	84.0	74.2	79.1	91	63	70	69	83	70	.756	.735	2.40	1.34	4.1	3.4	2.8
October	29.96	30.21	29.65	72.9	76.3	80.3	71.5	75.9	91	56	67	67	82	75	.672	.677	5.12	2.81	5.0	4.1	3.8
November	30.11	30.46	29.82	62.2	65.9	70.2	60.1	65.2	79	44	57	59	83	80	.497	.535	1.02	.47	4.6	3.0	3.9
December	30.10	30.46	29.67	52.3	55.8	60.9	49.8	55.4	71	30	49	50	88	83	.362	.388	2.58	1.16	4.8	5.6	5.8
Year	30.03	30.65	29.54	67.5	70.9	74.9	65.6	70.2	97	21	62	63	84	78	.609	.622	29.24	2.81	5.0	5.1	4.2

GRAND HAVEN, MICH.

[λ = 43° 5′ N.; φ = 86° 13′ W.; gravity corr., 0.00.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	29.35	29.92	28.58	23.6	25.5	30.9	18.1	24.5	58	0	22	22	92	87	.131	.132	7.99	1.67	9.3	8.3	8.5
February	29.34	29.82	28.93	24.9	28.1	33.6	22.1	27.8	42	7	22	24	87	84	.116	.130	1.12	.22	8.6	8.9	8.8
March	29.33	29.99	28.54	28.4	33.3	39.6	25.0	32.3	65	5	25	28	86	82	.138	.157	3.21	.77	6.0	7.2	7.0
April	29.34	30.04	28.87	39.7	43.8	51.7	34.4	43.0	76	18	35	34	82	71	.213	.205	3.12	.82	7.3	6.5	6.5
May	29.30	29.64	28.88	48.7	53.7	59.8	42.7	51.2	82	34	42	41	79	64	.271	.263	1.18	.49	5.8	5.2	5.1
June	29.28	29.53	29.02	58.9	64.1	71.0	53.1	62.0	84	37	52	51	78	65	.395	.396	2.61	1.66	5.0	6.0	5.4
July	29.26	29.51	29.05	69.8	75.4	81.4	63.4	72.4	93	50	63	63	80	66	.588	.580	3.03	1.27	3.9	3.6	3.5
August	29.31	29.65	28.98	62.8	68.4	74.5	56.9	65.7	86	44	56	56	79	66	.460	.458	2.01	.48	4.0	4.2	4.1
September	29.48	29.74	29.10	59.3	67.3	75.7	53.9	64.8	92	34	53	54	81	63	.426	.432	1.44	.78	3.6	2.7	3.1
October	29.38	29.80	28.72	47.7	55.8	63.3	43.7	53.5	79	33	43	45	85	70	.290	.314	1.28	.80	4.5	3.6	5.0
November	29.35	29.85	28.74	36.6	38.6	45.3	31.9	38.6	64	16	31	30	81	72	.183	.176	2.59	.60	8.7	6.7	7.8
December	29.33	29.84	28.89	27.5	28.7	34.4	23.2	28.8	57	8	25	24	90	84	.139	.137	2.74	.60	9.5	8.8	9.5
Year	29.34	30.04	28.54	44.0	48.6	55.1	39.0	47.0	93	0	39	39	83	73	.279	.282	32.32	1.67	6.4	6.0	6.2

GREEN BAY, WIS.

[λ = 44° 31′ N.; φ = 88° 0′ W.; gravity corr., 0.00.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	29.39	29.89	28.57	15.9	21.0	25.5	13.1	19.3	51	—20	11	15	80	76	.092	.103	1.69	0.97	5.6	5.2	5.6
February	29.38	29.91	28.87	19.4	24.7	29.4	17.0	23.2	40	—14	14	18	78	75	.091	.106	1.69	.96	6.1	6.9	6.5
March	29.39	29.99	28.63	21.5	28.9	34.7	18.7	26.7	55	— 4	16	22	77	74	.102	.122	2.52	1.15	4.9	4.5	5.4
April	29.38	29.99	28.81	38.5	43.9	51.3	34.7	43.0	75	17	32	34	77	69	.187	.202	4.09	1.25	6.6	4.2	5.6
May	29.33	29.68	28.84	48.3	56.7	63.9	43.7	53.8	84	32	40	42	73	61	.251	.280	2.40	1.38	5.1	5.8	5.5
June	29.29	29.59	28.98	58.2	64.8	72.3	52.8	62.6	92	34	51	52	78	65	.391	.411	7.56	3.06	5.4	6.4	5.5
July	29.28	29.56	28.98	68.9	76.2	82.6	63.8	73.2	95	54	62	63	80	66	.567	.591	3.92	1.45	3.9	4.0	3.8
August	29.33	29.72	28.96	60.1	68.9	75.6	55.8	65.7	85	44	54	56	80	63	.425	.449	1.79	.63	4.6	4.5	5.0
September	29.48	29.79	29.15	58.8	67.1	76.6	55.5	66.0	94	36	52	54	80	65	.413	.443	3.21	1.48	4.9	2.5	4.0
October	29.39	29.87	28.70	47.8	52.8	61.2	44.6	52.9	82	32	42	44	82	73	.280	.296	2.50	.69	5.0	3.8	5.4
November	29.39	29.86	28.72	27.8	33.2	38.9	24.8	31.8	60	— 6	23	25	80	70	.136	.145	1.56	.67	6.1	5.9	6.1
December	29.37	29.86	28.85	14.8	19.6	25.3	10.9	18.1	46	—10	10	14	79	78	.078	.092	1.20	.44	5.5	6.6	6.2
Year	29.37	29.99	28.57	40.0	46.5	53.1	36.3	44.7	95	—20	34	37	79	70	.251	.270	34.13	3.06	5.3	5.0	5.4

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

FRESNO, CAL.

[H = 332 ft.; h_t = 67 ft.; h_r = 54 ft.; h_a = 70 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction.	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	3.9	NW.	24	NW.	0	4	10	13	7	1	6	2	18	1	4	5	22	9	8	0	0	17	0	0	3	0	0
February	4.8	NW.	30	S.	0	3	2	8	6	3	0	7	26	1	12	6	10	14	10	0	1	2	0	0	2	1	0
March	6.2	NW.	33	SW.	0	1	0	8	6	2	3	8	32	2	19	6	6	10	10	0	0	0	0	0	3	0	0
April	5.6	NW.	26	NW.	0	5	4	2	0	0	3	5	40	1	27	3	0	1	1	0	0	0	0	3	0	0	0
May	6.7	NW.	24	NW.	0	1	1	2	4	1	1	6	46	0	24	7	0	0	0	0	0	0	0	13	0	0	0
June	7.8	NW.	26	NW.	0	2	0	1	1	2	2	3	49	0	26	2	2	0	0	0	0	0	0	14	0	0	0
July	6.6	NW.	21	NW.	0	4	0	1	1	1	1	7	46	1	27	4	0	0	0	0	0	0	0	29	0	0	0
August	6.1	NW.	19	W.	0	1	1	0	0	0	4	10	45	1	27	4	0	0	0	0	0	0	0	26	0	1	0
September	6.0	NW.	20	NW.	0	0	0	2	0	0	3	4	51	0	24	5	1	0	0	0	0	0	0	13	0	0	0
October	3.9	NW.	24	NW.	0	3	4	10	7	4	2	8	23	1	23	2	6	7	5	0	0	2	0	0	0	1	0
November	4.1	NW.	18	NW.	0	1	2	6	3	1	4	2	38	3	16	11	3	4	2	0	0	3	0	0	3	0	0
December	3.4	NW.	23	NW.	0	7	2	11	7	2	2	6	21	4	20	5	6	6	3	0	0	7	0	0	14	0	0
Year	5.4	NW.	33	SW.	0	32	26	64	42	17	31	68	435	15	249	60	56	51	39	0	1	31	0	98	25	3	0

GALVESTON, TEX.

[H = 42 ft.; h_t = 85 ft.; h_r = 80 ft.; h_a = 96 ft.]

Month.	Average hourly velocity.	Prevailing direction.	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	12.7	NE.	44	NW.	2	9	15	6	4	6	9	3	10	0	9	8	14	10	7	1	0	3	1	0	4	3	0
February	11.4	S.	28	NE.	0	8	7	7	9	19	1	0	5	0	11	5	12	6	5	0	0	3	0	0	0	3	0
March	11.9	S.	48	S.	1	4	5	4	11	23	15	0	0	0	8	6	17	16	7	0	1	11	0	0	0	4	0
April	11.0	SE.	46	N.	1	3	10	3	20	17	2	0	5	0	15	11	4	5	3	0	0	1	0	0	0	4	0
May	8.5	SE.	24	N.	0	3	5	7	22	12	9	3	1	0	20	9	2	5	4	0	0	0	0	0	0	5	0
June	11.2	S.	50	N.	1	4	3	1	16	30	3	3	0	0	23	7	0	1	1	0	0	0	0	2	0	1	0
July	9.5	S.	36	N.	0	1	5	3	12	21	18	1	1	0	27	3	1	4	2	0	0	0	0	4	0	5	0
August	9.0	S.	36	N.	0	4	4	7	10	11	16	7	2	1	13	10	8	7	6	0	0	0	0	1	0	4	0
September	10.3	E.	37	NW.	0	15	9	13	12	4	0	0	7	0	19	8	3	10	6	0	0	0	0	1	0	3	0
October	10.6	SE.	33	N.	0	5	9	13	16	5	7	3	4	0	18	6	7	7	6	0	0	1	0	1	0	4	0
November	11.8	SE.	37	N.	0	11	12	6	13	10	2	2	4	0	16	8	6	6	5	0	0	1	0	0	0	1	0
December	11.9	N.	41	N.	2	20	4	2	6	12	5	6	7	0	12	3	16	13	11	0	0	3	0	0	1	1	0
Year	10.9	S.	50	N.	7	87	88	72	151	170	87	28	46	1	191	84	90	90	63	1	1	23	1	9	5	38	0

GRAND HAVEN, MICH.

[H = 628 ft.; h_t = 55 ft.; h_r = 48 ft.; h_a = 64 ft.]

Month.	Average hourly velocity.	Prevailing direction.	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	12.6	NW.	38	NW.	0	2	3	9	13	4	6	6	19	0	3	5	23	23	21	19	0	1	17	0	27	1	0
February	11.0	E.	36	SW.	0	5	9	13	4	0	9	7	9	0	1	5	22	17	11	17	0	1	11	0	27	0	0
March	11.5	E.	39	SW.	0	6	11	20	3	2	4	4	12	0	6	7	18	16	12	8	0	3	6	0	22	0	0
April	12.3	NW.	37	S.	0	7	4	9	9	5	10	4	12	0	6	11	13	16	12	3	0	1	0	0	11	2	0
May	10.2	NW.	31	SW.	0	7	1	4	5	9	10	7	19	0	10	13	8	11	7	0	0	1	0	0	0	1	0
June	8.4	SW.	25	NE.	0	3	8	4	8	4	12	10	11	0	9	13	8	10	8	0	0	1	0	0	0	3	0
July	7.7	NW.	28	W.	0	7	9	9	1	4	8	10	14	0	16	11	4	7	7	0	0	0	0	5	0	3	0
August	7.9	NW.	34	NW.	0	7	8	6	8	4	9	6	14	0	13	13	5	11	8	0	0	0	0	0	0	3	0
September	7.1	SW.	26	SW.	0	9	7	9	12	11	2	4	5	1	17	10	3	4	3	0	0	0	0	1	0	3	0
October	8.2	E.	30	NW.	0	8	3	20	7	2	6	5	9	2	11	11	9	8	6	0	0	6	0	0	0	1	0
November	12.4	NW.	47	NW.	2	9	7	4	11	4	7	3	15	0	2	10	18	16	13	5	0	2	2	0	14	0	0
December	11.7	NW.	40	SW.	1	8	11	6	8	1	9	8	11	0	0	1	30	18	12	14	0	2	12	0	24	0	0
Year	10.1	NW.	47	NW.	3	78	81	113	89	50	92	74	150	3	94	110	161	157	120	66	0	18	48	6	125	17	0

GREEN BAY, WIS.

[H = 617 ft.; h_t = 49 ft.; h_r = 41 ft.; h_a = 57 ft.]

Month.	Average hourly velocity.	Prevailing direction.	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	9.3	W.	36	W.	0	7	1	4	5	14	11	14	6	0	9	8	14	10	7	5	0	2	24	0	28	0	0
February	8.6	N.	34	SW.	0	12	5	5	3	9	11	6	5	0	4	13	11	13	6	12	0	1	13	0	28	0	0
March	8.2	N.	32	NW.	0	20	2	6	9	3	8	4	9	1	11	11	9	13	8	6	0	2	12	0	25	0	0
April	10.2	N.	40	SW.	1	13	4	7	6	11	5	4	10	0	10	12	8	11	10	2	0	1	0	0	14	1	0
May	8.9	S.	32	N.	0	10	2	7	5	15	7	5	11	0	10	15	6	9	7	0	2	0	0	0	0	2	0
June	7.0	SE.	36	W.	0	7	3	11	11	5	11	7	5	0	9	14	7	11	9	0	0	0	0	1	0	8	0
July	6.6	S.	36	W.	0	8	3	5	10	13	11	3	7	2	18	10	3	8	6	0	0	0	0	4	0	2	1
August	6.7	SW.	29	NW.	0	10	4	3	4	8	14	6	13	0	12	15	4	11	6	0	0	0	0	0	0	3	0
September	6.7	S.	35	SW.	0	5	6	8	3	21	7	3	6	1	16	9	5	7	5	0	0	2	0	3	0	2	0
October	6.9	S.	30	NW.	0	6	2	8	8	12	9	6	10	1	9	12	10	9	7	0	0	2	0	0	1	2	0
November	8.6	S.	33	NW.	0	11	0	4	2	13	11	11	8	0	6	12	12	11	7	5	0	0	7	0	19	0	0
December	8.1	SW.	30	W.	0	8	1	0	0	11	19	11	12	0	5	15	11	9	7	8	0	2	20	0	28	0	0
Year	8.0	S.	40	SW.	1	117	33	68	66	135	124	80	102	5	119	146	100	122	85	38	2	12	76	8	143	20	1

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

HANNIBAL, MO.

[λ=39° 41′ N.; φ=91° 20′ W.; gravity corr., −0.02.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.(a)	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	29.57	29.95	28.81	22.3	27.3	34.3	18.0	26.2	67	−10	19	21	86	77	.123	.132	6.36	3.11	5.9	4.7	5.3
February	29.49	30.08	29.11	28.6	.....	39.0	26.3	32.6	62	3	25	....	84	....	.138	.....	1.54	.42	8.1	.....	6.9
March	29.44	29.92	28.77	36.3	.....	50.0	33.4	41.7	74	11	32	....	84	....	.195	.....	4.30	1.11	7.7	.....	6.3
April	29.47	30.01	29.16	47.5	.....	60.7	45.1	52.9	80	33	40	....	77	....	.260	.....	3.96	2.03	5.8	.....	5.7
May	29.50	29.74	29.26	55.1	.....	72.1	49.8	61.0	84	40	46	....	73	....	.325	.....	1.13	.37	2.7	.....	3.1
June	29.41	29.57	29.18	67.5	.....	82.8	64.0	73.4	97	45	60	....	77	....	.537	.....	6.08	2.84	6.4	.....	4.6
July	29.41	29.57	29.17	73.2	.....	87.4	68.6	78.0	97	56	67	....	82	....	.676	.....	8.04	3.31	3.3	.....	2.8
August	29.47	29.72	29.31	65.1	.....	82.5	61.5	72.0	95	51	60	....	83	....	.520	.....	2.48	1.30	2.6	.....	2.6
September	29.60	29.87	29.39	62.5	.....	87.3	59.4	73.4	98	36	54	....	76	....	.449	.....	0.30	.30	1.0	.....	1.3
October	29.52	29.78	28.97	52.3	.....	74.9	49.9	62.4	91	33	43	....	73	....	.292	.....	0.45	.38	3.0	.....	2.5
November	29.55	30.02	29.19	35.6	.....	52.2	31.4	41.8	77	8	29	....	77	....	.175	.....	2.07	.63	5.0	.....	5.5
December	29.54	30.09	29.18	23.9	.....	35.1	18.5	26.8	64	−6	21	....	86	....	.121	.....	1.86	.67	7.0	.....	7.1
Year	29.50	30.09	28.77	47.5	.....	63.2	43.8	53.5	98	−10	41	....	80	....	.318	.....	38.57	3.31	4.9	.....	4.5

HARRISBURG, PA.

[λ=40° 16′ N.; φ=76° 52′ W.; gravity corr., −0.01.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	29.74	30.31	29.24	24.4	28.8	33.4	22.0	27.7	61	4	20	22	82	74	.116	.131	1.60	0.79	6.2	4.6	6.0
February	29.69	30.19	29.16	29.7	33.9	37.6	26.6	32.1	48	15	22	24	72	66	.118	.130	2.77	.68	8.1	6.1	7.5
March	29.60	30.30	28.96	36.8	43.2	48.3	33.9	41.1	66	22	28	29	71	59	.163	.170	2.87	.73	6.1	5.9	6.3
April	29.71	30.23	29.20	45.9	54.4	60.9	40.8	50.8	84	26	33	35	62	50	.200	.214	2.53	1.13	5.8	5.6	5.8
May	29.58	30.01	29.14	57.9	62.9	69.6	51.7	60.6	79	42	46	47	66	58	.327	.335	5.30	1.82	5.3	5.9	6.2
June	29.58	29.85	29.32	64.5	69.6	76.2	58.3	67.2	91	47	54	55	69	62	.427	.449	1.83	.84	6.4	5.5	6.1
July	29.57	29.90	29.26	72.2	76.5	83.7	67.3	75.5	93	59	64	63	75	66	.591	.589	3.68	1.66	4.9	5.5	5.9
August	29.60	29.83	29.30	67.2	72.7	80.0	62.0	71.0	87	55	58	60	75	67	.497	.536	3.13	1.59	3.8	4.1	4.5
September	29.77	30.01	29.47	60.5	68.9	78.1	55.5	66.8	95	41	51	54	73	61	.400	.441	1.30	.81	3.2	2.0	3.0
October	29.76	30.24	29.33	50.5	57.5	65.5	46.7	56.1	86	34	43	44	77	64	.292	.311	1.35	.60	5.7	4.2	5.5
November	29.72	30.18	28.99	40.3	43.7	49.8	37.0	43.4	68	26	32	32	73	65	.193	.197	4.09	1.90	7.3	6.4	7.1
December	29.70	30.13	29.08	32.9	36.5	40.9	30.4	35.6	63	13	26	27	75	68	.148	.154	3.21	1.10	8.0	6.7	7.3
Year	29.68	30.31	28.96	48.6	54.0	60.3	44.4	52.3	95	4	40	41	72	63	.289	.305	33.66	1.90	5.9	5.2	5.9

HATTERAS, N. C.

[λ=35° 15′ N.; φ=75° 40′ W.; gravity corr., −0.03.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	30.17	30.58	29.65	41.1	43.0	48.0	38.0	43.0	64	18	36	38	82	82	.225	.239	2.00	0.61	5.7	4.4	5.5
February	30.07	30.65	29.40	46.2	47.1	53.0	42.3	47.6	67	32	43	43	88	86	.287	.291	5.21	1.45	7.0	4.8	6.9
March	30.12	30.67	29.50	52.7	53.4	58.4	47.4	52.9	69	36	47	48	83	84	.350	.355	3.79	.70	6.1	6.2	6.4
April	30.15	30.64	29.72	56.8	56.5	62.6	51.5	57.0	75	39	50	51	78	82	.374	.391	2.76	.86	5.6	4.4	4.8
May	30.01	30.36	29.63	66.1	65.8	70.4	61.6	66.0	79	53	59	59	79	78	.516	.516	4.08	1.88	4.8	4.6	4.6
June	30.00	30.23	29.75	74.8	73.6	79.1	69.5	74.4	85	63	68	68	80	83	.699	.697	5.76	2.06	5.4	4.6	4.4
July	30.00	30.32	29.68	79.0	78.1	83.3	74.5	78.9	89	69	72	72	81	82	.797	.792	8.98	5.57	5.3	5.7	5.1
August	30.02	30.22	29.71	78.2	77.7	82.1	74.3	78.2	86	68	73	72	84	84	.804	.797	5.60	2.12	5.2	4.9	4.8
September	30.14	30.33	29.86	73.3	72.7	77.9	69.5	73.7	85	60	67	66	81	81	.685	.656	2.02	1.02	4.7	2.5	4.1
October	30.05	30.42	29.47	66.3	65.9	70.0	62.6	66.3	76	53	62	62	88	86	.573	.558	9.83	4.82	4.9	3.6	4.9
November	30.17	30.52	29.62	57.3	58.1	61.9	53.5	57.7	72	41	51	51	80	79	.396	.395	.98	.28	4.3	2.3	4.1
December	30.13	30.50	29.64	49.7	50.9	55.7	45.6	50.6	72	29	46	46	87	86	.327	.331	7.81	3.35	4.4	3.9	5.2
Year	30.09	30.67	29.40	61.8	61.9	66.9	57.5	62.2	89	18	56	56	83	83	.503	.502	58.82	5.57	5.3	4.3	5.1

HAVRE, MONT.

[λ=48° 34′ N.; φ=109° 40′ W.; gravity corr., +0.01.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	27.41	28.09	26.78	10.6	15.4	23.4	3.3	13.4	53	−38	6	9	84	79	.075	.078	0.53	0.34	3.0	4.6	4.3
February	27.22	27.85	26.59	6.6	16.4	22.5	−0.2	11.2	43	−15	5	13	91	86	.057	.081	0.32	0.18	4.5	7.0	6.2
March	27.26	27.76	26.64	4.0	17.4	21.7	0.1	10.9	46	−41	2	13	90	84	.059	.092	0.43	0.12	5.7	5.8	5.1
April	27.34	27.63	26.79	36.6	55.6	58.9	34.2	46.6	83	26	31	31	81	44	.173	.175	0.73	0.53	5.3	4.4	4.6
May	27.31	27.75	27.02	48.7	71.2	75.6	45.6	60.6	89	35	38	36	68	30	.238	.220	0.42	0.13	3.6	4.5	3.9
June	27.24	27.53	26.72	52.9	69.5	72.9	49.8	61.4	90	36	47	45	81	46	.332	.312	6.39	2.65	4.5	5.9	5.2
July	27.28	27.58	26.70	55.5	76.1	78.9	52.5	65.7	96	46	46	45	72	35	.315	.302	0.78	0.38	3.2	4.1	3.6
August	27.38	27.62	27.02	54.1	81.1	84.4	52.2	68.3	97	38	43	41	68	27	.280	.267	0.17	0.16	3.2	2.2	2.3
September	27.34	27.78	26.96	45.8	71.5	75.5	43.3	59.4	86	23	39	40	77	34	.242	.252	0.66	0.22	3.5	4.7	4.0
October	27.33	27.75	26.82	35.9	52.8	60.1	31.8	46.0	82	18	30	33	78	50	.166	.192	0.53	0.17	3.6	4.5	4.3
November	27.37	27.85	26.72	15.6	19.4	26.9	9.5	18.2	71	−21	12	15	86	84	.091	.100	2.08	0.46	5.2	7.6	6.9
December	27.33	27.98	26.76	16.7	20.2	28.3	8.6	18.4	51	−43	11	15	78	79	.096	.110	0.26	0.15	3.4	4.5	4.3
Year	27.32	28.09	26.59	31.9	47.2	52.4	27.6	40.0	97	−43	26	28	80	56	.177	.182	13.30	2.65	4.1	5.0	4.6

a Only one observation.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

HANNIBAL, MO.

[H = 534 ft.; h_t = 75 ft.; h_r = 68 ft.; h_a = 107 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction.	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	10.8	NW.	40	NW.	1	7	1	4	6	6	9	8	21	0	13	5	13	15	9	9	0	2	11	0	27	1	0
February	9.1	SW.	36	W.	0	4	3	6	0	1	6	3	5	0	6	7	15	11	7	8	0	0	5	0	23	1	0
March	10.6	NW.	34	E.	0	3	3	5	6	4	0	2	7	1	9	7	15	14	9	2	0	1	1	0	15	4	0
April	12.6	SW.	44	SW.	3	4	1	3	5	2	8	3	4	0	7	12	11	13	8	0	0	0	0	0	0	4	0
May	8.1	SW.	33	SW.	0	3	1	3	2	4	13	0	5	0	17	12	2	8	7	0	0	0	0	0	0	5	0
June	9.1	SW.	34	SW.	0	1	0	3	2	8	12	2	2	0	9	14	7	10	8	0	0	0	0	7	0	11	0
July	7.2	SW.	36	SW.	0	2	0	5	5	1	13	0	4	1	22	6	3	10	8	0	0	0	0	12	0	10	0
August	6.4	SW.	24	SW.	0	6	0	5	1	2	11	3	2	1	21	7	3	6	5	0	0	0	0	6	0	2	0
September	6.9	SW.	26	SW.	0	3	1	4	2	3	14	0	2	1	27	1	2	1	1	0	0	0	0	14	0	2	0
October	7.7	SW.	28	SW.	0	1	3	8	0	1	14	2	2	0	23	4	4	3	3	0	0	0	0	1	0	1	0
November	10.5	SW.	34	SW.	0	3	4	1	3	1	9	2	6	1	11	8	11	9	7	0	0	0	3	0	15	0	0
December	9.6	W.	38	SW.	0	4	3	3	2	2	5	7	5	0	5	9	17	11	6	7	0	0	11	0	28	0	0
Year	9.0	SW.	44	SW.	4	41	20	50	34	35	114	32	65	5	170	92	103	111	78	26	0	3	31	40	108	41	0

HARRISBURG, PA.

[H = 377 ft.; h_t = 94 ft.; h_r = 87 ft.; h_a = 104 ft.]

Month.	Average hourly velocity.	Prevailing direction.	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	10.4	W.	40	W.	1	5	3	10	7	3	4	16	14	0	11	4	16	10	6	6	0	1	13	0	27	0	0
February	8.1	NW.	34	NW.	0	2	7	13	4	3	3	10	14	0	5	4	19	11	8	5	0	0	2	0	20	0	0
March	8.7	W.	40	W.	1	4	5	13	12	2	2	14	10	0	9	7	15	13	11	2	0	1	0	0	14	2	0
April	7.8	NW.	34	SW.	0	1	5	9	8	7	6	10	14	0	7	13	10	9	9	0	0	1	0	0	3	1	0
May	7.6	NW.	33	E.	0	12	2	7	6	6	6	12	11	0	9	9	13	12	11	0	0	0	0	0	0	4	0
June	6.2	W.	30	W.	0	8	4	7	6	6	3	16	10	0	7	12	11	11	8	0	0	0	0	1	0	8	0
July	6.3	W.	32	W.	0	3	4	11	10	14	3	13	4	0	8	12	11	11	9	0	0	0	0	5	0	4	0
August	5.0	W.	36	W.	0	7	7	8	5	9	3	12	11	0	13	11	7	10	8	0	0	0	0	0	0	8	0
September	5.7	NW.	33	NE.	0	9	8	6	7	3	2	15	10	0	20	5	5	5	4	0	0	2	0	3	0	4	0
October	6.0	E.	30	NE.	0	9	12	15	7	2	5	5	7	0	11	9	11	6	5	0	0	2	0	0	0	0	0
November	9.1	W.	48	W.	1	2	1	16	5	5	5	17	9	0	2	13	15	14	12	1	0	2	1	0	9	0	0
December	8.0	W.	40	W.	1	0	2	15	6	5	8	14	12	0	4	7	20	11	8	4	0	0	5	0	16	0	0
Year	7.4	W.	48	W.	4	62	60	130	83	65	50	154	126	0	106	106	153	123	99	18	0	9	21	9	89	31	0

HATTERAS, N. C.

[H = 11 ft.; h_t = 17 ft.; h_r = 2 ft.; h_a = 36 ft.]

Month.	Average hourly velocity.	Prevailing direction.	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	15.4	N.	44	W.	1	19	18	0	2	1	4	11	7	0	9	11	11	9	8	0	0	2	1	0	7	0	0
February	14.5	N.	48	N.	3	14	12	6	3	3	12	4	2	0	6	7	15	13	11	0	0	2	0	0	0	2	0
March	15.0	NE.	43	N.	2	8	19	0	5	10	13	4	3	0	6	12	13	18	13	0	0	1	0	0	0	0	0
April	12.2	NE.	44	N.	1	7	20	8	2	9	9	4	1	0	12	10	8	8	6	0	0	0	0	0	0	1	0
May	14.5	SW.	47	N.	1	12	13	1	3	8	17	4	4	0	11	14	6	9	8	0	0	0	0	0	0	1	0
June	11.0	SW.	34	NW.	0	1	13	10	9	5	15	5	2	0	13	13	4	13	13	0	0	0	0	0	0	7	0
July	9.2	S.	45	SE.	1	2	2	7	11	16	15	6	3	0	11	13	7	13	9	0	0	0	0	0	0	3	0
August	8.9	SW.	48	NW	1	3	11	6	3	7	18	13	1	0	12	10	9	10	8	0	0	0	0	0	0	2	0
September	11.0	NE.	50	NW.	1	6	26	4	0	6	9	6	3	0	15	10	5	7	6	0	0	0	0	0	0	3	0
October	13.7	NE.	56	N.	3	10	30	2	8	2	1	5	4	0	13	8	10	9	8	0	0	1	0	0	0	3	0
November	15.4	N.	46	N.	4	17	4	0	5	6	11	9	8	0	15	9	6	8	6	0	0	0	0	0	0	1	0
December	13.4	N.	45	SW	3	24	5	1	3	5	4	16	4	0	13	9	9	12	11	0	0	3	0	0	2	1	0
Year	12.8	NE.	56	N.	21	123	173	45	54	78	128	87	42	0	136	126	103	129	107	0	0	9	1	0	9	24	0

HAVRE, MONT.

[H = 2,494 ft.; h_t = 46 ft.; h_r = 38 ft.; h_a = 47 ft.]

Month.	Average hourly velocity.	Prevailing direction.	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	9.0	W.	50	NE.	1	2	14	0	1	0	11	26	2	6	13	13	5	5	3	5	0	1	19	0	30	0	7
February	8.4	W.	54	SW.	1	1	17	2	0	0	6	19	8	3	5	13	10	8	2	8	0	2	19	0	28	0	1
March	8.9	NE.	28	SW.	0	3	24	2	0	0	6	23	3	1	9	14	8	7	6	7	0	1	18	0	30	0	0
April	11.8	W.	48	SW.	2	5	12	3	2	0	11	15	6	6	14	12	4	6	4	1	0	0	0	0	12	0	1
May	10.6	W.	47	SW.	2	6	12	6	1	4	13	11	7	2	17	10	4	7	4	0	0	0	0	0	0	7	2
June	9.7	NE.	48	SW.	3	5	12	4	4	2	12	11	8	2	9	16	5	12	10	0	1	0	0	1	0	11	0
July	9.7	W.	48	SE.	2	1	3	3	0	0	22	19	12	2	18	11	2	6	5	0	0	0	0	3	0	5	1
August	7.6	NE.	38	NW.	0	7	18	3	2	3	2	14	10	3	24	7	0	2	1	0	0	0	0	8	0	3	4
September	8.7	W.	42	SW.	1	2	6	1	2	0	12	24	10	3	16	10	4	6	5	0	0	0	0	0	1	3	2
October	9.1	SW.	40	SW.	1	1	8	1	0	0	23	21	5	3	16	9	6	6	6	0	0	0	0	0	15	0	6
November	9.4	SW.	40	SW.	2	7	19	3	0	0	18	9	2	2	5	9	16	12	10	12	0	1	17	0	28	0	0
December	12.6	SW.	60	NW.	6	0	7	0	0	0	31	12	5	7	15	13	3	7	2	6	0	0	10	0	27	0	6
Year	9.6	W.	60	NW.	21	40	152	28	12	9	167	204	78	40	161	137	67	84	58	39	1	5	83	12	171	29	30

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

HELENA, MONT.

[λ=46° 34′ N.; φ=112° 4′ W.; gravity corr., 0.00.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a.m.	8 p.m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a.m.	8 p.m.	8 a.m.	8 p.m.	8 a.m.	8 p.m.	Total.	Maximum in 24 hours.	8 a.m.	8 p.m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	25.90	26.26	25.50	17.4	22.9	28.3	13.2	20.8	49	—24	8	14	64	64	.073	.094	0.80	0.32	4.3	5.2	5.9
February	25.68	26.20	25.22	21.2	27.4	32.2	17.5	24.8	44	4	13	17	70	62	.079	.093	1.49	.32	6.4	5.1	6.1
March	25.69	26.15	25.09	16.1	26.1	29.1	13.6	21.4	56	—14	9	16	70	63	.072	.097	1.23	.73	6.1	7.0	5.7
April	25.87	26.12	25.49	38.3	51.2	54.2	36.2	45.2	77	26	26	30	63	49	.141	.165	1.15	.51	5.4	5.8	4.0
May	25.85	26.21	25.60	49.5	67.6	71.7	48.4	60.0	83	35	35	32	58	31	.206	.196	1.14	.46	3.0	4.5	3.7
June	25.79	26.04	25.45	50.8	64.6	68.3	49.2	58.8	89	37	41	38	70	44	.260	.243	3.66	.76	6.1	6.6	5.5
July	25.86	26.11	25.50	52.9	71.2	75.2	52.0	63.6	95	42	40	41	64	38	.253	.259	1.89	.78	3.5	4.8	4.4
August	25.92	26.15	25.63	55.7	79.0	82.1	54.6	68.4	96	44	40	40	56	27	.246	.259	0.52	.20	1.7	3.1	2.2
September	25.90	26.26	25.52	47.1	66.1	70.3	45.4	57.8	81	30	36	36	67	36	.212	.213	0.66	.43	3.5	4.1	3.3
October	25.88	26.23	25.37	39.5	50.9	56.7	36.2	46.4	75	25	28	29	66	45	.155	.158	0.81	.47	4.3	4.4	3.9
November	25.82	26.13	25.32	23.7	29.2	36.9	19.5	28.2	69	—10	18	18	73	68	.100	.105	2.22	.60	5.9	7.5	7.1
December	25.88	26.40	25.32	21.7	25.5	31.4	16.1	23.8	55	—16	13	17	68	70	.082	.097	0.59	.24	6.1	7.0	6.1
Year	25.84	26.40	25.09	36.2	48.5	53.0	33.5	43.3	96	—24	25	27	66	50	.157	.165	16.16	.78	4.7	5.4	4.9

HURON, S. DAK.

[λ = 44° 21′ N.; φ = 98° 14′ W.; gravity corr., 0.00.]

January	28.71	29.23	27.99	2.9	9.7	16.4	—1.6	7.4	41	—26	—1	3	83	72	.043	.050	2.87	1.30	4.5	5.5	5.9
February	28.59	29.31	27.97	6.7	13.7	20.7	.0	10.4	38	—25	4	8	87	76	.055	.065	.52	.34	5.8	5.3	6.5
March	28.60	29.06	27.98	a15.3	b21.8	c28.9	a10.1	19.5	c 52	a—25	d11	c16	d85	c77	d.093	c.111	1.53	.60	e7.1	6.1	6.6
April	28.61	29.15	28.07	38.5	50.3	56.2	34.7	45.4	86	20	33	39	82	69	.191	.244	4.03	1.30	5.8	6.6	5.7
May	28.62	28.95	28.30	50.1	65.8	70.9	42.8	56.8	87	27	42	44	74	47	.279	.297	.46	.28	3.7	3.6	4.0
June	28.50	28.84	28.04	58.2	71.8	76.7	52.7	64.7	92	32	53	54	84	57	.429	.449	3.81	1.26	6.0	4.4	5.6
July	28.50	28.83	27.91	64.8	79.1	86.0	60.5	73.2	100	47	60	59	85	53	.523	.522	2.32	1.38	4.6	3.9	4.4
August	28.62	28.98	28.23	55.7	73.0	78.7	53.0	65.8	93	40	53	57	90	58	.407	.488	2.69	1.10	3.0	3.6	4.4
September	28.63	29.11	28.27	56.1	74.7	84.7	54.2	69.4	99	33	50	54	82	51	.388	.435	1.14	.55	3.3	3.3	3.4
October	28.62	29.06	28.05	41.5	52.6	60.2	38.0	50.6	90	23	36	38	82	60	.220	.243	2.13	1.49	5.4	4.5	5.3
November	28.67	29.14	27.95	21.9	28.2	39.5	16.2	27.8	72	—19	18	18	85	65	.107	.106	.67	.49	5.3	3.1	5.5
December	28.67	29.20	28.16	12.7	17.8	24.5	7.6	16.0	48	—20	11	15	91	87	.085	.098	.57	.17	5.0	4.4	6.3
Year	28.61	29.31	27.91	35.4	46.5	53.9	30.7	42.2	100	—26	31	34	84	64	.235	.257	22.74	1.49	5.0	4.5	5.3

IDAHO FALLS, IDAHO.

[λ = 43° 29′ N.; φ = 112° 4′ W.; gravity corr., 0.00.]

January	25.30	25.62	24.94	13.1	22.6	28.2	9.0	18.6	41	—17	9	19	82	63	.069	.103	0.67	0.26	6.3	7.1	5.9
February	25.14	25.65	24.76	17.8	27.2	31.5	13.0	22.2	38	— 6	13	23	80	83	.083	.125	2.58	.47	8.0	8.6	8.3
March	25.10	25.46	24.74	17.4	27.7	31.9	13.6	22.8	48	—16	14	23	83	82	.088	.124	3.84	.46	6.1	7.2	6.0
April	25.29	25.55	24.95	33.0	51.1	54.2	31.7	43.0	73	22	28	41	79	70	.150	.267	1.35	.47	5.1	5.0	2.8
May	25.25	25.55	24.93	43.5	69.6	74.4	42.8	58.6	89	27	26	36	52	31	.143	.217	.84	.45	2.5	5.0	3.3
June	25.19	25.41	24.91	45.8	71.7	75.0	44.4	59.7	89	31	29	36	52	34	.160	.221	.77	.39	2.2	5.6	3.7
July	25.27	25.55	25.00	50.7	79.1	82.7	49.4	66.0	96	34	38	35	62	23	.234	.215	.20	.14	3.5	4.8	3.7
August	25.30	25.50	25.06	50.1	83.9	88.0	49.2	68.6	95	43	39	45	67	28	.245	.314	T.	T.	1.7	3.5	3.5
September	25.30	25.57	24.92	45.0	70.7	75.6	42.4	59.0	86	30	36	44	73	42	.220	.303	.55	.51	1.9	2.4	4.0
October	25.29	25.66	24.86	35.5	59.4	57.6	33.3	45.4	75	20	30	40	82	72	.177	.258	1.48	.39	3.8	4.8	5.4
November	25.26	25.53	24.96	30.7	39.0	45.8	28.3	37.0	64	16	28	33	88	81	.156	.192	1.90	.68	6.3	8.0	7.0
December	25.36	25.79	24.69	15.6	22.1	27.9	10.0	19.0	41	—14	13	19	88	85	.083	.108	1.59	.30	6.1	6.6	6.6
Year	25.25	25.79	24.69	33.2	51.3	56.1	30.6	43.3	96	—17	25	33	74	60	.151	.204	15.77	.68	4.5	5.7	5.0

INDIANAPOLIS, IND.

[λ = 39° 45′ N.; φ = 86° 10′ W.; gravity corr., —0.01.]

January	29.26	29.70	28.64	22.6	26.3	31.8	18.3	25.0	64	—14	17	21	77	80	.119	.138	3.71	0.84	6.8	5.2	6.3
February	29.17	29.75	28.73	29.2	35.1	38.5	26.5	32.5	58	3	24	28	80	76	.133	.164	2.37	.78	6.7	6.9	6.4
March	29.15	29.68	28.49	38.4	45.6	51.4	34.4	42.0	65	24	32	36	76	70	.199	.227	5.85	3.23	6.2	6.2	6.4
April	29.19	29.80	28.87	46.0	52.6	59.4	42.1	50.8	81	23	39	42	77	68	.255	.286	4.83	1.59	6.7	6.7	6.1
May	29.16	29.49	28.83	53.5	62.7	67.5	48.4	58.0	85	34	46	54	75	74	.315	.439	4.37	1.15	4.5	4.9	4.2
June	29.12	29.32	28.92	66.3	74.3	79.8	60.3	70.0	91	48	56	64	71	72	.471	.620	3.70	1.15	6.1	4.9	3.4
July	29.10	29.28	28.93	72.5	80.2	86.1	67.9	77.0	99	55	66	70	80	72	.647	.751	5.70	1.96	3.8	4.3	4.2
August	29.15	29.39	28.93	66.2	77.2	82.7	61.9	72.3	98	50	58	58	75	54	.490	.511	.42	.23	4.3	3.6	4.8
September	29.31	29.51	29.07	62.3	77.2	84.6	58.2	71.4	96	41	49	49	63	39	.370	.369	.79	.52	1.3	1.2	1.8
October	29.23	29.52	28.67	51.6	65.8	73.0	49.5	61.2	89	37	43	47	72	53	.286	.331	.45	.20	2.8	2.0	2.9
November	29.22	29.71	28.64	39.0	44.4	52.1	35.0	43.6	68	16	32	36	75	74	.198	.231	6.37	1.37	6.3	5.0	6.7
December	29.21	29.66	28.77	29.9	32.7	37.1	25.2	31.2	62	6	24	27	79	79	.142	.158	3.09	.97	7.8	6.1	6.1
Year	29.19	29.80	28.49	48.1	56.2	62.0	44.0	53.0	99	—14	40	44	75	68	.302	.352	42.15	3.23	5.3	4.8	5.1

a Twenty-eight days. b Twenty-nine days. c Twenty-seven days. d Twenty-six days. e Thirty days.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

HELENA, MONT.

[H = 4,108 ft.; h_t = 88 ft.; h_r = 30 ft.; h_a = 93 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	4.9	SW.	40	SW.	1	5	0	1	0	0	26	17	10	3	10	8	13	8	5	6	0	0	16	0	29	0	2
February	6.9	SW.	48	SW.	1	2	0	0	1	1	17	16	18	1	7	8	13	11	9	11	0	0	13	0	28	0	0
March	5.9	W	35	W.	0	8	0	1	0	0	16	27	10	0	8	11	12	8	5	7	0	0	15	0	27	0	0
April	8.8	SW.	36	NE.	0	8	2	2	1	0	20	26	1	0	12	9	9	11	8	6	0	0	0	0	7	0	0
May	8.6	SW.	48	SW	1	4	13	1	0	0	33	11	3	0	17	10	4	7	7	0	0	0	0	0	0	5	0
June	7.7	SW.	50	SW.	2	8	8	1	0	1	27	11	4	0	9	9	12	16	14	0	0	0	0	0	0	4	0
July	8.0	SW.	48	SW.	1	5	0	2	0	4	36	10	5	0	14	8	9	11	8	0	0	0	0	2	0	5	1
August	6.8	SW.	42	SW.	2	18	0	1	0	2	30	9	2	0	23	7	1	5	4	0	0	0	0	4	0	8	0
September	6.2	SW.	36	SW.	0	9	0	1	0	4	31	10	3	2	17	8	5	7	4	1	0	0	0	0	1	2	0
October	7.2	SW.	36	SW.	0	9	0	2	0	0	37	9	5	0	18	4	9	6	4	3	0	0	0	0	9	0	0
November	6.1	SW.	38	SW.	0	10	1	0	1	3	31	6	8	0	5	6	19	14	9	11	0	0	11	0	22	0	0
December	7.8	SW.	45	SW.	2	10	0	1	0	1	29	5	16	0	5	13	13	10	3	7	0	0	13	0	27	1	0
Year	7.1	SW.	50	SW.	10	96	21	13	3	16	333	157	85	6	145	101	119	114	80	52	0	0	68	6	150	25	3

HURON, S. DAK.

[H = 1,306 ft.; h_t = 56 ft.; h_r = 52 ft.; h_a = 67 ft.]

Month.	Average hourly velocity.	Prevailing direction.	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	15.8	NW.	51	NW.	5	5	5	1	13	4	1	3	30	0	7	13	11	11	8	11	0	1	28	0	31	0	0
February	13.1	SE.	50	SE.	4	7	5	0	17	8	2	2	15	0	4	13	11	6	4	6	0	4	23	0	28	0	0
March	.....	SE.	48	SE.	4	8	3	2	23	3	0	2	21	0	4	13	14	11	8	7	0	2	b15	b0	c25	0	0
April	12.7	N.	48	NW.	2	16	4	6	12	4	1	4	13	0	9	10	11	15	10	1	0	0	0	0	7	4	0
May	13.2	SE.	40	SE.	1	8	2	2	22	10	1	3	14	0	11	18	2	5	3	0	1	0	0	0	3	1	0
June	10.8	SE.	38	NW.	0	9	8	2	18	7	3	3	10	0	9	14	7	14	9	0	2	0	0	2	0	9	0
July	12.0	SE.	45	SE.	2	11	5	0	22	4	3	1	15	1	17	8	6	10	7	0	0	0	0	10	0	9	2
August	10.4	SE.	35	NW.	0	14	8	5	20	3	1	1	10	0	14	13	4	8	7	0	0	2	0	2	0	6	0
September	12.5	SE.	48	S.	2	8	6	8	23	9	1	1	4	0	18	9	3	7	5	0	0	0	0	10	0	5	0
October	12.4	NW.	41	S.	1	9	3	0	19	7	5	4	15	0	13	7	11	8	6	1	0	1	0	1	11	2	0
November	11.5	NW.	48	NW.	1	11	3	2	16	8	0	4	16	0	10	12	8	5	2	5	0	0	9	0	28	0	0
December	9.4	NW.	40	NW.	1	11	4	3	11	7	4	8	14	0	11	5	15	12	5	11	0	3	20	0	30	0	5
Year	.....	SE.	51	NW.	23	117	56	31	216	74	22	36	177	1	127	135	103	112	74	42	3	13	95	25	163	37	7

IDAHO FALLS, IDAHO.

[H = 4,742 ft.; h_t = 10 ft.; h_r = 1 ft.; h_a = 56 ft.]

Month.	Average hourly velocity.	Prevailing direction.	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	6.7	N.	36	S.	0	33	2	2	6	9	1	1	8	0	11	3	17	11	8	11	0	1	20	0	30	0	0
February	11.1	S.	48	S.	3	17	0	0	1	34	3	1	0	0	3	3	22	16	14	16	0	0	15	0	27	0	0
March	12.0	S.	43	S.	2	11	0	4	0	37	4	3	3	0	9	7	15	21	19	19	0	0	16	0	29	0	0
April	9.6	S.	38	S.	0	11	2	5	5	27	2	3	5	0	20	6	4	10	7	5	0	0	0	0	18	0	2
May	9.2	S.	51	S.	1	18	3	0	3	28	3	2	5	0	18	9	4	6	4	0	0	0	0	0	2	4	0
June	11.9	S.	40	SW.	2	14	1	2	4	31	5	1	2	0	16	9	5	5	4	1	1	0	0	0	1	6	0
July	12.0	S.	50	SW.	3	10	2	2	1	36	4	2	5	0	16	9	6	4	2	0	0	0	0	8	0	2	0
August	9.3	S.	38	W.	0	19	5	6	2	14	5	2	9	0	17	8	6	0	0	0	0	0	0	8	0	1	0
September	9.9	S.	50	SW.	4	14	1	0	2	29	9	1	4	0	14	10	6	3	1	0	0	0	0	0	2	0	0
October	9.2	S.	44	S.	2	14	6	2	0	29	2	5	4	0	12	5	14	11	7	3	0	0	0	0	16	0	0
November	12.6	S.	41	S.	2	8	1	1	3	40	2	4	1	0	6	6	18	12	8	5	0	0	2	0	20	0	0
December	7.9	d N.	37	S.	0	26	2	2	0	21	2	4	5	0	11	0	20	15	12	14	0	2	18	0	30	0	0
Year	10.1	S.	51	S.	19	195	25	26	27	335	42	29	51	0	153	75	137	114	86	74	1	3	71	16	175	13	2

INDIANAPOLIS, IND.

[H = 823 ft.; h_t = 154 ft.; h_r = 146 ft.; h_a = 164 ft.]

Month.	Average hourly velocity.	Prevailing direction.	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	12.3	W.	57	SW.	3	3	3	8	3	9	9	17	10	0	7	9	15	16	12	9	1	0	12	0	27	0	0
February	10.2	NE.	38	W.	0	7	13	4	2	7	5	11	7	0	7	8	13	10	10	4	0	1	5	0	21	1	0
March	12.9	NW.	45	W.	2	5	7	6	6	11	7	10	10	0	7	10	14	17	14	2	0	3	0	0	15	4	0
April	12.6	NW.	42	SW.	1	11	4	7	4	10	9	3	12	0	7	12	11	13	11	1	0	0	0	0	3	4	0
May	8.6	NW.	45	W.	2	10	4	2	6	9	6	12	12	1	15	11	5	16	12	1	1	1	0	0	0	5	0
June	8.9	SW.	44	NW.	1	7	5	6	4	10	11	8	9	0	17	13	0	11	8	0	0	0	0	3	0	9	0
July	8.0	NW.	33	N.	0	6	8	2	2	9	12	8	15	0	13	13	5	16	13	0	0	0	0	10	0	11	0
August	7.4	NW.	34	SW.	0	12	13	1	3	7	3	5	16	2	11	12	8	4	2	0	0	0	0	5	0	3	0
September	6.5	SW.	66	W.	2	10	11	7	5	8	11	4	3	1	26	4	0	3	2	0	1	1	0	11	0	2	0
October	8.5	NE.	36	SW.	0	7	19	3	6	13	4	2	8	0	21	6	4	5	5	0	0	0	0	0	0	0	0
November	12.3	S.	47	SW.	2	6	5	2	2	21	3	7	14	0	7	6	17	12	12	0	0	0	0	0	9	4	0
December	e11.2	NW.	37	SW.	0	5	10	2	2	12	13	7	11	0	2	8	21	14	11	5	0	2	7	0	23	0	0
Year	10.0	NW.	66	W.	13	89	102	50	45	126	93	94	127	4	140	112	113	137	112	22	3	8	24	29	98	43	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.
b Twenty-seven days.
c Twenty-eight days.
d For 25 days.
e For 740 hours.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

JACKSONVILLE, FLA.

[λ=30° 20′ N.; φ=81° 39′ W.; gravity corr., —0.04.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	30.15	30.42	29.84	46.3	53.2	61.2	43.0	52.1	76	21	41	44	78	72	.282	.309	1.89	1.06	5.2	5.4	5.5
February	30.05	30.57	29.67	55.0	60.2	68.4	51.6	60.0	84	34	52	54	90	82	.414	.441	7.10	2.37	6.2	4.6	5.9
March	30.07	30.44	29.80	62.9	67.3	77.6	59.9	68.8	88	48	59	59	88	77	.521	.521	1.60	1.42	4.7	4.1	4.8
April	30.06	30.39	29.66	64.8	67.8	77.5	60.5	69.0	88	44	61	61	86	79	.535	.550	5.18	1.85	5.3	4.0	5.0
May	30.00	30.21	29.67	70.1	73.0	82.7	63.7	73.2	93	53	63	62	78	70	.580	.562	1.35	.82	2.1	2.3	3.5
June	29.98	30.11	29.83	78.5	81.9	93.9	73.0	83.4	99	68	73	72	83	75	.807	.797	5.01	1.93	1.9	5.4	4.5
July	29.98	30.19	29.71	78.9	81.0	91.0	73.8	82.4	99	68	73	73	84	77	.825	.807	3.67	1.85	3.9	5.5	5.4
August	30.01	30.17	29.79	77.7	79.3	91.5	72.9	82.2	99	68	73	72	85	80	.807	.799	6.27	1.65	5.2	5.5	5.8
September	30.03	30.15	29.76	73.2	75.4	83.9	68.7	76.3	94	49	70	70	90	84	.749	.748	16.23	5.35	4.8	4.7	5.7
October	29.99	30.23	29.75	67.0	70.9	79.4	64.0	71.7	89	54	63	66	88	83	.601	.641	6.00	2.74	4.5	3.6	5.2
November	30.14	30.30	29.70	59.0	65.3	73.9	56.7	65.3	83	46	56	59	88	81	.453	.511	1.56	.94	4.0	3.4	5.2
December	30.12	30.38	29.77	52.1	58.4	67.6	49.4	58.5	80	36	50	53	92	83	.374	.419	4.84	2.89	4.3	3.3	5.0
Year	30.05	30.57	29.66	65.5	69.5	79.0	61.4	70.2	99	21	61	62	86	79	.579	.592	60.70	5.35	4.3	4.3	5.1

JUPITER, FLA.

[λ=26° 57′ N.; φ=80° 7′ W.; gravity corr., —0.05.]

January	30.14	30.35	29.84	58.2	63.3	69.7	55.5	62.6	80	34	52	54	80	72	.404	.434	5.20	3.59	5.5	4.5	5.6
February	30.08	30.42	29.80	66.4	69.2	75.1	63.6	69.4	86	46	62	62	87	79	.581	.582	5.14	2.61	4.2	3.6	4.8
March	30.10	30.36	29.84	71.2	72.8	78.7	67.8	73.2	88	49	64	65	78	76	.602	.621	3.65	3.30	4.3	3.4	4.3
April	30.06	30.28	29.78	71.0	71.8	76.9	66.1	71.5	83	59	63	63	77	75	.582	.584	8.47	4.25	6.6	6.1	6.9
May	30.00	30.14	29.78	74.0	74.8	80.6	68.8	74.7	87	57	66	66	77	76	.648	.653	10.73	8.76	4.0	4.9	5.1
June	30.03	30.14	29.92	80.5	79.5	86.3	75.7	81.0	93	71	74	73	82	82	.850	.819	4.67	1.98	6.1	6.8	6.5
July	30.02	30.17	29.88	80.6	79.5	86.2	75.1	80.6	91	69	74	73	82	82	.852	.822	5.89	2.02	5.6	6.4	6.4
August	30.04	30.18	29.89	81.2	80.7	87.9	75.5	81.7	93	71	76	74	83	81	.880	.850	6.85	3.14	5.2	6.5	6.1
September	30.00	30.10	29.82	77.9	77.9	83.3	72.3	77.8	87	61	73	73	85	84	.812	.803	18.09	4.69	7.1	6.7	7.2
October	29.95	30.14	29.76	73.5	75.4	79.9	69.3	74.6	84	59	69	68	86	80	.716	.706	9.93	2.29	5.9	4.4	5.5
November	30.11	30.24	29.86	71.5	72.7	77.9	68.8	73.4	85	58	64	64	78	74	.601	.597	6.49	4.00	5.5	4.9	5.2
December	30.12	30.30	29.85	65.6	68.4	74.2	63.3	68.8	83	49	60	60	81	74	.528	.524	1.96	.31	5.9	5.5	6.2
Year	30.05	30.42	29.76	72.6	73.8	79.7	68.5	74.1	93	34	66	66	81	78	.671	.666	87.07	8.76	5.5	5.3	5.8

KANSAS CITY, MO.

[λ=39° 5′ N.; φ=94° 37′ W.; gravity corr., —0.01.]

January	29.13	29.55	28.45	23.0	29.5	34.6	20.1	27.4	64	—4	18	23	80	77	.115	.143	2.66	0.98	3.6	4.2	5.1
February	29.01	29.70	28.56	29.9	34.9	38.9	26.9	32.9	59	4	26	28	84	75	.146	.157	1.65	.72	7.5	5.7	7.0
March	28.94	29.34	28.30	35.9	46.7	51.5	32.8	42.2	76	6	30	37	80	70	.190	.233	2.37	.76	5.3	6.3	5.7
April	29.00	29.46	28.70	47.5	58.7	63.6	45.8	54.7	84	35	39	40	75	54	.252	.263	2.57	1.04	5.7	5.0	6.0
May	29.04	29.28	28.74	56.6	69.9	74.5	54.5	64.5	87	41	45	47	67	46	.320	.341	1.24	.56	5.0	3.3	4.3
June	28.93	29.19	28.66	68.3	78.9	84.5	65.7	75.1	97	48	61	65	79	63	.566	.627	7.09	4.37	7.0	5.3	6.3
July	28.95	29.11	28.62	72.9	84.8	90.1	70.8	80.4	102	60	65	66	76	56	.622	.656	4.29	2.16	3.5	2.4	3.3
August	29.02	29.25	28.79	66.9	78.7	84.8	65.1	75.0	102	56	59	60	78	56	.510	.536	3.60	1.08	4.2	2.9	3.2
September	29.12	29.45	28.90	66.6	82.5	88.4	65.1	76.8	99	47	55	56	67	42	.449	.464	1.38	1.06	2.3	1.7	2.0
October	29.04	29.29	28.59	54.4	67.5	75.2	52.5	63.8	90	37	44	46	69	49	.291	.317	.75	.68	3.5	2.2	3.1
November	29.09	29.63	28.64	36.3	46.7	53.9	33.9	43.9	79	7	28	32	73	60	.172	.202	1.25	.74	4.8	3.5	4.8
December	29.10	29.58	28.51	25.3	29.1	34.8	21.2	28.0	68	3	20	20	81	69	.119	.118	1.36	.61	6.9	5.6	7.0
Year	29.03	29.70	28.30	48.6	59.0	64.6	46.2	55.4	102	—4	41	43	76	60	.313	.338	30.21	4.37	4.9	4.0	4.8

KEOKUK, IOWA.

[λ=40° 22′ N.; φ=91° 26′ W.; gravity corr., —0.01.]

January	29.46	29.85	28.70	19.3	24.9	30.0	16.4	23.2	66	—16	15	21	83	83	.107	.127	4.90	2.27	4.7	4.4	4.9
February	29.39	30.04	28.96	27.0	31.9	37.5	24.7	31.1	55	— 1	22	26	81	78	.124	.143	0.96	0.35	6.6	6.0	6.2
March	29.33	29.84	28.65	33.2	41.9	46.0	31.3	38.6	71	6	29	34	83	75	.173	.215	4.16	0.81	5.9	5.6	6.3
April	29.36	29.93	29.07	46.3	54.3	58.7	43.9	51.3	80	32	40	43	81	68	.263	.294	3.54	1.07	6.2	5.9	6.2
May	29.38	29.65	29.01	55.3	65.4	71.3	51.1	61.2	85	35	46	46	70	51	.316	.322	1.86	1.24	2.9	3.3	2.9
June	29.29	29.51	29.00	67.1	76.3	82.0	63.8	72.9	98	46	59	61	77	61	.531	.564	5.43	2.14	5.6	3.9	4.9
July	29.30	29.50	29.03	73.1	82.5	87.6	69.0	78.3	97	55	66	68	79	64	.650	.709	6.75	3.62	2.8	1.8	3.4
August	29.36	29.65	29.18	65.4	76.2	82.3	62.4	72.4	97	51	58	60	77	58	.486	.533	0.65	0.56	2.1	2.3	2.8
September	29.48	29.79	29.25	64.1	77.9	86.7	62.1	74.4	96	44	54	55	71	47	.440	.461	0.64	0.64	1.4	1.2	1.3
October	29.40	29.72	28.88	52.0	64.4	73.1	50.4	61.8	92	33	43	42	73	47	.293	.263	0.24	0.24	1.9	1.8	2.4
November	29.43	29.99	28.94	34.4	43.2	50.5	31.1	40.8	75	5	28	31	78	64	.171	.186	2.17	0.82	4.4	4.6	5.1
December	29.45	29.98	28.99	21.5	25.6	32.7	17.3	25.0	59	— 2	18	21	86	82	.107	.122	1.84	0.56	5.9	5.7	6.4
Year	29.39	30.04	28.65	46.6	55.4	61.5	43.6	52.6	98	—16	40	42	78	65	.305	.330	33.14	3.62	4.2	3.9	4.4

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

JACKSONVILLE, FLA.

[H=43 ft.; h_t=69 ft.; h_r=59 ft.; h_a=84 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Aurorus.
	Miles.		*Mi.*																								
January	7.2	NW.	25	SW.	0	7	11	6	5	5	5	12	11	0	9	12	10	7	6	0	0	0	0	0	4	0	0
February	8.5	S.	42	SE.	1	6	9	1	2	13	11	7	6	1	9	7	12	13	11	0	0	0	0	0	0	1	0
March	9.3	NE.	32	SW.	0	7	15	3	11	9	6	9	2	0	11	14	6	7	5	0	0	4	0	0	0	2	0
April	8.5	SE.	45	S.	1	6	12	2	15	7	7	2	9	0	9	13	8	12	10	0	0	0	0	0	0	2	0
May	8.3	NE.	28	SE.	0	4	16	1	16	6	9	8	2	0	24	3	4	6	4	0	0	0	0	3	0	2	0
June	7.2	SW.	36	NW.	0	4	2	4	13	6	20	11	0	0	11	16	3	12	11	0	0	0	0	24	0	14	0
July	7.1	SW.	34	SW.	0	2	11	8	8	6	19	3	5	0	6	18	7	13	12	0	0	0	0	16	0	10	0
August	6.3	SW.	36	NW.	0	1	4	6	10	10	22	4	5	0	7	14	10	17	16	0	1	0	0	19	0	6	0
September	8.2	NE.	36	NE.	0	4	36	4	6	2	4	1	3	0	8	11	11	17	15	0	0	0	0	4	0	3	0
October	7.3	NE.	30	NE.	0	10	21	4	10	0	2	7	8	0	14	8	9	10	7	0	0	0	0	0	0	1	0
November	7.1	NE.	30	SW.	0	10	12	6	7	2	6	10	7	0	12	10	8	7	5	0	0	1	0	0	0	0	0
December	6.0	NE.	25	SW.	0	7	14	3	1	5	7	13	11	1	12	14	5	11	6	0	0	2	0	0	0	1	0
Year	7.6	NE.	46	S.	2	68	163	48	104	71	118	87	69	2	132	140	93	132	108	0	1	7	0	66	4	42	0

JUPITER, FLA.

[H=28 ft.; h_t=13 ft.; h_r=1 ft.; h_a=30 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Aurorus.
January	10.7	NW.	36	E.	0	3	4	10	5	6	2	7	25	0	9	12	10	4	4	0	0	0	0	0	0	0	0
February	11.2	S.	51	SE.	1	5	3	4	9	15	6	11	2	1	10	12	6	8	7	0	0	0	0	0	0	2	0
March	11.3	S.	29	S.	0	0	2	14	16	20	1	3	6	0	14	14	3	8	3	0	0	0	0	0	0	0	0
April	12.3	NE.	39	SW.	0	0	14	9	8	13	1	9	6	0	4	10	16	15	9	0	0	0	0	0	0	9	0
May	11.2	S.	35	NE.	0	8	7	9	9	11	4	8	6	0	12	11	8	10	7	0	0	0	0	0	0	6	0
June	7.0	S.	32	W.	0	2	2	4	17	20	7	3	5	0	3	18	9	9	8	0	0	0	0	4	0	18	0
July	7.4	S.	29	SW.	0	0	1	9	8	18	17	6	2	1	2	19	10	14	11	0	0	0	0	3	0	13	0
August	7.0	SE.	32	W.	0	2	1	3	18	16	13	7	2	0	2	22	7	13	13	0	0	0	0	5	0	14	0
September	9.0	E.	32	N.	0	3	9	16	9	15	1	3	3	1	2	10	18	23	20	0	0	0	0	0	0	11	0
October	12.3	E.	37	NE.	0	15	8	16	6	1	1	3	11	1	11	8	12	17	12	0	0	0	0	0	0	1	0
November	11.3	E.	38	NE.	0	5	11	21	2	3	2	8	8	0	10	16	4	5	4	0	0	0	0	0	0	0	0
December	9.3	NW.	28	S.	0	5	4	13	5	8	4	7	15	1	8	9	14	8	7	0	0	0	0	0	0	1	0
Year	10.0	S.	51	SE.	1	48	66	128	112	146	59	75	91	5	87	161	117	134	105	0	0	0	0	12	0	75	0

KANSAS CITY, MO.

[H=963 ft.; h_t=78 ft.; h_r=81 ft.; h_a=95 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Aurorus.
January	9.5	NW.	34	NW.	0	9	4	1	9	6	7	4	22	0	13	7	11	11	10	9	0	1	10	0	25	0	0
February	8.0	E.	26	N.	0	13	8	9	7	4	7	6	2	0	4	10	14	10	5	8	1	0	1	0	24	0	0
March	9.3	SE.	27	NW.	0	9	10	9	16	6	3	0	9	0	8	12	11	10	9	3	0	3	2	0	16	3	0
April	10.9	S.	36	S.	0	14	5	5	5	11	7	3	10	0	8	11	11	7	6	0	0	0	0	0	0	5	0
May	7.3	N.	29	NW.	0	18	7	4	10	7	5	4	7	0	12	14	5	10	6	0	0	0	0	0	0	4	0
June	8.5	SW.	29	NW.	0	5	3	3	18	10	15	1	5	0	1	19	10	12	12	0	2	0	0	10	0	12	0
July	7.6	S.	24	S.	0	9	1	5	14	15	10	2	6	0	18	8	5	7	5	0	0	0	0	16	0	7	0
August	6.5	N.	32	N.	0	17	10	6	6	7	10	1	4	1	18	6	7	11	10	0	1	0	0	8	0	8	0
September	6.4	S.	24	S.	0	10	3	2	8	20	14	1	1	1	24	3	3	3	3	0	0	0	0	15	0	2	0
October	7.4	S.	29	SW.	0	10	5	5	13	17	6	0	6	0	20	6	5	3	3	0	0	0	0	1	0	1	0
November	9.8	NW.	30	NW.	0	7	2	4	11	12	5	3	16	0	13	7	10	7	5	0	0	0	1	0	12	0	0
December	8.6	NW.	31	NW.	0	9	5	1	7	3	5	4	28	0	5	8	18	9	4	6	0	2	12	0	27	0	0
Year	8.3	S.	36	S.	0	130	63	54	124	118	94	29	116	2	144	111	110	100	78	26	4	6	26	50	104	42	0

KEOKUK, IOWA.

[H=614 ft.; h_t=63 ft.; h_r=56 ft.; h_a=78 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Aurorus.
January	9.3	NW.	40	SW.	1	4	2	5	8	5	8	11	19	0	14	5	12	11	9	7	0	1	13	0	26	0	0
February	8.0	NW.	27	W.	0	6	4	11	7	0	9	3	16	0	6	11	11	8	4	6	0	1	5	0	25	0	0
March	9.0	NW	37	NW.	0	7	5	12	12	2	6	3	15	0	7	10	14	14	10	3	1	3	3	0	16	4	0
April	10.4	SW.	36	SW.	0	9	4	6	9	4	12	4	12	0	7	11	12	12	10	0	0	1	0	0	2	3	0
May	7.2	NW.	36	NW.	0	9	1	8	9	8	13	4	15	0	18	10	3	7	5	0	0	0	0	0	0	2	0
June	7.5	SW.	32	W.	0	10	5	2	8	11	20	4	0	0	8	15	7	14	10	0	1	0	0	7	0	13	0
July	6.2	SW.	37	W.	0	1	2	4	14	11	16	2	12	0	17	11	3	10	7	0	0	0	0	11	0	7	0
August	5.7	NW.	34	W.	0	10	5	2	2	4	11	9	17	2	19	9	3	3	2	0	0	0	0	5	0	3	0
September	5.9	S.	24	S.	0	6	4	3	12	16	6	2	7	4	27	2	1	1	1	0	0	0	0	16	0	2	0
October	6.5	SE.	20	S.	0	6	5	8	14	6	10	5	7	1	21	5	5	2	2	0	0	0	0	1	0	1	0
November	8.7	NW.	42	N.	1	8	0	5	5	9	13	3	15	2	11	7	12	8	7	0	0	1	3	0	14	0	0
December	8.1	NW.	35	NW.	0	11	7	4	8	4	8	6	13	1	7	10	14	8	8	6	0	1	12	0	28	2	0
Year	7.7	NW.	42	N.	2	87	44	65	108	80	132	56	148	10	162	106	97	98	75	22	2	8	36	40	111	37	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

KEY WEST, FLA.

[λ=24° 34′ N.; φ=81° 49′ W.; gravity corr., —0.05.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a.m.	8 p.m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a.m.	8 p.m.	8 a.m.	8 p.m.	8 a.m.	8 p.m.	Total.	Maximum in 24 hours.	8 a.m.	8 p.m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	30.14	30.38	29.92	65.9	67.2	71.5	63.7	67.6	79	51	58	60	78	77	.506	.523	3.90	2.07	5.8	5.1	5.3
February	30.09	30.39	29.83	71.3	72.1	77.1	68.3	72.7	82	58	66	65	83	80	.647	.638	1.06	0.96	4.2	1.9	3.4
March	30.09	30.28	29.91	74.9	75.3	80.6	72.4	76.5	84	65	66	66	75	74	.652	.645	0.38	0.28	3.1	2.2	3.0
April	30.06	30.23	29.85	74.4	74.8	79.8	71.2	75.5	84	66	66	66	76	74	.650	.640	4.45	1.26	6.0	5.5	5.7
May	30.01	30.12	29.79	77.5	77.3	81.8	73.9	77.8	86	70	68	67	73	72	.688	.672	4.38	2.05	3.4	3.9	3.6
June	30.05	30.13	29.98	82.3	82.0	85.9	78.6	82.2	90	70	73	73	75	75	.813	.823	2.10	0.76	6.8	6.5	5.3
July	30.04	30.15	29.93	82.8	83.0	86.8	78.5	82.6	91	70	74	73	76	74	.844	.823	3.98	0.90	6.3	6.5	6.0
August	30.05	30.18	29.96	84.0	83.4	88.8	78.7	83.8	91	71	74	74	72	74	.829	.835	6.55	1.90	5.5	5.8	5.3
September	29.99	30.10	29.89	80.7	80.3	84.7	76.6	80.6	88	69	74	73	79	80	.828	.824	9.11	2.68	6.6	7.0	6.7
October	29.96	30.10	29.77	78.0	78.4	82.3	74.7	78.5	86	70	70	70	76	76	.730	.739	7.08	3.16	5.1	3.2	3.9
November	30.11	30.19	29.98	74.5	75.3	78.7	72.6	75.6	83	67	67	67	78	77	.669	.675	1.40	0.84	4.6	2.2	3.9
December	30.13	30.33	29.90	70.9	72.3	75.8	68.9	72.4	83	51	65	64	82	76	.626	.612	2.07	1.42	5.0	2.7	4.5
Year	30.06	30.39	29.77	76.4	76.8	81.2	73.2	77.2	91	51	68	68	77	76	.707	.704	46.46	3.16	5.2	4.4	4.7

KITTY HAWK, N. C.

[λ=36° 0′ N.; φ=75° 42′ W.; gravity corr., —0.02.]

January	*30.18	*30.62	*29.76	*39.1	*40.4	‡46.2	†34.3	‡40.2	‡60	‡16	*34	*34	*82	*79	*.213	*.207	1.35	0.46	*3.9	*2.6	‡5.1
February	30.05	30.63	29.33	43.6	44.8	51.2	38.5	44.8	78	28	40	41	88	86	.267	.269	7.72	2.60	5.1	4.9	5.4
March	30.09	30.69	29.41	50.6	52.7	60.6	40.9	50.8	78	30	45	46	82	79	.321	.331	4.42	1.11	4.3	4.3	5.0
April	30.12	30.65	29.62	54.2	55.5	63.3	47.4	55.4	82	35	47	50	78	81	.342	.371	1.35	1.20	3.3	2.1	3.9
May	29.99	30.34	29.58	63.1	63.8	70.2	56.2	63.2	83	47	57	58	80	80	.467	.490	5.20	1.80	3.8	3.8	4.1
June	†29.97	†30.26	†29.70	72.5	‡72.2	79.1	66.1	72.6	94	59	66	‡67	82	‡84	.657	‡.669	3.90	1.10	2.7	‡3.7	4.0
July	29.98	30.29	29.68	76.6	77.0	83.0	71.0	77.0	92	63	72	72	86	86	.787	.794	9.06	3.85	3.5	3.5	3.9
August	§30.00	§30.18	§29.67	§76.8	§77.8	83.2	72.6	77.9	93	68	§71	§72	§84	§83	§.770	§.785	1.33	1.00	§3.7	§3.7	4.3
September	30.13	30.33	29.86	71.9	72.1	78.1	65.6	71.8	89	50	66	66	83	82	.658	.660	1.61	.90	2.5	1.8	3.6
October	§30.04	§30.43	§29.37	§65.0	§65.2	69.5	59.8	64.6	79	44	§62	§61	§90	§88	§.552	§.552	12.29	5.44	§4.0	§4.1	5.6
November	.....	.....	.....	.....	.....	61.5	52.2	56.8	75	41	.....	.....	.....	.....	.....	.....	2.50	1.50	.....	.....	.....
December	.....	.....	.....	.....	.....	55.1	42.5	48.8	70	26	.....	.....	.....	.....	.....	.....	5.87	1.50	.....	.....	.....
Year	.....	.....	.....	.....	.....	66.8	53.9	60.3	94	16	.....	.....	.....	.....	.....	.....	56.60	5.44	.....	.....	.....

KNOXVILLE, TENN.

[λ=35° 56′ N.; φ=83° 58′ W.; gravity corr., —0.02.]

January	29.12	29.44	28.70	29.7	38.9	45.3	26.4	35.8	68	— 3	23	26	75	59	.139	.156	2.91	1.45	4.5	4.0	5.5
February	29.00	29.54	28.55	40.1	49.0	54.1	37.0	45.6	72	18	35	36	81	63	.214	.234	4.66	1.32	6.4	5.2	6.7
March	29.02	29.43	28.53	47.5	56.3	62.3	43.9	53.1	82	28	43	43	86	64	.299	.295	9.59	1.94	7.1	5.8	7.4
April	29.05	29.46	28.60	51.7	62.4	69.6	47.7	56.6	85	34	43	46	74	60	.288	.334	6.26	1.88	4.4	3.7	4.9
May	29.00	29.32	28.69	57.9	68.0	73.8	52.7	63.2	87	41	50	49	76	53	.370	.353	6.11	2.97	4.5	4.0	4.6
June	28.99	29.13	28.85	69.2	78.2	85.7	64.4	75.0	94	52	62	62	78	59	.559	.565	3.18	1.12	4.9	3.7	4.9
July	28.99	29.22	28.74	71.4	78.7	86.3	67.2	76.8	96	56	67	68	85	70	.661	.685	3.83	1.98	4.7	5.3	5.5
August	29.00	29.14	28.76	68.8	77.0	84.5	64.8	74.6	94	58	65	67	88	74	.616	.674	5.23	1.38	4.8	3.9	4.3
September	29.12	29.34	28.92	62.1	76.6	85.0	58.3	71.6	95	45	56	59	81	56	.466	.514	1.92	1.33	1.7	1.2	1.3
October	29.06	29.38	28.72	52.2	67.0	76.8	49.8	63.3	87	36	48	51	88	59	.346	.391	1.97	1.51	2.6	1.3	2.5
November	29.12	29.47	28.57	41.8	51.4	61.2	38.1	49.6	74	26	36	38	81	61	.220	.244	1.87	.67	4.8	2.6	4.2
December	29.07	29.36	28.57	36.9	43.4	49.5	33.7	41.6	65	18	33	37	87	79	.199	.228	5.42	1.05	7.0	5.1	7.4
Year	29.04	29.54	28.53	52.4	62.2	69.5	48.7	59.1	96	— 3	47	48	82	63	.365	.389	52.95	2.97	4.8	3.8	4.9

LA CROSSE, WIS.

[λ=43° 49′ N.; φ=91° 15′ W.; gravity corr., 0.00.]

January	29.32	29.70	28.52	11.7	.....	21.8	6.1	14.0	57	—23	9	.....	86	.....	.079	.....	1.66	0.55	6.6	.....	7.6
February	29.26	29.73	28.77	19.2	.....	29.1	14.8	22.0	40	—13	15	.....	82	.....	.094	.....	1.39	.85	7.7	.....	6.9
March	29.27	29.77	28.63	23.8	.....	36.3	18.2	27.2	65	0	18	.....	78	.....	.108	.....	1.61	.85	5.5	.....	6.1
April	29.27	29.68	28.79	42.0	.....	55.5	37.4	46.4	75	22	34	.....	74	.....	.204	.....	1.86	.76	6.0	.....	5.6
May	29.27	29.54	28.98	51.4	.....	68.3	46.5	57.4	87	34	40	.....	67	.....	.263	.....	1.59	.96	2.9	.....	5.0
June	29.19	29.44	28.85	60.4	.....	76.7	56.7	66.7	94	33	53	.....	77	.....	.428	.....	4.75	1.25	5.3	.....	5.2
July	29.20	29.43	28.82	69.2	.....	84.0	65.2	74.6	95	53	63	.....	81	.....	.583	.....	1.50	.52	4.6	.....	4.9
August	29.26	29.61	28.91	59.6	.....	76.2	57.1	66.6	87	46	56	.....	89	.....	.457	.....	3.47	.95	5.1	.....	5.3
September	29.38	29.72	29.12	59.4	.....	78.8	57.2	68.0	92	33	54	.....	85	.....	.447	.....	1.64	.86	4.2	.....	3.9
October	29.30	29.74	28.64	46.8	.....	65.7	44.6	55.2	88	28	42	.....	83	.....	.280	.....	0.30	.20	5.3	.....	4.9
November	29.31	29.72	28.85	27.3	.....	41.4	24.0	32.7	72	— 4	23	.....	82	.....	.134	.....	0.75	.32	6.9	.....	6.2
December	29.30	29.83	28.83	12.9	.....	24.3	9.2	16.8	46	— 9	9	.....	83	.....	.075	.....	0.80	.36	6.8	.....	6.1
Year	29.23	29.83	28.52	40.3	.....	54.8	36.4	45.6	95	—23	35	.....	81	.....	.263	.....	21.32	1.25	5.6	.....	5.6

* For 28 days. † For 29 days 12 hours. ‡ For 29 days. § For 30 days.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

KEY WEST, FLA.

[H=22 ft.; h_t=43 ft.; h_r=34 ft.; h_a=50 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	11.0	NE.	34	NE.	0	12	22	16	6	1	1	1	2	1	9	12	10	6	6	0	0	1	0	0	0	0	0
February	9.5	SE.	48	NW.	1	1	8	7	24	7	1	1	6	1	18	8	2	3	3	0	0	0	0	0	0	3	0
March	10.8	SE.	37	N.	0	6	4	18	28	3	2	0	1	0	22	8	1	2	2	0	0	0	0	0	0	0	0
April	12.2	NE.	36	N.	0	5	16	19	12	2	2	1	2	1	7	15	8	6	6	0	0	0	0	0	0	5	0
May	11.6	E.	34	NE.	0	8	10	24	6	1	4	2	6	1	18	9	4	12	6	0	0	0	0	0	0	4	0
June	5.9	SE.	22	N.	0	1	5	16	25	5	3	2	2	1	7	16	7	8	6	0	0	0	0	0	0	1	0
July	7.3	E.	37	NW.	0	0	4	22	14	2	14	4	2	0	3	21	7	16	12	0	0	0	0	1	0	7	0
August	6.8	SE.	25	NW.	0	3	6	17	22	5	2	3	3	1	8	19	4	15	12	0	0	0	0	2	0	11	0
September	8.5	NE.	29	NE.	0	3	18	13	10	9	2	2	3	0	3	16	11	19	15	0	0	0	0	0	0	7	0
October	9.7	E.	36	NE.	0	12	21	15	9	0	1	0	4	0	15	12	4	15	13	0	0	0	0	0	0	2	0
November	13.0	NE.	36	NW.	0	3	39	14	0	1	0	0	3	0	15	10	5	8	4	0	0	0	0	0	0	0	0
December	10.6	NE.	30	N.	0	8	31	9	6	3	2	0	2	1	12	14	5	7	5	0	0	0	0	0	0	2	0
Year	9.7	NE.	48	NW.	1	62	184	190	162	39	34	16	36	7	137	160	68	117	90	0	0	1	0	3	0	42	0

KITTY HAWK, N. C.

[H=9 ft.; h_t=12 ft.; h_r=2 ft.; h_a=30 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	15.1	* N.	*48	* S.	*3	*14	*7	*5	*4	*1	*6	*10	*12	*0	†11	†5	†13	7	6	1	0	7	†1	†0	†10	0	0
February	14.7	NE.	60	N.	6	5	19	5	6	2	11	5	2	1	10	8	10	10	8	0	0	3	0	0	3	0	0
March	15.9	NE.	40	NE.	1	3	22	1	5	5	12	7	7	0	12	8	11	12	12	0	0	1	0	0	1	1	0
April	15.0	NE.	48	SW.	2	5	17	7	8	9	11	1	2	0	14	10	6	4	4	0	0	1	0	0	0	0	0
May	16.2	NE.	47	NE.	2	6	18	3	5	6	14	6	4	0	13	11	7	10	10	0	0	0	0	0	0	8	0
June	12.9	NE.	48	NE.	2	3	13	10	9	6	11	5	3	0	13	10	7	9	9	0	0	0	0	3	0	9	0
July	9.7	SW.	48	SW.	2	3	9	10	6	13	14	3	4	0	16	8	7	13	13	0	0	0	0	1	0	2	0
August	10.8	SW.	33	SW.	0	0	16	4	10	3	19	6	4	0	15	11	5	5	5	0	0	0	0	1	0	2	0
September	15.0	NE.	48	NE.	1	1	28	4	2	3	11	8	3	0	17	10	3	7	7	0	0	0	0	0	0	2	0
October	18.1	NE.	60	NE.	7	3	35	4	3	3	7	1	3	2	12	7	12	8	8	0	0	2	0	0	0	0	0
November	16.3	.....	....	.....	....	....	....	....	....	....	....	....	....	....	19	7	4	3	3	0	0	0	0	0	0	0	0
December	13.2	.....	....	.....	....	....	....	....	....	....	....	....	....	....	19	4	8	8	8	0	0	0	0	0	2	0	0
Year	14.4	.....	....	.....	....	....	....	....	....	....	....	....	....	....	171	99	93	96	93	1	0	14	1	5	16	24	0

KNOXVILLE, TENN.

[H=1,004 ft.; h_t=10 ft.; h_r=3 ft.; h_a=93 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	6.1	W.	29	S.	0	5	20	3	0	2	9	18	5	0	12	6	13	8	7	1	0	0	5	0	18	0	0
February	6.2	W.	32	SW.	0	6	16	7	1	1	2	22	0	1	6	7	15	9	9	0	0	0	0	0	5	1	0
March	6.9	W.	36	W.	0	12	17	1	0	0	13	16	3	0	5	6	20	16	15	0	0	0	0	0	2	6	0
April	5.9	W.	31	SW.	0	7	20	5	2	2	2	13	7	2	12	7	11	13	11	0	0	0	0	0	0	3	0
May	5.3	W.	24	W.	0	14	16	3	1	1	8	13	6	0	15	5	11	14	12	0	1	0	0	0	0	3	0
June	4.5	NE.	28	W.	0	11	15	2	1	1	9	17	3	1	11	13	6	14	11	0	0	0	0	8	0	12	0
July	4.9	SW.	34	NW.	0	4	13	2	3	4	12	15	8	1	9	13	9	13	11	0	0	4	0	7	0	10	0
August	4.8	SW.	50	SW.	3	8	12	0	2	10	20	6	3	1	17	7	7	14	11	0	0	5	0	7	0	11	0
September	5.4	NE.	35	SW.	0	15	18	4	1	1	7	8	5	1	26	1	3	2	2	0	0	0	0	6	0	2	0
October	4.9	NE.	32	E.	0	14	22	1	1	5	8	2	6	3	23	3	5	8	4	0	0	4	0	0	0	1	0
November	8.1	SW.	44	W.	1	12	8	2	1	7	25	1	1	3	15	8	7	9	8	0	0	1	0	0	7	0	0
December	7.5	SW.	48	W.	1	8	17	0	3	4	22	4	4	0	5	6	20	17	16	1	0	1	0	0	13	0	0
Year	5.9	NE.	50	SW.	5	116	194	30	16	38	137	135	51	13	156	82	127	137	117	2	1	16	5	28	45	49	0

LA CROSSE, WIS.

[H=720 ft.; h_t=70 ft.; h_r=61 ft.; h_a=78 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	7.6	W.	32	NW.	0	2	1	0	2	5	5	11	5	0	4	9	18	13	8	10	0	0	24	0	30	0	0
February	6.8	W.	30	SW.	0	3	2	2	3	4	1	6	2	5	7	4	17	8	6	8	0	1	16	0	28	0	0
March	7.4	N.	30	NE.	0	11	2	1	2	3	3	3	6	0	9	8	14	15	7	9	0	1	8	0	25	2	0
April	9.2	N.	36	NW.	0	8	5	0	3	7	4	2	1	0	11	10	9	9	7	1	0	0	0	0	6	0	0
May	7.8	S.	39	W.	0	7	1	0	4	9	1	5	3	1	11	10	10	6	6	0	0	1	0	0	0	2	0
June	6.3	S.	30	NE.	0	5	1	1	6	8	1	2	4	2	12	10	8	12	12	0	1	1	0	3	0	10	0
July	6.2	S.	34	NW.	0	2	0	0	8	12	3	1	5	0	14	8	9	10	8	0	1	1	0	5	0	3	0
August	5.4	S.	36	S.	0	4	1	0	6	10	4	1	4	1	12	12	7	13	10	0	0	5	0	0	0	4	0
September	6.4	S.	24	NW.	0	3	1	1	8	9	1	0	7	0	18	6	6	5	4	0	0	1	0	2	0	1	0
October	6.9	S.	29	NW.	0	7	0	0	1	14	5	2	2	0	12	13	6	3	2	0	0	0	0	0	3	0	0
November	7.7	N.	36	NW.	0	9	1	0	7	5	3	0	5	0	8	9	13	6	4	4	0	1	6	0	22	0	0
December	6.9	NW.	30	W.	0	5	0	0	5	6	3	5	7	0	7	13	11	12	5	11	0	0	22	0	31	0	0
Year	7.1	S.	39	W.	0	66	15	5	55	92	34	38	51	9	125	112	128	112	79	43	2	12	76	10	145	22	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station. * For 30 days. † For 29 days.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

LANDER, WYO.

[λ = 42° 50′ N.; φ = 108° 45′ W.; gravity corr., —0.01.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	24.66	24.89	24.19	6.5	18.7	27.7	2.2	15.0	55	—15	2	11	83	70	.049	.070	0.23	0.08	3.9	5.0	4.8
February	24.48	24.96	24.05	14.3	29.4	36.0	9.9	23.0	51	— 4	8	16	74	58	.061	.092	1.11	.52	4.1	6.6	5.5
March	24.44	24.76	24.10	19.2	35.6	40.6	16.5	28.6	61	— 8	11	12	68	42	.072	.083	1.38	.80	5.3	6.3	5.9
April	24.64	24.92	24.34	31.5	52.4	56.0	29.8	42.9	76	13	24	22	71	37	.124	.119	1.14	.42	5.2	4.8	5.2
May	24.68	25.10	24.32	45.5	67.9	72.6	42.5	57.6	82	29	35	31	68	28	.211	.185	1.25	.45	3.6	6.3	5.5
June	24.61	24.83	24.23	50.3	70.3	74.4	46.1	60.2	88	35	38	32	66	29	.237	.189	.85	.36	4.3	5.9	5.1
July	24.70	24.94	24.32	52.9	75.9	80.9	49.0	65.0	91	41	40	34	63	24	.249	.200	1.21	.64	3.9	5.8	4.7
August	24.77	24.98	24.53	51.2	75.1	81.0	48.8	64.9	90	42	39	38	64	30	.241	.248	1.04	.51	2.3	5.4	4.1
September	24.75	25.02	24.44	44.7	69.4	74.5	41.9	58.2	86	31	34	34	66	30	.197	.209	.15	.11	2.0	3.3	3.7
October	24.69	25.06	24.28	36.1	48.0	58.3	31.9	45.0	75	14	26	29	66	50	.137	.160	1.12	.58	4.7	5.7	5.1
November	24.62	24.90	24.32	27.4	36.5	47.6	21.5	34.6	70	5	20	21	75	56	.107	.115	.44	.26	5.3	5.5	5.8
December	24.66	25.20	24.02	10.8	17.6	28.9	2.9	15.9	48	—21	7	11	84	76	.067	.075	1.29	.77	3.7	3.5	4.3
Year	24.64	25.20	24.02	32.5	49.7	56.5	28.6	42.6	91	—21	24	24	71	44	.146	.145	11.21	.80	4.0	5.3	5.0

LEXINGTON, KY.

[λ = 38° 2′ N.; φ = 84° 33′ W.; gravity corr., —0.02.]

January	29.07	29.46	28.66	25.4	31.5	37.6	22.3	30.0	67	— 6	20	21	80	64	.126	.129	2.59	0.91	6.8	5.2	6.9
February	28.97	29.55	28.50	34.0	38.9	44.6	30.2	37.4	66	10	29	30	80	71	.166	.172	6.33	1.32	8.0	7.2	7.4
March	28.98	29.39	28.39	42.8	49.9	56.4	38.7	47.6	76	22	35	37	75	64	.220	.246	6.55	1.29	7.3	6.4	7.3
April	29.01	29.54	28.61	48.9	55.5	62.0	44.4	53.2	82	26	39	40	70	58	.254	.258	5.80	1.22	7.2	5.6	6.3
May	28.98	29.32	28.67	57.0	62.0	68.5	50.3	59.4	87	33	47	48	71	64	.338	.352	4.48	1.28	5.0	5.5	5.3
June	28.95	29.08	28.79	68.8	74.8	82.0	62.1	72.0	93	50	58	59	71	59	.509	.516	4.77	2.32	6.4	5.9	5.9
July	28.94	29.16	28.75	73.3	76.6	84.9	66.5	75.7	95	54	66	66	80	71	.652	.647	4.34	2.29	5.9	6.0	6.0
August	28.97	29.14	28.74	70.4	74.5	83.9	63.6	73.8	96	55	62	62	76	65	.568	.569	3.21	.89	3.9	4.5	4.6
September	29.11	29.29	28.91	66.2	75.8	85.2	59.7	72.4	96	40	52	48	60	39	.410	.365	.80	.42	1.5	1.2	1.8
October	29.04	29.35	28.61	55.5	66.1	75.7	52.1	63.9	88	36	43	43	65	46	.292	.294	.38	.17	2.7	2.0	2.4
November	29.06	29.50	28.54	43.1	46.8	55.8	37.0	46.4	71	17	34	34	72	62	.214	.210	4.83	1.54	5.6	5.5	6.1
December	29.02	29.39	28.54	34.7	37.4	43.5	30.1	36.8	67	8	29	30	80	74	.172	.175	5.11	1.34	8.7	8.3	8.0
Year	29.01	29.55	28.39	51.7	57.5	65.0	46.4	55.7	96	— 6	43	43	73	61	.327	.328	49.19	2.32	5.8	5.3	5.7

LINCOLN, NEBR.

[λ = 40° 49′ N.; φ = 96° 45′ W.; gravity corr., —0.01.]

January	28.84	29.33	28.11	19.4	24.9	30.4	14.7	22.6	51	—10	16	19	87	78	.103	.115	0.65	0.37	5.1	4.3	5.1
February	28.72	29.43	28.23	21.8	29.6	35.4	18.6	27.0	61	— 9	20	23	92	75	.112	.126	.90	.38	6.6	5.9	6.4
March	28.68	29.08	28.08	29.8	38.9	45.3	25.9	35.6	69	— 5	27	31	88	73	.159	.189	1.48	.63	6.5	5.6	6.0
April	28.71	29.20	28.23	44.5	53.9	59.6	40.5	50.0	80	30	41	45	87	73	.267	.304	6.15	2.13	4.7	5.4	5.2
May	28.76	28.98	28.44	54.0	67.5	73.2	48.5	60.8	88	34	48	54	80	64	.343	.429	2.22	.82	3.9	4.0	4.6
June	28.62	28.90	28.27	65.2	78.5	82.9	61.1	72.0	101	44	58	60	77	55	.496	.531	2.17	.53	4.9	4.5	5.0
July	28.65	28.92	28.17	71.2	85.6	90.5	66.0	78.2	100	53	63	66	77	53	.582	.639	2.54	1.78	3.2	3.3	3.8
August	28.74	29.03	28.48	63.5	77.7	82.9	60.5	71.7	96	48	59	63	85	61	.506	.579	2.69	1.32	3.8	3.5	4.1
September	28.81	29.23	28.53	63.2	80.0	88.0	61.7	74.8	100	44	54	58	72	49	.430	.486	1.71	1.01	2.3	1.8	2.8
October	28.75	29.13	28.33	49.9	61.9	70.8	47.0	58.9	91	33	42	45	77	58	.278	.307	2.77	.85	3.9	2.8	3.8
November	28.80	29.36	28.30	29.5	39.6	47.7	26.7	37.2	73	0	23	28	76	65	.133	.164	.29	.18	4.5	3.3	4.9
December	28.82	29.33	28.25	18.7	23.7	29.9	15.4	22.6	53	—18	15	15	83	68	.094	.088	2.10	.66	5.6	5.2	5.8
Year	28.74	29.43	28.08	44.2	55.2	61.4	40.6	50.9	101	—18	39	42	82	64	.292	.330	25.67	2.13	4.6	4.1	4.8

LITTLE ROCK, ARK.

[λ = 34° 45′ N.; φ = 92° 6′ W.; gravity corr., — 0.03.]

January	29.88	30.25	29.40	34.8	42.8	48.0	31.7	39.8	70	12	28	29	76	59	.179	.185	8.51	4.74	4.7	4.8	5.9
February	29.73	30.44	29.30	40.8	51.2	55.0	38.7	46.8	78	21	34	36	78	59	.210	.227	1.76	.59	6.2	5.5	6.7
March	29.67	30.05	29.21	50.3	60.4	65.2	47.9	56.6	83	33	43	46	77	64	.305	.347	10.43	2.43	5.7	6.0	5.9
April	29.74	30.14	29.38	54.9	65.8	71.0	52.6	61.8	83	42	47	47	77	54	.340	.339	5.88	1.23	5.1	4.7	5.3
May	29.74	30.03	29.53	61.7	74.3	78.8	59.0	68.9	90	49	53	53	75	50	.415	.415	1.15	.52	4.1	3.7	4.4
June	29.66	29.80	29.45	72.8	83.4	89.0	68.8	78.9	100	56	66	65	78	56	.642	.628	3.06	1.20	3.9	3.0	4.6
July	29.67	29.82	29.48	77.2	87.5	93.8	73.9	83.8	100	63	69	66	77	51	.719	.656	1.03	.53	2.2	3.9	4.4
August	29.70	29.86	29.56	72.2	83.1	91.0	69.7	80.4	102	63	65	65	80	59	.630	.624	4.14	2.18	2.1	3.8	3.5
September	29.81	30.00	29.61	67.7	82.7	90.0	65.8	77.9	97	48	59	58	73	45	.523	.504	.33	.33	1.3	1.7	2.6
October	29.74	29.99	29.34	58.1	74.6	82.1	56.5	69.3	93	42	52	52	81	48	.394	.399	1.95	1.14	2.7	1.4	2.8
November	29.85	30.35	29.43	45.0	56.2	62.8	41.9	52.4	80	24	40	40	82	57	.272	.277	2.97	1.12	3.6	2.8	4.6
December	29.82	30.18	29.17	35.6	42.6	48.6	32.1	40.4	71	20	33	34	90	75	.201	.208	5.57	1.71	5.7	5.1	7.1
Year	29.75	30.44	29.17	55.9	67.0	72.9	53.2	63.1	102	12	49	49	79	56	.402	.401	46.78	4.74	3.9	3.9	4.8

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

LANDER, WYO.

[H = 5,372 ft.; h_t = 28 ft.; h_r = 17 ft.; h_a = 36 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction.a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	2.8	SW.	24	NE.	0	1	17	4	3	13	19	2	2	1	11	12	8	5	3	5	0	0	22	0	31	0	0
February	4.0	SW.	42	W.	1	2	7	2	5	7	19	8	6	0	7	15	6	10	7	10	0	0	8	0	28	0	0
March	5.9	SW.	28	W.	0	7	6	1	6	10	14	9	8	1	6	16	7	6	4	6	0	0	6	0	30	0	0
April	4.8	S.	40	S.	1	3	7	5	10	10	9	6	10	0	9	13	8	9	6	6	0	0	0	0	18	0	0
May	5.3	SW.	36	SW.	0	4	10	2	11	6	14	3	12	0	5	21	5	9	6	0	1	0	0	0	2	3	0
June	5.8	SW.	40	SW.	1	2	12	2	3	7	15	6	13	0	11	12	7	5	4	0	1	0	0	0	0	3	0
July	5.6	SW.	37	SW.	0	2	11	5	8	2	17	10	7	0	13	13	5	6	5	0	1	0	0	1	0	3	0
August	4.4	SW.	34	W.	0	2	10	6	6	5	23	5	5	0	16	9	6	7	6	0	1	0	0	0	0	8	0
September	5.2	S.	34	SW.	0	6	8	2	5	17	17	0	5	0	17	8	5	2	2	0	0	0	0	0	1	1	0
October	4.4	SW.	40	SW.	1	0	6	4	10	8	24	6	4	0	11	10	10	7	5	5	0	0	0	0	16	0	0
November	4.4	SW.	30	SW.	0	1	14	3	7	9	21	4	1	0	7	13	10	4	2	4	0	0	1	0	26	0	0
December	3.6	SW.	32	SW.	0	0	7	4	9	8	23	4	7	0	13	13	5	5	4	5	0	0	16	0	31	0	0
Year	4.7	SW.	42	W.	4	30	115	40	83	102	215	63	80	2	126	157	82	75	54	41	4	0	53	1	183	18	0

LEXINGTON, KY.

[H = 989 ft.; h_t = 75 ft.; h_r = 2 ft.; h_a = 104 ft.]

January	14.0	NW.	48	NW.	4	1	4	2	6	7	16	4	22	0	7	7	17	12	6	7	0	1	8	0	23	0	0
February	12.0	NE.	42	NW.	1	2	19	1	2	6	8	1	17	0	6	4	18	14	12	2	1	0	1	0	17	4	0
March	15.5	SW.	50	SW.	4	1	14	4	3	6	19	3	12	0	3	13	15	18	14	0	0	0	0	0	8	2	0
April	13.1	SW.	44	SW.	1	1	14	5	7	5	15	4	9	0	7	9	14	16	13	0	0	1	0	0	2	1	0
May	10.2	NW.	38	S.	0	3	11	3	3	10	9	4	19	0	13	7	11	13	11	0	0	0	0	0	0	2	0
June	9.5	SW.	48	SW.	1	4	7	9	4	8	18	6	4	0	7	16	7	12	7	0	0	0	0	4	0	5	1
July	8.8	SW.	40	S.	1	1	2	2	2	11	26	7	8	3	7	14	10	14	10	0	0	0	0	8	0	8	0
August	7.5	SW.	46	NE.	2	5	5	5	3	7	23	3	9	2	10	18	3	8	6	0	0	0	0	5	0	4	0
September	6.9	E.	24	SW.	0	4	12	15	10	7	8	0	4	0	25	4	1	3	2	0	0	0	0	11	0	1	0
October	8.9	SW.	30	SW.	0	7	10	10	3	10	12	4	6	0	23	3	5	6	4	0	0	0	0	0	0	0	0
November	13.3	S.	50	W.	1	2	6	6	4	18	9	8	7	0	10	6	14	12	11	0	0	0	0	0	7	1	0
December	12.4	SW.	40	SW.	1	4	4	9	3	9	16	14	3	0	3	6	22	14	9	5	0	0	4	0	18	1	0
Year	11.0	SW.	50	SW.	16	35	108	71	50	104	179	58	120	5	121	107	137	142	105	14	1	2	13	28	75	29	1

LINCOLN, NEBR.

[H = 1,199 ft.; h_t = 74 ft.; h_r = 4 ft.; h_a = 84 ft.]

January	11.9	NW.	46	NW.	2	16	3	1	8	7	8	0	19	0	15	5	11	7	4	5	0	0	14	0	30	0	0
February	9.4	NE.	38	NW.	0	8	13	3	8	11	5	2	6	0	5	15	8	8	3	7	0	2	9	0	28	0	0
March	12.8	SE.	44	SE.	2	12	13	5	21	1	2	1	7	0	6	14	11	10	5	5	0	1	5	0	23	1	0
April	14.7	NW.	50	N.	4	8	10	4	11	8	2	5	12	0	9	11	10	13	13	0	2	0	0	0	1	3	0
May	10.2	SE.	38	NW.	0	8	10	3	14	12	4	7	4	0	10	19	2	11	8	0	0	0	0	0	0	3	0
June	10.8	NE.	55	SW.	1	5	18	2	15	9	7	2	2	0	3	25	2	11	10	0	0	0	0	7	0	3	0
July	10.6	SE.	42	S.	1	11	4	3	20	13	2	4	5	0	15	16	0	6	4	0	0	1	0	16	0	0	0
August	8.6	NE.	48	NW.	1	5	17	4	15	6	8	2	4	1	16	10	5	7	6	0	1	0	0	6	0	5	0
September	9.9	S.	34	N.	0	4	5	2	18	26	4	0	1	0	20	9	1	4	4	0	0	0	0	14	0	2	0
October	11.2	SE.	38	N.	0	10	8	1	17	9	8	2	6	1	17	7	7	7	5	0	0	0	0	1	0	0	0
November	11.1	N.	40	NE.	1	14	10	2	5	13	5	5	6	0	11	11	8	4	2	1	0	0	5	0	18	0	0
December	10.4	NW.	40	NW.	1	9	10	2	5	11	5	8	12	0	8	12	11	8	8	8	0	1	15	0	30	0	0
Year	11.0	SE.	55	SW.	13	110	121	32	157	126	60	38	84	2	135	154	76	96	72	26	3	5	48	44	130	17	0

LITTLE ROCK, ARK.

[H = 302 ft.; h_t = 71 ft.; h_r = 62 ft.; h_a = 79 ft.]

January	8.1	N.	32	SE.	0	11	7	3	4	7	11	9	7	3	13	2	16	9	8	1	0	0	5	0	14	1	0
February	8.1	E.	28	SW.	0	8	6	14	2	8	4	4	9	1	7	7	14	8	7	0	0	1	0	0	4	0	0
March	9.3	S.	30	SW.	0	6	8	12	7	11	10	4	3	1	10	5	16	18	16	0	3	3	0	0	0	9	0
April	8.2	NW.	30	NW.	0	8	1	11	6	10	8	4	11	1	9	10	11	13	11	0	1	1	0	0	0	9	0
May	5.5	N.	23	NW.	0	16	8	7	0	6	9	4	9	3	17	6	8	8	3	0	0	0	0	0	0	2	0
June	6.2	SW.	46	NW.	2	13	0	4	4	15	17	2	3	2	10	17	3	8	7	0	1	0	0	16	0	7	0
July	6.6	S.	27	NW.	0	1	8	2	6	20	15	0	8	2	18	7	6	6	4	0	0	0	0	24	0	6	0
August	4.6	NE.	31	NW.	0	9	9	3	3	6	14	7	9	2	17	9	5	7	6	0	0	0	0	17	0	8	0
September	5.5	NE.	38	NW.	0	4	14	6	10	4	6	5	8	3	20	8	2	1	1	0	0	0	0	16	0	1	0
October	4.9	NE.	30	NW.	0	4	9	7	10	2	3	15	7	5	20	8	3	5	4	0	0	1	0	5	0	1	0
November	8.1	S.	27	W.	0	9	4	1	11	14	5	6	8	2	15	7	8	6	6	0	0	0	0	0	5	1	0
December	b 7.9	W.	36	NW.	0	6	7	4	5	6	13	14	6	1	6	9	16	12	11	2	0	0	3	0	20	1	0
Year	6.9	SW.	46	NW.	2	95	81	74	68	109	115	74	88	26	162	95	108	101	84	3	5	6	8	78	43	46	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

b For 729 hours.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

LOS ANGELES, CAL.

[λ = 34° 3′ N.; φ = 118° 15′ W.; gravity corr., —0.03.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean					Extremes.		Dew point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	29.70	29.95	29.23	49.5	58.2	65.1	46.1	55.6	79	37	39	46	71	66	.250	.314	3.70	1.57	3.4	3.7	4.2
February	29.70	29.90	29.33	47.0	57.5	62.0	44.1	53.0	83	35	40	47	80	69	.256	.322	5.62	2.13	2.9	3.8	4.2
March	29.68	29.93	29.52	46.3	56.5	62.2	43.8	53.0	78	38	41	44	82	66	.259	.297	2.31	.81	4.7	3.7	4.3
April	29.66	29.80	29.47	52.0	65.2	73.0	49.3	61.2	90	40	46	51	83	63	.315	.380	.02	.02	1.5	2.0	3.1
May	29.60	29.75	29.44	55.6	63.9	70.8	54.3	62.6	76	48	54	54	93	72	.413	.423	.10	.06	7.7	2.5	5.5
June	29.56	29.70	29.43	56.9	69.1	76.0	55.4	65.7	88	50	54	56	90	64	.418	.450	T.	T.	5.9	.6	3.9
July	29.58	29.73	29.48	60.9	72.4	79.9	59.1	69.5	86	52	58	59	92	64	.490	.504	T.	T.	4.4	.1	3.5
August	29.56	29.65	29.42	63.0	73.8	83.0	60.6	71.8	96	54	58	60	84	63	.483	.517	.00	.00	4.5	.6	2.8
September	29.59	29.71	29.39	61.7	71.7	81.5	59.1	70.3	97	52	57	60	86	67	.468	.516	.00	.00	4.5	1.5	3.5
October	29.63	29.77	29.47	55.6	64.4	72.1	52.0	62.0	83	45	48	53	77	69	.344	.410	2.47	1.75	3.5	2.5	3.6
November	29.70	29.83	29.55	53.0	62.3	74.5	48.6	61.6	92	37	37	48	59	62	.231	.340	.01	.01	1.8	1.4	1.9
December	29.77	30.00	29.37	47.9	58.7	69.0	42.4	55.7	89	30	29	40	52	54	.164	.252	.05	.03	1.4	1.5	2.1
Year	29.64	30.00	29.23	54.1	64.5	72.4	51.2	61.8	97	30	47	52	79	65	.341	.394	14.28	2.13	3.8	2.0	3.6

LOUISVILLE, KY.

[λ = 38° 15′ N.; φ = 85° 45′ W.; gravity corr., —0.02.]

January	29.60	30.03	29.07	27.5	33.9	39.7	24.3	32.0	69	—4	21	22	76	61	.134	.138	3.29	1.15	5.8	4.8	6.3
February	29.49	30.12	29.03	34.4	41.1	45.9	31.4	38.6	67	10	28	31	79	68	.161	.185	4.04	1.51	6.6	6.1	7.2
March	29.47	29.97	28.83	43.2	52.1	57.9	39.8	48.8	77	27	36	39	76	62	.232	.261	7.95	1.52	6.6	6.0	6.8
April	29.51	30.09	29.17	50.1	58.1	65.0	45.7	55.4	88	28	40	41	70	56	.262	.275	3.83	1.19	6.8	5.9	6.0
May	29.48	29.83	29.20	55.6	65.4	71.9	51.3	61.6	90	37	46	47	72	55	.326	.337	3.30	.92	4.8	4.7	5.2
June	29.44	29.59	29.27	67.4	78.4	84.7	63.8	74.2	96	51	59	60	74	55	.512	.545	3.50	.90	7.2	5.0	5.4
July	29.42	29.63	29.23	73.5	82.2	89.5	69.3	79.4	100	58	66	66	78	59	.650	.651	5.21	1.65	3.9	4.3	5.1
August	29.44	29.64	29.24	68.7	79.5	87.6	65.9	76.8	101	58	61	61	77	54	.550	.540	1.35	.62	4.4	4.6	4.5
September	29.60	29.81	29.39	62.4	79.8	88.5	60.5	74.5	100	42	53	51	72	38	.422	.394	.75	.75	1.3	1.1	1.6
October	29.53	29.81	29.04	54.0	68.4	77.0	52.7	64.8	91	38	46	46	75	47	.319	.322	1.83	1.59	3.2	1.5	2.5
November	29.56	30.07	28.96	43.3	49.8	56.9	39.3	48.1	72	20	36	36	75	62	.227	.231	5.86	1.46	5.8	5.2	6.0
December	29.54	29.96	29.03	34.9	38.2	44.0	31.8	37.9	70	13	29	30	78	72	.168	.177	3.05	.78	7.8	8.4	8.3
Year	29.51	30.12	28.83	51.2	60.6	67.4	48.0	57.7	101	—4	43	44	75	57	.330	.338	43.96	1.65	5.4	4.8	5.4

LYNCHBURG, VA.

[λ = 37° 25′ N.; φ = 79° 9′ W.; gravity corr., —0.02.]

January	29.44	29.96	29.08	28.5	35.0	41.8	25.3	33.6	63	8	22	26	74	71	.126	.151	2.19	1.05	5.5	3.9	5.0
February	29.34	29.91	28.74	36.0	43.2	49.4	31.7	40.6	71	14	30	32	78	66	.170	.186	7.84	2.53	6.1	4.4	5.7
March	29.38	29.91	28.77	44.3	52.4	59.5	40.6	50.0	79	30	37	40	78	64	.238	.267	3.46	.82	6.6	5.2	6.3
April	29.41	29.92	28.93	49.8	59.0	67.9	43.4	55.6	88	30	40	41	70	54	.255	.266	2.08	.80	4.6	3.7	4.4
May	29.28	29.61	28.80	59.5	65.9	73.7	52.3	63.0	86	40	50	51	71	59	.372	.381	4.27	1.49	4.0	4.1	5.4
June	29.27	29.54	29.05	69.9	74.4	83.3	62.9	73.1	96	49	60	61	73	66	.538	.553	2.70	1.40	5.8	4.7	5.2
July	29.27	29.57	28.97	73.6	77.8	86.0	67.1	76.6	94	61	66	66	77	69	.640	.648	6.75	2.73	4.8	4.8	5.4
August	29.30	29.50	29.01	70.4	77.0	86.2	64.3	75.2	94	57	62	62	76	62	.559	.570	.94	.55	4.2	4.4	4.6
September	29.45	29.70	29.17	62.7	72.6	84.3	57.0	70.6	99	40	54	56	75	57	.436	.458	1.12	.93	2.3	1.6	2.1
October	29.40	29.79	29.01	53.1	60.1	71.8	49.0	60.2	92	36	48	50	84	73	.344	.381	3.12	1.26	4.2	3.8	4.8
November	29.42	29.83	28.80	42.9	49.7	59.6	37.5	48.6	77	23	35	36	76	60	.219	.226	2.24	1.00	4.2	3.2	4.7
December	29.39	29.74	28.85	35.8	41.8	49.1	32.2	40.6	71	16	31	32	82	70	.178	.192	3.37	.76	5.7	4.4	5.5
Year	29.36	29.96	28.74	52.2	59.1	67.7	46.9	57.3	99	8	45	46	76	64	.340	.357	40.08	2.73	4.8	4.0	4.9

MARQUETTE, MICH.

[λ = 46° 34′ N.; φ = 87° 24′ W.; gravity corr., 0.00.]

January	29.17	29.62	28.36	16.9	17.9	24.9	11.4	18.2	47	—15	14	13	89	81	.096	.088	2.98	0.86	7.6	6.4	7.7
February	29.20	29.74	28.57	17.5	21.5	26.8	15.0	20.9	36	—10	15	18	90	83	.093	.103	1.66	.47	8.2	7.1	8.3
March	29.22	29.85	28.44	21.2	26.0	31.3	17.3	24.3	49	— 2	18	21	87	82	.109	.119	4.29	1.48	7.0	5.4	7.4
April	29.22	29.75	28.66	36.5	38.3	45.9	29.6	37.8	73	9	30	30	76	74	.171	.167	2.06	.44	6.5	5.3	6.5
May	29.17	29.52	28.57	46.7	48.4	55.1	40.0	47.6	78	32	37	38	71	70	.226	.235	1.89	.56	7.0	6.6	6.7
June	29.14	29.40	28.72	53.8	55.8	62.6	46.5	54.6	81	31	46	46	76	73	.320	.328	3.64	1.58	5.3	6.4	6.4
July	29.11	29.40	28.75	67.6	69.7	77.3	60.9	69.1	97	51	60	61	79	75	.528	.540	3.04	.84	5.8	4.3	5.5
August	29.16	29.55	28.77	60.8	62.2	70.6	54.6	62.6	86	40	54	54	78	77	.421	.432	2.83	1.31	4.6	4.7	5.5
September	29.30	29.60	28.89	58.2	62.9	73.0	53.7	63.4	94	39	52	56	82	78	.411	.461	1.97	.57	4.7	2.9	4.0
October	29.22	29.69	28.51	46.2	49.9	56.5	43.3	49.9	82	30	43	44	88	81	.287	.298	2.68	.80	7.4	5.9	7.1
November	29.20	29.69	28.60	28.7	29.6	34.9	25.2	30.0	49	3	25	26	85	86	.145	.149	1.22	.43	7.5	7.2	7.8
December	29.16	29.71	28.54	19.1	21.0	26.1	14.9	20.5	48	— 5	16	18	88	89	.098	.104	1.77	.42	8.5	8.4	8.4
Year	29.19	29.85	28.44	39.4	41.9	48.8	34.4	41.6	97	—15	34	35	82	79	.242	.252	30.03	1.58	6.7	5.9	6.8

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

LOS ANGELES, CAL.

[H = 330 ft.; h_t = 74 ft.; h_r = 66 ft.; h_a = 82 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	4.6	NE.	34	E.	0	3	22	7	3	3	9	12	3	0	13	13	5	9	6	0	0	1	0	0	0	2	0
February	5.2	W.	24	SW.	0	7	13	5	1	2	4	16	7	1	11	11	6	9	9	0	0	2	0	0	0	0	0
March	5.3	SW.	22	NW.	0	5	16	4	2	1	16	13	5	0	11	13	7	7	6	0	0	0	0	0	0	0	0
April	4.6	W.	24	W.	0	4	11	5	3	3	2	27	3	2	16	12	2	1	0	0	0	9	0	0	0	1	0
May	4.2	W.	20	N.	0	3	4	3	8	8	14	17	4	1	2	22	7	3	1	0	0	5	0	0	0	0	0
June	4.7	SW.	20	SW.	0	1	8	8	6	1	17	14	1	4	10	20	0	0	0	0	0	3	0	0	0	0	0
July	4.4	W.	15	W.	0	1	3	4	7	2	16	23	3	3	6	25	0	0	0	0	0	12	0	0	0	0	0
August	4.3	W.	15	W.	0	3	6	4	2	3	7	30	7	0	12	19	0	0	0	0	0	3	0	5	0	1	0
September	4.2	W.	15	S.	0	4	10	5	3	0	7	26	5	0	10	20	0	0	0	0	0	3	0	5	0	0	0
October	3.9	W.	20	NW.	0	11	9	3	1	2	8	24	4	0	15	11	5	3	3	0	0	2	0	0	0	0	0
November	3.7	W.	16	W.	0	8	20	2	0	0	1	23	6	0	19	10	1	1	0	0	0	0	0	1	0	0	0
December	3.9	W.	24	NW.	0	12	16	1	1	0	5	19	7	1	20	9	2	2	0	0	0	0	0	0	1	0	0
Year	4.4	W.	34	E.	0	62	138	51	37	25	106	244	55	12	145	185	35	35	25	0	0	40	0	11	1	4	0

LOUISVILLE, KY.

[H = 525 ft.; h_t = 114 ft.; h_r = 106 ft.; h_a = 136 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	10.2	SW.	40	SW.	1	6	3	4	12	6	18	10	3	0	9	8	14	12	6	5	0	5	9	0	22	0	0
February	8.9	N.	30	SW.	0	13	6	5	4	6	6	10	6	0	6	5	17	13	9	4	2	5	2	0	13	3	0
March	10.8	S.	38	SW.	0	7	10	9	6	11	3	13	3	0	8	5	18	16	16	0	0	3	0	0	9	6	0
April	10.2	S.	32	S.	0	13	5	8	5	14	5	5	5	0	9	7	14	13	10	0	0	0	0	0	1	0	0
May	7.4	S.	31	W.	0	6	5	4	9	7	11	10	10	0	11	9	11	12	12	0	1	0	0	0	0	4	0
June	7.4	N.	44	NW.	1	13	6	8	4	9	14	2	4	0	9	12	9	12	9	0	1	0	0	9	0	10	0
July	6.8	SW.	32	N.	0	5	2	4	12	12	9	8	10	0	11	12	8	9	8	0	0	1	0	16	0	8	0
August	6.5	N.	28	NW.	0	16	3	11	11	7	4	4	6	0	12	11	8	6	5	0	0	0	0	7	0	8	0
September	6.1	N.	33	SW.	0	25	1	6	11	6	3	1	3	4	24	4	2	2	1	0	0	0	0	16	0	2	0
October	6.6	N.	28	SW.	0	23	6	0	11	9	3	2	5	3	21	6	4	5	4	0	0	0	0	3	0	1	0
November	9.4	S.	40	SW.	1	6	5	4	8	19	7	5	6	0	11	6	13	11	9	0	0	2	0	0	7	0	0
December	9.3	S.	28	SW.	0	6	6	4	8	11	13	7	7	0	2	6	23	12	9	5	0	1	4	0	16	0	0
Year	8.3	N.	44	NW.	3	139	53	67	101	117	96	77	68	7	133	91	141	123	98	14	4	17	15	51	68	42	0

LYNCHBURG, VA.

[H = 685 ft.; h_t = 83 ft.; h_r = 76 ft.; h_a = 88 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	5.3	NW.	28	NW.	0	3	6	4	12	1	9	10	15	2	12	10	9	11	9	5	0	0	5	0	22	0	0
February	4.6	NW.	22	NW.	0	2	10	5	4	6	4	5	18	2	12	4	12	14	12	2	0	1	0	0	9	3	0
March	5.3	SW.	25	NW.	0	3	8	3	4	10	16	3	11	4	6	12	13	14	13	0	0	1	0	0	3	1	0
April	5.0	NW.	26	NW.	0	2	11	6	11	6	7	5	10	2	14	11	5	10	7	0	0	0	0	0	2	2	0
May	4.5	NW.	24	NW.	0	5	3	5	4	10	11	7	13	4	9	14	8	10	8	0	2	0	0	0	0	5	0
June	3.7	NE.	27	NW.	0	1	16	6	4	9	8	5	9	2	10	12	8	16	12	0	0	0	0	8	0	7	0
July	3.3	NW.	18	W.	0	1	4	6	12	6	4	10	14	5	9	12	10	13	7	0	0	0	0	5	0	5	0
August	3.3	NW.	22	NE.	0	5	3	6	4	8	12	13	9	2	13	10	8	5	4	0	0	0	0	6	0	5	0
September	3.2	E.	20	NW.	0	8	8	11	5	8	4	5	5	6	23	5	2	3	2	0	0	0	0	11	0	1	0
October	3.7	NE.	23	N.	0	9	16	4	1	9	8	0	10	5	15	5	11	9	8	0	0	2	0	1	0	0	0
November	4.6	SW.	34	NW.	0	1	5	2	3	8	18	7	16	0	14	7	9	7	6	0	0	0	0	0	7	0	0
December	4.3	SW.	28	NW.	0	1	10	3	0	7	18	8	15	0	10	11	10	11	10	0	0	1	1	0	14	0	0
Year	4.2	NW.	34	NW.	0	41	100	61	64	88	119	78	145	34	147	113	105	123	98	7	2	5	6	31	57	29	0

MARQUETTE, MICH.

[H = 734 ft.; h_t = 67 ft.; h_r = 58 ft.; h_a = 95 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	11.3	NW.	40	S.	1	4	1	0	5	12	5	19	16	0	5	4	22	17	11	13	0	2	23	0	30	0	0
February	8.5	NW.	40	SE.	1	4	4	7	4	5	4	13	15	0	3	2	23	21	9	21	0	0	15	0	28	0	1
March	9.4	NW.	38	S.	0	14	8	2	8	7	0	7	16	0	3	9	19	13	10	11	0	0	16	0	25	0	2
April	11.5	N.	43	S.	2	13	6	2	2	9	4	6	18	0	6	11	13	14	8	6	0	0	2	0	18	0	1
May	9.9	NW.	34	NW.	0	8	6	2	4	4	5	5	28	0	6	13	12	16	10	2	1	4	0	0	0	0	0
June	7.1	N.	34	S.	0	14	4	1	7	8	3	2	21	0	5	12	13	16	11	1	1	2	0	0	1	4	0
July	7.5	N.	40	SW.	1	15	5	2	6	8	9	4	13	0	8	14	9	13	9	0	0	0	0	8	0	5	1
August	9.2	N.	34	S.	0	14	6	2	3	8	7	6	16	0	11	9	11	11	8	0	0	0	0	0	0	5	0
September	10.5	NW.	36	SW.	0	7	5	2	5	14	9	1	17	0	15	10	5	10	5	0	0	0	0	2	0	3	0
October	10.0	S.	39	SW.	0	6	5	1	7	15	11	5	12	0	5	9	17	16	12	3	0	2	0	0	1	0	0
November	10.9	NW.	38	S.	0	10	2	1	6	3	9	13	16	0	2	11	17	17	6	13	0	0	13	0	21	0	0
December	10.5	NW.	34	S.	0	6	2	0	2	9	11	16	16	0	0	10	21	18	11	18	0	0	22	0	29	0	1
Year	9.7	NW.	43	S.	5	115	54	22	59	102	77	97	204	0	69	114	182	182	110	88	2	10	91	5	153	17	6

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

MEMPHIS, TENN.

[λ=35° 9′ N.; φ=90° 3′ W.; gravity corr., —0.03.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	29.77	30.13	29.35	35.7	42.1	47.5	31.4	39.4	68	10	29	34	75	74	.187	.225	4.63	1.77	4.1	4.4	4.6
February	29.62	30.32	29.23	42.5	49.6	54.2	38.7	46.4	76	20	36	42	80	77	.238	.285	5.17	1.57	6.6	5.1	6.1
March	29.58	29.96	29.10	50.3	59.0	63.8	47.1	55.4	80	34	43	48	78	70	.303	.363	10.04	3.16	5.9	8.0	5.6
April	29.64	30.08	29.31	56.4	64.7	69.4	53.3	61.4	84	42	47	48	72	57	.337	.343	5.46	1.39	5.4	5.8	5.5
May	29.63	29.92	29.43	62.1	73.6	77.4	58.9	68.2	90	48	51	52	68	49	.376	.404	1.97	.70	3.8	3.7	3.8
June	29.58	29.69	29.39	72.9	83.9	88.0	68.3	78.2	95	57	64	65	73	54	.606	.636	2.50	.95	4.4	4.4	4.4
July	29.57	29.71	29.39	76.3	85.9	90.5	73.7	82.1	97	62	68	68	77	57	.697	.693	2.42	.68	3.8	4.6	4.9
August	29.59	29.75	29.44	72.9	83.4	89.2	70.8	80.0	100	62	66	66	80	57	.643	.637	2.64	1.06	3.2	4.5	5.0
September	29.71	29.89	29.54	68.8	82.6	88.4	67.6	78.0	96	49	57	56	67	42	.487	.484	.00	.00	1.8	1.2	3.2
October	29.65	29.89	29.27	60.5	73.7	80.2	59.6	69.9	91	44	50	50	70	46	.378	.377	1.00	.68	2.9	1.3	3.4
November	29.74	30.20	29.24	46.8	55.5	62.5	43.4	53.0	77	26	40	39	77	54	.267	.256	5.00	1.38	4.9	2.8	5.1
December	29.71	30.02	29.08	37.9	43.4	48.5	34.4	41.4	70	22	34	34	84	70	.200	.200	5.80	1.28	6.2	6.4	6.9
Year	29.65	30.32	29.08	56.9	66.4	71.6	53.9	62.8	100	10	49	50	75	59	.393	.409	46.03	3.16	4.4	4.4	4.9

MILES CITY, MONT.

[λ=46° 25′ N.; φ=105° 49′ W.; gravity corr., 0.00.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	27.55	28.16	27.03	10.9	18.4	23.9	5.9	14.9	54	—28	6	13	77	77	.064	.092	0.69	0.47	5.5	3.9	4.7
February	27.38	28.00	26.83	10.3	20.8	25.6	4.7	15.2	43	—20	6	16	81	81	.059	.090	.65	.29	3.9	5.3	5.5
March	27.43	27.83	26.82	8.1	21.7	25.4	5.5	15.4	53	—26	5	15	86	73	.069	.098	3.50	1.10	5.2	6.1	5.6
April	27.49	27.75	27.02	39.1	54.8	57.5	37.7	47.6	88	28	33	31	78	46	.187	.176	1.69	.93	6.5	6.8	5.2
May	27.45	27.91	27.12	51.4	72.8	76.9	50.1	63.5	92	36	40	36	67	28	.256	.223	.35	.14	4.1	4.8	3.5
June	27.36	27.67	26.91	57.4	75.4	79.1	54.8	67.0	101	42	48	44	73	38	.347	.298	1.23	.30	5.2	6.2	5.6
July	27.40	27.72	26.95	61.0	82.3	87.2	57.8	72.5	100	45	48	41	65	27	.342	.268	4.59	.23	3.6	4.9	3.3
August	27.50	27.74	27.18	57.8	81.6	86.8	56.6	71.7	100	47	47	43	68	28	.329	.290	.32	.17	3.1	4.3	3.2
September	27.48	28.03	27.05	52.5	78.0	82.5	50.7	66.6	98	30	41	40	66	28	.259	.251	.12	.12	3.0	3.6	3.4
October	27.49	27.92	27.01	38.2	55.3	61.5	36.4	49.0	88	22	32	34	78	46	.182	.197	.44	.10	4.6	4.3	4.1
November	27.52	27.98	26.92	20.2	27.4	33.4	17.0	25.2	76	—26	17	21	88	79	.110	.138	1.18	.24	5.4	6.4	6.4
December	27.52	28.16	26.94	12.1	22.0	28.9	8.8	18.8	51	—31	9	16	86	79	.084	.113	.26	.16	3.3	4.0	4.8
Year	27.46	28.16	26.82	34.9	50.9	55.7	32.2	44.0	101	—31	28	29	76	52	.191	.186	11.02	1.10	4.4	5.0	4.6

MILWAUKEE, WIS.

[λ=43° 2′ N.; φ=87° 54′ W.; gravity corr., 0.00.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	29.35	29.84	28.58	18.5	22.3	27.9	14.7	21.3	56	—18	12	18	73	81	.101	.118	3.86	1.20	6.5	5.4	6.8
February	29.32	29.80	28.84	24.2	28.3	32.5	22.0	27.2	41	— 7	19	23	79	80	.110	.129	1.78	.40	7.9	7.3	7.8
March	29.30	29.90	28.54	28.2	32.8	37.0	25.5	31.2	55	9	24	29	82	84	.134	.161	4.83	1.56	6.8	6.7	7.3
April	29.32	29.97	28.80	40.6	44.9	50.7	36.7	43.7	76	23	35	39	81	80	.212	.251	4.21	.98	7.1	7.2	7.3
May	29.29	29.62	28.87	50.7	55.3	62.9	44.5	53.7	83	32	41	44	72	67	.268	.295	1.01	.46	5.7	5.7	5.6
June	29.25	29.52	28.98	59.9	63.1	71.5	54.0	62.8	90	40	51	52	74	70	.401	.418	3.21	1.14	6.0	6.1	6.6
July	29.23	29.50	28.99	70.5	75.3	81.0	65.5	73.2	98	55	63	63	76	68	.576	.590	2.33	.77	4.2	4.1	4.7
August	29.28	29.64	28.95	63.4	70.1	75.6	59.5	67.6	86	49	55	57	76	65	.447	.473	3.00	2.11	5.2	5.0	6.4
September	29.44	29.70	29.11	61.8	69.1	76.1	58.5	67.3	95	40	52	55	73	63	.415	.454	1.48	.99	5.0	2.8	4.6
October	29.35	29.77	28.71	51.6	57.7	64.1	48.2	56.2	88	34	44	46	75	68	.295	.328	1.05	.88	5.2	4.4	5.5
November	29.34	29.85	28.74	32.4	37.4	43.4	28.6	36.0	66	2	25	29	74	72	.151	.169	1.87	.66	7.5	6.2	7.5
December	29.33	29.81	28.92	20.3	23.1	29.1	15.7	22.4	54	— 5	15	18	77	78	.101	.108	2.42	.78	6.5	6.1	6.9
Year	29.32	29.97	28.54	43.5	48.3	54.3	39.4	46.9	98	—18	36	39	76	73	.268	.291	31.05	2.11	6.1	5.6	6.4

MINNEAPOLIS, MINN.

[λ=44° 59′ N.; φ=93° 18′ W.; gravity corr., 0.00.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	.....	.....	.....	.....	12.5	18.3	2.9	10.6	48	—26	.....	.....	.....	.....	.....	.....	1.66	0.62	.....	.....	.....
February	.....	.....	.....	.....	21.8	27.2	12.8	20.0	37	—21	.....	.....	.....	.....	.....	.....	1.03	.25	.....	.....	.....
March	.....	.....	.....	.....	27.8	32.6	17.4	24.7	61	—10	.....	.....	.....	.....	.....	.....	3.05	1.11	.....	.....	.....
April	.....	.....	.....	.....	49.5	56.3	36.5	46.4	78	21	.....	.....	.....	.....	.....	.....	1.48	.45	.....	.....	.....
May	.....	.....	.....	.....	62.8	68.2	45.4	56.8	87	31	.....	.....	.....	.....	.....	.....	1.87	.93	.....	.....	.....
June	.....	.....	.....	.....	68.8	73.8	54.9	64.4	96	36	.....	.....	.....	.....	.....	.....	9.00	2.55	.....	.....	.....
July	.....	.....	.....	.....	77.8	83.2	64.6	73.9	95	55	.....	.....	.....	.....	.....	.....	4.27	.88	.....	.....	.....
August	.....	.....	.....	.....	69.9	75.3	57.4	66.4	86	47	.....	.....	.....	.....	.....	.....	1.94	1.04	.....	.....	.....
September	.....	.....	.....	.....	70.8	78.0	57.8	67.9	91	39	.....	.....	.....	.....	.....	.....	1.57	.53	.....	.....	.....
October	.....	.....	.....	.....	54.8	61.8	45.0	53.4	86	31	.....	.....	.....	.....	.....	.....	1.67	.67	.....	.....	.....
November	.....	.....	.....	.....	30.8	37.4	21.6	29.5	70	— 6	.....	.....	.....	.....	.....	.....	.70	.22	.....	.....	.....
December	.....	.....	.....	.....	17.3	22.5	8.0	15.2	46	—13	.....	.....	.....	.....	.....	.....	.13	.07	.....	.....	.....
Year	.....	.....	.....	.....	47.0	52.8	35.4	44.1	96	—26	.....	.....	.....	.....	.....	.....	28.37	1.11	.....	.....	.....

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

MEMPHIS, TENN.

[H = 399 ft.; h_t = 140 ft.; h_r = 134 ft.; h_a = 154 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	12.1	NW.	46	SE.	1	4	12	3	10	7	8	8	9	1	15	6	10	9	7	1	0	2	5	0	14	1	0
February	10.6	NW.	43	E.	1	3	12	8	6	10	5	5	7	0	7	10	11	7	6	1	0	6	0	0	5	2	0
March	13.3	SE.	41	W.	3	5	11	10	12	11	3	5	5	0	11	6	14	20	13	0	1	1	0	0	0	10	0
April	10.9	NW.	40	NW.	1	7	7	5	11	8	9	4	9	0	9	11	10	15	10	0	1	0	0	0	0	5	0
May	8.3	SW.	26	W.	0	7	14	8	2	5	11	6	9	0	17	10	4	8	3	0	0	0	0	0	0	4	0
June	7.9	SW.	46	NW.	2	6	0	10	4	15	10	6	9	0	13	15	2	9	7	0	1	0	0	15	0	8	0
July	7.3	SW.	35	NW.	0	8	4	3	9	12	13	6	7	0	15	8	8	6	6	0	0	0	0	18	0	7	0
August	6.2	NW.	43	NW.	1	12	9	9	2	8	7	8	7	0	15	9	7	7	6	0	2	1	0	12	0	6	0
September	8.0	N.	25	N.	0	19	8	9	6	3	8	4	3	0	20	8	2	0	0	0	0	0	0	16	0	0	0
October	7.7	N.	23	SE.	0	14	9	6	10	7	5	4	7	0	20	7	4	4	3	0	0	1	0	1	0	1	0
November	11.7	S.	49	NW.	1	6	10	3	9	17	4	8	3	0	12	8	10	7	7	0	0	0	0	0	5	3	0
December	10.5	SW.	48	NW.	1	5	11	2	8	9	7	10	9	1	6	10	15	14	11	2	0	2	1	0	11	0	0
Year	9.5	SW.	49	NW.	11	96	107	76	89	112	90	74	84	2	160	108	97	106	79	4	5	13	6	62	35	47	0

MILES CITY, MONT.

[H = 2,372 ft., h_t = 41 ft.; h_r = 34 ft.; h_a = 49 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	5.7	S.	45	NW.	1	4	7	1	5	14	8	5	10	8	16	9	6	8	3	8	0	0	19	0	31	0	1
February	5.6	NW.	37	W.	0	4	12	0	1	5	7	5	13	9	8	13	7	6	4	6	0	0	22	0	28	0	0
March	6.1	NE.	30	N.	0	16	18	2	5	4	7	4	5	1	9	12	10	15	10	15	0	1	17	0	28	0	0
April	8.6	W.	36	NW.	0	6	6	6	5	5	10	15	5	2	9	13	8	8	6	2	1	0	0	0	4	1	2
May	8.0	SE.	48	W.	1	8	7	6	12	6	3	6	8	6	16	9	6	7	3	0	0	0	0	2	0	5	1
June	6.9	W.	32	W.	0	4	6	11	6	7	7	11	5	3	4	19	7	10	8	0	0	0	0	7	0	6	0
July	7.0	NW.	51	W.	2	10	5	3	5	7	7	11	11	3	17	11	3	8	6	0	0	0	0	15	0	6	0
August	6.8	N.	48	N.	2	17	3	6	6	6	2	7	4	11	16	14	1	4	2	0	0	0	0	8	0	3	0
September	6.4	W.	36	W.	0	7	3	6	8	9	9	10	3	5	17	10	3	1	1	0	0	0	0	7	1	0	0
October	6.5	S.	36	SW.	0	5	2	1	10	11	9	10	8	6	14	13	4	8	6	2	0	1	0	0	10	0	0
November	6.0	S.	30	W.	0	12	11	1	3	14	4	9	4	2	3	17	10	15	11	13	0	1	12	0	24	0	0
December	6.6	SW.	36	W.	0	3	2	0	6	15	19	8	4	5	12	11	8	6	3	6	0	0	12	0	29	0	0
Year	6.7	S.	51	W.	6	96	82	43	72	103	92	101	80	61	141	151	73	96	63	52	1	3	82	39	155	21	4

MILWAUKEE, WIS.

[H = 671 ft.; h_t = 106 ft.; h_r = 100 ft.; h_a = 149 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	11.9	NW.	38	W.	0	3	2	1	9	7	5	20	15	0	8	4	19	20	13	15	0	2	17	0	28	0	0
February	11.6	W.	44	E.	2	5	5	5	7	3	9	12	10	0	4	5	19	9	8	9	0	1	8	0	27	0	0
March	11.5	W.	35	SW.	0	13	9	6	11	2	1	15	5	0	6	5	20	15	11	8	0	5	6	0	20	1	0
April	11.6	E.	45	SW.	2	12	4	10	11	5	8	5	5	0	4	8	18	14	11	1	0	1	0	0	5	2	0
May	9.3	W.	35	W.	0	13	5	9	6	3	9	11	6	0	11	6	14	7	6	1	0	0	0	0	0	1	0
June	8.2	E.	36	W.	0	6	7	9	13	4	7	8	6	0	6	8	16	12	10	0	0	0	0	1	0	8	0
July	7.8	E.	29	S.	0	9	9	12	5	5	7	8	7	0	14	8	9	10	7	0	0	0	0	4	0	4	0
August	8.6	NW.	30	SW.	0	8	9	3	9	4	6	8	15	0	7	11	13	11	7	0	0	0	0	0	0	5	0
September	8.4	SE.	34	W.	0	7	6	7	12	12	9	3	4	0	12	9	9	5	3	0	1	1	0	3	0	3	0
October	9.6	SE.	32	SW.	0	6	3	8	11	6	8	9	10	1	7	15	9	4	3	0	0	2	0	0	0	3	0
November	11.2	NW.	36	SW.	0	9	1	2	6	12	5	12	13	0	6	4	20	12	10	3	1	3	5	0	14	1	0
December	11.0	W.	33	W.	0	4	3	3	2	7	6	20	17	0	7	5	19	14	9	13	0	2	16	0	28	0	0
Year	10.1	W.	45	SW.	4	95	63	75	102	70	80	131	113	1	92	88	185	133	98	50	2	17	52	8	122	28	0

MINNEAPOLIS, MINN.

[H = — ft.; h_t = 99 ft.; h_r = 95 ft.; h_a = 208 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	12.1	NW.	40	NW.	2	...	...	...	...	...	...	...	...	...	8	8	15	11	8	10	0	0	25	0	30	0	0
February	11.7	SE.	42	W.	1	...	...	...	...	...	...	...	...	...	5	5	18	11	8	11	0	0	16	0	28	0	0
March	12.6	NW.	38	E.	0	...	...	...	...	...	...	...	...	...	8	10	13	12	10	11	0	0	12	0	25	0	0
April	14.5	NE.	49	NW.	2	...	...	...	...	...	...	...	...	...	8	10	12	9	9	2	0	0	0	0	8	1	0
May	11.8	W.	42	S.	1	...	...	...	...	...	...	...	...	...	15	7	9	10	6	0	0	0	0	0	1	3	0
June	10.8	NW.	50	NW.	2	...	...	...	...	...	...	...	...	...	5	10	15	13	10	0	1	0	0	3	0	10	0
July	11.5	S.	50	N.	3	...	...	...	...	...	...	...	...	...	8	15	8	12	12	0	1	0	0	4	0	9	0
August	9.6	N.	34	NW.	0	...	...	...	...	...	...	...	...	...	6	17	8	9	7	0	0	0	0	0	0	6	0
September	11.8	S.	45	N.	1	...	...	...	...	...	...	...	...	...	16	7	7	9	7	0	0	0	0	3	0	3	0
October	10.4	NW.	36	SE.	0	...	...	...	...	...	...	...	...	...	8	11	12	8	6	0	0	0	0	0	1	3	0
November	8.8	N.	30	NW.	0	...	...	...	...	...	...	...	...	...	6	10	14	11	7	5	0	2	9	0	24	0	0
December	9.9	NW.	40	NW.	1	...	...	...	...	...	...	...	...	...	7	9	15	3	2	4	0	0	23	0	30	0	0
Year	11.3	NW.	50	NW.	13	...	...	...	...	...	...	...	...	...	100	119	146	118	92	43	2	2	85	10	147	35	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

MOBILE, ALA.

[λ=30° 41′ N.; φ=88° 2′ W.; gravity corr., —0.04.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	30.16	30.50	29.81	43.3	49.5	55.9	40.4	48.2	76	18	38	39	83	68	.266	.266	2.97	1.10	6.4	5.0	6.0
February	30.03	30.65	29.56	50.5	56.3	62.9	47.7	55.3	76	32	47	49	88	79	.353	.380	7.70	1.68	6.1	6.2	7.0
March	30.00	30.40	29.66	62.8	66.9	72.4	60.1	66.2	79	41	59	60	87	80	.527	.542	7.43	2.91	7.7	7.4	7.7
April	30.03	30.29	29.69	60.8	67.7	73.5	57.7	65.6	82	45	56	56	84	69	.462	.472	5.73	2.59	5.9	5.1	4.8
May	30.00	30.23	29.79	65.8	74.2	80.6	61.9	71.2	87	52	58	59	76	60	.493	.507	3.54	2.21	2.0	3.0	2.9
June	29.97	30.12	29.84	78.0	81.5	89.2	72.4	80.8	98	65	71	72	80	73	.770	.777	4.09	1.16	3.0	5.4	4.5
July	29.98	30.10	29.78	78.7	82.9	90.3	73.6	82.0	96	65	72	74	82	75	.804	.838	7.75	2.63	5.0	7.3	5.0
August	29.99	30.13	29.83	75.7	79.6	88.1	72.3	80.2	101	69	72	74	90	84	.799	.842	11.56	3.50	5.5	6.9	6.0
September	30.02	30.16	29.79	71.8	78.6	86.9	68.9	77.9	95	54	65	68	80	70	.652	.693	2.12	1.12	3.2	5.4	4.9
October	30.00	30.29	29.69	63.6	72.9	80.6	60.9	70.8	90	49	58	62	83	69	.503	.562	2.12	1.48	3.4	3.4	4.4
November	30.14	30.36	29.76	53.9	62.3	70.1	50.1	60.1	80	37	50	53	89	74	.384	.423	3.20	1.36	4.3	2.7	4.1
December	30.11	30.42	29.60	50.2	55.8	62.3	45.8	54.0	74	29	47	50	90	82	.348	.378	4.97	1.96	7.4	4.4	6.9
Year	30.04	30.65	29.56	62.9	69.0	76.1	59.3	67.7	101	18	58	60	84	74	.530	.557	63.18	3.50	5.0	5.2	5.4

MONTGOMERY, ALA.

[λ=32° 23′ N.; φ=86° 18′ W.; gravity corr., —0.03.]

January	29.97	30.28	29.60	39.0	47.8	53.6	36.1	44.8	74	14	33	38	79	70	.214	.247	3.26	1.24	6.0	4.8	5.3
February	29.84	30.45	29.45	47.9	57.4	62.3	45.6	54.0	80	27	44	46	87	68	.321	.340	5.65	2.34	6.7	5.5	4.8
March	29.83	30.26	29.45	57.5	66.3	71.2	54.8	63.0	84	37	53	58	86	76	.430	.500	12.02	4.82	7.3	7.5	6.1
April	29.85	30.21	29.51	57.7	68.8	74.4	53.7	64.0	88	42	51	54	80	62	.393	.431	6.30	2.51	5.1	5.3	4.2
May	29.80	30.09	29.59	64.3	77.2	82.2	60.0	71.1	91	47	54	57	71	51	.437	.468	.68	.39	1.6	3.0	2.1
June	29.76	29.91	29.62	75.6	85.1	94.4	70.7	82.6	100	63	67	67	75	58	.669	.683	3.79	1.34	2.8	5.0	2.9
July	29.77	29.97	29.54	76.7	85.0	93.0	72.9	83.0	98	63	70	69	80	61	.735	.719	1.40	.82	4.0	5.0	4.0
August	29.79	29.96	29.60	74.1	81.4	89.0	71.2	80.1	102	65	69	70	85	71	.721	.736	6.49	2.18	5.2	6.1	5.4
September	29.86	30.05	29.68	69.3	79.9	87.6	66.5	77.0	96	53	62	63	78	59	.574	.598	1.06	.70	2.7	3.7	3.1
October	29.83	30.13	29.54	60.6	74.1	81.3	58.0	69.6	92	46	54	54	79	53	.430	.437	.55	.22	2.8	3.3	2.9
November	29.96	30.24	29.45	49.1	61.9	69.2	45.9	57.6	80	32	44	46	84	58	.305	.326	1.68	.91	4.2	3.3	4.3
December	29.92	30.20	29.42	45.6	53.7	59.8	42.5	51.2	74	31	42	46	89	77	.286	.327	3.37	1.57	6.5	5.0	6.0
Year	29.85	30.45	29.42	59.8	69.9	76.5	56.5	66.5	102	14	54	56	81	64	.460	.484	46.25	4.82	4.6	4.8	4.3

MOORHEAD, MINN.

[λ=46° 52′ N.; φ=96° 44′ W.; gravity corr., 0.00.]

January	29.07	29.50	28.55	—0.4	3.8	10.9	—6.9	2.0	37	—28	—4	0	85	83	.043	.050	1.56	0.60	5.2	4.2	4.9
February	28.99	29.65	28.26	4.1	11.0	17.2	—1.5	7.8	33	—30	2	10	91	93	.059	.077	1.52	1.04	6.3	5.7	6.0
March	29.02	29.58	28.40	9.2	19.8	24.5	5.8	15.2	54	—32	7	17	90	90	.078	.108	1.34	.58	5.3	5.0	5.3
April	29.00	29.52	28.40	37.0	48.3	54.4	34.2	44.3	90	16	33	36	85	66	.191	.219	.92	.52	5.7	7.2	6.5
May	28.98	29.36	28.54	47.6	64.6	70.5	42.0	56.2	90	26	41	42	77	47	.263	.287	.80	.18	4.0	3.0	4.3
June	28.88	29.21	28.56	56.6	68.9	72.9	51.2	62.0	96	32	52	54	86	60	.416	.452	7.42	4.36	5.3	4.5	5.4
July	28.86	29.16	28.29	64.9	75.7	80.2	61.2	70.7	90	52	62	66	90	73	.558	.653	8.02	3.86	4.5	5.0	4.8
August	28.98	29.38	28.56	56.3	71.5	76.2	53.3	64.8	86	39	54	57	92	62	.424	.478	.88	.56	4.4	3.9	3.8
September	29.00	29.45	28.57	53.7	70.5	79.6	51.6	65.6	97	28	49	53	86	56	.374	.423	.94	.90	3.8	3.1	3.0
October	28.97	29.41	28.34	40.6	50.8	59.5	37.4	48.4	90	16	37	41	87	72	.227	.272	1.84	.50	5.2	5.1	5.4
November	29.06	29.52	28.26	17.9	24.8	32.0	14.5	23.2	64	—12	16	20	91	81	.099	.117	.28	.20	5.8	3.3	4.9
December	29.03	29.56	28.41	5.8	12.6	19.4	1.7	10.6	44	—19	4	10	90	88	.061	.076	.28	.14	4.1	4.5	5.3
Year	28.99	29.65	28.26	32.8	43.5	49.8	28.7	39.2	97	—32	29	34	88	73	.233	.268	25.80	4.36	5.0	4.5	5.0

NANTUCKET, MASS.

[λ = 41° 17′ N.; φ = 70° 6′ W.; gravity corr., —0.01.]

January	30.04	30.72	29.10	30.6	30.7	36.4	25.3	30.8	54	10	26	26	81	83	.152	.151	2.59	1.01	6.4	4.1	6.5
February	30.04	30.54	29.38	31.5	32.4	36.5	28.5	32.5	47	21	26	28	79	82	.144	.154	2.69	.95	5.5	4.4	6.0
March	30.05	30.85	29.20	36.2	37.4	43.0	33.0	38.0	52	18	30	32	78	81	.175	.186	3.05	.72	4.4	4.5	7.3
April	30.08	30.65	29.54	44.2	44.2	49.4	39.1	44.2	61	26	39	40	82	87	.244	.256	4.47	2.33	4.6	4.2	5.5
May	29.98	30.29	29.69	53.2	52.1	58.5	48.7	53.6	66	41	50	50	90	91	.367	.359	2.30	.54	5.7	5.8	6.9
June	29.94	30.27	29.68	59.8	57.8	65.3	54.7	60.0	76	50	56	55	87	90	.447	.434	1.64	.79	3.8	5.7	6.5
July	30.01	30.35	29.65	60.0	66.5	73.5	63.9	68.7	80	57	66	65	92	95	.656	.626	4.32	2.47	5.3	6.3	6.3
August	29.98	30.18	29.64	58.1	65.8	73.2	62.5	67.8	77	59	64	63	86	92	.590	.587	2.66	1.06	5.7	3.6	5.5
September	30.11	30.37	29.72	62.7	61.5	67.7	57.1	62.4	82	46	55	55	76	81	.447	.451	1.31	.46	3.6	4.3	5.1
October	30.14	30.60	29.55	54.7	53.7	59.1	50.3	54.7	72	38	49	48	83	82	.366	.348	1.63	.97	4.7	3.3	5.2
November	30.06	30.58	29.16	44.1	45.0	50.5	39.5	45.0	64	21	38	38	79	77	.249	.246	3.90	1.40	7.0	5.9	6.8
December	30.05	30.58	29.35	36.3	37.6	42.5	32.5	37.5	57	17	31	32	80	80	.189	.194	3.17	1.04	6.8	6.4	7.6
Year	30.04	30.85	29.10	49.2	48.7	54.6	44.6	49.6	82	10	44	44	83	85	.336	.333	33.73	2.47	5.3	4.9	6.3

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

MOBILE, ALA.

[H = 57 ft.; h_t = 88 ft.; h_r = 78 ft.; h_a = 96 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	8.8	NW.	37	SE.	0	15	7	1	8	8	4	2	16	1	10	8	13	9	8	0	0	1	2	0	8	0	0
February	8.9	S.	30	S.	0	14	6	2	0	19	3	2	9	1	6	6	16	13	12	0	0	3	0	0	1	5	0
March	9.4	S.	45	SE.	1	5	5	4	15	21	10	0	2	0	6	3	22	12	11	0	0	2	0	0	0	4	0
April	8.5	SE.	28	NW.	0	15	5	1	17	10	3	0	8	1	14	9	7	11	9	0	0	1	0	0	0	6	0
May	7.6	N.	32	NW.	0	20	2	0	3	9	13	4	6	5	24	5	2	6	5	0	0	1	0	0	0	4	0
June	6.8	NW.	40	NE.	1	6	2	2	3	12	12	5	17	1	15	10	5	11	7	0	0	0	0	12	0	11	0
July	6.5	NW.	37	SW.	0	13	1	3	2	10	10	7	15	1	13	12	6	11	9	0	0	0	0	16	0	15	0
August	5.4	S.	38	SE.	0	13	0	3	3	15	6	3	11	8	9	9	13	16	14	0	0	0	0	10	0	7	0
September	7.0	NE.	27	E.	0	9	13	11	6	5	6	1	7	2	13	10	7	8	5	0	0	0	0	6	0	2	0
October	6.1	N.	31	SE.	0	16	12	1	4	3	14	1	10	1	16	6	9	7	6	0	0	0	0	0	0	1	0
November	6.9	N.	27	N.	0	19	5	5	5	8	5	3	8	2	18	5	7	6	5	0	0	1	0	0	0	0	0
December	7.0	NW.	36	S.	0	14	2	2	13	11	1	5	14	0	9	4	18	11	9	0	0	4	0	0	1	1	0
Year	7.4	N.	45	SE.	2	159	60	35	79	131	87	33	123	23	153	87	125	121	100	0	0	13	2	44	10	56	0

MONTGOMERY, ALA.

[H = 221 ft.; h_t = 100 ft.; h_r = 70 ft.; h_a = 112 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	7.7	N.	31	S.	0	12	8	8	6	3	3	12	9	1	10	10	11	8	8	0	0	1	3	0	14	0	0
February	7.6	SE.	32	NW.	0	5	9	4	11	6	8	5	8	0	11	10	7	12	11	0	0	1	0	0	3	3	0
March	8.3	SE.	34	W.	0	5	6	10	16	5	12	4	4	0	5	14	12	13	12	0	0	0	0	0	0	6	0
April	7.0	SE.	29	E.	0	8	4	6	16	6	7	6	7	0	17	6	7	11	9	0	0	0	0	0	0	6	0
May	6.3	NE.	25	NW.	0	7	14	4	1	7	8	12	9	0	22	7	2	4	4	0	1	0	0	2	0	2	0
June	5.7	W.	54	NW.	2	7	4	4	8	9	10	12	6	0	20	10	0	11	10	0	1	0	0	25	0	15	0
July	5.5	N.	32	SW.	0	12	3	6	11	7	11	7	5	0	13	15	3	9	6	0	1	0	0	26	0	11	0
August	5.1	S.	27	NE.	0	5	8	4	3	16	15	5	6	0	13	7	11	13	12	0	0	0	0	13	0	8	0
September	6.2	E.	25	E.	0	7	10	21	9	4	4	2	3	0	21	4	5	5	5	0	0	1	0	9	0	4	0
October	5.8	E.	27	E.	0	10	11	19	8	3	3	3	4	1	19	9	3	4	4	0	0	3	0	1	0	2	0
November	6.6	SE.	31	W.	0	9	9	5	11	5	2	6	9	4	15	7	8	7	4	0	0	2	0	0	1	0	0
December	6.8	NW.	29	W.	0	3	6	5	12	7	6	9	14	0	8	8	15	8	7	0	0	3	0	0	2	1	0
Year	6.6	SE.	54	NW.	2	90	92	96	112	78	89	83	84	6	174	107	84	105	92	0	3	11	3	76	20	58	0

MOORHEAD, MINN.

[H = 935 ft.; h_t = 54 ft.; h_r = 44 ft.; h_a = 60 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	12.3	NW.	50	N.	5	11	2	1	14	3	4	7	20	0	8	15	8	8	6	7	0	2	28	0	31	0	1
February	11.0	SE.	45	NW.	3	6	5	0	18	3	3	4	17	0	9	7	12	12	6	12	0	0	24	0	28	0	0
March	11.5	NW.	36	SE.	0	5	1	5	14	6	4	7	20	0	12	5	14	13	8	8	0	0	21	0	25	1	0
April	12.3	NW.	44	NW.	2	8	4	5	17	1	4	5	16	0	3	16	11	6	5	1	0	0	0	0	8	1	2
May	11.1	SE.	38	SE.	0	4	7	5	19	4	4	1	18	0	13	12	6	10	7	0	0	0	0	0	3	2	0
June	9.8	SE.	44	SE.	1	6	4	6	22	3	2	3	14	0	11	10	9	12	11	0	0	0	0	3	0	10	0
July	9.0	SE.	35	SE.	0	7	8	2	21	0	7	4	13	0	10	14	7	15	10	0	0	0	0	0	0	10	0
August	8.0	NW.	30	NW.	0	8	6	2	15	2	5	6	18	0	13	12	6	4	3	0	0	0	0	0	0	2	0
September	11.1	SE.	40	SE	2	5	9	3	28	0	5	0	10	0	20	8	2	2	2	0	0	0	0	5	2	4	0
October	10.2	SE.	45	SE.	1	8	4	3	19	1	8	4	15	0	14	5	12	10	9	1	0	0	0	0	9	1	0
November	8.7	N.	28	NE.	0	14	7	4	14	4	4	4	9	0	11	12	7	3	3	2	0	0	13	0	27	0	0
December	8.6	SE.	30	NW.	0	2	3	2	19	2	10	6	18	0	8	12	11	6	3	6	0	0	24	0	31	0	0
Year	10.3	SE.	50	N.	14	84	60	38	220	29	60	51	188	0	132	128	105	101	73	37	0	2	110	8	164	31	3

NANTUCKET, MASS.

[H = 14 ft.; h_t = 43 ft.; h_r = 38 ft.; h_a = 54 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	13.7	NW.	48	NW.	3	8	6	3	2	8	4	7	24	0	6	12	13	12	9	8	0	2	10	0	24	0	0
February	13.2	NW.	47	NE.	3	8	8	5	4	3	8	6	14	0	12	4	12	11	8	5	0	3	6	0	20	1	0
March	13.5	NW.	42	NW.	1	10	3	5	4	8	8	9	15	0	9	2	20	14	13	1	0	11	0	0	9	0	0
April	11.2	SW.	31	N.	0	7	5	4	1	7	23	6	7	0	13	6	11	10	9	0	0	4	0	0	2	0	1
May	12.0	SW.	36	SE.	0	1	14	3	3	13	20	8	0	0	6	8	17	15	12	0	0	8	0	0	0	2	0
June	11.0	SW.	37	NE.	0	4	8	5	3	4	17	12	7	0	10	4	16	9	5	0	0	8	0	0	0	3	0
July	10.2	SW.	35	S.	0	1	5	3	3	10	34	4	2	0	10	7	14	13	6	0	0	9	0	0	0	2	0
August	8.0	SW.	30	SE.	0	2	6	0	7	7	20	12	8	0	12	8	11	8	6	0	0	3	0	0	0	5	0
September	10.9	SW.	33	NE.	0	4	11	3	5	5	14	7	11	0	12	10	8	9	6	0	0	4	0	0	0	0	0
October	13.2	NE.	49	NE.	2	8	13	12	2	9	8	7	3	0	11	12	8	8	4	0	0	2	0	0	0	1	0
November	14.0	NW.	39	NW.	0	10	3	0	5	10	10	3	19	0	10	4	16	14	11	2	0	2	0	0	5	0	0
December	12.0	NW.	40	NW.	1	6	3	3	5	8	8	8	21	0	6	4	21	16	14	4	1	5	5	0	13	0	0
Year	11.9	SW.	49	NE.	10	69	85	46	44	92	174	89	131	0	117	81	167	139	103	20	1	61	21	0	73	14	1

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

NARRAGANSETT PIER, R. I.

[λ = 41° 19′ N.; φ = 71° 17′ W.; gravity corr., ———.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	.....	.....	.....	.....	.....	35.6	19.7	27.7	53	3	.....	.....	.....	.....	.....	.....	4.15	1.20	.....	.....	.....
February	.....	.....	.....	.....	.....	36.8	22.7	29.8	45	9	.....	.....	.....	.....	.....	.....	3.02	1.42	.....	.....	.....
March	.....	.....	.....	.....	.....	43.9	29.4	36.6	57	9	.....	.....	.....	.....	.....	.....	2.94	.85	.....	.....	.....
April	.....	.....	.....	.....	.....	53.7	36.7	45.2	68	19	.....	.....	.....	.....	.....	.....	4.10	2.00	.....	.....	.....
May	.....	.....	.....	.....	.....	62.3	48.7	55.5	70	37	.....	.....	.....	.....	.....	.....	3.63	.85	.....	.....	.....
June	.....	.....	.....	.....	.....	70.1	53.4	61.8	85	43	.....	.....	.....	.....	.....	.....	2.56	.70	.....	.....	.....
July	.....	.....	.....	.....	.....	77.3	64.7	71.0	84	55	.....	.....	.....	.....	.....	.....	5.44	2.03	.....	.....	.....
August	.....	.....	.....	.....	.....	76.3	60.1	68.2	80	50	.....	.....	.....	.....	.....	.....	6.95	2.05	.....	.....	.....
September	.....	.....	.....	.....	.....	70.6	52.9	61.8	90	33	.....	.....	.....	.....	.....	.....	2.50	1.25	.....	.....	.....
October	.....	.....	.....	.....	.....	61.7	44.0	52.8	82	30	.....	.....	.....	.....	.....	.....	1.23	.54	.....	.....	.....
November	.....	.....	.....	.....	.....	51.2	34.8	43.0	65	6	.....	.....	.....	.....	.....	.....	8.25	3.00	.....	.....	.....
December	.....	.....	.....	.....	.....	41.7	28.0	34.8	56	10	.....	.....	.....	.....	.....	.....	6.70	1.91	.....	.....	.....
Year	.....	.....	.....	.....	.....	56.8	41.3	49.0	90	3	.....	.....	.....	.....	.....	.....	51.47	3.00	.....	.....	.....

NASHVILLE, TENN.

[λ = 36° 10′ N.; φ = 86° 47′ W.; gravity corr., —0.02.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	29.61	29.95	29.18	31.1	38.5	44.3	27.1	35.7	67	3	24	25	75	60	.151	.154	3.13	1.45	4.8	5.1	5.1
February	29.47	30.12	29.08	39.7	47.1	52.9	36.4	44.6	76	14	35	36	83	68	.220	.234	3.84	1.18	6.6	5.6	6.0
March	29.46	29.86	28.91	47.2	56.4	62.6	44.5	53.6	82	32	40	42	76	62	.269	.297	8.49	2.15	6.4	5.8	6.2
April	29.50	29.97	29.12	52.9	61.5	68.0	48.8	58.4	84	36	45	44	75	56	.308	.301	5.79	2.09	4.8	4.1	4.6
May	29.48	29.79	29.24	57.6	68.8	75.2	53.5	64.4	87	40	49	48	74	50	.358	.356	1.22	.58	3.5	3.3	3.6
June	29.43	29.58	29.26	70.4	82.4	87.4	66.3	76.8	96	51	61	61	73	49	.553	.549	1.82	.84	4.4	2.3	3.5
July	29.43	29.62	29.24	74.0	81.6	89.1	69.7	79.4	100	62	67	66	79	62	.670	.660	8.53	1.98	3.8	5.4	4.5
August	29.44	29.59	29.25	71.3	81.3	88.7	68.0	78.4	100	58	64	63	79	56	.607	.592	2.34	1.17	3.9	3.4	3.4
September	29.57	29.80	29.39	64.7	81.5	88.2	61.7	75.0	96	44	54	51	70	36	.451	.397	.19	.15	1.5	1.1	1.4
October	29.51	29.80	29.10	55.0	72.0	79.7	53.1	66.4	90	36	48	46	79	42	.348	.319	.92	.59	2.5	1.4	1.8
November	29.58	30.02	28.96	44.9	52.2	61.3	40.3	50.8	77	23	37	38	76	59	.238	.241	2.83	.82	5.0	3.8	4.8
December	29.55	29.88	28.98	38.5	42.3	49.2	34.3	41.8	67	19	33	35	81	77	.194	.217	4.93	1.81	7.6	6.5	7.9
Year	29.50	30.12	28.91	53.9	63.8	70.6	50.3	60.4	100	3	46	46	77	56	.364	.360	44.03	2.15	4.6	4.0	4.4

NEW HAVEN, CONN.

[λ = 41° 18′ N.; φ = 72° 56′ W.; gravity corr., —0.01.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	29.97	30.61	29.21	25.8	28.6	34.6	21.2	27.9	52	5	20	20	75	69	.122	.120	3.85	2.00	5.0	3.8	5.7
February	29.96	30.46	29.44	25.8	32.2	36.9	23.2	30.0	51	9	18	21	72	63	.105	.118	2.00	1.00	4.5	4.0	4.9
March	29.95	30.72	29.11	34.3	39.3	45.5	29.9	37.7	60	11	26	27	70	64	.148	.158	3.66	1.16	4.8	4.2	5.8
April	29.97	30.52	29.43	44.8	48.1	57.2	38.3	47.8	73	24	35	37	70	67	.216	.229	2.44	1.36	4.7	4.2	5.2
May	29.84	30.25	29.53	56.5	58.2	66.9	49.6	58.2	81	40	47	48	73	70	.332	.340	5.03	1.57	5.6	6.9	6.2
June	29.83	30.15	29.56	62.4	64.6	73.1	54.8	64.0	88	44	53	54	72	70	.412	.425	2.47	1.41	5.1	5.2	5.2
July	29.86	30.22	29.51	70.2	71.7	79.3	65.0	72.2	88	57	65	66	85	82	.627	.636	16.63	6.20	6.1	5.3	6.0
August	29.87	30.09	29.52	67.9	70.0	77.3	60.3	68.8	83	51	60	63	79	78	.521	.577	6.81	1.73	4.8	2.9	4.5
September	30.01	30.29	29.61	60.1	64.4	72.6	53.3	63.0	93	38	52	56	76	74	.416	.463	2.42	1.77	2.7	3.3	3.3
October	30.04	30.54	29.48	48.8	54.6	63.4	43.5	53.4	86	30	41	44	75	70	.271	.313	1.25	.66	4.8	2.6	4.3
November	29.95	30.48	29.14	39.2	42.7	49.0	34.8	41.9	64	15	33	34	79	73	.307	.220	5.72	3.03	5.0	5.4	6.2
December	29.95	30.45	29.17	30.5	33.7	39.6	28.1	33.8	57	10	25	26	80	74	.149	.154	5.61	3.21	5.9	4.5	6.7
Year	29.93	30.72	29.11	47.1	50.7	58.0	41.9	49.9	93	5	40	41	76	71	.294	.313	57.89	6.20	4.9	4.4	5.3

NEW ORLEANS, LA.

[λ = 29° 58′ N.; φ = 90° 4′ W.; gravity corr., —0.04.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	30.15	30.48	29.88	47.1	52.3	57.9	44.3	51.1	74	23	42	42	83	70	.304	.305	1.92	.50	6.9	4.9	7.0
February	30.02	30.63	29.67	53.1	59.3	65.6	50.5	58.0	81	37	49	51	88	75	.380	.398	4.82	1.64	5.8	5.4	7.6
March	29.97	30.33	29.68	65.0	70.1	76.5	62.3	69.4	84	50	61	61	87	74	.558	.558	4.82	2.30	6.3	5.5	7.4
April	30.02	30.28	29.73	63.7	69.2	75.3	60.8	68.0	84	50	58	58	82	68	.500	.490	5.75	1.86	5.9	4.7	6.8
May	30.00	30.23	29.79	68.9	76.1	82.3	66.3	74.3	88	58	60	60	75	59	.596	.526	.25	.16	1.2	3.0	3.7
June	29.96	30.10	29.84	78.4	82.7	89.3	74.2	81.8	98	69	71	70	77	68	.754	.747	4.82	1.82	1.8	3.8	5.5
July	29.97	30.08	29.84	80.3	84.1	90.9	76.4	83.6	95	71	72	71	78	67	.797	.768	4.70	1.60	3.1	5.2	5.5
August	29.98	30.09	29.84	77.8	82.5	89.2	75.5	82.4	99	71	73	70	84	68	.801	.737	3.12	1.12	3.8	4.8	5.7
September	30.00	30.15	29.58	73.8	79.4	86.8	71.8	79.3	94	62	66	66	78	66	.662	.657	3.19	2.31	2.4	3.6	4.2
October	29.98	30.23	29.67	68.8	74.3	81.5	67.2	74.4	89	59	62	63	79	70	.560	.588	2.70	1.60	3.1	2.7	4.1
November	30.13	30.38	29.86	57.3	63.4	71.9	55.5	63.7	82	44	52	56	83	78	.415	.466	3.38	2.38	4.3	3.9	4.2
December	30.10	30.42	29.60	53.4	58.0	64.3	49.8	57.0	77	34	50	51	87	78	.379	.397	4.00	1.24	6.5	4.6	4.5
Year	30.02	30.63	29.58	65.7	71.0	77.6	62.9	70.2	99	23	60	60	82	70	.554	.553	43.47	2.38	4.3	4.3	5.5

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

NARRAGANSETT PIER, R. I.

[H = — ft.; h_t = 10 ft.; h_r = 1 ft.; h_s = — ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction.	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	.....	NW.	....	.....	1	2	4	1	1	5	5	5	8	0	15	3	13	7	7	4	0	2	10	0	29	0	0
February	.....	W.	....	.....	2	1	5	0	2	5	2	7	6	0	12	3	13	6	5	3	0	0	5	0	24	0	0
March	.....	SW.	....	.....	0	3	2	2	1	7	8	6	2	0	15	2	14	12	9	2	0	5	1	0	15	0	0
April	.....	SW.	....	.....	0	2	0	1	4	7	11	4	1	0	19	4	7	9	7	0	0	1	0	0	5	1	0
May	.....	S.	....	.....	0	0	3	2	3	15	6	2	0	0	16	3	12	9	8	0	0	6	0	0	0	3	0
June	.....	SW.	....	.....	0	0	6	1	0	7	10	5	1	0	19	4	7	10	10	0	1	2	0	0	0	2	0
July	.....	S.	....	.....	3	0	3	1	5	14	7	1	0	0	13	5	13	11	10	0	0	5	0	0	0	0	0
August	.....	S.	....	.....	0	1	1	2	3	11	8	5	0	0	21	2	8	7	6	0	0	1	0	0	0	4	0
September	.....	S.	....	.....	1	2	4	1	7	8	4	0	4	0	20	1	9	7	5	0	0	0	0	0	0	1	0
October	.....	NE.	....	.....	1	1	8	2	5	4	7	1	3	0	21	2	8	5	4	0	0	1	0	0	2	0	0
November	.....	NW.	....	.....	1	0	3	1	3	4	7	2	10	0	10	7	13	15	14	3	0	0	1	0	10	0	0
December	.....	NW.	....	.....	0	3	5	0	5	5	5	2	6	0	12	3	16	13	12	3	0	3	6	0	22	0	0
Year	.....	S.	....	.....	9	15	44	14	39	92	80	40	41	0	193	39	133	111	97	15	1	26	23	0	107	11	0

NASHVILLE, TENN.

[H = 545 ft.; h_t = 128 ft.; h_r = 116 ft.; h_s = 134 ft.]

Month.	Average hourly velocity.	Prevailing direction.	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	8.7	NW.	52	S.	2	6	6	2	8	6	10	7	15	2	13	8	10	8	6	1	0	4	5	0	18	1	0
February	7.5	NW.	29	SW.	0	7	4	8	7	9	3	8	10	0	8	7	13	13	11	0	0	1	1	0	6	3	0
March	10.1	S.	39	SW.	0	9	9	6	7	17	4	4	6	0	7	9	15	18	16	1	1	1	0	0	1	13	0
April	8.7	S.	36	SE.	0	6	7	3	8	12	4	7	13	0	13	9	8	13	11	0	0	0	0	0	0	6	0
May	6.2	NW.	28	NW.	0	13	7	2	1	4	8	9	18	0	17	9	5	7	7	0	0	0	0	0	0	2	0
June	6.0	NW.	36	NW.	0	7	7	2	6	7	9	12	10	0	16	13	1	9	7	0	0	0	0	13	0	9	0
July	5.4	NW.	34	NE.	0	3	1	3	11	4	14	13	13	0	11	15	5	16	13	0	0	0	0	15	0	14	0
August	4.9	NW.	39	S.	0	8	3	3	7	10	11	9	10	1	17	13	1	10	7	0	0	1	0	9	0	6	0
September	5.0	E.	31	NE.	0	8	10	9	9	4	6	8	6	0	27	1	2	2	2	0	0	0	0	15	0	3	0
October	4.6	NW.	26	SE.	0	8	5	3	9	7	3	7	20	0	25	2	4	4	3	0	0	0	0	0	0	1	0
November	8.3	S.	26	NW.	0	8	5	2	12	12	7	10	4	0	14	9	7	9	8	0	0	0	0	0	7	0	0
December	7.5	S.	45	NW.	1	2	6	5	4	14	12	6	13	0	3	7	21	15	12	4	0	2	2	0	14	0	0
Year	6.9	NW.	52	S.	3	85	70	48	89	106	91	100	138	3	171	102	92	124	103	6	1	9	8	52	46	58	0

NEW HAVEN, CONN.

[H = 107 ft.; h_t = 117 ft.; h_r = 110 ft.; h_s = 140 ft.]

Month.	Average hourly velocity.	Prevailing direction.	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	10.8	W.	41	W.	1	12	3	4	3	4	11	18	6	1	10	9	12	11	5	8	0	4	11	0	24	0	0
February	10.7	N.	56	E.	2	15	2	2	1	2	13	11	10	0	14	3	11	7	4	3	0	2	5	0	24	0	0
March	10.3	N.	39	W.	0	15	7	2	7	6	6	7	12	0	12	3	16	8	8	3	1	3	1	0	14	1	0
April	10.0	S.	38	NW.	0	14	6	0	2	14	10	2	12	0	10	6	14	7	5	0	0	2	0	0	5	0	2
May	10.0	S.	34	E.	0	14	11	2	5	14	11	5	0	0	9	8	14	13	11	0	0	1	0	0	0	4	0
June	8.5	SW.	35	NW.	0	10	3	2	8	4	16	6	11	0	13	6	11	10	8	0	0	0	0	0	0	2	0
July	8.0	SW.	43	S.	1	3	11	3	6	11	17	7	4	0	12	6	13	14	10	0	0	1	0	0	0	4	0
August	7.2	N.	32	SW.	0	17	8	1	3	8	14	5	6	0	15	6	10	10	9	0	0	2	0	0	0	2	0
September	8.4	N.	27	SW.	0	14	9	0	2	3	12	6	14	0	19	3	8	8	5	0	0	0	0	2	0	1	0
October	9.7	NE.	35	NE.	0	16	19	0	4	4	8	6	5	0	16	4	11	9	6	0	0	2	0	0	1	0	0
November	10.1	W.	42	W.	1	13	10	2	4	0	5	16	10	0	8	8	14	15	13	3	0	3	1	0	12	0	0
December	9.0	W.	35	NW.	0	16	13	0	1	1	7	14	10	0	6	7	18	14	12	7	0	2	8	0	20	0	0
Year	9.4	N.	56	E.	5	159	102	18	46	71	130	103	100	1	144	69	152	126	96	24	1	22	26	2	100	14	2

NEW ORLEANS, LA.

[H = 54 ft.; h_t = 112 ft.; h_r = 111 ft.; h_s = 120 ft.]

Month.	Average hourly velocity.	Prevailing direction.	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	10.5	NE.	40	SE.	1	10	19	5	8	5	3	6	6	0	7	5	19	11	9	1	0	0	0	0	5	0	0
February	9.8	NE.	33	S.	0	7	12	3	11	11	3	3	6	0	4	7	17	10	9	0	0	5	0	0	0	3	0
March	10.6	SE.	36	NE.	0	3	7	7	19	18	5	1	2	0	5	4	22	11	8	0	0	3	0	0	0	7	0
April	9.6	SE.	36	W.	0	5	8	9	16	4	5	3	10	0	3	13	14	9	9	0	1	0	0	0	0	5	0
May	7.9	SE.	32	N.	0	6	13	1	18	6	5	4	7	2	17	9	5	4	2	0	0	1	0	0	0	3	0
June	6.7	SE.	24	SE.	0	2	2	1	18	18	11	3	5	0	11	8	11	11	11	0	0	0	0	12	0	10	0
July	6.6	SW.	26	N.	0	1	3	1	12	14	9	12	10	0	7	16	8	15	11	0	0	0	0	18	0	6	0
August	6.9	SW.	25	S.	0	2	5	3	11	16	13	9	3	0	9	9	13	10	8	0	0	0	0	14	0	6	0
September	10.0	NE.	42	NE.	1	8	26	9	10	0	0	3	4	0	14	11	5	8	6	0	0	0	0	5	0	3	0
October	7.1	NE.	24	NE.	0	8	17	15	11	4	2	2	3	0	17	7	7	6	5	0	0	0	0	0	0	3	0
November	8.7	SE.	34	N.	0	11	13	7	16	6	2	2	3	0	14	9	7	5	4	0	0	2	0	0	0	1	0
December	9.5	SE.	35	NW.	0	6	7	2	16	10	3	8	10	0	16	5	10	8	7	0	0	0	0	0	0	2	0
Year	8.7	SE.	42	NE.	2	69	132	63	166	112	61	56	69	2	124	103	138	108	89	1	1	11	0	49	5	49	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

NEW YORK CITY, N. Y.

[λ=40° 43′ N.; φ=74° W.; gravity corr., —0.01.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	29.76	30.36	29.07	26.5	29.4	36.1	22.6	29.4	54	5	22	22	80	74	.127	.129	3.51	1.78	5.2	4.8	5.5
February	29.74	30.23	29.30	29.0	33.4	38.4	26.9	32.6	53	17	23	26	77	75	.126	.145	2.72	1.00	5.6	5.8	6.4
March	29.74	30.46	28.94	35.2	40.7	46.5	31.9	39.2	62	16	28	31	77	70	.167	.183	2.51	.63	4.6	4.8	5.8
April	29.76	30.29	29.22	44.0	49.7	56.6	40.6	48.6	74	24	36	37	73	65	.219	.231	2.96	1.21	4.0	4.7	4.2
May	29.63	30.03	29.33	55.9	58.8	67.0	51.6	59.3	79	44	47	46	73	67	.330	.326	5.30	1.87	4.3	5.0	5.2
June	29.63	29.93	29.32	62.3	67.0	72.6	57.9	65.2	86	48	53	52	74	63	.420	.408	2.98	1.72	4.7	5.3	5.5
July	29.65	30.00	29.34	70.0	72.5	79.1	66.4	72.8	89	60	65	65	86	79	.630	.628	9.52	2.56	6.3	6.4	6.3
August	29.66	29.87	29.33	68.0	72.2	77.1	64.9	71.0	84	60	62	62	81	71	.559	.556	3.14	1.15	4.6	3.9	4.7
September	29.81	30.06	29.47	61.3	67.2	73.4	57.5	65.4	91	44	53	56	76	68	.428	.463	1.64	.98	3.4	2.7	3.3
October	29.82	30.29	29.29	52.3	56.8	63.5	49.1	56.3	86	37	45	47	76	70	.308	.337	.72	.29	5.1	3.5	5.0
November	29.75	30.24	28.92	42.0	44.5	50.4	37.8	44.1	66	21	36	36	78	71	.226	.230	4.44	2.26	5.3	7.1	6.6
December	29.74	30.20	28.92	32.7	36.4	41.7	30.0	35.8	60	9	27	29	80	75	.161	.174	4.83	2.15	6.3	5.3	6.2
Year	29.72	30.46	28.92	48.3	52.4	58.5	44.8	51.6	91	5	41	42	78	71	.308	.318	44.27	2.56	5.0	4.9	5.4

NORFOLK, VA.

[λ=36° 51′ N.; φ=76° 17′ W.; gravity corr., —0.02.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	30.13	30.64	29.70	34.8	38.6	44.7	31.9	38.3	68	11	29	31	80	76	.173	.187	1.47	.50	4.7	3.1	5.2
February	30.02	30.60	29.27	40.5	43.4	52.4	36.4	44.4	72	26	37	38	86	83	.228	.238	4.03	.89	5.6	4.0	5.5
March	30.07	30.67	29.36	47.5	51.6	60.5	42.2	51.4	80	32	41	44	80	76	.280	.304	4.38	1.33	5.9	5.7	5.9
April	30.09	30.64	29.45	53.2	56.9	67.1	47.9	57.5	87	34	46	47	78	72	.325	.338	1.51	.58	4.4	2.8	4.0
May	29.96	30.33	29.54	62.3	63.7	74.5	56.1	65.3	84	43	55	55	78	74	.447	.446	5.36	1.21	4.0	5.1	5.0
June	29.94	30.23	29.66	71.6	72.8	82.5	65.9	74.2	96	58	63	64	76	75	.594	.608	1.98	.65	6.0	5.2	6.0
July	29.94	30.25	29.62	76.9	77.9	86.8	71.6	79.2	92	68	70	70	80	76	.737	.724	4.42	1.12	5.0	4.8	4.8
August	29.96	30.16	29.66	74.3	75.8	84.9	69.8	77.4	92	66	70	70	87	80	.737	.721	2.08	.71	4.5	3.8	4.7
September	30.11	30.34	29.87	68.8	70.8	80.8	63.5	72.2	95	49	64	62	84	76	.608	.584	2.01	.98	3.4	1.9	2.8
October	30.04	30.44	29.26	60.5	62.7	70.0	57.1	63.6	85	46	58	56	90	81	.480	.466	8.70	2.58	4.6	5.3	5.6
November	30.11	30.52	29.44	49.2	52.9	61.7	44.5	53.1	76	32	44	44	81	72	.305	.307	2.84	1.14	4.2	2.0	3.5
December	30.08	30.47	29.52	41.7	45.1	52.2	38.0	45.1	72	22	38	38	86	76	.243	.239	3.88	1.41	6.2	5.6	6.4
Year	30.04	30.67	29.26	56.8	59.4	68.2	52.1	60.1	96	11	51	52	82	76	.430	.430	42.66	2.58	4.9	4.1	5.0

NORTHFIELD, VT.

[λ=44° 10′ N.; φ=72° 41′ W.; gravity corr., 0.00.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	29.07	29.78	28.45	12.5	17.7	25.6	6.8	16.2	51	—18	9	14	82	80	.085	.091	3.46	1.18	6.6	6.5	6.7
February	29.11	29.62	28.62	12.1	20.6	29.1	7.5	18.3	43	—15	7	14	80	73	.069	.085	1.53	.54	6.8	5.0	6.6
March	29.07	29.84	28.13	22.4	29.0	36.4	16.7	26.6	49	—18	18	22	80	74	.109	.122	2.73	.73	6.4	6.1	6.8
April	29.10	29.57	28.58	34.8	42.8	52.1	30.5	41.3	82	12	31	33	75	69	.181	.198	2.73	.77	6.7	5.5	6.5
May	29.02	29.44	28.64	51.0	54.2	63.2	40.6	51.9	77	24	43	44	75	70	.290	.297	3.46	.88	6.3	6.6	6.8
June	28.99	29.34	28.72	58.0	60.3	68.7	46.0	57.4	85	36	49	50	74	69	.361	.364	3.77	1.58	6.3	7.9	6.9
July	29.05	29.46	28.72	68.1	69.8	79.7	59.7	69.7	95	44	64	65	86	86	.635	.628	8.04	2.12	7.1	7.8	6.9
August	29.05	29.28	28.69	60.2	61.8	73.8	49.9	61.8	82	40	56	57	86	84	.450	.464	2.71	1.00	5.0	5.5	5.5
September	29.20	29.49	28.86	51.1	55.0	68.2	41.6	54.9	90	28	46	49	84	82	.329	.368	1.43	.58	4.6	4.0	5.3
October	29.22	29.72	28.71	39.5	45.9	60.3	31.0	45.6	82	18	34	38	81	73	.196	.239	1.16	.49	4.8	3.8	4.4
November	29.08	29.57	28.12	29.1	32.2	39.5	23.6	31.0	60	4	26	28	87	83	.150	.165	4.86	1.57	8.0	7.7	8.0
December	29.07	29.59	28.41	18.9	23.3	31.3	13.6	22.4	58	—10	15	19	85	83	.103	.115	3.26	1.52	7.3	6.3	7.2
Year	29.09	29.84	28.12	38.2	42.7	52.3	30.6	41.4	95	—18	33	36	81	77	.244	.261	39.14	2.12	6.3	6.1	6.5

NORTH PLATTE, NEBR.

[λ=41° 8′ N.; φ=100° 45′ W.; gravity corr., —0.01.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	27.14	27.53	26.53	17.8	26.7	35.4	14.9	25.2	58	— 9	13	18	82	67	.085	.102	0.47	0.30	3.8	3.0	4.1
February	27.01	27.59	26.52	21.9	33.1	40.0	19.1	29.6	58	3	18	23	85	66	.101	.123	.46	.20	5.7	5.5	6.0
March	26.97	27.26	26.55	27.0	40.5	46.6	24.5	35.6	68	5	23	28	85	64	.134	164	.66	.29	5.3	5.8	5.8
April	27.09	27.46	26.63	37.9	54.4	58.7	36.8	47.8	82	26	32	39	80	60	.185	.241	2.59	1.04	4.2	5.3	5.4
May	27.11	27.42	26.81	50.1	70.4	73.8	47.0	60.4	87	28	44	46	79	42	.297	.322	.11	.06	3.7	4.1	3.6
June	27.01	27.26	26.64	59.2	72.9	77.9	55.4	66.6	94	43	54	57	84	60	.432	.480	1.72	.42	5.1	5.6	5.5
July	27.05	27.34	26.56	64.1	83.4	88.4	60.6	74.5	103	51	57	58	79	45	.474	.486	1.85	.98	2.5	4.2	4.2
August	27.15	27.38	26.86	59.3	77.5	83.0	57.5	70.2	95	47	54	58	85	52	.432	.479	3.05	1.86	3.9	4.2	4.5
September	27.16	27.56	26.86	58.0	76.1	84.4	57.1	70.8	94	42	50	55	77	51	.374	.448	.59	.27	2.3	3.8	3.0
October	27.11	27.46	26.70	42.0	56.6	66.6	39.6	53.1	90	25	36	40	80	58	.217	.257	4.11	2.26	3.8	4.5	4.6
November	27.12	27.57	26.70	26.7	37.4	48.8	24.1	36.4	79	1	22	27	80	67	.119	.154	.85	.80	4.6	3.3	4.2
December	27.13	27.61	26.59	18.9	26.7	34.8	15.5	25.2	56	— 9	14	16	80	65	.090	.094	.63	.30	3.5	3.9	4.1
Year	27.09	27.61	26.52	40.2	54.6	61.5	37.7	49.6	103	— 9	35	39	81	58	.245	.279	17.09	2.26	4.0	4.4	4.6

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

NEW YORK CITY, N. Y.

[H = 314 ft.; h_t = 298 ft.; h_r = 258 ft.; h_a = 326 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	15.5	NW.	60	NW.	11	1	10	3	3	5	6	13	21	0	11	7	13	11	9	6	0	6	11	0	24	0	0
February	14.0	NW.	60	E.	3	3	9	3	1	4	9	8	19	0	5	11	12	9	6	5	0	4	4	0	23	0	0
March	15.6	NW.	57	W.	6	5	9	7	4	6	10	6	15	0	10	7	14	13	9	3	0	7	2	0	16	0	0
April	13.5	NW.	58	NW.	3	2	6	1	8	12	7	3	21	0	15	9	6	9	7	1	0	2	0	0	2	1	0
May	13.7	NW.	48	E.	3	3	6	3	6	12	15	3	14	0	10	13	8	11	10	0	0	6	0	0	0	7	0
June	12.6	NW.	53	NW.	2	1	4	4	3	11	8	11	18	0	9	12	9	9	8	0	0	0	0	0	0	3	0
July	10.3	S.	54	NW.	2	4	5	5	9	19	6	10	4	0	8	10	13	19	16	0	0	1	0	0	0	8	0
August	9.7	S.	49	NW.	2	5	4	7	5	15	5	13	8	0	15	7	9	13	9	0	0	0	0	0	0	6	0
September	12.5	SW.	42	NW.	1	5	8	1	2	10	13	5	16	0	19	6	5	6	5	0	0	1	0	1	0	2	0
October	13.4	NE.	60	NW.	2	9	19	4	3	7	10	2	8	0	14	7	10	10	6	0	0	1	0	0	0	0	0
November	15.1	NW.	54	W.	7	0	8	3	6	8	5	10	26	0	6	10	14	13	13	1	0	4	0	0	7	0	0
December	12.3	NW.	48	NW.	1	3	7	8	2	6	11	9	16	0	8	9	14	12	11	5	0	7	6	0	16	0	0
Year	13.2	NW.	60	NW.	43	41	95	49	52	115	105	93	180	0	130	108	127	135	109	21	0	39	23	1	88	27	0

NORFOLK, VA.

[H = 57 ft.; h_t = 88 ft.; h_r = 80 ft.; h_a = 93 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	8.4	N.	40	NW.	1	19	10	3	7	2	3	8	10	0	14	5	12	10	8	2	0	5	4	0	15	0	0
February	8.3	NE.	40	SE.	1	6	17	6	8	2	8	1	7	1	9	6	13	14	12	0	0	3	0	0	6	0	0
March	9.4	NE.	36	SW.	0	3	13	4	12	7	10	5	8	0	11	5	15	14	9	0	0	0	0	0	1	0	0
April	8.8	SE.	30	SW.	0	6	8	8	16	8	8	2	4	0	16	9	5	9	8	0	0	0	0	0	0	2	0
May	8.7	SW.	30	SW.	0	9	7	8	9	9	10	4	6	0	13	6	12	15	15	0	0	0	0	0	0	4	0
June	7.4	SE.	46	NW.	1	4	11	8	9	8	12	2	4	2	7	9	14	13	13	0	0	0	0	6	0	6	0
July	6.8	SE.	38	NW.	0	4	5	4	18	10	14	2	4	1	11	13	7	14	11	0	0	0	0	6	0	5	0
August	6.8	NE.	38	NW.	0	3	11	6	13	4	15	4	6	0	14	8	9	11	8	0	0	0	0	3	0	4	0
September	7.3	NE.	26	NE.	0	3	25	7	8	2	8	5	2	0	22	4	4	6	6	0	0	1	0	4	0	1	0
October	8.8	NE.	38	NW.	0	12	24	4	9	4	3	2	4	0	12	4	15	12	9	0	0	5	0	0	0	1	0
November	9.3	SW.	32	SW.	0	10	7	5	6	7	15	2	8	0	17	7	6	8	6	0	0	0	0	0	0	0	0
December	8.5	NE.	38	NW.	0	8	15	1	2	10	13	5	5	3	8	8	15	9	8	0	0	1	0	0	6	0	0
Year	8.2	NE.	46	NW.	3	87	153	64	117	73	119	42	68	7	154	84	127	135	116	2	0	15	4	19	28	23	0

NORTHFIELD, VT.

[H = 872 ft.; h_t = 15 ft.; h_r = 2 ft.; h_a = 65 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	8.4	S.	44	S.	1	20	1	0	3	21	7	3	7	0	7	8	16	12	9	11	0	0	22	0	30	0	2
February	8.0	N.	32	S.	0	22	0	0	5	19	3	2	5	0	4	13	11	11	6	9	0	0	17	0	26	0	0
March	10.3	S.	50	NW.	2	21	1	0	3	26	5	2	3	1	5	10	16	14	11	10	0	1	7	0	27	0	5
April	9.2	S.	46	SW.	2	19	0	1	5	20	4	2	9	0	5	12	13	14	12	4	0	0	1	0	17	1	2
May	9.0	N.	36	S.	0	21	6	2	4	19	4	1	5	0	4	12	15	13	11	0	0	2	0	0	2	3	0
June	8.3	N.	32	N.	0	22	4	0	0	22	4	0	8	0	2	16	12	10	9	0	0	0	0	0	0	3	0
July	6.3	S.	29	SE.	0	5	6	0	4	39	4	1	3	0	2	18	11	15	12	0	0	1	0	3	0	7	2
August	7.3	S.	30	SW.	0	12	4	2	1	30	6	3	4	0	7	19	5	11	9	0	1	0	0	0	0	6	0
September	7.4	S.	36	NW.	0	14	0	0	1	26	7	2	10	0	9	14	7	8	6	0	0	0	0	0	2	1	0
October	8.4	S.	44	NW.	2	10	1	0	1	38	7	1	4	0	14	10	7	7	4	0	0	1	0	0	21	0	4
November	9.7	N.	34	SE.	0	22	2	0	4	20	6	0	6	0	3	7	20	16	11	7	0	0	9	0	22	0	0
December	8.7	S.	35	NW.	0	14	2	0	3	29	9	2	3	0	4	7	20	12	7	8	0	2	16	0	28	0	0
Year	8.4	S.	50	NW.	7	202	27	5	34	309	66	19	67	1	66	146	153	143	107	49	1	7	72	3	175	21	15

NORTH PLATTE, NEBR.

[H = 2,826 ft.; h_t = 43 ft.; h_r = 35 ft.; h_a = 52 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	10.2	W.	46	NW.	1	8	3	1	5	5	4	18	17	1	15	10	6	4	3	4	0	0	11	0	31	0	0
February	7.6	NW.	32	NW.	0	5	6	5	10	4	9	4	13	0	4	19	5	4	3	4	0	0	6	0	28	0	0
March	10.5	SE.	40	NW.	1	7	8	5	18	4	3	11	6	0	11	9	11	9	3	4	0	0	5	0	24	1	0
April	11.6	NW.	40	NW.	1	7	3	5	4	6	8	12	15	0	8	15	7	10	7	5	0	0	0	0	4	0	0
May	9.9	SE.	46	S.	1	5	0	5	16	12	5	7	11	1	14	17	0	4	1	0	0	0	0	0	1	2	0
June	9.8	SE.	32	N.	0	2	3	12	15	10	6	5	7	0	4	21	5	12	10	0	0	0	0	2	0	6	0
July	8.8	NW.	48	NW.	1	3	4	6	11	14	2	7	15	0	14	15	2	10	5	0	0	0	0	16	0	7	0
August	7.3	W.	26	NW.	0	6	7	2	10	10	10	11	6	0	11	17	3	10	4	0	0	0	0	6	0	3	0
September	9.9	S.	41	S.	1	3	2	3	12	21	7	6	5	1	20	7	3	7	4	0	1	0	0	7	0	4	0
October	9.7	NW.	51	NW.	1	6	3	1	8	13	4	8	18	1	12	13	6	7	6	2	0	0	0	0	8	1	0
November	8.0	W.	33	NW.	0	4	7	4	6	7	5	16	11	0	13	14	3	4	1	4	0	0	4	0	23	0	0
December	8.8	W.	35	NW.	0	3	3	0	5	5	6	22	18	0	17	8	6	7	5	6	0	0	10	0	29	0	0
Year	9.3	NW.	51	NW.	7	59	49	49	120	111	69	127	142	4	143	165	57	88	52	29	1	0	36	31	148	24	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

OKLAHOMA CITY, OKLA.

[λ = 35° 26′ N.; φ = 97° 33′ W.; gravity corr., —0.02.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	28.88	29.21	28.28	27.3	36.0	43.6	25.9	34.8	63	3	23	28	82	73	.132	.166	1.10	0.48	4.2	4.1	4.7
February	28.69	29.38	28.29	35.0	46.0	51.3	32.9	42.1	74	19	31	37	86	72	.183	.224	1.32	.52	5.9	4.0	4.6
March	28.62	28.97	28.16	43.3	54.3	60.9	39.8	50.4	84	18	39	42	86	67	.261	.283	4.71	1.46	5.1	4.1	5.0
April	28.72	28.99	28.35	49.5	64.1	70.8	48.3	59.6	80	37	44	47	82	56	.299	.332	5.87	2.79	3.5	2.9	3.7
May	28.75	29.01	28.45	59.3	70.2	74.7	57.0	65.8	85	42	54	58	84	68	.431	.495	6.02	2.13	5.5	3.6	3.8
June	28.65	28.87	28.42	69.6	79.9	84.3	66.6	75.4	94	48	64	68	84	69	.615	.699	2.58	1.18	4.0	3.4	3.6
July	28.70	28.87	28.33	72.5	87.4	91.4	70.1	80.8	103	57	65	65	77	49	.618	.625	1.90	1.48	2.7	1.2	1.7
August	28.74	28.96	28.58	68.3	83.4	89.4	67.3	78.4	98	56	62	62	80	51	.563	.570	1.66	.64	3.5	2.9	2.7
September	28.84	29.09	28.56	64.1	78.8	87.3	63.0	75.2	96	49	56	56	77	50	.478	.471	1.22	1.06	1.7	2.0	2.1
October	28.76	29.04	28.42	55.6	68.9	77.8	54.1	66.0	91	36	48	49	78	51	.357	.359	.81	.41	3.4	2.1	2.9
November	28.82	29.35	28.37	40.7	51.7	61.2	35.9	48.6	78	11	33	36	74	57	.217	.231	.58	.58	3.3	1.6	2.5
December	28.82	29.37	28.15	29.0	37.5	45.5	25.8	35.6	70	6	24	30	80	74	.137	.171	.70	.25	3.9	3.5	4.6
Year	28.75	29.38	28.15	51.2	63.2	69.8	48.9	59.4	103	3	45	48	81	61	.358	.386	28.47	2.79	3.9	3.0	3.5

OMAHA, NEBR.

[λ = 41° 16′ N.; φ = 95° 56′ W.; gravity corr., —0.01.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	28.94	29.43	28.20	17.0	23.1	28.7	13.1	20.9	51	—13	14	16	85	74	.090	.105	0.87	0.34	4.2	5.1	5.2
February	28.84	29.49	28.32	22.4	29.7	34.7	19.7	27.2	59	—11	19	24	87	77	.110	.130	.63	.54	6.9	6.4	6.6
March	28.79	29.21	28.16	29.5	38.8	43.6	25.7	34.6	66	— 3	27	32	89	78	.162	.203	1.47	.62	6.1	5.0	6.8
April	28.82	29.28	28.33	44.5	54.6	59.3	41.7	50.5	79	29	40	43	86	68	.261	.294	5.67	1.47	6.3	6.1	5.9
May	28.86	29.08	28.52	54.0	67.9	72.4	51.1	61.8	87	38	45	47	72	50	.311	.339	2.16	.98	3.9	3.3	4.0
June	28.73	29.02	28.35	64.2	78.1	82.0	62.4	72.2	98	47	57	59	78	54	.487	.527	1.43	.52	6.0	4.5	5.9
July	28.75	29.00	28.32	70.9	84.6	89.4	68.3	78.8	102	57	64	63	80	50	.608	.592	2.01	1.18	2.7	3.1	3.4
August	28.85	29.14	28.60	63.7	76.9	81.5	62.1	71.8	95	51	58	59	82	56	.493	.516	1.92	.58	4.1	3.2	4.3
September	28.92	29.33	28.64	64.1	80.7	87.2	63.3	75.2	99	45	55	55	73	43	.449	.456	1.39	1.17	2.2	1.6	2.1
October	28.86	29.23	28.36	51.1	63.1	70.0	48.3	59.2	91	35	44	44	78	52	.297	.292	1.82	.57	3.4	3.8	4.4
November	28.90	29.44	28.35	30.0	40.3	46.4	26.6	36.5	71	— 2	22	26	73	59	.129	.151	.14	.10	4.8	2.5	5.0
December	28.94	29.40	28.34	19.3	22.6	28.4	15.1	21.8	47	—12	16	18	86	80	.100	.105	1.79	.51	5.6	5.6	6.3
Year	28.85	29.49	28.16	44.2	55.0	60.3	41.4	50.9	102	—13	38	40	81	62	.291	.309	21.30	1.47	4.7	4.2	5.0

OSWEGO, N. Y.

[λ = 43° 29′ N.; φ = 76° 35′ W.; gravity corr., 0.00.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	29.68	30.38	29.07	21.0	24.8	29.9	16.4	23.2	60	— 1	18	21	88	84	.107	.119	6.05	1.27	8.5	7.5	7.9
February	29.69	30.29	29.24	23.4	26.7	31.2	19.1	25.2	45	4	19	20	81	76	.104	.113	1.26	.38	8.6	5.8	7.5
March	29.66	30.38	28.79	30.8	33.1	39.9	25.8	32.8	56	0	26	27	81	77	.147	.149	4.19	.93	7.2	6.5	6.6
April	29.69	30.28	29.21	42.5	44.7	52.0	35.9	44.0	79	19	33	34	70	68	.201	.205	2.46	.77	5.1	6.0	5.4
May	29.58	30.03	29.22	51.1	53.2	61.2	45.5	53.4	78	37	43	42	76	69	.288	.282	2.76	.55	6.3	5.7	6.2
June	29.57	29.85	29.33	58.1	60.5	67.2	51.9	59.6	85	42	50	49	75	68	.364	.358	3.56	.95	5.4	5.5	5.4
July	29.56	29.94	29.24	69.8	72.1	79.2	64.6	71.9	94	55	63	64	80	77	.596	.602	3.15	.60	6.1	5.7	5.3
August	29.59	29.84	29.26	64.0	66.7	72.7	58.4	65.6	82	50	56	57	76	71	.455	.466	1.70	.71	5.9	3.9	4.3
September	29.78	30.04	29.42	58.1	63.0	69.6	52.5	61.0	88	43	49	51	74	67	.369	.395	.81	.33	5.9	2.9	4.3
October	29.75	30.28	29.24	48.6	54.3	61.4	43.2	52.3	81	31	39	42	72	66	.252	.284	.51	.19	4.5	4.7	4.4
November	29.65	30.17	28.69	37.7	38.8	44.7	32.9	38.8	65	20	33	32	82	77	.192	.190	6.56	1.40	9.0	7.2	8.4
December	29.66	30.17	29.16	26.9	30.2	35.1	23.3	29.2	59	4	23	25	86	81	.134	.142	3.60	1.24	9.4	8.7	9.1
Year	29.66	30.38	28.60	44.3	47.3	53.7	39.1	46.4	94	— 1	38	39	78	73	.267	.275	36.61	1.40	6.8	5.8	6.2

PALESTINE, TEX.

[λ = 31° 45′ N.; φ = 95° 40′ W.; gravity corr., —0.03.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	29.66	30.02	29.16	39.8	46.7	53.6	36.7	45.2	78	11	34	36	80	68	.225	.241	5.95	1.87	6.2	6.1	6.4
February	29.49	30.14	29.14	47.6	58.7	65.6	44.9	55.2	82	26	42	43	82	58	.302	.301	.29	.20	5.8	5.2	5.7
March	29.40	29.70	29.10	57.6	67.3	72.7	55.3	64.0	85	38	52	52	84	62	.427	.414	8.19	3.27	7.2	6.1	6.7
April	29.51	29.78	29.20	57.6	71.4	77.4	54.8	66.1	86	41	52	50	81	50	.401	.387	2.01	.87	5.5	5.4	5.7
May	29.50	29.76	29.31	64.1	76.8	81.8	61.8	71.8	89	48	59	61	85	61	.511	.550	4.27	2.18	5.4	4.2	4.7
June	29.46	29.63	29.29	72.7	82.6	89.2	69.5	79.4	98	59	69	69	89	65	.722	.707	4.16	1.64	5.8	4.5	4.9
July	29.46	29.64	29.29	75.8	90.5	95.4	75.3	84.4	102	67	69	68	81	48	.721	.678	1.01	.80	3.3	3.5	3.7
August	29.47	29.61	29.34	73.1	87.1	94.0	71.5	82.8	104	63	68	66	84	51	.691	.642	.48	.26	3.0	4.4	3.7
September	29.54	29.73	29.11	67.5	82.2	89.7	66.0	77.8	100	49	61	62	81	52	.568	.569	1.36	.70	3.7	4.4	4.0
October	29.48	29.76	29.16	60.8	75.1	83.9	59.5	71.7	94	44	56	58	86	59	.464	.495	3.65	1.19	3.4	3.8	4.1
November	29.61	30.04	29.30	50.2	61.1	68.3	47.3	57.8	84	30	46	48	84	64	.340	.367	1.30	.60	5.2	3.1	4.4
December	29.59	30.03	29.02	42.0	49.8	55.2	39.6	47.4	74	18	38	40	88	71	.250	.261	6.81	1.46	6.1	5.2	6.1
Year	29.51	30.14	29.02	59.1	70.8	77.2	56.7	67.0	104	11	54	54	84	59	.468	.468	39.48	3.27	5.0	4.7	5.0

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued

OKLAHOMA CITY, OKLA.

[H = 1,218 ft.; h_t = 54 ft.; h_r = 46 ft.; h_a = 62 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		Mi.																								
January	8.2	N.	36	N.	0	16	5	1	6	8	9	6	11	0	17	3	11	9	7	6	0	0	5	0	21	0	0
February	9.0	N.	28	SE.	0	16	5	1	11	7	9	2	5	0	15	6	7	6	4	0	0	0	0	0	16	2	0
March	10.0	SW.	32	S.	0	9	9	4	11	9	16	0	4	0	14	7	10	12	10	0	1	0	0	0	6	3	0
April	12.2	N.	44	S.	1	17	3	1	8	15	9	3	4	0	16	11	3	9	7	0	0	0	0	0	0	7	0
May	9.3	S.	48	NW.	2	6	12	5	14	15	6	2	2	0	18	10	3	12	11	0	2	0	0	0	0	4	0
June	12.5	S.	40	S.	1	4	1	0	5	44	3	0	2	1	18	10	2	8	7	0	0	0	0	7	0	4	0
July	10.1	S.	40	SW.	1	5	5	4	9	35	3	0	1	0	25	6	0	3	3	0	0	0	0	21	0	2	0
August	7.6	S.	28	N.	0	5	12	6	9	20	6	1	2	1	21	8	2	7	7	0	0	0	0	15	0	2	0
September	8.0	S.	33	SE.	0	6	4	4	18	24	4	0	0	0	23	4	3	5	4	0	0	0	0	9	0	0	0
October	9.0	S.	28	N.	0	9	2	4	11	20	8	1	7	0	22	4	5	6	4	0	0	0	0	1	0	1	0
November	12.8	S.	36	N.	0	14	3	1	6	24	4	0	8	0	22	4	4	1	1	0	0	0	1	0	11	1	0
December	b10.7	N.	38	S.	0	19	8	1	2	10	6	5	11	0	15	6	10	8	5	3	0	1	8	0	24	1	0
Year	10.0	S.	48	NW.	5	126	69	32	110	231	83	20	57	2	226	79	60	86	70	9	3	1	14	53	78	27	0

OMAHA, NEBR.

[H = 1,103 ft.; h_t = 92 ft.; h_r = 86 ft.; h_a = 97 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	8.7	NW.	29	N.	0	7	0	1	9	10	2	2	30	1	13	7	11	9	6	5	0	2	14	0	30	0	0
February	7.8	NW.	24	NW.	0	17	3	1	9	8	6	2	10	0	4	12	12	6	3	5	0	1	8	0	28	0	0
March	9.5	SE.	38	E.	0	16	5	3	18	2	0	3	15	0	5	12	14	12	8	4	0	3	6	0	21	3	0
April	10.4	NW.	35	NW.	0	16	4	5	8	6	0	4	16	1	9	9	12	14	10	0	1	0	0	0	1	3	0
May	7.7	SE.	26	NW.	0	14	2	4	18	7	3	4	9	1	16	11	4	11	7	0	0	0	0	0	0	6	0
June	8.6	SE.	29	SE.	0	13	11	4	14	9	1	1	7	0	6	17	7	11	7	0	1	0	0	6	0	9	0
July	7.7	SE.	43	SW.	1	13	2	4	25	6	3	1	6	2	16	14	1	9	5	0	1	2	0	14	0	6	0
August	6.8	N.	34	NW.	0	15	8	0	12	9	3	4	10	1	15	11	5	6	6	0	0	0	0	5	0	7	0
September	7.2	S.	29	NW	0	4	5	3	13	21	8	1	4	1	21	8	1	4	4	0	0	0	0	12	0	2	0
October	7.8	SE.	26	S.	0	10	3	2	16	11	8	1	10	1	15	10	6	7	6	0	0	2	0	1	0	1	0
November	8.1	N.	31	NW.	0	12	4	3	5	15	4	4	12	1	12	11	7	6	1	2	0	3	5	0	19	0	0
December	7.6	NW.	25	NW.	0	12	4	2	3	9	5	3	24	0	9	7	15	12	8	12	0	6	17	0	29	0	0
Year	8.2	NW.	43	SW.	1	149	51	32	150	113	43	30	153	9	141	129	95	107	71	28	3	19	50	38	128	37	0

OSWEGO, N. Y.

[H = 335 ft.; h_t = 76 ft.; h_r = 68 ft.; h_a = 87 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	14.5	SE.	44	NW.	4	1	2	2	16	11	5	10	15	0	5	3	23	20	15	17	0	0	19	0	27	0	0
February	13.6	SE.	40	W.	1	3	8	2	14	8	4	12	5	0	3	9	16	16	9	14	0	0	11	0	27	0	0
March	14.2	SE.	44	SW.	3	6	3	2	14	11	5	9	12	0	8	6	17	18	12	8	0	1	5	0	22	1	0
April	11.8	W.	44	S.	2	8	3	0	7	13	6	14	8	1	12	4	14	11	10	1	0	0	0	0	8	1	2
May	9.4	W.	42	SE.	1	4	4	0	15	10	4	20	5	0	8	7	16	13	11	0	0	2	0	0	0	1	0
June	8.8	W.	33	W.	0	0	2	1	10	7	9	22	8	1	9	10	11	11	9	0	0	0	0	0	0	2	0
July	8.0	SE.	25	SE.	0	4	3	0	26	5	8	7	8	1	11	9	11	13	10	0	0	0	0	2	0	10	0
August	8.1	S.	23	N.	0	1	7	1	9	15	10	10	9	0	13	12	6	11	8	0	0	0	0	0	0	2	0
September	8.7	S.	28	N.	0	5	4	3	10	14	9	6	8	1	16	4	10	9	4	0	0	1	0	0	0	0	0
October	10.6	SE.	36	S.	0	7	2	3	24	15	5	3	3	0	14	8	9	8	5	0	0	2	0	0	1	1	0
November	15.0	NW.	38	NW.	0	1	3	0	13	16	5	3	19	0	2	5	23	21	17	8	0	0	3	0	13	0	0
December	13.1	SE.	38	N.	0	2	3	2	17	13	12	4	9	0	0	5	26	23	17	17	0	0	11	0	20	0	0
Year	11.3	SE.	44	SW.	11	42	44	16	175	138	82	120	109	4	101	82	182	174	127	65	0	6	49	2	118	18	2

PALESTINE, TEX.

[H = 510 ft.; h_t = 54 ft.; h_r = 54 ft.; h_a = 61 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	7.3	N.	27	SE.	0	15	11	2	6	8	9	1	10	0	6	8	17	12	11	1	1	1	3	0	11	2	0
February	8.5	S.	24	S.	0	9	8	2	3	22	2	1	8	1	9	9	10	4	4	0	0	1	0	0	3	0	0
March	9.0	S.	32	SW.	0	4	10	3	4	20	11	4	6	0	8	6	17	15	11	0	1	1	0	0	0	5	0
April	7.8	S.	26	W.	0	11	5	5	12	17	4	2	4	0	8	14	8	9	5	0	0	0	0	0	0	4	0
May	5.0	SE.	20	SE.	0	6	12	3	18	14	4	3	2	0	12	13	6	11	10	0	0	1	0	0	0	3	0
June	6.1	SE.	40	NW.	1	0	10	2	20	18	7	1	1	1	9	16	5	12	12	0	0	0	0	16	0	4	0
July	6.1	S.	36	E.	0	3	8	2	12	23	13	1	0	0	16	14	1	3	3	0	0	0	0	31	0	6	0
August	5.0	S.	24	NE.	0	10	10	5	12	15	9	0	0	1	19	8	4	5	4	0	0	1	0	25	0	0	0
September	5.9	NE.	26	NE.	0	16	24	1	10	3	1	0	4	1	16	9	5	5	3	0	0	0	0	16	0	3	0
October	4.9	NE.	26	NW.	0	10	22	2	6	9	4	1	8	0	17	8	6	8	7	0	0	2	0	6	0	3	0
November	7.3	N.	22	SE.	0	17	6	1	11	15	2	0	8	0	13	11	6	8	7	0	0	1	0	0	1	1	0
December	c7.1	S.	26	NW.	0	7	11	2	4	16	8	2	12	0	10	6	15	13	13	0	0	3	1	0	6	0	0
Year	6.7	S.	40	NW.	1	108	137	30	118	160	74	16	63	4	143	122	100	105	90	1	2	11	4	94	21	31	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station. b For 740½ hours. c For 741 hours.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

PARKERSBURG, W. VA.

[λ = 39° 16′ N.; φ = 81° 36′ W.; gravity corr., —0.01.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	29.48	29.93	28.98	25.0	31.7	36.5	21.4	29.0	66	— 7	22	26	87	78	.133	.150	1.76	0.46	6.3	5.5	6.6
February	29.39	29.94	28.92	34.0	38.6	44.6	30.8	37.7	63	11	28	31	80	76	.160	.180	7.04	1.84	7.9	6.8	7.8
March	29.38	29.91	28.78	42.1	49.1	56.8	37.4	47.1	74	28	37	40	83	71	.239	.267	3.99	1.00	6.2	6.4	6.8
April	29.43	30.00	28.82	48.1	55.7	63.3	42.5	52.9	83	28	39	40	72	59	.247	.258	3.56	1.41	6.4	6.7	6.4
May	29.35	29.68	28.96	55.1	62.0	69.8	47.5	58.6	85	35	48	48	80	61	.356	.345	3.95	1.36	5.2	5.1	5.2
June	29.33	29.50	29.15	66.4	72.8	81.3	59.4	70.4	92	45	59	60	77	65	.510	.530	6.77	2.12	5.4	7.0	6.6
July	29.31	29.55	29.05	72.1	77.8	86.2	66.8	76.5	99	58	66	67	82	70	.643	.664	6.68	1.70	4.7	6.0	5.9
August	29.35	29.58	29.09	66.6	73.8	82.5	61.3	71.9	96	54	61	61	82	66	.539	.546	2.08	.61	4.1	4.3	5.5
September	29.52	29.71	29.27	57.4	71.4	84.0	52.3	68.2	99	37	52	54	84	56	.413	.441	.46	.32	1.1	2.0	2.3
October	29.44	29.79	29.02	48.9	63.4	73.8	45.7	59.8	90	30	43	44	82	51	.286	.300	.07	.06	3.0	1.5	2.7
November	29.46	29.91	28.84	41.7	45.7	55.0	35.6	45.3	73	18	35	37	78	71	.211	.232	4.57	.98	6.1	5.7	6.9
December	29.43	29.82	28.86	34.6	38.6	44.4	30.3	37.4	67	11	30	32	84	78	.177	.191	2.85	.79	7.9	7.6	8.3
Year	29.41	30.00	28.78	49.3	56.7	64.8	44.2	54.6	99	— 7	43	45	81	67	.326	.342	43.78	2.12	5.4	5.4	5.9

PENSACOLA, FLA.

[λ = 30° 25′ N.; φ = 87° 13′ W.; gravity corr., —0.04.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	30.15	30.48	29.81	45.7	51.5	56.7	42.4	49.6	73	17	38	42	76	72	.270	.298	0.74	0.29	6.6	4.4	6.1
February	30.03	30.61	29.58	53.7	57.5	63.3	50.4	56.8	74	32	49	51	84	81	.381	.409	10.26	4.37	5.2	5.2	5.8
March	30.01	30.41	29.69	64.2	67.3	71.3	61.3	66.3	77	43	60	62	86	85	.547	.581	5.31	1.15	7.3	6.4	6.8
April	30.03	30.31	29.69	64.4	68.0	73.1	59.7	66.4	85	46	57	59	78	75	.487	.521	3.08	1.20	5.2	4.8	5.8
May	30.00	30.23	29.80	70.2	73.5	79.8	63.7	71.7	86	51	59	62	69	69	.520	.566	1.26	1.07	2.3	4.3	3.4
June	29.96	30.10	29.81	80.6	81.7	87.3	74.6	81.0	98	69	72	72	75	74	.781	.798	2.03	1.07	2.2	4.5	4.2
July	29.97	30.14	29.78	81.9	83.2	88.8	76.6	82.7	94	69	72	72	73	71	.791	.795	2.19	.70	4.0	5.5	5.5
August	29.98	30.11	29.83	78.8	79.9	87.1	73.4	80.2	97	70	72	72	80	78	.787	.788	5.67	1.13	4.8	6.0	5.6
September	30.00	30.14	29.80	73.4	78.6	85.7	70.0	77.8	94	57	65	68	77	71	.648	.694	2.35	1.08	3.2	4.9	4.5
October	30.00	30.27	29.70	67.7	74.0	80.1	64.5	72.3	90	50	60	65	78	74	.545	.625	1.33	1.19	3.5	3.3	3.7
November	30.15	30.35	29.78	58.2	64.1	70.5	54.5	62.5	78	41	52	55	80	73	.407	.450	3.61	2.21	4.2	2.2	3.9
December	30.12	30.42	29.63	53.4	57.7	63.5	48.9	56.2	76	32	49	51	84	79	.371	.402	2.86	1.27	6.4	4.0	5.3
Year	30.03	30.61	29.58	66.0	69.8	75.6	61.7	68.6	98	17	59	61	78	75	.545	.577	40.69	4.37	4.6	4.6	5.0

PHILADELPHIA, PA.

[λ = 39° 57′ N.; φ = 75° 9′ W.; gravity corr., —0.01.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	30.02	30.58	29.46	27.8	31.9	37.3	24.2	30.8	61	7	21	24	76	72	.123	.140	2.17	0.89	5.6	4.1	5.6
February	29.97	30.50	29.48	32.5	36.2	40.8	29.7	35.8	53	18	26	29	75	76	.140	.165	2.97	.91	6.9	5.2	6.4
March	29.97	30.64	29.19	39.2	45.1	50.8	35.4	43.1	68	23	32	33	76	64	.193	.203	2.03	.55	6.1	4.8	5.9
April	29.99	30.53	29.43	48.2	54.0	62.6	42.7	52.6	85	27	37	39	67	59	.235	.250	3.03	1.53	4.2	4.0	4.9
May	29.85	30.27	29.49	60.0	63.8	71.8	53.5	62.6	82	46	48	48	66	59	.351	.347	4.33	1.29	4.8	5.1	5.6
June	29.85	30.13	29.56	66.2	70.0	77.6	60.2	68.9	91	49	55	56	68	63	.444	.458	4.53	1.68	5.7	5.5	6.1
July	29.85	30.20	29.53	73.0	75.8	84.1	68.6	76.4	94	63	67	66	81	74	.660	.654	7.70	2.14	6.2	6.7	6.8
August	29.87	30.07	29.56	70.6	74.7	82.5	66.2	74.4	90	62	61	62	74	66	.554	.564	3.52	1.70	3.8	3.7	5.0
September	30.03	30.27	29.72	64.2	69.7	78.1	58.7	68.4	96	45	54	56	71	62	.439	.465	1.10	.63	4.3	2.0	3.8
October	30.03	30.51	29.54	53.6	58.6	66.9	49.6	58.2	88	39	46	47	77	68	.329	.343	1.70	.74	5.4	3.4	5.3
November	29.99	30.49	29.32	42.9	46.7	53.1	38.7	45.9	71	24	37	36	78	66	.235	.231	4.44	1.82	6.5	4.9	6.4
December	29.98	30.44	29.18	34.6	38.7	44.4	31.8	38.1	63	16	30	30	83	71	.173	.178	4.52	2.23	8.0	5.6	6.7
Year	29.95	30.64	29.18	51.1	55.4	62.5	46.6	54.6	96	7	43	44	74	67	.323	.333	42.04	2.23	5.6	4.6	5.7

PHŒNIX, ARIZ.

[λ = 33° 28′ N.; φ = 112° 0′ W.; gravity corr., —0.03.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	28.88	29.15	28.58	43.4	57.3	61.9	40.5	51.2	71	27	35	37	75	49	.213	.229	3.67	1.74	2.3	3.8	4.3
February	28.84	29.10	28.57	42.0	60.2	63.3	39.4	51.4	78	30	33	31	72	35	.191	.179	.47	.45	2.0	3.9	3.7
March	28.78	29.15	28.56	43.6	63.8	67.3	41.3	54.3	84	31	32	30	63	30	.184	.171	.53	.39	1.5	2.0	2.3
April	28.75	28.96	28.49	53.4	81.5	84.8	51.6	68.2	96	38	32	30	46	16	.184	.134	T.	T.	1.3	1.2	1.1
May	28.66	28.88	28.45	62.5	90.3	93.8	61.2	77.5	104	52	37	38	40	17	.225	.232	.01	.01	.4	1.8	1.8
June	28.62	28.78	28.45	67.9	96.3	98.6	66.6	82.6	107	54	37	34	32	12	.222	.204	.00	.00	1.2	1.0	1.2
July	28.68	28.84	28.46	78.1	100.4	103.1	76.2	89.6	107	67	55	51	47	20	.457	.380	.59	.53	2.5	2.4	2.1
August	28.69	28.82	28.50	78.3	98.6	102.0	76.5	89.2	110	71	63	58	61	27	.578	.490	.61	.25	3.7	4.1	2.9
September	28.73	28.92	28.55	73.1	90.3	95.8	71.0	83.4	102	65	62	59	70	38	.566	.515	3.67	1.93	3.7	3.9	3.4
October	28.75	28.95	28.50	56.5	76.6	82.1	54.1	68.1	100	42	41	42	58	30	.272	.275	.15	.13	1.7	2.0	2.5
November	28.85	29.04	28.58	46.3	69.5	76.7	44.0	60.4	88	31	28	32	48	25	.153	.187	.00	.00	.9	2.5	2.4
December	28.94	29.20	28.37	36.7	58.0	64.0	33.6	48.8	79	23	24	25	60	30	.128	.137	.17	.11	1.5	2.8	2.6
Year	28.76	29.20	28.37	56.8	78.6	82.8	54.7	68.7	110	23	40	39	56	27	.281	.261	9.87	1.93	1.9	2.6	2.5

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

PARKERSBURG, W. VA.

[H = 638 ft.; h_t = 77 ft.; h_r = 69 ft.; h_a = 84 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	6.7	W.	36	W.	0	3	3	1	7	12	9	19	3	5	6	9	16	13	11	8	0	0	11	0	23	0	0
February	6.2	NW.	31	NW.	0	10	4	5	3	3	10	7	11	3	4	4	20	13	13	2	0	1	1	0	12	1	0
March	7.5	N.	38	W.	0	12	9	5	9	7	5	8	6	1	7	8	16	17	15	3	0	0	0	0	13	4	0
April	6.4	SE.	36	NW.	0	9	4	7	11	7	8	3	9	2	4	14	12	12	8	0	0	0	0	0	4	0	0
May	6.0	NW.	34	NW.	0	9	4	0	9	11	11	4	14	0	10	11	10	11	10	0	0	0	0	0	0	3	0
June	4.9	S.	30	W.	0	10	7	2	8	12	5	4	8	4	5	11	14	14	12	0	1	0	0	3	0	8	0
July	4.6	SE.	20	NW.	0	0	3	2	19	10	13	5	6	4	6	18	7	16	12	0	0	0	0	8	0	8	0
August	4.3	SE.	22	W.	0	8	3	4	15	7	5	7	6	7	5	22	4	9	8	0	0	0	0	3	0	5	0
September	3.8	N.	34	NW.	0	18	6	1	14	5	3	0	4	9	21	7	2	3	2	0	0	3	0	10	0	2	0
October	4.7	S.	24	S.	0	8	9	3	10	11	2	5	2	12	22	3	6	2	1	0	0	1	0	0	0	0	0
November	5.3	S.	36	W.	0	2	3	3	11	13	4	10	10	4	4	12	14	16	14	0	0	0	0	0	10	0	0
December	4.2	SW.	20	NW.	0	4	4	2	8	11	12	7	11	3	2	4	25	16	11	4	0	0	4	0	18	0	0
Year	5.4	SE.	38	W.	0	93	59	35	124	109	87	79	90	54	96	123	146	142	117	17	1	5	16	24	80	31	0

PENSACOLA, FLA.

[H = 56 ft.; h_t = 78 ft.; h_r = 79 ft.; h_a = 90 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	11.3	N.	42	E.	1	17	15	5	6	3	1	8	7	0	7	11	13	9	6	0	0	1	0	0	6	0	0
February	10.6	SW.	42	S.	2	10	10	4	4	8	11	3	6	0	8	12	8	14	12	0	0	4	0	0	0	1	0
March	11.9	SE.	42	SE.	1	5	1	6	20	10	12	5	3	0	5	11	15	14	12	0	0	1	0	0	0	3	0
April	10.8	S.	38	S.	0	9	4	2	11	13	10	1	10	0	5	17	8	11	8	0	0	0	0	0	0	3	0
May	9.2	SW.	26	SW.	0	5	11	1	6	9	14	4	12	0	18	9	4	5	3	0	0	0	0	0	0	2	0
June	9.0	SW.	34	N.	0	4	5	0	1	2	35	4	9	0	14	13	3	5	4	0	0	0	0	7	0	8	0
July	8.1	SW.	26	SW.	0	4	8	1	5	2	23	8	11	0	8	19	4	10	9	0	0	0	0	10	0	9	0
August	7.3	SW.	36	SW.	0	3	13	2	2	4	17	7	14	0	10	11	10	16	12	0	0	0	0	9	0	8	0
September	10.3	NE.	42	NE.	1	8	27	4	8	2	8	0	3	0	13	11	6	10	8	0	0	0	0	3	0	5	0
October	8.9	NE.	37	S.	0	10	18	3	9	1	14	3	4	0	18	6	7	5	2	0	0	1	0	0	0	1	0
November	9.0	NE.	36	SW.	0	11	16	5	12	1	6	3	6	0	14	10	6	6	5	0	0	0	0	0	0	0	0
December	8.5	N.	44	SW.	1	14	6	6	11	9	5	4	7	0	11	10	10	11	7	0	0	1	0	0	0	1	0
Year	9.6	SW.	44	SW.	6	100	134	39	95	64	156	50	92	0	131	140	94	116	88	0	0	8	0	29	6	41	0

PHILADELPHIA, PA.

[H = 117 ft.; h_t = 168 ft.; h_r = 166 ft.; h_a = 184 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	11.3	NW.	36	NW.	0	8	13	2	5	3	2	6	23	0	10	7	14	11	7	6	0	1	10	0	23	0	0
February	11.0	NW.	46	NE.	1	8	9	6	2	3	2	8	18	0	6	7	15	14	11	7	0	0	2	0	16	1	0
March	10.9	NW.	34	NW.	0	5	9	8	3	5	10	6	16	0	8	11	12	13	9	0	0	1	0	0	8	2	0
April	10.9	NW.	37	NW.	0	5	5	5	5	13	8	3	16	0	14	7	9	8	8	0	0	0	0	0	1	2	0
May	11.4	SW.	34	SE.	0	11	5	1	5	11	12	8	9	0	9	12	10	12	11	0	0	0	0	0	0	4	0
June	10.1	NW.	38	NW.	0	9	8	3	1	10	8	8	13	0	4	15	11	11	10	0	0	0	0	1	0	4	0
July	8.4	S.	40	NW.	1	1	6	9	8	13	9	8	8	0	3	15	13	17	15	0	0	0	0	4	0	11	0
August	7.6	NW.	34	SW.	0	9	4	6	8	7	10	6	12	0	11	13	7	9	9	0	0	1	0	0	0	9	0
September	9.5	SW.	27	N.	0	8	12	3	3	3	14	7	10	0	17	6	7	5	4	0	0	0	0	3	0	2	0
October	10.7	NE.	44	NE.	1	8	22	3	5	4	9	3	8	0	13	4	14	8	6	0	0	2	0	0	0	0	0
November	9 7	NW.	38	NW.	0	3	5	3	7	9	6	8	19	0	5	14	11	13	11	1	0	3	0	0	5	1	0
December	10.2	NW.	37	NW.	0	8	8	3	6	4	10	9	14	0	5	13	13	12	10	2	0	2	2	0	15	0	0
Year	10.1	NW.	46	NE.	3	83	106	52	58	85	100	80	166	0	105	124	136	133	111	16	0	10	14	8	68	36	0

PHŒNIX, ARIZ.

[H = 1,076 ft.; h_t = 47 ft.; h_r = 39 ft.; h_a = 57 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	3.6	SE.	17	SE.	0	3	5	12	13	4	4	13	3	5	14	9	8	10	9	0	0	2	0	0	3	0	0
February	3.9	E.	22	W.	0	3	4	14	3	2	7	8	12	3	14	10	4	3	2	0	0	0	0	0	5	0	0
March	4.9	E.	26	NW.	0	7	2	14	3	3	6	13	12	2	20	8	3	5	3	0	0	1	0	0	1	0	0
April	4.6	E.	22	SW.	0	7	3	18	0	3	7	13	9	0	26	4	0	0	0	0	0	0	0	5	0	0	0
May	4.6	E.	26	NW.	0	7	10	18	3	0	5	6	13	0	24	3	4	1	0	0	0	0	0	28	0	2	0
June	4.6	E.	19	W.	0	4	6	19	0	2	2	12	15	0	27	3	0	0	0	0	0	0	0	29	0	1	0
July	4.9	E.	26	SE.	0	5	2	21	3	1	7	8	15	0	21	10	0	3	2	0	0	0	0	31	0	5	0
August	4.2	E.	29	N.	0	5	5	20	5	3	6	6	11	1	18	12	1	6	5	0	0	0	0	30	0	11	0
September	3.9	E.	26	SW.	0	4	10	20	4	1	3	8	10	0	19	9	2	8	7	0	0	0	0	29	0	13	0
October	3.8	E.	26	E.	0	4	12	16	5	2	4	8	9	2	19	10	2	2	1	0	0	0	0	4	0	1	0
November	3.2	E.	19	W.	0	5	5	22	8	0	1	7	10	2	22	5	3	0	0	0	0	0	0	0	1	0	0
December	3.1	W.	28	W.	0	5	12	11	4	0	1	15	12	2	23	4	4	2	2	0	0	1	0	0	13	0	0
Year	4.1	E.	29	N.	0	59	76	205	51	21	53	117	131	17	247	87	31	40	31	0	0	4	0	156	23	33	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

PIERRE, S. DAK.

[λ=44° 22′ N.; φ=100° 21′ W.; gravity corr., 0.00.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	28.55	29.12	27.96	9.1	17.1	23.7	5.5	14.6	51	—19	7	13	92	84	.065	.085	1.66	0.90	4.1	4.0	5.5
February	28.41	29.13	27.78	9.6	18.6	24.0	5.8	14.9	41	—15	8	15	91	86	.063	.088	.29	.13	4.9	5.8	5.8
March	28.40	28.87	27.87	18.2	26.1	31.3	15.9	23.6	64	—15	16	21	89	81	.108	.128	2.49	1.18	4.8	6.3	5.8
April	28.44	28.97	27.94	38.6	52.9	57.3	36.5	46.9	87	24	32	33	76	52	.180	.187	3.51	1.49	4.8	5.7	5.8
May	28.43	28.80	28.12	51.0	70.7	74.0	47.8	60.9	90	31	40	40	66	35	.253	.271	.45	.17	3.0	3.5	3.7
June	28.32	28.69	27.80	59.6	75.4	79.0	55.5	67.2	98	39	52	50	77	45	.409	.386	3.11	.86	6.7	4.9	5.7
July	28.33	28.68	27.80	65.4	83.0	88.0	63.2	75.6	99	53	57	61	74	51	.465	.560	3.79	2.89	4.0	4.3	4.3
August	28.44	28.77	27.91	59.4	77.6	82.7	57.5	70.1	99	48	51	60	76	57	.386	.527	2.12	1.84	3.2	3.0	3.2
September	28.43	28.96	28.00	55.7	78.5	86.2	57.2	71.7	102	37	50	55	74	47	.392	.453	.14	.07	2.8	3.4	3.4
October	28.44	28.90	27.94	43.1	56.1	64.7	41.5	53.1	92	28	36	42	75	62	.213	.276	.40	.18	4.5	4.3	5.0
November	28.49	28.98	27.82	22.3	31.5	40.9	18.6	29.8	75	—13	17	23	80	73	.101	.136	.41	.23	4.9	3.4	5.0
December	28.49	29.04	27.91	14.4	24.3	29.8	11.5	20.6	58	—17	9	21	79	87	.074	.123	.47	.13	4.5	4.1	5.8
Year	28.43	29.13	27.78	37.2	51.0	56.8	34.7	45.8	102	—19	31	36	79	63	.226	.268	18.84	2.89	4.4	4.4	4.9

PITTSBURG, PA.

[λ=40° 32′ N.; φ=80° 2′ W.; gravity corr.,—0.01.]

January	29.23	29.74	28.69	24.5	29.8	34.5	20.2	27.4	63	—7	20	24	84	78	.123	.140	1.34	0.29	7.9	5.7	7.4
February	29.16	29.66	28.65	32.0	36.2	41.6	28.4	35.0	61	8	28	29	85	76	.157	.164	4.30	1.46	8.6	6.6	7.6
March	29.16	29.74	28.49	40.6	47.0	54.0	35.2	44.6	70	24	35	37	80	71	.217	.242	3.50	.85	6.5	5.7	6.6
April	29.20	29.76	28.60	46.9	53.4	60.4	41.6	51.0	81	26	40	44	78	74	.256	.304	3.34	1.08	5.5	6.3	6.2
May	29.11	29.45	28.66	54.4	61.3	67.8	48.2	58.0	81	37	48	49	81	66	.350	.353	2.70	1.22	4.9	5.8	5.5
June	29.10	29.35	28.88	64.8	72.2	77.1	58.7	67.9	88	42	57	58	76	63	.478	.494	2.97	1.38	4.6	5.3	5.0
July	29.10	29.36	28.82	72.5	77.5	85.3	67.2	76.2	99	59	67	65	83	67	.662	.620	4.52	1.23	4.7	5.8	5.2
August	29.13	29.42	28.81	64.4	73.2	80.0	61.0	70.5	91	50	58	58	81	60	.492	.493	2.08	.43	3.7	5.0	5.1
September	29.31	29.54	29.03	58.6	71.3	79.8	55.5	67.6	96	38	55	55	87	58	.445	.449	1.65	.52	2.8	1.7	4.2
October	29.23	29.63	28.83	50.9	63.0	70.5	47.9	59.2	87	38	45	46	81	55	.312	.315	.13	.12	2.8	1.9	4.5
November	29.20	29.65	28.43	42.4	45.5	52.6	37.2	44.9	69	19	36	38	80	76	.227	.245	5.11	1.19	6.8	6.0	7.1
December	29.17	29.60	28.62	34.5	37.6	42.9	30.9	36.9	65	9	30	33	85	85	.180	.202	3.44	1.17	8.2	7.6	8.4
Year	29.18	29.76	28.43	48.9	55.7	62.2	44.3	53.3	99	—7	43	45	82	69	.325	.335	35.08	1.46	5.6	5.3	6.1

POINT REYES LIGHT, CAL.

[λ=38° 11′ N.; φ=122° 51′ W.; gravity corr., —.]

January	.....	.....	.....	.....	.....	53.5	45.3	49.4	63	39	.....	.....	.....	.....	.....	.....	2.74	0.95	.....	.....	.....
February	.....	.....	.....	.....	.....	53.0	45.4	49.2	58	36	.....	.....	.....	.....	.....	.....	4.93	1.35	.....	.....	.....
March	.....	.....	.....	.....	.....	50.9	42.6	46.8	54	35	.....	.....	.....	.....	.....	.....	5.87	1.43	.....	.....	.....
April	.....	.....	.....	.....	.....	58.2	46.3	52.2	78	43	.....	.....	.....	.....	.....	.....	.47	.25	.....	.....	.....
May	.....	.....	.....	.....	.....	60.0	47.8	53.9	81	44	.....	.....	.....	.....	.....	.....	.02	.02	.....	.....	.....
June	.....	.....	.....	.....	.....	60.0	48.6	54.3	74	46	.....	.....	.....	.....	.....	.....	.42	.37	.....	.....	.....
July	.....	.....	.....	.....	.....	60.6	48.2	54.4	80	45	.....	.....	.....	.....	.....	.....	.00	.00	.....	.....	.....
August	.....	.....	.....	.....	.....	61.2	50.6	55.9	71	48	.....	.....	.....	.....	.....	.....	.00	.00	.....	.....	.....
September	.....	.....	.....	.....	.....	63.1	51.1	57.1	92	48	.....	.....	.....	.....	.....	.....	.47	.22	.....	.....	.....
October	.....	.....	.....	.....	.....	60.4	50.7	55.6	79	44	.....	.....	.....	.....	.....	.....	2.81	2.10	.....	.....	.....
November	.....	.....	.....	.....	.....	58.4	45.7	52.0	70	41	.....	.....	.....	.....	.....	.....	1.99	1.00	.....	.....	.....
December	.....	.....	.....	.....	.....	58.0	44.7	51.4	71	36	.....	.....	.....	.....	.....	.....	1.83	.90	.....	.....	.....
Year	.....	.....	.....	.....	.....	58.1	47.2	52.7	92	35	.....	.....	.....	.....	.....	.....	21.55	2.10	.....	.....	.....

PORT ANGELES, WASH.

[λ=48° 7′ N.; φ=123° 6′ W.; gravity corr., —0.01.]

January	30.01	30.36	29.52	.....	41.5	44.4	33.8	39.1	56	19	.....	39	.....	91	.....	.241	1.77	0.46	.....	7.9	7.6
February	29.87	30.50	29.35	.....	43.7	46.5	34.1	40.3	55	30	.....	39	.....	84	.....	.241	2.19	.68	.....	9.0	7.5
March	29.83	30.32	29.27	.....	41.4	44.4	32.1	38.2	55	19	.....	36	.....	82	.....	.213	2.40	.45	.....	6.7	6.5
April	30.12	30.41	29.64	.....	51.6	54.1	39.4	46.8	66	30	.....	47	.....	85	.....	.323	.48	.37	.....	5.6	5.3
May	30.02	30.31	29.78	.....	56.1	59.0	44.5	51.8	78	38	.....	51	.....	85	.....	.381	.63	.30	.....	4.6	4.4
June	29.95	30.20	29.70	.....	58.4	60.5	48.7	54.6	70	38	.....	53	.....	83	.....	.408	1.16	.63	.....	6.7	6.6
July	30.06	30.36	29.72	.....	59.4	61.4	48.8	55.1	67	44	.....	54	.....	83	.....	.418	.88	.34	.....	4.3	4.6
August	29.94	30.16	29.73	.....	66.5	69.1	50.9	60.0	81	42	.....	57	.....	74	.....	.473	.28	.17	.....	2.2	2.5
September	30.00	30.38	29.64	.....	58.0	59.9	45.6	52.8	75	36	.....	52	.....	80	.....	.384	1.32	.67	.....	4.0	4.5
October	30.00	30.40	29.33	.....	51.7	54.3	41.4	47.8	69	32	.....	48	.....	89	.....	.340	1.13	.64	.....	5.1	6.2
November	29.94	30.23	29.41	.....	43.3	46.4	35.7	41.0	57	24	.....	40	.....	90	.....	.252	6.03	1.78	.....	8.1	7.5
December	29.99	30.50	29.01	.....	42.6	45.2	36.7	41.0	52	30	.....	40	.....	92	.....	.250	9.85	2.63	.....	8.5	8.7
Year	29.98	30.50	29.01	.....	51.2	53.8	41.0	47.4	81	19	.....	46	.....	85	.....	.327	28.12	2.63	.....	6.1	6.0

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

PIERRE, S. DAK.

[H=1,460 ft.; h_t=50 ft.; h_r=46 ft.; h_a=62 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	9.5	NW.	43	NW.	3	7	2	10	11	1	1	5	24	1	10	10	11	8	6	7	0	0	21	0	31	0	0
February	8.2	NW.	36	W.	0	5	10	7	12	1	1	4	13	3	7	11	10	5	3	5	0	1	21	0	28	0	0
March	10.3	SE.	47	E.	1	8	14	11	16	1	1	1	10	0	7	13	11	9	6	5	0	1	14	0	25	0	0
April	11.3	NW.	46	W.	2	11	4	10	5	6	8	3	13	0	9	9	12	9	8	3	1	0	0	0	6	3	2
May	10.7	SE.	40	S.	1	9	2	7	22	5	3	4	10	0	16	10	5	5	3	0	1	0	0	0	1	3	0
June	9.4	SE.	48	N.	1	10	1	9	19	3	6	2	9	1	9	11	10	14	9	0	0	0	0	4	0	10	0
July	8.7	SE.	44	W.	1	13	5	9	18	2	2	2	10	1	14	12	5	6	6	0	0	1	0	13	0	5	0
August	7.8	SE.	43	NW.	2	2	11	15	20	1	3	3	6	1	18	9	4	5	4	0	0	0	0	6	0	2	0
September	8.9	SE.	47	S.	3	8	4	12	16	7	6	3	2	2	18	8	4	3	2	0	0	0	0	13	0	2	0
October	8.8	SE.	48	E.	1	12	5	4	19	1	6	2	12	1	12	11	8	5	4	0	1	2	0	1	4	1	2
November	7.6	SE.	39	NW.	0	14	4	4	19	1	5	5	8	0	10	13	7	6	3	4	0	0	9	0	26	0	0
December	6.8	NW.	36	N.	0	9	2	11	10	2	8	6	11	3	9	7	15	9	5	8	0	4	15	0	29	0	1
Year	9.0	SE.	48	E.	15	108	64	109	187	31	50	40	128	13	139	124	102	84	59	32	3	9	80	37	150	26	5

PITTSBURG, PA.

[H=842 ft.; h_t=116 ft.; h_r=101 ft.; h_a=123 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	7.7	W.	34	W.	0	0	2	4	13	5	15	18	5	0	3	13	15	15	12	12	0	5	13	0	25	0	0
February	6.9	W.	29	W.	0	1	3	4	14	1	7	15	11	0	3	10	15	12	10	5	0	1	2	0	18	0	0
March	7.8	W.	43	S.	1	4	5	3	12	6	11	16	5	0	6	11	14	18	15	4	0	3	0	0	15	1	0
April	7.0	W.	34	SE.	0	1	4	2	11	10	11	11	10	0	4	14	12	15	13	1	0	4	0	0	4	3	0
May	6.0	W.	28	S.	0	8	3	0	5	7	12	13	12	2	8	13	10	15	12	0	0	2	0	0	0	2	0
June	5.5	NW.	30	SE.	0	12	0	2	6	9	10	9	11	1	7	19	4	11	9	0	0	2	0	0	0	5	0
July	5.4	SE.	28	S.	0	2	1	3	14	9	13	10	10	0	4	24	3	15	15	0	0	2	0	8	0	7	0
August	4.7	W.	32	NW.	0	14	8	4	6	2	6	7	14	1	8	18	5	13	11	0	1	8	0	2	0	3	0
September	3.7	NW.	24	NW.	0	15	4	9	4	2	3	2	15	6	12	14	4	7	7	0	0	15	0	7	0	2	0
October	5.2	E.	32	S.	0	4	7	11	10	6	9	4	7	4	11	16	4	2	1	0	0	13	0	0	0	0	0
November	7.7	W.	30	W.	0	1	0	3	7	15	16	15	2	1	4	9	17	17	13	1	0	2	1	0	9	0	0
December	7.7	SW.	28	W.	0	1	3	4	10	10	17	12	5	0	0	9	22	14	10	3	0	1	5	0	19	0	0
Year	6.3	W.	43	S.	1	63	40	49	112	82	130	132	107	15	70	170	125	154	128	26	1	58	21	17	90	23	0

POINT REYES LIGHT, CAL.

[H=— ft.; h_t=12 ft.; h_r=1 ft.; h_a=16 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	12.0	NW.	45	SE.	3	2	1	1	10	1	1	0	13	2	13	4	14	8	8	0	0	2	0	0	0	0	0
February	17.8	NW.	62	NW.	10	0	0	0	1	0	7	6	14	0	7	8	13	18	15	1	3	1	0	0	0	1	0
March	22.5	NW.	63	NW.	17	0	1	0	2	1	3	3	21	0	13	9	9	17	16	0	1	2	0	0	0	0	0
April	20.2	NW.	64	NW.	12	0	0	0	2	1	0	0	27	0	18	3	9	3	3	0	0	6	0	0	0	0	0
May	21.1	NW.	75	NW.	7	0	0	0	5	1	0	0	25	0	13	6	12	1	0	0	0	6	0	0	0	0	0
June	26.0	NW.	70	NW.	13	0	0	1	2	0	1	2	24	0	15	6	9	4	3	0	0	9	0	0	0	0	0
July	23.6	NW.	72	NW.	7	0	0	0	3	2	0	0	26	0	18	2	11	0	0	0	0	14	0	0	0	0	0
August	15.1	NW.	50	NW.	3	0	0	0	3	2	6	0	20	0	6	5	20	0	0	0	0	18	0	0	0	0	0
September	18.1	NW.	62	NW.	6	2	0	0	3	0	0	1	24	0	13	9	8	3	3	0	0	14	0	1	0	0	0
October	15.4	NW.	52	NW.	5	1	0	1	5	1	0	1	22	0	10	8	13	5	3	0	0	6	0	0	0	0	0
November	15.0	NW.	63	NW.	7	2	0	1	6	1	0	2	17	1	10	9	11	5	5	0	0	7	0	0	0	0	0
December	13.7	NW.	62	NW.	5	4	1	3	7	0	0	0	15	1	18	8	5	8	6	0	0	6	0	0	0	0	0
Year	18.4	NW.	75	NW.	95	11	3	7	49	10	18	15	248	4	154	77	134	72	62	1	4	91	0	1	0	1	0

PORT ANGELES, WASH.

[H=29 ft.; h_t=47 ft.; h_r=32 ft.; h_a=61 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	4.7	SE.	30	SW.	0	0	4	5	9	5	6	2	0	0	4	8	19	15	13	1	0	2	0	0	8	0	0
February	5.4	SW.	30	SW.	0	0	3	6	5	0	8	6	0	0	1	14	13	16	13	1	1	2	0	0	8	0	0
March	6.3	W.	30	SW.	0	0	2	7	0	2	8	12	0	0	3	19	9	19	16	5	0	0	1	0	15	0	0
April	6.7	W.	36	W.	0	0	2	8	1	0	0	18	1	0	9	10	11	7	3	0	0	2	0	0	1	0	0
May	7.4	W.	30	W.	0	0	1	6	0	0	0	22	2	0	14	11	6	6	5	0	0	0	0	0	0	1	0
June	7.6	W.	32	SW.	0	0	0	3	1	0	5	19	1	1	4	14	12	9	6	0	0	3	0	0	0	0	0
July	7.9	W.	34	W.	0	0	0	1	0	0	2	14	14	0	12	11	8	8	6	0	0	3	0	0	0	0	0
August	5.2	NW.	24	W.	0	0	1	9	0	0	0	4	17	0	19	10	2	3	3	0	0	2	0	0	0	0	0
September	4.6	NW.	20	W.	0	0	0	9	2	0	0	5	14	0	15	6	9	8	7	0	0	6	0	0	0	0	0
October	4.5	E.	30	E.	0	0	0	13	3	0	1	6	8	0	7	11	13	9	7	0	0	5	0	0	0	0	0
November	5.6	SW.	30	W.	0	0	1	6	3	2	9	8	1	0	3	9	18	18	18	0	0	0	0	0	4	0	0
December	4.5	SW.	36	W.	0	0	4	4	6	3	9	4	0	1	2	4	25	22	18	0	0	0	0	0	3	0	0
Year	5.9	W.	36	W.	0	0	18	77	30	12	48	120	58	2	93	127	145	140	115	7	1	25	1	0	39	1	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

PORT HURON, MICH.

[λ=43° 0′ N.; φ=82° 26′ W.; gravity corr., 0.00.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	29.39	29.98	28.68	19.9	23.9	28.5	16.5	22.5	56	—13	15	18	80	78	.100	.110	2.50	0.59	6.7	6.8	6.8
February	29.37	29.94	28.91	23.6	27.1	29.9	21.6	25.8	38	1	19	22	82	80	.105	.120	1.40	.61	7.0	6.3	6.9
March	29.35	30.00	28.59	29.0	33.6	38.5	25.1	31.8	55	8	24	29	82	82	.138	.163	3.42	.80	5.4	6.1	5.8
April	29.38	30.03	28.95	40.1	44.2	51.2	35.4	43.3	74	19	34	36	79	75	.204	.226	2.01	.82	6.2	6.3	6.1
May	29.30	29.67	28.88	49.7	53.2	62.3	44.2	53.2	80	36	43	42	78	68	.280	.276	4.32	1.02	5.8	5.2	5.3
June	29.30	29.55	29.07	58.6	62.3	71.3	51.8	61.6	87	40	51	52	77	70	.388	.404	2.70	.98	5.1	4.7	4.3
July	29.27	29.51	29.06	68.9	74.0	81.0	63.8	72.4	96	55	63	64	81	72	.572	.594	3.51	1.18	4.2	2.8	3.8
August	29.32	29.65	28.99	66.7	67.8	75.9	56.6	66.2	84	45	55	59	83	73	.445	.497	2.31	.77	3.5	3.6	3.7
September	29.50	29.76	29.12	56.6	65.7	75.8	54.6	65.2	95	34	51	54	81	68	.339	.439	.51	.29	3.6	2.3	3.7
October	29.41	29.82	28.82	48.1	55.1	64.5	44.6	54.6	87	34	42	46	82	72	.283	.316	2.25	1.20	3.9	3.9	4.3
November	29.35	29.81	28.70	35.1	38.0	44.8	31.7	38.2	62	15	30	32	80	78	.177	.191	4.90	1.28	7.0	5.7	6.7
December	29.34	29.82	28.85	25.2	28.0	33.3	21.4	27.4	54	— 2	21	23	82	80	.120	.134	2.27	.76	7.6	6.5	7.3
Year	29.36	30.03	28.59	43.0	47.7	54.8	38.9	46.8	96	—13	37	40	81	75	.267	.289	32.10	1.28	5.5	5.0	5.4

PORTLAND, ME.

[λ=43° 39′ N.; φ=70° 15′ W.; gravity corr., 0.00.]

January	29.89	30.64	28.95	20.5	24.7	31.4	15.8	23.6	51	— 8	16	18	80	73	.105	.109	4.09	1.54	5.2	4.1	5.1
February	29.92	30.39	29.43	21.9	27.2	33.5	18.5	26.0	45	6	15	19	74	70	.094	.109	2.60	.75	5.3	3.7	5.0
March	29.90	30.77	28.92	28.9	32.4	39.6	23.9	31.8	52	— 1	22	24	76	72	.129	.136	4.55	1.10	5.2	3.8	5.7
April	29.91	30.51	29.37	42.1	43.8	52.1	35.4	43.8	71	17	33	35	72	72	.197	.209	2.60	1.07	5.5	3.4	5.1
May	29.83	30.18	29.52	51.0	52.9	58.6	45.7	52.2	74	36	43	44	78	77	.291	.295	5.87	1.69	8.1	5.2	7.7
June	29.79	30.20	29.53	57.2	57.6	65.7	50.7	58.2	83	44	48	49	74	75	.342	.353	4.97	2.11	6.2	5.9	6.7
July	29.85	30.26	29.50	65.4	65.1	72.7	59.5	66.1	88	51	61	60	85	85	.540	.526	2.62	.88	7.4	4.9	6.9
August	29.83	30.03	29.49	64.3	64.8	73.3	58.5	65.9	83	51	57	57	78	77	.474	.471	1.41	.65	5.3	3.2	4.8
September	29.96	30.26	29.54	57.4	60.0	67.7	50.3	59.0	94	39	48	50	72	71	.353	.379	2.34	1.17	4.5	3.4	4.2
October	30.01	30.53	29.38	45.8	51.1	58.9	41.0	50.0	84	28	38	41	75	70	.245	.272	.46	.36	4.3	2.6	3.8
November	29.90	30.51	28.89	34.3	36.6	43.3	29.3	36.3	57	11	30	29	82	74	.176	.174	6.69	2.02	5.0	5.1	6.6
December	29.90	30.44	29.22	25.3	29.3	34.4	21.5	28.0	55	5	21	24	84	81	.124	.142	4.22	1.50	6.1	4.9	6.5
Year	29.89	30.77	28.89	42.8	45.4	52.6	37.5	45.1	94	— 8	36	38	78	75	.256	.265	42.42	2.11	5.7	4.2	5.7

PORTLAND, OREG.

[λ=45° 32′ N.; φ=122° 43′ W.; gravity corr., 0.00.]

January	29.93	30.26	29.50	36.7	40.8	43.4	34.1	38.8	57	22	34	35	90	80	.203	.212	3.25	0.56	5.8	7.9	7.1
February	29.80	30.40	29.21	39.9	44.8	47.4	37.2	42.3	58	30	36	36	86	73	.215	.214	5.57	.93	7.4	8.0	7.1
March	29.77	30.24	29.11	38.0	43.3	45.7	35.3	40.5	56	23	34	34	85	71	.199	.202	4.00	.78	7.4	7.4	6.9
April	29.98	30.29	29.59	46.4	52.7	55.6	44.4	55.0	89	36	41	37	81	42	.257	.224	1.76	.75	5.8	5.0	4.0
May	29.88	30.22	29.57	52.1	60.0	71.9	50.9	61.4	93	40	46	44	80	44	.311	.300	.90	.42	5.1	4.4	4.2
June	29.83	30.09	29.60	54.3	66.3	69.1	53.2	61.2	83	41	50	48	84	54	.359	.343	1.35	.55	7.7	7.2	5.8
July	29.92	30.23	29.61	55.9	71.7	74.1	55.1	64.6	92	50	51	50	82	48	.370	.361	.65	.31	4.8	3.6	3.4
August	29.79	30.06	29.55	61.4	81.2	82.3	59.9	71.1	95	51	54	52	78	39	.428	.403	.26	.15	2.7	2.1	2.9
September	29.87	30.18	29.46	53.3	66.1	68.7	51.3	60.0	89	42	49	49	86	58	.350	.356	2.79	.85	5.0	5.4	4.9
October	29.89	30.30	29.26	48.2	59.6	62.4	46.1	54.2	81	37	45	45	88	61	.298	.302	1.99	.83	4.8	5.3	4.4
November	29.88	30.16	29.50	42.4	46.7	49.9	39.5	44.7	66	29	40	41	92	82	.255	.266	11.65	3.32	7.8	8.6	8.5
December	29.96	30.34	29.26	41.6	43.4	47.8	38.5	43.2	59	27	37	37	84	78	.229	.226	8.84	1.31	7.5	7.8	7.2
Year	29.88	30.40	29.11	47.5	58.0	60.7	45.5	53.1	95	22	43	42	85	61	.290	.284	43.01	3.32	6.0	6.1	5.5

PUEBLO, COLO.

[λ=38° 18′ N.; φ=104° 36′ W.; gravity corr., —0.02.]

January	25.28	25.63	24.76	17.9	31.4	38.5	14.2	26.4	66	—16	10	16	70	55	.070	.093	0.55	0.45	2.7	4.4	4.7
February	25.14	25.60	24.76	26.2	38.5	45.1	22.5	33.8	65	2	17	18	67	48	.094	.104	1.47	.90	4.2	6.0	5.3
March	25.07	25.35	24.65	27.8	49.0	53.7	25.4	39.6	72	10	16	8	64	24	.091	.067	.32	.15	3.8	5.2	4.7
April	25.26	25.55	24.86	36.7	58.7	64.5	34.5	49.5	81	17	25	18	64	25	.138	.111	.24	.12	4.5	4.6	4.6
May	25.30	25.61	24.96	50.6	69.6	75.8	47.3	61.6	90	38	40	35	69	32	.254	.209	1.93	.90	4.0	7.4	4.8
June	25.22	25.45	24.90	56.6	76.2	84.1	53.3	68.7	96	44	43	34	64	31	.293	.235	2.13	.98	3.3	7.0	4.4
July	25.32	25.58	24.88	60.1	82.1	88.8	57.1	73.0	101	43	43	36	56	26	.289	.236	1.45	.65	2.7	5.5	4.0
August	25.37	25.57	25.11	59.3	78.9	86.3	57.4	71.8	96	50	49	43	70	33	.356	.303	2.14	1.52	3.4	6.1	4.0
September	25.37	25.72	25.13	54.8	76.8	83.8	52.9	68.4	95	41	41	39	61	29	.264	.245	.77	.37	3.6	5.7	4.6
October	25.30	25.62	24.88	41.6	59.9	68.8	38.1	53.4	85	26	30	29	65	36	.167	.160	1.22	.61	4.5	4.7	4.9
November	25.28	25.69	24.88	32.1	48.4	59.3	26.2	42.8	80	9	20	20	64	37	.107	.115	.10	.10	4.2	3.8	4.5
December	25.31	25.87	24.62	20.0	32.4	44.5	13.6	29.0	70	— 4	9	14	67	50	.068	.082	.39	.17	2.8	3.6	4.5
Year	25.27	25.87	24.62	40.3	58.5	66.1	36.9	51.5	101	—16	29	26	65	36	.183	.163	12.71	1.52	3.6	5.3	4.6

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

PORT HURON, MICH.

[H = 639 ft.; h_t = 70 ft.; h_r = 63 ft.; h_a = 108 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	12.2	SW.	48	SW.	2	0	1	6	7	14	15	12	7	0	7	7	17	17	12	12	0	0	19	0	27	0	0
February	11.1	W.	40	W.	1	5	6	7	5	4	9	12	8	0	4	8	16	16	7	11	0	0	18	0	26	0	0
March	12.4	NW.	52	SW.	2	9	8	6	6	3	11	8	11	0	8	9	14	18	11	8	0	3	7	0	22	1	0
April	12.0	S.	44	NW.	2	12	6	2	8	14	7	3	7	1	6	11	13	16	9	3	0	1	1	0	10	2	0
May	9.8	S.	36	W.	0	15	8	1	2	16	11	4	5	0	10	11	10	15	12	0	1	2	0	0	0	1	0
June	8.6	N.	36	SW.	0	23	6	1	3	10	10	5	2	0	13	12	5	10	7	0	0	0	0	0	0	4	0
July	8.2	N.	37	E.	0	15	14	3	2	13	4	5	4	2	17	10	4	15	9	0	0	0	0	5	0	4	0
August	8.5	S.	35	SW.	0	8	11	2	3	14	10	7	7	0	15	13	3	15	12	0	0	3	0	0	0	7	0
September	9.0	S.	28	NW.	0	12	3	2	8	20	7	1	7	0	16	10	4	7	4	0	0	3	0	3	0	1	0
October	9.7	S.	36	SW.	0	9	8	4	10	14	8	4	5	0	17	8	6	8	5	0	0	7	0	0	0	0	0
November	13.5	S.	38	W.	0	2	4	2	8	15	8	14	7	0	5	9	16	14	12	1	0	1	2	0	16	0	0
December	11.6	SW.	37	SW.	0	1	4	2	1	14	19	10	11	0	1	12	18	18	12	11	0	3	16	0	23	0	0
Year	10.6	S.	52	SW.	7	111	79	38	63	151	119	85	81	3	119	120	126	169	112	46	1	23	63	8	124	20	0

PORTLAND, ME.

[H = 103 ft.; h_t = 81 ft.; h_r = 74 ft.; h_a = 89 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	8.5	NW.	36	N.	0	12	1	0	1	7	11	10	18	2	10	13	8	8	7	5	0	3	18	0	28	0	0
February	7.6	NW.	38	SE.	0	9	3	2	1	3	8	11	16	3	11	9	8	7	7	6	0	2	11	0	26	0	0
March	7.7	NW.	31	NW.	0	6	6	2	2	9	9	7	20	1	10	6	15	12	11	9	0	7	4	0	26	0	0
April	8.1	S.	32	S.	0	9	5	3	4	13	8	9	7	2	10	10	10	11	8	2	0	4	0	0	7	0	0
May	7.2	S.	38	S.	0	6	4	8	5	13	4	12	9	1	6	4	21	19	14	0	0	8	0	0	0	1	0
June	6.8	NW.	27	NW.	0	6	5	3	6	10	4	8	13	2	7	6	17	13	9	0	0	2	0	0	0	3	0
July	6.9	S.	40	SE.	1	3	7	7	13	13	8	5	1	5	6	10	15	10	7	0	0	10	0	0	0	3	0
August	6.5	SW.	31	NE.	0	4	3	3	3	7	17	13	10	2	12	13	6	10	8	0	0	2	0	0	0	2	0
September	6.6	NW.	30	S.	0	6	3	2	1	4	15	12	16	1	15	10	5	9	9	0	0	0	0	1	0	2	0
October	7.4	NW.	32	NW.	0	10	2	0	1	7	15	12	14	1	17	8	6	6	2	0	0	1	0	0	2	0	0
November	7.9	NW.	32	NE.	0	10	2	1	2	5	9	12	12	1	8	6	16	16	14	5	0	4	6	0	16	0	0
December	7.0	NW.	30	N.	0	12	1	1	0	4	15	11	18	0	7	8	16	13	12	10	0	2	14	0	25	0	0
Year	7.4	NW.	40	SE.	1	99	45	32	39	95	123	122	154	21	119	103	143	134	108	37	0	45	53	1	130	11	0

PORTLAND, OREG.

[H = 153 ft.; h_t = 203 ft.; h_r = 145 ft.; h_a = 213 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	7.8	NW.	35	E.	0	5	4	12	11	6	0	1	23	0	4	10	17	20	15	3	0	6	2	0	12	0	0
February	9.0	S.	43	S.	2	1	5	3	17	18	1	3	8	0	3	10	15	19	19	0	1	0	0	0	2	0	0
March	11.2	S.	55	S.	2	0	3	3	9	20	11	6	10	0	1	16	14	24	20	7	3	1	0	0	3	0	0
April	8.6	NW.	34	S.	0	3	2	1	10	10	5	4	25	0	12	13	5	7	7	0	0	0	0	0	0	0	0
May	8.3	NW.	37	S.	0	5	0	0	7	5	4	5	34	2	10	18	3	8	8	0	0	0	0	2	0	0	0
June	7.1	NW.	26	SW.	0	3	1	0	8	9	4	3	30	2	3	21	6	11	7	0	0	1	0	0	0	1	0
July	8.0	NW.	30	SW.	0	5	1	1	6	1	5	2	39	2	17	9	5	6	4	0	0	0	0	1	0	0	0
August	9.3	NW.	35	S.	0	4	1	1	10	7	1	1	35	2	18	11	2	3	2	0	0	0	0	9	0	1	0
September	6.8	NW.	45	S.	1	2	2	2	10	6	4	3	29	2	10	10	10	11	8	0	0	3	0	0	0	0	0
October	6.6	NW.	42	SE.	1	3	2	0	17	7	1	3	26	3	12	12	7	9	7	0	0	9	0	0	0	0	0
November	9.9	S.	52	S.	2	2	2	5	12	17	5	6	9	2	0	6	24	24	18	1	0	2	0	0	3	0	0
December	11.2	S.	48	SE.	4	4	7	10	13	18	1	1	7	1	4	10	17	22	18	1	0	4	0	0	6	2	0
Year	8.6	NW.	55	S.	12	37	30	38	130	124	42	38	275	16	94	146	125	164	133	12	4	26	2	12	26	4	0

PUEBLO, COLO.

[H = 4,713 ft.; h_t = 74 ft.; h_r = 65 ft.; h_a = 81 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	6.0	NW.	37	NW.	0	7	2	9	13	4	2	10	14	1	14	12	5	4	3	4	0	1	9	0	31	0	0
February	6.8	W.	42	SW.	1	5	3	10	2	3	5	14	11	3	6	18	4	6	5	5	0	2	0	0	27	0	0
March	9.5	N.	54	NW.	2	12	3	10	5	2	10	11	9	0	11	14	6	5	4	5	0	0	1	0	24	0	0
April	8.8	NW.	49	N.	3	9	9	6	10	1	2	10	11	2	9	17	4	4	3	1	0	0	0	0	10	0	0
May	7.6	NW.	38	NW.	0	10	8	6	6	3	2	10	17	0	10	16	5	10	6	0	0	0	0	0	0	10	0
June	7.4	NW.	40	NW.	1	7	6	7	9	2	5	5	17	2	10	13	7	7	7	0	2	1	0	7	0	12	0
July	7.2	NW.	36	NW.	0	12	0	6	8	0	7	9	17	3	15	13	3	8	8	0	0	0	0	14	0	9	0
August	6.1	NW.	40	N.	1	10	1	13	7	3	2	6	16	4	12	19	0	10	7	0	2	0	0	8	0	13	0
September	6.1	NW.	41	N.	1	9	2	10	7	3	4	5	17	3	14	11	5	3	3	0	0	0	0	6	0	4	0
October	b 7.8	NW.	56	N.	1	9	3	9	6	6	6	5	18	0	11	15	5	7	5	4	0	1	0	0	11	1	0
November	6.8	W.	36	W.	0	3	4	9	9	1	6	14	13	1	13	11	6	1	1	1	0	1	0	0	25	0	0
December	6.6	NW.	39	NW.	0	6	3	6	11	4	2	8	20	2	15	11	5	5	4	4	0	0	9	0	29	0	0
Year	7.2	NW.	56	N.	10	99	44	101	93	32	53	107	180	21	140	170	55	70	56	24	4	6	19	35	157	49	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

b For 737½ hours.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

PYSHT, WASH.

[λ=48° 12′ N.; φ=124° 4′ W.; gravity corr., ——.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	.....	.....	.....	.....	.....	43.9	35.1	39.5	52	22	.....	.....	.....	.....	.....	.....	8.31	1.51	.....	.....	.....
February (a)	.....	.....	.....	.....	.....	45.3	34.6	40.0	52	28	.....	.....	.....	.....	.....	.....	5.94	1.22	.....	.....	.....
March	.....	.....	.....	.....	.....	44.8	31.6	38.2	53	26	.....	.....	.....	.....	.....	.....	7.86	1.88	.....	.....	.....
April	.....	.....	.....	.....	.....	59.0	39.3	49.2	71	32	.....	.....	.....	.....	.....	.....	2.75	.76	.....	.....	.....
May	.....	.....	.....	.....	.....	66.1	43.4	54.8	83	38	.....	.....	.....	.....	.....	.....	1.88	.72	.....	.....	.....
June	.....	.....	.....	.....	.....	66.6	49.1	57.8	76	39	.....	.....	.....	.....	.....	.....	1.87	.70	.....	.....	.....
July (b)	.....	.....	.....	.....	.....	68.2	50.1	59.2	79	43	.....	.....	.....	.....	.....	.....	.90	.40	.....	.....	.....
August (b)	.....	.....	.....	.....	.....	71.2	50.6	60.9	83	43	.....	.....	.....	.....	.....	.....	1.36	.91	.....	.....	.....
September (a)	.....	.....	.....	.....	.....	58.3	45.6	52.0	69	37	.....	.....	.....	.....	.....	.....	1.54	.55	.....	.....	.....
October (c)	.....	.....	.....	.....	.....	54.3	42.5	48.4	63	31	.....	.....	.....	.....	.....	.....	2.55	1.04	.....	.....	.....
November (a)	.....	.....	.....	.....	.....	46.4	35.8	41.1	57	30	.....	.....	.....	.....	.....	.....	14.37	3.64	.....	.....	.....
December (d)	.....	.....	.....	.....	.....	45.2	38.0	41.6	54	30	.....	.....	.....	.....	.....	.....	18.98	3.95	.....	.....	.....
Year	.....	.....	.....	.....	.....	55.8	41.3	48.6	83	22	.....	.....	.....	.....	.....	.....	68.31	3.95	.....	.....	.....

RALEIGH, N. C.

[λ=35° 45′ N.; φ=78° 37′ W.; gravity corr., −0.02.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	29.80	30.24	29.40	32.0	39.4	46.5	29.3	37.9	68	9	24	28	71	63	.142	.168	2.23	0.79	4.9	4.5	5.3
February	29.68	30.26	29.12	41.2	48.6	54.8	37.8	46.3	75	25	36	38	81	68	.224	.236	4.42	1.28	6.0	4.8	6.0
March	29.73	30.26	29.16	47.1	55.4	61.8	44.1	53.0	80	31	40	43	78	65	.267	.299	4.82	1.45	7.2	6.0	6.4
April	29.74	30.27	29.26	53.0	63.0	70.8	49.1	60.0	86	32	43	45	72	54	.300	.313	4.66	2.11	4.5	3.2	4.3
May	29.64	29.94	29.14	61.5	68.7	76.4	56.0	66.2	86	44	51	53	70	60	.397	.424	2.85	.72	4.4	5.1	4.9
June	29.62	29.85	29.39	72.2	78.2	85.7	67.5	76.6	96	58	64	63	76	62	.602	.597	3.44	1.73	5.4	5.4	5.4
July	29.62	29.90	29.32	75.3	79.6	87.6	70.1	78.8	96	65	68	68	79	70	.691	.704	4.90	1.30	5.3	6.0	6.4
August	29.64	29.82	29.36	72.3	78.5	86.2	68.4	77.3	95	61	66	65	82	65	.650	.620	1.94	.88	5.4	4.5	5.2
September	29.77	29.98	29.53	67.0	75.0	83.8	62.3	73.0	98	48	58	57	74	56	.509	.491	.70	.48	2.8	2.4	3.1
October	29.72	30.08	29.28	57.3	64.4	72.0	54.1	63.0	89	43	52	53	85	69	.404	.407	2.62	1.38	6.1	3.9	5.4
November	29.79	30.18	29.26	46.9	54.2	63.3	42.3	52.8	76	27	39	40	76	58	.262	.264	3.43	1.89	4.7	3.0	4.4
December	29.76	30.11	29.28	39.3	45.8	52.4	35.7	44.0	68	21	35	36	80	71	.216	.226	2.56	.49	5.7	4.9	6.0
Year	29.71	30.27	29.12	55.4	62.6	70.1	51.4	60.7	98	9	48	49	77	63	.389	.396	38.57	2.11	5.2	4.5	5.2

RAPID CITY, S. DAK.

[λ=44° 4′ N.; φ=103° 12′ W.; gravity corr., 0.00.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	26.64	27.04	26.14	16.3	21.5	32.0	10.0	21.0	64	−20	10	14	78	75	.074	.088	0.62	0.34	4.4	4.2	5.1
February	26.50	27.08	25.94	19.1	26.0	35.3	14.4	24.8	55	− 5	15	20	84	77	.086	.104	.46	.30	5.1	6.2	6.0
March	26.48	26.86	26.08	19.5	31.8	38.6	16.1	27.4	71	−13	16	22	87	71	.101	.122	1.69	.74	5.5	7.1	6.7
April	26.62	26.95	26.17	39.1	50.8	55.7	35.0	45.4	81	26	28	27	66	45	.150	.145	.69	.30	5.3	5.6	6.2
May	26.63	27.01	26.30	51.9	67.9	72.6	46.9	59.8	88	31	37	35	60	33	.232	.222	1.82	.80	4.0	5.0	4.5
June	26.55	26.89	26.10	57.0	70.4	74.3	52.0	63.2	90	40	46	44	71	45	.328	.309	2.67	.65	6.3	6.5	6.2
July	26.60	26.87	26.14	63.6	78.5	83.9	58.1	71.0	99	50	47	44	57	34	.328	.303	.71	.36	3.3	5.6	4.7
August	26.69	27.01	26.24	61.2	77.3	81.1	57.4	69.2	101	49	46	42	62	38	.323	.308	2.15	1.39	4.3	4.1	4.5
September	26.68	27.15	26.32	58.8	75.8	82.9	54.6	68.8	98	34	39	35	50	27	.248	.220	.08	.08	4.1	4.3	4.2
October	26.64	27.07	26.15	43.5	53.6	63.8	39.2	51.5	87	28	29	28	58	40	.159	.154	.15	.11	5.4	5.1	5.4
November	26.62	27.07	26.13	26.8	29.2	40.8	20.3	30.6	76	− 8	18	20	76	75	.106	.116	1.16	.45	6.2	5.5	6.4
December	26.61	27.18	26.04	21.0	26.9	36.7	15.0	25.8	64	−13	13	15	73	62	.085	.091	.12	.05	3.2	3.2	4.0
Year	26.60	27.18	25.94	39.8	50.8	58.1	34.9	46.5	101	−20	29	29	68	52	.185	.182	12.32	1.39	4.8	5.2	5.3

RED BLUFF, CAL.

[λ=40° 10′ N.; φ=122° 15′ W.; gravity corr., −0.01.]

Month.	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
January	29.75	30.07	29.26	40.5	50.2	52.9	38.8	45.8	65	33	38	41	93	72	.233	.257	3.22	1.04	3.8	5.1	6.0
February	29.70	30.04	29.09	42.1	52.3	54.4	39.7	47.0	72	31	39	39	87	65	.239	.246	6.26	1.12	5.0	6.1	5.7
March	29.67	30.05	29.13	41.9	53.7	56.0	39.8	47.9	67	32	35	31	77	46	.210	.183	1.99	.90	5.0	5.4	5.7
April	29.71	29.98	29.36	52.2	74.2	75.8	50.6	63.2	93	35	38	38	64	32	.237	.248	1.22	.83	1.9	3.0	2.3
May	29.57	29.88	29.37	60.3	84.6	86.0	59.3	72.6	98	46	44	43	58	24	.300	.279	.06	.04	1.8	1.9	1.8
June	29.53	29.77	29.30	63.3	84.4	85.8	62.3	74.0	104	49	46	44	60	29	.323	.297	1.25	.70	2.6	3.9	3.1
July	29.53	29.70	29.34	69.1	95.7	96.7	67.5	82.1	106	59	40	37	37	14	.260	.227	.00	.00	.5	.5	.4
August	29.54	29.72	29.31	67.3	94.9	95.5	65.0	80.2	109	56	46	41	48	17	.306	.258	T.	T.	.4	1.1	.8
September	29.59	29.73	29.32	62.3	82.9	84.7	60.4	72.6	99	47	42	42	51	26	.275	.279	.03	.02	1.1	2.9	2.1
October	29.65	29.90	29.34	54.2	71.9	74.1	51.7	62.9	91	45	41	41	66	39	.266	.268	2.70	1.08	2.5	2.9	2.8
November	29.78	29.98	29.46	42.3	56.1	59.0	40.4	49.7	76	32	38	39	84	56	.231	.246	1.49	1.00	2.2	5.7	5.2
December	29.87	30.17	29.38	39.6	51.6	54.8	37.2	46.0	67	27	35	36	84	58	.206	.223	1.86	.93	3.6	3.8	4.0
Year	29.66	30.17	29.09	52.9	71.0	73.0	51.1	62.0	109	27	40	39	67	40	.257	.251	20.08	1.12	2.5	3.5	3.3

a For 27 days. b For 23 days. c For 26 days. d For 30 days.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

PYSHT, WASH.

[H = — ft.; h_t = 5 ft.; h_r = 4 ft.; h_a = — ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	.....	E.	....	.....	....	0	0	16	1	2	1	0	0	11	5	3	23	19	18	0	0	0	0	0	8	0	0
February	.....	E.	....	.....	....	0	0	7	0	0	2	1	0	17	1	2	24	22	19	1	0	0	0	0	6	0	0
March	.....	E.	....	.....	....	0	0	12	0	2	1	9	1	6	8	2	21	26	20	5	0	0	0	0	17	0	0
April	.....	W.	....	.....	....	0	0	7	1	1	0	13	2	6	16	1	13	14	12	0	0	0	0	0	0	0	0
May	.....	W.	....	.....	....	0	0	9	0	0	0	17	2	3	14	10	7	11	8	0	0	0	0	0	0	0	0
June	.....	W.	....	.....	....	0	1	4	1	0	0	15	4	5	5	11	14	14	8	0	0	0	0	0	0	0	0
July	.....	W.	....	.....	....	0	0	0	0	0	1	21	0	1	8	4	11	6	5	0	0	0	0	0	0	0	0
August	.....	W.	....	.....	....	0	0	5	0	1	3	6	0	8	15	2	6	5	5	0	0	0	0	0	0	0	0
September	.....	W.	....	.....	....	0	0	6	0	0	0	9	0	12	14	4	9	7	7	0	0	0	0	0	0	0	0
October	.....	E.	....	.....	....	0	0	5	1	1	1	4	0	14	12	4	10	11	7	0	0	0	0	0	1	0	0
November	.....	E.	....	.....	....	0	0	7	1	0	0	0	0	19	5	2	20	20	18	0	0	0	0	0	5	0	0
December	.....	E.	....	.....	....	0	0	9	3	2	1	0	0	15	3	2	25	22	20	0	0	0	0	0	4	0	0
Year	.....	W.	....	.....	....	0	1	87	8	9	10	95	9	117	106	47	183	177	147	6	0	0	0	0	41	0	0

RALEIGH, N. C.

[H = 375 ft.; h_t = 93 ft.; h_r = 85 ft.; h_a = 101 ft.]

January	6.6	N.	32	NW.	0	16	8	3	3	2	9	9	11	1	12	7	12	10	5	3	0	2	3	0	18	0	0
February	7.4	SW.	29	SW.	0	10	6	6	5	1	14	3	10	1	9	7	12	11	10	0	0	3	0	0	5	0	0
March	7.2	SW.	26	SW.	0	11	7	3	6	12	12	8	3	0	5	12	14	13	11	0	0	0	0	0	3	2	0
April	6.8	S.	26	SW.	0	9	7	9	7	6	11	4	5	2	14	10	6	11	9	0	0	0	0	0	0	2	0
May	6.7	N.	25	N.	0	14	4	4	2	9	13	7	7	2	10	12	9	12	10	0	0	1	0	0	0	7	0
June	5.9	SW.	23	W.	0	12	6	6	2	4	16	12	1	1	8	17	5	15	11	0	0	0	0	11	0	8	0
July	4.5	SW	32	NW.	0	10	4	5	3	12	9	6	6	7	6	15	10	17	12	0	0	0	0	9	0	10	0
August	4.8	SW.	21	NW.	0	10	4	6	3	9	18	8	3	1	11	13	7	8	8	0	0	0	0	8	0	3	0
September	6.1	SW.	26	N.	0	13	10	6	6	7	9	5	3	1	19	8	3	3	3	0	0	0	0	9	0	2	0
October	7.1	N.	26	N.	0	28	10	4	3	4	5	3	4	1	11	10	10	12	10	0	0	1	0	0	0	1	0
November	6.7	SW.	24	SW.	0	13	5	4	2	10	13	7	4	2	13	10	7	5	4	0	0	1	0	0	6	0	0
December	5.7	N.	25	NW.	0	18	5	1	3	7	15	6	4	3	10	7	14	12	10	0	0	2	0	0	8	0	0
Year	6.3	N.	32	NW.	0	164	76	57	45	83	144	78	61	22	128	128	109	129	103	3	0	10	3	37	40	35	0

RAPID CITY, S. DAK.

[H = 3,251 ft.; h_t = 46 ft.; h_r = 35 ft.; h_a = 50 ft.]

January	8.4	SW.	36	NW.	0	3	3	2	6	2	23	7	16	0	10	11	10	7	5	7	0	0	16	0	31	0	1
February	6.9	W.	36	W.	0	6	8	4	10	3	4	11	10	0	6	10	12	7	3	7	0	1	9	0	28	0	0
March	7.7	NW.	36	NW.	0	8	7	5	15	1	1	10	15	0	5	10	16	10	5	9	0	0	10	0	27	0	0
April	9.4	NW.	33	SE.	0	4	5	4	6	1	3	10	27	0	7	10	13	7	5	4	0	1	0	0	9	0	1
May	8.6	SE.	36	SE.	0	7	4	2	16	5	5	8	15	0	13	12	6	7	6	0	1	0	0	0	1	7	0
June	7.5	SE.	42	NW.	1	6	4	8	16	2	4	10	10	0	8	10	12	14	11	0	1	0	0	0	0	10	0
July	8.0	W.	38	SW.	0	2	13	2	8	1	9	14	13	0	13	9	9	7	4	0	1	0	0	6	0	11	0
August	7.7	NW.	36	NW.	0	3	7	4	11	0	7	14	16	0	17	8	6	7	6	0	0	0	0	5	0	5	0
September	7.6	SE.	40	SW.	1	4	5	1	17	2	7	11	13	0	14	9	7	1	1	0	0	0	0	7	0	3	0
October	8.4	NW.	30	NW.	0	3	7	1	9	2	7	12	21	0	10	9	12	3	1	0	0	0	0	0	7	1	0
November	6.8	NW.	36	SW.	0	7	9	4	4	1	3	15	17	0	7	10	13	13	7	12	0	0	9	0	24	0	0
December	7.9	NW.	39	NW.	0	1	5	3	6	0	4	18	25	0	14	13	4	6	1	6	0	0	10	0	28	0	0
Year	7.9	NW.	42	NW.	2	54	77	40	124	20	77	140	198	0	124	121	120	89	55	45	3	2	54	18	155	37	2

RED BLUFF, CAL.

[H = 334 ft.; h_t = 54 ft.; h_r = 44 ft.; h_a = 58 ft.]

January	4.5	NW.	32	SE.	0	3	2	1	21	2	2	1	27	3	8	9	14	11	9	0	0	10	0	0	0	0	0
February	5.8	SE.	35	SE.	0	7	0	1	18	8	1	2	18	1	10	5	13	13	12	2	0	1	0	0	2	0	0
March	9.0	SE.	36	SE.	0	8	3	0	21	5	1	8	16	0	10	9	12	13	9	0	0	0	0	0	1	0	0
April	6.8	NW.	34	N.	0	16	1	0	14	9	1	2	17	0	21	7	2	4	4	0	0	0	0	2	0	0	0
May	7.5	SE.	26	SE.	0	13	1	0	31	1	0	1	15	0	25	6	0	2	1	0	0	0	0	11	0	0	0
June	7.0	N.	30	NW.	0	23	0	0	18	4	1	5	7	2	18	9	3	7	7	0	2	0	0	13	0	2	0
July	6.7	NW.	35	N.	0	18	0	0	19	1	1	3	19	1	29	2	0	0	0	0	0	0	0	25	0	0	0
August	4.3	SE.	20	SE.	0	6	0	2	30	9	1	0	13	1	29	1	1	0	0	0	0	0	0	23	0	0	0
September	5.6	SE.	25	NW.	0	20	0	1	23	2	1	2	10	1	22	7	1	3	0	0	0	0	0	11	0	0	0
October	5.9	NW.	26	N.	0	16	0	0	17	4	2	2	21	0	21	4	6	7	7	0	0	0	0	1	0	1	0
November	4.1	N.	22	N.	0	20	2	2	11	0	2	5	17	1	12	7	11	7	7	0	0	2	0	0	0	0	0
December	5.4	N.	25	SE.	0	20	2	1	10	4	2	2	20	1	18	4	9	7	6	0	0	2	0	0	3	0	0
Year	6.0	SE.	36	SE.	0	170	11	8	233	49	15	33	200	11	223	70	72	74	62	2	2	15	0	86	6	3	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

RICHMOND, VA. *a*

[λ = 37° 32′ N.; φ = 77° 27′ W.; gravity corr., —0.02.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
February	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
March	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
April	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
May	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
June	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
July	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
August	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
September	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
October *b*	29.96	30.36	29.38	55.2	.....	69.9	50.7	60.3	90	41	51	....	87	....	.....	.....	6.54	2.08	5.6	.....	6.2
November	30.03	30.45	29.38	43.7	.....	59.0	39.2	49.1	75	28	39	....	84	....	.254	.....	3.07	.93	3.9	.....	5.1
December	29.99	30.35	29.57	36.8	.....	50.0	34.2	42.1	68	19	33	....	86	....	.195	.....	2.63	.58	5.6	.....	6.3
Year	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

ROCHESTER, N. Y.

[λ = 43° 8′ N.; φ = 77° 42′ W.; gravity corr., 0.00.]

January	29.48	30.15	28.89	21.8	24.6	30.8	17.4	24.1	60	1	15	18	72	76	.094	.108	2.47	0.50	8.1	7.1	7.6
February	29.48	30.07	29.04	25.4	27.5	32.6	21.2	26.9	46	5	19	20	75	71	.106	.110	2.31	.88	7.9	5.8	7.5
March	29.46	30.13	28.63	32.6	34.2	43.0	27.2	35.1	63	3	26	26	75	71	.147	.146	3.14	.68	6.5	4.9	5.8
April	29.50	30.08	29.08	43.5	45.6	54.8	36.6	45.7	80	20	34	34	69	64	.204	.204	1.63	.53	5.5	6.0	5.6
May	29.39	29.83	29.06	53.3	56.0	65.0	46.0	55.5	82	36	43	43	70	63	.292	.283	1.33	.44	6.3	5.3	5.9
June	29.39	29.63	29.17	61.7	63.9	72.4	52.7	62.6	86	41	50	49	68	60	.372	.362	2.62	.83	5.1	5.6	5.1
July	29.37	29.71	29.07	71.4	73.5	93.1	65.0	74.0	99	59	64	62	78	70	.590	.573	6.37	3.57	5.3	6.7	5.3
August	29.41	29.68	29.10	64.0	67.0	75.9	57.4	66.6	88	49	56	55	76	68	.453	.443	1.72	.98	4.2	4.4	4.4
September	29.59	29.85	29.25	59.2	62.7	73.8	52.3	63.0	94	36	49	50	70	65	.363	.332	.46	.14	4.7	2.5	4.8
October	29.55	30.04	29.06	48.9	53.6	64.3	42.9	53.6	86	31	40	43	73	70	.256	.290	.97	.45	5.0	4.6	5.9
November	29.45	29.93	28.54	37.6	38.9	45.9	33.0	39.4	67	18	32	32	78	78	.185	.193	3.71	86	8.3	7.2	8.0
December	29.45	29.92	29.00	28.5	30.5	35.8	24.1	30.0	62	3	23	25	79	80	.133	.143	3.39	.98	9.3	8.1	8.8
Year	29.46	30.15	28.54	45.7	48.2	56.4	39.6	48.0	99	1	38	38	74	70	.266	.270	30.12	3.57	6.4	5.7	6.2

ROSEBURG, OREG.

[λ = 43° 13′ N.; φ = 123° 20′ W.; gravity corr., 0.00.]

January	29.49	29.81	29.06	38.3	46.1	47.0	36.5	41.8	62	31	37	40	96	81	.223	.251	1.66	0.55	5.1	8.0	6.5
February	29.42	29.93	28.82	39.6	47.7	50.0	37.0	43.5	63	28	37	38	92	72	.224	.236	6.04	1.53	8.4	7.1	7.8
March	29.41	29.81	28.74	37.5	44.7	47.0	35.1	41.0	58	28	35	35	90	71	.206	.209	6.92	1.32	7.8	8.4	8.1
April	29.58	29.85	29.25	42.2	64.3	65.0	41.4	53.2	90	33	40	39	91	43	.247	.244	1.11	.60	4.7	4.3	4.3
May	29.46	29.81	29.13	47.8	70.9	73.2	47.5	60.4	92	36	45	45	90	42	.301	.305	.89	.44	4.4	4.4	4.4
June	29.44	29.68	29.18	51.8	69.6	71.4	51.5	61.4	88	42	49	49	90	51	.353	.353	1.38	.48	7.5	6.1	6.8
July	29.49	29.74	29.27	54.0	77.1	77.9	52.8	65.4	89	45	50	48	86	37	.360	.334	.23	.10	3.8	1.5	2.6
August	29.38	29.60	29.18	57.3	83.3	84.5	56.2	70.4	98	48	53	52	85	36	.405	.402	.19	.12	3.2	2.1	2.6
September	29.46	29.73	29.14	50.6	70.0	72.0	49.4	60.7	92	40	48	47	91	49	.338	.329	1.60	.53	4.8	5.4	5.1
October	29.48	29.82	28.98	44.3	61.7	63.5	42.4	53.0	84	29	43	45	97	57	.284	.303	2.66	.97	3.3	4.3	3.8
November	29.52	29.77	29.09	43.1	49.2	52.8	39.3	46.0	70	29	40	42	90	76	.253	.270	6.33	1.27	5.4	8.2	6.7
December	29.58	29.84	28.96	42.3	47.2	50.2	39.5	44.8	63	29	39	40	88	78	.238	.249	5.82	1.36	7.2	7.8	7.8
Year	29.48	29.93	28.74	45.7	61.0	62.9	44.0	53.5	98	28	43	43	90	58	.286	.290	34.83	1.53	5.5	5.6	5.5

SACRAMENTO, CAL.

[λ = 38° 35′ N.; φ = 121° 30′ W.; gravity corr., —0.02.]

January *a*	30.32	30.32	29.48	.....	47.3	49.5	38.9	44.2	59	33	....	42	....	81	.....	.264	3.66	1.36	.....	5.2	7.2
February *a*	29.98	30.30	29.39	.....	52.9	54.9	42.8	48.8	66	34	....	43	....	70	.....	.279	4.15	1.25	.....	5.3	5.5
March *a*	29.97	30.24	29.54	.....	54.1	56.7	42.0	49.4	70	36	....	37	....	56	.....	.228	2.54	1.20	.....	4.8	5.2
April *a*	29.96	30.23	29.69	.....	71.3	73.9	51.2	62.6	87	42	....	46	....	43	.....	.317	.25	.14	.....	1.4	2.0
May *a*	29.81	30.07	29.63	.....	75.4	79.2	54.7	67.0	93	45	....	51	....	44	.....	.383	.30	.30	.....	1.6	2.4
June *a*	29.79	29.98	29.59	.....	78.7	82.7	56.9	69.8	99	50	....	50	....	39	.....	.374	.04	.04	.....	3.1	2.9
July *a*	29.77	29.92	29.66	.....	88.7	91.6	59.5	75.6	105	52	....	50	....	28	.....	.376	.00	.00	.....	.3	.5
August *a*	29.78	29.99	29.65	.....	85.3	89.0	57.8	73.4	103	50	....	53	....	35	.....	.411	.01	.01	.....	.8	.9
September	29.84	29.98	29.63	58.2	80.2	83.2	56.0	69.6	97	48	49	49	74	35	.353	.356	.16	.16	1.0	1.8	2.4
October	29.90	30.12	29.65	51.9	69.2	72.2	49.2	60.7	87	40	45	46	78	47	.299	.318	1.96	1.18	1.4	2.9	3.4
November	30.04	30.26	29.80	44.0	56.1	61.1	40.4	50.8	74	31	39	41	63	54	.242	.258	.61	.28	3.0	4.3	4.9
December	30.13	30.44	29.67	40.1	51.6	54.1	36.6	45.4	62	28	36	38	84	61	.211	.233	1.64	1.04	2.8	2.9	3.6
Year	29.92	30.44	29.39	.....	67.7	70.7	48.8	59.8	105	28	....	46	....	49	.....	.316	15.32	1.36	.....	2.9	3.4

a Only one observation.

b For 27 days.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

RICHMOND, VA.

[H = 144 ft.; h_t = 98 ft.; h_r = 89 ft.; h_a = 105 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
February	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
March	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
April	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
May	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
June	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
July	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
August	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
September	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
October b	.....	N.	.....	.....	.....	10	3	1	0	5	1	1	4	2	8	8	11	12	9	0	0	0	0	0	0	0	0
November	.....	S.	.....	.....	.....	9	0	0	2	9	3	5	1	1	12	8	10	8	7	0	0	0	0	0	8	0	0
December	6.7	N.	25	SW.	0	9	2	1	3	5	5	3	2	1	9	8	14	10	10	0	0	0	0	0	10	0	0
Year	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

ROCHESTER, N. Y.

[H = 523 ft.; h_t = 81 ft.; h_r = 78 ft.; h_a = 90 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	10.5	W.	36	SW.	0	0	0	1	8	7	15	26	5	0	3	7	21	20	15	18	0	0	19	0	27	0	0
February	9.6	SW.	33	SW.	0	0	6	5	7	5	19	7	6	1	2	9	17	19	10	16	0	0	11	0	26	0	0
March	10.2	SW.	47	SW.	1	2	4	7	10	3	14	8	14	0	8	12	11	20	17	10	1	0	4	0	20	1	0
April	8.9	SW.	35	W.	0	0	11	3	2	4	24	7	9	0	10	9	11	15	12	4	0	0	0	0	7	2	1
May	7.5	SW.	26	SW.	0	1	5	3	5	1	19	13	15	0	9	10	12	13	8	0	0	0	0	0	0	1	0
June	7.0	SW.	23	SW.	0	2	1	4	3	5	14	18	13	0	11	11	8	11	9	0	0	0	0	0	0	2	0
July	6.0	SW.	27	SW.	0	2	8	1	8	6	21	8	8	0	12	10	9	15	12	0	0	0	0	6	0	9	0
August	6.4	SW.	24	W.	0	3	8	3	1	4	26	8	9	0	12	15	4	9	7	0	0	0	0	0	0	3	0
September	6.5	SW.	22	SW.	0	5	7	4	3	0	28	6	7	0	14	7	9	7	5	0	0	2	0	2	0	2	0
October	7.0	SW.	29	SW.	0	2	3	5	10	5	23	6	8	0	8	11	12	8	5	0	0	3	0	0	2	0	0
November	9.3	SW.	28	NW.	0	0	3	1	7	12	14	12	11	0	2	8	20	20	15	11	2	0	2	0	11	1	0
December	8.7	SW.	28	SW.	0	1	0	4	8	11	19	14	5	0	1	5	25	24	19	19	0	0	12	0	23	0	0
Year	8.1	SW.	47	SW.	1	18	56	41	72	63	236	133	110	1	92	114	159	181	134	78	3	5	48	8	116	21	1

ROSEBURG, OREG.

[H = 521 ft.; h_t = 56 ft.; h_r = 48 ft.; h_a = 67 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	2.3	NW.	13	S.	0	6	8	10	4	7	2	4	13	8	5	14	12	14	10	0	0	13	0	0	5	0	0
February	3.5	SW.	30	S.	0	3	4	6	7	11	12	4	5	4	4	5	19	20	18	2	0	2	0	0	6	0	0
March	4.8	SW.	30	SW.	0	4	3	6	6	6	22	6	7	2	2	8	21	26	21	8	0	2	0	0	8	0	0
April	3.8	NW.	20	NW.	0	9	6	6	2	3	6	3	15	10	14	7	9	7	5	0	0	0	0	1	0	0	0
May	4.1	NW.	24	SW.	0	10	6	5	2	0	2	4	22	11	14	11	6	8	7	0	0	1	0	2	0	1	0
June	4.0	NW.	26	SW.	0	12	13	4	3	3	4	5	14	2	5	10	15	13	8	0	1	0	0	0	0	2	0
July	5.2	NW.	20	NE.	0	11	25	2	2	0	0	2	18	2	19	10	2	5	2	0	0	0	0	0	0	0	0
August	3.7	NW.	17	NE.	0	8	12	4	1	1	1	4	20	11	20	7	4	2	2	0	0	0	0	10	0	0	0
September	3.3	NW.	18	SW.	0	9	6	15	2	2	2	2	12	10	11	9	10	10	10	0	0	2	0	2	0	0	0
October	2.6	E.	24	S.	0	6	6	12	6	3	5	3	13	8	17	7	7	7	6	0	0	10	0	0	1	0	0
November	3.0	S.	20	S.	0	2	2	5	5	16	12	1	8	9	3	17	10	16	16	1	0	5	0	0	3	0	0
December	3.1	S.	32	SW.	0	3	2	8	8	15	7	6	5	8	3	10	18	18	17	1	0	5	0	0	4	0	0
Year	3.6	NW.	32	SW.	0	83	93	83	48	67	75	44	152	85	117	115	133	146	122	12	1	40	0	15	27	3	0

SACRAMENTO, CAL.

[H = 71 ft.; h_t = 106 ft.; h_r = 100 ft.; h_a = 117 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	6.8	SE.	44	SE.	1	10	4	1	22	5	4	0	16	0	5	8	18	10	8	0	1	15	0	0	0	0	0
February	8.9	SE.	35	SE.	0	3	6	1	21	6	8	0	11	0	7	10	11	13	11	0	0	1	0	0	0	0	0
March	10.8	SW.	42	SE.	1	11	1	0	12	8	17	1	12	0	10	13	8	13	12	0	0	0	0	0	0	0	0
April	10.0	SW.	39	NW.	0	15	4	0	2	7	20	0	12	0	24	5	1	2	2	0	0	0	0	0	0	0	0
May	11.3	SW.	33	NW.	0	5	0	0	1	16	26	0	14	0	23	8	0	1	1	0	0	0	0	1	0	0	0
June	8.9	SW.	28	SW.	0	2	2	0	4	3	31	0	18	0	19	9	2	1	1	0	0	0	0	8	0	0	0
July	8.9	SW.	29	N.	0	12	1	0	0	13	30	0	6	0	30	1	0	0	0	0	0	0	0	19	0	0	0
August	8.8	SW.	24	SW.	0	2	2	0	3	18	32	0	5	0	27	3	1	1	0	0	0	0	0	13	0	2	0
September	7.4	SW.	27	SW.	0	3	3	1	11	15	19	1	7	0	21	7	2	1	1	0	0	0	0	7	0	0	0
October	8.4	S.	36	SE.	0	10	1	2	9	17	13	1	9	0	17	9	5	4	4	0	0	3	0	0	0	0	0
November	6.1	NE.	22	NW.	0	8	13	2	11	8	8	0	10	0	12	11	7	4	3	0	0	3	0	0	1	0	0
December	6.8	N.	36	NW.	0	23	12	2	16	3	0	1	5	0	19	7	5	6	6	0	0	7	0	0	7	1	0
Year	8.6	SW.	44	SE.	2	104	49	9	112	119	208	4	125	0	214	91	60	56	49	0	1	29	0	48	8	3	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

b For 27 days.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

ST. LOUIS, MO.

[λ=38° 38′ N.; φ=90° 12′ W.; gravity corr., —0.02.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	29.55	29.93	28.89	27.5	31.8	36.9	24.4	30.6	64	—2	22	23	80	69	.150	.145	3.75	1.65	5.4	4.7	5.7
February	29.45	30.09	29.03	32.1	38.1	43.3	30.2	36.8	71	8	28	28	84	68	.155	.160	2.67	1.36	7.2	5.6	7.0
March	29.40	29.89	28.72	41.0	48.6	54.6	38.7	46.6	76	20	36	39	82	72	.233	.260	8.25	3.33	6.7	6.2	6.8
April	29.45	30.02	29.08	50.1	57.2	64.2	47.7	56.0	80	25	45	48	82	72	.312	.346	4.66	1.54	5.5	6.2	6.2
May	29.46	29.76	29.14	57.8	68.0	72.3	54.7	63.5	84	43	52	55	81	65	.397	.447	1.59	.78	3.4	4.0	4.0
June	29.38	29.57	29.15	69.6	78.2	83.9	66.4	75.2	96	51	62	64	77	63	.569	.616	5.32	1.62	5.9	5.7	5.8
July	29.37	29.55	29.17	75.4	84.0	88.9	72.2	80.6	97	62	68	68	78	59	.692	.689	3.23	1.41	3.4	2.8	4.0
August	29.42	29.66	29.25	69.5	80.9	86.2	67.4	76.8	101	59	60	60	72	51	.525	.534	.66	.27	3.4	2.4	3.6
September	29.54	29.81	29.34	68.0	82.6	88.9	65.9	77.4	98	45	56	54	65	38	.464	.438	.09	.09	1.8	1.4	1.4
October	29.47	29.76	28.99	57.0	70.8	77.3	55.3	66.3	91	42	46	46	67	43	.322	.319	.31	.16	2.0	1.3	2.3
November	29.52	30.05	28.96	40.4	47.9	54.8	37.4	46.1	74	16	33	35	76	62	.206	.221	6.21	1.40	5.4	4.3	5.4
December	29.51	30.03	28.90	29.8	34.0	39.1	26.5	32.8	64	10	25	27	82	75	.145	.155	3.43	1.03	7.6	7.4	8.1
Year	29.46	30.09	28.72	51.5	60.2	65.9	48.9	57.4	101	—2	44	46	77	61	.348	.361	40.17	3.33	4.8	4.3	5.0

ST. PAUL, MINN.

[λ=44° 58′ N.; φ=93° 03′ W.; gravity corr., 0.00.]

January	29.17	29.55	28.44	5.6	12.8	17.7	1.2	9.4	49	—26	3	8	89	79	.061	.072	2.13	0.76	4.9	4.1	6.2
February	29.10	29.70	28.40	15.5	21.9	25.8	11.4	18.6	36	—22	13	17	90	80	.089	.101	1.03	.29	7.4	6.4	7.5
March	29.12	29.63	28.37	19.6	28.0	31.8	16.7	24.2	60	— 9	16	20	85	72	.100	.118	2.95	1.06	6.3	6.0	6.3
April	29.10	29.66	28.60	39.6	50.3	54.8	36.9	45.8	78	23	31	30	73	48	.182	.175	1.56	.59	5.0	5.6	5.4
May	29.10	29.43	28.69	48.7	63.7	67.8	45.9	56.8	86	34	39	36	70	39	.249	.234	1.81	1.11	3.1	3.9	5.2
June	29.00	29.31	28.63	58.1	69.2	73.6	54.7	64.2	94	37	52	53	80	60	.413	.436	8.18	2.51	5.7	5.6	6.7
July	29.00	29.26	28.47	68.2	78.8	82.8	64.9	73.8	94	55	63	63	83	59	.575	.584	6.35	1.53	5.0	4.6	5.3
August	29.10	29.49	28.75	59.3	70.6	75.7	56.9	66.3	86	47	55	55	87	59	.444	.439	2.18	.78	4.8	4.3	5.5
September	29.18	29.58	28.92	58.9	71.5	78.0	57.2	67.6	90	38	54	56	83	60	.437	.485	1.33	.49	4.6	4.0	4.0
October	29.11	29.59	28.54	46.7	55.3	61.4	44.5	53.0	85	30	40	42	80	63	.259	.280	1.87	.98	6.2	4.9	5.9
November	29.16	29.61	28.40	24.6	31.6	37.3	21.3	29.3	69	— 8	19	22	78	68	.112	.129	.93	.27	6.7	5.1	6.3
December	29.15	29.70	28.57	11.9	17.5	22.8	8.1	15.4	45	—12	8	11	84	73	.071	.078	.20	.11	5.5	4.8	5.6
Year	29.11	29.70	28.37	38.1	47.6	52.5	35.0	43.7	94	—26	33	34	82	63	.249	.261	30.52	2.51	5.4	4.9	5.8

SALT LAKE CITY, UTAH.

[λ=40° 46′ N.; φ=111° 54′ W.; gravity corr., —0.01.]

January	25.72	26.04	25.37	25.3	31.8	36.5	21.1	28.8	48	9	21	27	83	83	.113	.147	1.16	0.32	5.3	6.2	7.5
February	25.59	26.05	25.20	28.9	34.1	37.3	24.5	30.9	47	12	24	28	81	78	.129	.151	3.81	1.01	6.6	8.2	8.3
March	25.53	25.88	25.21	30.4	37.5	41.2	25.9	33.6	62	10	24	28	76	69	.132	.154	2.20	.65	6.9	7.4	8.0
April	25.69	25.96	25.39	41.6	56.0	59.6	38.5	49.0	80	26	34	37	74	52	.195	.220	2.00	.99	4.3	5.0	5.0
May	25.62	25.87	25.31	55.7	71.4	75.5	51.4	63.4	88	35	44	42	66	38	.297	.283	.98	.48	2.8	5.3	6.4
June	25.57	25.78	25.31	58.3	75.1	77.7	54.2	66.0	92	42	42	40	58	30	.274	.253	.52	.38	3.8	5.0	6.0
July	25.66	25.89	25.37	63.6	81.9	84.8	59.0	71.9	98	49	48	45	58	29	.340	.307	.69	.59	3.3	3.2	3.8
August	25.68	25.86	25.46	65.9	84.4	88.0	62.4	75.2	95	52	46	46	52	28	.324	.322	.33	.22	2.5	4.3	5.2
September	25.68	25.92	25.38	57.9	74.7	78.5	54.0	62.2	88	43	42	44	58	35	.278	.290	.48	.34	3.1	3.5	4.5
October	25.68	25.99	25.28	45.8	54.8	61.0	40.8	50.9	74	29	36	37	70	54	.217	.232	1.91	.68	4.1	5.1	5.8
November	25.71	25.98	25.34	39.4	44.1	52.7	33.8	43.2	68	24	30	28	70	56	.165	.160	1.19	.40	4.7	6.7	6.0
December	25.79	26.13	25.04	24.9	29.2	35.2	19.5	27.4	52	2	20	20	79	68	.106	.109	1.47	.68	4.6	5.5	5.0
Year	25.66	26.13	25.04	44.8	56.2	60.7	40.4	50.2	98	2	34	35	69	52	.214	.219	16.74	1.01	4.3	5.4	6.0

SAN ANTONIO, TEX.

[λ=29° 27′ N.; φ=98° 28′ W.; gravity corr., —0.04.]

January	29.46	29.77	28.98	43.1	51.3	57.8	40.7	49.2	76	18	37	40	81	66	.259	.275	1.55	0.87	5.8	6.1	6.5
February	29.28	29.88	28.93	50.6	64.9	70.8	49.0	59.9	85	29	46	45	84	52	.337	.329	.15	.13	4.7	4.0	4.8
March	29.18	29.46	28.87	58.8	72.5	78.4	56.7	67.6	92	38	53	52	83	54	.439	.425	1.65	.66	6.5	4.8	5.7
April	29.29	29.55	28.98	60.0	75.3	80.4	58.0	69.2	92	45	53	51	79	45	.433	.393	1.64	1.20	6.1	5.2	5.3
May	29.28	29.52	29.04	66.5	80.9	85.3	64.3	74.8	90	56	62	59	86	49	.569	.508	3.13	.97	6.1	5.5	5.3
June	29.21	29.40	29.01	73.7	87.4	91.5	71.2	81.4	99	61	70	65	88	49	.736	.623	2.19	1.08	6.7	3.3	3.8
July	29.24	29.40	29.05	75.5	92.2	96.5	73.5	85.0	103	68	69	60	82	36	.726	.528	.28	.28	5.5	2.1	3.4
August	29.26	29.38	29.12	73.5	85.8	92.5	72.3	82.4	99	66	69	64	85	51	.707	.613	.40	.22	6.1	5.6	6.4
September	29.33	29.51	29.00	68.6	82.7	88.1	66.9	77.5	95	54	61	60	79	50	.574	.545	1.61	.80	4.8	3.7	4.3
October	29.28	29.55	28.96	64.5	76.9	82.6	62.6	72.6	92	46	58	56	82	50	.513	.454	1.35	.70	4.0	3.4	4.0
November	29.40	29.81	29.11	55.2	67.0	72.5	53.2	62.8	86	38	46	47	72	50	.352	.357	.43	.28	5.4	4.0	5.3
December	29.40	29.87	28.93	43.8	54.5	60.7	41.5	51.1	78	29	37	39	80	61	.237	.255	1.34	.39	5.0	3.6	4.9
Year	29.30	29.88	28.87	61.2	74.3	79.8	59.2	69.5	103	18	55	53	82	51	.490	.442	15.92	1.20	5.6	4.3	6.0

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

ST. LOUIS, MO.

[H = 567 ft.; h_t = 111 ft.; h_r = 100 ft.; h_a = 210 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	12.5	W.	50	W.	3	3	5	2	13	6	6	17	9	1	11	7	13	13	8	7	0	2	10	0	22	0	0
February	10.6	NW.	31	S.	0	9	7	8	7	5	2	6	12	0	5	8	15	11	7	6	0	0	4	0	14	2	0
March	11.4	E.	38	W.	0	7	6	13	11	6	3	6	9	1	8	6	17	15	14	0	1	1	0	0	8	6	0
April	12.6	S.	43	E.	1	9	4	6	9	9	7	3	13	0	7	7	16	14	12	0	1	0	0	0	0	7	0
May	8.7	S.	29	SW.	0	4	2	5	10	17	2	8	12	2	17	8	6	9	6	0	0	1	0	0	0	2	0
June	8.7	S.	38	W.	0	2	6	4	11	15	12	8	2	0	9	10	11	13	10	0	0	0	0	12	0	14	0
July	8.3	S.	28	N.	0	3	5	6	9	14	6	6	12	1	17	9	5	9	7	0	0	0	0	14	0	2	0
August	7.9	N.	30	SW.	0	13	16	2	4	6	9	5	7	0	15	15	1	7	5	0	0	0	0	8	0	2	0
September	7.3	S.	34	NW.	0	9	4	9	11	17	3	1	4	2	26	3	1	1	1	0	0	0	0	17	0	1	0
October	7.8	S.	26	N.	0	8	5	14	7	12	4	5	5	2	24	3	4	2	2	0	0	0	0	3	0	0	0
November	10.7	S.	37	W.	0	12	0	5	4	21	4	8	6	0	10	6	14	10	9	0	0	1	0	0	9	4	0
December	9.8	W.	28	SW.	0	7	8	3	4	11	9	5	15	0	2	8	21	11	7	4	0	0	7	0	20	0	0
Year	9.7	S.	50	W.	4	86	68	77	100	139	67	78	106	9	151	90	124	115	88	17	2	5	21	54	73	40	0

ST. PAUL, MINN.

[H = 837 ft.; h_t = 114 ft.; h_r = 93 ft.; h_a = 124 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	8.3	NW.	30	NW.	0	1	4	3	11	3	12	13	15	0	8	10	13	11	9	10	0	2	28	0	31	0	0
February	7.3	SE.	29	SE.	0	0	3	5	19	2	9	9	9	0	5	4	19	12	8	12	0	1	19	0	28	0	0
March	8.1	NW.	30	NE.	0	0	8	8	11	2	5	10	18	0	8	7	16	12	10	11	0	0	12	0	25	0	0
April	9.5	NW.	40	NW.	1	6	8	3	4	8	6	4	21	0	9	12	9	11	9	2	0	0	0	0	8	2	0
May	7.8	NW.	31	S.	0	7	4	0	7	10	8	3	23	0	11	8	12	10	7	0	1	0	0	0	0	2	0
June	6.8	SE.	40	NW.	1	3	5	5	16	5	6	6	14	0	6	11	13	14	10	0	0	0	0	2	0	9	0
July	7.4	S.	36	SE.	0	5	3	1	13	16	10	4	10	0	8	15	8	13	13	0	1	1	0	3	0	9	0
August	6.4	NW.	29	N.	0	5	6	2	6	10	9	4	19	1	9	13	9	9	8	0	0	0	0	0	0	6	0
September	6.8	SE.	32	NW.	0	3	5	4	23	10	4	2	8	1	18	5	7	8	6	0	0	0	0	1	0	3	0
October	7.6	NW.	27	SE.	0	4	1	4	14	12	3	5	19	0	9	11	11	7	6	0	0	0	0	0	1	3	0
November	7.2	NW.	28	NW.	0	7	4	2	7	9	3	9	16	3	5	11	14	12	7	6	0	1	8	0	23	0	0
December	7.6	NW.	26	NW.	0	1	1	1	8	11	5	6	29	0	9	10	12	4	2	4	0	0	24	0	30	0	0
Year	7.6	NW.	40	NW.	2	42	52	38	139	98	80	75	201	5	105	117	143	123	95	45	2	5	91	6	146	34	0

SALT LAKE CITY, UTAH.

[H = 4,344 ft.; h_t = 83 ft.; h_r = 75 ft.; h_a = 90 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	3.6	W.	15	S.	0	3	1	7	8	6	10	17	10	0	4	7	20	11	9	11	0	1	8	0	30	0	0
February	5.6	SE.	32	S.	0	1	4	3	17	11	6	9	5	0	4	2	22	17	13	15	0	0	5	0	25	0	0
March	7.4	SE.	38	W.	0	2	3	6	11	14	1	10	14	1	3	9	19	11	10	11	0	0	5	0	23	0	0
April	7.2	NW.	40	N.	1	3	2	4	18	3	0	9	20	1	11	8	11	11	8	5	1	0	0	0	6	2	0
May	6.7	SE.	40	S.	1	3	8	6	22	4	3	4	12	0	7	11	13	6	5	0	1	0	0	0	0	4	0
June	6.5	SE.	31	W.	0	4	5	5	21	8	2	3	11	1	11	9	10	6	3	0	0	0	0	1	0	3	0
July	6.3	b SE.	b32	S.	0	3	2	6	19	9	3	1	18	1	16	10	5	5	4	0	0	0	0	9	0	3	0
August	5.7	b SE.	b32	NE.	0	2	2	9	21	6	4	1	17	0	15	6	10	4	3	0	0	0	0	10	0	2	0
September	6.4	SE.	30	SW.	0	3	2	11	19	6	1	7	11	0	15	7	8	5	3	0	0	0	0	0	0	0	0
October	5.9	SE.	36	SW.	0	0	6	3	16	10	2	11	14	0	11	5	15	7	7	1	1	0	0	0	4	1	0
November	4.9	SE.	33	W.	0	3	3	0	18	5	1	7	14	9	7	10	13	9	8	3	0	0	0	0	13	0	0
December	4.6	SE.	30	S.	0	4	6	6	19	6	4	9	7	1	13	6	12	9	8	7	0	0	11	0	30	0	0
Year	5.9	SE.	40	N.	2	31	44	66	209	88	37	88	153	14	117	90	158	101	81	53	3	1	29	20	131	15	0

SAN ANTONIO, TEX.

[H = 704 ft.; h_t = 95 ft.; h_r = 81 ft.; h_a = 104 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	8.5	N.	32	N.	0	23	13	1	9	6	4	0	6	0	8	4	19	8	5	1	0	5	1	0	9	0	0
February	8.8	SE.	60	N.	2	14	7	0	18	7	4	1	5	0	13	6	9	3	1	0	0	3	0	0	1	0	0
March	9.9	SE.	42	NW.	1	5	15	6	25	4	2	0	5	0	9	9	13	8	7	0	1	4	0	1	0	3	0
April	10.3	SE.	46	N.	1	14	8	4	24	4	2	0	4	0	8	12	10	5	4	0	0	0	0	2	0	3	0
May	7.7	SE.	42	SE.	1	9	12	9	27	1	2	0	2	0	10	12	9	8	6	0	1	0	0	0	0	7	0
June	9.9	SE.	50	N.	1	4	2	3	38	9	0	0	2	2	16	11	3	6	4	0	1	0	0	19	0	4	0
July	8.5	SE.	34	SE.	0	4	2	6	33	12	0	1	2	2	19	10	2	1	1	0	0	0	0	30	0	1	0
August	7.2	SE.	28	N.	0	10	6	10	22	3	7	1	3	0	7	11	13	6	4	0	0	0	0	20	0	0	0
September	7.3	N.	28	S.	0	23	9	7	16	4	0	0	1	0	15	5	10	8	6	0	0	0	0	11	0	1	0
October	7.8	SE.	32	N.	0	16	8	4	20	4	1	1	8	0	14	11	6	6	6	0	0	5	0	2	0	1	0
November	8.9	N.	36	N.	0	17	10	3	17	5	0	2	6	0	10	9	11	2	2	0	0	3	0	0	0	1	0
December	8.9	N.	38	N.	0	18	8	0	6	10	6	4	10	0	13	7	11	11	9	0	0	5	0	0	2	0	0
Year	8.6	SE.	60	N.	6	157	100	53	255	69	28	10	54	4	142	107	116	72	55	1	3	25	1	85	12	21	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

b For 29 days.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

SAN DIEGO, CAL.

[λ = 32° 43′ N.; φ = 117° 10′ W.; gravity corr., — 0.03.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	29.95	30.23	29.50	50.7	59.1	63.3	48.2	55.8	73	40	42	48	74	68	.277	.340	3.13	1.62	3.4	4.6	4.2
February	29.96	30.14	29.62	49.5	59.0	61.7	47.7	54.7	76	38	43	46	79	65	.284	.322	2.72	1.04	2.9	4.3	4.6
March	29.95	30.18	29.75	48.8	57.7	60.5	47.8	54.2	70	40	42	44	78	63	.275	.297	1.53	.55	4.5	4.5	4.3
April	29.92	30.05	29.75	53.8	63.4	66.8	52.7	59.8	88	46	47	50	79	65	.324	.367	.02	.02	4.2	2.8	2.5
May	29.85	29.99	29.70	58.0	62.2	64.3	57.5	60.9	67	50	53	55	84	77	.406	.430	.12	.04	8.9	5.1	5.1
June	29.82	29.93	29.67	60.2	65.5	67.1	59.6	63.4	70	54	55	57	82	75	.428	.471	T.	T.	8.0	2.9	3.9
July	29.84	29.99	29.70	63.6	68.8	71.1	62.9	67.0	79	59	59	60	85	74	.501	.516	.01	.01	7.5	1.3	1.9
August	29.81	29.91	29.65	66.4	71.3	74.2	65.6	69.9	89	60	62	62	85	73	.549	.555	T.	T.	7.5	1.4	1.8
September	29.83	29.93	29.63	64.4	69.8	73.0	63.2	68.1	83	58	58	60	82	72	.495	.521	T.	T.	7.2	2.0	1.7
October	29.88	30.02	29.73	57.5	65.0	68.7	56.2	62.4	76	51	48	53	74	66	.356	.406	1.06	.67	3.1	2.0	2.0
November	29.95	30.07	29.79	53.8	62.0	68.1	52.0	60.2	83	45	38	50	60	68	.247	.368	.02	.02	.7	2.4	1.7
December	30.03	30.25	29.69	47.8	58.2	63.9	46.0	55.0	80	36	32	42	57	58	.186	.278	.32	.17	.8	2.3	2.1
Year	29.90	30.25	29.50	56.2	63.5	66.9	55.0	61.0	89	36	48	52	77	69	.361	.406	8.93	1.62	4.9	3.0	3.0

SANDUSKY, OHIO.

[λ = 41° 25′ N.; φ = 82° 40′ W.; gravity corr., —0.01.]

January	29.42	29.96	28.84	23.2	25.1	29.8	18.5	24.2	61	—15	19	19	81	75	.119	.114	1.14	0.46	8.6	6.1	7.9
February	29.37	29.88	28.88	28.2	30.9	35.2	25.6	30.4	54	4	23	25	78	77	.121	.135	1.03	.38	7.7	7.7	7.6
March	29.35	29.98	28.62	35.3	38.6	44.6	30.6	37.6	64	20	29	31	77	74	.166	.184	2.41	.54	6.1	6.1	6.8
April	29.39	30.03	28.99	44.4	47.4	54.1	39.0	47.0	81	25	36	36	72	68	.221	.228	2.11	.52	7.4	7.3	7.6
May	29.32	29.68	28.92	53.7	58.0	64.3	48.8	56.6	83	37	44	45	70	63	.294	.304	3.84	1.38	6.6	5.4	6.2
June	29.31	29.54	29.11	62.9	68.8	74.8	58.4	66.6	90	44	53	55	72	63	.424	.455	2.04	.59	6.6	6.4	6.3
July	29.27	29.49	29.05	73.0	76.7	83.7	67.4	75.6	100	56	64	64	76	66	.613	.597	4.29	1.32	5.1	5.3	5.6
August	29.32	29.61	29.02	65.6	70.6	77.2	61.7	69.4	88	53	56	57	73	64	.465	.480	2.50	.99	5.4	5.8	5.5
September	29.50	29.74	29.19	62.1	68.3	76.5	58.4	67.4	96	39	50	54	66	61	.378	.439	.91	.51	4.2	2.1	3.3
October	29.42	29.79	28.88	52.8	59.8	67.2	48.8	58.0	88	37	42	48	68	68	.276	.350	.43	.24	5.5	3.7	5.6
November	29.39	29.89	28.66	39.0	42.0	49.3	34.5	41.9	66	16	33	34	79	72	.202	.205	6.21	1.55	8.6	6.5	8.4
December	29.38	29.86	29.02	30.1	32.3	37.2	26.0	31.6	62	3	25	26	81	75	.144	.147	1.54	.38	8.5	8.9	8.7
Year	29.37	30.03	28.62	47.5	51.5	57.8	43.2	50.5	100	—15	40	41	74	69	.285	.303	28.45	1.55	6.7	5.9	6.6

SAN FRANCISCO, CAL.

[λ = 37° 48′ N.; φ = 122° 26′ W.; gravity corr., —0.02.]

January	29.94	30.22	29.40	45.8	51.1	53.2	44.0	48.6	60	40	43	44	91	78	.280	.292	2.26	1.08	4.0	6.1	6.0
February	29.93	30.24	29.28	48.0	52.9	55.3	46.1	50.7	66	38	43	44	84	74	.285	.298	4.41	1.23	4.4	6.3	5.7
March	29.92	30.23	29.49	45.6	50.7	53.9	43.9	48.9	63	39	39	41	79	69	.242	.256	4.56	1.42	3.3	5.7	4.6
April	29.94	30.18	29.72	51.2	60.2	65.1	49.7	57.4	84	45	46	47	83	66	.313	.329	.27	.20	2.2	4.2	3.0
May	29.82	30.10	29.62	53.3	58.3	63.6	51.3	57.4	88	47	48	50	85	75	.338	.363	.61	.61	5.4	4.2	4.1
June	29.80	29.97	29.64	53.5	60.4	65.8	52.0	58.9	83	48	50	52	89	74	.363	.386	.22	.19	2.9	3.9	3.7
July	29.79	29.94	29.66	52.5	59.1	65.1	51.2	58.2	82	47	50	52	92	76	.362	.381	T.	T.	2.7	1.3	3.0
August	29.81	29.97	29.69	53.6	58.3	62.8	52.3	57.6	70	49	52	54	95	85	.390	.414	T.	T.	4.5	2.7	4.6
September	29.84	29.97	29.63	55.7	62.2	67.5	54.1	60.8	92	50	53	52	90	73	.398	.394	.10	.08	3.9	2.5	3.7
October	29.87	30.05	29.60	54.6	59.5	64.3	52.6	58.4	85	48	49	49	83	71	.348	.346	1.70	1.41	3.5	3.1	4.4
November	30.00	30.19	29.75	49.4	54.4	58.5	47.7	53.1	68	44	45	45	85	72	.298	.303	1.05	.42	3.9	5.4	5.6
December	30.06	30.34	29.67	47.2	53.5	56.2	45.2	50.7	63	39	41	42	79	66	.260	.270	1.22	1.02	2.2	3.6	4.5
Year	29.89	30.34	29.28	50.9	56.7	60.9	49.2	55.1	92	38	47	48	86	73	.323	.336	16.40	1.42	3.6	4.1	4.4

SAN LUIS OBISPO, CAL.

[λ = 35° 18′ N.; φ = 120° 39′ W.; gravity corr., — 0.02.]

January	29.87	30.13	29.40	44.8	56.9	63.5	40.1	51.8	74	30	38	44	79	65	.233	.298	5.22	1.77	2.8	5.5	5.0
February	29.89	30.10	29.50	45.4	56.0	61.9	41.2	51.6	76	29	41	44	85	66	.262	.297	4.40	1.58	3.4	5.0	4.9
March	29.88	30.14	29.61	43.9	55.7	61.5	39.6	50.6	78	34	37	40	78	57	.225	.249	3.17	.77	2.8	3.6	3.8
April	29.87	30.07	29.72	48.9	65.3	73.9	45.2	59.6	94	38	42	46	78	54	.267	.321	.18	.18	2.3	2.1	2.8
May	29.77	29.98	29.61	54.1	64.2	72.8	49.7	61.2	90	41	46	49	78	60	.318	.356	.04	.04	6.5	3.2	5.1
June	29.74	29.90	29.61	52.3	67.7	76.5	49.2	62.8	96	44	47	51	84	56	.326	.374	T.	T.	2.2	1.7	2.8
July	29.76	29.91	29.64	53.9	72.3	79.6	51.4	65.5	89	44	50	53	87	51	.361	.402	.00	.00	6.5	.5	2.7
August	29.75	29.87	29.64	54.8	70.3	78.6	52.2	65.4	91	49	51	54	88	58	.379	.421	.00	.00	7.4	.5	3.0
September	29.77	29.94	29.60	53.9	67.7	77.9	50.3	64.1	95	42	50	54	87	61	.365	.414	.07	.07	3.7	1.3	2.9
October	29.82	30.02	29.62	50.9	61.6	71.9	46.4	59.2	89	39	45	48	82	64	.307	.344	.79	.66	4.0	2.4	3.6
November	29.90	30.09	29.74	47.9	59.9	70.1	43.1	56.6	88	29	37	42	70	55	.230	.278	.07	.07	1.9	3.0	3.4
December	29.97	30.20	29.63	40.8	58.0	66.5	35.6	51.0	82	24	31	36	70	47	.182	.219	.65	.48	1.0	2.2	2.5
Year	29.83	30.20	29.40	49.3	63.0	71.2	45.3	58.3	96	24	43	47	80	58	.288	.331	14.59	1.77	3.7	2.6	3.5

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

SAN DIEGO, CAL.

[H = 87 ft.; h_t = 94 ft.; h_r = 86 ft.; h_a = 102 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		Mi.																								
January	4.9	NE.	35	SW.	0	3	12	6	3	5	13	7	10	3	17	7	7	9	7	0	1	1	0	0	0	0	0
February	5.6	W.	33	SW.	0	5	11	4	2	4	3	11	15	1	14	2	12	9	6	0	2	0	0	0	0	2	0
March	6.1	NW.	24	NW.	0	2	11	4	2	4	12	12	15	0	18	4	9	8	7	0	0	0	0	0	0	1	0
April	5.0	NW.	19	W.	0	6	8	4	2	0	5	16	17	2	23	3	4	1	0	0	0	6	0	0	0	1	0
May	5.9	NW.	23	SE.	0	6	6	0	6	5	13	4	21	1	15	4	12	5	2	0	0	0	0	0	0	0	0
June	6.0	SW.	20	NW.	0	3	2	2	2	8	18	11	13	1	17	11	2	0	0	0	0	1	0	0	0	0	0
July	5.8	NW.	18	NW.	0	5	3	1	2	3	13	11	22	2	29	1	1	1	0	0	0	1	0	0	0	0	0
August	5.7	NW.	24	SE.	0	10	3	0	0	3	13	8	25	0	28	2	1	0	0	0	0	1	0	0	0	1	0
September	5.8	NW.	24	NW.	0	9	2	3	4	3	6	9	21	3	28	1	1	0	0	0	0	0	0	0	0	0	0
October	6.0	NW.	24	NW.	0	6	11	7	2	1	4	6	24	1	25	4	2	3	3	0	0	3	0	0	0	0	0
November	5.1	NW.	18	NW.	0	10	15	6	0	1	2	4	21	1	28	0	2	1	0	0	0	2	0	0	0	0	0
December	5.3	NE.	23	NW.	0	2	24	5	3	0	4	2	21	1	26	3	2	5	4	0	0	2	0	0	0	0	0
Year	5.6	NW.	35	SW.	0	67	108	42	28	37	106	101	225	16	268	42	55	42	29	0	3	17	0	0	0	5	0

SANDUSKY, OHIO.

[H = 629 ft.; h_t = 62 ft.; h_r = 55 ft.; h_a = 74 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	9.7	W.	36	W.	0	2	1	6	3	12	10	24	4	0	5	4	22	15	7	11	0	0	17	0	27	1	0
February	9.1	NW.	32	NW.	0	0	7	12	5	3	8	5	16	0	3	4	21	11	5	10	0	0	9	0	23	0	0
March	11.8	E.	44	NW.	1	3	6	17	3	6	6	9	12	0	6	8	17	16	14	4	0	1	3	0	19	2	0
April	10.4	E.	46	NW.	1	4	5	11	8	7	10	8	7	0	3	7	20	12	10	3	0	0	0	0	4	1	0
May	8.2	SW.	32	SW.	0	7	6	3	3	5	21	7	10	0	8	7	16	15	10	0	0	0	0	0	0	2	0
June	7.4	E.	25	NW.	0	7	9	11	6	7	9	7	4	0	6	11	13	10	9	0	0	0	0	1	0	6	0
July	6.9	SW.	26	NW.	0	5	2	7	9	9	13	8	9	0	8	11	12	11	8	0	0	0	0	4	0	10	1
August	7.4	E.	44	N.	1	7	8	11	6	6	10	7	7	0	8	12	11	10	9	0	0	0	0	0	0	7	0
September	7.2	E.	52	NW.	1	3	9	13	11	9	10	3	2	0	17	8	5	3	3	0	0	0	0	3	0	2	0
October	8.2	SW.	36	N.	0	5	9	8	9	6	15	6	4	0	7	13	11	5	3	0	0	1	0	0	0	0	0
November	10.9	SW.	31	W.	0	6	4	0	1	12	16	10	11	0	3	3	24	15	12	0	0	0	1	0	10	0	0
December	9.4	W.	38	NW.	0	1	3	3	3	4	13	23	12	0	2	2	27	13	6	6	0	1	9	0	22	0	0
Year	8.9	SW.	52	NW.	4	50	69	102	67	86	141	117	98	0	76	90	199	136	96	34	0	3	39	8	105	31	1

SAN FRANCISCO, CAL.

[H = 153 ft.; h_t = 161 ft.; h_r = 154 ft.; h_a = 167 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	6.8	N.	37	SE.	0	21	5	7	8	3	1	6	11	0	7	12	12	8	6	0	0	0	0	0	0	0	0
February	9.4	W.	37	W.	0	6	1	2	6	3	2	27	9	0	7	12	9	17	11	0	2	0	0	0	0	0	0
March	11.3	W.	36	SW.	0	6	2	2	0	10	4	32	6	0	13	8	10	15	12	0	2	1	0	0	0	0	0
April	11.3	W.	35	W.	0	6	2	0	1	2	11	36	2	0	21	5	4	3	2	0	0	2	0	0	0	0	0
May	13.5	W.	45	W.	1	1	0	0	1	4	24	31	1	0	13	16	2	2	1	0	0	1	0	0	0	0	0
June	13.6	W.	39	W.	0	1	0	0	2	3	14	40	0	0	18	7	5	3	1	0	0	0	0	0	0	0	0
July	14.3	W.	39	W.	0	0	0	0	0	0	29	33	0	0	19	12	0	0	0	0	0	3	0	0	0	0	0
August	14.1	W.	36	SW.	0	0	0	0	0	1	21	40	0	0	9	20	2	0	0	0	0	4	0	0	0	0	0
September	11.8	W.	37	W.	0	2	0	1	0	2	6	48	1	0	16	10	4	2	1	0	0	1	0	1	0	0	0
October	9.7	W.	37	W.	0	4	0	0	2	3	13	36	4	0	15	9	7	4	2	0	0	0	0	0	0	0	0
November	7.4	W.	29	W.	0	14	0	1	1	3	5	23	13	0	10	12	8	8	4	0	0	2	0	0	0	0	0
December	6.7	N.	34	SW.	0	20	7	0	3	4	4	9	15	0	17	8	6	5	4	0	0	1	0	0	0	0	0
Year	10.8	W.	45	W.	1	81	17	13	24	38	134	361	62	0	165	131	69	67	44	0	4	15	0	1	0	0	0

SAN LUIS OBISPO, CAL.

[H = 201 ft.; h_t = 10 ft.; h_r = 3 ft.; h_a = 46 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	4.2	N.	23	N.	0	24	1	1	2	11	0	11	10	2	10	12	9	9	9	0	1	2	0	0	2	0	0
February	4.7	W.	26	SE.	0	16	2	2	3	5	0	21	6	1	10	10	8	10	9	0	0	2	0	0	1	0	0
March	6.3	W.	24	S.	0	13	0	2	2	7	3	24	11	0	18	8	5	13	11	0	1	0	0	0	0	1	0
April	5.3	NW.	21	N.	0	13	0	0	2	8	0	7	29	1	22	4	4	1	1	0	0	1	0	2	0	0	0
May	5.2	W.	28	W.	0	15	1	0	2	9	2	23	9	1	12	6	13	1	1	0	0	0	0	0	0	1	0
June	5.4	W.	18	W.	0	15	0	0	3	15	3	16	7	1	19	9	2	0	0	0	0	2	0	2	0	0	0
July	4.0	W.	13	W.	0	11	0	1	1	13	7	17	11	1	24	7	0	0	0	0	0	1	0	0	0	0	0
August	4.2	W.	16	NW.	0	15	0	0	2	14	0	18	13	0	23	8	0	0	0	0	0	0	0	1	0	1	0
September	4.4	S.	20	N.	0	13	1	1	5	16	1	15	8	0	19	10	1	1	1	0	0	5	0	2	0	1	0
October	4.5	N.	20	W.	0	20	0	1	1	10	2	17	9	2	16	10	5	3	2	0	0	0	0	0	0	0	0
November	4.9	N.	22	N.	0	33	0	1	1	3	1	6	12	3	20	8	2	2	1	0	0	2	0	0	2	0	0
December	4.5	N.	22	W.	0	29	1	2	1	6	1	10	12	0	20	10	1	3	2	0	0	1	0	0	14	0	0
Year	4.8	N.	28	W.	0	217	6	11	25	117	20	185	137	12	213	102	50	43	37	0	2	16	0	7	19	4	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

SANTA FE, N. MEX.

[λ = 35° 41′ N.; φ = 105° 57′ W.; gravity corr., — 0.02.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	23.21	23.48	22.92	21.7	29.6	35.8	19.0	27.4	48	— 1	15	20	74	64	.088	.108	1.11	0.32	3.4	3.9	4.4
February	23.14	23.48	22.90	25.2	34.2	39.0	22.4	30.7	58	13	17	21	70	60	.094	.116	1.10	.33	4.6	5.8	5.4
March	23.10	23.28	22.78	28.9	43.4	46.9	26.5	36.7	61	5	17	9	61	30	.096	.074	2.06	.71	4.2	4.0	3.7
April	23.25	23.44	23.03	38.1	54.0	58.8	35.7	47.2	72	24	20	10	50	23	.111	.087	.87	.62	2.8	4.2	3.8
May	23.32	23.52	23.14	49.3	62.2	67.3	46.5	56.9	74	36	38	33	66	37	.231	.197	4.35	2.12	3.6	6.4	4.8
June	23.30	23.50	23.11	55.9	71.5	76.0	52.5	64.2	84	40	35	19	48	20	.214	.138	.57	.22	2.7	4.8	3.6
July	23.40	23.58	23.13	58.4	72.5	78.4	55.5	67.0	85	43	44	40	62	34	.300	.260	2.85	.61	3.8	5.3	4.4
August	23.42	23.59	23.28	57.3	71.4	77.9	55.2	66.6	82	47	45	42	64	38	.302	.277	2.33	.54	3.1	5.4	4.4
September	23.44	23.61	23.27	53.7	64.0	71.5	52.3	61.9	81	43	44	46	70	54	.292	.319	2.49	.88	4.2	5.8	5.1
October	23.32	23.61	22.94	42.0	51.8	58.7	39.4	49.0	71	20	31	33	67	50	.179	.193	1.95	.77	4.9	3.7	4.0
November	23.32	23.61	22.97	32.2	42.9	53.0	29.7	41.4	63	17	19	19	57	38	.105	.108	.08	.04	3.3	2.2	3.0
December	23.26	23.60	22.81	23.1	30.7	39.2	19.1	29.2	53	8	14	13	67	46	.084	.078	.64	.22	3.2	2.5	2.8
Year	23.29	23.61	22.78	40.5	52.4	58.5	37.8	48.2	85	— 1	28	25	63	41	.175	.163	20.40	2.12	3.6	4.5	4.1

SAULT STE. MARIE, MICH.

[λ = 46° 28′ N.; φ = 84° 22′ W.; gravity corr., 0.00.]

January	29.30	29.89	28.38	14.7	18.9	24.0	9.9	17.0	44	—19	12	16	90	88	.091	.100	4.02	1.86	7.8	8.3	8.3
February	29.34	29.94	28.73	13.4	19.4	24.8	9.6	17.2	36	—21	10	15	86	82	.076	.093	.04	.23	6.5	6.0	6.3
March	29.36	30.03	28.55	17.0	25.3	30.1	13.3	21.7	55	—14	14	18	88	76	.093	.105	2.10	.76	5.9	6.3	6.5
April	29.36	29.94	28.61	32.0	39.4	46.4	27.4	36.9	66	5	26	28	77	65	.147	.165	3.32	.74	5.1	5.4	5.8
May	29.28	29.68	28.77	43.2	47.7	55.2	36.5	45.8	72	30	36	36	78	68	.214	.217	4.26	1.14	5.5	6.1	5.9
June	29.27	29.54	28.95	50.3	56.7	64.2	43.5	53.8	81	32	44	44	81	65	.302	.300	2.57	.75	5.1	5.5	4.7
July	29.25	29.59	28.99	63.4	69.9	78.4	56.7	67.6	92	47	59	60	86	72	.503	.529	4.03	1.42	5.5	3.7	4.5
August	29.28	29.65	28.94	57.2	61.2	70.1	51.8	61.0	85	42	53	53	86	75	.409	.407	2.36	1.68	4.5	4.9	5.2
September	29.46	29.72	28.98	52.8	59.5	69.2	48.8	59.0	91	35	49	52	88	78	.365	.408	1.34	.77	3.3	3.3	3.9
October	29.38	29.84	28.65	44.4	47.4	53.3	40.7	47.0	78	26	41	42	90	83	.270	.282	4.48	1.54	7.1	6.9	7.3
November	29.30	29.83	28.60	28.4	31.6	36.2	25.0	30.6	54	7	25	28	86	86	.144	.158	4.01	.60	8.6	7.5	8.5
December	29.28	29.86	28.67	18.0	20.7	25.7	12.1	18.9	45	—16	15	18	85	86	.098	.104	2.73	.51	8.6	8.7	8.9
Year	29.32	30.03	28.38	36.2	41.5	48.1	31.3	39.7	92	—21	32	34	85	77	.226	.239	36.16	1.86	6.1	6.0	6.3

SAVANNAH, GA.

[λ = 32° 5′ N.; φ = 81° 5′ W.; gravity corr., — 0.03.]

January	30.12	30.39	29.78	42.8	49.4	56.8	39.5	48.2	71	17	36	39	77	68	.234	.261	1.49	0.95	6.0	3.4	5.2
February	30.00	30.55	29.64	51.6	56.4	64.8	48.4	56.6	81	32	48	50	88	81	.357	.385	8.85	2.66	6.5	5.3	6.5
March	30.04	30.46	29.67	59.2	62.2	71.2	54.5	62.8	86	40	54	54	83	78	.436	.443	4.16	1.48	5.8	5.6	6.4
April	30.03	30.46	29.63	62.1	65.0	74.7	57.7	66.2	85	45	55	57	78	76	.442	.474	3.35	1.57	5.4	3.7	4.7
May	29.95	30.23	29.57	68.7	72.3	82.4	63.1	72.8	94	51	59	60	71	68	.510	.535	1.10	.53	2.1	3.6	3.2
June	29.93	30.09	29.81	79.6	80.0	91.9	71.6	81.8	100	61	72	72	78	76	.776	.774	3.94	1.83	2.9	6.9	5.2
July	29.94	30.18	29.63	79.0	80.8	90.7	73.2	82.0	102	67	72	72	81	76	.797	.786	8.10	2.00	3.6	5.8	5.2
August	29.96	30.12	29.71	76.9	78.7	89.7	72.4	81.0	98	68	72	72	85	82	.787	.797	6.73	1.99	4.5	5.8	5.6
September	30.04	30.18	29.71	70.5	73.3	81.8	66.5	74.2	92	46	67	68	89	84	.680	.701	6.52	2.88	3.7	5.1	4.9
October	29.98	30.27	29.69	64.0	68.9	76.9	61.5	69.2	88	52	61	63	89	82	.543	.586	6.87	3.54	4.2	3.4	4.8
November	30.12	30.38	29.68	54.6	61.6	70.5	51.9	61.2	80	40	49	52	82	73	.364	.409	.71	.37	3.6	3.1	4.2
December	30.08	30.35	29.69	47.8	54.1	62.7	44.7	53.7	77	36	44	47	87	78	.303	.340	2.26	1.45	5.1	5.0	5.6
Year	30.02	30.55	29.57	63.1	66.9	76.2	58.8	67.5	102	17	57	59	82	77	.519	.541	54.08	3.54	4.4	4.7	5.1

SEATTLE, WASH.

[λ = 47° 38′ N.; φ = 122° 20′ W.; gravity corr., + 0.01.]

January	29.95	30.28	29.47	39.0	41.9	43.9	36.0	40.0	59	22	35	37	86	84	.210	.228	3.74	0.65	6.9	7.3	7.5
February	29.81	30.44	29.28	40.5	45.1	46.5	37.9	42.2	52	32	36	38	85	76	.215	.229	2.99	.66	8.1	8.1	7.2
March	29.77	30.29	29.12	37.0	42.9	45.7	34.8	40.2	55	20	32	33	81	69	.179	.189	3.05	.76	5.9	6.5	6.4
April	30.03	30.35	29.64	45.9	58.4	61.5	43.5	52.5	85	38	41	41	83	54	.288	.260	1.53	.47	6.2	5.9	4.3
May	29.93	30.24	29.67	49.9	65.6	68.0	48.9	58.4	90	42	44	46	82	51	.296	.315	1.30	.52	5.5	5.1	4.9
June	29.86	30.14	29.63	53.6	65.3	68.0	52.3	60.2	79	46	49	50	84	58	.348	.364	1.67	.93	7.8	6.9	6.8
July	29.95	30.30	29.55	54.6	69.4	71.6	53.7	62.6	85	50	50	51	84	53	.358	.379	2.36	1.00	6.0	3.5	4.1
August	29.86	30.15	29.60	58.9	76.5	78.2	57.5	67.8	89	51	54	56	84	50	.419	.448	.24	.24	3.5	2.9	2.8
September	29.93	30.29	29.50	51.9	62.5	63.9	50.0	57.0	77	43	49	52	91	70	.350	.394	2.04	1.03	4.6	5.2	5.6
October	29.93	30.39	29.31	47.3	55.4	57.5	44.5	51.0	68	37	45	47	91	75	.296	.328	1.92	1.00	4.9	5.2	5.4
November	29.88	30.18	29.37	42.6	44.7	47.8	39.3	43.6	61	29	39	40	87	84	.242	.251	8.89	2.66	8.5	9.1	8.8
December	29.95	30.48	29.06	41.8	43.8	46.1	39.2	42.6	54	29	38	39	86	84	.231	.243	11.80	2.94	7.5	7.7	8.1
Year	29.90	30.48	29.06	46.9	56.0	58.2	44.8	51.5	90	20	43	44	85	67	.286	.302	41.53	2.94	6.3	6.1	6.0

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

SANTA FE, N. MEX.

[H = 6,998 ft.; h_t = 47 ft.; h_r = 39 ft.; h_a = 50 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	6.0	NE.	24	NE.	0	4	29	4	6	7	5	1	3	3	13	13	5	9	8	6	0	1	9	0	31	0	0
February	7.6	NE.	40	SW.	1	9	16	2	5	5	9	4	5	1	8	12	8	9	7	9	0	0	4	0	26	0	0
March	8.6	SW.	35	SW.	0	5	8	1	8	5	16	6	12	1	19	7	5	8	5	6	1	0	2	0	24	2	0
April	8.0	SE.	40	NW.	1	8	11	1	12	7	6	0	11	4	16	13	1	7	5	2	1	0	0	0	9	5	0
May	6.7	SE.	36	SW.	0	3	8	9	14	7	8	5	5	3	12	15	4	15	7	0	2	0	0	0	0	8	0
June	7.3	SE.	40	SW.	1	1	6	4	19	6	14	3	7	0	18	11	1	8	5	0	1	0	0	0	0	7	0
July	5.8	SE.	33	NE.	0	3	8	7	25	3	8	5	2	1	13	18	0	14	11	0	3	0	0	0	0	5	0
August	5.8	SE.	30	NE.	0	1	8	11	18	7	6	3	2	6	10	20	1	16	14	0	0	0	0	0	0	10	0
September	4.9	SE.	27	E.	0	4	10	8	15	5	7	1	0	10	7	19	4	15	9	0	1	0	0	0	0	4	0
October	6.6	SE.	33	S.	0	4	13	4	12	13	6	2	0	8	15	10	6	11	7	3	0	0	0	0	6	2	0
November	5.4	SE.	30	NE.	0	9	9	2	11	5	6	3	1	14	22	5	3	2	2	0	0	0	0	0	16	0	0
December	7.3	NE.	36	NW.	0	7	21	3	6	13	2	1	4	5	23	6	2	6	5	6	0	0	5	0	31	0	0
Year	6.7	SE.	40	SW.	3	58	147	56	151	83	93	34	52	56	176	149	40	120	85	32	9	1	20	0	143	43	0

SAULT STE. MARIE, MICH.

[H = 624 ft.; h_t = 58 ft.; h_r = 47 ft.; h_a = 65 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	9.0	SE.	41	NW.	1	8	2	9	16	6	3	5	12	1	3	5	23	18	12	14	0	3	24	0	29	0	0
February	8.9	SE.	38	SE.	0	3	0	8	12	4	6	6	14	3	7	9	12	10	7	10	0	2	19	0	28	0	0
March	9.7	NW.	36	NW.	0	9	1	6	16	6	1	5	17	1	8	8	15	12	10	9	0	3	18	0	28	0	0
April	9.7	SE.	48	NW.	2	2	9	11	17	1	5	5	9	1	8	13	9	12	9	4	0	1	1	0	23	0	3
May	8.8	NW.	35	NW.	0	6	4	10	10	0	1	8	21	2	11	7	13	14	13	1	0	0	0	0	1	1	0
June	8.0	NW.	35	NW.	0	3	1	6	12	1	0	17	18	2	13	10	7	13	10	0	0	0	0	0	0	0	1
July	7.0	NW.	28	SW.	0	2	3	4	12	7	3	16	12	3	14	13	4	9	9	0	0	0	0	3	0	2	2
August	8.1	NW.	50	NW.	1	4	5	9	11	0	4	3	23	3	12	8	11	8	6	0	0	1	0	0	0	3	1
September	7.2	SE.	44	NW.	2	5	3	13	15	3	3	6	11	1	16	9	5	12	5	0	0	3	0	2	0	2	0
October	8.8	SE.	44	NW.	2	6	4	11	23	1	5	3	9	0	6	4	21	12	9	1	0	5	0	0	3	3	0
November	11.7	NW.	45	NW.	2	6	3	14	8	3	3	7	16	0	1	5	24	22	20	17	0	2	11	0	22	0	0
December	8.8	E.	30	NW.	0	9	3	14	13	3	6	5	9	0	1	4	26	18	16	17	0	3	26	0	29	0	0
Year	8.8	NW.	50	NW.	10	63	38	115	165	35	40	86	171	17	100	95	170	160	126	73	0	23	99	5	163	11	7

SAVANNAH, GA.

[H = 82 ft.; h_t = 63 ft.; h_r = 54 ft.; h_a = 89 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	9.0	NW.	28	W.	0	6	12	3	2	5	4	8	22	0	12	7	12	9	3	0	0	3	0	0	5	0	0
February	9.2	NW.	27	SE.	0	3	6	7	3	10	10	7	10	0	9	4	15	13	12	0	0	1	0	0	0	1	0
March	9.2	NE.	30	W.	0	6	14	6	4	12	7	6	6	1	10	3	18	10	5	0	1	3	0	0	0	2	0
April	9.6	S.	36	NE.	0	3	10	6	10	13	6	0	12	0	15	5	10	11	6	0	0	0	0	0	0	2	0
May	8.6	S.	25	W.	0	8	4	3	7	20	9	7	4	0	22	5	4	5	3	0	1	0	0	4	0	4	0
June	7.1	SW.	40	NW.	1	5	5	3	9	12	10	11	5	0	11	10	9	15	12	0	0	0	0	19	0	15	0
July	6.4	SW.	36	S.	0	3	4	3	12	9	16	11	4	0	12	8	11	12	10	0	0	0	0	11	0	16	0
August	6.0	SW.	26	NW.	0	5	2	5	1	18	13	15	3	0	12	6	13	16	11	0	0	0	0	15	0	7	0
September	9.2	NE.	40	N.	1	9	20	8	9	3	5	4	2	0	15	4	11	11	11	0	0	2	0	4	0	4	0
October	8.6	N.	30	NE.	0	15	13	5	6	7	2	2	11	1	15	7	9	6	4	0	0	2	0	0	0	0	0
November	8.0	SW.	26	NW.	0	9	8	2	6	11	12	5	7	0	15	8	7	6	2	0	0	1	0	0	0	0	0
December	7.3	NW.	27	NW.	0	8	10	4	3	12	6	9	10	0	13	4	14	8	5	0	0	1	0	0	0	0	0
Year	8.2	SW.	40	N.	2	80	108	55	72	132	100	85	96	2	161	71	133	122	84	0	2	13	0	53	5	51	0

SEATTLE, WASH.

[H = 119 ft.; h_t = 114 ft.; h_r = 10.7 ft.; h_a = 121 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	4.7	SE.	24	SW.	0	7	10	12	8	17	1	1	6	0	5	8	18	21	14	5	0	7	0	0	7	0	0
February	5.9	SE.	34	SW.	0	5	4	2	13	18	3	6	4	1	3	11	14	21	17	2	0	1	0	0	1	0	1
March	7.8	SE.	40	S.	1	4	2	4	14	23	7	2	6	0	6	14	11	19	14	7	0	1	0	0	7	0	0
April	5.2	SE.	24	SW.	0	10	2	3	7	11	5	6	12	4	12	12	6	9	7	0	0	0	0	0	0	0	0
May	5.0	NW.	34	SW.	0	13	7	0	4	11	6	5	11	5	12	9	10	7	5	0	0	0	0	1	0	1	0
June	4.8	SE.	20	SW.	0	5	6	3	9	13	5	2	9	8	3	11	16	10	7	0	0	0	0	0	0	0	0
July	5.0	S.	28	SW.	0	11	3	3	4	15	4	5	13	4	14	10	7	9	6	0	0	0	0	0	0	0	0
August	4.2	NW.	18	SW.	0	13	7	1	5	9	2	2	18	5	20	8	3	1	1	0	0	0	0	0	0	1	0
September	3.7	SE.	20	S.	0	6	3	2	6	16	2	12	12	1	8	12	10	11	9	0	0	9	0	0	0	0	0
October	4.1	SE.	26	S.	0	9	6	2	20	10	2	9	3	1	10	10	11	7	6	0	0	11	0	0	0	1	0
November	6.9	SE.	29	SE.	0	6	7	6	17	19	2	0	2	1	0	6	24	22	19	1	0	0	0	0	1	0	0
December	7.3	SE.	37	SE.	0	7	9	5	25	12	1	2	1	0	3	6	22	20	20	0	0	6	0	0	4	0	0
Year	5.4	S.	40	S.	1	96	66	43	132	174	40	52	97	30	96	117	152	157	125	15	0	35	0	1	20	3	1

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

SHREVEPORT, LA.

[λ=32° 30′ N.; φ=93° 40′ W.; gravity corr., —0.03.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	29.93	30.30	29.43	40.3	47.2	52.5	37.4	45.0	73	13	33	35	75	65	.220	.234	5.84	1.71	6.5	5.3	6.6
February	29.76	30.45	29.42	47.0	58.2	63.4	44.5	54.0	81	31	40	40	78	54	.275	.272	.43	.22	5.8	4.9	5.7
March	29.68	29.99	29.36	56.8	65.9	71.5	54.1	62.8	86	38	52	54	84	68	.409	.436	6.95	1.95	7.2	5.7	6.8
April	29.78	30.09	29.44	58.5	70.7	76.1	55.9	66.0	84	44	52	52	80	54	.399	.402	1.71	.52	5.2	4.5	5.4
May	29.77	30.04	29.57	65.2	77.2	82.6	62.0	72.3	89	53	58	58	78	53	.490	.489	3.29	1.72	5.0	2.4	4.2
June	29.73	29.87	29.54	74.4	83.7	90.2	70.7	80.4	99	61	69	68	84	62	.719	.699	3.03	1.43	3.3	2.9	3.9
July	29.72	29.90	29.55	76.9	89.3	95.6	74.0	84.8	101	66	70	68	79	52	.737	.695	1.45	.83	2.6	3.7	3.6
August	29.74	29.87	29.59	74.4	85.9	93.7	72.4	83.0	105	65	69	68	83	57	.708	.684	1.86	.66	3.4	3.7	3.9
September	29.82	30.01	29.52	68.3	82.6	90.4	66.3	78.4	100	47	61	59	77	48	.566	.533	1.11	.38	3.1	2.2	2.7
October	29.77	30.04	29.40	61.5	76.0	83.5	59.8	71.6	93	43	55	54	81	50	.447	.433	3.67	2.24	2.8	2.5	2.6
November	29.90	30.34	29.54	49.1	61.7	68.4	46.5	57.4	83	29	43	44	81	55	.313	.316	2.16	.93	4.9	2.8	3.8
December	29.87	30.27	29.34	41.6	50.3	56.5	39.0	47.8	74	19	37	39	84	68	.236	.258	5.22	1.63	6.9	5.0	6.1
Year	29.79	30.45	29.34	59.5	70.7	77.0	56.9	67.0	105	13	53	53	80	57	.460	.454	36.72	2.24	4.7	3.8	4.6

SIOUX CITY, IOWA. *a*

[λ=42° 29′ N.; φ=96° 24′ W.; gravity corr., —0.01.]

January	28.90	29.40	28.40	10.5	.....	23.1	5.4	14.2	45	—18	8	....	86	....	.071	.....	1.41	0.59	4.9	.....	5.6
February	28.80	29.49	28.20	18.0	.....	31.5	11.9	21.7	50	—15	15	....	89	....	.093	.....	.43	.15	7.5	.....	7.0
March	28.78	29.20	28.13	25.0	.....	38.9	18.7	28.8	60	— 6	22	....	88	....	.134	.....	1.71	.85	6.8	.....	6.6
April	28.80	29.29	28.30	41.4	.....	58.3	36.8	47.6	79	24	36	....	83	....	.221	.....	4.03	.86	6.0	.....	5.9
May	28.85	29.10	28.49	51.3	.....	72.1	46.1	59.1	88	35	42	....	71	....	.283	.....	1.24	.35	3.4	.....	4.2
June	28.72	28.98	28.32	61.6	.....	79.7	57.1	68.4	94	42	55	....	79	....	.451	.....	2.13	.79	5.6	.....	5.9
July	28.74	28.98	28.29	68.2	.....	88.4	64.1	76.2	102	50	62	....	81	....	.562	.....	2.26	1.72	3.1	.....	3.4
August	28.84	29.14	28.56	60.7	.....	79.9	56.4	68.2	95	45	56	....	84	....	.451	.....	2.51	1.16	4.2	.....	4.8
September	28.89	29.21	28.58	61.0	.....	86.1	57.5	71.8	96	37	52	....	74	....	.415	.....	.51	.45	2.5	.....	2.2
October	28.83	29.20	28.34	46.7	.....	66.5	43.1	54.8	89	30	39	....	77	....	.249	.....	2.02	1.02	4.7	.....	5.3
November	28.86	29.38	28.29	26.9	.....	43.7	21.7	32.7	73	— 4	21	....	78	....	.122	.....	.49	.34	4.9	.....	5.4
December	28.88	29.34	28.37	15.8	.....	26.6	10.0	18.3	48	—15	13	....	89	....	.089	.....	1.64	.49	5.8	.....	6.6
Year	28.82	29.49	28.13	40.6	.....	57.9	35.7	46.8	102	—18	35	....	82	....	.262	.....	20.38	1.72	5.0	.....	5.2

SPOKANE, WASH.

[λ=47° 40′ N.; φ=117° 25′ W.; gravity corr., +0.01.]

January	28.09	28.42	27.72	26.8	31.2	33.7	24.1	28.9	49	3	22	25	82	79	.124	.143	1.56	0.59	7.5	7.3	8.0
February	27.87	28.43	27.33	29.8	36.5	39.2	27.1	33.2	49	12	27	28	87	70	.146	.150	2.53	.73	5.8	7.5	7.4
March *b*	27.80	28.29	27.24	28.6	37.5	40.1	25.6	32.8	56	3	24	25	81	62	.131	.137	2.50	.43	5.3	7.4	6.6
April	28.02	28.36	27.68	41.0	58.9	61.7	39.0	50.4	80	32	33	32	74	40	.188	.183	0.60	.15	5.3	6.5	5.7
May	27.95	28.21	27.72	50.8	72.2	75.8	48.9	62.4	95	37	42	41	73	34	.279	.272	1.05	.51	4.6	5.0	4.1
June *c*	27.87	28.18	27.64	53.1	69.5	71.6	51.7	61.6	83	40	45	46	77	46	.316	.326	3.51	1.66	7.1	8.5	6.4
July	27.95	28.20	27.61	55.0	75.4	77.3	53.1	65.2	96	46	44	42	68	33	.295	.272	0.98	.46	3.9	4.4	4.5
August	*d*27.94	*d*28.14	*d*27.76	58.2	*e*85.8	87.8	56.6	72.2	100	46	46	*e*41	64	*e*22	.311	*e*.259	0.37	.37	2.0	*e*3.3	3.5
September	28.01	28.37	27.69	48.2	67.3	69.8	45.8	57.8	88	37	43	41	82	42	.278	.262	1.57	.71	3.8	5.4	5.0
October	28.02	28.46	27.48	39.2	56.3	59.5	36.1	47.8	75	26	34	36	63	48	.197	.210	0.27	.10	3.4	5.0	4.9
November	27.97	28.33	27.62	33.3	38.7	42.0	29.8	35.9	65	7	30	30	86	73	.167	.170	5.85	.99	7.2	9.1	8.8
December	28.09	28.56	27.41	28.6	32.5	35.1	25.2	30.2	51	5	24	27	84	80	.137	.154	3.05	.60	7.2	8.3	8.3
Year	27.96	28.56	27.24	41.0	55.2	57.8	38.6	48.2	100	3	34	34	78	52	.214	.212	23.84	1.66	5.3	6.5	6.1

SPRINGFIELD, ILL.

[λ=39° 48′ N.; φ=89° 39′ W.; gravity corr., —0.01.]

January	29.44	29.83	28.73	22.0	26.4	31.2	19.1	25.2	61	—11	16	19	77	73	.121	.125	5.91	2.17	5.1	4.7	6.2
February	29.36	29.97	28.96	27.5	32.8	37.6	26.0	31.8	64	4	22	25	77	71	.119	.135	1.15	.40	7.3	5.5	7.2
March	29.31	29.84	28.57	36.2	43.7	48.3	33.6	41.0	74	16	30	34	78	70	.187	.213	4.47	1.14	7.0	7.0	7.5
April	29.35	29.93	29.01	45.7	53.3	58.4	42.8	50.6	77	28	39	40	76	63	.248	.264	3.85	.94	6.6	7.1	7.2
May	29.35	29.66	29.01	53.8	64.8	69.9	49.9	59.9	82	36	45	46	72	53	.305	.326	2.19	.80	3.9	5.0	4.5
June	29.28	29.48	29.05	66.4	75.2	81.4	62.3	71.8	95	46	58	60	76	62	.520	.549	4.11	1.68	7.4	5.9	5.8
July	29.28	29.46	29.07	72.0	82.0	86.9	68.1	77.5	98	55	65	67	80	62	.630	.681	4.16	1.42	3.4	3.5	4.4
August	29.33	29.60	29.12	65.0	76.7	82.9	62.0	72.4	98	51	57	60	76	57	.473	.527	2.86	1.11	3.6	3.8	3.9
September	29.46	29.72	29.25	62.5	78.5	86.2	60.1	73.2	96	40	51	54	68	46	.406	.449	.35	.28	1.9	1.5	1.8
October	29.38	29.68	28.87	51.4	65.6	74.5	50.4	62.4	91	34	42	42	70	45	.278	.282	.52	.44	2.7	1.8	2.5
November	29.40	29.95	28.84	36.1	43.2	49.0	33.4	41.2	70	12	30	33	76	67	.179	.200	4.94	1.58	4.9	4.9	5.7
December	29.40	29.89	28.91	25.1	29.1	34.1	22.0	28.0	60	2	20	23	78	76	.117	.131	3.07	.69	7.6	7.0	7.7
Year	29.36	29.97	28.57	47.0	55.9	61.7	44.1	52.9	98	—11	40	42	75	62	.299	.324	37.58	2.17	5.1	4.8	5.4

a Only 1 observation. *b* For 29 days. *c* For 27 days. *d* For 30½ days. *e* For 30 days.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

SHREVEPORT, LA.

[H = 249 ft.; h_t = 77 ft.; h_r = 76 ft.; h_a = 84 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	8.4	NW.	36	SE.	0	8	10	1	12	7	6	5	13	0	8	9	14	13	11	1	0	1	4	0	10	2	0
February	8.3	SE.	28	NW.	0	3	5	3	16	6	9	1	13	0	10	4	14	5	4	1	0	0	0	0	2	1	0
March	9.2	SE.	35	SE.	0	3	8	6	15	9	13	2	5	1	7	6	18	16	11	0	1	1	0	0	0	3	0
April	8.0	SE.	30	E.	0	4	4	3	21	10	6	2	10	0	11	7	12	8	6	0	1	2	0	0	0	6	0
May	5.1	SE.	22	S.	0	3	13	5	16	3	11	4	6	1	18	4	9	7	6	0	0	1	0	0	0	6	0
June	6.2	S.	29	SW.	0	3	3	3	15	20	6	2	8	0	17	5	8	8	7	0	1	0	0	17	0	3	0
July	5.6	S.	56	S.	1	3	5	3	9	27	9	4	2	0	16	9	6	5	5	0	0	0	0	30	0	5	0
August	4.9	S.	28	SE.	0	3	5	2	15	22	9	3	3	0	17	6	8	7	4	0	0	1	0	22	0	4	0
September	6.1	SE.	33	S.	0	7	7	8	15	9	2	3	8	1	21	3	6	4	4	0	0	0	0	17	0	2	0
October	5.3	SE.	30	S.	0	4	10	4	22	4	3	1	14	0	22	4	5	6	5	0	0	0	0	5	0	3	0
November	7.9	SE.	28	NW.	0	3	10	1	20	8	4	1	13	0	13	10	7	5	5	0	0	0	0	0	1	0	0
December	8.5	SE.	35	W.	0	5	4	3	18	6	2	8	16	0	8	8	15	11	10	0	0	3	0	0	3	1	0
Year	7.0	SE.	56	S.	1	49	84	42	194	131	80	36	111	3	168	75	122	95	78	2	3	9	4	91	16	36	0

SIOUX CITY, IOWA.

[H = 1,139 ft.; h_t = 96 ft.; h_r = 86 ft.; h_a = 164 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	13.0	NW.	46	N.	3	3	2	2	5	4	1	0	14	0	14	3	14	10	6	8	0	1	19	0	31	0	0
February	10.8	NW.	42	NW.	1	2	4	2	5	4	1	1	9	0	4	8	16	5	4	5	0	5	12	0	28	0	0
March	14.3	NW.	48	E.	2	5	6	3	6	4	0	1	6	0	8	6	17	9	7	5	0	1	9	0	27	1	0
April	15.9	N.	54	NW.	6	8	2	3	2	6	1	3	5	0	11	6	13	15	12	0	1	0	0	0	6	3	0
May	12.7	S.	44	NW.	2	4	3	2	3	13	0	1	5	0	16	5	10	7	5	0	1	0	0	0	0	4	0
June	12.1	SE.	72	S.	2	4	4	3	8	3	2	3	3	0	10	8	12	15	13	0	0	0	0	7	0	8	0
July	12.8	S.	57	W.	2	4	2	1	6	9	1	1	7	0	17	10	4	6	5	0	0	1	0	11	0	5	0
August	10.8	NW.	39	NW.	0	4	4	6	2	5	1	2	7	0	13	9	9	11	11	0	1	1	0	4	0	5	0
September	12.3	SE.	38	S.	0	2	6	1	10	7	1	1	2	0	23	4	3	3	2	0	0	0	0	13	0	1	0
October	12.1	SE.	38	SW.	0	4	4	1	10	5	1	0	6	0	13	7	11	5	5	0	0	2	0	0	2	1	0
November	12.6	N.	45	NW.	1	8	1	3	5	6	2	0	5	0	13	5	12	4	2	3	0	0	8	0	24	0	0
December	11.0	NW.	53	NW.	5	4	7	2	3	6	0	1	8	0	8	7	16	9	8	8	0	4	21	0	30	0	0
Year	12.5	NW.	72	S.	24	52	45	29	65	72	11	14	77	0	150	78	137	99	80	29	3	15	69	35	148	28	0

SPOKANE, WASH.

[H = 1,943 ft.; h_t = 99 ft.; h_r = 90 ft.; h_a = 107 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	4.4	N.	36	SW.	0	15	12	9	2	3	11	6	3	1	5	4	22	14	10	12	0	5	15	0	27	0	0
February	4.9	SW.	31	SW.	0	3	9	8	6	6	17	2	2	3	5	5	18	14	14	10	0	2	1	0	21	0	0
March	7.0	S.	26	SW.	0	1	9	6	11	13	13	0	3	6	8	6	17	18	15	12	0	0	5	0	25	0	0
April	6.1	SW.	36	SW.	0	1	7	5	4	10	18	7	2	6	10	7	13	10	6	0	0	0	0	0	0	1	0
May	6.4	SW.	32	SW.	0	4	8	5	4	12	17	4	4	4	17	6	8	6	4	0	0	0	0	1	0	4	0
June	7.0	SW.	36	S.	0	3	8	4	6	12	17	9	1	0	6	14	10	10	8	0	0	1	0	0	0	2	0
July	7.0	SW.	27	NW.	0	1	5	4	8	18	18	5	2	1	13	9	9	9	6	0	0	0	0	1	0	1	0
August	4.3	NE.	26	S.	0	9	12	5	2	4	13	4	5	8	20	8	3	1	1	0	0	0	0	15	0	1	0
September	4.4	NE.	25	SE.	0	9	12	10	3	16	6	0	3	1	14	2	14	11	8	0	0	2	0	0	0	0	0
October	4.1	NE.	20	S.	0	7	12	13	4	9	8	4	3	2	14	3	14	5	4	0	0	6	0	0	10	0	0
November	6.1	SW.	37	SW.	0	4	11	2	7	10	19	2	4	1	2	2	26	19	16	11	0	3	4	0	16	0	0
December	5.9	S.	34	SW.	0	7	10	7	5	11	14	5	3	0	4	3	24	17	13	9	0	0	14	0	20	0	0
Year	5.6	SW.	37	SW.	0	64	115	78	62	124	171	48	35	33	118	69	178	134	105	54	0	19	39	17	119	9	0

SPRINGFIELD, ILL.

[H = 644 ft.; h_t = 82 ft.; h_r = 60 ft.; h_a = 92 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	11.2	NW.	36	W.	0	2	1	2	9	10	5	13	20	0	10	5	16	12	8	7	0	5	12	0	25	0	0
February	9.6	NW.	28	S.	0	6	10	8	3	9	0	6	14	0	4	9	15	10	6	8	0	2	6	0	25	1	0
March	11.2	SE.	36	E.	0	3	4	6	15	9	5	6	14	0	6	5	20	17	9	1	0	6	2	0	16	2	0
April	12.4	NW.	36	SE.	0	7	6	3	10	9	6	6	13	0	4	9	17	15	13	1	0	2	0	0	1	5	0
May	8.4	S.	26	SW.	0	7	3	3	6	19	4	6	14	0	13	14	4	7	6	0	0	0	0	0	0	2	0
June	9.0	W.	31	W.	0	2	5	6	7	14	8	15	3	0	7	13	10	14	12	0	0	0	0	8	0	11	0
July	7.6	S.	30	NW.	0	4	2	4	9	18	10	4	11	0	12	14	5	9	8	0	0	0	0	10	0	9	0
August	7.0	NW.	24	NW.	0	5	11	8	3	6	6	9	14	0	13	16	2	8	5	0	0	0	0	6	0	5	0
September	7.2	SE.	34	NE.	0	6	1	11	17	12	4	6	3	0	25	4	1	2	2	0	0	0	0	14	0	2	0
October	7.9	NW.	24	S.	0	5	3	10	10	10	8	3	13	0	23	4	4	2	2	0	0	0	0	3	0	1	0
November	11.0	S.	30	N.	0	7	3	1	5	21	4	6	13	0	8	10	12	11	11	0	0	2	3	0	12	2	0
December	10.3	NW.	28	NE.	0	4	6	4	2	14	4	11	17	0	3	7	21	10	9	6	0	3	13	0	25	0	0
Year	9.4	S.	36	E.	0	58	55	66	96	151	64	91	149	0	128	110	127	117	91	23	0	20	36	41	104	40	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

SPRINGFIELD, MO.

[λ=37° 12′ N.; φ=93° 18′ W.; gravity corr., —0.02.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	28.72	29.04	28.16	25.8	32.6	37.2	23.6	30.4	65	— 1	22	26	82	76	.133	.159	6.47	4.64	4.7	4.9	5.5
February	28.58	29.22	28.22	32.2	40.4	45.1	30.4	37.8	72	10	28	31	84	71	.159	.174	4.10	1.66	6.9	5.6	6.4
March	28.53	28.92	28.00	40.3	50.4	56.2	37.7	47.0	76	14	36	38	83	67	.230	.250	5.91	1.64	6.3	6.1	5.8
April	28.62	28.99	28.25	48.2	58.8	63.6	46.2	54.9	81	34	41	42	77	56	.269	.276	3.73	1.33	3.7	5.0	4.7
May	28.65	28.93	28.38	56.6	68.3	72.5	54.4	63.4	84	39	48	50	75	54	.351	.373	2.48	1.15	4.1	4.2	4.3
June	28.59	28.74	28.36	68.1	77.5	81.4	64.4	72.9	91	46	62	65	83	66	.580	.631	5.36	1.05	5.1	4.1	5.2
July	28.60	28.75	28.37	72.7	82.6	87.4	69.1	78.2	95	56	66	66	80	59	.641	.657	2.48	1.20	2.8	2.8	3.0
August	28.64	28.81	28.49	67.6	79.7	85.9	65.1	75.5	96	52	61	59	80	52	.547	.517	1.48	.51	3.6	3.0	3.7
September	28.75	28.98	28.58	66.1	80.6	87.3	64.3	75.8	95	44	53	50	64	37	.428	.379	.37	.37	1.5	2.0	2.3
October	28.66	28.92	28.22	56.1	69.2	76.5	55.1	65.8	90	36	45	45	69	45	.308	.309	.98	.72	2.4	2.0	2.9
November	28.70	29.20	28.21	38.7	48.5	55.9	35.7	45.8	77	13	32	34	78	60	.204	.218	1.77	.83	3.8	4.1	4.5
December	28.66	29.07	28.02	28.7	33.9	39.4	25.4	32.4	64	10	25	28	83	80	.138	.160	4.58	2.56	6.4	5.8	6.8
Year	28.64	29.22	28.00	50.1	60.1	65.7	47.6	56.7	96	— 1	43	44	78	60	.332	.342	39.71	4.64	4.3	4.1	4.6

TACOMA, WASH. *a*

[λ=47° 16′ N.; φ=122° 23′ W.; gravity corr., 0.00.]

January	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
February	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
March	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
April	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
May	29.88	30.17	29.62	48.4	.....	67.0	47.5	57.2	88	40	44	.....	85	.....	.289	.....	1.46	0.54	4.6	.....	5.4
June	29.80	30.06	29.56	52.2	.....	67.0	51.0	59.0	81	41	48	.....	85	.....	.335	.....	1.54	.70	7.4	.....	7.4
July	29.89	30.21	29.49	53.1	.....	70.5	52.3	61.4	87	47	49	.....	87	.....	.350	.....	.87	.58	5.2	.....	4.1
August	29.81	30.07	29.58	56.6	.....	76.9	55.4	66.2	90	48	52	.....	83	.....	.384	.....	.58	.53	3.1	.....	2.7
September	29.86	30.22	29.50	49.1	.....	64.4	47.6	56.0	84	40	46	.....	91	.....	.317	.....	1.41	.85	4.9	.....	5.8
October	29.86	30.25	29.24	44.9	.....	57.4	42.5	50.0	65	34	42	.....	92	.....	.274	.....	1.63	.75	4.4	.....	6.5
November	29.81	30.09	29.35	41.1	.....	48.0	37.8	42.9	64	28	38	.....	90	.....	.238	.....	12.31	2.48	6.9	.....	9.0
December	29.88	30.38	29.14	40.7	.....	45.7	37.7	41.7	55	28	38	.....	90	.....	.231	.....	14.48	2.90	7.3	.....	8.7
Year	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

TAMPA, FLA.

[λ=27° 57′ N.; φ=82° 27′ W.; gravity corr., —0.04.]

January	30.15	30.39	29.77	51.7	58.7	66.6	48.7	57.6	78	29	46	50	83	73	.340	.378	1.42	0.58	4.5	4.4	4.8
February	30.07	30.52	29.77	61.3	65.7	72.4	58.0	65.2	82	39	58	60	90	82	.518	.544	5.40	3.10	5.5	2.1	4.2
March	30.09	30.39	29.86	67.4	72.3	80.2	63.6	71.9	88	50	63	64	86	75	.591	.599	1.44	.61	4.5	2.5	4.1
April	30.06	30.32	29.74	67.9	71.4	79.3	61.3	70.3	86	47	60	60	77	68	.529	.525	4.65	2.24	4.0	3.7	5.0
May	30.00	30.17	29.77	71.3	75.3	83.7	65.2	74.4	90	55	63	61	77	64	.593	.561	.33	.16	1.6	2.5	2.3
June	30.02	30.14	29.91	80.4	80.7	89.7	72.4	81.0	94	68	73	72	79	76	.812	.797	8.46	4.10	2.2	4.4	3.6
July	30.01	30.17	29.81	79.7	81.4	89.2	73.9	81.6	94	70	74	73	83	75	.832	.802	6.23	3.25	3.9	5.9	4.8
August	30.03	30.18	29.87	79.5	80.1	89.3	73.9	81.6	94	70	74	73	84	80	.846	.817	7.84	1.13	3.1	6.2	4.2
September	30.00	30.14	29.73	74.2	75.3	85.2	69.9	77.6	90	54	71	70	89	83	.758	.728	10.73	6.56	4.1	4.5	5.4
October	29.98	30.17	29.76	69.2	72.6	81.3	65.8	73.6	88	56	65	64	86	75	.625	.609	4.78	2.90	2.7	2.8	3.4
November	30.13	30.28	29.88	63.7	68.5	77.0	61.0	69.0	82	50	60	60	87	75	.524	.530	.63	.62	3.6	2.4	3.5
December	30.13	30.40	29.82	56.3	62.8	71.6	53.4	62.5	82	40	52	54	87	75	.415	.446	2.50	1.68	4.5	3.5	4.3
Year	30.06	30.52	29.73	68.6	72.1	80.5	63.9	72.2	94	29	63	63	84	75	.615	.611	54.41	6.56	3.7	3.7	4.1

TATOOSH ISLAND, WASH.

[λ=48° 23′ N.; φ=124° 44′ W.; gravity corr., +0.01.]

January	29.93	30.30	29.44	42.4	43.7	44.6	39.2	41.9	52	30	37	36	82	76	.226	.221	12.20	3.12	9.0	8.7	8.7
February	29.81	30.48	29.23	41.0	43.7	45.1	38.3	41.7	51	33	35	36	80	74	.205	.211	11.16	1.38	9.3	9.0	8.5
March	29.77	30.29	29.23	38.2	41.7	42.9	35.2	39.0	50	25	32	32	78	70	.182	.182	11.31	1.59	7.8	7.4	7.1
April	30.08	30.38	29.68	45.5	49.2	51.0	43.2	47.1	68	38	41	42	84	78	.257	.273	7.61	2.78	6.8	6.5	6.4
May	30.00	30.28	29.70	49.2	52.9	55.1	46.3	50.7	67	43	45	47	86	80	.302	.321	3.45	.91	6.1	5.5	5.7
June	29.92	30.18	29.56	52.4	55.8	57.7	49.7	53.7	66	46	49	50	89	82	.349	.365	3.37	.76	7.6	7.9	8.0
July	30.03	30.34	29.50	53.8	57.3	58.7	51.2	55.0	62	48	52	52	92	84	.380	.392	3.11	1.50	7.8	5.8	7.2
August	29.93	30.22	29.60	54.4	59.5	61.4	51.6	56.5	68	46	52	54	90	81	.381	.411	2.66	1.45	2.8	3.3	4.0
September	29.97	30.36	29.60	51.6	55.5	57.5	49.5	53.5	68	45	48	50	87	83	.332	.367	2.16	.98	5.8	5.9	6.5
October	29.94	30.40	29.21	49.4	52.4	53.6	47.4	50.5	58	41	45	46	86	81	.302	.317	2.91	.82	6.8	6.4	7.6
November	29.86	30.20	29.38	44.1	45.6	47.2	40.5	43.8	54	32	38	38	82	77	.238	.238	17.77	3.12	8.7	8.0	7.9
December	29.90	30.52	28.87	45.0	45.5	46.9	41.1	44.0	52	36	39	40	82	81	.245	.247	17.50	3.10	7.5	8.9	8.3
Year	29.93	30.52	28.87	47.2	50.2	51.8	44.4	48.1	68	25	43	44	85	79	.283	.295	95.21	3.12	7.2	6.9	7.2

a Only one observation.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

SPRINGFIELD, MO.

[H=1,324 ft.; h_t=100 ft.; h_r=3 ft.; h_a=103 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	11.9	NW.	40	W.	1	9	1	1	14	8	3	4	21	1	7	14	10	13	10	7	1	1	10	0	22	2	0
February	11.2	SE.	34	SE.	0	6	4	7	14	7	2	2	11	3	5	10	13	9	6	3	0	4	2	0	17	1	0
March	13.7	SE.	40	SE.	1	6	8	5	22	5	3	6	7	0	8	12	11	14	11	0	1	4	0	0	8	8	0
April	13.0	SE.	36	SE.	0	10	2	0	18	7	4	7	12	0	8	18	4	13	9	0	0	1	0	0	0	5	0
May	8.6	SE.	30	SW.	0	10	1	2	21	6	3	5	10	4	9	18	4	7	5	0	0	4	0	0	0	7	0
June	9.4	SE.	42	NW.	1	3	2	6	20	16	9	2	2	0	2	25	3	15	13	0	1	0	0	1	0	13	0
July	8.4	S.	36	NW.	0	7	6	2	10	15	13	3	5	1	18	12	1	6	5	0	0	0	0	14	0	9	0
August	7.1	S.	32	SW.	0	9	5	3	10	14	5	6	7	3	10	19	2	6	5	0	1	2	0	9	0	8	0
September	8.5	SE.	26	SW.	0	5	0	9	27	8	7	0	2	2	20	9	1	2	2	0	0	0	0	11	0	1	0
October	9.2	SE.	25	SE.	0	6	4	4	30	4	6	1	6	1	18	10	3	3	3	0	0	1	0	0	0	1	0
November	12.6	SE.	35	NW.	0	10	3	0	20	14	3	3	7	0	14	7	9	9	6	0	1	1	1	0	10	3	0
December	11.2	NW.	36	NW.	0	6	5	4	13	6	4	6	17	1	4	13	14	10	7	3	0	3	11	0	25	1	0
Year	10.4	SE.	42	NW.	3	87	41	43	219	110	62	45	107	16	123	167	75	107	82	13	5	21	24	35	82	59	0

TACOMA, WASH.

[H=213 ft.; h_t=113 ft.; h_r=104 ft.; h_a=120 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
February	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
March	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
April	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
May	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12	5	14	8	4	0	0	1	0	0	0	1	0
June	6.0	SW.	24	SW.	0	15	1	1	0	7	16	11	7	2	3	11	16	9	6	0	0	1	0	0	0	0	0
July	6.4	SW.	22	SW.	0	15	0	0	1	6	19	12	6	3	14	9	8	7	4	0	0	0	0	0	0	0	0
August	4.8	N.	24	SW.	0	35	3	1	3	2	8	5	3	2	19	7	5	3	1	0	0	0	0	0	0	0	0
September	4.2	N.	29	SW.	0	24	5	1	3	4	10	7	3	3	10	7	13	12	7	0	0	5	0	0	0	0	0
October	4.1	N.	31	SW.	0	16	5	0	7	13	10	2	8	1	3	13	15	8	5	0	0	13	0	0	0	0	0
November	7.1	SW.	39	NE.	0	5	4	4	10	14	20	0	1	2	1	4	25	24	22	2	0	[illegible]	0	0	3	0	0
December	6.4	SW.	35	SW.	0	6	4	8	8	16	15	4	0	1	2	3	26	21	21	0	0	7	0	0	7	0	0
Year	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

TAMPA, FLA.

[H=36 ft.; h_t=60 ft.; h_r=51 ft.; h_a=67 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	6.6	NE.	36	SW.	0	10	17	6	4	3	1	7	14	0	10	14	7	7	6	0	0	1	0	0	2	0	0
February	8.0	S.	30	SW.	0	6	7	1	7	13	9	6	7	0	10	15	3	9	5	0	0	2	0	0	0	1	0
March	7.8	SE.	28	SW.	0	2	9	9	9	9	7	9	8	0	11	16	4	9	4	0	0	0	0	0	0	1	0
April	7.8	NE.	36	SE.	0	9	16	6	9	4	7	5	4	0	10	13	7	7	4	0	0	0	0	0	0	4	0
May	7.1	W.	24	W.	0	9	12	9	6	0	1	16	9	0	22	8	1	5	2	0	0	0	0	0	0	1	0
June	5.6	SE.	26	SE.	0	2	4	4	17	0	8	15	10	0	13	15	2	15	13	0	0	0	0	14	0	11	0
July	5.4	E.	26	SE.	0	3	10	14	7	4	7	12	5	0	8	19	4	15	12	0	0	0	0	11	0	10	0
August	5.1	SW.	30	SE.	0	3	9	7	13	4	13	9	2	2	12	14	5	18	17	0	0	0	0	13	0	12	0
September	7.3	NE.	36	N.	0	11	28	6	3	1	1	6	4	0	8	15	7	16	13	0	0	0	0	3	0	4	0
October	6.5	NE.	34	SE.	0	12	25	3	0	1	1	7	12	1	17	11	3	8	7	0	0	0	0	0	0	1	0
November	6.3	N.	36	S.	0	17	15	5	1	4	0	7	11	0	16	12	2	3	1	0	0	0	0	0	0	0	0
December	5.7	N.	30	S.	0	20	9	6	3	4	2	7	11	0	14	11	6	8	5	0	0	1	0	0	0	0	0
Year	6.6	NE.	36	SW.	0	104	161	76	79	47	57	106	97	3	151	163	51	120	89	0	0	4	0	41	2	45	0

TATOOSH ISLAND, WASH.

[H=86 ft.; h_t=7 ft.; h_r=1 ft.; h_a=21 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	18.6	E.	60	E.	8	1	0	41	2	12	1	1	4	0	4	0	27	21	19	1	0	1	0	0	2	0	0
February	14.8	E.	60	W.	8	0	3	22	3	11	3	6	8	0	2	5	21	23	21	2	0	0	0	0	0	0	0
March	16.0	E.	60	NW.	10	1	2	25	1	14	3	8	8	0	4	9	18	25	22	6	0	0	0	0	4	0	0
April	13.2	E.	55	E.	3	0	2	17	0	15	7	6	13	0	8	8	14	14	13	0	0	5	0	0	0	0	0
May	9.9	SW.	55	E.	2	1	4	9	1	13	16	8	10	0	11	8	12	12	9	0	0	8	0	0	0	0	0
June	9.8	SW.	48	NE.	1	0	5	7	2	13	17	7	9	0	4	2	24	14	12	0	0	5	0	0	0	0	0
July	8.1	S.	32	S.	0	0	0	2	0	30	23	7	0	0	6	5	20	12	9	0	0	8	0	0	0	0	0
August	9.5	S.	50	E.	2	5	3	10	2	27	10	3	2	0	20	3	8	5	4	0	0	12	0	0	0	0	0
September	9.5	W.	49	E.	2	3	6	12	7	10	3	17	2	0	9	4	17	7	6	0	0	7	0	0	0	1	0
October	13.5	E.	55	E.	10	0	2	38	5	10	2	3	2	0	7	0	24	10	9	0	0	6	0	0	0	0	0
November	14.8	E.	48	S.	7	1	1	17	1	15	7	9	9	0	2	6	22	25	24	1	0	1	0	0	0	1	0
December	17.9	E.	63	E.	7	1	0	32	1	19	5	3	1	0	4	3	24	23	20	0	0	1	0	0	0	0	0
Year	13.0	E.	63	E.	60	13	28	232	25	189	97	78	68	0	81	53	231	191	168	10	0	54	0	0	6	2	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

TOLEDO, OHIO.

[λ=41° 40′ N.; φ=83° 34′ W.; gravity corr., —0.01.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	29.37	29.93	28.78	21.7	23.4	29.8	16.9	23.4	61	—16	19	20	90	88	.123	.125	1.75	0.50	8.2	6.8	8.2
February	29.33	29.83	28.91	26.4	29.6	33.9	23.8	28.8	48	4	23	25	87	80	.127	.135	1.10	.29	8.0	7.1	7.6
March	29.30	29.93	28.54	33.5	37.5	45.1	28.7	36.9	64	17	29	31	83	77	.167	.182	3.25	.86	6.2	6.4	6.4
April	29.34	29.99	28.95	43.2	47.6	54.8	38.0	46.4	79	21	37	38	80	70	.231	.242	2.54	.51	6.6	6.8	6.8
May	29.27	29.63	28.87	52.6	58.5	64.7	47.3	56.0	80	35	45	46	76	65	.304	.317	3.28	.81	5.4	5.4	5.7
June	29.26	29.50	29.03	61.7	69.5	75.8	56.3	66.0	92	44	54	56	76	63	.432	.460	4.07	1.30	5.5	5.1	5.3
July	29.23	29.45	29.02	72.0	77.4	84.2	66.1	75.2	98	56	65	64	80	65	.633	.603	3.73	1.32	5.2	4.3	4.4
August	29.28	29.58	28.99	64.2	70.1	77.5	59.8	68.6	88	49	57	58	78	66	.470	.486	1.95	.90	4.7	4.5	4.5
September	29.46	29.71	29.14	60.3	68.4	78.8	56.1	67.4	95	38	51	53	74	61	.397	.432	1.22	.97	1.9	1.5	2.6
October	29.38	29.74	28.80	50.8	58.2	66.4	47.3	56.8	90	39	43	46	76	67	.287	.324	.75	.48	3.9	2.7	4.9
November	29.34	29.84	28.68	37.4	40.4	47.5	32.9	40.2	64	15	33	33	84	74	.200	.198	5.41	1.46	7.3	6.0	7.1
December	29.33	29.83	28.97	27.4	30.1	35.3	23.6	29.4	57	1	23	24	84	76	.134	.140	1.30	.46	7.1	7.8	8.0
Year	29.32	29.99	28.54	45.9	50.9	57.8	41.4	49.6	98	—16	40	41	81	71	.292	.304	30.35	1.46	5.8	5.4	6.0

TOPEKA, KANS.

[λ=39° 3′ N.; φ=95° 41′ W.; gravity corr., —.]

January						36.8	20.0	28.4	61	— 4							1.45	0.48			
February						40.4	25.8	33.1	58	3							1.46	.71			
March						53.9	32.9	43.4	78	4							2.32	.63			
April						65.8	44.3	55.0	86	35							2.44	.76			
May						76.5	52.7	64.6	90	38							2.43	1.37			
June						85.5	64.9	75.2	100	45							7.82	2.62			
July						91.7	69.0	80.4	102	57							3.89	1.30			
August						86.2	64.2	75.2	105	54							2.81	1.36			
September						88.7	62.1	75.4	98	46							1.16	.97			
October						75.4	50.5	63.0	90	36							1.37	.78			
November						55.6	31.3	43.4	82	5							.56	.33			
December						35.7	20.8	28.2	65	3							1.15	.55			
Year						66.0	44.9	55.4	105	— 4							28.86	2.62			

VICKSBURG, MISS.

[λ=32° 22′ N.; φ=90° 53′ W.; gravity corr., —0.03.]

January	29.92	30.25	29.57	40.9	48.2	53.7	37.9	45.8	71	17	34	39	75	72	.222	.261	6.24	1.89	6.0	4.5	4.5
February	29.77	30.44	29.38	48.4	57.5	63.0	45.5	54.2	78	31	42	43	79	62	.292	.306	2.67	1.22	5.8	5.2	4.8
March	29.70	30.06	29.35	58.9	68.2	72.8	55.5	64.2	86	42	53	53	80	62	.423	.438	5.12	2.03	7.0	5.0	4.6
April	29.78	30.10	29.49	60.3	69.0	74.0	56.4	65.2	84	45	51	50	73	54	.391	.383	1.96	.69	3.6	4.1	2.5
May	29.76	30.02	29.53	65.8	74.7	80.5	62.2	71.4	87	54	56	55	71	53	.460	.444	.89	.46	3.6	3.8	2.6
June	29.73	29.88	29.56	74.8	83.8	89.6	71.5	80.6	96	63	69	68	83	59	.718	.680	3.93	2.45	2.5	5.1	3.5
July	29.73	29.88	29.57	76.1	84.6	91.5	73.3	82.4	96	64	70	71	82	65	.738	.757	5.31	1.81	2.7	5.2	3.8
August	29.74	29.89	29.60	74.9	82.9	88.6	71.7	80.2	98	67	69	71	83	71	.719	.766	3.24	.83	4.0	5.0	4.6
September	29.81	29.94	29.57	69.6	81.7	88.3	67.1	77.7	96	48	61	65	76	57	.566	.624	.28	.15	1.6	2.9	2.7
October	29.77	30.01	29.43	62.9	74.5	81.4	60.9	71.2	93	45	54	57	75	58	.429	.484	1.94	1.50	2.7	3.4	3.1
November	29.89	30.27	29.53	50.8	60.6	68.7	47.5	58.1	80	29	44	46	79	62	.311	.336	1.37	.59	4.9	2.2	3.5
December	29.86	30.15	29.32	45.1	50.5	57.5	40.8	49.2	74	25	42	43	90	77	.290	.292	13.27	5.28	6.4	5.3	6.3
Year	29.79	30.44	29.32	60.7	69.7	75.8	57.5	66.7	98	17	54	55	79	63	.463	.481	46.22	5.28	4.2	4.8	3.9

VINEYARD HAVEN, MASS.

[λ=41° 26′ N.; φ=70° 43′ W.; gravity corr., 0.00.]

January						38.8	25.9	32.4	56	9							3.89	1.17			
February						39.1	28.0	33.6	50	18							2.68	1.02			
March						46.9	32.0	39.4	55	19							3.61	1.02			
April						55.9	40.1	48.0	70	28							5.95	3.00			
May						65.6	49.7	57.6	76	42							3.28	.96			
June						70.9	55.1	63.0	80	50							2.83	1.16			
July						80.3	64.8	72.6	85	55							5.28	3.32			
August						77.7	63.1	70.4	83	58							5.04	2.07			
September						71.7	57.6	64.6	88	45							.80	.36			
October						63.4	48.5	56.0	80	35							2.44	1.58			
November						53.3	38.2	45.8	66	18							6.42	2.63			
December						44.3	32.1	38.2	62	15							4.51	.81			
Year						59.0	44.6	51.8	88	9							46.73	3.32			

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

TOLEDO, OHIO.

[H=674 ft.; h_t=122 ft.; h_r=113 ft.; h_a=127 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	11.5	W.	50	SW.	1	2	3	7	5	8	18	15	4	0	3	6	22	14	12	11	1	1	18	0	27	1	0
February	10.0	W.	38	NW.	0	5	7	12	2	1	8	11	10	0	2	9	17	10	7	6	0	0	10	0	25	0	0
March	10.8	E.	36	W.	0	2	10	12	5	4	8	15	6	0	8	7	16	18	14	7	0	2	3	0	19	3	0
April	11.8	SW.	36	NW.	0	3	9	11	5	4	14	7	7	0	6	7	17	11	8	3	0	0	0	0	6	2	0
May	9.0	W.	28	SW.	0	1	4	6	2	3	12	21	13	0	8	10	13	10	8	0	2	0	0	0	0	3	0
June	8.4	W.	30	SW.	0	3	9	11	4	7	4	15	6	1	8	16	6	11	9	0	0	0	0	1	0	9	0
July	7.7	W.	45	S.	2	1	3	9	3	8	10	14	14	0	12	16	3	13	9	0	1	0	0	5	0	4	0
August	7.8	NW.	32	W.	0	10	5	13	2	8	7	10	7	0	11	11	6	15	9	0	0	0	0	0	0	6	0
September	7.1	SW.	42	NW.	1	7	5	13	8	1	14	5	7	0	19	10	1	3	2	0	0	0	0	5	0	2	0
October	9.1	E.	30	SW.	0	1	10	16	2	5	13	7	8	0	9	14	8	6	5	0	0	4	0	0	0	0	0
November	11.4	SW.	33	SW.	0	3	2	3	5	9	13	15	10	0	3	11	16	13	10	1	0	1	2	0	13	1	0
December	10.7	W.	34	SW.	0	1	2	8	4	6	14	19	8	0	3	4	24	9	7	5	0	1	13	0	23	0	0
Year	9.6	W.	50	SW.	4	39	69	121	47	64	135	154	100	1	92	124	149	133	100	33	4	9	46	11	113	21	0

TOPEKA, KANS.

[H=— ft.; h_t=81 ft.; h_r=73 ft.; h_a=89 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	.....	NW.	....	.....	....	3	0	0	3	5	4	5	11	0	9	9	13	10	7	6	0	0	9	0	26	0	0
February	.....	N.	....	.....	....	7	2	2	4	5	1	4	3	0	4	13	11	7	5	6	0	1	2	0	25	0	0
March	.....	S.	....	.....	....	7	1	3	7	8	0	1	4	0	8	15	8	11	8	2	0	0	1	0	14	4	0
April	.....	NW.	....	.....	....	6	0	2	3	6	1	4	8	0	10	11	9	13	9	0	2	0	0	0	0	5	1
May	.....	N.	....	.....	....	8	1	3	4	8	2	0	5	0	9	17	5	9	7	0	2	0	0	0	0	6	0
June	.....	SE.	....	.....	....	3	1	2	11	9	1	1	2	0	3	24	3	17	12	0	2	0	0	8	0	12	0
July	.....	SE.	....	.....	....	3	1	4	10	5	2	4	2	0	19	9	3	5	4	0	0	0	0	17	0	3	0
August	.....	N.	....	.....	....	8	0	7	6	6	0	1	3	0	15	13	3	10	8	0	1	0	0	10	0	9	0
September	.....	SE.	....	.....	....	1	3	0	13	10	2	0	1	0	21	6	3	4	2	0	0	0	0	16	0	1	0
October	.....	S.	....	.....	....	3	2	3	5	7	3	5	3	0	18	8	5	6	4	0	0	1	0	0	0	1	0
November	.....	S.	....	.....	....	4	1	2	4	8	3	2	6	0	12	13	5	5	4	0	0	1	1	0	13	0	0
December	.....	NW.	....	.....	....	6	3	1	3	3	1	4	10	0	5	14	12	7	5	6	0	1	11	0	28	0	0
Year	.....	S.	....	.....	....	59	15	29	73	80	20	31	58	0	133	152	80	104	75	20	7	4	24	51	106	41	1

VICKSBURG, MISS.

[H=254 ft.; h_t=65 ft.; h_r=58 ft.; h_a=73 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	8.2	N.	26	S.	0	15	12	5	10	6	4	5	5	0	15	4	12	11	10	1	1	1	2	0	9	1	0
February	7.7	SE.	29	S.	0	9	8	7	13	11	2	3	3	0	12	8	8	10	7	0	0	2	0	0	1	2	0
March	9.7	SE.	56	NW.	1	4	7	6	22	11	7	0	5	0	11	14	6	15	12	0	1	0	0	0	0	9	0
April	7.6	SE.	30	NW.	0	5	12	6	13	7	7	4	6	0	20	8	2	8	5	0	0	0	0	0	0	5	0
May	5.8	NW.	26	S.	0	8	8	11	6	7	10	4	8	0	21	9	1	6	5	0	0	0	0	0	0	5	0
June	4.9	SW.	38	NW.	0	2	9	3	7	9	15	7	6	2	17	11	2	7	5	0	0	0	0	19	0	4	0
July	5.9	SW.	36	NW.	0	7	5	5	11	4	21	7	1	1	15	14	2	8	6	0	0	0	0	22	0	12	0
August	4.8	SE.	28	S.	0	14	4	2	11	5	11	9	5	1	12	12	7	11	8	0	0	2	0	13	0	10	0
September	6.1	N.	31	E.	0	18	11	12	11	1	1	0	3	3	22	7	1	3	3	0	0	0	0	14	0	0	0
October	5.6	SE.	18	SW.	0	9	16	15	14	2	2	2	2	0	18	9	4	2	2	0	0	0	0	2	0	1	0
November	7.5	SE.	30	NW.	0	4	12	5	19	6	7	1	6	0	17	7	6	9	6	0	0	0	0	0	1	1	0
December	8.1	SE.	34	NW.	0	9	7	3	17	4	6	6	10	0	10	5	16	13	11	0	0	2	0	0	2	1	0
Year	6.8	SE.	56	NW.	1	104	111	80	154	73	93	48	60	7	190	108	67	103	80	1	2	7	2	70	13	51	0

VINEYARD HAVEN, MASS.

[H=— ft.; h_t=20 ft., h_r=3 ft.; h_a=55 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	10.6	NW.	....	.....	1	2	3	1	4	0	5	4	12	0	9	4	18	7	5	2	1	3	5	0	26	0	0
February	10.0	NW.	....	.....	2	3	4	1	1	2	6	3	8	0	13	5	10	9	8	4	0	0	4	0	20	0	0
March	10.8	NW.	....	.....	0	2	3	2	5	3	3	3	10	0	8	12	11	15	11	1	0	3	0	0	10	1	1
April	9.4	SW.	....	.....	0	4	4	0	0	2	13	2	5	0	14	8	8	9	8	0	0	2	0	0	2	0	0
May	10.2	SW.	....	.....	0	0	4	1	4	2	15	0	5	0	10	8	13	12	10	0	0	2	0	0	0	1	0
June	9.1	N.	....	.....	0	6	4	3	2	1	5	3	6	0	12	10	8	9	6	0	0	2	0	0	0	2	0
July	9.1	SW.	....	.....	0	1	2	3	1	7	14	2	1	0	13	11	7	10	10	0	0	1	0	0	0	1	0
August	6.8	SW.	....	.....	0	0	5	1	0	6	14	5	0	0	19	6	6	7	7	0	0	0	0	0	0	2	0
September	8.4	SW.	....	.....	0	3	5	2	0	2	13	3	2	0	17	7	6	7	5	0	0	0	0	0	0	1	0
October	10.6	NE.	....	.....	0	2	9	5	2	3	6	1	3	0	14	7	10	5	5	0	0	1	0	0	0	0	0
November	11.0	NW.	....	.....	1	2	2	1	3	2	9	0	11	0	8	7	15	14	12	2	0	1	0	0	7	0	0
December	10.0	NW.	....	.....	0	1	4	3	3	2	4	5	9	0	8	7	16	15	13	3	0	1	4	0	14	0	0
Year	9.7	SW.	....	.....	4	26	49	23	25	32	107	31	72	0	145	92	128	119	100	12	1	16	13	0	79	8	1

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

WALLA WALLA, WASH.

[λ=46° 2′ N.; φ=118° 20′ W.; gravity corr., 0.00.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	29.10	29.41	28.68	29.8	31.2	35.2	26.4	30.8	61	0	28	30	94	93	.157	.169	1.85	0.60	6.3	7.2	7.1
February	28.88	29.42	28.40	36.4	42.2	46.3	32.6	39.4	57	25	32	34	84	74	.181	.196	2.61	.48	6.6	6.2	6.1
March	28.83	29.28	28.10	35.7	43.5	47.1	32.1	39.6	65	16	31	35	85	73	.179	.207	2.38	.59	5.1	6.6	5.8
April	29.02	29.37	28.57	47.9	65.1	66.9	44.6	55.8	86	32	36	38	66	40	.217	.232	1.75	.73	4.2	4.0	4.2
May	28.93	29.27	28.57	54.3	75.5	78.2	52.4	65.3	100	40	44	44	69	34	.293	.302	1.05	.44	3.4	4.3	3.9
June	28.85	29.14	28.58	56.1	73.5	76.1	53.7	64.9	91	42	46	48	70	43	.316	.343	1.51	.45	5.8	5.2	4.7
July	28.92	29.24	28.66	59.9	81.3	83.6	57.7	76.6	105	50	46	45	61	30	.313	.299	.84	.69	2.5	2.4	3.1
August	28.86	29.10	28.62	65.5	89.4	91.2	62.5	76.8	104	49	46	50	50	29	.310	.375	.42	.22	1.5	2.4	2.2
September	28.94	29.33	28.56	54.9	72.6	74.5	51.9	63.2	91	41	45	49	71	45	.303	.350	1.44	.60	3.9	3.7	3.5
October	28.98	29.39	28.49	47.2	61.5	64.7	43.0	53.8	79	30	38	43	70	52	.229	.280	.23	.20	2.5	3.4	3.1
November	28.96	29.32	28.62	40.1	43.1	47.5	36.0	41.8	75	11	34	36	81	79	.204	.220	5.15	1.29	6.2	7.3	6.7
December	29.10	29.52	28.45	34.1	36.0	40.4	31.0	35.7	62	15	30	31	85	84	.169	.182	2.44	.47	6.5	7.5	7.1
Year	28.95	29.52	28.10	46.8	59.6	62.6	43.7	53.1	105	0	38	40	74	56	.239	.263	21.67	1.29	4.5	5.0	4.8

WASHINGTON, D. C.

[λ=38° 54′ N.; φ=77° 3′ W.; gravity corr., —0.02.]

January	30.07	30.62	29.60	26.0	31.9	38.9	23.2	31.0	64	8	19	23	73	68	.111	.135	1.98	1.04	4.7	4.2	5.0
February	29.98	30.56	29.43	33.2	38.0	43.7	29.4	36.6	63	12	28	31	82	76	.159	.178	6.47	2.19	6.2	5.2	6.1
March	29.99	30.60	29.27	40.9	48.3	55.7	36.2	46.0	82	26	35	36	81	66	.218	.234	2.66	.86	6.5	4.3	5.1
April	30.01	30.54	29.39	48.2	56.2	64.2	41.6	52.9	88	29	38	38	70	52	.244	.239	3.02	1.34	4.0	3.4	4.0
May	29.87	30.29	29.42	59.6	64.1	72.3	52.4	62.4	83	43	51	51	74	65	.384	.391	6.97	2.81	4.4	5.0	4.5
June	29.87	30.17	29.59	67.1	71.2	78.9	60.2	69.6	93	43	60	61	78	71	.525	.545	2.60	1.25	5.7	5.7	5.4
July	29.86	30.18	29.54	73.6	77.3	85.5	68.3	76.9	92	61	68	68	82	73	.680	.676	5.78	1.31	5.2	5.4	5.0
August	29.89	30.10	29.58	70.1	74.1	83.3	63.6	73.4	90	57	64	65	82	74	.600	.626	3.35	1.95	3.9	4.9	3.9
September	30.05	30.31	29.77	62.6	68.9	79.7	56.8	68.2	97	42	56	59	79	71	.469	.516	1.54	1.28	3.4	1.2	2.7
October	30.03	30.47	29.58	53.1	58.2	67.5	48.6	58.0	89	34	48	50	85	76	.353	.384	3.55	1.08	5.3	4.5	5.2
November	30.03	30.47	29.24	42.2	46.2	54.6	37.3	46.0	76	26	36	36	80	69	.234	.235	3.31	1.38	4.7	3.6	5.1
December	30.01	30.44	29.31	34.1	39.0	45.7	30.5	38.1	68	14	30	30	83	70	.172	.178	3.35	1.15	5.8	4.3	4.9
Year	29.97	30.62	29.24	50.9	56.1	64.2	45.7	54.9	97	8	44	46	79	69	.346	.361	44.58	2.81	5.0	4.3	4.7

WICHITA, KANS.

[λ=37° 41′ N.; φ=97° 20′ W.; gravity corr., —0.02.]

January	28.71	29.08	28.02	24.9	31.9	38.8	22.8	30.8	59	—1	19	23	78	70	.115	.131	1.23	0.56	4.4	4.2	4.5
February	28.56	29.23	28.14	29.5	38.2	44.5	27.3	35.9	68	12	25	28	82	67	.134	.153	1.31	.90	6.1	5.3	6.2
March	28.48	28.83	27.96	37.3	48.9	57.2	34.2	45.7	82	11	32	34	81	61	.194	.213	3.34	.99	4.8	4.6	4.7
April	28.58	28.89	28.19	47.7	60.3	67.2	45.0	56.1	87	34	40	40	77	50	.264	.266	3.66	1.20	4.4	4.3	4.7
May	28.61	28.83	28.33	57.8	69.0	76.0	54.2	65.1	88	40	48	50	72	53	.354	.378	2.48	.86	5.5	4.1	5.0
June	28.48	28.71	28.24	69.5	80.3	87.6	66.2	76.9	102	44	62	63	78	57	.569	.585	1.99	.68	4.9	3.9	4.8
July	28.53	28.73	28.16	72.0	86.5	93.5	68.8	81.2	102	55	64	62	76	46	.595	.561	1.49	.97	2.9	2.7	2.6
August	28.60	28.78	28.36	68.7	81.7	90.2	66.2	78.2	102	56	61	60	77	50	.544	.527	4.33	1.28	3.1	2.7	3.1
September	28.68	28.99	28.44	64.8	79.8	88.0	62.4	75.2	96	50	55	54	71	43	.450	.431	1.22	.87	2.2	1.8	2.1
October	28.61	28.85	28.21	53.7	66.3	75.4	51.8	63.6	88	32	45	46	73	52	.308	.327	3.89	2.88	3.0	2.6	3.2
November	28.65	29.19	28.25	36.8	48.0	58.3	33.2	45.8	83	7	29	30	72	52	.180	.180	.10	.09	3.5	2.8	3.8
December	28.68	29.18	28.08	26.4	32.9	40.6	23.4	32.0	61	4	20	22	77	64	.114	.125	.97	.46	4.7	2.9	4.6
Year	28.60	29.23	27.96	49.1	60.3	68.1	46.3	57.2	102	—1	42	43	76	55	.318	.323	26.01	2.88	4.1	3.5	4.1

WILLISTON, N. DAK.

[λ=48° 9′ N.; φ=103° 35′ W.; gravity corr., +0.01.]

January	28.08	28.62	27.38	3.9	7.6	15.2	—3.2	6.0	38	—32	—1	4	82	83	.047	.058	0.56	0.30	4.0	3.6	4.1
February	27.93	28.58	27.18	3.1	10.6	16.8	—4.2	6.3	32	—25	—1	7	82	84	.044	.059	1.10	.40	4.1	4.6	4.1
March	27.97	28.44	27.41	1.3	13.5	18.1	—2.5	7.8	47	—35	—3	10	81	84	.053	.081	2.10	.71	3.9	5.0	4.2
April	28.00	28.42	27.45	35.7	50.7	53.7	33.9	43.8	90	20	30	32	81	55	.169	.187	1.17	.52	5.3	4.7	5.0
May	27.98	28.42	27.66	47.2	68.0	71.9	43.2	57.6	90	25	38	38	72	36	.237	.235	.72	.28	2.3	2.9	3.2
June	27.89	28.26	27.45	54.6	70.9	75.0	51.2	63.1	101	32	46	46	74	44	.329	.324	2.71	.92	4.9	4.3	4.3
July	27.91	28.26	27.38	59.7	78.9	83.0	55.3	69.2	98	46	50	45	73	33	.372	.304	1.36	1.16	3.9	3.1	3.1
August	28.03	28.27	27.63	54.6	77.0	81.7	51.9	66.8	97	40	47	46	77	36	.328	.318	.45	.13	3.1	3.5	3.1
September	28.00	28.54	27.47	51.2	73.9	79.7	48.3	64.0	94	30	42	42	73	35	.286	.294	.58	.42	3.8	3.2	2.8
October	27.98	28.43	27.47	37.3	52.3	60.3	34.8	47.6	93	17	30	30	76	44	.173	.165	.43	.33	3.2	4.1	3.8
November	28.06	28.56	27.40	15.8	20.8	28.9	10.1	19.5	69	—19	12	15	82	76	.089	.101	.85	.28	5.0	3.1	4.2
December	27.99	28.64	27.42	10.7	17.5	24.2	4.9	14.6	49	—26	6	13	78	80	.075	.095	.16	.08	3.6	3.8	4.1
Year	27.98	28.64	27.18	31.3	45.1	50.7	27.0	38.9	101	—35	25	27	78	58	.184	.185	12.19	1.16	3.9	3.8	3.8

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

WALLA WALLA, WASH.

[H=1,018 ft.; h_t=65 ft.; h_r=56 ft.; h_a=73 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m. and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	3.3	SW.	23	N.	0	6	1	2	9	11	21	11	1	0	1	12	18	12	8	8	0	7	13	0	25	0	0
February	6.3	S.	36	S.	0	3	0	7	5	28	8	5	0	0	7	11	10	16	13	6	0	2	0	0	11	0	0
March	8.2	S.	31	SW.	0	2	1	3	5	38	9	1	3	0	7	16	8	13	12	6	0	0	3	0	16	0	0
April	6.6	S.	30	SW.	0	6	2	4	6	26	9	7	0	0	15	9	6	8	5	0	0	0	0	0	0	0	0
May	5.8	S.	34	N.	0	15	3	2	9	17	9	3	4	0	16	11	4	8	6	0	0	0	0	4	0	3	0
June	6.4	S.	22	SW.	0	5	2	7	6	20	12	4	4	0	9	18	3	9	7	0	0	0	0	1	0	1	0
July	6.8	S.	25	SW.	0	3	2	0	4	20	16	14	3	0	21	8	2	4	4	0	0	0	0	7	0	0	0
August	4.7	S.	36	S.	0	10	2	5	6	16	4	11	8	0	27	3	1	4	3	0	0	0	0	19	0	3	0
September	4.5	N.	19	N.	0	14	5	11	4	12	9	4	1	0	16	12	2	8	6	0	0	0	0	1	0	0	0
October	4.6	S.	28	S.	0	3	1	6	4	24	12	9	3	0	21	7	3	3	1	0	0	0	0	0	2	0	0
November	6.5	S.	36	S.	0	2	0	5	3	37	6	6	1	0	2	14	14	20	18	7	0	2	3	0	10	0	0
December	6.0	S.	34	S.	0	3	0	7	7	20	10	11	4	0	1	18	12	17	13	3	0	3	13	0	18	0	0
Year	5.8	S.	36	S.	0	72	19	59	68	269	125	86	32	0	143	139	83	122	96	30	0	14	32	32	82	7	0

WASHINGTON, D. C.

[H=112 ft.; h_t=59 ft.; h_r=42 ft.; h_a=76 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	8.5	NW.	40	NW.	1	13	5	9	0	10	2	3	20	0	15	3	13	10	9	6	0	2	8	0	23	0	0
February	7.5	N.	36	N.	0	15	9	8	1	4	4	1	13	1	9	2	17	14	12	8	0	0	1	0	18	1	0
March	8.1	S.	36	NW.	0	10	8	8	4	13	3	3	11	2	11	9	11	13	11	0	0	0	0	0	8	0	0
April	7.8	S.	35	NW.	0	12	4	8	7	11	5	2	10	1	16	8	6	11	8	0	0	0	0	0	1	2	0
May	7.6	S.	32	N.	0	13	2	2	8	13	5	4	14	1	17	5	9	12	10	0	1	0	0	0	0	4	0
June	6.4	NW.	25	NW.	0	12	6	1	7	8	6	7	12	1	9	10	11	11	8	0	0	0	0	2	0	8	0
July	5.4	S.	34	N.	0	2	5	6	5	21	6	5	11	1	13	9	9	16	12	0	0	1	0	4	0	8	0
August	4.6	S.	30	NW.	0	13	8	3	7	12	4	5	9	1	14	11	6	10	8	0	0	0	0	1	0	7	0
September	5.4	N.	28	NW.	0	14	11	2	4	10	5	4	6	4	19	8	3	3	2	0	0	1	0	4	0	1	0
October	6.3	NE.	30	N.	0	15	21	1	4	7	4	3	4	3	12	8	11	11	7	0	0	2	0	0	0	0	0
November	7.2	NW.	47	NW.	1	2	7	3	2	17	2	10	17	0	12	8	10	14	10	0	0	1	0	0	7	0	0
December	6.8	S.	34	NW.	0	11	6	3	3	16	3	4	15	1	12	9	10	12	10	2	0	1	1	0	15	0	0
Year	6.8	S.	47	NW.	2	132	92	54	52	142	49	51	142	16	159	90	116	137	107	16	1	8	10	11	72	31	0

WICHITA, KANS.

[H=1,351 ft.; h_t=78 ft.; h_r=71 ft.; h_a=85 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	9.7	S.	39	N.	0	17	6	1	3	20	3	1	11	0	17	3	11	8	6	4	0	0	10	0	26	0	0
February	8.6	N.	29	S.	0	14	13	2	10	9	4	0	4	0	5	13	10	4	4	3	0	3	1	0	23	0	0
March	10.7	N.	32	SW.	0	13	11	6	12	11	3	1	5	0	15	9	7	12	8	1	3	2	2	0	13	3	0
April	11.9	N.	40	N.	1	13	9	2	7	12	4	4	9	0	14	6	10	10	8	0	0	1	0	0	0	6	0
May	7.3	S.	24	W.	0	11	8	5	11	19	3	2	2	1	9	12	10	9	8	0	0	0	0	0	0	7	0
June	9.2	S.	28	N.	0	4	3	2	10	32	7	2	0	0	9	17	4	11	9	0	0	0	0	12	0	5	0
July	8.2	S.	32	N.	0	10	7	4	10	20	8	2	1	0	21	7	3	9	7	0	0	0	0	23	0	6	0
August	6.0	S.	24	S.	0	6	11	5	12	22	4	1	0	1	18	10	3	9	6	0	0	1	0	14	0	9	0
September	6.8	S.	24	N.	0	3	3	2	24	25	1	0	2	0	19	9	2	3	2	0	0	0	0	16	0	1	0
October	8.1	SE.	30	S.	0	8	6	3	19	11	6	1	7	1	18	7	6	5	5	0	0	1	0	0	0	1	0
November	10.4	S.	31	N.	0	16	2	1	8	22	4	0	7	0	16	9	5	3	1	0	0	0	1	0	12	0	0
December	9.4	NW.	31	N.	0	13	9	2	4	7	8	4	15	0	15	8	8	5	5	5	0	1	8	0	24	0	0
Year	8.9	S.	40	N.	1	128	88	35	130	210	55	18	63	3	176	110	79	88	69	13	3	9	22	65	98	38	0

WILLISTON, N. DAK.

[H=1,875 ft.; h_t=15 ft.; h_r=4 ft.; h_a=31 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	8.6	W.	58	N.	2	9	9	1	8	6	6	14	9	0	14	11	6	7	3	7	0	0	27	0	31	0	0
February	7.7	NW.	60	NW.	1	10	3	6	7	9	3	5	12	1	12	12	4	8	5	8	0	0	26	0	28	0	0
March	7.9	N.	36	N.	0	18	14	3	6	9	1	5	6	0	16	9	6	9	7	8	0	0	22	0	29	0	0
April	10.7	N.	48	N.	1	24	4	4	9	7	2	6	4	0	10	16	4	10	7	6	0	0	0	0	9	0	0
May	10.1	N.	48	W.	3	17	5	7	5	13	1	6	5	3	22	8	1	6	5	0	0	0	0	0	2	1	0
June	9.0	N.	40	S.	1	15	6	5	9	9	4	3	9	0	17	10	3	9	7	0	1	0	0	3	0	2	0
July	7.9	N.	36	NW.	0	15	11	2	5	5	8	8	6	2	22	8	1	5	4	0	0	0	0	6	0	1	0
August	7.4	N.	42	NE.	1	17	12	1	6	14	5	3	2	2	21	8	2	6	6	0	0	0	0	2	0	5	0
September	8.4	SE.	36	NW.	0	9	9	5	10	8	5	6	6	2	24	6	0	3	3	0	0	0	0	4	2	2	0
October	8.7	NW.	42	W.	1	9	2	3	7	9	11	7	13	1	15	13	3	2	2	0	0	0	0	1	12	0	0
November	7.8	N.	38	NW.	0	21	6	2	2	3	10	8	7	1	19	6	5	9	6	9	0	0	15	0	29	0	0
December	8.2	NW.	48	W.	1	12	1	2	1	8	12	11	14	1	15	13	3	4	2	2	0	0	18	0	30	0	0
Year	8.5	N.	60	NW.	11	176	82	41	75	100	68	82	93	13	207	120	38	78	57	40	1	0	108	16	172	11	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

WILMINGTON, N. C.

[λ=34° 14′ N.; φ=77° 57′ W.; gravity corr., —0.03.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	In.	In.	°	°	°	°	°	°	°	°	°	%	%	In.	In.	In.	In.			
January	30.12	30.50	29.71	37.3	44.6	52.3	34.8	43.6	68	14	30	33	75	65	.183	.210	1.76	0.58	5.4	4.2	4.4
February	30.00	30.58	29.48	46.2	52.0	60.2	43.8	52.0	77	30	42	46	85	80	.281	.322	6.26	1.72	6.4	5.4	5.4
March	30.05	30.56	29.52	54.1	57.6	65.3	48.3	56.8	82	34	48	49	80	74	.360	.371	1.23	.26	6.0	6.7	5.3
April	30.06	30.55	29.64	57.6	61.0	70.5	52.3	61.4	84	35	50	53	78	75	.386	.414	2.17	1.13	5.7	3.6	3.8
May	29.95	30.25	29.49	65.4	68.6	76.9	60.0	68.4	89	49	57	57	74	69	.477	.488	2.49	.82	4.0	5.3	3.9
June	29.93	30.13	29.74	75.3	76.7	86.1	70.0	78.0	96	64	69	70	80	79	.701	.730	3.88	2.31	4.3	6.6	3.8
July	29.93	30.21	29.62	77.9	79.4	87.5	72.7	80.1	97	68	71	71	80	77	.762	.772	4.50	2.60	5.1	5.0	5.8
August	29.96	30.13	29.67	75.2	77.6	86.0	71.2	78.6	93	63	70	71	85	81	.738	.756	3.50	1.37	5.4	4.7	3.8
September	30.07	30.25	29.74	68.5	71.9	81.7	64.2	73.0	94	52	64	64	84	77	.607	.610	1.54	.60	4.1	3.6	4.1
October	29.99	30.36	29.58	61.2	65.6	73.8	58.0	65.9	86	48	58	60	90	82	.492	.518	4.44	3.24	5.5	4.6	4.7
November	30.12	30.47	29.67	51.3	56.5	66.4	47.7	57.0	76	32	45	49	80	77	.327	.368	1.53	.75	4.1	2.8	3.5
December	30.08	30.42	29.65	43.8	49.3	58.4	40.5	49.4	70	26	41	44	90	82	.272	.305	4.38	1.59	5.0	4.4	5.5
Year	30.02	30.58	29.48	59.5	63.4	72.1	55.3	63.7	97	14	54	56	82	76	.466	.489	37.68	3.24	5.1	4.7	4.5

WINNEMUCCA, NEV.

[λ=40° 58′ N.; φ=117° 43′ W.; gravity corr., —0.01.]

January	25.70	25.99	25.27	25.6	39.8	42.9	22.4	32.6	53	10	21	24	82	51	.112	.126	0.79	0.46	4.9	6.5	6.5
February	25.61	26.02	25.12	26.9	37.4	40.2	23.4	31.8	54	7	21	23	78	56	.116	.122	1.15	.50	6.0	7.7	7.2
March	25.55	25.92	25.12	27.7	37.3	39.9	23.8	31.8	61	12	20	20	70	49	.109	.110	.32	.08	4.6	7.2	7.1
April	25.73	26.02	25.41	38.9	60.2	62.5	33.9	48.2	81	24	24	19	58	24	.132	.107	.25	.11	3.8	4.9	4.5
May	25.66	25.88	25.43	49.0	71.6	75.4	46.1	60.8	90	29	33	28	56	23	.196	.168	.69	.24	3.2	5.3	5.1
June	25.60	25.84	25.34	50.3	72.6	74.7	47.4	61.0	89	35	32	28	51	22	.190	.165	.44	.20	4.1	5.9	5.5
July	a25.69	a26.01	a25.44	b56.2	82.3	84.3	51.9	68.1	96	35	b34	24	b46	13	b.212	.137	.08	.08	b2.5	2.8	2.9
August	25.65	25.84	25.54	61.1	88.8	90.7	56.9	73.8	98	36	27	22	28	9	.157	.121	.00	.00	2.4	3.5	2.9
September	25.64	25.92	24.91	48.0	73.2	77.0	41.8	59.4	88	26	27	22	45	16	.155	.125	.12	.08	2.3	4.3	3.1
October	25.71	25.99	25.34	38.5	58.3	61.4	34.3	47.8	78	24	27	28	32	34	.152	.155	1.47	.38	2.8	4.7	3.7
November	25.71	25.92	25.44	32.8	41.6	52.3	26.3	39.3	70	5	22	28	61	46	.123	.158	.38	.13	3.5	6.4	5.5
December	25.81	26.10	25.23	25.4	35.0	40.7	17.4	29.0	57	—2	14	26	67	70	.098	.146	.97	.24	4.8	5.7	5.3
Year	25.67	26.10	24.91	40.0	58.2	61.8	35.5	48.6	98	—2	25	24	56	34	.146	.137	6.66	.50	3.7	5.4	4.9

WOODS HOLE, MASS. c

[λ=41° 33′ N.; φ=70° 40′ W.; gravity corr., —0.01.]

January	30.03	30.72	29.05	.....	30.4	34.4	24.3	29.4	53	6	....	22	....	71	.....	.128	3.46	1.22	.....	4.8	4.7
February	30.02	30.53	29.51	.....	32.6	34.9	27.3	31.1	43	18	....	25	....	73	.....	.137	1.96	.70	.....	3.9	4.2
March	30.01	30.67	29.16	.....	37.5	41.5	30.9	36.2	51	14	....	30	....	76	.....	.176	2.83	.78	.....	5.3	5.3
April	30.04	30.54	29.52	.....	44.8	49.9	38.8	44.4	65	25	....	37	....	76	.....	.228	5.73	3.06	.....	3.2	3.5
May	29.93	30.25	29.68	.....	53.8	59.2	48.9	54.0	65	42	....	48	....	81	.....	.335	3.02	1.17	.....	5.3	5.2
June	29.90	30.24	29.65	.....	60.1	64.9	55.5	60.2	73	49	....	54	....	81	.....	.422	2.05	.76	.....	4.7	4.6
July	29.96	30.30	29.54	.....	68.0	72.5	64.0	68.2	78	54	....	65	....	91	.....	.626	5.30	2.19	.....	4.5	4.6
August	29.95	30.14	29.61	.....	68.5	73.1	64.0	68.6	79	56	....	64	....	84	.....	.591	3.23	1.52	.....	2.5	4.0
September	30.07	30.34	29.73	.....	63.1	67.9	57.1	62.5	85	44	....	55	....	77	.....	.457	.93	.42	.....	3.0	3.0
October	b30.12	b30.56	b29.66	.....	b54.2	59.8	48.1	54.0	77	36	....	b46	....	b74	.....	b.320	1.92	1.17	.....	2.9	3.4
November	30.02	30.57	29.11	.....	44.8	48.7	38.0	43.4	64	17	....	36	....	71	.....	.228	7.34	4.19	.....	6.3	5.3
December	30.01	30.50	29.29	.....	37.4	40.9	30.8	35.8	57	13	....	30	....	74	.....	.182	4.18	1.04	.....	6.5	5.7
Year	30.00	30.72	29.05	.....	49.6	54.0	44.0	49.0	85	6	....	43	....	77	.....	.319	41.95	4.19	.....	4.4	4.5

YANKTON, S. DAK.

[λ=42° 54′ N.; φ=97° 28′ W.; gravity corr., ———.]

January	(d)	(d)	(d)	9.5	17.7	21.9	5.7	13.8	49	—18	(d)	(d)	(d)	(d)	(d)	(d)	1.41	0.48	(d)	(d)	(d)
February	28.61	29.40	28.05	15.6	23.6	30.0	12.5	21.2	47	—13	(d)	(d)	(d)	(d)	(d)	(d)	.84	.44	6.8	5.0	5.6
March	28.66	29.11	28.04	22.8	29.6	36.3	19.2	27.8	58	—8	(d)	(d)	(d)	(d)	(d)	(d)	2.37	1.02	7.2	6.0	6.0
April	28.69	29.21	28.25	41.6	51.2	57.2	37.7	47.4	80	24	35	34	79	55	.210	.194	4.16	1.54	5.7	5.8	5.2
May	28.71	29.03	28.38	53.1	65.8	72.0	48.2	60.1	86	32	42	39	68	40	.288	.256	.78	.28	3.5	3.4	3.9
June	28.58	28.90	28.14	62.2	73.7	78.8	57.2	68.0	95	41	54	56	76	56	.442	.480	2.49	.75	5.4	5.0	4.8
July	28.60	28.92	28.05	68.3	81.8	87.5	63.4	75.4	100	53	61	62	80	54	.551	.579	4.14	2.06	3.8	3.7	2.7
August	28.71	29.04	28.34	60.8	74.7	80.4	56.7	68.6	93	44	55	58	82	57	.441	.496	1.71	.43	4.4	3.1	4.0
September	28.74	29.24	28.46	62.4	76.3	85.3	59.6	72.7	97	37	51	53	71	46	.397	.419	.89	.50	3.3	2.9	2.6
October	c28.73	29.12	28.18	45.5	.....	65.5	42.8	54.2	89	32	38	(d)	77	(d)	.238	(d)	1.20	.57	5.6	(d)	5.1
November	c28.75	29.27	28.10	27.1	.....	43.8	22.0	32.9	78	—8	21	(d)	76	(d)	.118	(d)	.24	.10	5.8	(d)	5.2
December	c28.80	29.26	28.25	17.4	.....	28.2	12.3	20.2	52	—12	12	(d)	81	(d)	.086	(d)	1.53	.42	6.9	(d)	5.9
Year	.....	.....	.....	40.5	.....	57.3	36.4	46.9	100	—18	....	....	....	....	.....	.....	21.76	2.06	.....	.....	....

a For 30½ days. b For 30 days. c Only one observation. d No data recorded.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

WILMINGTON, N. C.

[H = 78 ft.; h_t = 82 ft.; h_r = 76 ft.; h_a = 90 ft.]

Month.	Wind. By self-registers. Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	Number of winds, 8 a. m and 8 p. m. North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Number of days. Clear.	Partly cloudy.	Cloudy.	Precipitation. 0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Maximum temp. Below 32°.	Above 90°.	Minimum temperature below 32°.	Electricity. Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	8.7	N.	34	W.	0	13	15	3	1	3	8	11	8	0	15	8	8	9	7	0	0	2	0	0	11	0	0
February	9.2	NE.	42	S.	1	9	13	3	3	5	9	8	6	0	10	7	11	11	10	0	0	3	0	0	1	1	0
March	9.5	W.	34	W.	0	4	13	5	3	10	13	8	6	0	11	9	11	13	10	0	0	4	0	0	0	0	0
April	8.9	S.	44	SW.	1	7	13	6	8	10	12	2	2	0	15	11	4	11	6	0	0	2	0	0	0	3	0
May	9.1	S.	32	S.	0	12	7	3	5	15	10	5	5	0	14	15	2	7	7	0	0	0	0	0	0	4	0
June	7.7	W.	28	W.	0	4	12	6	5	9	9	14	1	0	13	15	2	10	6	0	0	0	0	10	0	15	0
July	6.3	S.	30	S.	0	6	8	4	10	8	18	7	1	0	8	11	12	12	11	0	0	1	0	5	0	13	0
August	6.3	SW.	30	NE.	0	2	10	2	3	10	17	18	0	0	16	11	4	12	12	0	0	0	0	5	0	7	0
September	7.3	NE.	26	NE.	0	9	18	5	5	8	5	6	4	0	17	5	8	10	6	0	0	1	0	2	0	2	0
October	8.7	N.	27	NE.	0	15	18	5	3	5	1	10	4	1	12	13	6	10	6	0	0	6	0	0	0	1	0
November	8.6	S.	29	SW.	0	11	7	1	4	12	11	9	5	0	17	9	4	4	4	0	0	1	0	0	0	0	0
December	7.1	W.	32	W.	0	11	8	5	2	5	7	15	8	1	12	6	13	12	6	0	0	7	0	0	4	0	0
Year	8.1	NE.	44	SW.	2	103	142	48	52	100	120	113	50	2	160	120	85	121	91	0	0	27	0	22	16	46	0

WINNEMUCCA, NEV.

[H = 4,340 ft.; h_t = 59 ft.; h_r = 52 ft.; h_a = 70 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	7.8	SW.	31	NE.	0	11	8	14	1	5	16	6	1	0	8	7	16	11	5	7	0	1	0	0	29	0	0
February	11.4	SW.	50	SW.	3	6	5	4	1	6	20	12	2	0	5	8	15	15	5	10	0	0	5	0	21	0	0
March	12.1	SW.	66	SW.	6	3	2	4	2	7	24	14	6	0	5	8	18	10	3	6	0	0	3	0	27	0	0
April	10.3	NE.	60	NW.	1	6	14	10	0	4	12	7	7	0	14	5	11	6	3	1	0	0	0	0	14	0	0
May	8.7	SW.	48	NE.	2	11	14	8	2	1	17	2	7	0	8	15	8	8	5	0	0	0	0	1	1	0	0
June	8.4	SW.	36	W.	0	4	8	5	1	6	20	12	4	0	9	10	11	5	4	0	0	0	0	0	0	0	0
July	8.4	SW.	36	W.	0	2	8	7	0	1	29	10	4	0	23	4	4	1	1	0	0	0	0	8	0	0	0
August	b8.0	SW.	42	SW.	b1	5	5	11	3	7	15	9	5	2	20	8	3	0	0	0	0	0	0	17	0	1	0
September	.....	W.	....	.....	....	11	3	6	1	4	4	18	7	6	18	6	6	2	2	0	0	0	0	0	5	0	0
October	.....	N.	....	.....	....	12	4	10	0	6	3	6	1	20	16	7	8	8	7	2	0	0	0	0	13	0	0
November	.....	W.	....	.....	....	12	1	5	0	5	7	13	2	15	7	13	10	5	5	3	0	0	0	0	19	0	0
December	.....	S.	....	.....	....	16	1	4	1	18	2	13	0	7	8	14	9	6	6	3	1	1	6	0	25	0	0
Year	.....	SW.	....	.....	....	99	73	88	12	70	169	122	46	50	141	105	119	77	46	32	1	2	14	26	154	1	0

WOODS HOLE, MASS.

[H = 22 ft.; h_t = 51 ft.; h_r = 39 ft.; h_a = 57 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	17.1	W.	56	W.	9	3	0	2	3	3	6	10	4	0	10	14	7	6	5	4	0	2	11	0	25	0	0
February	15.3	SW.	45	N.	2	3	0	4	1	1	8	5	6	0	15	3	10	9	7	6	0	0	7	0	23	0	0
March	16.8	W.	56	S.	9	1	3	1	5	5	3	7	6	0	10	8	13	12	9	1	0	2	3	0	12	0	1
April	15.0	S.	46	SW.	1	4	0	0	5	11	6	2	2	0	16	9	5	9	7	0	0	0	0	0	3	0	0
May	15.2	S.	44	S.	2	3	0	4	3	13	6	1	1	0	13	6	12	14	10	0	0	1	0	0	0	1	1
June	14.2	SW.	38	W.	0	4	3	2	1	8	8	2	2	0	14	8	8	6	6	0	0	2	0	0	0	1	0
July	13.0	S.	52	SE.	2	2	1	2	4	15	5	1	1	0	14	9	8	12	10	0	0	2	0	0	0	3	0
August	11.6	S.	37	S.	0	2	1	0	3	12	8	3	2	0	16	7	8	6	6	0	0	0	0	0	0	4	0
September	13.5	SW.	42	NW.	1	2	4	1	1	6	10	4	2	0	21	3	6	7	6	0	0	0	0	0	0	1	0
October	14.2	NE.	46	NW.	2	3	10	2	3	3	7	1	2	0	21	1	9	5	5	0	0	0	0	0	0	0	0
November	19.1	W.	60	SW.	10	0	2	1	7	2	4	8	5	1	13	4	13	12	11	2	0	1	2	0	8	0	0
December	16.9	SE.	54	NW.	5	1	3	0	8	2	7	3	7	0	9	9	13	14	13	4	0	2	6	0	18	0	1
Year	15.2	S.	60	SW.	43	28	27	19	44	81	78	47	40	1	172	81	112	112	95	17	0	12	29	0	89	10	3

YANKTON, S. DAK.

[H = 1,234 ft.; h_t = 52 ft.; h_r = 45 ft.; h_a = 58 ft.]

Month.	Average hourly velocity.	Prevailing direction. a	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	0.01 inch and over.	0.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
January	10.8	NW.	(c)	(c)	(c)	0	7	5	4	3	4	5	33	1	11	7	13	10	7	10	0	0	21	0	31	(c)	(c)
February	8.6	NW.	(c)	(c)	(c)	4	4	12	7	6	3	6	13	1	6	13	9	6	3	6	0	1	14	0	28	0	0
March	10.3	NW.	36	NW.	0	4	5	16	9	0	0	2	24	2	11	6	14	9	7	5	0	1	11	0	24	2	0
April	11.8	NW.	44	S.	1	12	6	7	5	4	4	7	13	2	13	6	11	14	10	0	0	0	0	0	6	0	0
May	9.9	S.	31	NW.	0	8	3	11	6	14	3	8	8	1	14	11	6	8	4	0	1	0	0	0	0	2	0
June	8.3	E.	49	S.	1	6	8	14	12	9	2	3	6	0	9	15	6	12	8	0	0	0	0	5	0	8	0
July	8.4	S.	41	S.	2	9	4	9	8	13	3	5	9	2	21	8	2	10	7	0	0	1	0	11	0	8	0
August	7.1	E.	27	NW.	0	11	6	12	6	8	3	5	9	2	15	11	5	10	8	0	*0	1	0	4	0	2	0
September	9.5	S.	42	S.	1	6	4	7	2	25	5	3	3	5	21	7	2	4	3	0	0	1	0	14	0	2	0
October	8.9	N.	33	S.	0	6	3	4	3	4	3	5	2	1	11	9	11	7	7	0	0	2	0	0	2	1	1
November	8.4	SW.	34	SW.	0	6	0	4	3	4	6	3	4	0	13	4	13	6	3	5	0	0	8	0	22	0	0
December	7.9	N.	38	NW.	0	8	1	5	2	4	2	6	3	0	10	7	14	11	7	11	0	0	19	0	29	0	0
Year	9.2	NW.	....	.....	....	80	51	106	67	94	38	58	127	17	155	104	106	107	74	37	1	7	73	34	142	....	...

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at action. b For 18 days. c No record kept.

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

YUMA, ARIZ.

[$\lambda = 32° 45'$ N.; $\phi = 114° 36'$ W.; gravity corr., —0.03.]

Month.	Pressure.			Temperature.							Moisture.										
		Extremes.		Mean.					Extremes.		Dew-point.		Relative humidity.		Vapor pressure.		Precipitation.		Cloudiness.		
	Monthly mean.	Maximum.	Minimum.	8 a. m.	8 p. m.	Maximum.	Minimum.	Monthly.	Maximum.	Minimum.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	8 a. m.	8 p. m.	Total.	Maximum in 24 hours.	8 a. m.	8 p. m.	Daylight.
	In.	*In.*	*In.*	°	°	°	°	°	°	°	°	°	%	%	*In.*	*In.*	*In.*	*In.*			
January	29.90	30.19	29.48	47.7	60.8	64.6	45.9	55.2	73	39	37	38	69	45	.232	.235	2.83	2.16	3.1	3.1	3.5
February	29.87	30.17	29.59	48.1	66.0	69.1	45.6	57.4	83	37	34	33	60	31	.201	.189	.06	.06	1.1	2.6	3.2
March	29.80	30.17	29.61	48.9	67.7	70.3	46.5	58.4	86	39	32	29	56	26	.195	.171	.48	.44	1.0	2.1	1.7
April	29.74	29.96	29.49	58.9	85.6	88.6	56.3	72.4	100	42	38	30	49	15	.239	.171	T.	T.	1.4	1.9	1.6
May	29.62	29.83	29.43	67.6	92.9	95.6	65.3	80.4	102	54	46	40	48	17	.317	.254	T.	T.	1.5	1.2	1.3
June	29.60	29.75	29.44	68.6	95.8	98.5	67.4	83.0	106	56	52	40	58	15	.403	.258	.00	.00	1.0	1.0	.8
July	29.62	29.80	29.45	78.5	102.1	105.2	77.0	91.1	112	69	62	55	59	23	.577	.460	T.	T.	1.8	1.4	1.6
August	29.62	29.78	29.43	81.3	100.9	104.6	79.2	91.9	112	69	69	64	67	31	.715	.603	.57	.48	1.9	3.1	2.5
September	29.67	29.87	29.48	74.0	95.2	99.1	71.6	85.4	105	62	58	54	61	27	.513	.440	.20	.11	1.7	2.9	2.2
October	29.74	29.96	29.52	59.2	80.4	84.1	56.0	70.0	99	42	44	43	60	27	.304	.287	T.	T.	.7	1.4	.9
November	29.85	30.04	29.62	51.7	71.7	77.0	48.0	62.5	88	38	32	34	50	26	.186	.201	.00	.00	1.5	2.3	1.8
December	29.97	30.23	29.46	45.0	61.1	65.8	40.0	52.9	75	28	25	25	45	25	.131	.135	.04	.04	.5	2.1	1.2
Year	29.75	30.23	29.43	60.8	81.7	85.2	58.2	71.7	112	28	44	40	57	26	.334	.284	4.18	2.16	1.4	2.1	1.9

ANNUAL METEOROLOGICAL SUMMARY FOR THE YEAR ENDING DECEMBER 31, 1897—Continued.

YUMA, ARIZ.

[H = 141 ft.; h_t = 16 ft.; h_r = 2 ft.; h_a = 50 ft.]

Month.	Wind.														Number of days.												
	By self-registers.					Number of winds, 8 a. m. and 8 p. m.												Precipitation.					Maximum temp.			Electricity.	
	Average hourly velocity.	Prevailing direction. *a*	Maximum velocity.	Direction at time of maximum velocity.	Number of days with gales.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Calm.	Clear.	Partly cloudy.	Cloudy.	.01 inch and over.	.04 inch and over.	Snow.	Hail.	Fog.	Below 32°.	Above 90°.	Minimum temperature below 32°.	Thunderstorms.	Auroras.
	Miles.		*Mi.*																								
January	6.7	N.	34	SE.	0	23	12	5	7	3	2	2	7	1	14	12	5	8	8	0	0	0	0	0	0	0	0
February	7.5	NW.	35	NW.	0	14	5	4	1	5	3	8	16	0	15	10	3	1	1	0	0	0	0	0	0	0	0
March	8.9	NW.	41	W.	1	8	5	4	6	4	7	13	15	0	24	7	0	3	3	0	0	0	0	0	0	0	0
April	7.2	W.	33	N.	0	9	9	5	4	7	2	13	10	1	24	4	2	0	0	0	0	0	0	12	0	0	0
May	5.9	S.	36	W.	0	3	7	3	2	14	12	13	6	2	26	5	0	0	0	0	0	0	0	29	0	0	0
June	6.9	SW.	33	NW.	0	1	6	6	1	5	20	15	4	2	27	3	0	0	0	0	0	0	0	29	0	0	0
July	6.8	SW.	35	SE.	0	4	5	3	7	8	19	12	2	2	24	7	0	0	0	0	0	0	0	31	0	0	0
August	6.1	SW.	48	NE.	0	3	6	6	6	9	16	9	4	3	22	9	0	4	3	0	0	0	0	31	0	1	0
September	4.8	W.	28	SE.	0	8	7	4	7	4	9	15	4	2	20	9	1	4	2	0	0	0	0	30	0	2	0
October	4.5	W.	32	N.	0	10	10	3	2	2	5	22	8	0	29	2	0	0	0	0	0	0	0	6	0	0	0
November	5.2	N.	32	W.	0	22	14	4	1	1	2	5	7	4	24	4	2	0	0	0	0	0	0	0	0	0	0
December	7.6	N.	52	NW.	1	28	13	3	1	1	0	5	9	2	26	5	0	1	1	0	0	0	0	0	4	0	0
Year	6.5	N.	52	NW.	2	133	99	50	45	63	97	132	92	19	275	77	13	21	18	0	0	0	0	168	4	3	0

a By eye observations at 8 a. m. and 8 p. m. when there is no self-register at station.

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PART IV.

MONTHLY AND ANNUAL MEAN TEMPERATURE AND ANNUAL EXTREMES OF TEMPERATURE, TOGETHER WITH THE DATES OF THE FIRST AND LAST KILLING FROST, 1897.

The monthly and annual averages given in the following tables are taken largely from the records of voluntary (unpaid) observers. The paid stations of the Weather Bureau are indicated by an asterisk (*). The records of voluntary observers are given as made; no attempt has been made to reduce them to a homogeneous system. About two-thirds of the voluntary observers have standard instruments, but very few have what may be called standard shelters. The hours of observation at the regular stations of the Weather Bureau have already been described; the observing hours at voluntary stations vary greatly. The letters "*a*," "*b*," etc., following the name of a station have the following significance:

a = mean temperature computed by the formula $\frac{1}{4}(7+2+9+9)$.
b = mean temperature computed by the formula $\frac{1}{2}(8+8)$.
c = mean temperature computed by the formula $\frac{1}{2}(7+7)$.
d = mean temperature computed by the formula $\frac{1}{2}(6+6)$.
e = mean temperature computed by the formula $\frac{1}{2}(7+2)$.
f = from various hours reduced to true mean by special table.
g = mean temperature computed by the formula $\frac{1}{3}(7+2+9)$. (Southern Pacific Railway.)
h = mean temperature computed by the formula $\frac{1}{4}$ (midnight, sunrise, noon, and sunset).

The absence of a letter indicates that the mean has been made as follows: $\frac{\text{Mean max.} + \text{mean min.}}{2}$

The small roman letters in the body of the tables indicate the number of days missing from the records, thus "*c*" indicates three days missing, etc.

The dates of last killing frost in spring and first in autumn are given at the right of the table. Many observers, however, do not report dates of frost, and still others do not distinguish between light and killing frost. The date of the last and the first occurrence of a minimum temperature of 32° has been used in all cases where no frost reports were made. Data for stations so entered have been distinguished from regular frost reports by a dagger (†).

Bracketed values have been supplied by interpolation.

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MONTHLY AND ANNUAL MEAN TEMPERATURE, ANNUAL EXTREMES OF TEMPERATURE, AND DATES OF LAST KILLING FROST IN SPRING AND FIRST KILLING FROST IN AUTUMN, 1897.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.			Killing frost.	
													Mean.	Extremes.		Last in spring.	First in autumn.
														Max.	Min.		
Alabama.																	
Alco	48.0	56.5	66.8	64.6	70.0	82.6	81.7	78.6	75.2	68.0	59.4	52.6	67.0	102	15	Mar. 1	Nov. 30
Ashville	40.3	47.6	55.7	61.0	68.2	80.2	81.3	78.8	74.7	65.1	52.6	45.2	62.5	104	4	Mar. 26	Oct. 30
Bermuda	47.1	56.0	65.9	66.2	69.5	82.6	81.2	78.6	[c]74.8	68.0	59.9	53.2	66.9	102	13	Mar. 1	Nov. 30
*Birmingham	43.1	52.6	60.8	63.8	69.6	81.6	82.0	80.0	78.5	69.6	56.7	49.3	65.6	101	10	Mar. 26	Nov. 3
Brewton	45.2	55.2	67.5	64.2	69.5	81.7	81.6	77.8	75.3	65.8	.....	.....	.....	101	.....	Feb. 27	.....
Citronelle	48.4	56.4	67.0	66.6	72.4	82.7	82.5	80.0	77.4	71.4	61.2	53.8	68.3	99	18	Feb. 27	Dec. 5
Clanton	44.4	52.4	60.7	61.4	67.8	80.8	80.8	78.2	74.9	65.6	54.0	48.8	64.1	100	12	Feb. 28	Oct. 26
Daphne	46.2	53.7	66.6	65.8	71.6	83.4	82.8	80.1	76.4	69.0	59.2	52.6	67.3	101	14	Feb. 27	Dec. 4
*Decatur	38.0	47.3	55.4	60.2	66.3	78.6	79.7	77.2	73.7	63.8	51.1	43.4	61.2	105	—3	Mar. 26	Nov. 3
*Demopolis	.....	.....	62.8	64.5	69.6	[c]81.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Elba	47.4	56.4	65.4	65.4	68.6	82.2	80.6	78.9	74.6	66.6	57.4	51.0	66.2	102	14	Mar. 1	Nov. 30
*Eufaula	45.8	54.3	63.4	63.4	72.4	82.4	81.9	80.0	76.6	69.5	58.0	51.2	66.6	102	18	Feb. 28	Nov. 30
Evergreen	44.0	52.6	62.9	63.2	67.0	79.6	82.0	78.2	75.4	67.2	55.2	48.8	64.7	96	13	Mar. 1	Nov. 30
Florence	38.7	48.4	56.6	61.0	66.6	79.2	81.4	78.8	75.9	66.4	51.4	44.8	62.4	103	5	Mar. 26	Nov. 17
*Fort Deposit	43.8	.....	[c]60.6	63.7	71.2	83.3	83.9	80.3	76.8	69.3	.....	.....	.....	101	.....	Mar. 3	.....
*Gadsden	39.7	49.2	57.3	60.0	68.4	80.4	82.8	80.5	75.9	65.8	53.0	45.7	63.2	103	3	Mar. 26	Nov. 17
*Goodwater	43.8	49.2	58.6	62.3	69.3	81.2	81.5	79.5	77.2	66.9	.....	.....	.....	105	.....	Mar. 26	.....
Greensboro	41.6	50.8	60.9	62.2	69.2	81.0	81.2	79.5	77.0	68.8	55.2	47.3	64.6	100	12	Feb. 28	Nov. 16
Hamilton	.....	48.3	55.9	59.2	66.2	79.4	80.0	78.5	74.7	64.6	50.8	43.8	.....	105	.....	Apr. 17	Oct. 25
Healing Springs	45.3	52.6	62.7	63.4	68.4	79.8	80.4	78.0	74.6	66.0	55.4	50.3	64.7	102	10	Apr. 26	Nov. 19
Highland Home	45.8	55.3	63.8	64.2	71.2	81.9	82.2	78.9	76.4	70.3	59.4	52.1	66.8	100	14	Feb. 28	Nov. 30
Jasper	.....	.....	57.2	58.8	.....	.....	.....	.....	.....	64.4	50.2	.....	.....	.....	.....	Apr. 14	Oct. 30
*Livingston	43.6	52.2	62.8	63.9	70.8	82.5	83.5	79.2	74.7	67.4	52.6	47.8	65.1	103	14	Feb. 28	Nov. 19
*Lock No. 4	39.9	48.4	57.0	59.7	67.4	79.5	80.7	77.8	75.5	65.3	50.3	44.4	62.2	103	8	Mar. 26	Oct. 30
Madison Station	36.8	48.0	54.4	59.4	65.2	77.4	77.7	76.4	74.4	64.3	48.8	42.1	60.4	103	—5	Apr. 10	Nov. 4
Maple Grove	.....	.....	.....	57.6	64.4	76.8	76.0	74.2	70.6	.....	.....	43.8	.....	103	.....	Apr. 16	Nov. 18
*Marion	42.5	51.8	60.4	63.6	70.4	83.3	82.7	80.4	77.5	69.6	57.1	49.4	65.7	101	12	Feb. 28	Nov. 17
*Mobile	48.2	55.3	66.2	65.6	71.2	80.8	82.0	80.2	77.9	70.8	60.1	54.0	67.7	101	18	Feb. 28	Dec. 15
*Montgomery	44.8	54.0	63.0	64.0	71.1	82.6	83.0	80.1	77.0	69.6	57.6	51.2	66.5	102	14	Feb. 28†	Nov. 4
Mount Willing	.....	54.5	62.6	65.4	69.3	82.4	82.2	78.8	75.8	67.4	58.0	51.8	.....	102	.....	Feb. 28	Oct. 27
Newbern	43.6	52.0	61.8	63.2	70.6	82.7	82.3	80.2	77.0	69.0	56.2	49.0	65.6	98	12	Feb. 28	Nov. 17
Newburg	38.4	50.0	56.1	60.2	66.2	[d]78.1	[d]81.6	[c]77.6	76.0	65.1	.....	.....	.....	103	—5	Apr. 10	Oct. 24
Newton	47.1	54.0	62.2	62.8	69.4	82.0	80.8	76.6	72.8	67.8	57.9	52.0	65.4	100	12	.....	Nov. 30
Oneonta	.....	.....	.....	.....	.....	.....	.....	75.8	72.8	64.4	51.8	46.2	.....	.....	.....	.....	Nov. 3
*Opelika	44.0	51.2	59.2	63.2	69.4	83.2	82.5	80.2	75.7	69.6	57.0	49.9	65.4	104	10	Mar. 1	Nov. 30
Oxanna	38.7	48.6	56.4	58.4	65.4	78.4	77.7	76.4	73.5	64.1	50.3	43.7	61.0	98	7	Mar. 26	Oct. 30
*Pineapple	.....	.....	63.3	63.9	71.0	83.4	82.5	80.4	75.6	68.4	56.1	51.6	.....	105	.....	Apr. 25	Nov. 18
Pushmataha	43.8	53.2	63.9	63.5	70.7	82.4	82.4	80.1	76.6	68.2	56.6	50.4	66.0	104	15	Feb. 28	Nov. 17
*Riverton	.....	.....	.....	.....	.....	.....	.....	80.6	77.2	65.1	49.6	43.3	.....	.....	.....	.....	Oct. 30
Rockmills	45.0	52.9	59.6	59.4	65.8	78.0	77.8	76.2	72.4	66.4	56.4	46.1	63.0	96	6	Apr. 11	Nov. 17
Scottsboro	37.8	45.8	55.0	58.0	65.6	79.3	79.8	76.6	73.4	63.6	51.9	43.9	60.9	105	—4	Apr. 9	Nov. 3
*Selma	44.2	52.2	62.0	64.0	70.6	82.9	82.7	79.7	76.8	67.8	56.2	48.6	65.6	104	15	Apr. 2	Nov. 18
Talladega (*a*)	41.1	50.8	58.7	60.8	68.9	83.4	79.4	78.8	76.7	64.8	51.2	47.2	63.6	98	10	Mar. 26	Nov. 17
*Thomasville	.....	53.5	63.4	64.6	71.2	83.5	83.0	80.0	76.7	69.2	56.4	49.8	.....	102	.....	Feb. 28	Nov. 18
*Tuscaloosa	40.9	50.2	60.2	63.4	70.3	83.4	82.6	81.4	76.6	68.2	53.8	47.9	64.9	102	11	Mar. 25	Nov. 29
*Tuscumbia	.....	.....	.....	60.9	67.2	79.4	82.1	79.7	75.6	65.6	51.7	44.1	.....	103	.....	.....	Nov. 17
Union	44.0	52.4	60.3	62.2	69.1	81.4	81.9	80.4	78.6	68.2	56.6	49.0	65.3	104	10	Feb. 28	Nov. 17
*Union Springs	42.8	52.3	62.4	63.4	71.6	84.2	83.0	80.3	76.0	68.5	56.2	50.0	65.9	103	10	Feb. 28	Nov. 29
Uniontown	44.9	52.8	62.7	64.3	72.0	83.6	83.3	81.4	78.4	71.0	57.8	50.4	66.9	101	13	Feb. 28	Nov. 30
Valleyhead	37.2	48.2	56.1	59.2	64.7	77.4	76.8	76.0	73.1	64.8	50.6	43.6	60.6	98	—7	Apr. 10	Nov. 12
*Wetumpka	44.0	52.6	62.2	63.4	69.1	83.2	83.4	80.2	76.4	69.6	55.2	49.2	65.7	103	12	Feb. 28	Nov. 24
Alaska.																	
Coal Harbor	31.2	31.2	26.2	36.4	42.6	46.8	51.0	53.8	49.6	40.1	38.7	35.2	40.2	68	—11	.....	.....
Holy Cross Mission	5.3	9.3	3.0	27.4	40.3	59.0	54.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Juneau	.....	31.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Killisnoo	28.6	30.9	29.8	39.8	43.4	50.8	52.2	54.6	46.6	41.2	29.0	33.7	40.0	68	—6	.....	.....
Kotzebue	.....	.....	.....	.....	.....	.....	.....	.....	*26.6	18.0	11.0	1.4	.....	.....	.....	.....	.....
St. Joseph Mission	.....	.....	.....	.....	.....	.....	.....	.....	39.8	25.2	21.4	11.0	.....	.....	.....	.....	.....
Arizona.																	
Arizona Canal Co.'s Dam	.....	.....	54.6	69.0	77.6	83.0	89.1	89.8	80.8	72.4	65.8	53.2	.....	110	.....	Mar. 31†	Dec. 16†
Benson (*g*)	46.4	45.5	51.8	68.7	77.7	82.0	89.8	81.8	79.4	66.3	59.7	.....	.....	102	.....	.....	.....
Bisbee	41.9	46.2	50.0	63.0	70.0	76.3	75.4	73.2	70.2	60.6	56.5	45.0	60.7	96	22	Mar. 28	Dec. 3†
Buckeye	54.6	54.0	56.4	68.7	76.8	79.8	87.0	88.8	83.2	66.6	58.2	49.6	68.6	110	20	Mar. 30†	Nov. 7†
Calabasas	41.2	45.2	48.4	63.0	70.9	75.0	79.4	78.0	73.4	61.6	55.4	44.4	61.3	101	18	Apr. 2†	Nov. 8†
Casa Grande (*g*)	51.3	54.3	57.6	71.7	80.8	89.4	93.8	87.7	85.4	66.0	53.4	43.7	69.6	115	30	.....	.....
Cedar Springs	.....	.....	.....	.....	.....	.....	.....	.....	73.2	.....	54.3	42.6	.....	.....	.....	Mar. 31	Oct. 27
Congress	47.8	48.4	50.6	67.1	76.2	77.0	83.8	84.7	79.4	66.7	62.4	50.4	66.2	103	24	Mar. 30†	Dec. 19†
Dragoon Summit (*e*)	43.2	49.0	.....	65.4	75.3	84.2	83.3	82.8	77.5	67.5	59.4	46.6	.....	100	25	.....	.....
Dudleyville	46.6	47.0	52.0	64.0	73.2	77.4	82.0	82.2	80.2	65.8	56.5	45.8	64.4	105	19	Mar. 24	Nov. 8†
Eagle Pass (*e*)	31.3	36.5	40.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Empire Ranch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	55.2	40.0	.....	.....	.....	.....	Nov. 8
Farleys Camp	50.2	43.8	52.0	67.4	79.4	83.2	89.5	88.4	79.2	67.4	62.2	53.2	68.0	110	26	Mar. 31	Nov. 9
Flagstaff	.....	31.5	34.9	45.4	61.0	66.2	72.0	71.4	63.1	49.0	44.4	27.1	.....	88	.....	July 21	Sept. 16
Fort Apache	34.8	35.8	40.7	52.3	62.8	67.4	73.5	71.6	68.4	54.2	47.1	36.1	53.7	97	5	May 3†	Oct. 15†

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Arizona—Continued.																	
Fort Defiance	.....	.....	.....	.....	.....	.....	66.8	67.4	62.2	46.1	35.3	24.9	.....	.....	.....	.....	Oct. 3†
Fort Grant	42.3	44.6	49.4	61.2	70.6	75.8	77.0	76.2	72.6	61.7	56.3	44.0	61.0	98	19	Apr. 3†	Dec. 2†
Fort Huachuca	42.2	45.4	49.4	60.5	68.6	75.0	75.4	74.2	70.9	60.8	56.2	44.5	60.3	98	15	Mar. 31†	Oct. 30†
Fort Mohave	51.8	54.6	57.2	72.2	.....	85.8	.....	.....	.....	.....	60.4	48.6	.....	.....	22	Feb. 22	Nov.28†
Gilabend (*g*)	54.6	54.7	57.9	74.6	85.8	90.4	97.0	94.4	88.7	62.3	.....	51.3	.....	112	26	.....	.....
Gisela	.....	.....	48.6	59.6	.....	[c]75.2	[i]82.3	81.2	75.8	.....	51.2	44.2	.....	.....	.....	.....	.....
Glendale	49.1	49.8	51.5	64.6	74.1	79.8	87.8	88.4	81.6	66.0	.....	.....	.....	110	.....	Apr. 1†	.....
Holbrook	31.9	36.0	41.2	52.8	63.8	67.0	73.3	74.1	67.8	54.0	43.1	31.0	53.0	96	5	Apr. 25†	Oct. 28
Ingleside	48.0	48.1	53.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mar. 31	.....
Jerome	.....	.....	.....	.....	.....	.....	.....	.....	[c]69.8	57.8	53.2	42.7	.....	.....	.....	.....	Oct. 24
Lochiel (*a*)	42.0	[e]44.0	48.4	[c]60.2	[g]66.8	[c]75.2	[e]74.5	73.3	[d]70.2	[c]56.7	51.7	41.6	58.7	96	20	Apr. 3	Nov.28†
Maricopa (*g*)	55.8	55.6	67.7	77.7	88.1	90.1	93.9	94.0	87.1	75.2	66.1	54.7	75.5	116	26	.....	.....
Mesa	53.8	50.2	53.2	66.6	77.0	82.6	90.4	90.0	82.8	67.0	58.1	47.8	68.3	111	24	Mar. 31†	Nov. 7†
Mount Huachuca	40.6	44.6	48.8	61.2	69.4	76.9	75.4	72.8	69.6	59.0	54.6	43.2	59.7	100	19	Apr. 1	Oct. 26†
Music Mountain	.....	.....	.....	62.0	74.3	78.6	86.6	84.6	77.0	61.5	52.4	39.2	.....	110	.....	Mar. 31†	Oct. 30†
Oracle	43.2	45.3	48.6	62.2	71.9	77.1	80.7	79.4	74.3	61.6	57.0	.....	.....	99	.....	Mar. 31†	Nov.25†
Oro Blanco	45.5	46.6	50.8	63.4	72.3	77.3	80.6	77.0	73.8	61.7	56.8	44.0	62.5	102	18	Mar. 31†	Nov. 4†
Pantano (*g*)	40.3	44.2	50.7	68.1	75.8	83.3	82.0	81.6	75.5	63.5	56.1	48.5	64.1	100	29	.....	.....
Parker	52.2	53.6	56.6	71.3	80.8	84.0	.....	.....	84.4	68.4	58.4	48.4	.....	.....	21	Mar. 30	Nov. 7
Peoria	50.2	52.6	51.8	[c]65.8	76.4	82.8	89.8	89.7	82.4	67.6	58.4	46.8	67.9	108	23	Mar. 22†	Nov. 8†
*Phœnix	51.2	51.4	54.3	68.2	77.5	82.6	89.6	89.2	83.4	68.1	60.4	48.8	68.7	110	23	Mar. 31†	Nov. 9†
Phœnix [1]	49.3	49.9	53.4	66.6	75.6	80.2	86.8	86.5	81.0	64.9	56.8	46.3	66.4	106	17	Mar. 31	Nov. 8
Reymert	52.7	52.3	54.9	71.2	79.4	84.3	[e]91.4	.....	.....	.....	.....	.....	.....	.....	.....	Mar. 29	.....
San Carlos	44.2	46.4	50.2	63.2	73.2	79.5	85.4	84.8	79.2	63.5	53.9	41.8	63.8	109	20	Apr. 3†	Nov. 7†
San Simon (*g*)	44.3	45.6	51.5	67.4	75.9	80.1	78.8	78.3	[e]74.5	62.8	55.9	43.1	63.2	102	18	.....	.....
Signal	48.6	50.0	51.8	66.2	77.2	82.0	90.6	89.8	81.3	66.4	56.0	45.8	67.1	112	23	Mar. 31†	Nov. 8†
Snowflake	.....	.....	.....	.....	.....	.....	76.8	71.2	65.2	51.2	41.4	29.8	.....	.....	.....	July 19	Oct. 17
Strawberry	.....	.....	.....	.....	.....	.....	.....	.....	63.6	50.1	42.8	33.3	.....	.....	.....	.....	Oct. 16
Texas Hill (*g*)	53.5	51.9	56.5	75.6	85.1	91.4	95.3	97.5	90.1	69.5	54.6	46.1	72.3	118	27	.....	.....
Tombstone	.....	.....	51.2	63.8	72.4	77.7	77.8	75.5	72.1	61.4	57.3	44.8	.....	100	.....	Mar. 31	Dec. 20
Tuba	.....	.....	.....	53.6	65.4	69.0	75.4	77.1	68.0	52.4	42.2	27.6	.....	103	.....	Mar. 31	Oct. 28
Tucson	49.6	50.7	54.0	65.2	75.6	80.1	87.2	84.0	80.2	67.6	60.4	48.8	67.0	105	16	Mar. 31†	Oct. 28†
Walnut Ranch (*a*)	39.4	43.0	45.4	58.7	65.7	72.7	72.8	71.8	.....	.....	.....	.....	.....	95	.....	.....	.....
Whipple Barracks	33.7	34.6	37.4	52.4	61.4	65.3	72.2	70.8	63.0	51.0	44.8	33.3	51.7	97	— 8	Apr. 26†	Oct. 16†
White Hills	.....	.....	.....	.....	.....	.....	.....	.....	80.4	64.8	56.5	41.2	.....	.....	.....	.....	Nov. 9†
Willcox (*g*)	40.4	45.3	51.2	66.1	72.4	83.4	81.7	78.3	73.4	62.9	61.9	39.2	63.1	100	13	.....	.....
Williams	.....	.....	.....	48.0	57.9	62.0	68.0	67.2	61.2	49.4	44.4	30.8	.....	92	.....	June 17	Oct. 11†
*Yuma	55.2	57.4	58.4	72.4	80.4	83.0	91.1	91.9	85.4	70.0	62.5	52.9	71.7	112	28	None.	Dec. 24
Arkansas.																	
Amity	41.0	48.6	57.4	61.6	68.5	75.6	83.1	80.6	76.2	67.6	52.6	41.8	62.9	104	10	Mar. 24	Nov. 3
Beebranch	[i]38.6	[d]44.6	[g]54.6	[c]60.4	66.9	[i]77.2	[i]78.8	[i]75.8	[g]77.2	.....	50.8	[c]39.2	.....	103	.....	Mar. 14	Nov. 2
Blanchard Springs	42.8	51.8	61.2	63.3	69.0	79.2	82.6	80.6	76.0	68.4	54.4	45.3	64.6	103	8	Mar. 24	Nov. 17
*Brinkley	39.8	46.8	56.2	61.6	68.0	78.4	81.8	79.5	76.6	67.6	.....	45.7	.....	105	12	Mar. 14	Oct. 29
Camden	39.8	49.6	58.4	62.6	68.6	78.6	82.0	79.6	77.4	68.9	52.2	43.6	63.4	106	9	Mar. 24	Nov. 17
Canton (*a*)	35.3	41.7	52.8	57.9	64.8	75.9	81.5	78.4	74.9	63.6	48.7	36.3	59.3	105	4	.....	.....
Conway	42.6	47.4	57.4	63.9	70.1	[h]80.2	84.6	80.9	75.8	[c]67.3	52.9	40.4	63.6	108	10	.....	.....
Corning	[c]32.8	41.5	52.4	[c]58.6	66.1	77.3	81.0	77.9	74.0	63.9	.....	.....	.....	104	.....	.....	.....
Dallas	39.6	47.8	55.6	[c]62.2	69.2	78.5	83.3	78.8	75.0	66.9	52.0	40.6	62.5	102	5	.....	.....
Elon	44.0	53.9	61.8	62.8	71.0	79.8	82.2	80.4	75.4	69.2	54.6	.....	.....	104	1	Mar. 24	Nov. 3
Fayetteville	35.4	44.0	52.2	58.4	65.0	75.3	79.8	76.4	74.6	66.0	48.8	37.1	59.4	100	0	Apr. 11	Oct. 29
*Forrest	39.0	46.8	55.7	61.1	68.0	78.7	82.3	79.9	76.6	67.9	53.0	39.8	62.4	103	12	Mar. 27	Nov. 17
*Fort Smith	38.2	46.2	54.6	61.7	69.2	78.0	83.0	79.2	76.3	67.9	51.1	39.0	62.0	103	7	Mar. 14	Nov. 3
Hardy	.....	.....	.....	.....	.....	.....	.....	78.0	76.2	65.5	49.0	36.6	.....	.....	.....	.....	Nov. 17
*Helena	39.1	46.0	53.2	61.3	70.6	80.4	83.3	81.3	78.4	69.6	55.2	43.6	63.5	106	13	Mar. 26	Oct. 30
Hot Springs	.....	51.1	56.9	63.0	70.6	79.2	84.4	81.9	79.7	71.6	53.6	42.8	.....	108	.....	Mar. 24	Nov. 17
Jonesboro	37.2	44.1	54.2	61.7	66.4	78.4	78.8	.....	72.3	66.0	49.9	38.0	.....	.....	6	Apr. 17	Nov. 6
Keosees Ferry	35.8	43.6	53.2	59.6	66.0	76.3	82.8	79.3	77.2	66.9	50.3	37.2	60.7	109	1	Apr. 17	Sept. 21
Lacrosse	33.6	40.2	49.8	57.2	64.4	74.7	80.6	76.1	75.4	64.8	46.6	.....	.....	105	0	Mar. 26	Nov. 3
*Little Rock	39.8	46.8	56.6	61.8	68.9	78.9	83.8	80.4	77.9	69.3	52.4	40.4	63.1	102	12	Feb. 27†	Nov. 17
Lonoke (*a*)	40.2	47.8	57.7	62.7	69.3	80.1	81.9	79.1	75.6	66.1	50.4	40.4	62.6	105	14	Feb. 26	Nov. 3
Luna Landing (*f*)	42.9	50.5	59.7	63.5	69.9	79.3	82.6	80.8	[d]74.6	67.4	56.5	45.0	64.4	98	6	Feb. 27	Nov. 12
Lutherville	38.6	46.5	57.2	62.3	70.6	80.0	84.8	81.2	78.8	70.2	53.1	39.6	63.6	107	6	Mar. 24	Nov. 17
Magnolia	.....	.....	.....	.....	.....	.....	83.6	83.0	79.2	72.5	56.3	.....	.....	.....	.....	.....	Nov. 16
*Malvern	39.4	49.0	58.5	61.1	69.2	79.0	84.0	80.6	77.2	68.0	49.8	36.6	62.7	111	1	Mar. 24	Nov. 17
Marianna (*a*)	41.6	49.6	58.4	63.6	72.0	81.9	84.7	83.1	76.6	67.3	53.0	42.6	64.5	102	17	Mar. 26	Nov. 3
Marvell	41.1	48.9	57.9	63.7	69.7	80.8	83.4	81.0	77.6	68.8	54.8	43.2	64.2	103	13	Feb. 27	Nov. 3
Mossville	33.3	42.0	50.2	57.5	65.9	73.0	79.0	80.0	.....	69.6	47.0	36.2	.....	98	2	Mar. 24	Oct. 29
Mount Nebo	36.1	43.6	52.2	59.4	66.9	73.4	79.7	77.1	76.0	56.9	48.8	37.2	58.9	93	0	Mar. 24	Nov. 16
New Gascony (*a*)	[e]40.4	[c]48.0	58.6	62.7	69.9	81.5	84.4	81.6	78.2	68.3	52.2	41.4	63.9	99	16	.....	Nov. 17
*Newport [2]	36.6	42.4	54.4	59.9	65.8	75.2	80.8	77.2	74.4	64.2	50.2	37.8	59.9	105	8	Mar. 14	Nov. 3
Newport [3]	38.6	45.3	55.8	61.1	67.3	77.4	81.9	78.6	75.5	65.7	[c]49.7	39.2	61.3	108	9	.....	Nov. 3
Oregon	31.2	38.0	48.7	54.2	60.2	70.4	77.2	73.8	73.6	64.2	46.5	35.5	56.1	100	0	Mar. 25	Nov. 2
Osceola	38.6	45.6	54.2	60.6	67.3	78.6	81.6	78.1	74.6	.....	.....	39.3	.....	98	8	.....	.....
Ozark	39.4	47.3	55.4	63.4	70.9	79.5	84.7	81.6	79.6	71.2	53.6	40.0	63.9	106	6	Mar. 24	Nov. 2
Picayune	43.1	51.8	60.4	63.4	71.0	79.8	84.2	82.0	78.3	70.8	54.6	43.7	65.3	104	11	Mar. 24	Nov. 10
*Pine Bluff	41.8	49.8	60.8	65.2	70.6	81.6	85.0	82.6	78.6	69.0	54.2	43.3	65.2	107	14	Feb. 27	Nov. 17
Pocahontas	34.1	40.2	51.2	58.2	65.9	77.6	[h]79.4	.....	74.8	64.4	[c]46.9	36.0	.....	.....	6	Mar. 14	Nov. 2
Powell (*a*)	.....	.....	.....	.....	.....	.....	81.8	78.1	74.9	63.6	47.9	35.8	.....	.....	.....	.....	Nov. 3
*Prescott	43.4	53.1	.....	64.2	70.7	80.8	86.3	83.8	79.5	69.0	.....	40.4	.....	109	12	.....	.....
Rison	[c]40.8	[c]48.4	57.6	[f]63.2	.....	79.9	84.4	81.9	78.5	68.7	51.6	43.0	.....	106	14	Feb. 28	Nov. 16
*Russellville	37.8	46.2	56.0	61.0	68.4	78.5	83.9	79.0	76.2	65.4	48.0	38.5	61.6	104	8	Mar. 24	Oct. 29
Silver Springs	32.3	40.6	49.8	56.4	62.8	72.9	76.6	72.2	72.0	63.0	47.6	35.0	56.8	97	— 2	Mar. 26	Sept. 21
Spielerville	.....	.....	.....	.....	.....	.....	.....	.....	78.1	69.4	50.8	38.4	.....	.....	.....	.....	Nov. 10
Stamps	.....	.....	.....	.....	71.7	81.8	.....	83.4	78.7	70.2	54.2	46.4	.....	.....	.....	.....	Oct. 29
Stuttgart	40.3	47.5	56.8	62.6	68.2	78.4	82.9	81.8	78.4	67.2	52.8	40.9	63.2	106	14	Feb. 27	Nov. 17

[1] Agricultural Experiment Station. [2] Cotton-region observer. [3] G. B. Irby.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Arkansas—Continued.																	
*Texarkana	42.4	53.2	60.4	64.0	72.0	81.5	86.2	82.7	79.1	74.7	.....	43.0	.....	108	10	Mar. 24	Nov. 17
*Warren	43.4	52.5	58.8	63.0	69.2	80.6	84.4	81.8	77.8	69.4	53.5	46.0	65.0	108	14	Mar. 24	Nov. 18
Washington (a)	42.3	51.6	59.4	62.5	69.7	79.4	85.4	83.6	79.1	71.2	54.8	43.5	65.2	106	12	Feb. 27	Nov. 17
Wiggs (a)	41.5	50.4	58.9	64.2	69.7	79.2	84.6	81.1	78.7	69.6	53.3	42.0	64.4	104	10	Mar. 24	Nov. 16
Winslow	.....	.....	.....	.....	.....	.....	77.4	74.5	75.2	66.6	46.8	34.6	.....	.....	.....	.....	Nov. 2
Witts Springs	34.6	39.8	50.2	58.0	63.6	73.9	78.9	76.0	75.2	[d]67.2	50.0	36.1	58.6	100	0	Mar. 24	Nov. 11
California.																	
Adin	31.3	32.4	32.8	48.6	60.6	59.8	67.1	68.2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Agnew	47.4	45.3	48.9	58.6	59.6	65.2	60.9	.....	.....	.....	53.9	46.1	.....	.....	26	.....	.....
Arlington Heights	52.6	50.2	51.2	63.2	65.8	69.4	75.3	77.7	71.9	61.5	59.2	51.7	62.5	108	27	.....	.....
Athlone (g)	43.0	46.2	49.3	61.3	75.1	78.4	86.4	85.4	75.5	66.0	56.6	44.4	64.0	111	24	.....	.....
Barstow	41.3	44.2	53.6	75.0	81.2	78.8	90.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Berkeley	46.1	48.7	47.7	57.7	60.3	62.4	63.3	61.1	62.6	58.2	51.0	48.2	55.6	91	35	.....	.....
Bishop	38.3	38.8	39.6	54.4	63.4	65.6	70.6	70.7	[e]60.6	51.6	46.4	40.9	53.4	98	10	.....	.....
Bishop Creek	39.1	39.4	44.8	63.1	74.6	77.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boca (g)	27.8	21.8	24.1	40.9	53.7	55.3	59.3	59.5	49.2	41.3	33.4	24.4	40.9	98	—20	.....	.....
Bodie	19.5	17.6	17.4	35.0	48.0	49.5	55.4	56.5	46.4	35.9	31.6	20.2	36.1	83	—24	.....	.....
Bowmans Dam (a)	.....	32.3	29.6	43.8	55.8	55.4	67.9	72.6	54.5	46.6	40.6	38.3	.....	96	.....	Apr. 22	Dec. 1
Caliente (g)	49.9	49.7	49.5	63.5	74.8	77.0	84.7	81.6	73.7	61.6	52.8	47.7	63.9	104	30	.....	.....
Calloway Canal (e)	.....	.....	.....	62.0	72.0	.....	89.2	87.5	77.2	.....	56.8	.....	.....	.....	.....	.....	.....
Campbell	46.5	48.8	47.2	56.7	61.6	63.0	66.3	65.5	62.9	57.2	49.6	45.4	55.9	97	23	Mar. 30	Nov. 16
Castle Pinckney (a)	53.7	52.6	53.1	59.8	[k]57.8	63.2	65.0	[f]65.7	66.4	61.7	59.0	54.6	59.4	91	37	.....	.....
Cedarville	32.6	31.6	30.8	48.7	58.9	58.2	66.0	71.9	57.8	48.2	39.4	30.5	47.9	97	7	May 8	Oct. 6
Centerville (a)	50.8	53.1	51.9	62.4	64.4	67.8	69.8	67.6	67.2	61.5	54.1	51.2	60.1	100	32	.....	.....
Chico (g)	47.3	50.4	52.0	65.2	74.8	77.7	85.1	83.5	73.2	61.6	55.7	48.4	64.6	112	28	.....	.....
Chino (f)	49.3	48.9	49.3	62.5	64.5	70.6	75.8	77.1	71.3	60.4	56.4	48.1	61.2	.....	.....	.....	.....
Cisco (g)	30.2	26.2	24.2	36.1	46.1	50.8	60.0	62.7	50.5	41.4	34.3	28.8	40.9	86	4	.....	.....
Claremont	49.6	47.6	48.3	58.0	62.0	66.5	72.2	69.4	71.7	58.2	56.9	49.4	59.2	101	25	Feb. 22	Dec. 4
Corning (g)	44.9	45.6	46.2	60.7	72.7	76.1	84.1	81.2	71.5	60.8	47.8	43.0	61.2	110	27	.....	.....
Coronado	62.8	62.0	59.9	65.0	65.4	67.0	.....	73.2	72.8	69.5	65.3	.....	.....	.....	.....	.....	.....
Craftonville	48.8	46.5	48.8	60.1	68.2	71.2	78.4	79.6	71.2	57.7	54.0	46.6	60.9	111	24	.....	.....
Crescent City	47.3	46.8	43.6	50.9	53.4	56.1	55.9	56.9	55.2	53.6	48.2	48.0	51.3	87	30	Apr. 23	Nov. 15
Davisville	49.3	55.6	56.0	67.1	68.7	.....	76.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Delano (g)	45.3	49.2	50.1	62.4	72.0	77.9	85.0	84.3	75.5	58.5	51.5	44.7	63.0	108	28	.....	.....
Delta (g)	41.6	39.1	40.8	58.2	70.9	68.1	78.4	74.8	63.9	55.5	45.9	43.5	56.7	104	25	.....	.....
Descanso (e)	46.4	43.2	42.0	52.3	56.2	58.4	67.0	70.3	61.4	52.3	51.5	46.4	54.0	96	18	.....	.....
Drytown	44.0	46.5	45.6	59.6	64.3	65.4	76.8	75.0	67.6	56.4	49.4	45.2	58.0	112	25	.....	.....
Dunnigan (g)	45.4	49.2	50.4	68.3	75.0	78.5	82.2	79.6	73.1	62.5	51.3	44.1	63.3	106	26	.....	.....
Durham (a)	43.2	42.8	43.0	58.2	67.3	67.6	76.6	74.8	65.6	56.2	50.0	44.9	57.5	102	27	Mar. 30	Nov. 7
Edmanton	34.2	30.9	29.8	46.6	56.5	54.9	62.6	64.6	55.1	48.2	39.6	34.0	46.4	96	8	May 7	Oct. 24
Elsinore	.....	.....	56.0	65.8	70.0	73.2	79.6	81.0	73.8	63.6	60.3	52.3	.....	112	.....	Mar. 30	Nov. 26
Escondido	49.2	49.8	50.2	59.4	65.8	68.8	73.4	75.0	70.9	59.2	53.2	45.2	60.0	111	18	.....	.....
*Eureka	48.1	47.2	45.2	51.0	52.8	55.8	55.8	56.5	55.2	53.8	49.4	48.6	51.6	84	30	Mar. 30	Nov. 25
Fallbrook (a)	51.8	50.4	49.8	59.8	62.5	66.9	69.4	72.0	69.1	58.8	56.4	50.8	59.8	104	30	Mar. 31	Dec. 16
Folsom City (a)	45.6	49.0	49.2	63.5	71.3	75.7	81.0	77.0	71.9	60.7	51.1	45.7	61.8	107	30	.....	.....
Fort Ross	.....	48.0	47.4	53.4	55.4	56.2	57.8	57.8	58.5	56.6	51.8	48.4	.....	84	.....	.....	.....
*Fresno	43.7	49.2	48.6	63.5	71.7	74.3	82.8	81.1	72.8	61.2	52.0	45.0	62.2	110	23	Feb. 23	Nov. 16
Georgetown	43.9	41.0	39.9	56.4	.....	64.6	73.2	75.1	65.6	57.0	48.5	44.2	.....	97	22	.....	Oct. 15
Goshen (g)	44.2	51.8	47.9	62.1	70.6	76.6	84.7	83.9	72.2	61.3	49.0	42.9	62.3	110	22	.....	.....
Grand Island (e)	46.0	49.8	50.6	64.7	70.8	74.6	79.8	76.4	72.0	63.8	52.2	46.0	62.2	109	27	.....	.....
Greenville	34.8	34.2	34.4	49.6	59.4	58.3	63.2	65.0	57.2	49.0	40.8	34.2	48.3	102	— 4	.....	.....
Healdsburg (a)	42.4	45.0	46.0	58.0	61.9	65.8	72.4	64.4	64.5	57.8	48.4	41.8	55.7	97	26	Mar. 29	.....
Hollister	46.4	49.3	47.6	57.4	60.2	63.6	65.3	65.5	64.4	57.2	50.6	46.0	56.1	98	22	Mar. 30	Nov. 14
Hydesville	46.8	46.5	43.7	53.4	54.7	58.4	57.8	58.2	57.2	55.2	48.6	47.0	52.3	90	28	.....	.....
Indio (g)	53.1	55.0	62.7	72.7	80.0	86.9	93.7	94.5	73.2	70.7	61.5	53.3	71.4	115	20	.....	.....
Iowa Hill (a)	43.1	38.6	39.3	56.6	64.5	62.9	72.6	72.3	62.8	53.9	45.6	42.0	54.5	.....	23	Mar. 30	Nov. 7
Jackson	39.8	41.8	37.9	55.9	61.6	64.0	73.6	73.0	63.4	54.6	47.7	42.8	54.7	98	.....	Apr. 28	Oct. 14
Keeler (g)	44.8	46.8	50.4	66.9	77.5	80.3	85.2	88.7	79.9	64.3	53.9	41.8	65.0	110	21	.....	.....
Keene (g)	44.5	41.7	42.8	57.7	65.6	67.6	78.7	75.6	65.8	54.6	47.8	43.3	57.1	102	20	.....	.....
Kennedy Gold Mine	44.1	45.2	44.4	58.8	65.8	69.5	77.8	75.5	67.5	57.2	49.2	44.0	58.2	106	25	.....	.....
King City (g)	52.1	51.9	49.5	59.5	65.2	65.6	68.9	67.5	66.4	61.3	51.1	45.3	58.7	105	20	.....	.....
Kingsburg (g)	44.4	48.1	51.0	64.6	75.2	73.4	85.7	83.5	74.5	61.0	48.1	42.1	62.6	107	22	.....	.....
Kono Tayee	43.4	45.4	45.2	58.7	67.6	66.8	75.2	75.9	.....	60.7	49.5	44.0	.....	.....	29	.....	.....
Lagrange (e)	45.2	50.6	49.7	64.4	72.6	75.8	83.6	81.8	74.0	64.4	.....	46.8	.....	113	28	.....	.....
Laporte (a)	33.6	30.9	29.0	43.7	55.1	55.1	60.8	62.9	52.3	45.9	37.7	33.5	45.0	88	9	.....	.....
Lemoore (g)	44.6	48.5	61.9	66.2	72.7	77.4	84.4	82.4	72.2	58.8	48.7	41.3	63.3	109	18	.....	.....
Lick Observatory	41.6	36.2	32.8	51.0	58.0	58.0	70.8	71.5	60.4	45.9	45.3	43.0	51.2	91	19	.....	.....
Limekiln	46.3	50.1	49.5	65.4	73.2	77.8	83.0	82.4	75.2	67.0	56.1	46.5	64.4	112	27	.....	.....
Lodi	44.6	48.7	48.4	60.6	65.7	70.1	75.8	72.0	68.6	59.8	50.2	44.7	59.1	110	27	Mar. 30	Nov. 8
*Los Angeles	55.6	53.0	53.0	61.2	62.6	65.7	69.5	71.8	70.3	62.0	61.6	55.7	61.8	97	30	Mar. 31	Nov. 25
Los Gatos	45.7	47.2	46.7	58.2	62.6	70.0	68.2	65.4	63.8	57.6	49.8	46.0	56.8	100	30	.....	.....
Lytton Springs	47.3	48.9	49.0	60.2	65.8	69.8	72.5	69.4	66.9	60.0	49.9	46.4	58.8	102	30	.....	.....
McMullin (a)	42.8	49.0	48.9	60.1	74.7	77.9	85.1	82.6	73.8	61.4	.....	.....	.....	108	.....	.....	.....
Malakoff Mine (a)	42.0	39.2	38.8	56.2	65.4	64.2	72.2	71.8	63.1	54.2	46.8	42.0	54.7	93	20	.....	.....
Mammoth Tank (g)	55.2	57.9	61.0	79.1	88.7	92.6	99.4	103.3	90.6	74.1	63.7	53.6	76.6	118	32	.....	.....
Manzana	37.5	37.8	38.0	55.2	65.7	67.0	77.2	78.8	67.0	55.8	45.5	37.8	55.3	105	.....	Apr. 2	Oct. 16
Marysville	.....	47.6	50.1	63.0	69.3	73.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Merced (g)	45.0	47.9	50.6	64.3	73.6	76.0	84.0	81.4	72.9	60.0	50.2	44.7	62.6	109	26	.....	.....
Middletown (a)	41.7	44.3	42.8	57.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Milton (near) (a)	47.7	50.6	49.9	61.4	67.2	70.6	77.2	77.1	71.8	62.8	55.6	49.0	61.7	110	30	.....	.....
Modesto (g)	47.8	51.9	53.2	65.2	70.6	78.1	85.1	78.4	75.5	66.1	55.1	47.1	64.5	110	29	.....	.....
Mojave (g)	43.8	43.8	45.5	62.1	75.9	80.0	86.6	87.5	72.3	60.7	54.2	42.3	62.9	113	15	.....	.....
Mokelumne Hill (e)	43.2	42.8	41.2	58.0	65.4	68.2	80.0	74.2	65.4	55.4	47.0	43.0	57.0	.....	29	Mar. 30	Dec. 15
Monterey (g)	54.0	52.2	52.3	56.5	58.2	61.5	59.7	61.6	60.1	56.9	53.3	50.0	56.4	79	30	.....	.....
Morena Dam (d)	40.6	40.4	39.5	48.7	.....	65.0	.....	76.4	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mount Glenwood (a)	44.4	48.2	49.3	63.7	72.2	76.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Napa	46.2	49.4	47.2	57.8	65.0	66.0	67.0	67.2	65.6	59.0	49.3	46.9	57.2	104	26	Mar. 30	Nov. 7

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
California—Continued.																	
Needles	55.0	59.4	59.7	74.2	85.4	80.0	94.8	94.0	85.0	71.8	59.6	49.5	72.4	114	29	.....	.....
Nevada City	41.2	40.0	39.0	53.8	61.6	62.4	68.8	69.0	61.0	52.7	45.0	41.3	53.0	93	19	.....	.....
Newcastle	41.6	44.4	44.2	58.6	65.7	69.3	78.2	80.2	73.5	65.3	51.1	46.6	59.9	104	28	.....	.....
Newhall (*g*)	48.2	44.1	50.4	62.8	65.3	70.4	76.5	78.5	71.9	58.6	52.9	47.1	60.6	112	20	.....	.....
North Ontario	50.3	48.6	49.0	61.4	62.6	67.6	73.0	75.8	70.2	59.3	58.7	52.4	60.7	98	28	Feb. 23	Dec. 16
North San Juan (*a*)	47.2	42.8	45.1	57.7	71.8	65.2	72.8	77.2	63.1	49.8	45.9	43.1	56.8	99	23	Apr. 5	Oct. 15
Oakland	46.4	48.8	48.6	58.8	61.0	63.9	63.0	61.5	63.0	58.2	50.7	47.5	56.0	92	32	.....	Dec. 22
Ogilby (*g*)	58.7	65.4	63.4	83.0	86.4	93.2	99.9	100.9	95.5	70.7	66.5	51.6	77.9	118	35	.....	.....
Oleta (*a*)	42.1	42.9	42.4	56.2	62.8	65.5	74.2	72.3	62.5	53.3	45.8	40.8	55.1	101	24	Mar. 30	Nov. 8
Orangevale	43.8	48.2	48.0	62.8	70.2	75.4	81.2	75.2	70.4	60.6	48.6	45.0	60.8	110	28	.....	.....
Orland (*g*)	46.8	46.8	48.7	65.8	76.9	79.9	87.4	83.3	77.0	63.3	53.5	49.0	64.9	110	27	.....	.....
Oroville	48.6	52.4	51.0	68.5	73.6	76.0	87.2	83.8	75.4	66.3	53.0	46.5	65.2	112	28	.....	.....
Otay Dam (*a*)	56.8	55.0	54.4	63.5	65.6	70.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Palermo	44.3	47.4	49.4	62.7	71.8	74.6	78.4	78.4	71.8	61.7	48.8	44.2	61.1	112	20	.....	.....
Paso Robles	46.6	48.4	48.0	58.8	61.5	67.2	71.0	71.6	66.5	58.2	51.6	43.6	57.8	105	16	Feb. 24	Nov. 8
Peachland (*a*)	45.3	47.1	46.7	57.4	60.3	.....	65.4	58.7	61.7	56.6	48.9	45.4	.....	.....	26	Mar. 29	Nov. 16
Picacho	56.9	59.2	59.7	75.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pine Crest	.....	.....	.....	.....	.....	.....	.....	69.5	67.6	61.7	63.0	58.4	.....	.....	.....	.....	.....
Placerville	40.4	40.9	40.9	54.4	61.8	65.8	74.6	70.0	61.8	53.4	45.5	39.7	54.1	102	23	.....	.....
Point Lobos	48.0	50.0	48.0	54.0	55.0	56.0	55.8	56.4	57.9	56.2	51.4	49.2	53.2	83	37	.....	.....
Pomona (near)	52.3	51.0	52.4	62.6	65.9	69.7	72.8	74.6	72.1	60.9	57.6	49.8	61.8	104	26	Apr. 3	Nov. 8
Poway (*c*)	46.6	46.7	47.6	55.0	59.6	63.6	67.0	68.6	65.8	59.7	47.6	41.7	55.8	101	24	.....	.....
Quincy	34.0	35.1	36.4	50.0	60.4	59.6	63.9	66.2	58.1	49.8	41.1	33.7	49.0	96	0	May 7	Sept. 8
Ravenna (*g*)	47.7	48.7	50.1	62.8	69.2	71.3	78.3	79.8	74.0	63.7	57.2	46.7	62.5	106	21	.....	.....
*Redbluff	45.8	47.0	47.9	63.2	72.6	74.0	82.1	80.2	72.6	62.9	49.7	46.0	62.0	109	27	Mar. 30	Dec. 20
Redding	45.6	46.0	46.3	62.4	71.8	72.5	80.6	79.5	71.8	63.0	49.0	45.9	61.2	105	26	.....	.....
Represa	44.3	48.2	48.1	60.6	67.4	71.3	77.2	74.6	69.0	61.2	53.0	45.1	60.0	102	24	.....	.....
Riovista	44.3	48.4	48.4	61.2	67.5	72.2	76.7	73.3	70.7	61.2	51.0	44.2	59.9	.....	24	.....	.....
Roseville (near) (*a*)	39.8	42.4	46.0	.....	.....	70.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rosewood	42.6	43.4	44.2	58.4	68.3	71.1	78.4	76.1	67.6	57.5	45.1	41.6	57.9	108	20	Apr. 1	Nov. 5
*Sacramento	44.2	48.8	49.4	62.6	67.0	69.8	75.6	73.4	69.6	60.7	50.8	45.4	59.8	105	28	Mar. 30	Nov. 26
Sacramento[1]	45.2	49.3	50.9	62.8	68.4	71.1	75.0	72.6	67.9	59.4	49.6	45.0	59.7	103	25	.....	.....
Salinas (*a*)	44.7	43.9	44.1	58.7	61.0	67.6	65.8	65.6	63.1	59.2	50.6	48.2	56.0	92	25	.....	.....
Salton (*g*)	54.0	53.8	59.2	79.1	94.0	98.6	107.0	107.4	99.0	79.0	68.7	52.5	79.4	124	20	.....	.....
San Bernardino	50.8	49.7	51.2	61.8	65.6	68.9	74.8	77.4	71.3	60.3	56.6	50.2	61.6	107	25	.....	.....
*San Diego	55.8	54.7	54.2	59.8	60.9	63.4	67.0	69.9	68.1	62.4	60.2	55.0	61.0	89	36	None.	None.
*San Francisco	48.6	50.7	48.9	57.4	57.4	58.9	58.2	57.6	60.8	58.4	53.1	50.7	55.1	92	38	Mar. 27	Dec. 20
San Jacinto	48.1	48.0	49.7	.....	64.3	.....	.....	.....	69.4	58.1	55.1	46.2	.....	.....	20	.....	.....
San Jose	44.9	47.8	47.4	57.2	61.4	63.2	65.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Leandro (*a*)	52.4	53.4	53.2	60.8	62.6	64.8	62.3	63.9	65.2	61.6	55.1	52.6	59.0	95	35	.....	.....
*San Luis Obispo	51.8	51.6	50.6	59.6	61.2	62.8	65.5	65.4	64.1	59.2	56.6	51.0	58.3	96	24	Mar. 24	Oct. 18
San Mateo (*g*)	49.7	52.2	52.5	62.7	65.6	68.4	70.5	66.0	66.4	60.9	53.9	48.6	59.8	92	34	.....	.....
San Miguel (*g*)	46.2	50.3	47.8	62.8	64.7	69.1	76.3	75.2	69.8	58.2	51.7	43.3	59.6	106	15	.....	.....
San Miguel Island	52.6	51.6	50.8	56.8	58.1	59.8	60.9	59.9	61.6	58.8	56.2	53.0	56.7	88	33	.....	.....
Santa Ana (*e*)	56.6	59.0	61.1	67.4	67.6	74.6	.....	.....	75.4	69.0	65.5	60.8	.....	.....	31	.....	.....
Santa Barbara	54.6	52.8	53.0	59.6	59.5	68.0	65.3	71.9	67.0	61.0	58.6	54.4	60.1	93	32	.....	.....
Santa Cruz	50.0	50.4	49.2	59.4	60.0	61.2	61.8	63.0	62.1	55.6	51.7	49.4	56.2	91	27	.....	.....
Santa Maria	53.8	52.6	53.6	61.0	64.6	65.4	66.5	66.7	64.1	60.4	56.0	51.3	59.7	92	28	Feb. 27	Nov. 21
Santa Monica (*g*)	62.6	59.9	59.6	64.4	67.1	70.4	71.9	73.5	72.2	65.8	61.3	56.6	65.4	89	.....	.....	.....
Santa Paula	50.0	49.4	48.4	58.5	[b]59.0	66.1	65.1	69.3	65.2	57.6	56.5	53.4	58.2	.....	20	.....	Dec. 19
Santa Rosa (*g*)	48.0	49.5	47.2	58.5	65.2	69.3	70.6	65.7	65.5	59.9	51.8	47.4	58.2	96	26	.....	.....
Sierra Madre	53.2	51.1	51.3	62.0	62.6	67.0	71.0	74.0	70.8	60.9	60.5	54.2	61.6	99	33	Feb. 22	Dec. 19
Sneddens Ranch (*a*)	.....	.....	39.1	42.0	48.0	50.7	56.9	57.0	48.4	40.4	33.6	25.2	.....	92	.....	.....	Sept. 24
Stanford University	45.8	48.6	47.6	57.1	60.4	64.6	67.2	65.1	65.6	57.6	50.6	45.0	56.3	98	26	.....	.....
Stockton	43.2	48.4	48.2	60.7	66.0	71.7	75.2	71.2	68.1	59.2	49.3	43.6	58.7	102	24	.....	.....
Summerdale	35.3	31.8	29.3	46.4	57.9	57.0	68.0	69.4	59.2	47.1	43.0	36.6	48.4	91	10	Apr. 26	Oct. 24
Susanville	35.0	32.6	34.8	52.5	65.3	63.4	70.5	72.8	61.4	50.8	43.0	34.4	51.4	96	4	Apr. 23	Sept. 8
Sutter Creek (*e*)	38.4	39.4	38.8	53.8	61.0	63.6	70.5	65.6	63.1	.....	44.5	38.7	.....	102	21	.....	.....
Tecarte Dam (*d*)	42.2	41.8	44.0	51.0	57.4	62.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tehama (*g*)	46.4	49.7	51.1	65.3	74.8	76.6	86.4	84.7	74.0	64.4	50.3	47.2	64.2	107	28	.....	.....
Templeton (*g*)	46.4	47.2	48.1	60.5	62.4	68.1	71.7	71.0	65.4	54.2	47.3	38.6	56.7	104	20	.....	.....
Truckee (*g*)	25.9	25.5	25.7	40.3	56.3	58.5	63.6	.....	53.8	41.6	39.4	26.0	.....	.....	—16	.....	.....
Tulare	46.8	53.2	50.8	67.3	73.2	74.0	81.0	80.3	71.2	60.2	51.6	46.2	63.0	112	22	.....	.....
Turlock	42.3	47.4	47.2	60.2	68.7	72.2	79.4	76.7	69.4	65.8	.....	47.4	.....	112	27	.....	.....
Ukiah	45.0	45.1	44.6	57.4	62.9	64.5	71.4	70.4	66.5	57.4	48.2	44.2	56.5	105	23	Mar. 30	Oct. 16
Upper Lake	43.2	45.0	44.2	58.9	65.6	65.0	73.6	74.0	66.0	59.3	47.6	44.0	57.2	107	.....	Mar. 30	Nov. 7
Upper Mattole (*a*)	49.9	49.5	45.3	55.2	59.9	59.9	66.1	65.1	57.9	57.1	50.4	48.9	55.4	99	22	.....	.....
Vacaville (*a*)	45.2	48.7	48.9	62.8	68.8	72.6	78.5	74.7	71.3	62.6	51.7	46.6	61.0	108	29	Mar. 30	Dec. 20
Ventura	52.0	49.2	49.6	56.0	57.2	59.6	62.2	66.2	63.1	57.9	54.4	51.6	56.6	91	26	.....	.....
Volcano Springs (*g*)	59.8	63.1	66.0	81.1	86.0	92.6	93.9	96.4	82.2	73.0	64.1	52.5	75.9	123	31	.....	.....
Walnut Creek	44.8	49.6	50.2	61.4	66.4	.....	78.0	72.4	70.2	61.8	52.2	47.2	.....	.....	27	.....	.....
West Palmdale (*a*)	.....	.....	.....	.....	68.9	.....	.....	86.0	70.4	54.1	45.6	41.3	.....	.....	.....	.....	.....
Wheatland	43.2	47.2	47.3	60.6	69.4	72.5	79.0	75.0	68.9	59.5	48.2	43.4	59.5	109	26	Mar. 30	Nov. 7
Williams (*g*)	45.9	49.4	49.5	64.8	73.8	77.0	83.0	79.5	72.3	64.6	51.8	47.3	63.2	106	28	.....	.....
Wilmington (*e*)	60.0	57.3	59.4	65.5	67.3	72.2	75.7	77.6	74.3	66.5	63.3	57.2	66.4	101	30	.....	.....
Wire Bridge (*e*)	45.1	47.4	47.0	62.6	71.2	74.4	80.7	79.1	70.4	59.5	49.8	44.6	61.0	105	25	.....	.....
Yreka	35.6	38.1	37.8	52.2	62.2	61.4	68.0	72.0	60.2	52.4	40.8	36.8	51.5	101	16	May 8	Sept. 9
Yuba City (*e*)	48.6	51.3	52.0	72.4	69.8	70.0	79.9	73.4	72.4	64.0	49.8	41.9	62.1	105	29	.....	.....
Colorado.																	
Alma	[c]15.4	[d]13.2	.....	29.2	41.4	44.6	47.7	45.6	42.5	.....	.....	.....	.....	74	.....	(2)	(2)
Antlers	23.6	26.6	32.4	46.6	60.6	65.2	69.2	70.2	64.8	49.6	37.8	21.4	47.3	95	— 5	Apr. 16	Oct. 19
Boulder	.....	.....	.....	.....	60.2	64.6	70.6	69.0	66.8	52.2	41.8	30.6	.....	90	.....	.....	Oct. 18
Breckenridge	13.4	12.2	19.2	30.0	44.8	46.4	51.8	53.6	47.4	32.7	26.2	12.2	32.5	78	—31	July 20	Aug. 19
Canyon	[b]3.01	35.4	40.1	50.6	62.7	70.1	73.6	71.8	68.5	53.6	44.8	34.1	53.0	104	—15	Apr. 13	Oct. 12
Castlerock	22.0	25.8	35.0	41.4	.....	65.8	69.2	65.9	64.9	48.6	[b]38.4	[c]28.2	.....	97	—21	June 3	Oct. 8

[1] S. H. Gerrish.

[2] Every month.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Colorado—Continued.																	
Cheyenne Wells	.....	.....	.....	55.0	61.8	69.0	74.0	69.7	69.0	53.6	39.8	26.6	.....	103	.....	Apr. 29	Oct. 11
Colorado Springs	25.4	28.8	34.6	44.2	55.8	62.1	66.4	65.4	62.4	48.5	40.2	27.7	46.8	91	—18	Apr. 16	Oct. 12
Cope	26.6	31.6	35.6	.....	.....	68.0	73.7	71.2	.....	51.8	37.2	25.6	.....	.....	—13	.....	Oct. 26
Cripple Creek	24.8	18.8	22.8	32.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crook	.....	.....	.....	.....	61.8	67.5	72.4	70.6	67.5	53.4	40.5	[a]25.8	.....	105	.....	.....	Sept. 16
Delta	22.9	29.4	37.1	51.7	62.8	69.2	72.0	73.4	66.7	50.4	38.3	22.0	49.7	104	— 6	Apr. 15	Oct. 28
*Denver	26.6	31.2	35.7	47.4	60.6	65.2	69.8	69.6	66.3	51.0	40.8	28.3	49.4	96	—14	Apr. 15	Oct. 16
Dumont	24.6	24.3	27.8	40.1	51.0	56.8	61.2	.....	.....	.....	.....	.....	.....	.....	.....	June 18	Oct. 17
Durango	27.0	26.5	33.8	46.7	56.8	62.0	65.9	66.8	61.4	47.6	39.8	25.4	46.6	90	— 3	Apr. 22	Oct. 11
Fort Collins	24.8	27.6	32.3	45.8	58.0	62.9	66.8	66.8	63.7	48.6	36.1	25.4	46.6	95	—26	Apr. 30	Oct. 11
Fort Morgan	.....	28.1	.....	45.0	61.6	[d]67.8	[a]71.0	70.1	[b]64.6	[c]47.6	33.4	21.1	.....	100	.....	Apr. 21	Oct. 10
Garnett	.....	.....	27.2	41.6	51.8	56.0	60.5	60.1	56.2	41.2	30.9	.....	.....	86	.....	July 20	Sept. 17
Gleneyre	26.4	28.6	34.2	43.4	54.8	60.0	64.2	63.2	61.1	47.8	39.8	29.0	46.0	86	—14	Apr. 30	Oct. 8
Gold Hill	.....	.....	31.8	42.0	53.4	58.1	.....	62.3	60.6	47.7	.....	.....	.....	.....	.....	June 30	Oct. 15
Grand Junction	29.8	32.0	39.0	52.3	65.3	72.1	76.2	75.8	68.4	53.3	41.2	22.5	52.3	97	— 6	Apr. 12	Oct. 27
Greeley	23.0	27.9	34.8	47.5	60.2	64.8	68.3	67.6	64.0	49.3	35.6	22.3	47.2	95	—23	Apr. 29	Sept. 17
Gulch	22.0	23.6	24.8	39.6	.....	58.8	60.9	61.5	54.8	42.5	34.7	22.4	.....	93	— 9	July 19	Oct. 3
Gunnison	10.5	14.0	25.0	39.8	.....	.....	60.0	61.0	54.8	44.8	.....	[c]13.8	.....	.....	—28	(1)	(1)
Hoehne[2]	23.6	35.0	38.9	48.2	60.8	66.5	70.2	68.8	65.1	51.5	41.8	27.6	49.8	94	— 9	Apr. 28	Oct. 11
Hugo (near)	23.6	.....	.....	43.4	57.6	62.4	66.8	64.5	60.2	45.6	36.3	23.6	.....	95	.....	Apr. 20	Oct. 9
Husted	26.8	29.9	36.1	44.8	55.9	61.5	66.5	66.4	63.6	48.8	41.8	27.4	47.5	97	—24	Apr. 30	Oct. 11
Lajara	9.4	13.8	31.8	.....	.....	58.6	59.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lake Moraine	19.2	17.3	24.0	29.5	43.0	49.4	53.0	52.2	49.7	37.6	32.8	21.4	35.8	75	—31	(1)	(1)
Lamar	29.0	35.2	41.3	52.5	66.6	73.8	78.4	74.4	73.1	55.9	41.7	29.8	54.3	109	—13	Apr. 29	Oct. 11
Las Animas	28.4	35.4	38.6	50.9	64.3	71.6	75.7	70.8	70.0	55.2	41.5	27.3	52.5	104	—20	Apr. 22	Oct. 12
Lay	15.2	19.6	25.4	39.6	56.1	59.4	.....	66.6	[c]62.0	[b]52.4	.....	.....	.....	.....	.....	June 18	Oct. 6
Leadville (near) (*a*)	17.4	16.6	20.6	32.0	43.4	48.2	51.8	52.1	49.4	36.6	30.2	18.2	34.6	77	—14	July 19	Sept. 28
Leroy	24.6	30.8	33.6	45.8	60.4	65.4	72.0	70.0	68.3	50.4	37.1	24.6	48.6	101	—17	Apr. 14	Oct. 12
Longmont	25.3	30.8	34.1	49.8	63.2	67.0	68.2	.....	.....	.....	.....	.....	.....	.....	.....	Apr. 13	.....
Longs Peak	.....	18.6	22.6	32.5	45.0	49.6	54.5	53.6	51.9	39.6	33.8	22.6	.....	78	.....	May 28	Oct. 2
Meeker	16.8	22.1	28.8	42.4	56.8	60.5	65.2	64.4	59.7	44.7	35.1	13.1	42.5	98	—30	July 19	Oct. 18
Millbrook	23.2	24.5	31.4	42.8	51.4	56.2	59.6	60.7	57.2	43.2	.....	20.6	.....	90	—23	(1)	(1)
Minneapolis	30.3	33.3	40.8	51.7	64.2	73.4	77.2	72.8	72.4	56.3	43.2	32.0	54.0	104	—13	Apr. 28	Oct. 26
Montrose	25.0	29.1	36.2	47.5	59.2	65.2	67.8	68.3	63.1	48.0	.....	.....	.....	94	.....	Apr. 21	Oct. 11
Moraine	24.0	21.7	25.8	36.6	48.8	53.5	59.2	60.6	55.9	43.7	37.7	24.4	41.0	82	—13	June 18	Oct. 8
Pagoda	16.8	22.4	26.5	38.6	54.8	57.0	61.4	61.8	58.1	44.5	34.6	14.9	41.0	92	—28	July 20	Sept. 16
Parachute	20.8	25.1	31.4	48.6	61.2	65.0	67.0	69.1	64.0	47.2	35.8	20.1	46.3	94	—13	Apr. 23	Oct. 17
Pinkhamton (*e*)	18.2	21.8	19.8	40.1	55.2	59.2	62.9	.....	.....	.....	.....	.....	.....	.....	.....	May 28	Sept. 17
*Pueblo	26.4	33.8	39.6	49.5	61.6	68.7	73.0	71.8	68.4	53.4	42.8	29.0	51.5	101	—16	Apr. 22†	Oct. 16
Rangely	13.0	19.5	28.5	48.0	60.4	65.4	70.1	69.8	62.2	46.6	36.4	7.9	44.0	101	—30	June 18	Oct. 11
Rico	20.7	19.8	22.6	35.9	48.4	52.2	56.4	[f]55.7	53.1	40.2	30.8	20.6	38.0	86	—17	July 20	Oct. 5
Rockyford	25.9	35.0	39.8	50.2	.....	.....	.....	[b]70.2	69.4	54.2	41.7	26.7	.....	.....	—15	.....	Oct. 29
Saguache	15.4	18.0	28.4	44.4	54.7	59.0	63.2	62.2	56.6	44.0	33.9	18.8	41.6	84	—12	May 13	Oct. 4
Salida	.....	.....	.....	.....	.....	.....	.....	.....	.....	48.2	42.2	26.4	.....	.....	.....	.....	Oct. 4
San Luis	13.4	17.9	26.8	43.0	53.0	58.4	63.1	65.2	59.8	46.4	36.0	18.8	41.8	93	—25	May 10	Oct. 10
Santa Clara (*a*)	21.2	27.8	31.0	40.8	51.5	58.7	62.0	60.0	53.1	42.2	38.1	25.9	42.7	89	—15	July 20	Oct. 17
Sherwood Ranch	16.4	17.8	22.0	31.4	47.2	51.7	[b]56.0	56.6	.....	37.8	.....	.....	.....	.....	.....	(3)	(3)
Smoky Hill Mine	22.6	23.1	28.0	38.0	.....	55.2	60.0	59.2	57.8	46.5	41.2	26.4	.....	87	—17	June 4	Oct. 12
Stamford (*a*)	17.6	18.1	21.4	31.8	41.4	47.8	50.3	50.0	45.1	34.9	33.0	19.8	34.3	82	—16	July 20	Oct. 8
Steamboat Springs	16.4	19.0	24.8	.....	.....	57.8	61.4	60.5	57.8	46.2	30.4	15.9	.....	99	—33	(1)	(1)
Sulphur Springs	14.9	21.6	28.8	40.4	52.3	54.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Surface Creek	27.0	28.5	34.8	46.5	58.6	63.6	67.2	67.8	62.1	49.1	39.2	25.0	57.4	94	— 8	May 9	Oct. 11
Thon	28.2	29.9	34.2	43.3	59.0	65.4	68.1	68.4	65.6	.....	.....	.....	.....	100	.....	Apr. 28	.....
T. S. Ranch	24.8	25.8	33.4	47.4	60.2	65.0	70.0	71.4	64.7	49.8	40.2	23.2	48.0	92	0	Apr. 14	Oct. 27
Walden	13.9	16.6	22.0	33.8	[e]49.4	53.2	59.6	56.8	54.4	39.7	27.8	[d]12.8	36.7	86	—23	(1)	(1)
Wray	26.8	33.2	37.6	49.2	63.7	69.0	74.6	72.8	69.7	52.0	38.0	26.7	51.1	105	—14	Apr. 30	Oct. 18
Connecticut.																	
Bridgeport	28.4	29.9	38.0	48.4	58.7	64.6	72.8	69.5	64.2	54.2	42.5	.....	.....	94	.....	Apr. 22†	Oct. 10†
Canton	25.2	25.7	34.0	47.2	55.6	60.7	69.4	65.0	59.8	51.7	38.4	29.4	46.8	89	— 6	May 8	Sept. 28†
Colchester	26.6	28.4	36.8	48.3	57.8	62.3	70.8	67.4	61.2	53.0	41.0	31.8	48.8	90	2	Apr. 21†	Oct. 4†
Hartford	27.2	28.6	36.9	49.0	59.0	64.7	72.8	[d]68.8	[c]61.8	52.3	41.2	32.0	49.5	90	— 2	.....	.....
Middletown	27.5	29.0	37.6	49.1	59.4	64.5	73.2	69.4	63.5	54.2	41.6	32.7	50.1	93	— 7	Apr. 21†	Oct. 3
*New Haven	27.9	30.0	37.7	47.8	58.2	64.0	72.2	68.8	63.0	53.4	41.9	33.8	49.9	93	5	Apr. 20	Oct. 31
New London	28.0	29.4	36.4	46.0	55.4	62.0	69.5	68.3	62.3	53.0	41.8	31.6	48.7	89	5	Apr. 21†	Oct. 31
North Grosvenor Dale	26.0	28.4	38.0	49.6	60.6	65.3	73.6	69.4	60.6	52.6	40.6	31.5	49.7	96	—10	Apr. 21†	Oct. 4†
Norwalk	27.2	28.0	37.3	47.8	58.3	64.2	72.0	67.6	61.4	51.8	41.1	31.8	49.0	92	— 4	Apr. 22†	Sept. 28
Southington (*a*)	26.2	27.1	35.7	47.6	58.0	63.8	71.2	67.3	61.3	51.2	39.4	30.7	48.3	88	— 8	Apr. 21†	Oct. 3
Storrs	24.4	26.4	34.6	45.9	56.0	60.8	69.6	66.0	60.0	51.2	37.8	30.7	47.0	89	— 2	Apr. 22†	Sept. 28
Voluntown	27.3	28.5	37.0	47.4	57.7	[e]63.0	71.1	67.0	60.2	51.2	41.0	33.4	48.7	90	— 6	Apr. 22†	Sept. 28
Waterbury	27.8	29.2	37.4	49.0	59.0	63.8	71.7	67.6	62.6	53.8	41.9	33.4	49.8	90	0	Apr. 21†	Oct. 10†
West Cornwall	23.8	25.9	33.2	45.0	54.3	60.0	69.0	64.5	58.7	50.6	37.6	29.6	46.0	87	— 1	.....	.....
Windsor	25.5	26.8	35.0	47.8	59.4	62.6	72.4	67.4	60.8	51.1	38.4	29.4	48.0	91	— 7	Apr. 21†	Oct. 3
Delaware.																	
Milford	33.0	37.2	46.6	54.4	63.9	70.8	76.6	76.4	71.4	60.9	.....	41.3	.....	97	9	Apr. 21	Nov. 19†
Millsboro	33.0	37.0	46.0	52.5	62.5	69.1	75.8	74.0	67.2	59.1	48.7	40.0	55.4	94	3	Apr. 21	Oct. 31
Newark	28.6	33.2	42.0	50.5	60.6	67.0	75.4	71.6	66.0	55.6	43.3	35.4	52.4	94	6	Apr. 21	Oct. 18
Seaford	32.2	36.6	46.8	53.6	61.8	68.6	.....	.....	69.0	58.8	47.8	39.1	.....	.....	8	Apr. 21	Oct. 18
District of Columbia.																	
Distributing reservoir (*e*)	30.3	37.0	46.6	54.8	63.8	71.7	78.3	74.4	68.6	58.6	46.5	38.2	55.7	91	9	Apr. 20†	Nov. 18†
Receiving reservoir (*s*)	30.0	36.3	46.2	54.0	63.2	70.8	78.3	73.7	68.3	58.1	46.0	37.6	55.2	90	8	Apr. 20†	Nov. 12†
*Washington	31.0	36.6	46.0	52.9	62.4	69.6	76.9	73.4	68.2	58.0	46.0	38.1	54.9	97	8	Apr. 21	Oct. 18
West Washington	30.2	35.9	45.8	53.0	62.1	69.8	77.0	73.2	67.0	56.4	44.3	37.7	54.4	96	6	.....	.....

[1] Every month. [2] Observations for first five months at Downing, about 8 miles east. [3] Every month except August.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Florida.																	
Amelia	47.8	56.7	65.8	67.0	72.0	81.2	82.1	82.5	75.4	70.2	64.3	.....	.....	99	.....	Jan. 29	.....
Archer	52.7	61.5	70.8	70.2	72.7	81.8	84.0	81.7	76.0	71.6	64.5	58.6	70.5	99	22	Feb. 28	Dec. 29
Bartow	57.6	66.4	72.5	71.2	74.7	82.0	82.9	82.5	78.6	73.6	68.5	61.8	72.7	98	28	Jan. 29	.....
Boca Raton	.....	.....	.....	73.3	75.8	80.6	81.2	81.6	78.8	75.2	73.8	70.6	.....	91	.....	.....	.....
Brooksville	55.5	63.6	71.0	71.0	75.6	81.2	81.6	81.2	76.9	71.8	67.0	60.2	71.4	96	24	Jan. 30	Dec. 6
Carrabelle	.....	.....	.....	.....	.....	82.9	82.0	81.3	76.9	71.6	62.7	56.1	.....	96	.....	.....	.....
Clermont	56.7	65.8	73.8	72.0	76.7	83.6	83.1	83.0	78.6	74.8	69.6	.....	.....	101	.....	Jan. 28	.....
De Funiak Springs	48.2	57.2	65.8	64.9	71.2	82.0	81.6	80.5	75.5	70.0	57.0	52.0	67.2	102	17	Feb. 27	Dec. 5
Earnestville	56.6	65.8	72.8	71.3	76.4	82.8	82.9	82.2	77.6	73.1	68.0	61.4	72.6	99	25	Jan. 30	.....
Emerson	50.4	59.8	68.8	68.8	74.4	81.4	82.1	.....	.....	.....	.....	.....	.....	.....	.....	Jan. 29	.....
Estero (*a*)	.....	.....	.....	.....	.....	.....	.....	.....	77.2	73.6	69.0	64.6	.....	.....	.....	.....	.....
Eustis	55.6	64.9	71.8	*70.7	75.0	82.6	82.2	82.5	77.2	73.3	67.3	61.4	72.0	98	25	Jan. 29	.....
Federal Point	53.0	62.0	68.4	67.4	71.4	80.9	80.8	80.4	75.0	71.2	65.0	58.6	69.5	97	24	Jan. 30	.....
Fort Meade	56.4	63.9	70.3	69.0	73.1	79.6	79.6	.....	77.2	.....	68.2	59.1	.....	.....	26	Jan. 28	.....
Frostproof	59.0	67.9	74.2	72.0	75.4	82.4	81.2	81.4	79.4	75.2	70.5	65.7	73.7	99	30	Jan. 8	.....
*Gainesville	.....	.....	69.0	69.2	75.4	84.9	83.1	82.6	75.7	70.8	64.3	57.2	.....	102	.....	.....	.....
Grasmere	55.8	64.5	71.9	71.2	75.2	83.6	83.1	82.9	77.4	72.4	67.4	61.2	72.2	99	25	Jan. 28	.....
Haywood	.....	.....	65.7	66.7	.....	.....	[e]82.6	81.4	76.9	70.2	61.5	55.7	.....	.....	.....	Feb. 28	Dec. 6
Huntington	54.4	63.0	71.4	70.6	74.7	83.2	83.0	82.3	76.2	72.7	66.6	60.1	71.5	100	26	Jan. 29	.....
*Jacksonville	52.1	60.0	68.8	69.0	73.2	83.4	82.4	82.2	76.3	71.7	65.3	58.5	70.2	99	21	Jan. 30†	Dec. 6
*Jupiter	62.6	69.4	73.2	71.5	74.7	81.0	80.6	81.7	77.8	74.6	73.4	68.8	74.1	93	34	None.	None.
*Key West	67.6	72.7	76.5	75.5	77.8	82.2	82.6	83.8	80.6	78.5	75.6	72.4	77.2	91	51	None.	None.
Kissimmee	.....	.....	.....	.....	.....	.....	83.6	83.9	78.7	75.6	.....	.....	.....	.....	.....	Jan. 10	.....
Lake Butler	50.6	60.2	68.0	71.2	72.7	.....	82.8	.....	76.2	73.8	.....	55.4	.....	.....	21	.....	.....
Lake City	52.4	60.8	71.5	71.9	77.4	85.2	83.2	82.5	76.7	72.5	66.2	59.6	71.7	101	20	Feb. 28	Dec. 28
Lemon City	65.0	70.2	74.2	[f]74.2	.....	81.8	.....	[i]83.8	79.7	74.3	74.4	70.4	.....	.....	38	.....	.....
Macclenny	50.8	59.9	69.2	68.4	73.9	84.0	82.8	83.0	76.1	72.1	64.2	57.4	70.2	104	21	Jan. 28	.....
Manatee	56.5	64.0	70.3	69.8	.....	.....	.....	.....	78.8	[j]72.0	68.4	62.4	.....	.....	26	.....	.....
Merritts Island	59.2	66.2	73.2	72.4	75.8	81.9	82.7	83.0	78.8	74.8	71.4	65.2	73.7	95	29	Jan. 28	.....
Milton	48.4	57.0	67.4	65.0	70.6	82.1	82.8	79.7	75.8	68.7	60.5	.....	.....	98	.....	Jan. 30	.....
Mullet Key	57.4	64.0	71.8	71.7	76.2	84.3	85.0	83.4	78.5	74.3	70.0	63.2	73.3	94	32	.....	.....
Myers	61.2	68.7	73.0	72.5	75.6	80.6	80.4	81.0	78.0	74.5	71.8	65.1	73.5	93	33	.....	.....
New Smyrna	54.9	63.0	70.0	[l]70.5	72.2	79.5	80.6	79.8	76.6	72.8	67.4	61.2	70.7	99	26	Jan. 29	.....
Oakhill (*a*)	58.8	64.8	70.9	72.0	76.1	82.1	83.1	82.5	79.7	75.9	72.7	66.0	73.7	94	30	Jan. 28	.....
Ocala	53.7	62.6	69.8	69.8	74.5	81.2	80.5	80.4	75.8	72.8	67.2	60.5	70.6	95	24	Jan. 29	Dec. 6
Orange City	55.6	64.6	72.0	71.8	75.6	84.8	83.0	85.2	77.4	72.7	67.2	61.1	72.6	100	25	.....	.....
Orange Park	52.3	63.6	69.0	69.8	72.6	82.7	81.9	81.5	75.6	70.4	63.7	57.0	70.0	99	22	Jan. 28	.....
Orlando	55.0	63.3	70.9	68.4	72.8	79.4	79.6	80.4	75.0	70.8	.....	.....	.....	95	.....	Jan. 9	Dec. 29
Oxford (*a*)	54.9	63.6	71.3	71.9	75.4	83.6	82.4	81.6	75.8	71.8	65.9	60.3	71.6	100	25	.....	.....
*Pensacola	49.6	56.8	66.3	66.4	71.7	81.0	82.7	80.2	77.8	72.3	62.5	56.2	68.6	98	17	Feb. 28†	Dec. 5
Perry	.....	.....	.....	.....	.....	.....	.....	.....	.....	70.0	64.8	*55.9	.....	.....	.....	.....	.....
Plant City	57.5	64.8	70.0	71.4	75.0	81.6	81.4	81.1	78.0	72.8	68.6	62.6	72.0	98	27	Jan. 29	Dec. 30
Quincy	.....	*58.0	*66.6	*70.9	*78.8	.....	.....	.....	*72.9	.....	.....	.....	.....	.....	.....	.....	.....
St. Francis	53.8	64.4	69.8	68.3	71.1	80.0	79.6	81.1	76.4	72.5	66.2	60.8	70.3	98	20	.....	Dec. 30
St. Francis Barracks	52.0	59.8	67.4	67.0	72.1	81.0	81.4	80.2	75.3	71.4	66.2	58.7	69.4	99	22	.....	.....
Sebastian	.....	.....	.....	.....	.....	.....	82.4	83.4	78.5	74.9	70.5	66.5	.....	.....	.....	.....	.....
Switzerland	.....	.....	.....	.....	.....	81.5	81.4	.....	.....	[i]69.1	63.5	.....	.....	.....	.....	.....	.....
Tallahassee	48.8	57.2	65.9	65.4	72.4	82.4	81.6	79.8	75.6	69.9	61.8	54.5	67.9	97	19	Jan. 30	Dec. 28
*Tampa	52.6	65.2	71.9	70.3	74.4	81.0	81.6	81.6	77.6	73.6	69.0	62.5	72.2	94	29	Jan. 29	.....
Tarpon Springs	55.4	64.6	71.8	69.8	72.6	80.2	81.8	81.8	78.9	72.6	67.0	59.4	71.3	96	28	Jan. 29	.....
Wausau	.....	.....	.....	.....	.....	.....	.....	81.0	77.0	75.3	59.4	52.8	.....	.....	.....	.....	.....
Georgia.																	
Adairsville	36.4	45.6	53.5	58.0	66.8	78.5	78.8	76.0	*73.2	64.8	50.6	43.2	60.4	102	— 1	Apr. 11	Nov. 3
*Alapaha	.....	.....	.....	.....	71.8	83.7	82.9	80.6	75.8	68.5	60.2	51.6	.....	104	.....	.....	Dec. 7
*Albany	.....	.....	64.4	65.0	71.6	84.8	83.9	81.6	76.6	68.6	59.4	54.2	.....	106	.....	.....	.....
Allentown	44.4	54.0	61.6	64.2	71.4	84.5	81.7	79.4	74.6	67.5	58.3	50.6	66.0	104	12	Feb. 28	Dec. 6
*Americus	45.2	54.4	62.5	65.4	72.4	83.6	83.6	80.8	76.0	68.0	57.6	51.4	66.7	102	11	Feb. 28	Dec. 6
*Athens	40.0	47.8	.....	.....	*70.8	79.2	79.6	77.2	72.7	64.1	53.6	44.0	.....	100	7	.....	.....
*Atlanta	38.8	47.7	54.9	59.8	67.9	78.6	78.4	76.2	74.4	66.2	53.2	45.3	61.8	97	6	Mar. 26†	Nov. 17
*Augusta	44.0	52.2	59.2	63.4	70.8	81.4	81.6	79.0	74.6	66.9	56.0	48.6	64.8	101	12	Feb. 28†	Nov. 19
*Bainbridge	.....	.....	.....	.....	72.3	85.0	83.2	81.4	76.6	65.0	.....	.....	.....	103	.....	.....	.....
Belleville	.....	.....	*65.1	*66.0	*72.8	*84.6	82.4	82.6	75.8	70.0	60.0	52.7	.....	105	.....	.....	.....
Blakeley	48.4	56.9	64.3	65.8	73.0	83.8	82.6	80.0	76.4	69.9	60.6	53.4	67.9	99	16	May 28	Nov. 30
Brag	46.8	55.2	62.4	65.8	.....	81.2	80.4	80.0	.....	.....	64.4	53.0	.....	.....	12	Feb. 28	Nov. 13
*Camak	.....	.....	.....	.....	70.2	81.4	81.6	78.4	74.3	65.8	.....	.....	.....	101	.....	.....	.....
Cartersville	.....	.....	55.6	58.6	*64.8	*78.7	77.8	76.6	72.4	*62.6	52.2	.....	.....	98	.....	Apr. 10	Oct. 29
Cedartown	36.6	47.4	56.0	60.2	66.2	79.3	78.8	[i]75.6	72.4	.....	.....	.....	.....	100	2	Apr. 10	Oct. 29
Clayton	36.5	44.8	52.2	56.2	65.4	74.8	75.4	74.0	68.6	61.3	48.3	41.4	58.2	95	1	Apr. 11	Nov. 4
*Columbus	43.6	49.5	61.8	63.6	70.8	82.6	82.1	*80.4	.....	69.3	57.4	51.4	.....	103	14	Feb. 28	.....
Covington	38.9	45.0	53.8	57.6	63.8	79.1	76.2	76.2	70.4	60.8	49.0	42.4	59.4	102	6	Apr. 11	Nov. 20
Crescent	.....	.....	.....	.....	.....	83.9	83.0	82.0	77.8	73.0	64.2	55.5	.....	104	.....	.....	Dec. 7
Dahlonega	38.0	45.5	52.2	57.6	64.4	74.5	75.0	72.9	71.1	63.0	51.0	43.2	59.0	95	0	Apr. 11	Nov. 18
Diamond	34.3	.....	51.5	55.3	63.2	73.5	74.0	71.9	69.0	61.3	48.0	41.9	.....	97	0	Apr. 11	Nov. 4
*Eastman	.....	.....	.....	.....	71.0	81.8	81.4	79.4	73.8	66.8	.....	.....	.....	101	.....	.....	.....
*Elberton	41.1	47.9	54.9	61.3	69.8	80.0	80.0	77.6	73.0	66.0	54.3	43.0	62.4	100	8	Mar. 27	Nov. 20
Fleming	44.2	54.6	59.0	64.0	70.6	81.0	80.8	80.2	72.8	67.8	58.2	52.6	65.5	103	17	Feb. 28	Dec. 7
*Fort Gaines	45.3	53.8	62.5	.....	71.2	83.3	81.3	78.7	75.2	67.6	57.1	50.9	.....	102	15	Feb. 28	.....
Franklin	.....	.....	.....	.....	67.7	79.4	80.2	78.6	74.8	66.8	*54.8	*50.1	.....	97	.....	.....	.....
*Gainesville	37.0	44.3	53.0	.....	66.9	76.2	76.5	75.0	71.2	62.8	50.5	43.7	.....	95	6	Mar. 27	Nov. 19
Gillsville	39.6	49.6	53.6	60.3	63.6	79.4	78.7	77.0	74.5	65.7	52.8	45.4	61.7	100	7	Mar. 28	Nov. 18
Greenbush	.....	.....	.....	58.1	64.4	76.2	76.8	74.5	71.4	62.6	49.4	42.9	.....	100	.....	Apr. 11	Nov. 4
*Griffin	.....	.....	.....	.....	.....	81.0	80.6	77.0	73.3	64.8	.....	.....	.....	103	.....	.....	.....
Hawkinsville	42.4	.....	58.4	62.6	67.8	.....	.....	.....	.....	64.0	55.4	47.3	.....	.....	4	Apr. 11	Nov. 4
Hephzibah (*f*)	.....	54.4	60.1	64.9	72.4	80.3	80.2	78.9	75.6	70.0	56.4	52.0	.....	100	.....	Feb. 28	Nov. 30
Jesup	50.2	58.5	65.9	67.1	72.4	82.4	*82.4	81.0	73.8	68.6	60.8	52.4	68.0	102	18	Feb. 28	Dec. 7
Lagrange	.....	52.0	61.6	63.1	69.8	81.4	81.0	78.8	75.0	66.2	56.4	50.5	.....	99	.....	Feb. 28	Nov. 18

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Georgia—Continued.																	
Leverett	.....	47.7	54.4	61.6	69.8	82.0	81.5	78.6	.....	.....	.....	.....	.....	107	.....	Mar. 28	.....
Louisville	44.6	51.8	57.8	63.0	70.6	.....	81.8	79.4	74.7	68.4	58.4	49.6	.....	.....	9	Feb. 28	Dec. 6
Lumpkin	.....	53.2	.....	65.5	72.0	83.8	81.7	79.3	76.4	70.8	59.2	52.2	.....	100	.....	Feb. 28	Dec. 16
*Macon	.....	.....	.....	.....	71.5	81.4	81.8	79.2	74.6	65.8	.....	.....	.....	102	.....	.....	.....
Marietta	38.5	47.3	54.2	58.2	66.0	77.3	76.9	75.0	73.2	63.7	51.2	43.8	60.4	97	5	Apr. 11	Nov. 4
Marshallville	45.5	52.4	62.8	64.6	71.6	83.0	82.1	[c]79.0	76.7	68.8	59.0	51.4	66.4	97	14	Feb. 28	Nov. 30
Milledgeville	43.8	52.4	60.0	64.0	71.1	82.2	83.6	80.2	75.4	.....	.....	.....	.....	100	11	Feb. 28	.....
*Millen	[b]42.0	51.8	60.2	.....	71.7	83.2	82.6	80.4	74.5	67.5	60.2	[a]51.6	.....	103	12	Mar. 1	.....
Monticello	41.9	51.3	54.6	63.4	71.9	.....	82.0	79.4	.....	.....	.....	.....	.....	.....	11	Feb. 28	.....
Morgan	45.2	54.4	64.4	62.2	70.2	[d]82.6	81.2	78.4	74.4	68.0	57.3	50.4	65.7	102	13	Mar. 1	Nov. 13
Mount Vernon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	61.0	52.6	.....	.....	.....	.....	Dec. 7
*Newnan	39.0	48.2	55.6	60.9	69.5	80.7	81.5	78.6	74.2	65.8	52.3	42.4	62.4	103	7	Feb. 28	Nov. 30
Piscola	49.4	58.1	67.6	67.7	74.2	.....	.....	.....	.....	[e]70.6	62.8	55.4	.....	.....	18	Feb. 28	Dec. 6
Point Peter	.....	.....	53.3	58.6	66.8	79.2	79.7	76.1	71.0	62.7	52.2	43.8	.....	100	.....	Mar. 28	Nov. 17
Poulan	46.5	55.4	64.5	64.0	70.3	82.8	81.7	80.0	75.4	67.8	59.8	52.6	66.7	105	16	Feb. 28	Dec. 6
*Quitman	48.8	57.9	66.9	66.2	72.3	84.8	82.6	80.6	74.8	68.4	60.7	54.4	68.2	104	17	Feb. 28	Dec. 6
Ramsey	39.7	49.0	56.0	59.7	65.0	77.4	75.0	75.4	71.6	64.9	53.4	46.0	61.1	98	0	May 2	Nov. 4
*Rome	38.0	47.2	55.3	59.3	67.2	77.2	78.8	76.8	73.2	63.7	50.8	44.1	61.0	101	3	Apr. 11	Nov. 13
*Savannah	48.2	56.6	62.8	66.2	72.8	81.8	82.0	81.0	74.2	69.2	61.2	53.7	67.5	102	17	Feb. 28	Dec. 29
Sparta	.....	51.8	57.9	62.2	70.0	81.2	81.8	.....	.....	.....	.....	.....	.....	.....	.....	Mar 26	.....
Talbotton	[c]42.3	51.9	59.6	60.6	68.3	[h]78.5	[d]79.1	77.0	74.2	67.6	56.0	49.2	63.7	97	10	Mar. 26	Dec. 16
Tallapoosa	38.0	49.0	54.8	58.4	66.8	79.4	78.2	76.1	74.0	64.5	51.3	44.6	61.3	100	— 6	Apr. 10	Nov. 12
*Thomasville	49.5	57.2	66.1	66.1	72.2	84.0	82.4	81.5	76.8	70.4	62.2	54.4	68.6	102	17	Feb. 28	Dec. 6
*Toccoa	38.3	45.8	53.1	60.1	68.4	80.6	77.8	72.3	67.1	60.8	51.4	44.8	60.0	102	17	Mar. 24	Nov. 18
*Union Point	.....	.....	.....	.....	69.6	78.4	81.6	75.1	70.4	63.6	.....	.....	.....	98	.....	.....	.....
*Washington	.....	.....	.....	.....	70.6	81.4	81.9	79.0	74.8	68.4	.....	.....	.....	104	.....	.....	.....
*Waycross	.....	.....	.....	.....	71.9	82.8	82.6	81.2	73.6	[h]69.7	.....	52.6	.....	102	.....	.....	.....
*Waynesboro	.....	.....	.....	.....	70.7	79.8	80.0	77.4	73.2	66.4	.....	.....	.....	100	.....	.....	.....
*Westpoint	.....	.....	.....	.....	75.2	82.1	82.4	79.2	73.8	63.0	.....	.....	.....	102	.....	.....	.....
Idaho.																	
American Falls	24.1	29.6	29.5	.....	61.4	.....	69.6	71.5	.....	46.2	39.4	25.9	.....	.....	— 9	.....	.....
Blackfoot	22.2	25.8	27.9	45.6	59.7	63.5	67.3	68.4	59.0	45.6	37.9	22.6	45.5	100	—23	.....	.....
Boise Barracks	29.9	35.0	36.4	49.9	63.4	64.5	70.6	75.2	61.6	49.9	41.5	32.6	50.9	107	5	.....	.....
Burnside	20.4	22.4	[g]25.9	38.3	57.9	57.6	64.2	68.9	57.9	43.8	31.5	19.6	42.4	93	—15	June 17	Oct. 4
Challis	.....	.....	.....	.....	.....	57.2	64.4	70.0	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chesterfield	18.0	20.6	20.1	.....	.....	.....	.....	62.8	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cœur d'Alene	29.0	31.6	30.8	47.0	60.2	60.0	65.2	69.4	56.6	48.0	35.9	30.2	47.0	99	0	Apr. 18	Sept. 16
Corral (*a*)	17.3	20.6	22.7	37.6	58.0	58.3	62.8	.....	56.3	43.2	34.0	17.6	.....	.....	—13	June 18	Sept. 3
Downey	.....	.....	.....	42.6	58.2	58.3	63.2	65.9	56.5	41.1	35.5	19.8	.....	97	.....	June 17	Sept. 8
Fort Sherman	28.7	31.4	30.4	47.5	60.9	61.2	63.5	69.8	57.0	47.4	34.7	29.6	46.8	96	— 4	Apr. 20	Oct. 14
Gimlet	19.8	22.2	25.9	41.4	58.6	57.5	63.2	69.0	58.4	47.5	31.8	17.8	42.8	95	—17	June 18	Sept. 9
Gray	.....	.....	.....	.....	.....	.....	.....	.....	58.4	42.6	36.8	20.4	.....	.....	.....	.....	Sept. 9
Idaho City	[d]25.0	32.2	27.0	[e]40.6	[d]60.2	58.4	63.6	71.5	[f]55.7	49.3	[e]35.6	[e]26.4	45.5	101	—13	June 18	Sept. 4
*Idaho Falls	18.6	22.2	22.8	43.0	58.6	59.7	66.0	68.6	59.0	45.4	37.0	19.0	43.3	96	—17	June 2	Sept. 9
Kootenai	25.6	30.8	30.0	50.6	63.8	62.9	64.8	72.7	54.6	47.2	31.0	25.8	46.6	100	— 8	Apr. 29	Sept. 17
Lake	11.2	10.0	15.0	30.0	49.0	50.6	.....	58.2	.....	41.4	28.9	10.4	.....	.....	—30	July 19	Sept. 2
Lakeview	.....	.....	.....	.....	.....	.....	.....	68.0	54.4	46.0	35.0	30.5	.....	.....	.....	.....	Oct. 14
Lewiston	34.2	39.8	39.6	55.0	68.5	66.3	69.4	78.0	.....	.....	40.2	.....	.....	.....	.....	Apr. 28	.....
Martin	17.4	19.2	19.1	37.8	53.5	51.6	59.4	61.6	.....	.....	.....	.....	.....	.....	.....	July 19	.....
Marysville	.....	21.3	22.1	41.4	55.1	[b]54.1	61.6	64.1	55.8	42.1	30.6	18.3	.....	93	.....	June 17	Sept. 8
Minidoka	25.0	24.2	27.6	47.8	.....	60.9	66.7	65.6	.....	47.7	.....	22.4	.....	.....	—10	July 10	.....
Moscow	[b]23.5	[e]33.1	[f]32.5	[f]50.2	[f]59.6	[g]57.6	[g]65.8	64.2	[d]52.9	51.4	34.4	29.8	46.2	98	—12	May 27	Sept. 30
Murray	25.8	30.6	28.2	44.8	57.3	58.0	58.6	64.6	53.1	43.7	32.0	26.6	43.6	93	—11	June 10	Sept. 16
Nampa	[i]28.4	.....	36.7	50.4	63.7	63.7	69.3	75.5	62.3	50.2	40.6	30.5	.....	107	.....	May 8	Oct. 3
Oakley	27.5	30.9	[b]33.6	47.6	61.2	63.0	68.7	73.8	60.8	47.5	39.8	28.2	48.5	103	— 9	May 8	Sept. 8
Ola	25.9	27.4	32.2	47.0	61.8	61.6	66.2	72.4	59.8	48.9	37.8	28.3	47.4	108	9	May 8	Oct. 2
Paris	18.9	.....	22.4	37.8	55.5	56.7	61.5	64.0	55.2	44.5	.....	17.4	.....	93	.....	July 18	Sept. 9
Payette	29.4	36.6	37.5	53.0	66.1	67.6	71.5	76.2	63.4	52.6	45.3	32.8	52.7	108	— 1	Apr. 29	Oct. 1
Pollock	32.3	38.2	37.8	53.4	65.0	64.5	68.2	73.0	60.3	51.1	42.4	36.2	51.9	106	— 3	Apr. 29	Oct. 3
Rexburg	21.3	21.2	.....	.....	58.2	59.2	64.8	66.0	58.0	45.6	35.0	18.6	.....	96	.....	May 11	Sept. 9
Roseberry	15.6	21.8	22.5	34.6	53.2	52.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	June 10	.....
Saint Maries	.....	.....	.....	48.8	59.4	61.0	61.6	67.8	56.8	47.5	36.4	31.4	.....	94	.....	Apr. 27	Oct. 3
Salubria	24.8	28.2	[i]32.2	50.2	64.1	62.8	68.4	74.6	59.4	48.1	38.0	28.4	48.3	105	— 7	Apr. 30	Oct. 3
Shoup	17.4	27.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Soldier	16.2	25.0	24.2	37.1	55.8	56.2	62.8	65.6	54.6	43.4	34.4	17.9	41.1	97	—25	July 4	Sept. 4
Swan Valley	16.9	23.1	25.8	36.9	54.2	56.0	61.6	63.8	55.4	42.0	33.8	19.2	40.7	95	—22	July 19	Sept. 9
Warren	18.6	23.8	20.9	40.9	52.6	53.2	58.6	62.8	55.6	45.1	32.4	26.8	40.9	100	—30	July 19	Sept. 2
Illinois.																	
Albion	30.7	36.3	46.1	54.4	61.5	74.2	79.4	75.2	73.2	64.0	46.0	33.6	56.2	100	— 5	Apr. 20	Nov. 3
Alexander	25.6	32.4	41.8	52.4	61.0	73.3	78.6	74.1	74.7	63.4	41.6	27.6	53.9	103	—10	May 1	Sept. 20
Ashton	18.7	26.6	33.4	47.2	59.8	70.3	77.8	70.5	70.3	56.6	35.9	21.1	49.1	100	—26	May 1	Sept. 20
Atlanta	.....	30.0	38.9	51.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Apr. 20	.....
Atwood (*c*)	20.8	28.4	38.0	47.6	54.6	67.4	73.4	65.1	63.0	53.3	37.7	26.3	48.0	106	—14	May 1	Sept. 18
Aurora[1]	22.3	28.9	35.5	48.8	59.6	70.5	78.6	69.4	69.9	57.7	36.6	23.4	50.1	108	—22	May 31	Sept. 20
Aurora[2]	20.3	27.4	34.0	47.2	56.4	67.9	77.0	69.1	69.2	57.0	37.1	22.8	49.0	101	—22	May 31	Sept. 21
Bloomington	23.0	30.0	38.6	49.2	60.1	72.2	78.6	72.8	73.1	61.0	40.1	25.4	52.0	104	—19	May 1	Oct. 29
Bushnell	23.8	30.0	39.0	50.5	60.2	74.1	80.2	73.8	[e]74.4	63.0	40.0	25.0	52.8	102	—17	May 1	Oct. 22
*Cairo	34.7	41.0	50.6	57.8	64.6	75.4	80.0	77.6	75.8	66.0	49.5	36.8	59.2	98	4	Mar. 25	Nov. 6
Cambridge	21.3	28.6	35.4	48.2	58.9	69.8	76.6	70.1	70.1	58.2	37.0	23.8	49.8	97	—17	May 31	Oct. 29
Carlinville	27.8	34.2	43.3	53.4	61.1	74.2	79.0	74.8	75.5	64.4	43.6	30.0	55.1	101	— 7	Apr. 20	Sept. 21
Carrollton	26.2	32.7	40.6	50.6	59.4	72.2	76.7	71.8	72.4	61.6	41.3	27.6	52.8	94	— 8	Apr. 20	Oct. 29
Charleston	25.2	31.9	41.8	50.8	58.4	71.8	77.4	72.7	71.6	62.3	42.3	30.0	53.0	98	—12	Apr. 20	Sept. 21
*Chemung	18.6	24.6	29.8	45.0	54.2	65.0	72.8	65.6	65.2	56.0	33.8	19.1	45.8	96	—24	May 31	Sept. 21

[1] C. A. Love. [2] Dr. M. M. Robbins.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Illinois—Continued.																	
*Chicago	21.8	28.6	34.7	46.0	55.0	65.2	74.2	69.0	69.5	58.4	38.7	25.0	48.8	95	—20	May 1	Nov. 3
Cisne	29.2	34.3	44.5	54.1	60.6	72.4	77.2	74.0	73.4	64.2	46.5	32.8	55.3	99	— 3	Apr. 20	Oct. 29
Clearcreek	20.9	29.0	37.0	48.0	58.0	69.8	76.7	70.6	70.2	58.3	37.4	22.8	49.9	102	—19	May 31	Sept. 21
Coatsburg	24.4	31.3	42.0	52.6	61.4	71.8	76.0	70.7	[73.5]	60.2	40.2	24.3	[52.4]	96	—14	May 2	Oct. 29
Cobden	32.6	38.2	47.9	55.7	62.2	74.0	78.7	76.4	75.0	65.4	47.5	34.6	57.4	102	— 2	Mar. 27	Nov. 3
Danville[1]	21.4	32.0	43.0	.....	59.2	70.8	77.8	71.4	70.1	.....	42.0	29.2	.....	101	.....	Apr. 20	Sept. 20
*Decatur	25.0	31.9	41.6	51.4	59.0	72.0	77.3	72.3	72.4	61.8	41.6	28.4	52.9	101	—13	May 1	Sept. 21
*Dixon	19.7	27.2	34.4	48.1	58.2	68.5	76.8	70.2	70.8	57.7	36.8	22.0	49.2	100	—21	May 1	Sept. 20
Duquoin	31.0	36.8	47.6	55.0	63.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	— 2	Mar. 28	.....
Dwight	20.7	28.2	36.6	48.4	58.5	70.9	76.2	69.8	69.5	57.8	38.6	24.1	49.9	100	—20	May 1	Oct. 23
East Peoria	22.8	30.4	38.7	50.4	57.8	73.2	[c]77.6	[c]69.3	69.6	58.6	40.1	25.1	51.1	101	—16	May 2	Sept. 21
Effingham	27.6	34.6	44.0	53.2	59.4	72.4	78.0	74.4	72.9	62.2	43.8	31.6	54.5	100	— 6	May 1	Oct. 30
Evanston (*h*)	20.2	28.3	32.4	45.4	54.2	63.7	75.0	71.5	68.3	58.8	.....	.....	.....	96	—24	.....	.....
Fort Sheridan	21.6	27.9	32.8	45.1	54.8	63.5	73.2	67.4	63.2	55.4	36.8	23.6	47.1	95	—21	May 26	Sept. 21
Friendgrove (*d*)	31.3	35.0	45.3	52.8	60.2	73.0	77.9	73.0	71.8	62.5	.....	.....	.....	.....	— 2	Apr. 20	Nov. 6
*Galva	20.7	27.8	35.2	48.6	59.2	69.9	76.4	70.6	71.5	58.6	37.7	22.2	49.9	98	—19	May 31	Oct. 29
Glenwood (*a*)	17.7	29.4	[c]36.6	[d]46.6	[d]56.0	[c]66.7	[c]75.2	[b]69.7	[c]70.2	[d]57.6	[c]38.9	[c]24.6	49.1	101	—29	Apr. 27	Sept. 20
Golconda	32.8	40.3	49.5	56.5	64.4	75.8	80.6	77.1	74.5	64.2	48.6	36.4	58.4	103	— 2	Apr. 20	Oct. 30
Grayville	.....	.....	.....	.....	.....	.....	.....	77.0	75.4	65.8	49.8	37.5	.....	.....	.....	.....	Oct. 30
Greenville	27.7	33.3	42.3	53.6	62.2	75.4	78.7	74.9	74.3	63.3	42.2	30.2	54.8	100	— 7	Apr. 20	Oct. 29
Griggsville	26.4	33.1	42.2	52.4	62.2	73.8	78.0	72.8	74.2	64.0	42.6	26.6	54.0	99	—10	Apr. 20	Oct. 29
Halliday (*e*)	[a]32.1	[d]38.3	[d]49.8	[d]57.4	[c]68.6	[d]79.8	[d]84.4	[c]79.4	[d]75.2	[d]63.2	[d]45.0	34.6	59.0	101	1	Mar. 27	Oct. 26
Havana	25.9	32.7	41.4	52.0	61.8	73.4	77.4	72.3	73.4	62.2	42.4	27.9	53.6	97	—13	Apr. 19	Sept. 20
Herrin	33.7	39.8	50.8	56.6	63.4	73.2	80.6	.....	.....	63.4	.....	[d]34.6	.....	.....	— 2	Apr. 9	Oct. 23
*Hillsboro	27.0	34.0	42.8	53.2	60.8	73.6	78.0	73.4	75.1	64.1	43.1	29.8	54.6	102	— 7	Apr. 20	Oct. 29
Iron	30.6	37.7	48.2	56.0	61.4	[c]74.0	.....	[k]73.0	72.6	63.2	47.1	35.5	.....	.....	— 3	Apr. 20	Oct. 26
Joliet	24.2	31.2	38.9	50.3	58.6	69.3	77.4	71.4	71.8	60.5	40.5	25.6	51.6	103	—20	May 1	Sept. 21
Jordans Grove	31.3	37.4	46.4	55.2	61.3	73.4	78.6	75.3	74.0	63.7	45.7	33.8	56.3	100	— 3	Mar. 27	Oct. 29
*Kankakee	22.0	28.8	37.2	48.0	.....	70.4	73.7	68.4	67.1	57.8	41.4	25.8	.....	93	—18	May 1	Oct. 29
Kishwaukee	18.4	26.2	32.2	46.2	56.9	67.2	74.7	67.6	66.8	55.2	33.3	19.4	47.0	97	—24	May 31	Sept. 20
Knoxville	21.4	29.5	36.0	48.3	.....	.....	76.3	70.9	71.0	59.9	37.4	24.0	.....	.....	—21	May 31	Oct. 29
Lagrange	21.5	28.6	35.8	47.2	55.4	66.0	73.8	67.2	67.3	56.0	38.4	23.7	48.4	95	—20	May 1	Sept. 21
Laharpe (*a*)	22.8	29.8	36.6	50.4	59.9	73.5	78.6	72.5	73.8	59.6	40.2	23.8	51.8	100	—18	Apr. 19	Sept. 21
Lanark	18.4	25.0	32.6	46.0	54.8	66.2	72.5	66.4	66.8	55.9	34.8	19.0	46.6	98	—23	May 31	Sept. 20
Lexington	.....	31.7	38.6	50.4	60.8	70.9	76.4	70.1	70.2	59.2	40.4	*26.5	.....	100	.....	Apr. 20	Sept. 20
Louisville	28.3	35.2	43.7	53.6	59.7	72.2	76.5	74.3	72.8	63.0	45.2	32.8	54.8	98	— 7	Apr. 20	Sept. 21
*McLeansboro	31.0	37.2	47.4	54.3	61.4	74.0	78.6	75.6	73.8	63.6	46.8	34.8	56.5	102	— 4	Apr. 20	Oct. 30
Martinsville	26.8	33.2	42.4	52.2	58.8	70.7	77.0	73.6	71.4	61.8	43.0	31.5	53.5	100	— 8	Apr. 20	Sept. 21
*Martinton	22.1	29.7	38.8	49.0	58.0	70.3	77.4	70.5	70.6	59.2	39.7	26.0	50.9	101	—20	May 1	Sept. 21
Mascoutah (*e*)	31.0	36.0	46.3	55.2	61.6	74.2	80.0	76.6	74.5	62.0	44.2	34.0	56.3	101	— 2	Apr. 20	Oct. 30
Mattoon	27.6	34.8	44.0	51.9	59.5	[c]70.2	78.1	72.9	69.9	58.4	39.2	27.7	52.8	95	— 5	Apr. 20	Sept. 20
Minonk	22.6	29.4	37.1	49.2	58.5	70.8	76.4	70.4	70.0	59.0	38.6	24.2	50.5	104	—16	May 2	Sept. 20
Monmouth	21.6	29.2	36.9	49.6	59.4	71.0	76.1	70.2	71.6	59.1	38.4	25.6	50.7	99	—19	May 31	Oct. 22
Morgan Park	.....	.....	35.6	45.3	52.4	63.7	73.2	.....	.....	.....	.....	.....	.....	.....	.....	May 2	.....
Morrisonville	27.4	33.4	41.8	51.4	58.9	71.6	76.1	71.4	70.4	61.0	41.0	29.0	52.8	97	— 8	May 2	Oct. 29
Mount Pulaski	25.1	32.3	41.0	51.0	59.6	70.0	75.8	71.6	73.1	62.5	41.4	27.4	52.6	99	—14	May 1	Sept. 21
*Mount Vernon	29.2	35.7	45.6	53.0	60.8	73.4	80.0	76.0	73.2	.....	47.4	.....	.....	108	— 2	Apr. 20	Oct. 30
*New Burnside	32.6	38.9	48.9	57.1	62.8	75.4	80.1	77.6	75.0	64.0	47.6	36.2	58.0	104	— 6	Mar. 29	Nov. 3
Olney	[a]30.2	35.9	46.6	55.2	63.2	73.2	80.4	74.8	72.5	62.5	45.2	33.7	56.1	102	— 5	Apr. 20	Oct. 29
Oregon	18.6	25.2	32.0	47.0	57.2	68.2	.....	.....	.....	.....	.....	.....	.....	.....	—28	May 31	.....
Oswego (*a*)	18.7	26.9	33.5	46.0	55.8	67.6	75.3	67.0	67.1	54.2	35.9	21.7	47.5	97	—24	May 31	Oct. 29
*Ottawa	21.4	27.8	35.7	48.8	57.8	70.4	77.2	71.4	70.5	58.3	38.8	24.8	50.2	100	—21	May 29	Oct. 25
Palestine	28.6	35.3	43.8	53.0	59.0	72.8	77.8	74.2	71.0	62.3	43.0	33.6	54.5	99	— 6	Apr. 20	Oct. 30
*Paris	.....	.....	.....	.....	57.9	70.5	78.4	74.6	72.6	.....	44.4	[c]31.0	.....	107	.....	Apr. 21	Oct. 29
*Peoria	24.4	31.8	40.2	50.4	60.0	72.8	78.6	71.9	72.8	60.2	40.4	27.4	52.6	101	—16	Apr. 20	Oct. 29
Philo	22.6	30.9	41.0	49.4	56.8	69.9	75.8	70.2	68.0	58.6	40.3	28.6	51.1	101	—15	May 31	Sept. 21
Plumhill	29.4	35.8	45.5	54.4	62.4	74.6	78.8	[c]76.2	75.3	64.9	45.3	32.9	56.3	100	— 1	May 2	Nov. 6
*Rantoul	23.0	30.1	40.0	49.2	57.8	69.9	76.0	71.2	71.2	61.7	40.0	26.8	51.4	100	—16	May 31	Sept. 20
Reynolds	20.3	27.5	34.9	48.7	59.0	70.2	76.2	70.5	71.0	58.8	37.5	21.4	49.7	99	—20	Apr. 20	Sept. 20
Riley	18.7	25.3	31.2	45.6	55.8	66.0	74.4	67.9	68.8	56.0	34.6	20.2	47.0	95	—24	May 31	Oct. 27
Robinson	25.2	32.6	43.0	51.6	58.6	70.2	76.2	74.3	73.3	63.0	44.4	31.7	53.7	103	— 8	Apr. 20	Oct. 25
*Rockford	19.4	27.3	33.9	47.2	58.0	66.5	77.4	71.0	70.6	57.0	35.2	19.5	48.6	100	—23	May 1	Sept. 20
Rosehill	30.0	35.8	45.2	54.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	— 6	.....	.....
Roundgrove	21.2	27.6	34.6	49.2	59.7	69.1	77.6	71.6	70.8	58.2	36.8	21.8	49.8	103	—21	May 31	Sept. 21
St. Charles (*a*)	20.9	28.5	34.2	46.3	57.0	68.2	76.1	67.9	66.9	55.2	36.7	23.2	48.4	96	—22	May 30	Sept. 21
St. John (*a*)	29.6	35.4	45.9	54.6	63.2	75.5	80.8	77.9	75.3	64.8	45.8	33.1	56.8	106	— 1	Apr. 20	Nov. 3
Scales Mound	17.9	25.1	30.8	46.4	56.6	67.0	74.4	67.2	67.6	55.2	33.3	18.0	46.6	99	—24	June 1	Sept. 20
*Springfield	25.2	31.8	41.0	50.6	59.9	71.8	77.5	72.4	73.2	62.4	41.2	28.0	52.9	98	—11	May 1	Oct. 29
*Streator	20.6	28.5	36.9	48.8	58.4	71.4	77.4	70.7	71.6	58.8	39.3	25.4	50.6	98	—18	May 1	Oct. 28
*Sycamore	19.4	26.4	32.8	45.4	56.2	66.6	74.6	67.2	68.6	56.0	35.7	21.0	47.6	96	—23	May 1	Sept. 20
Tiskilwa	18.8	25.2	32.1	45.8	57.5	68.8	76.3	68.9	67.8	54.6	37.8	22.8	48.0	100	—20	May 31	Oct. 29
*Tuscola	24.6	30.0	41.1	50.6	57.8	71.0	76.4	71.2	70.7	60.6	41.5	29.2	52.1	100	—12	May 1	Sept. 21
Walnut	22.4	28.8	[d]34.4	.....	.....	.....	78.8	74.0	73.8	61.4	40.0	25.4	.....	.....	—21	May 1	Oct. 9
Wheaton (*c*)	19.2	25.8	32.8	45.2	56.2	66.7	74.8	66.4	64.4	53.0	33.4	21.8	46.6	.....	—20	May 31	Oct. 29
Winchester (*a*)	.....	.....	.....	.....	.....	.....	.....	.....	.....	59.3	40.5	26.7	.....	.....	.....	.....	Oct. 22
Winnebago	18.9	26.0	32.0	46.6	56.9	67.4	74.8	68.2	68.7	56.4	35.2	20.4	47.6	97	—23	May 31	Sept. 21
Zion	18.8	26.2	32.6	46.1	56.4	65.9	73.6	66.4	66.8	54.4	32.2	19.0	46.5	95	—26	May 31	Sept. 20
Indiana.																	
Anderson	24.4	32.0	42.4	50.2	57.1	68.8	76.4	70.7	68.8	59.8	42.6	30.9	52.0	99	—18	Apr. 20	Nov. 12
Angola (*a*)	22.9	29.5	36.	46.6	56.4	67.5	75.2	69.0	69.4	57.7	38.4	28.2	49.8	103	—20	Apr. 27	Sept. 21
*Auburn	22.4	29.8	38.4	.....	55.8	65.8	76.0	[b]70.7	65.2	[d]55.4	39.1	*28.2	.....	100	—19	Apr. 27	Sept. 21
*Bloomington	27.4	34.6	44.2	52.0	59.4	71.6	78.2	73.1	70.9	61.5	43.4	32.3	54.0	100	— 7	Apr. 20	Nov. 11
Bluffton	22.0	30.0	39.9	47.6	57.4	69.6	77.0	69.9	68.1	57.2	41.2	28.7	50.7	103	—21	May 31	Sept. 21
Bright	27.6	34.7	44.7	51.7	58.4	70.7	76.3	72.0	70.6	61.3	44.3	34.7	53.9	98	—12	Apr. 20	Nov. 12

[1] Data for first three months from Catlin, 6 miles southwest.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Indiana—Continued.																	
Butlerville	28.2	34.4	45.5	53.0	58.1	70.3	76.0	72.4	70.4	60.2	44.3	34.2	53.9	99	— 9	Apr. 27	Oct. 30
*Cambridge City	24.6	32.8	42.6	49.0	55.6	68.2	75.3	69.0	65.9	56.8	42.4	32.0	51.2	99	—15	Apr. 20	Sept. 21
Columbia City (*a*)	21.9	29.1	37.3	47.0	56.8	68.3	76.4	68.0	65.7	56.2	30.0	28.3	49.5	98	—20	May 31	Nov. 13
*Columbus	27.1	34.2	44.6	51.7	56.0	69.0	74.7	70.1	68.6	59.3	43.4	32.5	52.6	98	—11	Apr. 18	Sept. 21
Connersville	24.4	32.7	41.7	49.3	56.1	69.0	75.1	69.1	66.2	57.4	41.0	31.1	51.1	98	—14	May 2	Sept. 21
Delphi	23.1	29.4	40.2	48.9	57.0	69.7	77.2	70.3	68.4	57.5	39.6	27.5	50.7	102	—18	May 31	Sept. 21
Edwardsville (*a*)	30.6	37.8	48.3	55.0	61.8	73.8	77.6	79.7	75.5	66.4	47.7	36.8	57.6	96	— 6	Apr. 20	Nov. 12
*Evansville	30.2	36.9	47.1	54.4	61.6	74.9	78.7	75.4	72.6	63.0	45.5	36.4	56.4	100	— 1	Apr. 19	Nov. 6
Farmland	24.6	32.4	42.2	48.4	56.0	67.8	75.4	68.2	66.8	57.8	41.6	31.2	51.0	96	—13	Apr. 20	Sept. 21
Fort Wayne	.....	30.1	38.7	48.0	57.0	68.3	75.4	.....	67.4	56.9	40.3	29.6	.....	.....	.....	Apr. 20	Oct. 30
Franklin (*a*)	26.1	33.8	.....	.....	.....	.....	.....	.....	67.0	58.7	43.1	33.0	.....	.....	—10	.....	.....
Greencastle	25.3	32.0	41.5	50.4	57.4	69.1	75.8	71.2	71.4	60.4	43.5	31.2	52.4	94	—14	Apr. 19	.....
Greensburg	26.9	35.2	46.0	54.8	63.0	.....	79.4	.....	.....	61.9	44.0	.....	.....	.....	—11	Apr. 20	Nov. 17
Hammond	21.4	29.2	36.8	46.5	54.5	67.0	75.4	67.9	65.6	58.0	38.8	25.9	48.9	99	—20	May 1	Oct. 28
Huntington	22.4	29.1	38.8	47.6	57.0	68.9	77.0	69.0	67.2	57.5	39.8	28.5	50.2	100	—18	May 31	Sept. 19
*Indianapolis	25.0	32.5	42.9	50.8	58.0	70.0	77.0	72.3	71.4	61.2	43.6	31.2	53.0	99	—14	Apr. 20	Sept. 21
Jasper	31.2	38.0	48.0	55.6	60.2	72.7	78.0	75.4	72.5	62.3	45.7	35.5	56.3	100	— 4	Apr. 20	Oct. 30
Jeffersonville	31.6	38.2	[b]50.3	55.5	60.8	73.2	78.3	75.4	71.2	62.4	47.3	37.4	56.8	98	— 2	Apr. 18	Nov. 4
Knightstown	24.6	32.9	42.4	50.4	57.4	70.5	76.7	70.7	.....	58.4	41.5	31.4	.....	.....	—15	Apr. 20	Oct. 18
Knox	.....	.....	41.2	49.9	59.0	70.6	77.7	69.8	.....	58.2	43.9	.....	.....	.....	.....	Apr. 19	Oct. 18
Kokomo	24.9	31.4	42.0	50.5	58.7	70.8	77.2	71.9	[d]68.1	59.1	42.0	30.2	52.2	104	—16	Apr. 17	Sept. 18
Laconia	30.0	36.7	47.0	.....	.....	.....	79.5	.....	.....	.....	.....	.....	.....	.....	— 4	Mar. 28	.....
*Lafayette	23.6	31.0	41.2	49.0	56.4	69.5	76.3	70.9	70.6	60.3	41.4	28.8	51.6	99	—22	Apr. 20	Sept. 21
Laporte	.....	.....	.....	.....	52.9	64.7	73.9	63.9	65.3	54.5	35.4	23.3	.....	102	.....	May 2	Sept. 19
*Logansport	22.6	29.7	39.4	47.4	57.5	70.3	77.8	70.0	66.5	55.1	39.8	27.1	50.3	102	—18	Apr. 20	Nov. 11
Madison	30.5	37.5	46.0	54.2	59.9	72.7	78.1	72.3	70.7	61.8	.....	36.5	.....	98	— 5	Apr. 20	Oct. 30
Marengo	31.4	37.3	48.1	55.6	60.6	72.5	77.8	74.3	70.5	60.2	45.5	36.5	55.9	100	— 5	Apr. 20	Oct. 30
*Marion	23.4	30.9	41.7	49.1	56.9	68.8	76.5	70.5	68.9	58.9	41.1	30.0	51.4	101	—20	Apr. 20	Oct. 25
Mauzy	24.7	32.0	42.2	50.0	57.1	68.9	75.5	69.3	68.1	58.1	41.2	31.6	51.6	96	—15	Apr. 27	Sept. 21
Michigan City (*h*)	.....	.....	.....	.....	.....	.....	.....	.....	67.3	57.2	40.9	27.7	.....	.....	.....	.....	.....
*Mount Vernon	31.0	38.4	47.9	.....	62.1	74.6	79.4	78.1	75.6	66.1	47.9	35.9	.....	100	— 2	Apr. 20	Oct. 30
Northfield	22.4	30.3	42.0	48.8	56.0	67.8	75.6	69.6	67.6	58.5	41.6	30.0	50.8	97	—16	Apr. 27	Sept. 21
Princeton (*a*)	29.5	.....	46.6	54.0	59.9	73.3	77.9	73.9	70.1	60.6	45.1	35.3	.....	101	— 4	Apr. 20	Oct. 30
Richmond	24.0	33.1	43.4	50.7	56.4	68.8	76.0	69.1	68.0	58.2	43.2	32.3	51.9	98	—14	Apr. 27	Sept. 21
Rockport	.....	.....	.....	.....	.....	.....	.....	.....	72.6	64.0	48.1	38.3	.....	.....	.....	.....	.....
Rockville	24.9	32.7	42.7	50.9	57.2	69.0	75.9	71.3	71.3	61.1	42.3	29.5	52.4	98	—15	Apr. 30	Oct. 29
Salem	29.2	34.6	.....	53.8	57.6	70.8	77.0	74.3	.....	.....	45.4	33.0	.....	.....	— 8	Apr. 19	Nov. 12
Scottsburg	29.2	37.4	45.7	56.3	59.8	73.2	78.4	75.8	70.2	60.6	46.3	36.6	55.8	99	— 6	Apr. 20	Oct. 30
Seymour	26.2	33.6	43.9	51.5	58.7	.....	77.4	73.1	71.4	.....	.....	.....	.....	99	— 8	Apr. 19	.....
Shelbyville	21.5	34.0	42.9	51.4	59.0	.....	78.9	71.6	69.9	60.6	42.0	32.6	.....	102	—10	Apr. 19	Nov. 17
*South Bend	21.5	28.8	36.6	47.2	55.6	68.2	76.2	69.1	69.8	58.3	40.5	26.6	49.9	101	—22	Mar. 31	Sept. 20
*Terre Haute	27.7	34.3	44.3	52.6	59.6	72.1	79.1	75.1	74.2	63.1	43.3	32.0	54.8	99	—10	Apr. 17	Nov. 30
Tipton	.....	30.8	42.0	51.3	58.8	70.5	77.4	.....	68.5	58.8	.....	.....	.....	.....	.....	May 2	Sept. 21
Topeka	22.9	[e]28.6	36.2	47.6	55.5	66.0	[f]75.2	[e]65.6	66.9	55.9	39.3	28.0	49.0	97	—18	May 29	Sept. 21
Valparaiso	24.3	28.7	37.0	47.6	57.0	65.8	75.9	68.6	[g]9.6	57.5	37.5	25.4	49.6	98	—21	May 2	Sept. 21
Vevay	29.4	37.4	47.2	54.0	62.1	76.2	.....	.....	72.2	64.5	46.9	37.0	.....	.....	— 7	Apr. 20	Oct. 31
*Vincennes	29.2	37.7	42.3	55.6	61.4	73.8	80.2	75.8	74.8	64.4	44.2	.....	.....	103	— 3	Apr. 20	Nov. 13
Warsaw	22.6	29.9	39.1	49.2	58.3	67.0	76.2	68.0	66.8	58.1	42.0	23.8	50.1	98	—20	May 3	Sept. 21
*Washington	30.9	37.8	48.5	54.8	60.5	72.0	78.7	74.8	73.8	[f]63.2	47.4	36.0	56.5	102	— 4	Apr. 21	Nov. 6
Winamac	.....	.....	.....	.....	.....	.....	.....	69.5	68.1	57.3	38.2	25.7	.....	.....	.....	.....	Sept. 20
Worthington	27.9	35.4	46.0	53.8	59.0	71.4	77.2	73.5	71.2	61.4	43.8	33.5	54.5	100	— 7	Apr. 10	Sept. 21
Indian Territory.																	
Afton	.....	.....	.....	58.8	65.6	68.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Healdton	37.4	47.5	56.3	63.0	67.4	78.1	83.1	79.6	74.2	64.9	53.9	39.0	62.0	102	6	Mar. 24	Nov. 2
Kemp	.....	.....	.....	63.4	70.4	79.4	.....	.....	.....	.....	55.2	[f]41.7	.....	.....	.....	Mar. 23	Nov. 2
Lehigh	37.3	46.0	55.2	60.8	68.0	76.5	82.9	81.4	76.0	67.7	53.2	39.8	62.4	108	6	Mar. 24	Nov. 2
Purcell	.....	.....	.....	.....	67.8	.....	81.2	79.3	75.6	66.6	53.8	38.9	.....	.....	.....	.....	.....
*South McAlester	34.8	43.4	52.2	62.3	69.4	79.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mar. 17	.....
Tahlequah	38.0	45.5	53.0	60.2	[e]64.7	.....	.....	76.6	74.8	65.4	48.7	38.0	.....	.....	1	Apr. 9	Oct. 29
Wagoner	35.1	43.6	52.6	.....	70.0	78.7	83.8	78.8	76.5	66.4	48.3	37.4	.....	100	1	Mar. 24	Oct. 29
Iowa.																	
Afton	19.6	26.8	35.2	49.0	61.8	71.4	77.8	71.3	72.0	58.6	36.1	20.2	50.0	105	—16	May 2	Oct. 29
Albia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	38.8	21.0	.....	.....	.....	.....	.....
Algona (*a*)	12.2	21.9	26.6	46.8	58.3	68.4	75.8	67.3	69.1	54.5	30.4	15.2	45.5	97	—27	Apr. 30	Oct. 9
Alta	11.4	18.8	27.6	45.6	57.8	67.4	74.5	67.4	70.4	54.8	31.0	15.8	45.2	96	—24	May 30	Sept. 17
Amana	17.0	25.2	33.1	48.0	58.5	69.4	75.9	68.6	69.4	55.8	34.1	18.2	47.8	100	—20	Apr. 20	Sept. 20
Ames	16.7	24.6	32.2	48.2	58.8	68.8	77.5	69.8	71.7	56.4	34.2	15.4	47.9	100	—20	May 2	Sept. 20
Atlantic	14.1	25.6	32.8	48.1	57.8	69.8	73.8	68.6	71.4	55.2	32.6	18.0	47.4	102	—25	May 31	Sept. 20
Atlantic (near)	17.9	.....	33.8	49.8	59.5	70.0	76.8	[d]70.6	73.2	.....	.....	.....	.....	99	.....	May 2	.....
Audubon	17.3	28.4	30.4	46.2	55.8	67.0	73.4	67.8	70.2	54.0	32.4	17.2	46.3	99	—20	May 31	Sept. 20
Belknap	19.8	27.6	37.0	50.3	59.0	71.2	76.4	70.6	74.6	60.2	38.1	20.2	50.4	100	—17	May 2	Sept. 20
Belle Plaine	16.6	26.8	31.0	46.0	56.2	67.2	73.0	66.5	67.2	53.6	30.8	15.8	45.9	100	—22	May 31	Sept. 20
Bonaparte	21.8	29.4	36.6	50.2	60.5	72.4	77.6	72.2	74.1	60.6	38.2	21.3	51.2	102	—16	May 2	Oct. 29
Britt	11.5	21.5	26.1	44.6	55.4	66.4	72.6	65.0	68.8	53.5	30.1	13.4	44.1	97	—24	May 31	Sept. 20
Burlington	.....	.....	.....	.....	.....	.....	.....	74.0	.....	64.6	40.0	24.4	.....	.....	.....	.....	Oct. 29
Carroll	15.0	22.9	29.7	46.6	57.3	67.8	75.6	68.5	71.9	56.0	32.6	16.0	46.7	102	—22	May 31	Sept. 20
Cedarfalls	.....	23.9	30.6	47.8	58.6	68.8	75.8	.....	70.9	56.2	32.4	16.0	.....	.....	.....	May 30	Sept. 20
*Cedar Rapids	17.1	24.5	32.7	47.4	58.0	68.6	76.4	68.7	70.9	58.5	35.6	17.0	47.9	102	—21	May 31	Oct. 9
*Centerville	24.2	.....	.....	50.6	60.5	72.6	78.0	71.2	73.3	.....	.....	.....	.....	101	.....	May 2	Sept. 20
Chariton	20.8	28.6	36.5	50.2	59.6	70.8	77.1	71.6	73.7	59.6	38.0	21.4	50.7	98	—14	Apr. 30	Sept. 20
*Charles City	12.4	21.5	28.0	46.1	.....	.....	74.6	65.6	67.7	54.8	31.0	13.0	.....	.....	—27	.....	Sept. 20
Clarinda	21.7	28.3	37.0	50.8	61.6	72.9	78.8	71.6	73.2	59.4	37.7	21.7	51.2	100	—16	Apr. 19	Oct. 22
*Clinton	20.4	28.1	34.7	49.7	59.9	70.8	77.0	70.6	69.0	56.9	36.2	21.8	49.6	100	—21	May 31	Sept. 21
College Springs	23.5	28.8	37.6	51.2	61.6	72.1	79.0	72.6	74.9	60.4	38.2	21.4	51.8	104	—12	Apr. 20	Oct. 29
Corning	20.2	26.7	34.6	48.9	58.6	70.6	76.6	70.3	73.4	59.9	37.9	21.2	49.9	99	—16	Apr. 20	Sept. 20

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Iowa—Continued.																	
Council Bluffs	.....	27.8	34.5	50.3	62.2	72.4	78.8	71.8	74.9	58.2	34.4	20.2	.....	103	.....	Apr. 19	Oct. 29
Cresco	11.2	20.0	25.9	44.8	55.8	64.8	72.1	65.0	67.2	54.1	28.6	12.4	43.5	94	—29	May 31	Sept. 20
*Davenport	20.8	28.0	35.2	49.0	59.6	70.4	77.4	70.8	72.2	59.2	37.8	22.9	50.3	99	—19	Apr. 20†	Oct. 29
Decorah	13.6	21.1	27.4	46.2	56.2	66.2	73.6	65.8	67.6	55.2	30.4	14.0	44.8	97	—27	May 31	Sept. 20
Delaware (c)	14.1	21.8	30.0	45.2	57.2	67.2	73.9	66.1	66.0	52.2	30.8	14.4	44.9	97	—24	May 31	Sept. 20
Denison	18.3	25.4	31.1	47.6	57.3	66.8	73.4	67.7	70.8	58.2	35.8	17.0	47.4	96	—19	May 2	Oct. 12
*Des Moines	19.5	26.7	34.8	49.4	59.7	70.0	76.4	70.4	73.7	58.6	36.4	19.6	49.6	98	—17	Apr. 20	Oct. 29
De Soto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	34.6	17.4	.....	.....	.....	.....	.....
Dows	14.7	22.6	28.4	46.4	55.0	66.0	73.5	67.0	69.5	55.8	31.2	14.6	45.4	95	—25	May 29	Sept. 20
*Dubuque	17.8	24.8	32.5	47.6	58.7	68.2	76.0	68.6	69.9	57.4	35.0	19.8	48.0	99	—23	May 31	Oct. 9
Eldora	.....	.....	.....	45.8	58.1	69.0	76.0	68.8	72.4	56.4	32.8	15.4	.....	103	.....	May 31	Sept. 20
Elkader	14.2	23.0	30.1	46.1	56.8	66.8	74.4	67.8	68.9	56.4	32.8	15.7	46.1	101	—30	May 31	Sept. 20
Estherville	11.4	20.1	23.7	.....	55.4	65.5	.....	.....	68.9	53.1	30.0	15.2	.....	.....	—26	May 31	Sept. 17
*Fairfield	19.7	27.4	35.0	48.3	58.6	70.4	75.8	69.6	72.2	59.0	37.9	21.0	49.6	99	—17	May 31	Sept. 20
Fayette	14.6	22.8	31.0	45.8	55.7	66.8	74.4	66.4	68.7	55.4	31.7	15.2	45.7	99	—24	May 31	Sept. 20
Fonda	15.7	24.9	33.2	.....	60.0	71.0	74.8	70.1	72.0	56.6	35.6	.....	.....	101	.....	May 24	Oct. 8
*Forest City	10.4	19.7	24.6	44.8	56.0	65.0	72.2	65.6	69.4	54.0	31.8	13.6	43.9	95	—25	May 31	Sept. 20
Fort Madison	25.5	32.6	41.5	52.9	64.3	73.4	79.3	73.4	74.7	61.5	41.5	25.9	53.9	96	—12	Apr. 20	Nov. 6
Galva	13.6	22.8	30.0	c48.2	55.3	68.8	76.2	68.0	71.7	57.1	e30.8	17.0	46.6	101	—22	May 31	Sept. 20
Gardengrove	18.3	26.0	34.8	48.2	58.6	71.4	76.0	69.2	71.8	56.3	34.8	19.0	48.7	102	—18	May 2	Sept. 20
Glenwood	18.6	25.9	33.2	46.5	58.0	70.4	78.0	71.4	75.2	59.7	38.2	22.8	49.8	103	—19	May 30	Oct. 29
Grand Meadow (a)	13.5	22.0	28.1	44.4	55.9	64.3	70.9	63.9	67.7	54.4	31.5	15.6	44.4	92	—25	May 1	Sept. 20
Greene	.....	22.4	28.8	46.5	57.3	67.6	75.1	68.4	70.2	56.2	32.2	14.8	.....	102	.....	May 31	Sept. 19
Greenfield	18.6	25.8	33.2	49.0	59.4	70.6	76.2	70.2	73.0	57.6	35.2	19.3	49.0	100	—17	May 2	Oct. 29
Grinnell	16.9	24.8	32.6	48.0	58.6	.....	.....	.....	69.7	54.6	35.6	18.6	.....	.....	—20	May 2	Oct. 9
Grundy Center	14.6	22.8	29.4	45.9	56.7	66.6	74.1	67.2	69.4	55.7	32.1	19.6	46.2	98	—23	May 31	Sept. 20
Guthrie Center	.....	.....	.....	.....	58.6	69.3	75.0	68.8	70.5	.....	34.2	18.1	.....	98	.....	May 31	Sept. 20
*Hampton	12.4	21.8	27.7	45.0	57.2	66.2	74.4	67.2	69.4	55.4	30.5	14.0	45.1	97	—23	May 30	Sept. 20
Hedrick (a)	.....	.....	.....	.....	.....	.....	76.8	d72.1	e72.8	e58.9	e39.3	d19.2	.....	.....	.....	.....	Sept. 20
Hopeville	19.3	26.4	34.6	49.2	59.2	69.8	76.5	71.2	73.6	59.0	36.1	19.2	49.5	99	—16	Apr. 19	Oct. 29
Humboldt	14.4	22.8	29.2	47.0	58.0	68.6	75.6	69.1	70.4	56.3	32.0	16.4	46.6	100	—23	May 31	Sept. 20
Independence	14.2	21.6	26.3	.....	55.3	64.8	72.2	65.3	67.6	53.6	30.4	14.2	.....	96	—24	May 31	Sept. 20
Indianola	21.1	26.8	35.2	51.2	59.0	69.0	76.4	70.8	74.2	59.1	e40.2	.....	.....	98	.....	May 3	Sept. 20
*Iowa City[1]	18.1	26.1	35.2	48.9	58.4	69.0	76.9	70.0	71.0	58.4	37.4	19.1	49.0	100	—20	May 31	Sept. 20
Iowa City[2]	20.2	.....	35.8	49.0	57.6	67.6	74.1	68.2	68.3	56.1	36.3	17.0	.....	93	—18	Apr. 21	Oct. 9
Iowa Falls	13.8	22.6	28.6	46.2	57.2	67.7	74.2	66.8	69.1	55.2	31.0	13.6	45.5	100	—26	May 31	Sept. 20
*Keokuk	23.2	31.1	38.6	51.3	61.2	72.9	78.3	72.4	74.4	61.8	40.8	25.0	52.6	98	—16	Apr. 20†	Oct. 29
Keosauqua	23.2	29.8	37.7	51.5	60.3	72.6	78.2	72.6	73.7	60.0	39.6	23.3	51.9	99	—14	Apr. 20	Oct. 29
Knoxville	20.4	27.6	35.7	50.0	60.5	71.3	77.0	71.8	73.2	58.6	37.2	20.4	50.3	98	—17	Apr. 20	Oct. 29
Lamoni	.....	.....	.....	.....	.....	.....	.....	.....	72.7	59.1	37.9	e18.4	.....	.....	.....	.....	Oct. 22
Lansing	17.3	25.2	30.6	48.8	57.9	67.6	75.0	67.8	68.7	57.0	e31.2	18.2	47.1	99	—25	May 31	Sept. 20
Larrabee	15.0	20.7	28.6	44.9	56.4	66.6	73.3	66.6	70.8	54.4	30.8	16.6	45.6	97	—25	May 31	Sept. 17
Lemars	13.8	22.0	29.1	47.0	57.2	68.4	75.8	68.0	69.0	54.6	33.2	17.2	46.3	99	—19	May 31	Sept. 19
Lenox (a)	21.2	27.8	35.6	49.6	60.7	70.7	76.2	70.2	72.6	58.3	36.1	20.5	50.0	98	—12	May 14	Sept. 20
Logan	18.6	25.8	32.7	49.3	60.4	69.6	76.4	68.7	71.6	57.2	33.6	18.4	48.5	105	—21	Apr. 29	Oct. 21
*Maquoketa	18.9	27.0	35.1	49.0	59.7	69.3	76.4	68.8	67.6	55.9	36.0	22.5	48.8	98	—21	Apr. 20	Sept. 20
*Marshall	16.6	25.2	32.4	47.7	58.4	66.6	75.1	68.8	71.1	58.4	35.6	16.8	47.7	99	—20	May 31	Sept. 20
Mason City	16.1	.....	.....	.....	.....	.....	70.6	63.2	66.4	51.6	28.0	14.3	.....	.....	—20	.....	Sept. 20
Monticello	17.4	24.7	32.5	46.9	.....	.....	.....	67.5	68.4	56.6	33.8	17.1	.....	.....	—21	.....	Sept. 21
Mooar	20.2	28.4	35.2	49.6	57.8	71.2	77.4	70.0	71.7	58.8	38.3	22.1	50.1	100	—15	May 31	Sept. 21
Mountayr	20.5	27.8	35.7	50.4	60.8	72.0	77.2	70.8	73.0	59.0	36.5	20.6	50.4	101	—15	Apr. 17	Oct. 9
Mount Pleasant (a)	21.2	29.7	36.1	50.8	61.8	72.6	78.8	71.6	72.4	60.0	39.2	23.5	51.5	94	—17	Apr. 20	Oct. 29
Mount Vernon (a)[3]	16.5	24.8	32.9	47.7	59.6	70.6	77.4	.....	e69.7	58.7	35.0	18.6	.....	.....	—26	Apr. 20	Oct. 9
Mount Vernon[4]	16.6	25.4	32.4	47.0	58.6	68.6	75.1	68.4	68.7	55.8	34.2	17.2	47.3	99	—20	.....	.....
Neola	17.0	24.1	33.0	47.6	59.6	72.1	78.6	69.4	.....	.....	.....	.....	.....	.....	.....	May 1	.....
New Hampton	.....	.....	.....	46.4	59.1	65.8	75.2	e68.2	67.2	57.8	.....	.....	.....	98	.....	May 31	Sept. 20
Newton	17.6	25.4	33.3	48.8	59.1	70.0	76.3	70.0	71.2	56.8	34.1	16.6	48.3	99	—20	May 2	Sept. 20
Northwood	10.2	21.0	25.7	44.4	55.2	65.2	72.8	65.0	66.6	53.0	29.6	14.1	43.6	96	—29	May 31	Sept. 20
Odebolt	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	33.2	18.3	.....	.....	.....	May 31	Sept. 17
*Ogden	18.6	25.0	32.6	48.1	59.3	68.8	75.2	69.0	71.9	57.4	35.1	16.8	48.2	99	—22	May 31	Oct. 29
Osage (c)	10.4	19.0	25.6	43.4	54.6	65.0	72.0	63.5	62.6	.....	27.0	13.6	.....	.....	—25	May 31	Sept. 20
*Osceola	18.4	27.5	34.2	49.6	59.4	70.6	77.0	71.4	74.0	59.2	37.0	20.9	49.9	100	—17	May 14	Oct. 9
Oskaloosa	20.1	27.8	35.4	49.9	59.4	70.8	75.9	69.2	72.4	58.0	37.2	19.0	49.6	100	—18	May 2	Sept. 20
Ottumwa	20.8	28.3	37.8	50.3	60.8	71.5	77.5	71.0	74.0	59.6	39.1	20.4	50.9	102	—18	Apr. 19	Oct. 29
Ovid	19.8	27.2	36.0	50.1	59.2	70.8	77.8	72.4	75.2	60.4	36.7	19.2	50.4	102	—15	May 2	Sept. 20
Plover	.....	22.0	28.5	47.8	57.7	67.8	74.8	69.0	72.0	54.8	30.8	18.2	.....	99	.....	May 31	Sept. 20
Primghar	12.8	20.4	26.4	46.3	58.2	67.7	74.0	66.8	69.6	54.8	31.9	16.6	45.5	97	—24	May 31	Sept. 17
Redoak	.....	30.0	36.2	50.6	61.5	74.0	76.0	70.9	72.4	58.6	37.4	20.4	.....	100	.....	May 4	Sept. 20
Rock Rapids	13.2	18.6	24.8	46.0	56.1	66.4	72.6	65.7	68.9	52.8	28.0	14.5	44.0	100	—30	May 30	Sept. 20
Rockwell City	.....	.....	29.0	47.0	60.4	71.0	75.8	67.3	69.6	52.4	28.8	13.8	.....	101	.....	Apr. 20	Sept. 19
Sac City	11.6	22.4	28.4	45.5	56.8	66.6	74.1	67.9	70.4	52.6	31.8	15.8	45.3	97	—21	May 15	Sept. 20
St. Charles	18.4	27.1	35.2	49.1	60.1	70.2	76.4	70.6	73.6	e60.6	.....	.....	.....	98	.....	Apr. 19	Oct. 9
Seymour	21.8	29.2	36.6	50.1	60.6	71.6	78.0	71.8	74.9	60.8	38.4	.....	.....	103	.....	May 2	Sept. 20
Sibley	.....	18.1	25.4	44.7	56.0	64.8	72.5	64.0	68.6	52.9	20.4	14.6	.....	98	.....	May 31	Sept. 20
Sidney	21.0	27.2	36.0	50.6	61.2	71.6	78.6	71.4	74.1	58.8	35.4	19.8	50.7	100	—13	Apr. 9	Oct. 22
Sigourney	18.5	25.7	35.4	50.0	60.0	72.2	78.4	71.2	72.6	59.6	36.9	20.0	50.0	103	—19	May 2	Sept. 20
*Sioux City	14.2	21.7	28.8	47.6	59.1	68.4	76.2	68.2	71.8	54.8	32.7	18.3	46.8	102	—18	Apr. 29†	Sept. 17
Spencer	11.2	19.8	25.6	45.4	56.8	66.4	73.6	66.2	69.0	53.0	29.5	16.0	44.4	98	—25	May 31	Sept. 17
Spirit Lake	10.6	16.9	24.0	44.8	57.7	66.6	74.1	67.6	72.0	54.6	30.7	14.9	44.5	102	—27	May 31	Oct. 9
Stuart	18.2	25.5	33.6	48.2	58.8	69.8	76.1	69.5	71.5	58.8	36.1	17.2	48.7	98	—18	May 31	Oct. 11
Thurman	.....	.....	.....	.....	.....	.....	78.4	70.7	72.6	58.6	36.2	19.6	.....	.....	.....	.....	Oct. 22
Toledo	16.0	24.6	31.8	47.0	57.6	68.4	75.2	68.1	70.2	56.0	38.6	16.4	47.5	98	—22	May 31	Sept. 20
Villisca	20.7	27.2	36.6	49.6	59.7	70.9	76.2	69.4	70.4	56.8	36.0	19.3	49.4	98	—19	May 2	Sept. 20
Vinton (a)	17.0	24.8	32.7	47.4	58.0	67.9	75.6	66.5	68.5	56.8	33.8	17.1	47.2	97	—20	May 2	Sept. 20
Washington	.....	26.9	34.4	48.0	58.7	69.6	75.8	f70.5	71.1	58.0	35.6	18.2	.....	99	.....	May 31	Sept. 20
*Waterloo	16.0	23.3	31.0	46.2	57.2	66.8	74.9	68.4	69.9	55.9	32.8	15.2	46.5	100	—22	May 31	Sept. 20

[1] A. A. Veblen. [2] Mrs. C. M. Hobby. [3] Prof. A. Collins. [4] Rev. J. W. Hubbard.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Iowa—Continued.																	
Waukee	.....	23.1	30.9	49.3	.....	68.2	73.1	68.5	.....	57.2	.....	.....	.....	.....	.....	.....	.....
Waverly	14.5	22.9	29.4	46.6	56.9	67.4	74.8	67.6	69.6	56.8	33.0	15.8	46.3	97	—23	May 31	Sept. 20
Webster City	15.4	24.4	30.6	47.7	57.4	68.4	75.7	68.4	[b]67.6	55.7	33.2	17.0	46.8	97	—21	May 31	Sept. 20
Westbend (*a*)	12.0	21.0	25.8	44.5	56.3	66.2	73.6	[c]65.1	68.2	52.4	28.6	13.2	43.9	97	—25	May 31	Sept. 20
Westbranch	.....	.....	.....	.....	.....	.....	.....	68.8	69.0	55.5	35.0	18.4	.....	.....	.....	.....	Sept. 21
Whitten (*a*)	.....	.....	.....	.....	57.4	67.8	74.7	67.2	68.5	56.3	31.0	14.9	.....	98	.....	May 30	Sept. 20
Wilton Junction	19.4	28.0	34.0	48.4	58.8	70.8	76.5	69.4	69.0	56.4	36.2	20.6	48.9	100	—20	May 31	Sept. 21
Winterset	18.3	25.5	33.7	50.4	58.6	69.2	74.0	67.4	71.0	57.8	34.6	18.4	48.2	97	—18	Apr. 21	Sept. 20
Kansas.																	
Abilene	28.0	31.2	42.7	54.8	64.2	77.5	80.9	77.0	75.3	61.7	42.4	28.2	55.3	109	— 4	Apr. 14	Nov. 2
Altoona (*c*)	27.8	34.0	44.1	54.9	64.4	74.1	79.2	72.4	70.0	58.8	40.4	28.6	54.1	103	— 4	Apr. 9	Oct. 29
Assaria (*e*)	25.9	29.7	40.0	50.4	64.4	80.3	84.6	77.1	76.4	60.6	43.3	29.2	55.2	106	— 5	May 14	Oct. 29
Atchison	24.8	30.7	40.9	52.6	64.0	74.6	78.5	73.4	75.4	63.4	42.4	26.2	53.9	102	— 8	Mar. 29	Oct. 29
Augusta	29.6	35.2	44.9	55.8	64.3	76.4	80.4	78.0	74.6	63.2	45.2	31.0	56.6	103	— 1	Mar. 25	Oct. 29
*Baker	.....	.....	.....	53.6	63.8	75.1	80.5	75.2	76.3	.....	.....	.....	.....	103	.....	.....	.....
Beloit	28.2	31.8	42.8	54.4	65.2	77.8	80.0	75.8	74.7	60.6	41.4	28.2	55.1	105	— 2	Apr. 16	Oct. 29
Blaine	24.2	28.0	39.0	.....	.....	75.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Burlington	.....	36.0	48.1	58.0	65.5	74.8	81.2	77.2	75.4	63.6	42.9	31.3	.....	103	.....	Apr. 9	Oct. 29
Campbell	25.4	29.4	39.1	52.4	63.1	74.2	79.6	74.8	75.5	60.8	40.0	24.8	53.3	103	— 9	Apr. 19	Oct. 29
Chanute	.....	.....	.....	.....	.....	[d]75.8	[e]79.6	[e]75.4	[e]73.1	.....	[e]46.8	.....	.....	98	.....	.....	.....
Colby	26.6	32.4	36.4	48.8	61.4	70.2	76.0	72.3	69.4	53.7	39.4	26.7	51.1	103	—14	Apr. 29	Oct. 27
Columbus	29.9	37.4	47.6	56.4	64.2	.....	79.8	77.2	75.1	65.0	45.4	32.2	.....	.....	— 3	Apr. 9	Oct. 29
*Concordia	28.0	30.8	41.0	53.0	63.2	74.2	79.7	74.5	75.3	60.4	40.3	27.5	54.0	102	— 6	Apr. 16†	Oct. 29
Coolidge	27.9	35.0	38.6	51.4	65.3	74.3	78.0	73.4	71.5	55.3	43.7	29.2	53.6	107	—10	Apr. 28	Oct. 26
Cunningham	29.4	35.0	44.9	54.9	64.8	77.0	81.0	78.5	73.8	60.6	[d]45.6	29.6	56.3	110	— 6	Apr. 9	Oct. 29
Delphos	25.6	30.6	40.5	54.7	64.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Dodge	28.2	33.5	42.6	53.8	64.4	74.0	78.8	76.0	73.2	59.8	43.0	30.7	54.8	101	— 3	Apr. 9	Oct. 28
Dresden	28.7	.....	36.8	47.6	59.9	68.8	77.4	72.4	76.4	54.6	37.4	27.8	.....	103	.....	Apr. 29	.....
Effingham	26.6	31.0	[d]40.2	53.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Elgin	29.6	36.0	46.9	55.7	65.8	76.4	81.0	77.6	75.1	.....	.....	.....	.....	102	.....	Apr. 16	.....
Ellinwood	27.9	31.9	42.8	53.7	63.4	75.4	80.2	76.0	73.0	59.8	41.4	29.5	54.6	106	— 4	May 3	Oct. 29
Emporia	29.9	34.8	42.0	55.3	65.0	76.3	82.0	76.8	73.4	62.0	.....	27.4	.....	105	— 3	Mar. 25	.....
Englewood	27.9	36.2	45.4	56.4	66.0	75.8	79.7	77.6	72.8	60.8	42.2	31.2	56.0	108	— 2	Apr. 2	Oct. 27
Eskridge	.....	.....	.....	.....	.....	.....	.....	75.6	76.0	61.9	42.7	27.4	.....	.....	.....	.....	Nov. 2
Eureka Ranch	27.0	31.7	39.3	51.2	63.6	74.5	79.5	76.0	74.2	58.2	39.2	28.2	53.6	107	—10	Apr. 29	Oct. 11
Fall River	32.2	37.3	47.6	57.6	64.8	76.2	80.6	76.9	75.0	64.3	46.4	30.2	57.4	101	— 4	Mar. 25	Oct. 29
Fort Riley	28.4	32.8	43.4	55.5	64.3	76.0	80.8	76.8	76.8	63.4	43.2	27.6	55.8	105	— 6	Apr. 16	Oct. 27
*Fort Scott	29.4	35.0	45.3	55.4	64.0	73.8	80.2	76.8	76.0	65.4	45.6	30.6	56.5	101	— 1	Apr. 17	Nov. 2
Frankfort	29.2	33.2	42.8	55.4	66.1	76.2	80.3	73.9	73.4	60.8	41.4	26.2	54.9	107	— 6	Apr. 17	Oct. 29
Garden City	.....	33.7	41.8	53.3	67.0	74.2	78.2	74.0	72.0	57.2	41.6	29.0	.....	103	.....	Apr. 29	Oct. 27
Gibson	27.4	30.6	37.6	49.6	60.6	70.8	78.0	74.9	73.6	58.0	39.0	30.5	52.6	106	— 5	Apr. 29	Oct. 27
Goodland	29.2	32.7	35.4	47.7	64.3	74.0	78.6	77.8	.....	.....	.....	.....	.....	.....	.....	Apr. 21	.....
Gove (*a*)	27.0	32.2	37.2	51.7	62.7	69.5	79.2	76.8	73.6	59.0	37.6	29.2	53.0	104	— 5	Apr. 29	Oct. 27
Grainfield (*f*)	29.0	35.3	40.7	50.4	61.5	69.8	77.8	70.8	73.1	58.6	41.0	30.9	53.2	104	— 6	Apr. 29	Oct. 20
Grenola	28.8	[d]35.2	45.1	56.0	64.5	75.3	79.2	76.6	74.0	63.0	44.5	31.6	56.2	101	— 1	Apr. 14	Nov. 2
Halstead	28.6	32.2	41.6	51.8	61.0	73.4	77.4	73.6	70.6	58.1	40.6	26.5	53.0	102	— 6	Apr. 9	Oct. 29
*Hays	37.5	38.2	49.2	56.6	58.8	74.8	79.0	78.6	73.8	62.6	44.6	.....	.....	106	.....	Apr. 31	Oct. 29
Horton	25.8	31.0	40.4	52.9	63.4	74.6	79.2	73.0	74.8	61.6	40.8	25.4	53.6	103	— 6	Apr. 19	Nov. 2
Hoxie	.....	.....	.....	.....	.....	.....	.....	.....	.....	55.2	37.4	26.9	.....	.....	.....	.....	Oct. 11
Hutchinson	32.2	.....	[e]47.8	57.0	64.8	76.0	80.2	78.2	75.3	.....	.....	34.3	.....	103	— 8	Mar. 25	Oct. 29
Independence	31.1	37.2	48.2	57.9	66.7	78.6	82.1	78.8	77.2	66.2	46.2	32.8	58.6	105	— 3	Apr. 17	Oct. 11
Lakin	32.8	.....	46.5	.....	66.3	.....	80.2	77.1	71.8	61.0	43.4	[e]29.8	.....	.....	— 7	.....	Nov. 2
Lawrence	27.4	32.9	42.2	54.2	63.3	74.6	79.0	74.3	74.4	62.4	43.2	28.7	54.7	101	— 4	Mar. 27	Oct. 29
Lebo	27.5	33.4	43.6	54.9	64.4	75.0	80.9	76.4	75.0	62.7	43.2	28.9	55.5	103	— 3	Apr. 9	.....
Macksville	27.9	33.4	44.9	53.0	62.6	73.4	79.4	74.9	72.2	.....	.....	.....	.....	106	.....	Apr. 14	.....
*McPherson	25.7	30.8	44.4	54.6	62.8	76.0	79.5	73.8	71.8	.....	43.2	27.9	.....	106	— 5	Apr. 5	Oct. 29
Manhattan [1]	27.8	31.5	42.2	54.8	65.1	76.8	80.8	77.2	75.9	62.2	42.0	27.4	55.3	107	— 5	Apr. 17	Oct. 29
Manhattan [2]	28.2	31.6	43.0	54.9	63.4	75.5	78.8	75.2	74.5	62.0	42.6	27.8	54.8	103	— 5	Apr. 16	Oct. 29
Marion	28.8	34.5	45.8	55.4	65.8	81.2	.....	.....	[d]78.0	63.8	45.8	30.0	.....	.....	— 3	Apr. 14	Oct. 29
Meade	32.6	38.8	47.9	58.2	68.0	78.3	.....	80.8	74.5	65.5	48.4	36.2	.....	.....	— 2	Apr. 4	Oct. 28
Medicine Lodge	29.5	35.8	45.6	56.6	66.4	78.2	82.8	78.6	73.0	61.2	44.0	32.4	57.0	111	— 3	Apr. 3	Nov. 1
Minneapolis	27.1	31.1	40.8	53.8	63.0	76.5	81.2	76.7	74.6	60.4	42.0	27.6	54.6	109	— 4	May 14	Oct. 29
Morantown	29.2	33.9	45.2	55.4	63.8	[e]74.6	79.9	76.9	75.4	64.4	44.4	30.7	56.2	100	— 5	Apr. 17	Oct. 29
Morland	29.2	.....	.....	49.9	.....	71.4	76.7	73.0	.....	.....	39.4	28.0	.....	.....	.....	.....	.....
Mounthope (*a*)	[b]28.1	[c]35.8	45.0	54.9	64.2	76.4	82.2	78.2	74.6	61.2	43.8	30.8	56.3	104	0	Apr. 24	Nov. 2
Ness City	.....	.....	.....	.....	.....	.....	.....	77.8	74.8	[e]64.6	[d]43.6	32.4	.....	.....	.....	Apr. 29	Oct. 11
Newton	.....	.....	.....	55.4	63.2	.....	80.8	78.0	75.8	64.0	45.2	31.4	.....	106	.....	.....	Oct. 29
Norton	27.4	31.0	38.8	50.0	61.2	69.6	75.5	71.6	69.6	55.9	38.0	26.8	51.3	104	—14	May 13	Oct. 8
Norwich	30.0	36.2	45.6	56.4	[d]63.7	77.5	[d]83.6	79.6	75.5	[d]62.2	[d]45.0	.....	.....	106	.....	Apr. 14	Nov. 1
Olathe	28.4	34.0	44.6	54.8	64.1	75.1	80.0	75.8	74.6	63.7	42.5	28.0	55.5	105	— 4	Apr. 20	Oct. 30
*Osage City	27.4	33.4	43.4	54.8	64.0	76.0	80.1	75.6	72.4	63.4	44.4	29.5	55.4	104	— 4	May 14	Oct. 29
Oswego	32.4	39.1	50.2	58.0	66.8	77.0	81.7	79.4	79.2	68.7	49.7	35.2	59.8	105	2	Apr. 17	Oct. 29
Ottawa	28.0	34.2	44.1	55.2	62.8	74.3	79.0	74.3	73.9	61.8	43.6	29.4	55.0	103	— 2	Apr. 17	Oct. 29
Paola	27.5	34.6	42.6	54.4	.....	.....	.....	.....	.....	.....	.....	29.0	.....	.....	— 5	Apr. 15	.....
Phillipsburg	.....	.....	[f]38.4	52.6	61.4	71.6	.....	72.8	73.0	58.2	37.6	27.8	.....	.....	.....	May 17	Oct. 11
Pleasant Dale	.....	.....	41.0	52.4	62.8	74.6	80.8	75.5	73.6	60.6	41.4	28.7	.....	108	.....	Apr. 16	Oct. 11
Powhattan	24.4	30.0	39.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pratt	26.4	34.4	41.1	53.6	65.2	76.2	82.6	81.6	69.4	56.1	41.4	35.8	55.3	108	— 2	May 10	Oct. 12
Rome (*a*)	31.4	37.9	46.6	55.8	63.6	75.0	79.6	76.8	73.4	63.0	45.4	31.0	56.6	102	2	Mar. 25	Oct. 29
Russell	.....	32.4	41.9	54.0	64.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Apr. 29	Oct. 29
Salina	27.1	31.4	43.0	54.1	63.9	78.4	82.5	78.0	74.9	60.6	41.6	28.0	55.3	109	—10	May 14	Oct. 29
Scott City	27.6	.....	.....	.....	.....	73.8	77.5	74.2	71.2	.....	.....	.....	.....	106	.....	.....	.....
*Sedan	31.9	36.8	47.3	56.4	64.7	77.0	81.2	77.4	74.0	64.5	45.3	31.6	57.3	103	— 2	Mar. 24	Nov. 2
Seneca	.....	30.2	39.0	25.2	62.1	73.7	78.5	72.4	75.6	60.8	40.4	24.8	.....	100	.....	Apr. 17	Oct. 29

[1] C. M. Breese. [2] C. P. Blachly.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Kansas—Continued.																	
Sharon Springs (*a*)	28.9	34.2	39.5	49.2	62.4	73.0	82.0	78.0	75.3	58.2	42.8	29.1	54.4	110	— 9	.....	.....
*Topeka	28.4	33.1	43.4	55.0	64.6	75.2	80.4	75.2	75.4	63.0	43.4	28.2	55.4	105	— 4	Apr. 9	Oct. 29
*Toronto	.....	.....	.....	56.0	64.0	75.9	80.2	77.0	74.4	63.6	44.8	30.8	.....	104	.....	Apr. 17	Oct. 29
Ulysses	26.1	30.1	41.6	[1]51.8	[e]65.2	[1]75.5	[f]79.4	73.7	[d]73.0	[d]56.6	[d]38.8	28.2	53.3	107	—10	Apr. 9	Oct. 11
Viroqua	30.4	35.0	43.4	54.6	66.2	76.4	80.8	75.4	73.0	58.2	41.7	30.4	55.5	109	— 9	Apr. 9	Oct. 28
Wallace (*a*)	27.0	33.8	40.0	51.1	65.9	74.6	80.0	75.4	72.2	54.6	36.0	27.5	53.2	111	—12	Apr. 29	Oct. 27
Wamego (*a*)	26.4	30.4	40.0	53.6	63.9	75.4	80.0	74.6	76.8	60.2	40.0	25.5	53.9	104	— 4	Apr. 14	Oct. 29
Wellington (*a*)	32.9	38.8	47.9	56.6	65.5	76.6	80.7	77.4	75.7	65.9	48.2	35.1	58.4	98	2	Mar. 25	Nov. 2
*Wichita	30.8	35.9	45.7	56.1	65.1	76.9	81.2	78.2	75.2	63.6	45.8	32.0	57.2	102	— 1	Apr. 14	Oct. 29
Winona (*a*)	31.2	35.8	40.9	52.0	58.4	71.0	76.0	76.2	68.4	59.8	46.1	27.9	53.6	106	— 8	Apr. 29	Oct. 31
Yates Center	28.6	34.8	45.2	55.5	64.0	76.0	79.6	76.1	74.0	63.2	43.8	30.2	55.9	102	— 5	Apr. 9	Oct. 29
Kentucky.																	
Alpha	37.0	44.6	52.8	57.6	62.8	74.0	76.6	76.8	.....	.....	.....	.....	.....	.....	— 6	Apr. 10	Sept. 21
Ashland	29.6	38.7	49.8	54.0	61.0	72.8	77.2	74.0	69.0	60.6	46.4	38.1	55.9	102	— 8	Apr. 20	Sept. 21
*Bardstown	31.3	37.4	[f]47.6	[d]55.2	60.4	73.2	78.0	75.8	72.9	63.8	.....	.....	.....	100	— 1	Apr. 10	Sept. 22
Blandville	32.6	39.3	49.1	56.9	63.2	75.1	79.1	76.2	73.5	64.0	46.8	36.1	57.7	100	0	Apr. 10	Sept. 21
Bowling Green (*a*)[1]	31.4	39.6	49.9	55.3	60.2	72.7	76.6	74.2	70.1	60.5	45.8	37.5	56.2	101	— 6	Apr. 19	Sept. 22
*Bowling Green[2]	33.6	41.6	50.7	57.6	62.9	76.8	80.7	78.2	75.1	65.6	48.8	39.6	59.3	102	— 3	Apr. 19	Sept. 22
Caddo	28.4	36.0	46.4	53.4	60.4	71.3	76.6	73.2	.....	62.4	.....	.....	.....	.....	—10	Apr. 20	.....
Canton (*a*)	34.8	42.3	52.9	58.8	64.1	75.5	79.0	77.8	74.2	65.1	49.9	39.2	59.5	102	— 8	Apr. 20	Sept. 21
Carlisle	.....	[1]37.6	46.0	52.9	59.7	72.0	76.0	72.2	71.0	.....	.....	.....	.....	101	.....	Apr. 18	Sept. 21
Carrollton	30.8	38.0	47.8	56.8	63.7	76.6	79.8	74.1	71.0	62.0	47.0	38.1	57.1	102	— 6	Apr. 10	Oct. 30
*Earlington (*a*)	34.0	41.8	51.6	58.6	63.4	75.4	77.5	76.5	73.2	63.6	48.5	36.9	58.4	98	— 2	Apr. 10	.....
Edmonton	33.0	41.5	51.6	56.0	61.2	72.8	76.4	73.8	70.0	62.2	49.0	40.4	57.3	95	—10	Apr. 10	Sept. 21
Ensor	.....	.....	50.0	56.7	62.0	74.5	79.1	76.8	73.5	64.2	48.4	37.2	.....	101	.....	Apr. 20	Sept. 22
*Eubank	[f]28.3	41.0	49.6	54.0	60.0	71.7	75.3	72.6	.....	[e]62.3	[e]48.8	39.0	.....	.....	—10	Apr. 10	Sept. 22
Fords Ferry	33.5	[e]38.3	[e]49.6	56.0	63.2	76.2	79.5	78.0	.....	.....	48.7	37.0	.....	.....	0	Apr. 10	.....
Frankfort	30.0	39.2	48.8	54.2	61.0	73.4	[b]77.6	73.0	68.2	61.0	48.8	38.0	56.1	101	— 6	Apr. 10	Sept. 21
Franklin	33.7	41.4	50.9	56.8	62.4	.....	.....	.....	.....	.....	48.6	.....	.....	.....	— 1	Apr. 20	.....
Georgetown	29.8	38.2	49.2	54.0	60.7	73.2	77.3	74.4	70.4	62.3	48.2	38.3	56.3	96	— 7	Apr. 19	Sept. 21
*Greensburg	33.2	41.6	50.1	55.6	62.5	75.2	79.2	77.8	73.4	62.8	48.1	39.6	58.3	105	— 8	Apr. 10	Sept. 21
*Henderson	34.7	40.6	50.4	57.6	63.6	75.9	79.6	77.8	74.7	64.8	48.6	38.2	58.9	100	2	Apr. 20	Oct. 29
*Hopkinsville	34.8	41.6	51.7	55.3	62.9	74.8	79.8	78.4	75.0	65.2	49.6	39.2	59.0	102	— 2	Apr. 10	Sept. 21
Irvington	.....	.....	.....	.....	.....	.....	.....	[e]75.3	72.6	63.8	47.4	37.6	.....	.....	.....	.....	Sept. 21
Leitchfield	30.6	37.8	47.8	54.1	59.8	73.1	78.2	75.4	70.9	61.8	45.6	35.8	55.9	102	— 5	Apr. 10	Sept. 21
*Lexington	30.0	37.4	47.6	53.2	59.4	72.0	75.7	73.8	72.4	63.9	46.4	36.8	55.7	96	— 6	Apr. 10	Sept. 21
Loretta	.....	.....	.....	.....	.....	72.0	76.6	75.4	71.4	62.2	47.3	38.6	.....	99	.....	.....	Sept. 21
*Louisville	32.0	38.6	48.8	55.4	61.6	74.2	79.4	76.8	74.5	64.8	48.1	37.9	57.7	101	— 4	Apr. 20	Oct. 25
Lyndon	28.8	38.4	47.6	54.4	[d]59.3	.....	.....	72.9	70.6	62.0	.....	.....	.....	.....	— 5	Apr. 20	Sept. 21
Marrowbone	32.0	40.8	51.2	56.4	61.0	73.6	77.2	74.2	70.4	61.0	47.4	37.4	56.9	98	—11	Apr. 20	Sept. 22
Maysville	31.6	.....	47.8	53.8	59.8	70.0	77.8	.....	.....	.....	.....	.....	.....	.....	— 6	Apr. 9	.....
Middlesboro	31.0	41.2	50.4	54.8	59.8	71.8	75.0	73.0	67.9	60.0	46.6	39.0	55.9	96	—13	Apr. 17	Sept. 21
Mount Hermon	.....	.....	.....	.....	.....	73.8	[e]76.9	76.0	73.8	.....	49.2	40.1	.....	96	.....	.....	Oct. 30
*Mount Sterling	28.8	37.3	46.1	53.2	59.6	72.2	76.0	73.2	69.5	61.2	46.2	37.2	55.0	96	— 7	Apr. 20	Sept. 21
Munfordville (*a*)	34.1	41.1	52.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	Apr. 10	.....
*Owensboro	32.0	38.6	47.8	55.4	60.2	73.1	77.3	75.4	72.7	62.9	49.2	36.4	56.8	99	— 3	Apr. 20	Sept. 22
Owenton	[e]31.4	[d]36.3	46.7	53.3	60.8	[f]74.4	77.8	75.6	74.0	62.8	45.8	36.1	56.2	99	— 7	Apr. 20	Sept. 21
*Paducah	35.7	42.0	51.6	59.3	65.8	77.5	81.8	80.2	77.4	66.9	49.4	38.4	60.5	104	4	Apr. 20	Oct. 30
Pilot Oak	32.8	40.9	55.4	.....	.....	76.4	81.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Pleasure Ridge Park	30.8	37.3	47.9	55.0	59.6	72.5	77.8	74.8	70.9	61.8	46.5	36.9	56.0	101	— 6	Apr. 21	Sept. 21
Princeton	32.3	40.4	50.1	57.2	.....	76.3	80.0	78.1	74.5	63.8	47.3	37.2	.....	103	— 9	Apr. 9	Oct. 30
*Richmond	31.3	39.2	48.9	54.5	60.5	72.5	76.4	74.5	72.6	65.4	49.5	39.4	57.0	100	— 7	Apr. 10	Sept. 21
Russellville	35.2	42.7	52.0	58.0	63.4	76.4	79.6	77.8	75.9	66.6	49.7	40.0	59.8	103	— 4	Apr. 10	Sept. 21
*St. John	30.9	38.5	48.8	54.8	59.1	70.5	75.4	74.1	70.6	62.4	46.2	35.0	55.5	99	— 5	Apr. 10	Oct. 30
Scott	.....	.....	.....	.....	.....	72.2	80.8	74.3	71.8	62.9	46.0	36.1	.....	100	.....	.....	Sept. 21
Shelby City	.....	.....	.....	.....	.....	.....	.....	73.6	73.0	64.8	47.1	37.8	.....	.....	.....	.....	Sept. 21
*Shelbyville	36.3	37.1	47.9	54.6	60.8	73.8	78.1	74.3	72.5	63.0	46.0	36.5	56.2	102	— 7	Apr. 10	Sept. 22
Southfork (*b*)	.....	.....	48.6	55.7	58.2	69.7	73.2	71.7	65.0	54.4	45.2	37.5	.....	.....	.....	Apr. 10	Sept. 21
Vanceburg	28.2	.....	44.4	50.2	57.4	69.0	75.8	72.1	67.0	59.4	45.0	36.6	.....	99	— 5	Apr. 20	Sept. 22
*Williamsburg	35.2	44.4	52.8	59.0	63.5	75.2	77.2	75.2	67.4	.....	[e]48.4	40.0	.....	98	—11	Apr. 18	Sept. 21
Louisiana.																	
Abbeville	49.6	56.4	69.0	67.8	73.2	80.9	82.0	80.5	76.9	72.8	63.0	54.5	68.9	99	20	Feb. 6	Nov. 18
*Alexandria	46.8	54.0	65.3	66.2	70.8	79.8	82.6	81.5	76.4	70.4	58.0	48.5	66.7	104	17	Feb. 6	Nov. 18
*Amite	.....	[e]55.8	68.6	68.3	71.8	81.7	83.8	81.3	77.8	71.5	60.7	54.1	.....	105	.....	Feb. 28	Dec. 5
Bastrop	45.5	54.8	64.0	64.6	69.8	80.0	83.5	82.1	77.8	71.4	58.2	48.7	66.7	103	5	Feb. 27	Nov. 17
*Baton Rouge	49.1	56.4	69.2	67.6	72.4	81.0	82.5	81.2	77.0	71.8	61.0	54.2	68.6	99	20	.....	Dec. 5
Calhoun	42.6	[d]51.8	63.0	64.2	70.8	.....	[f]84.0	82.6	76.4	69.4	54.0	[e]45.4	.....	.....	10	.....	Nov. 18
*Cheneyville	48.0	53.4	66.4	65.5	70.4	80.2	82.2	80.2	75.6	69.8	57.4	48.2	66.4	101	15	Feb. 7	Nov. 18
Clinton	45.6	54.8	67.0	65.2	72.2	81.5	82.2	80.5	76.2	70.6	59.0	52.2	67.2	101	17	Feb. 27	Nov. 18
Como	.....	.....	.....	.....	.....	.....	[e]82.0	79.6	75.5	[e]66.8	.....	.....	.....	.....	.....	.....	.....
*Covington	48.4	.....	.....	68.5	72.2	81.2	82.8	80.5	77.0	70.6	61.0	.....	.....	101	14	.....	Dec. 4
Davis	42.7	.....	62.4	61.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	Mar. 24	.....
*Donaldsonville	48.8	56.8	69.9	69.2	75.6	81.6	83.0	81.5	78.8	72.8	63.1	56.0	69.8	100	20	Feb. 6	Dec. 5
Elm Hall	47.3	55.1	66.8	64.6	70.8	77.8	79.1	.....	73.4	.....	.....	.....	.....	.....	16	.....	.....
Emilie	48.7	55.8	67.4	66.4	71.8	80.2	81.7	79.4	75.4	70.2	60.6	54.0	67.6	97	19	Feb. 2	Dec. 5
Farmerville	42.5	[e]52.3	[h]60.5	64.2	70.2	[h]81.9	[f]82.9	[e]81.4	77.0	69.4	54.6	45.4	65.2	103	0	Feb. 24	Nov. 16
*Franklin	49.9	56.5	69.7	68.6	73.9	82.8	83.2	81.4	76.5	71.4	62.1	54.6	69.2	103	21	Feb. 2	Dec. 5
Grand Coteau	50.5	57.2	68.4	68.6	72.8	79.8	80.9	79.4	75.9	70.9	60.6	53.4	68.2	97	21	Jan. 30	Dec. 4
Hammond	47.9	54.3	68.0	65.5	68.5	80.7	81.8	81.0	[e]75.6	66.6	56.8	54.8	66.8	102	17	Feb. 6	Dec. 5
Houma	50.0	57.3	69.6	68.4	72.6	79.6	82.6	.....	76.7	72.4	[f]65.5	56.8	.....	.....	19	Mar. 25	Nov. 18
Jeanerette	52.0	59.7	70.6	68.6	73.7	82.0	82.9	80.9	77.4	71.8	62.2	55.4	69.8	104	19	Jan. 30	Dec. 4
Jennings	.....	.....	.....	.....	.....	.....	.....	.....	77.2	70.7	63.1	54.8	.....	.....	.....	.....	Nov. 18
*Lafayette	.....	55.2	68.8	68.0	73.4	81.1	82.0	80.8	76.1	71.2	60.9	53.6	.....	103	.....	Feb. 5	Nov. 17

[1] J. E. Younglove.

[2] M. H. Crump.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Louisiana—Continued.																	
*Lake Charles	50.4	55.6	66.0	68.0	72.6	80.3	83.6	82.2	77.4	73.4	61.9	52.9	68.7	102	20	Feb. 7	Dec. 5
Lake Providence	42.5	53.2	[b]61.6	64.8	68.8	.....	[f]83.5	82.7	78.2	71.0	58.7	.....	.....	.....	11	Feb. 3	Nov. 3
Lawrence	50.9	56.6	67.9	68.8	72.5	83.0	84.6	82.8	77.2	72.8	64.9	58.0	70.0	102	24	Feb. 3	.....
Liberty Hill	44.2	54.4	63.6	65.0	71.2	81.2	85.2	82.6	78.6	71.4	57.5	47.3	66.8	109	9	Mar. 24	Nov. 17
*Mansfield	43.9	52.8	63.1	64.8	70.0	78.8	83.1	80.5	75.6	68.8	56.0	45.8	65.3	105	11	Mar. 24	Nov. 17
*Melville	47.7	54.3	67.3	67.0	73.6	81.4	82.8	81.2	77.2	71.8	61.8	52.4	68.2	98	18	Feb. 28	Nov. 18
*Minden	44.0	[e]51.4	60.2	64.4	71.6	81.2	84.8	82.6	78.7	71.2	[d]56.2	[d]46.5	66.1	104	10	Feb. 27	Nov. 18
*Monroe	45.4	52.5	62.0	65.0	72.0	81.8	84.7	82.9	79.2	71.8	56.5	47.2	66.8	106	18	Feb. 27	Nov. 18
Montgomery	44.6	53.8	[b]63.1	66.4	[c]73.2	82.2	84.4	81.4	.....	70.2	57.5	.....	.....	.....	16	Mar. 2	Nov. 20
New Iberia	48.6	57.2	69.3	[d]68.6	73.0	[e]81.5	82.7	80.7	.....	[e]70.6	60.9	53.0	.....	.....	19	Jan. 2	Dec. 5
*New Orleans	51.1	58.0	69.4	68.0	74.3	81.8	83.6	82.4	79.3	74.4	63.7	57.0	70.2	99	23	Jan. 30†	Dec. 5
Oakridge	42.6	51.4	63.0	64.6	70.3	80.8	83.8	81.8	77.5	68.9	58.1	50.1	66.1	104	9	Feb. 28	Nov. 3
Oberlin	46.8	52.6	62.6	66.0	71.4	79.6	82.5	76.6	73.3	69.6	58.8	.....	.....	100	17	Feb. 6	Nov. 18
*Opelousas	48.8	51.8	67.0	69.6	72.2	81.0	81.3	81.2	77.0	72.2	60.2	53.4	68.1	104	19	Feb. 24	Dec. 5
Oxford	45.0	54.4	62.6	64.3	69.0	78.5	81.8	80.0	75.3	68.6	57.0	46.6	65.3	102	11	Mar. 24	Nov. 3
Paincourtville	49.4	57.4	69.8	68.5	73.6	81.4	82.2	79.9	.....	69.8	61.6	56.6	.....	.....	18	Feb. 3	Dec. 5
Plain Dealing	43.9	53.2	62.3	64.6	70.4	80.4	84.5	82.5	77.5	71.0	57.5	45.2	66.1	104	12	Mar. 24	Nov. 17
Plaquemine	.....	.....	.....	.....	.....	.....	.....	.....	.....	71.6	63.9	55.0	.....	.....	.....	.....	Nov. 18
*Port Eads	54.0	57.4	66.0	65.9	74.3	82.6	84.2	80.9	78.4	74.8	69.3	61.6	70.8	94	25	Jan. 8	Nov. 2
*Rayne	49.0	55.6	67.6	68.2	73.1	81.4	83.4	82.3	77.0	72.6	[c]63.6	[d]53.4	68.9	101	19	Feb. 6	Dec. 4
*Robeline	42.3	52.2	62.8	63.8	69.4	79.0	82.1	79.9	74.4	67.4	55.6	46.8	64.6	105	10	Mar. 24	Nov. 1
Ruston	44.0	53.8	63.2	65.1	71.4	80.8	85.2	82.5	80.0	71.9	57.5	47.2	66.9	103	10	Feb. 27	Nov. 30
*Schriever	50.7	57.8	69.6	68.4	72.4	81.8	83.1	81.2	76.4	71.8	62.2	55.5	69.2	102	18	Feb. 28	Dec. 5
Shellbeach	50.5	56.6	67.2	69.8	75.6	83.3	84.0	81.9	78.4	73.4	63.0	57.6	70.1	99	21	Jan. 30	Dec. 4
*Shreveport	45.0	54.0	62.8	66.0	72.3	80.4	84.8	83.0	78.4	71.6	57.4	47.8	67.0	105	13	Feb. 27†	Nov. 17
Southern University	49.8	56.6	66.5	65.4	70.2	79.0	80.2	79.2	75.6	70.8	62.0	54.8	67.5	95	21	Feb. 2	Dec. 4
Sugar Exp. Station	50.0	56.6	69.4	67.6	73.0	82.0	83.3	81.7	78.0	70.8	61.2	55.1	69.1	99	23	Jan. 29	Dec. 5
Sugartown	48.6	56.1	65.0	68.6	72.6	81.0	84.0	82.4	77.8	72.9	[f]62.3	51.7	68.6	102	18	Feb. 28	Dec. 5
Venice	53.2	58.2	66.4	67.4	72.7	80.4	81.4	80.4	77.6	71.7	66.8	59.8	69.7	98	26	Jan. 28	None.
Wallace	50.2	57.6	68.2	68.0	73.2	81.4	82.3	80.4	76.5	71.5	62.6	56.5	69.0	98	20	Feb. 28	Dec. 5
Whitehall	.....	56.6	68.6	68.1	72.0	[d]81.8	82.8	81.4	77.7	71.8	62.5	[f]49.6	.....	104	.....	Feb. 6	Nov. 3
White Sulphur Springs	.....	56.1	65.9	67.4	72.2	81.3	84.2	82.6	78.6	71.0	59.7	52.8	.....	105	.....	Feb. 6	Nov. 18
Maine.																	
Bar Harbor	21.4	25.8	32.3	42.5	50.4	56.6	64.8	65.6	58.8	50.0	36.8	28.0	44.4	91	—11	May 8†	Oct. 3†
Belfast (*f*)	20.5	24.7	29.7	43.1	51.3	57.3	65.2	65.0	57.3	48.8	33.8	25.4	43.5	85	—11	May 8	Sept. 22
Calais	19.3	22.0	28.4	41.0	53.2	59.0	69.4	62.6	55.8	47.0	34.8	26.2	43.2	94	—14	.....	.....
Cornish (*a*)	21.2	23.8	30.0	44.7	53.6	58.7	69.7	65.0	57.5	47.8	33.0	25.4	44.2	92	—10	May 8	Oct. 3†
Cumberland Mills	24.8	26.2	32.3	46.1	53.6	60.0	67.8	67.6	61.4	49.6	35.2	25.8	45.9	98	— 9	.....	.....
*Eastport	21.2	23.4	28.9	38.6	46.6	53.2	59.0	60.5	55.2	48.4	36.2	27.1	41.5	89	—14	Apr. 21†	Oct 10
Fairfield	18.6	21.0	28.2	43.4	53.6	58.2	69.4	65.8	58.0	47.6	33.8	22.4	43.3	93	—21	May 8	Sept. 22
Farmington	19.2	.....	27.9	45.0	54.9	60.4	71.9	66.4	55.0	.....	.....	.....	.....	102	.....	May 8	Sept.22†
Flagstaff	14.2	17.0	23.9	.....	50.1	55.3	[c]68.0	60.6	[g]53.2	44.6	.....	[e]19.8	.....	96	—21	May 23†	Sept. 3
Fort Fairfield	10.2	17.2	[e]19.3	42.0	51.2	55.6	[h]66.3	62.4	52.2	44.3	31.6	17.0	39.1	95	—28	Jan. 3†	Sept. 16
Gardiner	20.1	23.0	30.8	45.4	55.8	60.4	71.8	68.2	59.4	49.4	35.5	24.0	45.3	97	—12	Apr. 22†	Sept. 22
Indian Stream	13.3	17.6	23.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kineo	14.4	17.9	24.0	39.0	49.0	56.8	68.2	63.2	57.4	[e]50.6	[d]28.5	20.2	40.8	89	—23	May 8†	Oct. 10†
Lewiston	21.8	24.0	30.4	44.8	55.6	60.4	71.8	68.4	60.4	50.3	35.4	25.5	45.7	98	—10	Apr. 22†	Sept. 22
Mayfield	.....	.....	.....	41.4	51.0	56.8	68.2	62.8	55.0	46.5	28.9	20.1	.....	95	.....	May 8†	Sept. 22
North Bridgton	20.6	22.5	28.9	43.6	54.8	60.1	70.8	65.7	58.2	47.8	34.0	25.4	44.4	95	—14	May 8†	Sept. 19
Orono	16.6	20.0	27.3	42.3	53.0	57.0	68.2	63.8	55.2	47.2	33.2	23.2	42.2	93	—18	May 8†	Sept. 22
Petit Manan (*a*)	23.9	27.4	31.9	39.6	47.6	52.8	57.8	58.4	54.3	46.1	37.8	27.1	42.1	70	— 9	.....	Oct. 24
*Portland	23.6	26.0	31.8	43.8	52.2	58.2	66.1	65.9	59.0	50.0	36.3	28.0	45.1	94	— 8	Apr. 21†	Oct. 24
Winslow	19.8	19.8	28.9	44.4	54.6	59.2	69.8	67.4	58.2	47.6	33.8	22.8	43.9	96	—16	.....	.....
Maryland.																	
Annapolis	.....	.....	.....	54.9	64.1	72.5	76.8	76.1	69.9	60.9	50.8	41.0	.....	94	.....	Apr. 20	Nov.23†
Bachmans Valley	27.0	31.8	41.4	49.2	59.0	65.4	74.8	69.4	64.4	54.4	43.8	33.8	51.2	95	1	May 27	Sept. 28
*Baltimore	31.6	36.8	45.0	53.0	62.8	70.1	76.9	74.3	68.8	58.2	46.3	38.6	55.2	97	8	Apr. 20†	Oct. 31
Boettcherville	22.6	29.8	38.0	46.1	57.6	69.2	71.6	66.5	59.5	50.4	43.6	35.6	49.2	.....	.....	.....	Sept. 28
Charlotte Hall	33.2	37.4	47.0	54.6	63.6	69.7	76.0	73.8	69.4	59.0	48.5	41.4	56.1	92	5	Apr. 21	Nov. 13
Cherryfields (*b*)	31.8	36.4	45.2	52.9	61.5	70.5	76.3	74.8	69.4	59.9	47.2	39.4	55.4	.....	.....	Apr. 20	Nov. 13
Chestertown	30.0	35.6	43.1	51.8	61.3	67.8	75.2	71.8	65.9	55.6	44.4	.....	.....	90	8	Apr. 21†	Oct. 18
College Park	[e]27.5	[e]34.2	[e]44.0	[f]52.5	60.1	.....	[f]73.7	71.0	67.1	.....	.....	.....	.....	.....	— 2	Apr. 22†	Oct. 31†
Cumberland[1]	27.2	33.8	43.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....
Cumberland[2]	31.6	37.5	46.4	54.9	62.9	70.8	77.2	72.2	68.8	59.8	47.6	39.5	55.7	98	3	.....	Oct. 31†
Darlington	29.4	33.4	43.0	51.0	61.2	67.4	74.5	71.6	67.5	54.8	44.2	35.7	52.8	92	5	Apr. 21†	Oct. 30
Deerpark	.....	.....	.....	.....	.....	.....	67.6	62.7	57.6	49.6	38.0	31.7	.....	.....	.....	Apr. 27†	Sept.19†
Easton	30.9	35.4	44.6	52.3	61.9	68.5	76.0	73.4	67.8	57.3	45.9	37.6	54.3	93	8	Apr. 20	Nov. 18
Ellicott City	31.4	35.8	44.8	52.8	62.2	.....	.....	.....	.....	.....	44.2	36.0	.....	.....	8	Apr. 20	Nov. 13
Fallston	28.6	33.6	42.4	50.2	60.2	66.7	74.4	70.4	64.5	56.0	44.4	35.8	52.3	91	6	Apr. 21	Oct. 18
Flintstone	27.4	33.1	42.5	49.2	58.3	66.1	74.1	68.3	63.6	53.6	48.2	34.8	51.6	96	— 6	Apr. 21	Sept. 21
Frederick	29.6	34.3	44.6	52.2	61.5	68.9	76.6	72.0	66.9	55.8	[e]45.6	36.8	53.7	95	5	Apr. 21†	Oct. 31†
Grantsville	22.7	29.0	40.5	45.7	53.1	63.8	72.4	65.4	62.0	53.7	38.6	32.2	48.3	94	— 9	May 30	Sept. 21
Greatfalls	29.6	36.0	45.6	53.5	63.1	71.0	77.6	73.5	68.2	56.4	43.8	36.8	54.6	93	6	Apr. 20†	Oct. 18†
Greenspring Furnace	28.2	33.2	43.4	51.2	60.3	68.9	75.6	70.6	66.5	56.0	42.6	36.4	52.7	97	4	Apr. 21	Oct. 18
Hagerstown	30.4	35.6	45.1	53.5	62.6	70.1	.....	72.3	67.9	57.4	45.4	[d]37.8	.....	.....	4	Apr. 21†	Nov.14†
Jewell	31.2	36.2	46.6	53.1	60.1	68.9	75.6	.....	.....	.....	.....	38.8	.....	.....	6	Apr. 20	Nov. 13
Johns Hopkins Hospital	29.5	35.2	44.4	52.2	62.5	69.3	76.4	72.0	68.2	58.1	44.7	37.8	54.2	97	5	Apr. 21†	Nov.15†
Laurel	.....	36.2	44.4	51.3	61.3	67.9	75.4	72.9	67.0	58.2	45.0	35.9	.....	95	.....	Apr. 13	Oct. 18
McDonogh	[g]28.6	[e]33.7	[e]44.4	[e]53.3	[g]67.1	[d]70.3	.....	72.5	[e]67.2	58.1	.....	.....	.....	.....	4	Apr. 21†	.....
Mardela Springs	32.0	36.8	46.3	52.6	62.5	69.3	76.9	74.8	69.7	59.0	48.0	40.0	55.7	95	6	Apr. 22	Sept. 29
Mount St. Marys	28.0	32.9	42.6	50.9	60.6	67.5	74.3	70.5	68.0	57.0	42.8	34.2	52.4	95	3	Apr. 21	Nov. 14
New Market	28.3	34.2	44.0	52.8	61.4	69.2	76.8	71.9	67.0	56.5	43.7	36.4	53.5	95	4	Apr. 21†	Nov. 14

[1] W. Bruce.

[2] Howard Shriver.

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Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Maryland—Continued.																	
Pocomoke City	37.1	41.5	50.9	56.8	65.5	71.2	78.8	77.3	.....	62.8	53.9	45.4	.....	.....	12	Apr. 21	Nov. 14†
Port Deposit	.....	.....	.....	52.5	61.3	65.8	75.8	73.4	67.4	56.8	.....	.....	.....	95	.....	Apr. 21†	.....
Princess Anne	32.2	37.2	45.7	52.7	61.1	67.6	76.0	71.1	66.9	58.1	47.0	39.4	54.6	92	3	May 9	Oct. 18
Sharpsburg	27.7	33.7	43.6	51.6	60.1	67.5	75.2	70.3	65.6	55.2	42.8	35.3	52.4	94	3	Apr. 21	Sept. 21
Smithsburg	.....	.....	.....	49.5	60.6	68.6	74.8	69.6	65.5	55.8	45.7	34.2	.....	90	.....	Apr. 20	Nov. 25
Solomons	33.2	37.4	46.3	53.9	62.4	71.6	78.6	76.6	72.5	61.1	49.9	40.0	57.0	94	10	Apr. 20	Nov. 13
Sunnyside	22.8	29.4	40.6	45.4	51.4	62.1	68.8	63.6	60.4	51.9	[c]39.0	30.6	47.2	93	—11	May 30	Sept. 21
Taneytown	28.0	33.3	44.4	52.4	61.5	69.8	77.6	72.9	.....	56.5	43.8	35.2	.....	.....	4	Apr. 20	Oct. 4
Van Bibber	28.6	33.5	41.8	52.1	61.6	68.3	76.0	71.8	66.1	55.4	43.2	36.0	52.9	98	7	Apr. 20	Oct. 18
Western Port	25.9	33.0	42.6	50.7	59.0	70.3	75.6	70.4	64.4	56.1	[c]41.2	34.0	51.9	102	— 1	Apr. 21†	Sept. 20†
Westminster	28.3	34.4	44.4	53.7	61.6	.....	.....	.....	.....	59.8	45.5	37.8	.....	.....	2	Apr. 20†	Nov. 3†
Woodstock	29.2	34.4	43.8	50.8	61.3	67.1	.....	70.6	65.5	55.5	44.0	36.8	.....	.....	4	Apr. 20	Oct. 18
Massachusetts.																	
Adams	24.9	27.2	35.3	46.2	55.7	60.8	72.0	65.8	58.8	50.9	37.9	30.9	47.2	93	— 5	.....	.....
Amherst	25.6	27.0	33.6	47.4	57.0	61.8	71.8	66.2	59.8	50.3	38.1	30.0	47.4	92	—10	May 8†	Sept. 28†
Andover	25.8	26.9	34.6	48.0	57.2	60.1	70.4	67.6	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bedford	26.1	28.1	34.5	48.4	55.8	60.6	70.0	66.9	59.8	51.4	34.5	28.1	47.0	91	— 6	.....	.....
Bluehill	25.4	27.6	34.2	46.4	55.6	60.0	69.2	66.8	60.5	52.2	39.0	30.5	47.3	89	— 1	Apr. 21†	Oct. 3
*Boston	28.4	30.9	36.9	49.0	57.6	62.3	71.6	69.6	63.1	54.4	41.4	34.0	49.9	94	2	Apr. 21†	Oct. 31
Cambridge	27.8	28.9	36.2	49.6	58.2	62.8	72.6	69.0	62.6	53.0	40.9	32.0	49.5	94	1	Apr. 21†	Oct. 10
Chestnut Hill	27.5	28.6	36.0	49.5	58.4	62.6	72.4	69.2	62.6	53.3	40.6	31.8	49.4	94	— 1	Apr. 21†	Oct. 3
Concord	25.0	25.7	34.3	47.2	56.5	60.6	71.2	67.4	59.8	50.1	37.4	30.0	47.1	94	— 8	May 8	Sept. 28
Dudley	24.8	28.0	34.6	47.2	56.3	62.7	70.8	67.2	61.4	52.3	37.6	30.0	46.1	94	— 6	.....	.....
East Templeton (*a*)	22.9	.....	31.7	44.6	55.4	60.8	70.4	65.8	59.0	48.3	35.1	27.8	.....	92	.....	.....	.....
Egg Rock	26.3	.....	34.0	44.8	53.0	58.4	66.4	67.2	61.8	[f]54.1	.....	.....	.....	93	.....	Apr. 21†	.....
Fall River	28.5	30.2	37.0	45.4	57.2	62.5	70.9	69.4	62.4	54.2	42.0	34.0	49.6	90	6	Apr. 21†	Oct. 30
Fitchburg (*a*)[1]	24.2	26.2	32.5	46.2	56.3	61.6	71.1	66.3	59.2	49.4	36.4	29.5	46.6	94	— 1	Apr. 21†	Oct. 10
Fitchburg[2]	24.3	26.6	33.4	47.5	56.9	61.4	71.1	67.0	60.4	50.8	36.9	29.6	47.2	94	— 4	.....	.....
Framingham	27.5	28.4	37.2	51.0	60.2	63.6	72.6	68.1	62.4	51.8	40.2	31.8	49.6	94	— 3	Apr. 21†	Oct. 3†
Groton	24.1	25.8	32.3	46.4	56.4	60.8	70.8	65.8	59.6	49.2	36.4	28.6	46.4	94	— 4	May 8	Oct. 3
Hadley	23.8	23.8	32.0	46.3	56.9	61.7	71.8	66.2	60.2	48.8	35.5	27.7	46.2	94	—17	May 8	Sept. 29†
Hyannis (*a*)	31.2	33.4	39.4	49.1	58.9	64.6	70.2	68.8	62.6	53.2	42.5	35.0	50.8	91	4	Apr. 20†	Oct. 4
Lawrence	25.0	26.8	34.3	48.0	58.3	62.4	74.6	71.0	62.3	52.8	38.4	30.8	48.7	100	— 5	Apr. 21†	Oct. 10
Leeds	24.0	25.5	32.8	46.9	57.3	63.0	72.0	64.9	59.6	48.2	36.3	29.0	46.6	94	—15	Apr. 21†	Oct. 3
Leicester Hill	22.6	25.1	32.2	45.8	59.8	60.0	71.2	63.8	58.2	48.6	37.0	28.6	46.1	92	— 4	.....	.....
Lowell[3]	26.0	27.2	34.1	47.6	58.1	61.8	72.6	68.5	61.7	51.5	38.3	29.8	48.1	92	— 5	Apr. 21†	Oct. 4
Lowell[3]	26.4	.....	34.1	47.8	57.1	61.0	71.5	67.9	60.4	50.7	38.3	29.6	.....	94	.....	.....	.....
Lowell[4]	28.2	29.2	35.2	49.7	58.9	62.8	72.6	69.8	63.3	52.6	39.3	31.2	49.4	98	0	.....	.....
Ludlow Center	21.7	22.2	30.3	43.6	53.6	58.1	67.8	63.2	57.8	48.4	34.0	25.5	43.8	89	—15	.....	.....
Mansfield (*a*)	25.2	27.0	35.1	44.1	53.9	60.7	69.5	65.6	58.3	49.3	38.2	31.4	46.5	92	— 7	.....	.....
Middleboro	26.4	28.2	35.5	46.1	56.2	66.6	70.8	66.9	60.0	50.8	39.8	32.3	47.8	91	— 2	Apr. 21†	Sept. 28
Monson	26.4	27.8	36.0	48.2	58.2	61.7	71.6	67.2	60.2	51.0	39.4	31.2	48.2	92	— 9	May 8	Sept. 22
*Nantucket	30.8	32.5	38.0	44.2	53.6	60.0	68.7	67.8	62.4	54.7	45.0	37.5	49.6	82	10	Apr. 21†	Oct. 31
New Bedford[5]	27.4	30.0	36.0	45.4	55.3	60.7	69.8	68.8	63.0	54.2	42.4	35.1	49.0	90	4	Apr. 21†	Oct. 30
New Bedford[6]	28.0	30.1	36.8	46.3	56.0	61.3	70.7	67.8	61.8	52.6	42.1	34.8	49.0	92	2	.....	.....
New Salem	.....	.....	31.0	44.8	54.9	60.5	69.4	65.4	59.3	51.2	35.3	27.2	.....	90	.....	.....	.....
Pittsfield	23.0	23.9	31.0	44.6	55.8	60.8	71.0	64.8	58.3	49.6	36.0	27.6	45.5	90	— 4	Apr. 21	Oct. 3†
Somerset (*a*)	28.9	30.6	38.6	47.1	60.6	66.2	75.1	71.1	64.3	54.4	43.2	35.0	51.2	96	0	.....	.....
Springfield Armory	24.2	25.7	32.2	45.2	56.0	60.8	75.3	65.6	58.2	49.8	40.4	31.0	46.2	92	— 6	.....	.....
Taunton[7]	26.6	28.2	35.6	46.8	56.8	61.8	71.0	66.6	59.4	50.6	39.0	31.3	47.8	89	0	Apr. 21†	Oct. 4†
Taunton[8]	26.0	27.7	35.5	46.3	56.1	60.8	70.4	66.8	60.4	51.3	39.7	31.6	47.7	91	— 7	.....	.....
Turners Falls	.....	.....	.....	.....	57.3	.....	71.8	66.5	59.6	49.5	36.6	28.0	.....	.....	.....	.....	.....
*Vineyard Haven	32.4	33.6	39.4	48.0	57.6	63.0	72.6	70.4	64.6	56.0	45.8	38.2	51.8	88	9	Apr. 21†	Oct. 31
Wakefield	26.4	27.8	35.1	48.6	57.7	62.3	72.0	[f]68.4	61.6	52.2	.....	.....	.....	95	.....	Apr. 21†	Oct. 3†
Westboro	28.0	28.4	35.6	48.9	59.2	63.6	72.6	69.2	62.6	52.3	39.6	31.0	49.2	95	— 7	May 8	Sept. 28
Weston	26.6	27.6	35.3	48.0	57.8	61.6	71.2	66.9	59.3	49.5	37.9	31.1	47.7	91	— 4	.....	.....
Williamstown (*a*)	23.4	24.2	33.0	45.0	55.6	61.5	70.4	63.9	57.2	49.3	36.7	27.5	45.6	90	— 6	.....	.....
*Woods Hole	29.4	31.1	36.2	44.4	54.0	60.2	68.2	68.6	62.5	54.0	43.4	35.8	49.0	85	6	Apr. 21	Oct. 31
Worcester[9]	24.7	27.2	34.2	47.2	57.4	64.4	.....	66.9	62.7	.....	.....	.....	.....	.....	.....	Apr. 21	Sept. 28
Worcester[10]	26.3	28.4	35.0	48.1	57.8	62.4	73.4	67.7	61.0	52.2	38.8	31.4	48.5	92	2	.....	.....
Michigan.																	
Adrian	21.8	26.9	34.7	46.7	55.4	64.8	74.8	67.4	65.6	54.8	37.3	25.6	48.0	100	—23	.....	.....
Allegan	.....	.....	33.5	45.2	54.0	63.6	73.6	64.2	62.8	.....	37.8	24.3	.....	99	.....	May 17	Sept. 21
Alma	22.6	25.0	29.6	43.0	53.8	63.0	73.2	65.1	64.0	52.4	35.2	25.0	46.0	100	—11	.....	Sept. 20
*Alpena	21.6	23.0	27.2	39.0	48.6	57.4	69.0	62.0	60.9	50.8	34.4	24.8	43.2	98	— 7	May 25	Sept. 21
*Ann Arbor	20.7	25.6	34.0	44.8	55.0	64.8	75.5	67.0	65.8	54.5	36.7	25.7	47.5	102	—16	.....	Oct. 17
Arbela	22.3	26.1	30.5	44.4	54.4	63.6	73.9	65.2	64.0	53.4	36.6	25.3	46.6	101	—11	May 25	Sept. 20
*Badaxe	.....	.....	.....	.....	52.8	61.4	73.0	65.6	63.2	.....	.....	.....	.....	101	.....	.....	.....
Baldwin	19.0	23.0	27.2	41.7	51.4	61.0	71.8	62.2	61.2	50.4	33.3	22.5	43.7	100	—22	June 20	Aug. 20
Ball Mountain	22.8	25.6	31.4	42.4	53.0	62.8	73.0	65.5	64.6	53.8	37.0	24.2	46.3	95	—14	Apr. 27	Sept. 18
Baraga	14.9	17.1	21.8	37.2	46.8	54.3	68.8	62.0	61.6	48.7	.....	23.7	.....	99	—26	.....	Aug. 20
*Battlecreek	22.2	27.0	34.7	45.2	55.5	66.5	76.0	67.8	67.0	55.2	38.1	26.6	48.5	101	—12	May 31	Sept. 21
Bay City	.....	.....	.....	46.3	.....	.....	73.0	65.4	64.4	49.4	.....	25.7	.....	.....	.....	.....	.....
Benton Harbor	25.4	28.7	35.1	45.8	54.7	65.8	74.6	67.3	65.2	56.7	39.9	31.0	49.2	97	— 6	.....	.....
Benzonia	23.1	25.6	29.2	43.0	53.0	62.6	72.0	.....	.....	52.6	41.2	27.7	.....	.....	— 5	.....	Nov 3
Berlin	21.6	24.8	30.9	42.6	52.7	60.7	71.3	63.8	63.2	51.5	34.5	24.2	45.2	97	—16	May 26	Sept. 21
Berrien Springs	22.4	27.6	35.4	45.7	53.8	65.8	75.0	67.7	67.9	56.4	39.6	27.6	48.7	99	—14	June 6	Sept. 20
Big Rapids	20.6	23.4	28.1	42.0	52.2	62.4	71.8	63.6	62.6	51.1	33.0	23.8	44.6	97	—11	.....	Aug. 20
Birmingham	23.1	26.6	33.0	45.2	55.9	65.6	75.2	66.2	62.6	53.3	35.8	25.6	47.3	101	—15	.....	.....
Boisblanc (*h*)	.....	.....	.....	.....	47.1	55.5	69.8	.....	61.1	.....	.....	.....	.....	.....	.....	.....	.....
Boon	18.1	[c]21.4	[c]23.7	38.6	49.3	59.6	69.8	60.9	60.7	49.0	31.4	22.8	42.1	95	—17	May 25	Aug. 26

[1] Dr. J. Fisher.
[2] A. P. Mason.
[3] Prop. locks and canals.
[4] F. E. Saunders.
[5] T. R. Rodman.
[6] New Bedford waterworks.
[7] Mrs. H. B. Sprague.
[8] E. L. Redfern.
[9] Worcester Academy.
[10] G. W. Swan.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Michigan—Continued.																	
Bronson	21.2	27.2	35.5	.....	.....	.....	67.6	60.5	61.2	47.9	27.2	19.2	40.3	92	—13	.....	.....
Calumet	16.3	20.0	22.9	37.6	47.7	55.0	67.6	60.5	61.2	47.9	27.2	19.2	40.3	92	—13	.....	.....
Camden	21.1	27.6	.....	44.9	54.0	63.9	73.4	.....	.....	54.5	38.0	26.2	.....	.....	—18	May 31	Oct. 16
Carsonville	21.3	24.5	29.2	44.1	[c]53.9	59.4	71.7	64.6	63.6	51.7	35.3	25.6	45.4	97	— 8	.....	Sept. 21
Charlevoix	23.2	23.4	24.4	41.7	51.2	56.0	71.6	64.0	63.6	52.6	35.8	25.1	44.4	96	—13	.....	.....
Cheboygan	19.8	20.2	25.6	39.6	49.1	57.8	71.6	64.2	61.5	49.6	32.9	22.4	42.9	101	—14	June 7	Aug. 23
Clinton	21.9	26.7	35.0	45.2	55.5	65.4	75.8	67.5	66.2	55.4	37.7	25.4	48.1	104	—19	.....	Sept. 21
Coldwater	.....	.....	.....	44.9	54.9	65.0	73.9	66.8	65.3	54.8	37.8	26.8	.....	99	.....	Apr. 26	Sept. 21
Crisps (*h*)	.....	.....	.....	.....	.....	.....	.....	.....	.....	49.0	33.2	23.9	.....	.....	.....	.....	.....
*Detroit	23.0	27.4	34.6	45.2	54.8	64.6	74.8	67.8	66.3	56.0	38.8	27.5	48.4	94	—16	May 31	Nov. 3
East Tawas	21.2	.....	27.9	40.2	50.6	60.0	71.6	64.1	61.4	50.1	34.6	24.8	.....	96	.....	June 8	.....
Eloise	.....	.....	33.8	45.0	54.5	64.5	73.8	66.1	64.4	54.7	38.0	26.8	.....	98	.....	Apr. 27	Sept. 21
Escanaba	17.9	19.8	23.4	37.4	48.9	58.3	71.4	64.1	62.4	49.6	30.3	20.0	42.0	88	—19	June 5	Oct. 29
Ewen	.....	.....	.....	38.1	47.7	55.3	68.2	61.4	63.9	48.1	25.2	.....	.....	95	.....	.....	.....
Fairview	21.1	23.4	31.9	43.0	53.4	62.7	73.8	65.7	63.9	55.2	37.6	25.0	46.4	95	—18	.....	.....
Fitchburg	21.0	25.2	32.4	43.3	53.2	62.3	72.3	64.4	62.9	52.0	35.3	23.6	45.6	100	—16	May 26	Sept. 20
*Flint	21.3	24.3	30.0	42.2	52.5	62.2	72.5	63.7	62.7	52.4	36.4	24.1	45.4	99	—14	.....	Sept. 21
Frankfort (*h*)	.....	.....	.....	.....	.....	.....	.....	.....	63.3	[e]54.2	39.5	30.4	.....	.....	.....	.....	.....
Gladwin	22.6	22.9	27.4	41.0	52.7	62.5	71.1	62.8	60.3	49.2	33.4	24.0	44.2	98	—16	May 24	Sept. 20
*Grand Haven	24.5	27.8	32.3	43.0	51.2	62.0	72.4	65.7	64.8	53.5	38.6	28.8	47.0	93	0	May 15	Nov. 12
Grand Pt. au Sable(*h*)	.....	.....	.....	.....	.....	.....	67.8	64.6	.....	52.4	36.6	28.0	.....	.....	.....	.....	.....
Grand Rapids	.....	26.1	31.3	44.0	55.4	64.4	76.3	67.6	65.4	53.8	36.1	27.2	.....	100	.....	.....	.....
Grape	23.3	28.3	36.4	46.0	55.9	65.7	75.4	[f]68.6	66.1	57.0	39.0	27.4	49.1	98	—19	.....	Sept. 21
Grayling	17.2	20.8	24.0	40.8	49.8	61.7	72.6	61.6	60.7	50.9	31.4	21.4	42.7	101	—22	.....	Oct. 3
Grindstone City (*h*)	.....	.....	.....	.....	.....	.....	.....	.....	61.4	50.4	36.4	.....	.....	.....	.....	.....	.....
Hammonds Bay (*h*)	.....	.....	.....	.....	.....	.....	.....	62.6	.....	49.2	34.4	.....	.....	.....	.....	.....	.....
Hanover	21.8	25.2	33.7	44.9	54.4	64.0	74.4	66.2	65.5	54.8	37.0	25.4	47.3	102	—18	Apr. 27	Sept. 20
Harrison	19.0	22.6	26.2	40.7	50.4	61.8	71.4	62.7	[d]62.0	49.2	.....	.....	.....	99	.....	June 21	Sept. 20
Harrisville	20.4	23.4	27.4	39.4	48.2	56.8	69.0	63.5	62.4	51.5	34.6	24.2	43.4	97	—10	.....	.....
Hart	24.8	26.4	30.8	44.0	52.1	62.0	74.8	65.7	65.6	53.4	36.4	26.4	46.9	99	— 3	.....	.....
Hastings	22.8	26.4	32.4	44.0	55.2	65.3	74.1	66.1	64.8	53.5	36.6	25.2	47.2	100	—15	June 8	Sept. 20
Hayes	24.2	26.1	30.4	42.0	52.8	64.2	70.8	66.6	[f]64.2	52.8	36.6	27.0	46.5	97	— 3	.....	Nov. 7
Hesperia	22.2	26.9	.....	.....	53.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Highland Station	[d]19.8	25.2	32.6	44.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Oct. 31
Hillsdale	.....	.....	.....	44.6	54.2	64.4	73.8	66.0	65.1	54.4	37.2	25.5	.....	98	.....	.....	Sept. 20
Holland (*h*)	26.8	29.7	35.3	44.6	53.4	63.2	72.7	68.5	67.8	56.9	40.9	30.4	49.2	93	1	.....	.....
Howell	21.4	25.0	31.5	44.5	54.0	65.5	76.0	66.8	65.8	55.5	36.0	.....	.....	99	.....	.....	.....
Humbolt	12.4	10.6	17.8	35.1	47.4	50.7	.....	57.4	57.4	43.7	24.0	11.3	.....	.....	—43	May 31	Aug. 18
Ionia	22.4	25.3	31.6	44.8	55.2	63.8	73.7	[f]67.0	64.2	[e]53.6	36.4	24.9	46.9	102	—13	May 15	Sept. 19
Iron River	11.4	[c]14.8	18.5	37.2	[c]44.7	[d]55.2	[h]68.6	[h]57.9	59.2	45.8	23.2	13.3	37.5	94	—35	May 24	Sept. 17
Ivan	.....	[h]19.2	26.0	39.8	50.0	61.6	74.1	63.4	62.7	52.2	33.4	24.6	.....	98	.....	June 7	Sept. 20
Jackson	.....	.....	34.6	44.9	56.0	66.0	75.8	67.6	66.3	54.9	37.8	26.2	.....	103	.....	.....	.....
Jeddo	21.7	24.8	30.0	42.6	52.1	60.2	71.4	65.0	64.0	52.4	36.0	24.8	45.4	95	—12	June 21	Sept. 21
Kalamazoo	21.4	26.2	34.1	45.4	55.0	66.2	75.4	68.0	68.2	56.6	39.2	26.4	48.5	99	—13	.....	Nov. 17
Lake City	19.4	21.3	25.4	40.0	50.4	61.0	70.6	61.5	61.9	.....	34.0	23.2	.....	97	—17	.....	Sept. 20
*Lansing	22.2	26.0	32.0	44.0	54.2	64.1	73.7	66.0	65.0	54.4	36.9	25.6	47.0	97	—11	Apr. 20	Sept. 21
Lapeer	22.0	25.2	31.1	44.0	54.0	62.5	72.5	64.8	63.0	55.0	.....	25.2	.....	101	—12	May 26	Sept. 21
Lathrop	14.8	17.8	20.7	36.2	46.9	56.6	69.4	60.1	59.3	47.4	[e]29.6	16.2	39.6	92	—21	June 8	Sept. 27
Ludington	24.0	25.6	30.0	43.0	51.0	60.0	72.1	66.6	63.6	53.0	36.7	27.3	46.1	90	— 3	.....	.....
Luzerne	16.8	19.8	22.9	38.0	49.9	60.5	70.6	60.8	59.6	48.4	30.2	20.6	41.5	97	—20	Apr. 22	Sept. 20
Mackinaw City	19.8	19.7	22.4	37.6	46.1	55.1	69.3	62.1	58.6	48.5	31.6	21.2	41.0	97	—14	.....	.....
Madison	22.2	27.6	34.8	45.9	56.4	66.4	75.4	67.4	65.8	55.6	37.9	26.6	48.5	100	—19	Apr. 27	Sept. 21
Mancelona	19.0	21.0	25.6	40.4	49.6	59.3	72.0	61.2	61.9	50.5	32.2	22.6	42.9	97	—19	May 25	Sept. 20
Manistee	23.4	24.8	29.4	41.3	49.6	58.4	70.0	64.4	62.2	52.2	34.4	26.0	44.7	96	— 8	.....	.....
Maniatique	18.9	18.9	22.9	35.4	45.7	55.2	66.6	61.3	58.4	48.5	30.0	19.8	40.1	82	—10	.....	Sept. 20
*Marquette	18.2	20.9	24.3	37.8	47.6	54.6	69.1	62.6	63.4	49.9	30.0	20.5	41.6	97	—15	June 5†	Oct. 29†
Mayville	22.2	25.0	.....	43.2	51.7	63.3	72.4	65.4	65.3	53.4	.....	.....	.....	101	.....	.....	Sept. 21
Middle Island (*h*)	24.0	25.7	30.4	39.2	47.5	55.9	69.3	64.8	61.2	51.8	36.7	28.4	44.7	86	— 2	.....	.....
Midland	21.7	23.8	28.1	.....	53.0	64.2	71.6	63.7	[h]62.9	50.9	36.0	24.3	.....	99	— 9	.....	.....
Mottville	21.1	28.0	36.5	46.2	55.3	66.1	75.2	68.4	67.2	56.0	38.6	27.2	48.8	103	—21	Apr. 27	Sept. 21
Mount Clemens	22.7	26.4	33.4	44.4	54.6	63.9	73.1	66.2	65.2	55.0	36.8	25.6	47.3	101	—15	.....	.....
Mount Pleasant	21.6	22.9	28.9	43.0	53.7	64.0	73.6	65.4	64.0	51.4	34.2	24.2	45.6	102	—12	May 26	.....
Muskallongee Lake (*h*)	.....	.....	.....	.....	.....	.....	.....	.....	59.0	47.4	31.8	.....	.....	.....	.....	.....	.....
Muskegon	23.3	26.4	30.5	42.8	52.3	62.9	74.0	66.1	64.4	53.2	37.6	27.7	46.8	94	—11	.....	Oct. 17
Newberry	17.5	16.0	20.3	[e]33.5	45.7	54.2	67.8	59.3	59.0	46.3	28.8	16.0	38.7	96	—20	.....	.....
North Manitou Island (*h*)	.....	25.4	27.6	39.0	47.6	56.7	68.6	64.3	63.6	52.4	35.4	25.3	.....	90	.....	.....	.....
North Marshall	20.1	23.0	23.0	43.4	53.0	64.6	73.2	64.9	64.8	53.3	36.3	25.0	46.2	99	—16	.....	Sept. 21
Northport	22.6	24.6	28.5	40.6	49.6	57.7	71.4	64.0	64.3	[e]50.2	35.2	27.4	44.7	96	— 2	.....	Nov. 2
Old Mission	22.7	24.2	27.6	40.8	49.6	58.8	71.8	63.4	61.6	52.0	35.6	26.2	44.5	94	— 2	Apr. 19	Nov. 6
Olivet	22.6	26.5	33.4	44.8	54.4	64.8	73.6	65.9	64.6	54.4	37.0	26.2	47.4	96	—11	.....	Sept. 21
Omer	.....	24.8	27.3	.....	.....	[e]63.0	70.8	[e]61.4	60.4	49.9	34.5	24.6	.....	100	.....	.....	Sept. 19
Ottawa Point (*h*)	.....	.....	.....	.....	.....	.....	71.7	68.3	62.2	51.6	36.3	.....	.....	.....	.....	.....	.....
*Ovid	22.8	25.4	31.2	43.9	53.6	63.6	73.6	65.5	65.1	53.6	36.6	25.1	46.7	100	—11	Apr. 19	Sept. 21
Owosso	21.8	24.3	30.8	44.2	54.4	65.0	74.0	67.0	66.2	54.0	36.8	24.7	46.9	101	—12	.....	.....
Pentwater (*h*)	.....	.....	.....	.....	.....	.....	.....	.....	66.9	58.1	40.3	.....	.....	.....	.....	.....	.....
Petoskey	21.8	21.2	26.0	40.0	48.5	[e]55.8	73.0	.....	63.8	50.7	33.8	24.4	.....	.....	— 9	June 8	Oct. 7
Plymouth	21.6	26.8	34.0	44.2	54.6	64.5	72.9	66.1	66.2	55.2	37.2	25.6	47.4	101	—16	May 26	Sept. 20
Point Aux Barques (*h*)	.....	.....	.....	40.8	52.1	59.0	.....	66.5	66.2	54.8	37.4	.....	.....	.....	.....	.....	.....
Point Betsey (*h*)	.....	.....	.....	.....	.....	.....	.....	.....	63.5	53.8	37.5	.....	.....	.....	.....	.....	.....
Pontiac	22.4	25.6	32.7	.....	[e]56.0	66.9	74.5	67.0	65.1	.....	.....	.....	.....	94	.....	.....	Sept. 21
Port Austin	22.2	25.4	28.9	40.6	50.4	58.2	70.0	[e]62.6	62.4	51.8	37.0	.....	.....	98	.....	May 25	Sept. 28
*Port Huron	22.5	25.8	31.8	43.3	53.2	61.6	72.4	66.2	65.2	54.6	38.2	27.4	46.8	96	—13	Apr. 27	Oct. 18
Powers	17.0	19.3	23.8	39.2	50.0	58.7	70.6	.....	61.2	49.0	.....	.....	.....	.....	.....	Apr. 9	Sept. 21
Reed City	20.2	22.6	26.8	40.6	51.4	61.5	71.2	[d]62.6	.....	49.6	32.0	20.5	.....	99	—18	.....	Sept. 19
Rockland	13.7	17.4	23.6	39.6	49.1	56.4	68.8	60.8	62.6	[e]47.8	26.0	15.2	40.1	94	—20	.....	.....
Rogers City	19.8	20.1	24.2	37.5	48.0	54.9	68.4	59.8	[d]60.6	50.6	33.5	23.6	41.8	96	—13	.....	.....
Romeo	22.4	23.8	30.2	45.5	54.8	.....	.....	.....	65.7	53.5	37.6	27.2	.....	.....	—14	.....	Sept. 21
Saginaw	22.6	26.0	30.6	44.0	54.6	65.1	76.6	66.4	64.8	52.6	35.4	25.2	47.0	101	— 7	May 23	Sept. 20

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Michigan—Continued.																	
St. Ignace	19.8	19.4	25.4	38.4	46.4	55.4	70.0	62.3	59.6	48.2	31.7	19.8	41.4	91	—14	.....	.....
St. Johns	23.0	25.6	31.6	44.6	54.6	65.2	75.4	66.9	[d]65.7	54.7	37.4	26.1	47.6	100	—12	Apr. 29	Sept. 21
Sandbeach	23.0	27.2	29.0	40.2	50.4	56.0	67.0	63.2	62.2	51.6	36.6	25.4	44.3	99	— 8	.....	.....
*Sault Ste. Marie	17.0	17.2	21.7	36.9	45.8	53.8	67.6	61.0	59.0	47.0	30.6	18.9	39.7	92	—21	May 16	Sept. 27
Ship Canal (*h*)	.....	.....	.....	.....	.....	.....	.....	.....	62.2	48.6	29.6	.....	.....	.....	.....	.....	.....
Sidnaw	13.1	16.3	20.4	37.6	47.1	56.4	67.4	61.2	58.5	[e]50.0	25.4	.....	.....	98	.....	May 31	.....
Somerset	19.7	25.3	33.2	43.9	54.2	64.2	73.4	[e]65.5	65.0	53.8	36.0	24.6	46.6	98	—17	May 1	Sept. 20
South Haven	24.0	27.7	[e]33.7	43.5	52.2	63.4	72.4	[d]65.6	65.8	[d]55.8	.....	.....	.....	95	.....	.....	.....
Stanton	21.4	24.4	28.3	42.4	53.5	63.7	73.8	65.1	63.2	54.0	34.8	25.0	45.8	100	—11	May 24	.....
Sturgeon Point (*h*)	.....	.....	.....	.....	48.3	58.0	70.0	66.4	62.3	53.6	36.0	25.0	.....	91	.....	.....	.....
Thomaston	10.0	15.8	18.9	37.8	47.7	59.2	69.2	59.9	.....	48.5	24.8	15.2	.....	.....	—34	June 6	Oct. 17
Thornville	22.6	26.8	32.6	45.9	55.5	64.6	64.8	66.2	65.6	54.6	37.6	26.3	47.8	98	— 8	May 26	Sept. 21
Thunder Bay Island (*h*)	.....	24.5	29.2	37.7	45.5	54.7	69.0	64.4	.....	51.4	36.5	26.8	.....	.....	.....	.....	.....
Traverse City	23.2	24.6	27.6	44.6	51.8	61.8	.....	67.2	63.3	52.4	.....	25.6	.....	.....	—12	May 25	.....
Two Heart River (*h*)	.....	.....	.....	.....	.....	.....	.....	.....	61.0	47.6	31.0	.....	.....	.....	.....	.....	.....
Valley Center	[e]18.8	23.5	30.5	42.4	52.9	61.8	71.5	63.2	61.4	49.9	34.0	24.0	44.5	97	—11	June 8	Sept. 20
Vandalia	22.6	28.1	35.9	46.6	55.8	66.7	76.3	69.0	68.6	57.1	38.9	27.2	49.4	100	—19	.....	Nov. 13
Vassar	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	36.8	26.1	.....	.....	.....	.....	.....
Vermilion Point (*h*)	.....	.....	.....	.....	.....	.....	.....	.....	55.0	44.1	27.6	18.1	.....	.....	.....	.....	.....
Wasepi	19.8	28.1	34.8	44.8	54.3	64.4	73.3	67.3	65.8	55.0	38.4	27.0	47.8	97	—19	.....	Sept. 20
Waverly	21.4	24.8	31.9	44.3	53.0	63.0	73.6	64.8	65.1	52.2	36.8	27.2	46.5	99	—14	Apr. 19	Sept. 20
West Harrisville	16.6	21.5	26.0	39.2	49.1	58.6	70.3	62.3	61.0	50.6	[e]35.4	23.5	42.8	97	—10	June 9	Sept. 21
Wetmore	17.4	16.3	20.9	36.2	45.8	54.4	66.4	58.9	60.0	47.0	27.4	16.5	38.9	94	—21	June 7	Aug. 22
White Cloud	.....	.....	.....	42.2	53.8	62.1	73.6	65.2	63.4	52.0	32.8	22.4	.....	99	.....	May 24	Sept. 17
Ypsilanti	23.9	27.6	34.5	45.4	54.6	63.6	73.6	66.2	63.4	53.8	38.2	26.6	47.6	96	—17	.....	Sept. 21
Minnesota.																	
Ada	.....	[e]6.0	13.7	44.6	56.2	61.6	70.2	64.6	65.2	47.4	21.2	7.4	.....	96	.....	June 6	Sept. 17
Albert Lea	11.4	20.2	24.6	.....	[g]58.2	65.2	.....	.....	67.2	53.2	30.2	13.2	.....	.....	—26	.....	Sept. 20
*Alexandria	4.1	13.8	15.4	42.4	54.6	60.5	71.1	64.1	65.3	49.6	26.6	10.7	39.8	92	—38	June 7†	Sept. 17
Beardsley	4.6	11.5	15.9	45.2	.....	62.1	70.6	63.6	67.6	49.2	26.0	13.3	.....	97	—35	June 7†	Sept.17†
Belleplaine (*a*)	8.7	23.3	28.7	42.4	54.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bermidji	—1.2	7.1	14.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	May 2†	.....
Bingham Lake	10.8	18.6	22.0	45.7	.....	65.0	74.6	75.6	.....	.....	.....	16.0	.....	.....	—33	June 6†	Sept.17†
Bird Island	8.5	16.0	20.2	44.9	56.0	63.0	71.4	64.4	66.4	50.6	27.7	14.3	42.0	93	—27	May 31	Oct. 9†
Blooming Prairie	9.8	18.9	24.6	44.0	55.0	65.0	72.1	64.9	66.8	51.8	27.8	13.0	42.8	95	—31	May 31	Sept. 19
Bonniwell	8.6	17.6	21.4	45.8	56.1	62.9	73.0	65.4	65.1	52.1	29.4	13.8	42.6	96	—27	.....	.....
Caledonia	13.6	21.8	26.6	46.2	56.6	65.2	73.2	65.8	67.1	54.6	30.5	15.4	44.7	97	—27	June 1	Sept. 20
Camden	9.0	16.6	21.2	45.2	57.0	64.0	72.1	64.0	68.2	49.5	28.1	16.1	42.6	98	—24	June 7	Oct. 8
*Campbell	3.2	11.2	15.2	43.4	55.6	.....	70.6	63.2	66.1	.....	.....	.....	.....	.....	.....	.....	.....
Collegeville	8.4	18.0	22.6	44.9	56.6	62.7	72.8	65.5	66.4	51.4	29.2	15.0	42.8	98	—27	June 7	Sept. 17
*Crookston	—0.6	7.0	13.6	45.6	55.0	61.4	70.0	63.6	63.6	47.6	20.8	9.6	38.1	96	—37	June 7	Sept. 17
Dawson (*a*)	.....	11.4	22.8	41.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Detroit City	1.9	11.4	17.1	42.3	58.2	58.6	71.0	[e]62.3	.....	.....	21.5	5.6	.....	.....	—16	June 6	Sept 19
*Duluth	9.4	18.6	21.8	40.0	48.4	54.2	66.4	63.8	62.6	48.6	26.2	14.2	39.5	89	—29	June 1	Oct. 9
Faribault	*6.6	18.3	24.2	44.4	55.3	63.6	74.2	66.6	68.2	52.8	29.3	14.4	43.2	97	—29	May 31†	Sept.20†
Farmington	7.0	16.5	20.9	42.8	53.8	61.6	70.6	63.6	64.4	49.4	24.8	11.6	40.6	96	—35	June 6†	Sept.17†
Fergus Falls	7.0	12.3	18.2	43.5	55.5	62.4	71.6	64.2	65.6	49.4	25.0	10.2	40.4	94	—31	June 6	Sept. 17
Glencoe	8.2	13.2	17.4	42.7	.....	.....	71.6	64.8	67.0	51.8	28.8	13.2	.....	.....	—27	June 8	Sept. 18
Glenwood	3.6	13.8	19.1	42.6	55.4	62.4	72.2	64.2	65.6	.....	25.1	11.6	.....	101	—32	June 7†	Sept.17†
*Grand Meadow	10.4	18.3	23.6	44.3	54.5	64.6	73.0	65.0	67.0	51.4	26.8	10.0	42.4	97	—30	June 7	Sept. 17
Grand Portage	.....	12.0	19.0	31.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Granite Falls	.....	.....	.....	.....	56.4	.....	72.6	64.8	66.3	.....	.....	.....	.....	.....	.....	.....	Sept.17†
Koochiching	.....	7.3	14.4	38.8	.....	.....	68.2	60.3	60.6	45.0	18.8	6.4	.....	.....	.....	.....	Sept. 17
Lake City	12.5	20.6	25.2	45.9	57.1	65.6	73.3	66.0	68.0	53.3	30.0	14.8	44.5	98	—27	June 1†	Oct. 9
Lakeside	6.4	14.6	20.0	45.0	55.1	64.0	72.2	64.8	65.8	50.0	26.8	13.2	41.5	94	—28	May 30	Oct. 8
Lake Winnibigoshish	1.2	10.1	17.9	38.5	51.6	57.9	68.0	62.3	62.1	45.0	20.7	6.6	36.8	90	—36	June 5†	Sept.20†
Lambert	0.8	8.6	14.2	40.2	53.6	59.2	71.3	61.8	60.8	45.8	20.0	6.0	36.9	94	—39	June 7†	Oct. 9†
Lawrence	8.2	.....	.....	43.7	.....	64.4	70.8	64.8	.....	52.0	31.7	.....	.....	.....	.....	.....	.....
Leech Lake	—0.9	9.1	17.8	41.0	51.4	58.5	69.2	62.1	63.0	47.2	22.4	6.6	37.3	93	—50	June 5†	Sept. 17
Lesueur (*a*)	8.9	19.0	24.5	48.4	55.7	65.9	73.7	65.9	64.6	52.2	28.9	17.2	43.7	98	—28	June 1	Sept. 20
Long Prairie	4.6	15.5	19.7	43.0	54.0	60.9	72.1	.....	63.9	48.1	25.0	.....	.....	.....	—30	June 7†	Oct. 9†
Lutsen	10.2	17.4	20.4	35.8	44.7	52.4	61.0	60.5	57.2	45.8	25.8	15.2	37.2	83	—27	June 7†	.....
Luverne	10.4	17.6	23.8	45.6	55.0	65.1	72.6	64.3	67.8	51.5	29.8	16.6	43.3	98	—25	May 27	Oct. 9†
Lynd	.....	.....	.....	.....	.....	.....	72.5	64.8	67.6	49.8	27.4	14.4	.....	.....	.....	.....	Oct. 17
Maplewood (*a*)	.....	.....	.....	45.1	57.8	64.4	73.5	65.9	66.7	52.8	29.7	16.4	.....	92	.....	.....	Sept. 20
Mazeppa (*a*)	13.2	16.3	25.8	42.2	55.4	64.7	75.6	65.8	68.2	.....	.....	.....	.....	104	.....	June 8	Sept.16†
Milaca	.....	17.0	.....	44.4	.....	.....	73.8	[e]67.8	.....	.....	.....	13.0	.....	.....	.....	June 10†	Sept. 3†
Milan	4.9	12.0	17.0	45.2	57.3	63.6	72.0	64.5	68.9	50.4	[d]24.1	12.6	41.0	99	—32	June 7†	Sept. 17
*Minneapolis	10.6	20.0	24.7	46.4	56.8	64.4	73.9	66.4	67.9	53.4	29.5	15.2	44.1	96	—26	May 24	Sept. 20
Minneapolis [1]	8.6	19.2	23.5	45.2	56.6	64.7	73.8	66.8	66.3	51.8	28.5	15.2	43.4	100	—29	.....	.....
Minneapolis (*a*)[2]	8.2	18.6	23.4	44.0	54.9	63.4	72.5	63.6	64.5	50.3	26.7	13.1	41.9	95	—30	.....	.....
Minnesota City (*a*)	15.7	23.0	28.9	47.4	57.4	66.8	73.5	66.5	67.6	54.7	31.2	16.3	45.8	96	—24	June 1	Sept. 20
Montevideo	5.4	14.2	17.8	44.4	57.3	62.8	71.9	65.3	67.8	51.5	27.8	15.0	41.8	95	—25	June 7†	Sept. 17
*Moorhead	2.0	7.8	15.2	44.3	56.2	62.0	70.7	64.8	65.6	48.4	23.2	10.6	39.2	97	—32	June 7	Sept. 17
Morris	5.0	13.2	17.4	44.0	57.0	63.6	72.7	65.8	66.0	50.3	26.4	12.6	41.2	96	—30	June 7	Oct. 9
Mount Iron	2.7	12.0	19.3	39.2	49.4	56.8	67.4	58.6	59.6	42.8	17.6	[d]3.2	35.7	97	—36	June 5†	Sept.16†
New London	2.6	14.2	16.4	40.2	53.8	57.2	71.4	66.0	65.4	48.6	25.7	11.8	39.4	95	—31	June 8†	Oct. 10
New Richland (*a*)	[e]9.6	[d]18.7	[d]24.9	[d]46.0	[e]56.4	[d]66.3	[d]73.6	[e]65.6	[d]66.6	[e]52.2	[d]29.5	[d]13.2	43.6	96	—36	June 1	Oct. 9†
*New Ulm	9.0	18.3	23.1	45.8	57.0	65.5	73.5	65.4	68.0	51.6	28.6	16.3	43.5	96	—28	June 7	Sept. 16
*Park Rapids	1.5	10.6	17.4	41.0	51.6	57.5	69.2	61.1	61.8	46.7	22.0	6.5	37.2	94	—42	June 6	Sept. 17
Pine River	3.5	13.7	20.3	42.2	53.8	59.6	70.2	64.3	62.0	47.3	24.0	8.4	39.1	94	—40	June 5†	Sept. 14
Pleasant Mounds	9.6	17.9	23.6	46.0	56.0	64.3	71.7	[k]65.7	.....	53.6	31.0	16.0	.....	.....	—27	May 31†	Oct. 9†
Pokegama Falls	1.3	9.1	17.8	42.3	50.8	57.3	68.3	60.3	61.6	45.7	19.5	5.5	36.6	93	—50	June 7†	Sept.17†
Rolling Green	9.3	18.0	22.6	44.1	55.2	64.0	72.2	65.8	68.2	53.2	29.0	15.4	43.2	93	—25	May 31†	Oct. 9

[1] W. M. Cheney. [2] J. H. Ashenbeck.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Minnesota—Continued.																	
Roseau	—0.5	4.8	[f]11.4	39.4	[g]52.4	[e]58.2	[g]67.2	.....	.....	43.9	17.0	4.2	.....	.....	—42	June 7†	.....
St. Charles	12.6	20.0	24.6	44.9	56.4	65.0	72.2	64.6	66.7	53.3	30.5	13.6	43.7	95	—27	June 7	Sept. 20†
St. Cloud	5.7	16.0	19.4	[a]1.4	53.8	61.2	71.7	64.8	64.3	49.6	24.6	9.0	40.1	90	—38	May 31†	Oct. 9†
St. Olaf	4.4	12.8	18.4	43.2	55.6	61.5	71.0	63.8	64.6	48.4	25.0	10.2	39.9	92	—29	June 6†	Sept. 17
*St. Paul	9.4	18.6	24.2	45.8	56.8	64.2	73.8	66.3	67.6	53.0	29.3	15.4	43.7	94	—26	Apr. 30†	Oct. 9
St. Peter	.....	.....	.....	.....	.....	.....	.....	65.8	67.6	55.2	33.2	17.8	.....	.....	.....	.....	.....
Sandy Lake Dam	3.7	12.9	20.2	41.1	51.4	58.2	69.6	61.5	62.4	46.8	22.2	8.5	38.2	92	—39	June 7	Sept. 20
Sauk Center	.....	15.8	19.8	42.7	.....	.....	.....	.....	.....	.....	.....	10.5	.....	.....	.....	.....	.....
Shakopee (*a*)	9.2	21.4	22.4	47.5	56.1	64.2	74.8	67.1	67.8	52.5	28.6	15.8	44.0	96	—30	June 1	Sept. 20
Tower	2.9	9.6	14.6	35.5	50.0	54.7	67.5	58.5	57.2	46.1	18.4	3.8	34.4	98	—47	.....	.....
Two Harbors	11.3	19.3	24.3	40.0	47.0	54.0	64.0	62.5	60.8	48.1	27.5	15.4	39.5	87	—24	May 31†	Sept. 19†
Wabasha (*a*)	12.7	20.7	26.4	47.9	56.8	65.2	73.2	65.1	65.7	53.3	30.2	15.2	44.4	99	—27	June 1	Sept. 20
Willmar	6.2	13.6	19.3	44.1	55.0	62.8	72.0	64.4	65.2	49.8	26.4	12.2	40.9	95	—28	June 7	Oct. 9†
Winnebago City	.....	.....	.....	.....	.....	.....	73.3	66.6	68.8	.....	.....	.....	.....	.....	.....	.....	.....
Worthington	9.0	15.8	21.8	42.3	55.6	64.0	71.9	64.0	68.4	52.0	29.2	15.2	42.4	94	—27	June 6	Sept. 17
Zumbrota (*a*)	10.5	20.7	25.6	45.5	56.4	64.9	73.8	65.5	68.9	52.5	28.8	14.7	43.9	94	—32	June 8	Sept. 17
Mississippi.																	
*Aberdeen	.....	.....	.....	61.0	67.4	81.4	82.4	80.1	75.7	64.9	.....	.....	.....	108	.....	.....	.....
Agricultural College	41.0	49.4	58.9	62.6	70.2	81.8	81.8	81.1	78.9	70.9	55.0	46.4	64.8	101	11	Feb. 27	Nov. 17
Austin	39.8	48.4	57.4	62.2	68.8	79.3	81.6	79.3	74.2	66.4	53.0	41.8	62.7	99	13	Feb. 28	Oct. 30
*Batesville	39.6	48.8	56.0	60.6	66.3	78.4	81.3	78.4	73.6	65.2	52.0	43.9	62.0	102	10	Feb. 28	Oct. 30
Bay St. Louis	49.6	57.0	68.0	68.2	72.4	81.2	83.0	81.6	77.4	71.2	61.5	52.8	68.7	98	19	Feb. 2	Dec. 5
Biloxi	47.9	55.7	67.8	66.7	72.4	82.5	84.0	81.2	77.6	70.8	60.6	53.5	68.4	98	19	Jan. 29	Dec. 4
Booneville	.....	.....	.....	.....	67.8	80.8	82.4	80.0	76.7	.....	.....	.....	.....	104	.....	.....	.....
Briers	44.4	52.9	64.1	65.0	69.7	80.5	81.8	79.8	75.0	69.3	57.2	49.0	65.7	98	16	Feb. 27	Nov. 17
*Brookhaven	45.2	54.4	65.6	65.5	71.4	82.6	84.2	80.4	78.2	71.4	58.6	51.6	67.4	105	11	Feb. 28	Nov. 17
Canton	44.6	53.4	63.9	65.2	70.6	82.0	84.0	81.9	77.6	69.3	57.6	48.6	66.6	102	15	Feb. 28	Nov. 17
*Columbus	42.0	51.3	59.9	63.8	70.3	83.8	84.8	82.5	77.8	68.2	55.0	46.1	65.5	111	9	Feb. 28	Nov. 17
*Corinth	.....	.....	.....	58.6	67.0	79.0	82.0	80.2	76.8	67.1	52.3	44.2	.....	105	.....	.....	Nov. 17
Crystal Springs	43.9	53.5	64.3	65.4	71.0	81.6	83.2	81.0	77.6	70.5	57.6	49.4	66.6	104	15	Feb. 27	Nov. 17
Edwards	43.6	53.1	64.6	65.7	72.1	83.0	84.6	82.8	[d]80.6	[d]70.6	57.2	49.1	67.2	104	14	Feb. 27	Nov. 17
Enterprise	.....	53.5	65.2	64.5	69.2	81.4	81.8	81.0	75.2	.....	58.1	.....	.....	102	.....	Feb. 27	Nov. 17
Fayette	46.8	54.5	64.3	67.2	70.8	81.2	84.0	81.0	.....	.....	.....	.....	.....	101	16	Feb. 28	Dec. 4
French Camps	41.0	50.8	60.2	61.8	66.2	.....	.....	.....	75.5	65.8	53.9	45.8	.....	.....	3	Feb. 24	Nov. 3
Fulton	39.4	48.8	58.0	61.6	68.0	80.6	82.0	80.2	76.0	.....	.....	.....	.....	102	0	Feb. 28	.....
Greenville [1]	41.4	49.7	59.0	63.4	70.8	80.8	82.2	79.4	75.9	67.7	53.1	43.3	63.9	97	14	Feb. 27	Nov. 17
*Greenville [2]	41.6	49.8	60.5	64.7	70.4	80.4	83.8	81.2	77.6	69.8	55.2	44.4	65.0	100	9	.....	Nov. 17
Greenwood	.....	.....	.....	.....	.....	.....	.....	80.7	76.4	67.6	54.0	43.3	.....	.....	.....	.....	Nov. 29
Hattiesburg	.....	.....	67.9	66.6	74.0	84.2	86.0	82.6	78.6	70.0	58.6	52.0	.....	99	.....	Feb. 28	Nov. 30
*Hazlehurst	.....	.....	.....	.....	71.2	81.6	83.6	81.4	77.8	70.6	56.7	.....	.....	103	.....	.....	Nov. 17
*Hernando	.....	46.8	55.6	60.2	67.8	79.2	82.6	80.2	77.1	69.4	.....	.....	.....	102	.....	Feb. 28	.....
*Holly Springs	38.6	45.4	52.2	61.1	68.0	79.8	82.4	79.9	77.8	69.6	49.7	40.6	62.1	102	8	Mar. 7	Nov. 17
*Jackson	43.0	51.0	64.2	63.8	69.2	81.0	83.3	80.6	75.8	67.2	54.6	46.5	65.0	102	14	Feb. 28	Nov. 17
*Lake	38.0	48.6	61.1	61.9	68.0	80.4	80.8	78.8	75.4	66.0	51.7	46.4	63.1	100	13	Feb. 28	Nov. 17
Leakesville	48.9	57.0	67.9	65.8	71.0	82.2	82.2	80.6	78.0	71.4	61.0	54.5	68.4	103	15	Feb. 27	Dec. 4
Logtown	50.2	57.6	68.9	68.0	72.5	81.7	82.9	81.1	77.2	70.8	61.6	54.4	68.9	100	20	.....	Dec. 6
Louisville	42.5	52.4	61.4	62.6	68.1	80.4	81.1	79.4	77.8	69.2	55.4	47.5	64.8	103	8	Feb. 4	Nov. 18
*Macon	41.6	50.0	60.6	63.4	68.2	82.9	83.1	81.8	77.0	66.8	54.6	48.2	64.8	104	12	Feb. 28	Nov. 17
Magnolia	46.8	54.8	67.2	65.6	71.6	81.4	82.3	80.3	76.0	70.6	57.4	51.4	67.1	103	16	Feb. 28	Nov. 18
Mayersville	43.4	52.6	[c]62.2	65.8	71.4	80.4	82.0	79.1	75.2	67.6	56.0	.....	.....	98	10	Feb. 24	Nov. 4
*Meridian	43.4	52.4	63.2	63.2	68.9	80.7	82.3	79.9	77.4	68.8	56.5	50.5	65.6	103	14	Feb. 28	Nov. 17
Mosspoint	48.2	56.3	67.4	66.4	72.7	82.8	84.0	82.2	78.0	.....	.....	.....	.....	100	19	Dec. 30	.....
*Natchez	46.6	56.2	66.8	66.6	71.4	81.5	83.6	81.2	77.5	72.0	60.4	51.2	67.9	101	17	Feb. 27	Nov. 30
*Okolona	39.2	[e]48.6	.....	62.4	69.1	82.0	83.6	81.9	77.7	67.4	53.1	44.0	.....	106	8	Feb. 24	Dec. 6
Palo Alto	41.1	50.2	59.5	63.0	70.2	.....	.....	81.6	79.4	69.0	54.5	46.0	.....	.....	7	Feb. 28	Nov. 17
Pontotoc	41.6	49.4	57.4	59.2	68.0	80.8	81.4	80.4	78.5	68.8	56.8	45.2	64.0	103	6	Feb. 27	Nov. 3
Poplarville	47.9	54.6	66.9	.....	.....	.....	.....	.....	.....	.....	.....	50.0	.....	.....	20	Feb. 28	Dec. 5
*Port Gibson	46.0	53.6	65.4	65.4	69.4	80.5	82.7	80.8	75.9	69.2	57.6	49.5	66.4	102	17	Feb. 28	Nov. 3
Rosedale	40.6	49.2	[f]57.4	.....	[d]71.9	80.6	[e]82.6	[c]79.6	74.4	64.1	[c]50.0	42.4	.....	99	15	Feb. 27	Nov. 9
Stonington (*a*)	45.2	54.6	65.3	65.6	72.3	81.7	82.6	81.4	.....	[e]69.4	58.0	49.8	.....	100	16	Feb. 27	Nov. 17
Thornton	46.1	55.4	62.0	66.8	72.0	81.3	.....	.....	78.3	72.8	59.2	49.7	.....	.....	14	Feb. 24	Nov. 17
Topton	45.4	55.8	64.8	66.4	75.0	84.2	.....	.....	.....	.....	.....	.....	.....	.....	20	Feb. 27	.....
University	.....	.....	.....	[e]62.8	.....	.....	.....	.....	72.9	69.8	52.7	[e]41.4	.....	.....	.....	.....	Nov. 30
*Vicksburg	45.8	54.2	64.2	65.2	71.4	80.6	82.4	80.2	77.7	71.2	58.1	49.2	66.7	98	17	Feb. 21	Nov. 17
Water Valley (*a*)	39.2	47.6	57.2	[e]60.3	65.7	78.0	80.4	78.3	75.9	66.2	52.5	43.1	62.0	103	— 2	Feb. 28	Nov. 30
*Waynesboro	.....	55.3	62.6	66.0	69.3	80.4	84.0	81.8	78.0	69.4	59.7	.....	.....	102	.....	Mar. 3	Nov. 17
Windham	.....	.....	.....	.....	69.4	80.3	81.6	78.2	75.4	.....	.....	.....	.....	108	.....	.....	.....
Woodville	46.6	54.5	66.1	65.6	71.4	79.9	81.1	80.0	77.0	71.1	59.7	52.0	67.1	99	15	Feb. 27	Nov. 17
*Yazoo City	42.6	51.2	62.8	66.8	72.4	81.4	84.6	82.2	77.2	68.8	55.8	47.6	66.1	104	13	Feb. 27	Nov. 10
Missouri.																	
Appleton City	30.4	38.0	46.1	54.0	65.2	74.6	80.1	76.3	75.2	63.8	46.0	30.2	56.7	101	0	.....	Oct. 29
Arthur (*c*)	27.6	34.5	44.3	54.6	63.5	71.9	78.8	73.6	71.1	59.3	41.2	28.4	54.1	.....	— 3	.....	Oct. 29
Avalon	23.7	30.9	40.9	53.6	[e]62.3	[e]73.1	79.2	.....	[d]75.2	[d]62.8	[d]39.0	.....	.....	.....	—10	Apr. 19	.....
Bethany	28.1	31.9	39.8	61.3	.....	.....	.....	.....	.....	.....	39.6	23.2	.....	.....	—11	.....	.....
Birchtree	31.6	37.8	48.2	56.2	61.1	71.8	77.0	73.0	72.0	62.0	43.4	31.8	55.5	97	— 8	Apr. 17	.....
*Brunswick	24.6	32.3	39.1	52.6	61.2	72.8	77.8	71.6	73.2	61.3	40.8	26.4	52.7	96	— 7	.....	.....
Carrollton	27.6	33.8	43.2	54.8	63.2	74.6	79.4	73.6	75.2	63.8	43.4	28.3	55.1	99	— 4	Apr. 11	Oct. 29
*Columbia	28.8	35.4	44.8	55.4	62.7	73.4	78.8	73.8	75.8	64.1	43.5	29.4	55.5	102	— 4	Apr. 17	Oct. 29
Conception	26.1	31.4	38.7	52.0	61.4	72.0	77.9	71.2	74.4	60.6	39.8	24.7	52.5	96	— 7	.....	.....
Cowgill (*c*)	23.6	31.3	39.2	52.7	63.0	73.5	80.4	73.8	77.0	60.8	39.4	25.2	53.3	100	—10	.....	.....
Darksville	26.0	31.2	40.5	52.6	64.6	74.1	78.0	73.2	75.2	62.9	39.6	25.9	53.6	101	— 7	Apr. 16	.....
East Lynne (*c*)	26.4	33.1	41.4	51.8	59.4	71.2	.....	.....	69.4	56.8	41.8	29.2	.....	.....	— 3	Apr. 17	.....

[1] Robert Somerville. [2] Cotton region observer.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Missouri—Continued.																	
Edgehill (e)	30.4	35.2	46.8	55.5	64.6	73.1	76.6	73.4	70.4	60.0	43.1	31.8	55.1	98	0	.....	Oct. 28
Eightmile (a)	27.2	36.3	42.9	53.4	61.3	71.2	76.7	72.9	74.0	62.2	42.6	28.7	54.1	100	— 3	Apr. 17	Oct. 29
Eldon	.....	.....	.....	.....	62.3	[c]73.8	[c]77.8	72.8	73.5	[c]60.8	42.9	31.0	.....	101	.....	.....	.....
Elmira	25.4	32.2	42.0	53.4	61.8	73.6	77.8	73.2	74.5	[c]62.6	42.6	25.0	53.7	105	— 7	Apr. 19	Oct. 22
Emma (e)	26.0	32.6	41.4	53.7	62.8	72.6	79.0	73.4	72.8	59.8	40.2	27.2	53.5	108	— 4	.....	.....
Fayette	26.8	33.6	43.4	55.0	64.2	74.2	80.2	75.0	76.6	64.6	43.8	29.6	55.6	101	— 6	.....	Oct. 29
Gallatin (a)	24.4	30.7	39.6	52.2	62.3	73.2	79.4	73.4	76.8	62.8	41.0	24.6	53.4	103	— 8	.....	Nov. 2
Glasgow	26.8	33.0	43.0	53.8	62.2	73.9	79.0	73.8	76.0	63.9	42.2	27.7	54.6	102	—4	Apr. 17	.....
Gordonville (c)	29.0	35.8	46.4	54.6	59.2	70.6	76.0	71.6	66.9	56.1	44.2	32.8	53.6	.....	0	Apr. 17	Oct. 23
Grovedale	29.5	36.3	46.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	— 4	.....	.....
Halfway	29.6	37.1	46.1	54.9	63.8	74.3	78.9	76.4	74.5	62.5	45.5	[f]32.7	56.4	101	— 5	Apr. 17	Sept. 21
*Hannibal	26.2	32.6	41.7	52.9	61.0	73.4	78.0	72.0	73.4	62.4	41.8	26.8	53.5	98	—10	Mar. 27†	Sept. 20
*Harrisonville	26.2	32.4	42.6	53.6	62.3	74.0	79.4	74.8	75.4	62.6	41.7	28.0	54.4	104	— 3	.....	Oct. 29
Hastain	30.6	35.1	46.4	55.8	63.8	75.4	81.2	76.1	74.4	64.2	43.3	31.4	56.5	104	— 5	Apr. 11	Oct. 28
Houston	33.3	38.6	49.6	56.8	62.2	74.1	78.1	73.2	72.3	62.0	46.4	35.0	56.8	103	— 2	Apr. 17	Sept. 21
Humansville	31.4	38.7	47.0	.....	.....	75.8	79.8	77.0	77.2	66.4	47.3	32.6	.....	105	—11	.....	Oct. 29
*Ironton	31.2	35.8	47.7	55.7	60.8	72.5	77.6	73.6	72.2	61.2	44.7	32.6	55.5	104	— 6	May 2	Sept. 21
*Jefferson City	30.0	36.0	45.0	56.2	63.9	75.5	80.8	75.2	75.7	64.4	45.8	31.0	56.6	104	— 1	.....	.....
*Kansas City	27.4	32.9	42.2	54.7	64.5	75.1	80.4	75.0	76.8	63.8	43.9	28.0	55.4	102	— 4	Apr. 17	Nov. 2
*Kidder	24.4	30.4	39.8	52.2	61.0	73.0	77.0	71.2	74.2	61.6	40.4	24.0	52.4	99	— 8	.....	Oct. 29
*Lamar	30.6	37.6	47.0	56.4	64.6	75.4	80.1	77.0	75.8	66.8	45.6	32.1	57.4	104	— 2	.....	Oct. 29
Lebanon	30.8	37.3	47.4	55.8	63.6	74.2	78.8	75.7	76.8	66.1	46.6	32.6	57.1	99	0	.....	Nov. 6
*Lexington	27.8	33.6	43.2	54.9	63.4	75.3	80.8	76.0	76.8	64.0	43.8	27.8	55.6	103	— 5	Apr. 11	Oct. 29
Liberty	26.2	32.4	42.6	54.5	62.8	74.0	79.0	73.6	74.9	63.2	43.4	28.4	54.6	102	— 3	Mar. 25	Oct. 29
McCune (a)	25.2	33.4	42.0	52.7	60.8	73.5	78.0	.....	.....	.....	41.7	28.4	.....	.....	— 8	May 2	Sept. 20
Marblehill	31.2	37.6	47.2	55.0	60.6	73.0	78.6	74.6	72.4	.....	46.0	33.8	.....	103	—10	.....	.....
Marshall	24.3	32.3	42.3	53.2	63.0	74.8	79.4	73.6	74.8	62.9	41.6	26.6	54.1	102	— 5	.....	.....
*Maryville	21.6	26.6	35.4	50.0	60.4	71.5	78.0	71.4	74.0	59.0	36.4	19.9	50.4	101	—14	Apr. 19	Oct. 29
*Mexico	26.7	33.2	41.8	54.1	62.4	74.4	79.6	73.8	75.4	63.6	42.0	27.8	54.6	103	— 5	.....	Oct. 29
Mine La Motte	31.8	37.2	48.2	56.0	59.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	May 2	.....
Mineral Spring	33.6	39.4	49.2	56.4	62.3	72.8	76.4	74.1	73.2	63.8	47.2	34.0	56.9	96	— 2	Mar. 24	Oct. 29
Montreal	28.1	34.6	44.8	54.7	61.4	72.3	77.4	73.3	73.0	61.5	44.2	32.8	54.8	100	— 4	Apr. 17	Sept. 20
Mount Vernon	31.1	.....	50.3	57.3	64.4	74.7	80.8	78.4	77.9	68.5	49.8	36.3	.....	105	.....	Apr. 17	Oct. 28
Neosho	33.0	40.8	51.6	.....	62.6	73.8	77.8	74.3	73.1	63.8	48.6	34.6	.....	96	— 4	.....	Oct. 29
Nevada (e)	.....	36.1	47.0	55.8	65.2	75.8	81.2	76.3	76.4	65.1	44.8	30.8	.....	100	.....	.....	Oct. 28
New Haven (a)	33.2	37.5	46.3	56.4	65.8	76.1	81.6	77.4	77.7	65.2	46.3	32.6	58.0	97	— 2	.....	Nov. 3
New Madrid	34.8	41.2	.....	56.4	61.6	75.6	82.3	79.4	76.2	.....	52.0	.....	.....	107	— 4	.....	.....
New Palestine (a)	29.7	35.6	45.3	56.2	65.6	75.2	80.2	76.2	79.0	64.9	45.3	30.7	57.0	99	— 2	Apr. 15	Oct. 22
Oakfield	30.8	36.4	46.0	55.8	63.7	75.1	79.8	76.1	76.6	65.2	45.4	31.5	56.9	101	— 3	.....	Nov. 6
Oakridge (d)	[d]31.0	35.8	45.7	55.4	60.5	70.6	75.6	74.6	71.0	.....	42.2	33.2	.....	.....	2	.....	Oct. 26
Olden	31.0	38.2	47.2	55.3	62.0	73.0	77.6	74.1	73.3	63.4	45.2	33.2	56.1	99	— 3	.....	Oct. 29
Oregon[1]	24.2	31.6	40.6	54.2	63.1	73.4	79.2	73.2	76.2	62.5	40.3	24.1	53.6	102	— 8	May 4	Oct. 29
Oregon[2]	23.2	29.3	38.3	51.8	62.1	72.3	78.4	72.4	75.3	59.3	41.2	23.2	52.2	102	— 9	Apr. 19	Oct. 29
Palmyra (e)	26.6	32.5	41.2	52.3	63.3	75.2	80.4	73.6	76.0	63.1	41.4	26.6	54.4	97	—10	Apr. 20	Nov. 6
Phillipsburg (a)	29.4	35.4	46.2	53.5	62.4	73.7	78.0	74.1	74.2	62.8	45.0	31.1	55.5	104	— 5	Apr. 16	Oct. 29
Pickering (c)	24.5	30.7	38.8	50.4	58.4	71.6	76.6	68.6	68.4	56.6	36.8	22.5	50.3	102	—10	.....	Sept. 20
Platte River (c)	21.4	28.4	37.6	50.6	61.2	72.3	77.2	69.8	68.6	54.8	36.6	22.2	50.1	100	— 6	Apr. 17	Oct. 22
Poplarbluff	[c]34.4	[c]40.0	52.7	58.6	[b]63.8	76.2	.....	[d]77.5	[d]73.6	63.2	[c]49.2	[c]36.4	.....	.....	0	.....	Oct. 30
Potosi	24.2	30.2	40.0	49.2	55.2	68.2	74.2	68.8	66.2	55.0	39.2	27.0	49.8	97	—15	Apr. 17	Sept. 21
Princeton	22.8	30.3	38.4	51.6	60.6	74.6	80.8	73.7	75.6	60.8	39.6	23.2	52.7	106	—13	.....	Sept. 20
Rhineland	30.2	36.8	45.4	56.0	62.2	73.9	78.8	74.1	73.4	62.8	45.0	31.4	55.8	98	0	.....	Nov. 3
Richmond	25.8	32.2	41.3	52.7	62.8	74.0	78.8	73.8	74.5	64.0	42.4	26.4	54.1	100	— 5	Mar. 25	Oct. 29
St. Charles	30.9	35.4	44.6	54.2	61.2	73.8	79.0	75.6	75.2	64.3	43.9	31.4	55.8	100	— 4	Mar. 27	Nov. 6
St. James (c)	28.4	34.0	43.7	52.8	59.6	71.6	76.8	71.9	70.8	60.4	42.8	.....	.....	.....	0	.....	Oct. 29
*St. Louis	30.6	36.8	46.6	56.0	63.5	75.2	80.6	76.8	77.4	66.3	46.1	37.8	57.4	101	— 2	Mar. 27†	Nov. 6
St. Louis[3]	28.9	34.6	44.8	54.4	60.1	72.9	77.7	73.2	72.4	60.9	43.8	31.1	54.6	102	— 3	.....	.....
Sarcoxie (c)	29.0	36.7	45.4	53.6	61.0	72.2	77.0	72.4	[d]68.1	56.6	40.2	27.1	53.3	100	0	Apr. 17	Sept. 21
Sedalia	.....	34.0	44.4	[c]53.5	62.4	74.1	78.2	74.8	74.5	61.1	43.8	28.0	.....	100	.....	.....	Oct. 29
Seymour (a)	30.4	[f]35.2	44.5	53.7	61.8	72.0	76.3	72.6	71.4	60.9	42.2	32.9	54.5	102	— 5	Apr. 17	.....
Sikeston	36.6	43.0	52.0	59.2	64.2	74.8	78.9	75.8	73.2	64.4	46.5	35.0	58.6	101	1	.....	Oct. 29
*Springfield	30.4	37.3	47.0	54.9	63.4	72.9	78.2	75.5	75.8	65.8	45.8	32.4	56.7	96	— 1	Apr. 17	Nov. 2
Steffenville	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	43.5	29.0	.....	.....	.....	.....	Oct. 22
Stellada	29.6	35.4	44.6	55.2	62.9	72.8	78.7	74.2	75.6	63.4	43.9	29.0	55.4	105	— 4	.....	.....
Sublett	22.2	30.0	38.4	51.2	60.0	73.0	78.2	71.7	73.5	61.2	38.6	21.3	51.6	102	—14	May 30	Oct. 29
Trenton	24.6	30.8	39.6	52.8	.....	73.7	77.8	71.7	72.6	60.4	40.8	23.8	.....	99	— 9	.....	.....
*Unionville	.....	.....	.....	53.2	63.6	73.8	78.7	73.0	74.5	.....	.....	.....	.....	101	.....	.....	.....
Vichy	.....	.....	.....	55.8	63.0	73.2	79.0	76.0	75.3	64.0	43.1	31.4	.....	104	.....	Apr. 17	Oct. 29
Warrensburg (a)	29.9	36.4	45.9	57.7	67.2	76.2	81.8	75.5	78.4	65.7	46.1	29.7	57.5	102	.....	.....	.....
Warrenton	26.6	33.5	42.3	53.0	61.8	73.3	78.3	74.6	75.0	64.2	41.9	28.0	54.4	100	— 4	.....	.....
Willow Springs	33.6	39.2	49.2	55.2	62.0	72.0	77.4	72.6	72.0	62.0	43.5	32.4	55.9	101	— 6	.....	.....
Zeitonia (a)	34.3	39.7	48.6	57.1	63.1	72.6	77.7	75.4	72.0	60.3	49.1	35.6	57.1	102	0	Mar. 27	.....
Montana.																	
Augusta	23.4	25.2	21.5	46.6	62.5	60.8	63.3	.....	.....	.....	.....	26.8	.....	.....	—41	May 10	.....
Bigtimber	26.8	28.3	20.0	47.1	62.2	.....	67.8	.....	.....	.....	29.9	22.0	.....	.....	—28	May 7	.....
Billings	.....	.....	.....	.....	61.8	63.5	68.2	.....	63.0	49.9	26.6	25.4	.....	.....	.....	Apr. 30	Sept. 15
Boulder	[c]11.6	[c]21.8	[d]21.3	[e]42.6	[c]57.4	57.8	[c]61.6	[d]65.9	.....	.....	.....	.....	.....	.....	.....	June 10	.....
Bozeman	17.2	25.0	23.9	44.4	57.6	59.6	64.0	68.2	[c]58.9	45.0	28.3	22.2	42.9	92	—25	May 9	Sept. 9
Bozeman, Ex. Station	18.8	25.1	22.6	43.0	58.3	58.7	62.0	65.0	56.0	44.6	29.8	24.0	42.3	92	—24	June 10	Sept. 9
Butte	18.1	22.4	21.7	41.6	56.6	55.4	59.8	65.8	[b]54.4	43.6	30.4	22.4	41.0	92	—27	June 10	Sept. 9
Castle	20.6	22.2	21.4	40.0	53.2	55.4	57.6	59.4	53.0	41.5	27.4	22.8	39.5	90	—32	July 9	Aug. 26
Chinook	11.9	13.4	13.6	50.0	65.5	65.4	69.5	73.3	58.8	46.2	16.2	.....	.....	104	.....	May 10	Sept. 10
Choteau	23.3	23.8	21.0	[d]45.8	59.8	58.2	[c]63.2	66.8	57.9	46.2	22.8	25.8	42.9	98	—30	June 10	Sept. 9
Cokedale	25.6	26.8	.....	43.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Columbia Falls	22.4	26.5	24.4	46.0	59.0	59.6	60.4	68.8	.....	42.5	28.9	24.8	.....	.....	—14	June 10	Aug. 26

[1] W. Kaucher. [2] S. M. Ruley. [3] F. W. Duenckle.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Montana—Continued.																	
Deerlodge	14.8	20.8	19.2	42.2	.....	.....	.....	.....	.....	.....	28.0	22.0	.....	.....	—33	.....	.....
Dupuyer	.....	.....	.....	.....	.....	.....	.....	.....	54.5	46.8	.....	27.0	.....	.....	.....	.....	Sept. 9
Ekalaka	16.3	17.8	19.4	42.3	59.3	62.8	69.6	67.6	.....	.....	.....	.....	.....	.....	.....	May 21	.....
Fort Benton	.....	.....	22.4	50.1	64.0	63.4	66.9	69.7	60.6	50.8	25.8	25.2	.....	96	.....	Apr. 23	Sept. 16
Fort Custer	19.1	24.2	23.8	45.6	64.0	65.3	74.6	72.2	64.9	48.2	.....	.....	.....	103	.....	Apr. 28	Sept. 16
Fort Keogh	15.5	16.2	14.7	47.2	63.6	67.4	73.0	69.4	65.4	47.6	25.4	16.8	43.5	103	—39	Apr. 28	Sept. 15
Fort Logan	17.4	23.2	20.4	42.1	56.2	58.4	60.4	63.6	55.1	44.3	25.8	20.4	40.6	94	—38	June 10	Aug. 26
Fort Missoula	18.8	22.8	28.0	46.8	59.0	60.0	62.6	68.4	55.4	46.6	32.4	23.3	43.7	95	—17	June 10	Sept. 16
Glasgow	4.4	7.0	7.7	46.8	60.3	65.0	69.5	68.4	[e]61.8	44.6	17.2	12.3	38.8	104	—45	May 21	Sept. 15
Glendive	12.4	13.0	13.2	49.1	64.4	67.2	73.6	72.6	69.4	49.2	25.4	18.3	44.0	105	—32	Apr. 28	Sept. 15
Glenwood	.....	.....	.....	.....	.....	.....	.....	67.4	55.5	42.8	25.7	21.4	.....	.....	.....	.....	Sept. 4
Greatfalls	24.2	30.4	27.8	51.2	61.5	60.1	67.4	70.2	60.6	50.4	25.7	26.6	46.3	102	—23	Apr. 15	Sept. 16
*Havre	13.4	11.2	10.9	46.6	60.6	61.4	65.7	68.3	59.4	46.0	18.2	18.4	40.0	97	—43	Apr. 28	Sept. 10
*Helena	20.8	24.8	21.4	45.2	60.0	58.8	63.6	68.4	57.8	46.4	28.2	23.8	43.3	96	—24	Apr. 28	Sept. 16
Hogan	24.1	22.5	17.6	43.0	57.4	58.8	59.4	67.2	55.8	45.2	21.2	23.7	41.3	93	—33	June 9	Sept. 14
Kalispel	.....	27.2	24.9	46.9	59.0	58.6	60.6	67.2	54.4	43.6	28.0	22.5	.....	96	.....	June 18	Sept. 10
Kipp	23.2	21.0	17.8	43.5	57.1	54.0	59.1	63.1	52.4	39.4	18.0	23.0	39.3	98	—44	June 19	Aug. 2
Lewistown	22.6	24.1	24.4	43.6	57.6	55.8	61.3	.....	.....	45.2	25.4	24.0	.....	.....	—30	June 20	.....
Libby	26.8	32.1	30.9	49.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Livingston	23.2	27.2	26.4	45.6	57.8	60.7	65.0	68.4	61.6	46.8	32.1	25.4	45.0	95	—28	May 14	Sept. 10
Manhattan	14.0	20.6	[e]25.0	43.6	60.2	60.8	64.0	65.2	53.6	44.2	28.0	19.6	41.6	94	—39	May 8	Aug. 26
Martinsdale	23.5	24.2	22.9	42.8	57.6	57.8	62.0	66.4	58.1	45.0	28.6	24.0	42.7	93	—32	June 10	Sept. 9
Marysville	20.2	23.0	19.9	42.2	57.0	55.6	60.6	64.7	55.6	44.0	27.4	22.4	41.0	91	—26	May 8	Sept. 15
*Miles City	14.9	15.2	15.4	47.6	63.5	67.0	72.5	71.7	66.6	49.0	25.2	18.8	44.0	101	—31	May 14	Sept. 16
Monarch	23.8	25.8	20.8	43.1	55.8	56.0	59.3	.....	.....	.....	.....	.....	.....	.....	.....	June 10	.....
Poplar	5.3	7.3	10.1	45.4	60.6	.....	71.6	68.5	64.0	45.4	20.2	15.8	.....	.....	—46	May 13	Sept. 15
St. Ignatius Mission	26.3	28.6	30.9	48.2	60.6	60.9	.....	68.4	54.2	44.5	34.4	29.6	.....	.....	—10	May 2	Sept. 2
St. Pauls	17.8	14.1	20.5	43.7	51.2	56.6	.....	69.3	61.3	46.6	.....	22.9	.....	.....	—40	June 30	Sept. 16
Sun River	22.2	23.2	20.8	47.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	June 9	.....
Troy	26.4	31.9	31.2	49.4	59.4	60.0	62.0	66.9	55.0	[e]46.5	.....	24.6	.....	99	—10	June 10	Sept. 16
Utica	22.0	23.2	20.4	42.4	58.8	57.4	62.8	67.8	59.0	46.6	28.5	22.8	42.6	100	—29	June 10	Sept. 15
Virginia City	19.8	23.0	22.2	41.5	57.3	57.2	62.4	66.4	57.4	42.9	[e]29.6	22.4	41.8	95	—25	May 9	Oct. 3
Yale	20.8	22.0	21.7	41.8	56.9	59.0	64.6	66.0	57.0	43.9	25.4	23.5	41.9	95	—26	June 16	Sept. 8
Nebraska.																	
Agee (*a*)	18.8	23.3	23.6	46.0	59.4	68.2	75.3	70.2	70.7	51.0	31.4	22.2	47.1	101	—14	May 24	Oct. 9
Albion	.....	.....	.....	51.2	62.4	69.0	74.6	68.7	.....	53.6	33.6	21.4	.....	.....	.....	May 24†	Oct. 9†
Alliance (*a*)	18.9	24.6	28.4	43.9	59.0	67.2	75.7	71.0	64.8	.....	.....	19.2	.....	.....	.....	May 14	Oct. 15†
Ansley	22.6	27.4	34.2	47.2	62.2	67.1	74.0	67.9	72.2	51.1	34.4	23.2	48.6	103	—15	May 14	Sept. 16
Arapaho (*a*)	21.9	27.5	34.2	49.7	62.6	73.5	81.1	73.6	70.7	54.0	35.5	22.8	50.6	102	—18	Apr. 29†	Oct. 19†
Arborville (*a*)	22.4	26.6	33.8	48.3	58.7	70.2	75.8	72.3	72.8	54.5	35.4	23.8	49.6	102	—16	May 14†	Oct. 9†
Arcadia	24.6	29.3	35.9	49.2	60.4	69.6	77.3	72.5	70.2	.....	.....	.....	.....	106	.....	May 15†	.....
*Ashland [1]	23.5	28.1	35.0	50.3	61.4	72.6	79.7	72.4	74.8	58.9	36.6	20.4	51.1	103	—26	Apr. 19	Oct. 29†
Ashland (*a*) [2]	21.8	27.0	34.7	49.9	64.0	75.8	82.4	73.3	75.4	58.3	34.7	23.1	51.7	103	—19	.....	.....
Ashton	22.0	27.6	34.0	48.8	60.6	70.3	77.1	72.1	73.5	54.9	33.2	23.4	49.8	102	—12	May 24	Oct. 9†
Auburn (*a*)	24.2	30.6	38.9	52.6	62.2	74.6	79.0	74.5	76.9	59.5	37.4	22.5	52.7	105	—18	Apr. 19†	Oct. 22†
Aurora (*a*)	24.6	28.0	35.6	50.6	62.1	75.5	83.6	77.4	73.4	56.9	34.9	24.8	52.3	104	— 7	Apr. 19†	Oct. 29†
Bassett	18.0	24.0	[e]27.1	[e]46.9	60.1	65.8	72.3	67.6	.....	.....	.....	.....	.....	.....	.....	May 30	.....
Beatrice	23.4	27.3	36.0	50.2	60.6	72.2	78.8	71.6	72.8	58.7	37.4	23.5	51.0	102	—17	Apr. 20†	Oct. 8†
Beaver City	27.6	33.0	39.6	51.2	62.6	70.4	78.1	73.9	73.5	57.2	38.9	25.6	52.6	107	—19	May 14†	Oct. 9†
Bluehill	25.1	29.3	38.0	50.7	63.0	71.2	77.6	73.4	73.2	57.6	36.5	.....	.....	104	.....	Apr. 28	Nov. 1†
Callaway	22.2	27.2	33.8	47.2	59.8	67.8	74.6	68.9	67.4	50.5	36.1	22.6	48.2	101	—12	May 15†	Oct. 11†
Camp Clark	.....	.....	.....	.....	.....	68.6	70.1	70.1	67.3	51.4	36.0	29.8	.....	104	.....	May 14	Sept. 17
Chester (*a*)	23.9	28.6	37.6	48.6	60.0	71.0	78.2	73.5	73.8	55.5	36.8	23.2	50.9	104	— 9	Mar. 25†	Oct. 29†
*Columbus	20.9	27.0	33.1	49.0	60.2	69.4	71.8	69.6	68.9	56.0	34.3	21.4	48.5	100	—13	Apr. 29†	Oct. 9†
Creighton	15.4	20.8	28.6	46.6	58.6	70.0	74.2	69.8	73.6	51.7	31.5	19.4	46.7	104	—19	May 30†	Sept. 16†
Crete	23.4	29.6	36.4	50.8	60.4	71.4	77.5	71.3	73.4	58.9	37.6	22.0	51.1	99	—20	Apr. 19	Oct. 9†
Curtis	28.8	33.1	40.8	50.3	64.2	70.6	77.5	72.2	72.2	55.0	39.5	27.7	52.7	104	—11	Apr. 29†	Oct. 19†
David City (*a*)	21.1	26.6	33.6	48.2	60.4	70.5	77.8	67.4	72.0	55.4	33.6	22.0	49.0	100	—12	May 24	Oct. 28
Dawson	.....	.....	.....	.....	.....	74.2	79.2	73.5	74.6	60.5	41.1	24.2	.....	104	.....	.....	.....
Dunning (*a*)	.....	.....	33.6	46.4	62.5	71.0	77.0	75.2	74.4	53.8	35.5	27.9	.....	105	.....	May 14†	Oct. 26†
Edgar (*a*)	23.8	28.2	36.6	49.1	63.3	73.5	79.6	73.8	75.1	57.2	36.3	24.5	51.8	105	—15	Mar. 25†	Oct. 9†
Ericson (*a*)	20.2	23.8	32.1	47.8	66.0	74.3	82.2	73.1	74.4	51.2	31.7	20.2	49.8	103	—18	Apr. 29	Oct. 27†
*Fairbury	25.2	29.2	38.3	51.6	61.8	69.4	79.6	73.0	72.4	57.6	37.2	24.0	51.6	102	—19	Apr. 18†	Oct. 8†
*Fairmont	24.9	29.4	37.8	49.0	60.2	69.7	77.5	72.0	73.2	59.2	35.2	20.8	50.7	103	—20	Apr. 29†	Oct. 10†
Fort Robinson	22.6	26.2	31.2	44.0	60.1	64.0	70.7	68.8	67.2	50.5	32.1	25.0	46.9	101	—21	May 15	Oct. 15
Franklin	[f]25.9	[e]30.8	38.8	.....	64.6	71.4	79.6	73.4	75.8	59.2	38.6	27.8	.....	109	—11	May 14	Oct. 10†
Fremont	20.1	28.0	33.4	48.8	59.6	70.2	76.6	69.7	71.4	56.1	34.4	20.2	49.0	100	—21	Apr. 29†	Oct. 9†
Geneva	24.8	28.4	36.2	51.9	61.2	70.9	77.4	71.4	72.3	57.4	36.4	23.5	51.0	103	—20	Apr. 29	Oct. 8
Genoa	20.1	26.4	33.0	48.6	60.4	70.1	75.7	70.6	71.9	55.8	34.2	21.7	49.0	100	—12	May 24	Oct. 29
Gering	23.4	29.2	34.0	46.6	61.0	68.4	70.8	70.2	67.1	50.2	36.9	22.8	48.4	104	—20	May 15	Oct. 5†
Gothenburg	23.0	28.6	36.4	49.6	64.1	69.8	78.0	71.7	70.2	52.7	35.2	23.6	50.2	104	—10	May 13	Oct. 8†
Grand Island	23.2	28.8	37.2	46.0	60.3	69.4	76.6	71.2	72.6	55.9	35.0	23.0	50.2	104	—10	.....	.....
Grbeley (*a*)	21.0	24.0	32.6	48.4	.....	.....	.....	74.3	.....	.....	32.4	20.3	.....	.....	.....	Mar. 25†	.....
*Hartington	13.7	20.2	26.6	46.7	59.0	66.6	74.0	67.8	71.6	54.6	32.4	18.6	46.0	99	—20	May 24	Oct. 9
Harvard (*a*)	22.6	26.8	34.3	49.4	61.2	71.4	78.1	71.8	72.0	54.9	32.0	21.4	49.8	102	—19	Apr. 19†	Oct. 28†
Hastings (*a*)	24.5	28.4	35.5	49.6	61.4	70.5	77.1	71.0	71.9	54.3	33.4	23.8	50.1	99	—10	Apr. 29	Oct. 29
Hay Springs	19.4	25.6	31.4	44.7	58.4	63.4	71.4	67.7	67.3	49.8	32.2	20.2	46.0	104	—18	May 14	Oct. 15
Hebron	25.4	27.4	38.2	51.1	60.9	71.3	76.8	72.0	73.6	58.2	36.9	23.9	51.3	101	—14	Apr. 19†	Oct. 29
Holdrege (*a*)	26.1	30.9	37.4	51.8	63.7	72.2	79.8	72.6	74.8	54.8	33.6	24.3	51.8	101	—12	Mar. 28†	Oct. 19†
Imperial	24.4	30.7	36.1	48.2	63.0	70.1	76.0	73.5	71.2	53.3	37.4	25.0	50.7	108	—18	May 13†	Oct. 11
Indianola (near)	24.4	30.0	35.9	48.5	[e]62.9	[e]69.4	77.2	72.2	[e]70.8	.....	.....	.....	.....	100	.....	Apr. 19†	.....
Kennedy	19.2	24.3	31.6	46.0	59.8	66.0	74.7	69.2	67.5	50.6	33.4	22.2	47.0	105	—17	May 29†	Sept. 17
Kimball	24.7	29.0	32.9	44.2	59.4	64.6	71.7	69.7	66.9	50.5	38.4	23.6	48.0	100	—20	May 9†	Sept. 16
Kirkwood (*a*)	15.4	19.8	24.8	46.6	60.7	67.2	74.7	70.5	72.0	50.9	30.6	21.8	46.2	102	—15	May 29	Oct. 20
Lexington	25.6	29.8	36.1	46.2	60.1	67.6	73.1	70.4	67.7	53.3	34.0	22.8	48.9	102	—15	May 13†	Oct. 8†
*Lincoln	22.6	27.0	35.6	50.0	60.8	72.0	78.2	71.7	74.8	58.9	37.2	22.6	50.9	101	—18	Apr. 19†	Oct. 29

[1] D. A. S. Mansfelde.

[2] O. C. Steele.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Nebraska—Continued.																	
Lincoln[1]	23.1	28.0	36.3	51.3	62.1	73.2	79.2	71.9	74.8	*59.8	37.7	22.5	51.6	102	—17	.....	.....
Lincoln[2]	21.5	26.6	35.5	49.3	61.8	73.0	78.8	71.7	74.4	60.3	38.0	23.0	51.2	103	—17	.....	.....
Lodgepole	23.0	27.8	34.8	46.3	60.6	66.3	71.7	68.5	65.8	48.2	*36.2	23.2	47.7	104	—22	May 14†	Sept. 16†
Loup (a)	23.2	27.3	34.3	47.9	59.5	67.7	73.6	69.3	70.9	52.2	34.8	24.6	48.8	102	—12	May 14	Oct. 19
Lynch (a)	14.7	22.5	29.1	47.8	59.4	68.7	74.5	69.4	72.2	52.8	30.5	22.7	47.0	102	—18	May 24	Oct. 20
Lyons	.....	24.1	.....	45.3	59.0	68.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	May 3†	.....
McCook (a)	23.8	30.0	36.8	48.8	65.8	72.4	79.0	73.7	74.6	56.2	36.6	.....	.....	101	.....	Apr. 12†	Oct. 19
Madison	19.0	25.3	28.9	45.2	56.8	66.9	73.8	67.5	69.4	54.4	30.4	.....	.....	97	.....	May 5†	Oct. 9†
Madrid (e)	24.2	29.7	34.6	47.8	61.6	71.6	76.6	72.3	70.8	.....	36.4	20.4	.....	108	—12	May 12	Oct. 12†
Minden	23.7	27.9	35.3	48.4	60.8	69.7	74.4	71.4	72.4	54.8	34.6	23.1	49.7	102	—17	May 14	Oct. 9†
Nebraska City	23.8	*27.2	38.0	51.2	60.8	73.4	77.9	71.8	74.4	61.6	38.5	20.2	51.6	100	—18	Apr. 19†	Nov. 2†
Nemaha (a)	21.8	27.1	35.6	49.6	62.8	74.7	79.9	72.6	70.0	56.4	33.7	20.7	50.4	108	—14	Apr. 7†	Oct. 22†
Nesbit	.....	27.1	34.0	45.5	59.8	67.1	74.8	70.4	69.1	50.4	34.5	22.1	.....	104	.....	May 14	Oct. 9†
Norfolk	16.8	23.0	27.1	44.0	60.2	68.8	75.3	68.8	72.0	55.0	33.8	19.9	47.1	96	—20	May 25†	Oct. 9†
Norman	24.6	29.4	36.2	49.4	61.4	70.7	75.2	71.1	72.6	.....	.....	.....	.....	.....	.....	May 14	.....
North Loup	22.2	28.6	34.3	47.4	60.4	69.8	74.9	69.4	69.8	51.6	.....	22.6	.....	102	.....	May 30†	Oct. 9†
*North Platte	25.2	29.6	35.6	47.8	60.4	66.6	74.5	70.2	70.8	53.1	36.4	25.2	49.6	103	— 9	May 14	Oct. 12
Oakdale	16.8	23.7	29.8	47.0	59.0	67.8	74.2	67.6	70.6	52.0	31.2	19.8	46.6	103	—14	May 24	Oct. 9
Odell (e)	25.0	30.8	40.2	52.6	65.1	73.3	81.1	74.0	73.6	56.8	37.2	24.0	52.8	97	—18	Apr. 16	Oct. 29
*Omaha	20.9	27.2	34.6	50.5	61.8	72.2	78.8	71.8	75.2	59.2	36.5	21.8	50.9	102	—13	Apr. 19†	Oct. 29
*O'Neill	17.4	24.2	28.5	45.6	57.9	66.8	73.0	67.2	69.3	50.6	31.5	19.6	46.0	100	—16	May 23	Oct. 8†
Ord	23.2	27.2	.....	.....	59.3	68.8	75.0	.....	71.2	51.7	34.5	23.6	.....	.....	—11	May 30	.....
Ravenna	24.4	28.4	35.4	49.0	59.6	68.2	75.8	70.6	71.5	55.0	35.6	23.6	49.8	101	—10	May 14	Oct. 9
Redcloud (a)	24.2	31.9	37.6	52.2	64.7	76.3	80.7	.....	.....	.....	40.4	25.6	.....	.....	—10	Apr. 7†	.....
Republican (a)	25.2	31.3	37.0	51.3	64.6	77.0	82.5	72.6	67.3	54.7	35.5	24.2	51.9	102	—14	May 14	Oct. 27†
Rulo (a)	26.6	34.1	41.7	54.5	65.0	77.2	82.6	74.6	75.6	61.1	41.4	26.5	55.1	102	— 4	Mar. 25†	Oct. 29
St. Libory	23.8	29.6	35.4	48.8	61.6	69.6	76.6	71.6	73.2	56.6	36.0	24.3	50.6	97	—10	May 24†	Oct. 9†
St. Paul	25.1	30.6	37.0	50.8	62.6	72.0	78.6	73.2	73.4	56.1	37.0	25.8	51.8	101	—10	May 14	Oct. 27†
Salem	27.0	30.8	41.3	53.6	62.9	75.6	82.2	75.3	71.8	.....	.....	23.2	.....	104	— 8	Apr. 19†	Nov. 2†
Santee Agency	14.9	22.0	28.0	47.8	61.5	69.1	77.6	71.4	74.5	54.6	33.2	21.2	48.0	104	—20	May 24	Oct. 9
Seneca (a)	23.0	30.4	34.6	46.4	63.8	70.0	73.6	68.0	69.8	.....	35.0	26.8	.....	99	—12	Apr. 30†	.....
Seward (a)	22.4	28.5	35.6	49.9	60.4	74.4	77.8	71.6	70.1	57.6	36.2	22.6	50.6	99	—15	Mar. 25†	Nov. 1†
Springfield (a)	18.2	26.6	34.1	49.1	60.8	72.6	78.4	71.2	.....	57.4	.....	.....	.....	.....	.....	Apr. 9	Oct. 29
Springview	17.9	.....	.....	45.8	62.2	68.2	76.6	70.0	72.3	50.6	31.5	21.9	.....	106	.....	May 30	Oct. 16†
Stanton (a)	17.4	24.8	31.3	47.8	59.3	68.9	75.7	68.7	70.6	53.8	32.2	20.6	47.6	101	—15	Apr. 19†	Oct. 9
State Farm	23.8	28.0	36.8	51.1	61.3	73.0	79.0	74.8	74.6	59.9	.....	.....	.....	104	.....	.....	.....
Strang (a)	25.3	28.8	37.4	52.4	65.8	75.8	82.2	75.4	76.6	57.4	35.6	25.8	53.2	102	—16	Apr. 28	Oct. 10
Superior (e)	20.9	29.0	38.5	52.0	63.2	72.6	81.3	74.7	74.2	57.8	35.6	23.8	52.0	106	—11	Apr. 19†	Oct. 30†
Sutton	23.2	27.6	.....	49.0	.....	.....	73.4	.....	.....	*53.8	33.0	20.6	.....	.....	—25	.....	.....
*Tecumseh	25.2	28.4	38.6	53.4	59.3	72.8	79.4	71.6	71.6	.....	.....	27.4	.....	103	—12	May 26†	.....
*Tekamah	17.6	24.2	34.4	50.1	59.6	70.2	76.8	69.8	71.8	57.6	34.2	19.6	48.8	102	—19	Apr. 19†	Sept. 20
Thedford (a)	20.3	26.2	34.9	45.0	62.2	68.1	73.6	69.7	69.1	48.4	32.9	24.6	47.9	100	—16	May 14	Oct. 10†
Turlington	18.3	26.8	35.2	49.6	60.6	71.6	77.5	69.4	70.8	55.3	32.4	.....	.....	103	.....	Apr. 19	Oct. 9†
Valentine	19.1	24.6	31.1	45.3	59.4	65.6	73.7	69.3	70.2	52.0	32.8	22.1	47.1	100	—20	.....	Oct. 16
Wakefield	.....	.....	.....	47.2	58.4	68.4	75.1	68.0	71.8	54.5	33.2	17.2	.....	100	.....	May 24	Sept. 17†
Weeping Water (a)	18.1	25.5	32.7	47.6	58.2	69.5	75.4	68.0	69.4	54.9	33.4	18.7	47.6	102	—25	May 24	Oct. 21
Westpoint	.....	.....	35.9	49.6	59.6	70.0	76.4	69.3	71.2	57.0	35.4	20.2	.....	100	.....	May 24	Oct. 9†
Wilber (a)	26.7	30.8	37.5	53.3	65.2	74.5	82.3	72.7	75.5	59.1	39.2	27.0	53.6	96	— 9	Mar. 27†	Oct. 29
Wilsonville (a)	26.6	31.3	.....	45.6	61.3	73.9	80.6	73.8	73.8	57.1	35.4	25.3	.....	104	—19	May 14	Oct. 26†
York (a)	25.5	27.8	35.1	49.4	60.8	74.7	80.5	74.3	74.8	56.4	33.3	23.8	51.4	106	—12	Apr. 29†	Oct. 28†
Nevada.																	
Austin	30.2	27.8	27.6	44.8	53.6	58.8	66.8	*71.8	58.1	45.2	39.5	28.2	46.0	91	0	Apr. 24	Oct. 13
Battle Mountain (a)	32.7	29.6	31.7	47.4	58.8	61.1	68.6	73.2	58.2	45.0	37.3	29.6	47.8	99	2	Apr. 22	Oct. 27
Beowawe (a)	31.2	29.2	31.5	49.0	53.8	63.8	71.3	76.2	63.0	46.3	38.9	28.7	48.6	100	— 4	Apr. 8	Oct. 8
Candelaria	37.4	35.3	35.1	49.2	62.7	64.2	72.4	75.6	63.8	51.6	46.8	36.1	52.5	98	5	Apr. 23	Oct. 16
Carlin (a)	26.7	27.8	26.4	42.0	60.0	62.2	71.2	72.2	58.5	44.4	38.2	25.2	46.2	106	—12	May 8	Sept. 10
*Carson City	33.4	30.1	33.9	48.9	59.4	59.4	66.8	69.7	58.7	47.6	42.7	32.3	48.6	95	—14	June 17	Sept. 8
Carson City[3]	33.5	30.0	33.7	48.7	59.3	58.8	65.2	67.8	57.7	47.2	42.1	32.2	48.0	95	—14	May 9	Sept. 30
Cloverdale	31.7	30.6	32.0	53.6	64.1	65.5	72.9	74.6	.....	.....	.....	.....	.....	.....	.....	Apr. 1	.....
Downeyville	38.4	36.2	39.0	57.0	67.3	69.9	77.6	81.8	69.1	54.4	.....	.....	.....	107	.....	Apr. 20	Oct. 15
Duckwater	27.2	27.8	29.3	46.8	60.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	May 8	.....
Elko (g)	27.9	27.1	31.3	43.7	57.2	58.8	61.7	66.9	55.8	45.1	41.2	25.8	45.2	102	—13	May 7	Sept. 10
Elko (near)	26.4	.....	.....	.....	58.3	.....	66.5	.....	55.8	45.5	35.8	23.4	.....	.....	.....	.....	.....
Ely	25.8	23.4	22.6	41.9	54.6	57.6	63.4	65.2	53.4	39.7	34.8	23.3	42.1	94	—22	June 17	Sept. 8
Empire Ranch	25.0	23.8	25.2	46.6	64.2	68.7	.....	.....	.....	.....	36.7	26.6	.....	.....	—16	May 8	.....
Fenelon (a)	23.6	23.0	22.0	44.0	56.0	56.4	67.4	72.8	55.8	39.1	31.8	21.0	42.7	98	— 8	June 3	Oct. 13
Golconda (a)	31.1	30.4	31.3	49.4	64.6	65.9	69.4	72.8	56.4	45.8	34.8	33.4	48.8	99	2	Apr. 2	Oct. 31
Goldcreek	.....	.....	.....	37.2	52.9	56.4	64.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Halleck (a)	24.4	24.0	25.5	42.6	56.8	63.1	69.3	69.4	56.4	40.7	37.7	19.6	44.1	105	— 9	May 7	Oct. 2
Hamilton	.....	.....	24.8	40.8	53.0	53.4	61.6	68.6	57.2	40.6	.....	.....	.....	104	.....	June 15	Oct. 10
Hawthorne (g)[4]	36.8	36.2	38.5	55.3	66.4	69.1	76.7	79.9	66.7	52.5	46.5	34.5	54.9	95	20	Apr. 21	Oct. 16
Hawthorne[5]	36.2	34.9	37.9	52.8	64.0	66.0	73.0	75.8	64.3	51.4	46.6	35.1	53.2	97	9	.....	.....
Hot Springs (a)	33.7	34.5	37.2	50.3	69.1	69.5	80.6	83.9	68.3	52.7	43.8	38.2	55.2	104	5	Mar. 29	Nov. 4
Humboldt (a)	32.5	35.2	35.0	52.3	63.5	63.1	73.5	74.0	61.8	50.0	43.2	31.4	51.3	98	7	Apr. 22	Oct. 16
Lewers Ranch	33.4	31.2	33.2	41.9	58.2	57.6	65.4	68.6	58.0	48.0	43.8	33.6	47.7	98	0	Apr. 23	Oct. 14
Los Vegas	40.8	41.1	41.8	58.6	68.2	70.9	77.6	77.7	69.4	56.8	46.0	35.0	57.2	100	18	Mar. 24	Oct. 17
Lovelocks (a)	35.2	29.8	39.9	54.4	66.8	66.8	81.4	81.6	67.6	50.9	41.9	31.8	54.0	105	6	.....	Oct. 16
McGill	.....	.....	*27.5	44.9	56.4	59.7	63.2	65.9	56.4	41.4	36.3	22.0	.....	100	.....	May 8	Sept. 9
Martins	.....	.....	.....	.....	.....	.....	.....	.....	57.5	47.2	42.8	30.5	.....	.....	.....	.....	Sept. 8
Midas	32.2	30.6	28.6	46.4	58.4	61.1	68.8	72.0	60.6	47.1	41.8	30.1	48.1	92	1	May 7	Oct. 14
Mill City (a)	30.5	29.8	35.7	49.8	64.4	62.3	71.9	76.4	58.0	46.6	38.3	30.4	49.6	108	5	Apr. 7	Oct. 14
Monitor Mill	.....	.....	.....	41.0	53.8	58.6	63.7	66.8	55.5	40.6	35.0	24.0	.....	96	.....	June 19	Sept. 9
Osceola	32.6	28.4	30.5	46.1	60.1	62.6	72.4	74.2	63.4	45.6	42.4	28.1	48.9	96	— 2	.....	.....
Palisade (a)	33.6	35.1	31.7	46.5	61.7	62.8	77.0	77.2	67.7	52.1	41.3	32.0	51.6	99	0	Apr. 22	.....
Palmetto	30.2	30.4	30.6	46.0	56.6	58.2	66.0	68.0	57.4	45.5	39.7	29.3	46.5	94	—12	May 9	Oct. 2

[1] C. W. Ernst. [2] H. F. Bethune. [3] Prof. C. W. Friend. [4] Pacific railway system. [5] C. P. Mengel.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Nevada—Continued.																	
Reno (g)	31.8	33.5	38.8	50.0	60.6	64.9	73.2	76.2	63.4	45.0	40.2	34.7	51.0	105	— 6	May 9	Oct. 15
Reno State University	30.4	27.8	32.2	48.4	58.4	58.4	67.3	69.6	56.9	47.6	41.9	31.6	47.5	94	—12	.....	.....
St. Clair	31.8	31.9	36.0	.....	.....	.....	.....	.....	60.6	47.8	41.6	30.4	.....	.....	4	.....	Oct. 26
St. Thomas	38.0	46.8	47.9	.....	74.5	82.5	89.8	87.8	73.4	63.2	.....	.....	.....	116	.....	Apr. 21	.....
San Antonio	.....	30.8	32.6	51.4	63.0	64.2	71.5	76.2	.....	50.9	41.9	26.6	.....	100	.....	Apr. 25	Oct. 16
Silver Peak	.....	.....	.....	55.9	67.2	69.8	74.9	75.9	67.2	53.2	44.2	30.3	.....	102	.....	Apr. 4	Oct. 15
Sodaville	34.6	.....	36.8	51.6	65.0	.....	77.6	80.6	.....	.....	.....	32.9	.....	.....	.....	Apr. 25	.....
Tecoma (a)	24.4	29.7	32.1	44.3	58.0	64.7	69.1	74.5	63.8	45.0	36.9	24.4	47.2	102	0	.....	.....
Toano (a)	25.0	25.8	28.2	45.7	59.6	63.4	70.2	72.4	60.7	43.1	36.6	22.6	46.1	99	— 6	June 17	Oct. 13
Tuscarora (a)	27.0	22.4	22.5	38.0	53.2	54.2	62.0	.....	53.9	40.5	.....	24.2	.....	.....	9	June 18	Sept. 9
Tybo	26.0	25.9	27.4	47.7	59.6	63.0	69.8	73.4	62.0	48.6	42.2	.....	.....	100	.....	Apr. 23	Oct. 16
Verdi (a)	32.8	29.9	28.4	50.6	61.1	57.2	64.0	65.9	56.0	45.6	40.7	37.0	47.4	104	— 3	.....	Sept. 25
Wadsworth (a)	28.1	30.3	36.4	47.4	64.6	69.0	76.0	83.5	62.5	48.4	40.1	26.4	51.1	104	— 3	Apr. 7	Nov. 8
Wells	25.5	24.4	26.6	44.1	59.1	59.4	66.2	69.7	57.0	42.6	35.8	21.6	44.3	98	—19	June 17	Sept. 13
*Winnemucca	32.6	31.8	31.8	48.2	60.8	61.0	68.1	73.8	59.4	47.8	39.3	29.0	48.6	98	— 2	May 8	Oct. 14
New Hampshire.																	
Berlin Mills	9.5	15.4	22.6	41.6	51.2	56.7	66.0	58.1	55.0	47.0	32.5	22.5	39.8	90	—29	.....	.....
Bethlehem	16.4	21.0	27.2	42.2	53.4	58.2	69.8	62.8	55.6	46.2	31.2	22.0	42.2	92	—20	May 22	Sept. 22
Brookline	23.5	26.3	32.6	46.5	57.8	61.7	71.6	66.1	59.7	48.8	37.0	29.2	46.7	98	—12	.....	.....
Concord	24.0	25.4	31.6	47.3	57.2	60.3	70.6	64.4	57.4	47.3	34.6	26.4	45.5	98	—11	May 8†	Sept. 22
Durham	24.9	25.8	32.6	46.6	55.0	59.6	69.7	66.4	59.7	50.4	36.2	28.0	46.2	96	— 8	Apr. 22†	Oct. 3
Grafton	20.0	21.0	27.5	43.6	54.0	58.4	[2]69.2	[2]63.6	56.7	46.2	32.9	23.5	43.0	96	—20	May 23	Sept. 18†
Hanover	19.2	20.2	29.0	43.0	54.0	60.2	72.3	64.4	57.0	46.8	33.0	24.0	43.6	91	—14	May 9	Oct. 3
Keene	21.8	22.6	31.2	45.1	55.6	59.8	70.7	64.8	57.8	47.7	34.4	25.9	44.8	95	—13	May 8	Sept. 22
Lancaster	15.1	17.0	26.3	41.6	53.3	58.8	71.0	63.0	55.1	44.6	31.0	20.1	41.4	95	—28	May 8	Sept. 22
Nashua	23.7	25.5	32.8	47.9	58.0	61.5	71.9	67.7	60.1	49.1	35.9	28.2	46.9	97	—11	May 8	Sept. 22
Newton	24.4	25.6	32.4	46.8	55.6	59.7	70.4	66.0	58.6	49.2	36.7	28.6	46.2	95	— 6	May 7†	Sept. 22
North Conway	20.0	23.6	28.8	44.7	55.0	57.8	70.1	64.8	57.8	48.2	32.8	23.6	43.9	95	—19	May 8†	Sept. 18
Peterboro	21.5	21.8	30.3	45.6	55.8	59.4	70.7	65.4	57.3	46.9	34.1	26.1	44.6	94	—21	May 23†	Sept. 18
Plymouth	17.6	20.0	27.6	44.4	55.4	60.4	72.6	65.6	57.2	45.4	32.8	23.2	43.5	102	—20	May 23	Sept. 22
Sanbornton	19.9	22.5	28.1	43.6	54.2	58.1	69.6	64.0	56.8	47.7	32.2	23.8	43.4	92	—12	May 8	Sept. 22
Stratford	18.2	21.4	28.0	42.8	55.9	60.4	72.6	65.9	58.6	49.5	33.2	21.5	44.0	100	—22	May 16	Sept. 22
West Milan	13.8	17.0	25.7	41.6	51.6	56.2	68.8	61.0	55.0	44.8	30.6	19.7	40.5	97	—27	June 21	Sept. 12
New Jersey.																	
Allaire	31.5	35.2	43.1	52.3	63.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Asbury Park	27.3	33.1	41.1	50.5	60.0	65.8	71.8	71.2	67.6	.....	45.7	37.0	.....	96	6	Apr. 21	Oct. 31
*Atlantic City	30.8	34.8	41.0	48.4	58.0	65.6	72.5	72.4	66.9	57.4	46.2	38.4	52.7	94	6	Apr. 20	Nov. 18
Barnegat	[6]31.9	34.3	[6]43.2	51.0	61.6	69.0	75.6	73.6	69.3	.....	48.2	.....	.....	99	.....	Apr. 21	Oct. 31
Bayonne	30.0	32.9	41.0	51.2	61.9	67.3	75.5	72.8	67.9	57.7	45.0	35.3	53.2	98	5	Apr. 21	Oct. 18
Beachhaven	30.4	34.3	40.9	48.8	[5]59.0	67.0	73.6	73.4	68.6	54.3	.....	.....	.....	95	.....	Apr. 21	.....
Belvidere	27.0	30.2	39.0	50.4	60.0	65.0	73.8	70.3	64.6	55.3	41.3	32.6	50.8	97	— 3	Apr. 22	Oct. 4
Beverly	29.8	33.6	42.4	52.4	62.5	67.6	75.7	72.7	67.1	57.0	44.6	36.4	53.5	97	4	Apr. 22	Oct. 18
Billingsport (a)	28.3	34.0	41.3	50.9	61.8	68.4	75.4	72.6	66.7	56.3	44.6	35.6	53.0	92	7	Apr. 20	Oct. 18
Blairstown	27.8	30.8	39.8	51.0	60.2	66.0	73.9	70.9	64.8	54.2	.....	.....	.....	96	.....	Apr. 21	Oct. 18
Boonton	26.3	29.9	38.2	50.0	60.0	64.9	74.0	70.3	65.8	54.8	41.2	32.2	50.6	100	0	Apr. 21	Oct. 4
Bridgeton	32.2	37.0	45.6	53.5	64.1	70.8	77.9	74.8	69.0	58.2	47.0	39.0	55.8	94	10	Apr. 20	Oct. 31
Camden	28.8	33.1	42.5	52.2	61.7	66.8	74.6	71.4	65.9	56.0	45.0	36.2	52.8	92	6	Apr. 21	Oct. 31
*Cape May	32.5	35.4	42.9	50.0	59.8	67.2	73.9	72.8	68.3	58.2	48.6	40.0	54.1	91	10	Apr. 21	.....
Cape May C. H.	32.6	36.2	43.1	49.8	60.3	67.2	73.9	72.2	67.2	58.1	48.2	37.9	53.9	92	9	Apr. 21	Oct. 18
Charlotteburg	27.0	28.6	36.6	47.7	57.0	61.6	68.0	66.4	61.6	51.8	41.2	31.0	48.2	93	— 3	May 8	Sept. 29
Chester	24.6	29.6	37.0	47.6	57.8	63.4	72.0	68.1	61.6	52.9	39.2	31.6	48.8	93	0	May 8	Oct. 18
Clayton	30.2	34.0	42.8	51.2	61.2	67.4	75.2	72.2	67.3	[6]58.8	45.0	37.4	53.6	95	6	Apr. 21	Oct. 5
College Farm	29.4	32.0	40.4	51.2	61.3	66.6	75.0	71.7	66.2	56.4	44.6	34.6	52.4	96	2	Apr. 21	Oct. 10
Deckertown	27.1	29.2	38.0	50.0	59.5	63.6	72.4	67.8	62.6	53.6	41.4	32.0	49.8	96	— 4	May 8	Oct. 3
Dover	27.3	30.0	37.4	48.6	59.0	64.0	73.4	69.6	61.4	[6]53.3	40.4	32.8	49.8	100	— 1	May 8	Oct. 4
Egg Harbor City	29.2	33.4	42.0	50.0	60.6	66.5	74.2	71.4	66.2	56.0	45.1	36.4	52.6	95	5	Apr. 23	Oct. 5
Elizabeth	29.0	32.4	40.6	51.4	62.3	67.3	75.6	71.8	65.7	55.4	43.6	34.9	52.5	98	3	Apr. 28	Oct. 31
Englewood	27.6	30.1	38.1	49.2	59.2	65.3	73.6	69.4	66.0	54.0	42.0	31.3	50.5	93	— 4	Apr. 29	Sept. 28
Franklin Furnace	24.9	27.4	37.6	49.2	58.2	63.6	72.2	66.8	61.6	52.3	39.6	30.4	48.6	94	— 6	May 8	Sept. 28
Freehold	29.6	32.8	41.4	50.2	60.9	65.6	73.5	70.4	64.2	54.9	44.2	36.5	52.0	90	6	Apr. 21	Oct. 19
Gillette	27.0	29.6	37.9	48.3	59.0	63.2	72.1	66.6	62.3	53.5	42.2	34.1	49.6	97	0	Apr. 29	Oct. 4
Hanover	28.6	31.0	39.6	49.4	59.0	64.4	73.3	69.0	63.1	53.2	42.2	33.9	50.6	95	0	Apr. 28	Oct. 4
Hightstown	28.4	32.4	41.7	52.1	62.8	67.3	75.2	71.3	65.1	55.9	44.8	35.6	52.7	95	2	Apr. 21	Oct. 10
Imlaystown	29.4	32.8	42.8	51.7	62.5	69.2	76.5	73.0	66.8	57.2	44.1	36.4	53.5	98	5	Apr. 21	Oct. 18
Lambertville	28.6	32.2	40.6	51.3	60.8	67.1	75.2	73.3	65.3	54.0	43.6	34.4	52.2	96	2	Apr. 21	Oct. 10
Moorestown	30.2	33.8	42.2	51.7	61.4	66.8	76.0	71.8	66.6	57.0	45.0	36.2	53.2	96	6	Apr. 23	Oct. 18
Newark[1]	30.1	33.2	40.3	50.1	61.9	66.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Newark[2]	29.0	32.8	40.6	50.9	61.7	67.4	75.0	72.2	65.9	55.4	43.9	35.2	52.5	96	5	Apr. 21	Oct. 31
New Brunswick[3]	29.6	33.8	42.2	52.8	62.8	68.0	76.2	73.0	67.4	57.3	44.7	35.2	53.6	102	3	Apr. 21	Oct. 10
New Brunswick[4]	28.6	32.0	39.6	49.7	59.3	64.4	72.8	69.0	64.2	54.4	43.7	34.4	51.0	94	— 1	.....	.....
Newton	26.0	29.8	37.2	48.8	59.1	63.8	71.4	68.1	61.4	52.6	40.7	31.6	49.2	97	2	Apr. 21	Oct. 10
Ocean City	31.1	35.4	41.3	49.4	58.6	66.9	73.0	72.8	68.5	.....	47.2	38.2	.....	96	8	.....	.....
Oceanic	31.8	34.8	42.8	53.4	63.8	67.2	73.1	69.9	65.5	57.0	46.5	37.9	53.6	92	8	Apr. 21	Oct. 31
Paterson	30.4	34.0	41.6	52.6	62.4	67.4	74.8	70.6	65.2	56.7	44.8	35.3	53.0	97	7	Apr. 22	Oct. 31
Perth Amboy	[5]26.8	31.8	40.1	50.8	61.0	66.4	74.3	71.5	65.9	55.0	43.7	33.8	51.8	96	4	Apr. 21	Oct. 10
Plainfield	28.8	31.9	40.0	49.3	60.6	65.5	74.3	70.7	64.1	54.5	42.4	33.0	51.3	95	3	Apr. 21	Oct. 4
Port Norris	.....	.....	.....	.....	.....	.....	.....	72.7	67.4	57.7	46.7	38.0	.....	.....	.....	.....	Oct. 18
Readington	31.7	34.5	41.8	53.7	64.8	70.5	[2]79.5	75.1	69.4	60.9	.....	38.8	.....	96	6	Apr. 21	Oct. 31
Rivervale	28.2	29.4	38.8	48.1	57.8	62.8	72.9	66.6	62.0	53.7	41.6	31.8	49.5	100	— 6	Apr. 29	Sept. 28
Roseland	.....	.....	.....	.....	59.2	64.2	73.2	69.4	64.4	54.6	42.0	32.6	.....	98	.....	May 8	Oct. 18
Sergeantsville	27.6	31.8	40.0	49.2	59.4	65.2	73.4	70.0	64.8	56.2	43.2	33.6	51.2	95	4	Apr. 21	Oct. 4
Somerville	27.7	31.2	40.2	50.8	61.4	66.5	75.6	72.0	66.6	56.0	43.0	33.0	52.0	99	— 4	Apr. 22	Oct. 4
South Orange	28.2	31.4	39.5	49.7	60.7	65.9	74.0	69.8	63.8	53.8	42.0	34.0	51.1	94	4	Apr. 21	Oct. 10
Toms River	29.2	32.3	41.6	49.7	60.0	65.6	74.2	70.2	65.6	56.4	45.2	36.6	52.2	95	— 3	Apr. 29	Oct. 5

[1] F. W. Ricord. [2] G. C. Sonn. [3] C. V. Meyers. [4] Mrs. G. H. Cook.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.			Killing frost.	
													Mean.	Extremes.		Last in spring.	First in autumn.
New Jersey—Continued.														*Max.*	*Min.*		
Trenton	32.8	36.8	44.8	53.4	64.5	69.2	77.8	75.2	69.4	58.7	47.4	38.2	55.7	96	5	Apr. 21	Oct. 10
Vineland	30.4	34.8	43.4	51.9	61.8	67.6	75.6	72.4	67.2	57.9	46.3	37.6	53.9	98	1	Apr. 21	Oct. 31
Woodbine	28.3	32.5	40.5	50.0	59.9	66.4	73.6	71.6	65.5	[d]56.8	43.4	37.8	52.2	95	4	Apr. 21	Oct. 30
New Mexico.																	
Albert	31.4	39.9	45.0	56.1	64.7	73.9	76.6	74.6	70.6	[b]59.6	[c]49.0	37.4	56.6	101	2	Apr. 2	Oct. 17
Albuquerque	31.4	39.1	45.5	55.7	66.2	72.8	75.4	74.4	68.2	54.8	44.7	34.4	55.2	95	2	Apr. 8	Oct. 27
Alma	37.5	40.0	44.6	55.6	64.2	68.2	73.4	72.4	67.5	55.2	46.2	38.0	55.4	94	9	May 3	Oct. 16
Angus V. V. Ranch	28.0	35.8	39.8	49.0	56.7	64.4	65.4	63.1	58.6	48.7	42.4	32.2	48.7	94	2	Apr. 23	Oct. 22
Aztec	27.2	27.8	35.6	46.6	59.2	64.4	69.8	71.8	63.6	48.6	38.4	24.7	48.1	94	0	June 2	Oct. 10
Bernalillo	33.2	39.4	45.6	56.2	66.4	72.3	75.8	75.3	68.7	55.2	44.8	34.7	55.6	99	5	June 3	Oct. 27
Bluewater	28.2	30.8	35.6	46.5	58.6	64.8	70.7	69.0	61.2	49.0	38.0	28.2	48.4	101	— 4	June 4	Oct. 17
Buckmans	15.3	18.0	24.6	38.4	49.8	57.1	60.4	58.2	52.1	38.8	30.4	19.5	38.6	87	—23	(1)	(1)
Chama	25.2	24.0	29.2	42.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clayton	31.6	39.2	43.0	50.2	63.8	70.4	74.1	72.8	68.6	50.4	47.2	34.2	53.8	101	3	Apr. 29	Oct. 16
Deming (*g*)	41.1	44.2	46.9	58.3	71.3	77.8	80.0	77.5	70.8	60.8	51.5	40.9	60.1	104	10	.....	.....
East Lasvegas	29.7	35.8	39.9	49.0	57.1	63.6	67.3	65.7	62.2	49.0	43.6	30.4	49.4	101	9	.....	.....
Eddy	38.2	49.2	56.0	61.9	69.8	77.8	81.2	76.8	70.6	61.2	51.0	39.4	61.1	106	10	Apr. 1	Oct. 30
Engle	32.4	40.6	47.0	57.4	66.6	73.9	77.8	74.1	68.0	56.9	43.4	35.6	56.1	100	0	Apr. 24	Oct. 25
Espanola	29.0	33.7	40.6	50.2	60.7	66.9	71.7	71.3	66.5	52.4	.....	27.0	.....	95	— 3	Apr. 22	Oct. 18
Fort Bayard	36.4	37.8	41.3	53.4	63.6	70.4	71.5	69.4	65.0	54.7	49.0	38.2	54.2	96	9	May 4	Oct. 26
Fort Union	28.6	33.8	38.1	45.0	53.4	[b]63.4	66.6	66.0	63.2	51.0	48.2	35.0	49.4	90	1	Apr. 30	Oct. 26
Fort Wingate	31.0	32.5	36.8	48.4	59.6	65.2	69.4	70.6	63.4	50.8	45.0	30.9	50.3	94	— 3	Apr. 24	Oct. 16
Galisteo	26.3	34.3	38.3	51.5	62.7	69.0	70.8	.....	65.6	54.4	42.2	30.1	.....	.....	—17	Apr. 13	Oct. 26
Gallinas Spring	28.6	37.6	43.5	[c]55.2	63.8	72.0	73.8	71.3	67.1	53.4	47.4	33.0	53.9	104	—15	Apr. 29	Oct. 27
Gila	39.6	42.5	47.2	59.3	69.9	76.2	77.9	77.3	72.2	59.4	49.8	39.3	59.2	103	15	Apr. 4	Oct. 26
Gold Hill	22.1	18.2	14.2	25.0	35.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	May 4	.....
Hillsboro	36.9	43.2	48.6	60.0	69.0	75.9	76.7	74.0	67.7	56.5	47.4	38.6	57.9	99	14	Apr. 2	Oct. 25
La Belle	20.6	20.8	25.0	36.3	45.5	72.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	(1)	(1)
Las Cruces	38.9	43.6	50.0	58.1	69.0	75.8	76.1	74.3	69.2	57.9	50.1	38.8	58.5	101	9	Apr. 30	Oct. 22
Lordsburg (*g*)	39.6	42.2	50.0	62.7	75.0	81.5	80.7	77.3	74.4	61.9	52.7	40.0	61.5	99	19	.....	.....
Los Lunas	31.1	38.4	43.7	54.3	64.3	71.2	75.0	.....	65.0	56.4	41.0	32.9	.....	.....	—11	Apr. 21	Oct. 26
Lower Penasco	33.1	42.4	.....	[i]54.2	63.6	71.9	71.6	69.4	64.3	56.4	49.6	38.5	.....	98	— 3	Apr. 1	Oct. 26
Monero	20.8	22.8	22.8	[e]42.4	53.5	58.6	62.2	63.4	57.9	45.1	.....	21.8	.....	90	—13	June 3	Sept. 27
Ocate	21.4	29.8	36.8	45.7	55.0	62.4	65.8	.....	.....	.....	.....	.....	.....	.....	.....	Apr. 29	.....
Olio	30.2	.....	44.1	50.9	64.6	66.5	72.9	74.3	64.8	.....	.....	.....	.....	98	.....	Apr. 25	.....
Puerto de Luna	31.0	42.8	47.5	58.7	66.6	75.6	78.4	75.4	69.4	56.3	49.8	.....	.....	106	.....	Apr. 15	Oct. 27
Raton	33.3	32.0	38.2	46.0	52.8	62.2	68.2	64.6	58.9	48.1	45.2	31.7	48.4	93	— 2	May 12	Oct. 11
Rincon	39.4	45.4	50.3	60.6	71.0	76.6	79.6	76.6	70.6	59.0	51.0	41.0	60.1	103	—15	Apr. 9	Oct. 25
Roswell	31.7	45.2	51.2	59.4	66.8	75.0	77.6	75.2	68.4	58.5	48.9	37.4	57.9	104	— 4	Apr. 14	Oct. 17
San Marcial	34.8	43.6	49.6	61.2	71.4	74.4	75.2	76.4	72.4	59.9	.....	.....	.....	101	.....	Apr. 14	Oct. 26
*Santa Fe	27.4	30.7	36.7	47.2	56.9	64.2	67.0	66.6	61.9	49.0	41.4	29.2	48.2	85	— 1	Apr. 16†	Oct. 18
Shattucks Ranch	34.8	42.7	46.0	53.9	62.6	68.5	68.6	67.4	61.5	55.6	52.9	39.0	54.5	98	0	Apr. 18	Oct. 21
Socorro	32.2	40.6	47.6	56.7	68.1	75.6	76.2	74.6	68.6	56.2	45.6	35.2	56.4	101	— 9	Apr. 3	Oct. 26
Springer	19.2	32.2	40.4	[e]48.4	59.0	65.6	69.9	[f]68.6	.....	.....	.....	.....	.....	.....	.....	May 1	.....
Valley Ranch	29.0	31.2	36.7	46.0	55.1	.....	66.6	[k]67.7	.....	.....	.....	.....	.....	.....	.....	May 5	.....
White Oaks	29.4	40.2	48.6	[c]51.7	60.8	68.8	67.6	68.8	63.6	53.4	46.2	35.0	52.8	95	— 3	Apr. 21	Oct. 26
Winsors Ranch	.....	.....	28.2	39.8	48.6	53.6	57.2	56.4	52.4	42.0	35.6	26.4	.....	85	.....	(1)	(1)
New York.																	
Addison	24.0	27.9	36.1	46.2	55.5	61.0	71.5	64.6	60.0	51.3	40.3	31.1	47.5	95	— 7	May 22	Sept. 28
*Albany	24.7	26.0	35.3	48.0	58.8	64.6	74.7	69.5	62.6	53.0	38.9	30.1	48.8	96	— 5	Apr. 20†	Oct. 10
Alfred	19.5	24.7	33.1	43.0	52.5	58.4	69.2	62.0	59.7	50.1	.....	.....	.....	93	.....	June 22	Sept. 21
Angelica	19.2	24.7	33.0	43.4	52.5	59.1	70.7	62.6	59.3	51.0	38.7	29.6	45.3	95	—20	June 21	Sept. 21
Appleton	24.8	26.6	33.2	44.5	53.7	61.6	72.5	65.1	61.6	52.0	40.3	30.2	47.2	98	— 7	.....	Oct. 3
Arcade	20.1	24.4	32.0	43.0	52.2	59.2	70.5	62.6	59.2	50.6	36.9	27.5	44.8	95	— 7	June 21	Sept. 21
Arkwright	23.2	26.4	33.0	43.6	53.0	60.2	70.3	63.2	61.1	52.8	38.2	28.8	46.2	88	— 1	.....	.....
Auburn	.....	.....	.....	.....	.....	.....	.....	.....	62.0	53.3	39.1	29.6	.....	.....	.....	.....	.....
Avon	23.4	26.0	34.6	45.4	54.7	62.1	74.3	65.7	60.2	51.8	40.4	[c]30.6	47.4	102	—10	May 27	.....
Baldwinsville	22.4	25.7	34.2	46.6	56.8	63.4	74.4	67.6	61.6	52.2	38.4	[d]26.4	47.5	98	— 3	.....	Oct. 7
Bedford	27.8	29.7	37.6	48.2	57.9	62.6	71.6	67.5	61.3	53.1	42.0	33.4	49.4	92	— 4	.....	Sept. 28
Big Sandy (*h*)	20.0	22.6	29.2	42.6	53.8	61.5	72.2	67.0	58.4	51.1	37.3	27.2	45.2	92	—11	.....	.....
*Binghamton	23.8	26.1	34.6	45.9	55.2	60.9	72.1	66.0	60.4	51.1	38.3	30.2	47.1	95	— 6	.....	Oct. 3
Binghamton	23.7	25.9	34.4	45.9	55.5	61.0	71.8	66.0	60.1	51.0	38.1	30.1	47.0	96	—10	May 22	Sept. 28
Bolivar	19.8	25.7	34.2	43.6	52.8	59.0	69.3	61.2	57.4	49.2	38.0	29.7	45.0	95	—16	.....	Sept. 21
Bouckville	.....	.....	.....	.....	.....	.....	.....	63.8	58.4	50.8	35.4	25.6	.....	.....	.....	.....	.....
Brentwood	28.2	30.6	38.5	47.2	.....	64.0	72.0	68.4	61.6	53.8	42.6	35.2	.....	93	0	.....	Sept. 28
Brooklyn	28.8	33.2	39.8	50.8	61.0	68.1	74.4	71.9	66.6	56.8	44.5	35.6	52.6	93	— 6	.....	.....
*Buffalo	24.9	27.6	34.4	44.2	53.8	61.6	74.0	67.0	63.2	54.4	40.2	30.3	48.0	95	0	Apr. 27†	Oct. 8
Canajoharie	23.0	25.3	33.0	45.8	57.6	62.8	75.1	68.8	61.7	50.4	37.6	29.4	47.5	99	— 7	.....	.....
Canton	.....	18.8	28.8	43.3	54.4	60.5	72.8	64.8	57.2	47.6	32.6	22.1	.....	98	.....	.....	.....
Carmel	25.7	27.1	36.4	49.0	59.1	65.3	73.3	67.8	61.8	52.4	39.4	30.8	49.0	93	— 2	.....	.....
Catskill	25.6	26.9	35.4	47.8	58.8	63.0	73.3	68.8	62.2	53.2	39.6	31.2	48.8	95	— 4	Apr. 22	.....
Charlotte (*h*)	25.1	24.4	32.1	40.7	49.3	57.8	68.6	62.4	58.7	47.6	37.0	29.8	44.5	94	— 2	.....	.....
Cooperstown	21.0	21.3	30.3	43.2	53.6	59.5	70.5	63.8	57.5	48.5	35.2	27.8	44.4	91	—10	May 22	Sept. 22
Cortland	21.4	25.0	33.8	43.2	54.1	59.8	70.8	64.2	59.2	52.4	38.2	28.6	45.9	94	— 6	.....	Oct. 10
Dryden	.....	24.6	33.1	44.2	54.0	60.6	71.8	64.8	58.6	48.8	37.8	29.3	.....	96	.....	May 8	Sept. 28
Elmira	24.7	28.8	36.5	48.3	58.6	65.2	74.4	67.6	62.7	53.6	40.6	32.2	49.4	98	— 1	.....	Sept. 22
Fleming	24.0	26.8	34.5	45.7	56.1	62.0	73.4	67.0	63.3	54.5	39.0	29.9	48.0	95	0	.....	Oct. 18
Fort Niagara	25.9	27.6	33.9	45.2	54.8	[61.6]	74.0	68.0	65.2	54.2	41.5	31.2	[47.6]	95	— 1	.....	.....
Franklinville	19.6	24.3	33.1	44.0	52.8	58.9	70.4	62.6	59.0	50.4	37.6	28.1	45.1	96	—21	May 27	Sept. 28
Friendship	20.6	26.8	35.6	45.3	53.7	60.3	69.5	.....	.....	.....	.....	.....	.....	.....	.....	May 27	.....
Garrattsville	22.5	24.3	31.9	44.0	52.6	58.0	69.0	63.2	56.8	49.2	35.8	26.6	44.5	90	—10	.....	Sept. 18
Glens Falls	20.8	22.6	31.0	44.9	56.9	62.1	73.1	65.5	58.2	49.7	34.1	23.9	45.2	94	—10	.....	Sept. 28
Gloversville	20.2	23.0	29.8	44.0	54.8	60.1	70.7	64.2	58.2	49.0	34.5	24.8	44.4	93	—11	May 8	Sept. 18

[1] Every month.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
New York—Continued.																	
Greenwich									59.0	50.3	36.6	26.3					
Honeymead Brook	24.4	25.2	34.0	46.4	56.7	62.0	71.6	66.4	59.2	50.3	37.9	29.5	47.0	92	— 4	May 8	Oct. 3
Humphrey	21.6	26.8	34.2	43.6	53.6	59.4	69.5	62.8	60.6	52.4	37.1	28.6	45.8	90	— 3	May 22	Sept. 28
Ithaca	23.7	26.9	34.8	46.2	55.3	60.9	72.4	65.8	61.7	52.1	39.4	30.7	47.5	94	— 6	May 8	Oct. 8
Jamestown	22.4	28.2	36.2	45.7	54.4	61.8	71.8	64.1	60.9	51.2	[g]39.2	30.2	47.2	95	— 7	Apr. 21	Sept. 21
Lake George	21.7	21.1	31.8	45.0	55.5	61.4	70.9	65.3	59.0	51.0	36.0	25.9	45.4	92	—14	May 8	Oct. 10
Lake Placid								61.0	57.5	47.3		23.1					
Lebanon Springs	22.6	23.6	32.0														
Little Falls	18.4	21.0	28.4	44.1	54.2	59.1	71.2	65.4	58.7	49.0	34.2	23.4	43.9	94	—12		
Lockport	25.8	28.8	35.3	46.4	57.0	61.6	74.6	65.8	61.3	51.8	39.0	[h]33.2	48.4	99	— 2	Apr. 11	Oct. 8
Lowville	18.4	20.8	29.2	42.6	53.2	58.8	70.6	62.8	57.5	49.4	34.1	23.7	43.4	95	—25	May 22	Sept. 29
Lyons	24.8	27.6	35.2	46.0	56.3	62.8	73.4	67.0	61.2	53.2	40.6	31.4	48.3	96	0		Oct. 9
Madison Barracks	19.4	20.2	29.8	47.5	[54.0]	59.4	74.2	63.5	57.8	50.5	36.3	25.4	[44.8]	99	—21		
Manhattan Beach	27.2	30.8		46.0	56.4		69.8										
Middletown				[f]49.8	58.0		73.2	67.5	61.6	52.6	40.0	29.8					
Mohonk Lake	23.2	26.2	32.4	45.0	56.8	63.4	70.6	67.2	62.0	52.8	39.4	28.6	47.3	89	0	Apr. 29	
New Lisbon	20.3	21.8	29.9	42.3	52.0	57.2	68.8	62.2	56.0	47.4	34.3	26.2	43.2	94	—13	May 8	Sept. 22
*New York	29.4	32.6	39.2	48.6	59.3	65.2	72.8	71.0	65.4	56.3	44.1	35.8	51.6	91	5	Apr. 20	Nov. 18
North Hammond	20.1	21.3	31.2	44.0	55.0	61.6	73.4	65.8	60.4	49.6	36.2	25.6	45.4	100	—24	May 8	Oct. 8
North Lake	17.1	[d]18.4	23.0	37.2	51.6	55.5	67.6	61.2	55.1	45.9	31.0	20.2	40.3	91	—25		
Number Four	17.0	20.0	26.5	40.4	50.2	55.2	68.0	60.2	54.5	47.4	31.3	21.8	41.0	90	—26	June 2	Sept. 18
Ogdensburg	19.7	21.0	28.3	44.2	55.2	61.6	72.2	65.8	60.5	50.4	34.2	23.6	44.7	95	—26	May 21	Oct. 8
Oneonta	26.2	27.3	35.0	46.4	56.2	61.7	72.4	66.0	59.4	50.2	38.0	30.6	47.4	97	— 4		
*Oswego	23.2	25.2	32.8	44.0	53.4	59.6	71.9	65.6	61.0	52.3	38.8	29.2	46.4	94	— 1	Apr. 27†	Oct. 18
Oxford	22.6	26.2	31.4	44.4	55.0	60.6	71.0	64.8	58.4	48.8	36.0	27.4	45.6	98	— 7		Sept. 28
Palermo	20.6	23.1	31.2	44.1	54.0	61.0	71.6	64.8	59.3	50.3	36.7	26.3	45.2	95	— 9		Oct. 8
Penn Yan								67.1	63.3	53.3	40.1	31.2					
Perry City	21.0	23.6	32.6	43.2	54.2	60.0	71.4	63.8	58.6	49.4	37.4	27.6	45.2	97	—13	May 22	
Pittsford	24.0	26.5	35.0	45.3	54.4	61.9	72.7	65.7	61.4	52.2	39.6	30.3	47.4	98	— 1	May 22	Oct. 10
Plattsburg Barracks	16.6	17.8	27.8	42.2	53.7	61.6	70.8	65.2	57.9	47.9	33.0	23.6	43.2	95	—18		
Port Jervis	25.1	28.1	36.0	49.5	58.2	63.8	72.1	67.4	62.2	51.3	39.5	29.6	48.6	93	— 3	Apr. 29	
Potsdam	16.6	16.8	27.7	42.7	54.6	60.4	71.4	64.7	57.4	48.2	32.0	21.8	43.0	94	—24		
Poughkeepsie	25.0	25.6	35.2	48.0	57.8	63.0	73.0	67.3	61.4	51.9	39.2	33.4	48.4	96	—11	May 8	
Primrose	28.5	29.6	38.4	49.2	58.9	66.0	74.1	70.2	63.3	53.0	42.2	32.2	50.5	96	— 6		
Ridgeway		26.1	34.2	45.2	54.2	62.5	73.2	66.6	63.2	53.1	40.1	29.9		96		May 26	Oct. 10
*Rochester	24.1	26.9	35.1	45.7	55.5	62.6	74.0	66.6	63.0	53.6	39.4	30.0	48.0	99	1	Apr. 27†	Oct. 10
Rome	19.2	22.2	29.4	45.6	55.8	62.2	72.0	64.6	57.4	47.1	34.0	24.0	44.5	97	— 9		
Romulus	24.8	27.8	35.8	47.0	56.0	62.9	74.0	67.8	63.2	53.4	40.0	30.4	48.6	97	— 2	May 26	Oct. 8
St. Johnsville	20.0	23.0	31.0	44.1	54.7	60.2	70.8	64.8	58.8	49.3	35.4	29.2	45.1	91	— 9		Oct. 10
Saranac Lake	13.9	17.5	27.8	41.5	52.9	58.4	70.0	62.0	55.6	47.2	30.1	19.8	41.4	95	—28		Sept. 27
Setauket	30.2	31.2	39.1	48.7	58.6	64.7	72.4	70.0	64.5	56.0	45.3	36.7	51.5	88	9	Apr. 21	
South Canisteo	21.2	26.8	34.8	44.5	53.5	58.7	69.2	62.4	56.2	49.5	37.9	29.1	45.3	95	— 9	May 27	Sept. 18
South Kortright	21.7	23.2	31.7	42.8	53.6	58.6	65.6	62.4	56.0	48.2	35.4	27.4	43.9	98	—13		Sept. 22
Straits Corners	22.2	23.3	33.4	44.2	54.4	60.2	72.0	[e]66.4	61.4	49.9	37.3	28.3	46.1	97	— 4	May 8	Oct. 3
Ticonderoga								66.8	59.0	50.6	37.4	27.4					
Wappingers Falls	26.0	27.2	37.6	49.6	61.1	65.8	74.8	68.5	61.8	52.6	40.0	31.3	49.7	99	—13		Oct. 10
Watkins						62.0	73.2	67.0	62.9	53.6	40.1	30.2					
Waverly	24.2	27.7	36.4	46.9	56.0	62.0	72.6	66.0	61.9	51.8	39.4	31.0	48.0	98	— 9	May 27	Sept. 22
Wedgwood	21.5	26.4	33.6	44.9	54.7	61.9	72.8	67.6	63.8	52.4	36.9	28.1	47.0	98	— 3	Apr. 27	Oct. 10
Westfield	24.8	28.1	35.8	45.1	55.2	63.2	73.7	65.8	62.8	55.0	42.0	32.3	48.6	94	20		
Westpoint	26.2	27.6	36.7	49.3	60.6	65.6	74.5	71.2	60.6	50.0	39.8	31.0	49.4	96	1		
Willetspoint	28.4	30.6	39.0	49.0	59.4	65.8	73.5	70.7	66.1	56.0	44.0	35.3	51.5	96	— 7		
North Carolina.																	
Abshers				55.4	61.7	73.1	75.2	72.4	68.8	61.3	48.3	41.6		99		Apr. 21	Oct. 4
*Asheville	32.9	41.2	50.1	54.2	59.8	70.4	71.8	70.3	67.1	59.0	46.7	40.0	55.3	95	— 2	Apr. 18	Oct. 30
Beaufort	44.8	51.1	55.4	61.2	67.8	76.7	80.2	79.0	74.4	67.6	58.4	51.4	64.0	94	15	Mar. 29	Dec. 24
Biltmore	33.6	42.4	51.0	54.4	60.2	70.6	72.7	70.7	66.8	58.0	46.1	39.6	55.5	94	— 2	Apr. 21	Sept. 30
*Chapelhill	35.7	43.3	51.0	58.4	[e]64.8	77.0	78.2	76.8	[h]71.6	62.4	51.2	42.7	59.4	101	— 7	Apr. 21	Nov. 13
*Charlotte	37.1	46.4	52.2	59.6	66.6	76.6	78.5	75.8	72.6	64.2	51.4	44.2	60.4	98	6	Apr. 21	Nov. 18
Edenton	39.9	46.2		57.8	67.3	75.7	80.1	78.0	71.6	64.0	53.0	45.5		95	—12	Apr. 21	Nov. 13
Experimental Farm	37.8	46.5	53.0	59.0	66.3	77.0	79.1	76.9	73.2	62.8	52.4	44.6	60.7	97	—10	Apr. 21	Nov. 18
*Fayetteville	39.6	47.8	54.0	59.4	67.5	76.8	79.0	76.6	72.0	63.1	53.0	45.2	61.2	99	10	Apr. 21	Nov. 18
Flatrock				52.8	59.4	70.2	71.5	69.2	63.4	56.6	45.2	39.4		90		May 26	Oct. 4
*Goldsboro					67.8	78.2	80.2	77.0	73.0	64.6				99			
*Greensboro	37.9	45.8	53.4	59.4	64.8	76.4	78.6	76.6	72.4	60.8	50.4	41.2	59.8	101	6	Apr. 21	Nov. 18
Greenville								75.9	71.2	63.7	54.3						Nov. 13
*Hatteras	43.0	47.6	52.9	57.0	66.0	74.4	78.9	78.2	78.7	66.3	57.7	50.6	62.2	89	18	Feb. 28†	Dec. 24
Henderson	35.9	44.8	51.0	58.0	66.1	75.2	78.2	77.6	72.8	61.9	51.6	42.2	59.6	100	8	Apr. 21	Nov. 18
Highlands	30.6	38.4	45.5	49.4	55.4	66.6	66.0	65.4	61.9	54.6	44.8	38.0	51.4	84	—10	May 26	Oct. 4
Horse Cove	34.1	42.5	49.1	53.8	61.4	71.5	72.6	71.6	68.0	60.2	47.5	41.7	56.2	93	— 5	Aug. 2	Nov. 16
Jacksonville		51.5		62.0	67.6	77.8	79.7	78.4		65.7	55.3					Apr. 21	Nov. 13
*Kittyhawk	40.2	44.8	50.8	55.4	63.2	72.6	77.0	77.9	71.8	64.6	56.8	48.8	60.3	94	16	Mar. 17†	Dec. 23†
Lenoir (*a*)	35.4	42.5	50.3	54.7	63.1	72.3	74.3	72.2	68.0	59.9	46.0	40.6	56.6	92	0	Apr. 21	Oct. 5
Linville	27.8	34.1	43.7	46.9	52.2	64.0	66.2	64.2	58.0	51.3	41.1	36.8	48.9	83	— 7	May 27	Sept. 21
Littleton	35.0	42.7	49.0	56.3	63.6	74.0	77.6	75.5	70.5	61.2	50.0	41.2	58.0	97	8	Apr. 21	Nov. 12
Louisburg	36.4	44.8	52.8	58.9		76.4	79.4	76.9	71.8	[d]61.9	50.2	43.0		99	8	Apr. 21	Nov. 13
Lumberton					69.3	78.8	81.6	79.2	73.2	64.2	53.4	45.1		101		Apr. 21	Nov. 13
Lynn	34.8	42.6	50.6	56.3	63.0	73.4	75.6	72.5	70.3	62.1	49.8	44.5	58.0	92	8	Apr. 21	Nov. 18
Marion	37.3	45.9	51.8	57.3	62.8	72.4	74.4	72.5	69.1	61.7	48.3	42.7	58.1	98	1	Apr. 21	Nov. 13
Mocksville	38.2	46.5	53.0														
*Moncure	38.8	46.4	53.6	59.9	65.2	75.6	77.7	76.4	72.2	63.0	51.8	44.6	60.4	97	12	Apr. 21	Nov. 13
Monroe	38.5	46.2	53.0	59.0	65.2	75.5	77.3	75.0	71.0	63.0	51.4	42.5	59.8	94	7	Apr. 21	Nov. 12
Morganton	32.5	39.0	47.0	52.6	64.6		77.6	74.8	70.6	62.2	49.1	41.3			5	Apr. 21	Nov. 5
Mountairy	33.2	41.6	49.2	54.6	61.4	72.6	75.0	[e]72.4	67.2	[e]59.6	46.8	39.7	56.1	95	1	Apr. 21	Oct. 6
Mount Pleasant	37.2	46.0	52.4	59.3	65.7	76.8	77.9	75.6	72.0	63.6	50.7	42.6	60.0	98	6	Apr. 21	Nov. 4
*Oakridge	34.4	42.9	49.8	56.4	63.6	74.5	76.8	74.0	70.2	61.0	48.8	40.4	57.7	97	0	Apr. 21	Nov. 7

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
North Carolina—Cont'd.																	
Pantego	.....	44.3	51.5	57.2	64.3	.....	75.8	.....	.....	62.0	.....	.....	.....	.....	.....	Apr. 21	.....
Pittsboro	35.4	43.0	50.8	56.0	64.0	75.4	76.8	74.4	69.2	61.2	50.2	42.4	58.2	95	7	Apr. 21	Nov. 13
*Raleigh	37.9	46.3	53.0	60.0	66.2	76.6	78.8	77.3	73.0	63.0	52.8	44.0	60.7	98	9	Apr. 21	Nov. 18
Rockingham	41.0	48.4	55.0	61.3	68.5	78.4	80.4	78.0	74.6	64.5	53.0	46.2	62.4	102	10	Apr. 21	Nov. 13
Roxboro	33.8	41.8	48.8	57.0	63.2	74.5	75.9	74.9	70.4	59.4	49.2	.....	.....	97	.....	Apr. 21	Nov. 4
Salem	34.7	43.4	51.8	57.6	64.2	75.9	77.5	75.2	71.1	61.2	48.2	40.6	58.5	98	3	Apr. 21	Nov. 7
Salisbury	38.0	46.8	52.6	59.6	66.6	77.2	79.8	77.0	72.7	63.3	51.8	43.3	60.7	101	7	Apr. 21	Nov. 13
Saxon	33.4	[e]43.0	51.1	56.8	64.6	76.2	77.6	74.8	70.4	61.4	48.4	40.0	58.1	103	0	Apr. 21	Sept. 29
Selma	38.5	46.2	53.8	59.2	66.4	77.0	79.4	77.0	72.6	63.4	54.2	44.8	61.0	99	12	Apr. 21	Nov. 18
Settle	32.8	42.6	50.4	57.6	64.8	76.0	78.2	75.6	72.4	62.6	48.6	40.6	58.5	100	—2	Apr. 21	Nov. 12
Skyuka	37.1	40.1	48.0	53.4	61.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sloan	42.1	49.4	55.2	60.7	67.4	76.4	78.8	77.8	73.0	65.4	55.2	47.6	62.4	99	13	Apr. 21	Nov. 12
Soapstone Mount	.....	[f]45.2	52.0	58.2	64.4	74.8	76.4	71.4	69.2	60.8	49.8	41.1	.....	98	.....	Apr. 21	Nov. 4
Southern Pines[1]	41.1	50.2	54.5	62.0	68.0	78.0	79.4	77.8	74.2	64.9	54.6	47.0	62.6	102	10	Apr. 21	Nov. 18
Southern Pines[2]	39.8	48.0	54.3	61.8	68.3	77.9	80.0	78.4	73.4	65.3	54.9	46.3	62.4	101	10	.....	Nov. 18
Southport	44.2	51.2	56.6	61.7	68.0	78.2	80.4	79.0	73.3	67.1	58.3	50.4	64.0	100	13	Mar. 29	Nov. 13
Springhope (*a*)	36.5	44.3	51.1	57.3	64.3	75.2	78.2	74.8	.....	60.0	50.0	41.2	.....	.....	11	Apr. 21	Nov. 13
Tarboro	37.8	45.4	52.2	59.0	66.2	76.3	78.8	76.8	72.7	62.9	51.8	43.4	60.3	101	7	Apr. 21	Oct. 30
Waynesville	33.0	41.8	50.8	53.2	58.2	68.8	69.7	68.0	62.2	54.8	45.7	41.3	54.0	90	—12	Apr. 21	Sept. 30
*Weldon	36.0	44.0	51.4	57.8	64.8	75.2	79.2	77.2	71.1	62.3	51.4	44.0	59.5	99	10	Apr. 21	Nov. 13
*Wilmington	43.6	52.0	56.8	61.4	68.4	78.0	80.1	78.6	73.0	65.9	57.0	49.4	63.7	97	14	Apr. 21	Nov. 18
Willeyton	37.0	45.1	51.9	58.8	64.8	73.8	78.4	76.0	70.8	61.9	52.2	43.6	59.5	97	10	Apr. 22	Nov. 13
North Dakota.																	
Amenia	1.4	6.1	12.7	41.4	53.8	61.0	69.5	63.4	63.6	46.2	.....	.....	.....	95	.....	June 7	Sept. 17
Aneta	.....	.....	.....	.....	.....	.....	.....	.....	65.0	.....	.....	8.0	.....	.....	.....	.....	Sept. 16
Ashley	5.0	7.4	13.2	40.8	54.6	61.6	68.3	63.2	65.9	46.9	[c]24.1	11.3	38.5	97	—36	June 7	Sept. 16
*Bismarck	5.8	6.6	11.8	42.2	57.2	62.8	70.4	66.0	67.1	47.2	23.1	14.0	39.5	102	—36	June 7	Sept. 16
Bordulac	.....	.....	11.8	41.5	54.6	58.6	65.9	.....	.....	.....	.....	.....	.....	.....	.....	June 25	.....
Bottineau	.....	.....	.....	.....	52.0	.....	.....	.....	61.8	43.2	13.0	4.4	.....	.....	.....	May 13	Aug. 29
Buxton	0.8	5.8	11.8	40.2	54.1	60.7	68.2	64.2	63.2	46.4	20.8	9.2	37.0	93	—30	June 7	Sept. 17
Churchs Ferry	—0.2	2.4	9.4	39.9	56.0	62.8	69.2	64.6	64.0	45.4	18.8	9.4	36.8	100	—38	June 7	Sept. 16
Coalharbor	3.1	5.2	10.8	40.4	55.8	62.4	70.2	66.8	65.6	46.4	21.2	13.7	38.5	100	—32	June 7	Sept. 16
*Devils Lake	7.0	4.2	11.8	38.6	54.8	60.8	68.2	64.2	64.6	48.4	.....	.....	.....	97	.....	June 7	Sept. 16
Dickinson	8.4	11.2	15.6	41.8	56.0	.....	.....	.....	64.6	45.0	24.8	18.2	.....	.....	—31	June 7	Sept. 16
Dunseith	.....	.....	17.2	.....	.....	.....	72.4	68.2	[e]64.5	.....	15.6	5.2	.....	.....	.....	June 7	Sept. 19
Ellendale	.....	.....	.....	.....	.....	.....	72.2	64.8	66.3	47.8	24.3	15.0	.....	.....	.....	.....	Sept. 17
Falconer	4.4	8.3	12.5	42.4	57.1	62.9	70.4	65.5	65.7	45.9	21.2	13.6	39.2	105	—41	.....	.....
Fargo	—0.8	5.0	10.4	[e]37.5	54.8	61.8	69.4	64.8	65.3	46.9	21.4	[d]6.5	36.9	94	—37	June 6	Sept. 17
Forman	4.8	5.0	15.8	44.4	57.6	60.8	65.6	[d]59.9	66.8	47.4	23.6	11.2	38.6	99	—34	June 7	Sept. 17
Fort Berthold	11.0	1.8	14.5	40.0	55.8	62.4	69.6	69.6	64.8	53.7	[e]20.9	26.2	40.9	103	—46	.....	.....
Fort Yates	9.2	9.6	15.3	43.1	58.3	64.0	70.4	67.2	66.0	47.9	22.6	14.6	40.7	107	—38	June 7	Sept. 17
Gallatin	2.0	4.6	12.2	40.9	55.8	61.6	68.7	62.6	66.4	44.4	19.3	8.2	37.2	98	—44	June 7	Aug. 30
Glenullin	.....	.....	.....	.....	.....	[i]66.0	69.6	66.0	65.0	44.1	21.0	15.6	.....	102	.....	.....	Sept. 15
Goetz	.....	.....	.....	.....	.....	.....	68.8	67.6	65.0	47.2	18.4	12.5	.....	.....	.....	.....	.....
Grafton	—0.6	2.8	11.3	36.4	52.8	59.8	67.6	62.0	62.4	44.8	17.9	7.0	35.4	98	—34	June 9	Sept. 17
Grand Rapids	3.8	6.2	12.0	41.1	53.8	61.0	67.0	61.6	64.8	46.2	23.2	12.5	37.8	98	—41	.....	.....
Hamilton	—1.4	0.0	11.1	38.6	52.6	60.4	68.2	62.4	61.0	43.4	16.5	5.8	34.9	99	—37	June 8	Sept. 17
Jamestown	6.0	10.0	[i]6.8	[i]44.9	55.4	61.2	67.8	63.6	63.0	50.0	23.4	12.2	38.7	94	—28	May 31	Sept. 16
Kelso	3.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	[f]22.2	7.2	.....	.....	.....	.....	.....
*Langdon	.....	.....	.....	36.0	52.0	57.9	65.8	61.0	66.5	.....	.....	.....	.....	96	.....	.....	Sept. 10
*Larimore	1.6	5.7	11.0	38.6	52.1	59.4	66.8	62.0	[d]60.7	44.8	19.4	8.0	35.8	96	—31	June 7	Sept. 17
*Lisbon	.....	.....	.....	42.4	55.9	61.8	69.0	63.4	65.3	.....	.....	.....	.....	97	.....	.....	.....
McKinney	1.8	—1.2	4.8	39.2	56.2	60.4	66.6	62.1	61.2	43.8	14.2	9.6	34.9	100	—48	June 8	Aug. 30
Mayville	5.6	9.8	14.0	44.2	56.7	.....	[e]69.0	67.7	.....	47.3	.....	.....	.....	.....	.....	June 26	.....
Medora	10.4	11.6	14.4	45.0	57.5	64.6	72.3	68.8	[h]66.8	45.8	22.6	16.2	41.3	109	—37	June 6	.....
Milton	—1.1	2.8	8.4	37.3	53.0	59.9	67.0	60.6	60.6	42.4	14.2	5.4	34.2	95	—37	June 6	Sept. 17
Minnewaukon	.....	.....	.....	40.8	55.2	61.1	67.2	62.4	63.0	46.1	18.8	9.0	.....	97	.....	June 7	Sept. 16
Minot	4.0	3.4	9.8	41.5	58.0	63.0	70.0	66.0	64.3	46.8	.....	.....	.....	103	.....	June 7	Sept. 16
Minto	—0.8	5.1	14.2	40.0	54.2	61.6	68.4	62.8	62.6	44.3	18.0	7.3	36.5	102	—34	June 7	Sept. 16
Napoleon	3.8	6.0	11.0	40.2	55.3	61.0	67.7	63.0	66.2	46.2	22.8	12.6	38.0	107	—32	June 7	Sept. 16
*Neche	.....	.....	.....	.....	53.2	[e]61.6	65.6	59.6	.....	.....	.....	.....	.....	.....	.....	.....	.....
New England City	.....	.....	.....	.....	57.2	64.6	69.8	64.8	.....	42.6	21.2	15.3	.....	.....	.....	May 25	.....
Oakdale	11.2	13.1	14.6	42.4	57.4	62.2	68.3	66.0	[f]65.8	47.8	[c]23.4	20.2	41.0	97	—32	June 6	.....
Portal	2.9	3.6	5.8	40.4	57.8	59.9	66.5	63.2	61.0	43.4	14.4	9.6	35.7	109	—42	June 6	Sept. 10
Power	0.0	6.8	13.2	42.9	57.2	64.0	72.0	66.2	65.4	46.4	24.4	8.0	38.9	96	—39	June 7	Sept. 17
St. John	2.7	4.9	12.2	36.4	52.0	59.8	66.8	62.4	62.6	44.0	15.2	8.1	35.6	95	—32	June 6	Sept. 15
Sheyenne	2.6	3.6	11.2	39.6	54.9	61.4	67.8	63.0	64.6	46.6	21.0	10.6	37.2	98	—39	June 7	Sept. 17
Steele	4.0	7.0	10.8	40.6	55.2	62.0	67.4	63.1	66.0	[d]46.0	22.4	11.2	38.0	102	—35	June 6	Sept. 17
Towner	—0.2	3.0	7.0	40.6	54.7	60.6	67.9	62.8	62.8	45.3	18.5	[d]7.2	35.8	102	—42	June 7	Sept. 10
University	—0.7	5.5	14.2	41.4	53.6	.....	.....	.....	.....	46.2	21.8	[i]8.2	.....	.....	—30	June 7	Sept. 17
Valley City	—1.0	2.0	9.2	39.0	52.0	58.6	65.3	60.2	60.7	42.8	17.2	8.2	34.5	92	—33	June 7	Sept. 17
Wahpeton	3.6	11.6	18.0	46.8	58.4	64.5	74.5	65.8	66.8	50.6	27.0	14.0	41.8	100	—33	June 7	Sept. 17
White Earth	4.9	.....	.....	41.3	59.4	.....	.....	.....	64.7	44.3	19.2	12.8	.....	.....	.....	May 30	Sept. 9
Whites Ranch	.....	.....	.....	.....	.....	65.2	73.0	69.6	65.8	47.2	24.4	.....	.....	109	.....	June 6	Sept. 16
Wildrice (*b*)	2.2	6.2	13.4	41.6	56.1	62.5	68.8	62.4	61.2	44.2	20.0	8.5	37.3	.....	.....	.....	Sept. 17
*Williston	6.0	6.3	7.8	43.8	57.6	63.1	69.2	66.8	64.0	47.6	19.5	14.6	38.9	101	—35	May 14	Oct. 8
Willow City	1.0	1.0	8.0	[h]40.8	54.0	[e]57.3	[e]68.4	63.3	61.8	[h]47.2	[i]10.3	6.7	35.0	100	—45	.....	Aug. 30
Woodbridge	—0.2	1.9	8.2	38.0	52.3	58.9	65.3	61.0	61.3	43.0	16.9	6.9	34.5	96	—38	June 7	Aug. 30
Ohio.																	
Akron	24.4	30.6	39.4	48.0	55.4	66.0	74.8	68.2	65.8	55.8	41.4	32.4	50.2	98	—14	Apr. 21†	Oct. 8†
Annapolis	24.6	32.4	40.6	49.0	55.8	67.2	74.0	68.6	.....	.....	42.8	31.8	.....	.....	—17	May 22†	.....
Ashland	22.8	29.7	38.1	47.2	54.9	64.8	72.6	65.4	62.5	53.9	37.8	29.6	48.3	94	—15	Apr. 26†	Oct. 7†
Ashtabula	24.8	28.6	36.4	44.9	54.0	62.7	73.0	66.6	64.2	55.2	41.8	31.9	48.7	94	—8	May 22	Oct. 18
Bangorville	23.2	29.4	39.6	47.4	55.6	67.0	74.4	68.0	67.4	58.0	40.1	30.8	50.1	98	—20	May 21†	Sept. 21

[1] S. S. Thomas. [2] A. Rhodes.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Ohio—Continued.																	
*Bellefontaine	25.2	33.0	39.9	.....	56.2	68.7	76.8	71.0	72.0	.....	45.0	.....	.....	100	.....	May 3†	.....
Benton Ridge	23.9	31.6	40.4	48.8	57.2	67.5	76.3	69.4	68.1	58.2	40.2	30.4	51.0	104	—19	Apr. 27†	Sept. 21
Bethany	28.8	36.6	46.0	53.3	59.0	72.7	78.2	73.4	72.5	62.8	45.4	36.0	55.4	105	—10	Apr. 20	Sept. 22
Bigprairie	23.0	31.0	40.8	48.4	54.8	.....	74.0	66.2	63.6	56.9	39.5	30.2	.....	.....	—15	May 27	Sept.21†
Binola	25.7	32.1	42.5	50.6	59.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Apr. 21†	.....
Bissells	23.2	28.4	38.2	43.7	50.8	65.1	74.2	67.4	65.3	57.0	40.5	30.4	48.7	102	—18	Apr. 27†	Sept. 20
Bladensburg	24.7	.....	41.5	.....	54.5	65.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	May 26†	.....
Bloomingburg	26.6	34.2	43.4	.....	57.6	69.7	75.4	69.8	68.0	59.4	43.6	34.1	.....	99	—14	May 2†	Sept. 21
Bowling Green	22.8	29.6	38.5	47.0	55.5	65.4	74.8	66.8	65.7	56.6	40.4	29.1	46.4	99	—20	May 31†	Sept.21†
Bucyrus	.....	.....	.....	[a]49.0	56.2	69.2	76.8	69.0	65.4	.....	.....	.....	.....	105	.....	May 31	Sept.21†
Cambridge	25.6	32.6	42.0	49.0	55.4	65.9	73.5	67.8	63.4	55.6	41.2	33.2	50.4	97	—13	May 26†	Sept. 21
Camp Dennison	28.4	36.6	47.0	53.0	59.2	71.6	78.5	73.0	69.3	60.2	45.0	35.8	54.8	101	— 9	Apr. 21	Oct. 29
*Canal Dover	24.2	31.8	41.4	48.3	55.7	66.8	75.4	67.4	63.2	55.2	40.6	32.3	50.2	100	—21	May 3†	Sept.20†
Canton	25.5	31.6	41.6	49.0	55.9	67.1	74.5	67.8	64.7	56.5	41.8	33.0	50.8	96	—13	May 3	Sept. 21
Carrollton	23.2	31.8	41.8	48.9	55.6	65.4	.....	69.0	64.8	57.5	41.2	33.0	.....	.....	—17	May 27†	Sept.21†
Celina	28.0	34.4	44.6	50.6	.....	.....	.....	70.0	68.2	58.8	41.9	31.2	.....	.....	—16	.....	Sept. 21
Cherryfork	27.0	35.4	45.5	51.8	59.7	72.8	77.9	[d]73.2	72.1	63.0	42.8	34.8	54.7	104	—13	May 22	Sept. 21
*Chillicothe	.....	.....	.....	.....	58.3	.....	.....	72.0	67.2	.....	44.8	36.3	.....	.....	.....	.....	.....
*Cincinnati	29.0	36.4	46.4	52.4	59.5	71.8	77.9	73.8	71.4	62.6	46.0	36.3	55.3	98	—10	Apr. 20	Nov. 12
*Circleville	29.8	37.0	45.2	52.3	58.3	69.4	76.3	70.3	68.5	59.8	44.6	35.5	53.9	98	—11	Apr. 21†	Sept. 18
Clarksville	26.2	34.5	44.4	51.0	57.5	69.8	76.6	71.4	68.7	60.8	44.5	35.0	53.4	100	—12	May 22	Sept. 21
*Cleveland	24.0	29.6	38.0	46.7	54.8	64.5	73.8	67.1	65.2	57.2	41.5	31.6	49.5	97	—15	May 26	Oct. 18
Cleveland [1]	25.2	30.6	38.5	46.9	55.0	64.4	73.4	67.0	64.0	56.8	42.3	32.7	49.7	99	—15	May 26	Oct. 18
Cleveland [2]	24.0	29.6	37.7	46.8	55.0	65.5	75.0	68.1	66.0	56.0	41.2	31.0	49.7	95	—14	May 26	Oct. 18
Clifton	25.6	.....	43.0	49.6	[d]54.7	69.1	76.8	70.7	68.6	.....	.....	32.6	.....	104	.....	May 3†	Sept. 21
Coalton	29.2	37.4	45.9	51.6	58.9	70.6	76.8	71.8	66.8	57.6	44.0	36.6	53.9	102	—10	Apr. 21†	Sept.21†
Colebrook	23.2	27.9	37.4	46.6	55.1	65.6	75.3	68.2	65.8	56.4	40.5	31.5	49.5	99	—18	May 31†	Sept.21†
*Columbus	26.4	34.0	43.1	50.6	57.9	69.8	77.2	71.1	68.8	59.8	42.7	33.7	52.9	102	—10	Apr. 20	Oct. 8
*Dayton	27.7	35.2	44.8	51.0	58.4	71.1	78.5	71.9	69.0	60.4	44.2	34.0	53.8	104	—12	May 2†	Sept. 21
*Defiance	22.7	29.6	38.2	47.4	55.0	65.1	73.6	67.2	66.0	58.0	39.4	29.0	49.3	98	—18	May 31†	Sept. 21
Delaware	26.7	32.7	43.0	.....	57.4	69.1	77.0	69.7	65.8	57.0	41.6	33.3	.....	101	—12	.....	Sept. 21
Demos	24.0	32.2	42.0	49.3	56.6	67.7	74.2	69.8	67.5	58.0	42.4	33.8	51.5	98	—12	May 2†	Oct. 18†
Dupont	22.9	29.7	37.5	47.5	55.5	66.2	76.0	69.6	64.2	.....	41.2	28.7	.....	97	—18	May 1	Sept. 20
Elyria	24.1	30.2	39.1	46.7	55.2	65.3	74.5	67.7	66.5	57.9	41.4	31.6	50.0	101	—16	Apr. 22†	Oct. 18†
Fairport Harbor (*h*)	27.0	31.2	36.6	46.9	55.9	65.6	75.2	68.9	66.2	58.6	44.7	33.4	50.8	92	— 8	.....	.....
Fayetteville	27.1	35.0	44.6	51.4	58.2	70.7	76.4	71.2	68.8	60.4	43.8	34.6	53.5	99	—13	Apr. 20	Oct. 25
*Findlay	23.7	30.1	39.2	48.9	57.2	67.8	77.4	69.4	68.8	57.9	41.7	30.4	51.0	102	—19	Apr. 27†	Sept.21†
Fostoria	23.5	30.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Frankfort	27.6	35.9	45.0	51.0	54.6	67.1	73.6	69.7	65.2	57.0	43.8	35.1	52.1	99	—10	Apr. 21†	Sept.21†
Garrettsville	22.6	29.0	39.2	46.6	53.6	63.0	72.2	65.2	62.6	54.4	40.2	30.9	48.3	98	—16	June 2†	Sept. 21
*Granville	25.2	32.4	43.2	49.4	56.0	67.6	75.4	68.2	64.3	56.8	41.2	31.4	50.9	97	—13	May 3†	Sept.21†
Gratiot	25.4	34.1	42.6	49.6	56.4	67.8	74.8	68.8	65.0	57.6	41.8	33.6	51.5	96	—12	May 3	Sept. 21
Greenfield	[e]26.6	36.8	.....	52.6	59.6	[d]72.0	[d]78.0	71.4	67.6	59.9	[d]44.4	35.8	.....	100	— 9	Apr. 20	Sept. 21
Greenhill	22.9	30.4	40.6	47.6	54.0	64.9	74.2	67.0	63.8	55.8	39.9	31.5	49.4	102	— 18	June 2†	Sept. 21
*Greenville	24.2	31.6	41.7	47.6	55.3	67.0	74.6	67.6	65.0	57.4	41.6	31.1	50.4	93	—15	Apr. 20†	Oct. 29
Hackney	.....	36.2	.....	51.2	.....	.....	.....	.....	.....	60.5	46.9	.....	.....	.....	.....	.....	.....
Hanging Rock	29.6	38.2	47.4	52.2	60.7	72.0	77.0	73.0	69.5	60.6	47.0	38.8	55.5	100	— 6	Apr. 21†	Oct. 30†
Hedges	23.3	.....	38.4	47.5	56.0	67.6	75.0	67.5	69.1	.....	.....	.....	.....	100	.....	May 31	.....
Hillhouse	22.8	27.3	36.8	44.8	53.2	62.5	72.4	65.4	63.4	55.2	39.8	29.6	47.8	100	—15	June 21†	Sept.21†
Hillsboro	28.2	36.2	45.4	52.4	58.8	71.0	77.6	72.2	68.8	60.2	44.0	35.6	54.2	105	—13	Apr. 21†	Sept.21
Hiram	21.4	27.7	37.8	46.5	54.6	63.9	73.0	66.4	65.4	54.8	39.1	29.4	48.3	96	—19	Apr. 28†	Oct. 18
Hudson	22.6	28.2	39.0	45.7	.....	64.9	75.2	67.4	65.4	57.7	39.8	31.1	.....	98	—20	.....	Sept.21†
Jacksonboro	25.9	33.2	42.8	50.4	58.3	70.5	78.0	73.0	72.6	62.2	42.0	33.0	53.5	105	—13	May 2†	Oct. 30
*Kenton	24.4	32.6	41.8	49.8	56.8	68.0	76.0	69.2	68.4	58.2	41.9	32.2	51.6	99	—18	May 29	Sept.28
Killbuck	23.5	30.3	41.0	49.2	56.1	67.0	73.4	67.0	63.2	55.5	.....	[d]33.5	.....	100	—19	May 31†	Sept.21
Lancaster	25.9	34.9	43.2	50.4	57.0	68.4	75.8	69.1	66.2	58.2	43.0	35.0	52.3	97	—11	Apr. 21	Sept.21
Leipsic	23.2	29.6	38.3	46.8	56.2	66.0	75.5	66.5	63.7	55.0	39.6	29.1	49.1	101	—21	May 31†	Sept.21
Levering	.....	28.6	.....	.....	.....	.....	71.1	67.2	.....	51.2	38.0	30.9	.....	.....	.....	.....	Oct. 1†
Logan	26.2	36.2	44.6	50.4	58.4	73.6	.....	.....	69.0	59.2	44.0	35.7	.....	.....	—12	Apr. 28†	Sept.21
Lordstown	23.0	29.4	39.0	47.4	54.4	64.4	73.4	66.2	63.5	54.9	40.4	30.5	48.9	97	—17	May 26	Sept.21
Lowell	28.5	36.8	.....	.....	58.1	72.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	May 2†	.....
McArthur	26.9	35.5	44.8	51.0	57.0	69.0	78.0	73.2	66.2	56.6	42.1	35.3	53.0	99	—13	Apr. 21	Sept.21
McConnelsville	27.3	35.7	44.8	52.2	56.9	73.4	75.8	70.6	67.4	59.6	43.5	35.4	53.6	100	—11	Apr. 21†	Sept.21
Marietta	30.2	38.5	44.6	51.4	59.1	68.9	76.4	71.6	67.2	59.2	45.4	37.7	54.2	95	— 8	Apr. 28†	Nov. 13†
Marion	20.6	32.0	42.0	49.0	56.6	68.4	75.6	69.4	68.0	59.8	41.6	32.2	51.3	100	—16	May 2†	Sept.21†
Medina	23.6	30.0	40.0	47.6	55.0	65.4	74.4	67.6	66.0	56.6	41.5	31.3	49.9	99	—17	May 22†	Sept.21
Milfordton	20.7	28.7	38.8	47.6	55.4	64.5	74.2	68.2	65.6	56.8	38.1	29.0	49.0	100	—18	May 31†	Sept.21
Milligan	27.2	35.1	45.3	51.1	58.5	69.2	78.6	72.2	65.2	57.0	42.2	35.0	53.0	101	—13	May 30†	Sept.21
Millport	.....	.....	40.8	46.8	53.6	63.0	72.0	65.8	63.0	53.8	39.7	31.2	.....	98	.....	May 21	Sept.21
Montpelier	25.2	27.4	35.8	46.6	55.3	65.6	75.0	67.4	65.4	55.2	38.4	27.0	48.7	100	—18	Apr. 27†	Sept.21
Napoleon	22.0	28.6	37.7	46.5	56.2	66.6	75.9	67.2	65.2	56.2	38.8	.....	.....	104	.....	May 31†	Sept.21
New Alexandria	25.8	32.2	42.0	49.3	53.0	67.4	74.2	68.3	66.4	58.1	41.9	33.8	51.0	98	—12	May 25	Oct. 4
New Berlin	23.0	30.0	40.1	47.5	55.0	66.0	73.8	68.4	65.1	56.1	40.2	30.7	49.7	100	—17	May 3	Sept.21
New Bremen	22.6	28.7	40.6	48.9	57.4	68.5	76.4	70.0	.....	57.9	42.2	31.8	.....	.....	—19	May 2†	Oct. 1†
New Comerstown	25.6	33.5	42.4	49.5	56.6	67.0	74.8	66.2	64.0	56.2	41.8	33.4	50.9	100	—11	Apr. 21†	Sept. 21
New Holland	26.0	34.4	43.8	50.0	56.7	70.8	77.3	71.4	67.8	58.8	42.4	34.0	52.8	104	—11	Apr. 21†	Sept. 21
New Paris	24.1	32.2	41.8	49.2	58.3	70.4	78.2	.....	.....	59.4	41.5	32.1	.....	.....	—16	May 2†	.....
New Waterford	.....	.....	.....	.....	.....	.....	72.3	66.6	63.2	55.7	41.0	33.5	.....	.....	.....	.....	Sept. 21
North Lewisburg	24.2	31.2	40.7	49.4	57.2	68.8	76.0	69.5	[66.5]	57.6	41.6	31.4	[51.2]	.....	—17	May 3	.....
North Royalton	23.5	29.7	38.8	47.6	55.0	65.4	74.4	68.0	.....	58.7	40.5	31.2	.....	.....	—18	Apr. 27†	.....
*Norwalk	23.6	29.6	39.2	45.1	54.8	64.8	74.8	68.2	66.7	57.5	41.6	31.0	49.7	100	—22	May 26	Sept. 21
Oberlin	*21.9	29.0	42.4	46.6	.....	.....	74.4	68.4	66.0	59.0	42.0	33.2	.....	.....	—18	.....	Sept.28†
Ohio State University	25.2	32.5	42.6	49.6	56.2	68.0	75.7	69.6	65.8	58.0	42.0	34.2	51.7	98	—12	May 2†	Sept.21†
Orangeville	22.1	28.6	38.4	46.6	54.8	63.5	72.8	65.6	61.3	52.9	39.6	30.8	48.1	98	—20	May 27	Sept. 21
Ottawa	25.4	32.2	40.7	49.6	57.7	67.7	76.1	69.2	67.4	59.2	42.4	32.2	51.6	99	—18	Apr. 21	Sept. 21

[1] G. A. Hyde.

[2] Rev. F. L. Odenbach.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Ohio—Continued.																	
Pataskala	25.8	33.9	42.7	49.6	57.1	68.4	76.2	70.1	67.0	58.4	42.0	33.4	52.0	101	—13	Apr. 27	Sept. 21
Philo	24.6	33.2	43.6	50.4	57.2	69.8	76.3	70.2	68.4	59.8	42.0	33.3	52.4	101	—12	May 2†	Sept. 21
Plattsburg	25.4	32.7	42.4	49.1	56.6	68.8	75.6	69.8	68.8	60.5	42.4	32.3	52.0	101	—14	May 31	Sept. 21
*Pomeroy	28.6	37.8	46.4	52.5	59.9	70.4	77.1	72.6	69.4	59.2	44.7	38.0	54.7	100	— 8	Apr. 21†	Sept. 21
Portsmouth	31.3	39.9	50.3	55.4	62.0	74.8	80.0	74.4	69.5	62.0	47.2	38.3	57.1	106	— 6	Apr. 21†	Oct. 21
Richwood	.....	.....	.....	.....	.....	.....	.....	.....	69.2	57.6	41.4	32.2	.....	.....	.....	.....	Sept. 21
Ridgeville Corners	22.7	27.9	37.9	47.3	55.3	66.0	74.2	67.4	67.4	55.8	39.2	28.1	49.1	100	—21	Apr. 27†	Sept. 21
Ripley	28.6	36.6	46.4	52.6	58.9	71.7	77.1	72.4	69.6	61.1	45.6	36.4	54.8	98	—10	Apr. 20	Oct. 30
Rittman	22.8	28.6	38.3	45.2	53.3	62.0	72.6	65.2	66.4	53.6	44.8	30.6	48.6	97	—18	May 31†	Sept.18†
Rockyridge	23.6	29.6	37.4	47.0	57.2	67.0	76.4	69.3	67.7	58.6	40.2	29.6	50.3	104	—19	Apr. 21†	Oct. 10†
Rosewood	24.5	31.6	41.0	48.1	56.1	67.0	74.4	67.6	65.7	58.2	41.6	31.6	50.6	97	—15	May 2†	Sept.21†
*Sandusky	24.2	30.4	37.6	47.0	56.6	66.6	75.6	69.4	67.4	58.0	41.9	31.6	50.5	100	—15	Apr. 21†	Nov. 12
Shenandoah	22.6	29.6	39.0	46.9	54.6	65.0	74.1	67.6	65.8	56.4	39.3	29.8	49.2	100	—21	May 31	Sept. 21
*Sidney	24.2	30.0	39.6	48.4	56.8	69.0	78.0	70.4	67.7	57.8	41.2	30.7	51.2	101	—14	May 31†	Sept. 18
Sinking Spring	28.2	36.4	45.4	52.3	59.0	70.0	76.1	71.6	68.0	60.1	44.6	35.8	54.0	97	—10	Apr. 20†	Sept. 21
*Somerset	.....	.....	.....	.....	.....	.....	77.7	74.2	70.9	62.1	.....	.....	.....	.....	.....	.....	.....
Spring Valley	24.6	32.7	41.7	50.2	55.8	69.0	76.8	70.5	67.2	58.2	41.8	33.0	51.8	101	—13	May 3†	Sept. 21
Sylvania	21.8	28.0	35.2	46.8	54.8	64.6	74.1	66.6	63.4	54.1	37.8	26.0	47.8	99	—19	May 30†	Sept. 21
Thurman	29.6	40.0	47.7	54.0	57.4	71.0	78.0	74.4	69.7	61.2	45.1	37.5	55.5	104	—10	Apr. 21†	Sept.21†
Tiffin	24.9	31.0	39.4	48.0	56.4	66.8	75.6	68.8	66.8	57.5	41.6	31.4	50.7	98	—16	Apr. 27	Sept. 21
*Toledo	23.4	28.8	36.9	46.4	56.0	66.0	75.2	68.6	67.4	56.8	40.2	29.4	49.6	98	—16	Apr. 21†	Nov. 3
Upper Sandusky	24.3	31.4	41.2	49.8	57.1	67.1	75.0	[c]69.0	67.0	58.6	41.8	32.4	51.2	98	—15	Apr. 27	Sept. 21
Urbana	24.2	32.3	41.3	48.7	56.2	67.0	75.2	68.0	65.6	57.4	41.6	.....	.....	94	.....	May 2†	Sept. 21
Vanceburg	30.4	37.6	47.0	52.6	59.7	69.8	76.1	72.9	68.2	60.3	49.1	38.0	55.1	99	— 7	Apr. 20†	Oct. 27†
Van Wert	22.2	29.6	38.6	47.1	56.4	67.2	75.4	67.8	66.8	56.9	39.8	28.4	49.7	98	—19	May 31	Sept. 21
Vermilion	23.7	29.1	37.7	47.0	55.0	67.9	73.8	67.4	66.2	54.8	40.8	33.1	49.7	98	—17	Apr. 21†	Oct. 23
Vickery	24.4	30.8	39.4	48.2	56.7	66.4	76.7	69.2	66.8	57.0	41.0	31.0	50.6	103	—16	May 31	Sept. 21
Warren	23.2	30.0	39.7	47.2	55.8	64.7	74.5	66.1	[b]65.1	.....	40.8	32.2	.....	100	—14	May 26†	.....
Warsaw	25.4	.....	.....	.....	.....	.....	.....	67.2	65.4	56.2	41.0	32.4	.....	.....	.....	.....	Sept. 21
Wauseon	22.8	29.0	37.7	47.2	56.4	66.5	75.8	68.2	67.6	57.0	39.8	28.6	49.7	102	—21	May 31	Sept. 21
Waverly	28.5	38.0	46.1	53.0	60.1	72.4	78.0	72.6	69.2	59.8	44.6	36.3	54.9	102	—10	Apr. 21†	Sept. 21
Waynesville	24.8	31.9	42.0	48.9	55.4	.....	.....	70.8	68.2	58.2	41.8	33.0	.....	.....	—14	May 2†	Sept. 21
Wellington	24.8	29.6	.....	49.0	60.0	67.5	75.6	69.1	66.5	57.5	42.6	31.6	.....	102	—17	Apr. 26†	Sept. 21
Westerville	27.2	33.9	43.2	50.2	56.2	67.4	[a]73.8	68.5	65.0	[c]57.5	43.1	34.6	51.7	94	—10	Apr. 20	Sept. 21
Wooster	23.6	30.0	39.8	47.4	53.4	64.4	73.2	66.8	63.8	56.0	41.2	31.8	49.3	96	—18	May 26	Sept. 21
Youngstown	22.8	29.6	38.4	47.2	55.4	63.1	72.2	64.8	61.3	52.8	39.7	31.8	48.3	99	—15	Apr. 28†	Sept. 21
Oklahoma.																	
Alva	.....	.....	.....	57.2	68.8	78.2	84.6	79.6	[d]75.2	.....	.....	.....	.....	109	.....	Mar. 25	.....
Anadarko	36.0	45.4	52.8	61.7	68.0	78.4	83.2	78.0	75.7	67.4	51.6	39.0	61.4	106	1	Apr. 9	Oct. 29
Arapaho	31.0	39.8	49.0	58.6	67.2	76.6	82.2	80.4	75.0	64.3	47.8	34.2	58.8	107	1	Apr. 9	Oct. 29
Burnett	33.7	41.8	51.7	59.9	66.0	76.2	80.3	77.0	72.6	64.4	50.6	36.2	59.2	102	1	Mar. 25	Oct. 29
Clifton	33.0	41.6	51.8	60.8	67.4	77.4	81.6	78.0	74.1	65.4	48.7	36.0	59.6	103	— 2	Apr. 9	Oct. 29
Edmond	32.0	40.7	50.1	59.0	66.6	.....	.....	.....	.....	66.5	47.6	36.4	.....	.....	1	Mar. 24	Nov. 2
Fort Reno	33.4	42.6	51.9	59.2	65.6	75.3	81.0	79.1	75.4	64.4	50.2	37.8	59.7	107	0	Apr. 11	Nov. 2
Fort Sill	35.1	44.0	52.5	60.4	67.2	76.1	81.8	79.9	74.8	66.1	51.8	35.7	60.4	106	4	Mar. 23	Nov. 2
Guthrie	35.7	42.8	.....	.....	.....	.....	.....	.....	71.8	66.2	50.0	36.7	.....	.....	0	.....	Nov. 2
Hennessey	.....	42.7	.....	60.4	68.6	79.0	85.2	82.2	.....	*68.7	.....	32.5	.....	.....	.....	Apr. 16	Oct. 29
Jefferson[1]	36.6	41.8	53.0	61.0	67.4	77.7	83.2	[f]82.4	[c]76.2	.....	50.6	[c]36.4	.....	105	— 2	.....	.....
Keokuk Falls	.....	46.8	48.2	.....	.....	.....	[f]81.7	78.0	75.2	.....	.....	.....	.....	.....	.....	Apr. 8	.....
Kingfisher	.....	.....	.....	60.6	66.4	76.9	83.9	80.4	76.2	[d]66.6	49.8	38.6	.....	110	.....	Apr. 14	Oct. 29
Mangum	36.6	45.6	51.4	60.0	67.0	77.0	80.8	78.8	73.6	63.9	50.0	36.8	60.1	106	3	Apr. 14	Oct. 29
Newkirk	.....	.....	.....	.....	.....	.....	.....	.....	76.2	66.4	47.4	37.0	.....	.....	.....	.....	Oct. 29
Norman	35.0	44.5	51.8	60.5	68.3	77.4	83.6	79.7	76.5	66.5	50.7	37.3	61.0	106	2	Apr. 9	Oct. 29
*Oklahoma	34.8	42.1	50.4	59.6	65.8	75.4	80.8	78.4	75.2	66.0	48.6	35.6	59.4	103	3	Mar. 24†	Nov. 2
Prudence	*33.6	41.7	49.8	58.5	66.2	77.0	80.1	79.0	73.4	62.7	46.0	33.6	58.5	106	— 5	Apr. 14	Oct. 29
Sac and Fox Agency	33.6	40.7	51.2	59.0	66.0	76.0	80.9	78.1	74.4	65.4	48.6	.....	.....	104	.....	Apr. 9	Oct. 29
Stillwater	34.0	41.4	51.2	58.3	65.4	75.6	81.2	77.2	74.2	64.2	47.0	32.1	58.5	106	3	Apr. 9	Oct. 29
Waukomis	33.9	40.1	49.8	57.9	66.0	78.2	83.6	[j]82.4	[c]75.4	65.2	.....	36.2	.....	107	1	Apr. 16	Oct. 29
Winnview	32.2	39.9	50.4	58.1	66.3	76.5	84.0	81.0	.....	.....	.....	[g]33.6	.....	110	0	Mar. 25	Oct. 29
Woodward	.....	36.4	49.4	57.7	68.4	79.9	83.8	79.4	74.4	.....	.....	.....	.....	109	.....	Apr. 14	.....
Oregon.																	
Albany	41.1	44.1	42.6	54.1	60.9	62.8	65.4	69.6	60.0	52.6	45.8	44.2	53.6	93	23	Mar. 12	Oct. 15
Arlington	33.0	39.8	41.0	55.9	65.0	67.0	71.8	[a]78.2	63.4	53.6	43.3	35.0	53.9	106	0	.....	Oct. 16†
Ashland	36.8	41.0	38.4	53.0	61.2	60.8	66.6	71.6	60.2	52.7	42.7	40.1	52.1	105	21	May 8†	Oct. 13
*Astoria	41.4	43.0	41.6	51.6	57.3	60.1	60.0	63.4	58.0	54.4	46.4	45.2	51.9	84	24	Mar. 20	Nov. 20
Aurora (*g*)	44.3	47.6	46.1	58.5	65.4	67.6	69.7	73.5	57.7	50.7	43.8	42.4	55.6	102	25	.....	.....
Aurora (near)	38.4	42.7	40.9	52.9	59.1	59.5	61.9	68.3	57.3	51.8	44.1	41.8	51.6	99	21	Apr. 27	Oct. 15
*Baker City	27.0	29.6	28.8	47.0	58.2	57.4	62.2	70.0	56.4	47.2	36.4	28.5	45.7	98	— 4	May 7†	Oct. 13
Bandon	47.2	46.1	43.9	49.7	53.2	58.4	58.8	58.2	55.8	53.7	46.6	48.2	51.6	89	28	Feb. 23	Oct. 14
Bay City	44.5	44.0	41.2	51.8	.....	58.2	58.4	60.4	55.9	51.6	45.4	44.6	.....	84	20	.....	Oct. 15
Beulah	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	35.9	30.5	.....	.....	.....	.....	.....
Brownsville (*g*)	39.0	45.6	45.1	58.6	64.2	66.3	70.3	72.2	63.8	54.7	48.6	46.2	56.2	98	18	.....	.....
Burns	22.0	24.2	23.7	44.2	55.4	53.8	59.6	67.7	54.8	42.8	31.4	24.3	42.0	99	—11	(2)	(2)
Burns (near)	.....	.....	32.2	47.4	56.6	58.2	63.3	68.6	57.0	48.6	41.8	32.4	.....	98	.....	May 7†	Oct. 2
Canyon City	.....	.....	.....	53.3	60.2	60.6	67.4	71.6	57.2	49.6	38.0	.....	.....	98	.....	May 8	Oct. 12
Cascade Locks	36.6	41.4	40.9	54.6	62.4	63.6	66.6	71.9	60.4	54.0	43.1	37.2	52.7	102	24	Mar. 30	Nov.28†
Comstock (*g*)	40.9	43.3	40.2	51.3	57.0	55.6	58.7	69.9	60.7	53.4	47.1	45.5	52.0	102	27	.....	.....
Corvallis	38.6	42.7	41.0	53.4	58.2	60.6	62.9	68.7	63.8	52.9	45.6	43.3	52.6	98	22	Mar. 30	Oct. 15
Dayville	34.8	37.6	37.2	51.5	[h]62.8	61.1	65.3	70.0	57.9	50.0	40.2	37.9	50.5	100	— 5	Mar. 31	Oct. 10
Eugene	40.0	43.4	40.8	52.6	58.8	60.1	.....	.....	.....	52.0	46.2	.....	.....	.....	.....	Mar. 30	Oct. 15
Fairview	.....	.....	.....	.....	.....	.....	.....	64.9	60.8	54.6	46.8	45.9	.....	.....	.....	.....	Oct. 16
Falls City	.....	.....	.....	.....	.....	.....	.....	.....	.....	51.4	44.0	41.5	.....	.....	.....	.....	.....
Fife	30.4	28.7	28.0	44.4	52.2	50.8	60.2	66.2	52.0	44.0	36.8	31.4	43.8	98	2	.....	Oct. 15
Forestgrove	38.0	42.2	40.3	53.9	60.8	60.8	.....	.....	57.3	52.4	42.4	41.1	.....	.....	2	Mar. 29	Oct. 15

[1] Name of post-office changed from Pondcreek, June 1, 1897.

[2] Every month.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Oregon—Continued.																	
Fort Klamath	26.2	29.2	28.8	46.5	53.7	53.4	[d]57.3	62.2	50.6	43.4	.....	[f]28.4	.....	93	— 7	.....	Sept. 1†
Gardiner	46.2	46.0	43.3	51.8	56.6	58.2	59.7	60.4	57.5	55.3	47.4	47.7	52.5	84	31	Mar. 22	Dec. 19
Glenora	38.6	40.2	38.3	50.6	58.4	58.8	60.2	66.2	56.6	52.0	42.6	41.6	50.3	100	15	May 26	Oct. 17
Government Camp	30.4	29.6	27.3	41.0	48.9	48.1	51.4	62.8	50.6	45.3	33.4	32.6	41.8	95	1	(1)	(1)
Grants Pass	[c]39.1	43.0	41.4	54.5	63.0	61.6	66.9	71.7	61.8	53.8	44.4	41.2	53.5	106	24	May 8†	Oct. 13
Happy Valley	28.0	30.3	29.4	44.8	54.6	55.0	59.4	.....	52.4	44.3	37.8	30.2	.....	.....	— 3	.....	Sept. 4†
Heppner	.....	.....	.....	.....	.....	.....	[e]66.4	74.7	[c]59.6	50.0	40.1	34.5	.....	.....	.....	.....	Sept. 9
Hood River (near)	33.6	37.4	38.3	53.1	60.4	61.1	65.0	72.0	59.2	51.1	41.6	34.7	50.6	99	8	Mar. 30	Nov.20†
Jacksonville	36.7	40.6	39.4	53.1	60.0	61.6	67.0	73.2	61.2	51.8	43.0	38.8	52.2	102	21	May 8†	Oct. 13
Joseph	23.1	26.0	25.0	43.8	55.6	55.2	58.2	67.2	52.3	43.8	33.4	26.6	42.5	93	—14	June 10†	Sept.15†
Junction City (*g*)	43.3	44.1	41.6	53.0	60.3	61.1	65.9	69.3	60.2	52.9	48.7	46.3	53.9	96	26	.....	.....
Lafayette (*g*)	39.5	42.3	40.9	54.0	64.3	62.5	68.9	71.5	60.3	53.8	46.9	44.0	54.0	103	25	.....	.....
Lakeview	31.6	29.6	28.1	46.2	57.8	57.0	62.8	68.0	54.2	46.3	36.6	30.0	45.7	97	1	June 15†	Sept. 3
Langlois	49.2	48.1	45.8	55.0	59.4	61.5	62.4	64.2	60.4	56.4	50.2	49.6	55.2	94	30	Mar. 21	Nov. 20
Lone rock	.....	.....	.....	.....	.....	.....	58.1	.....	52.6	.....	.....	30.7	.....	.....	.....	.....	Sept. 9
Lorella	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40.1	29.9	.....	.....	.....	.....	.....
McMinnville	38.4	42.1	40.4	53.0	59.8	61.6	63.8	70.0	58.4	52.6	43.6	41.8	52.1	104	22	Feb. 20	Oct. 15
Merlin (*g*)	37.0	40.0	37.7	52.5	65.8	66.3	70.6	73.8	58.6	49.7	41.9	37.3	52.6	108	22	.....	.....
Monmouth (*g*)	39.5	43.1	42.9	57.2	64.2	66.2	67.7	71.6	61.0	54.6	46.5	43.0	54.8	99	23	.....	.....
Monroe	.....	.....	.....	.....	.....	.....	.....	.....	59.5	52.4	45.7	43.6	.....	.....	.....	.....	Nov. 20
Mount Angel	39.0	42.8	41.4	54.8	62.0	61.6	65.0	71.0	60.0	53.2	45.1	42.8	53.2	98	22	Mar. 11	Nov. 20
Newberg	39.3	43.1	40.3	53.6	[f]51.0	[e]60.3	.....	.....	.....	52.6	[d]43.8	42.4	.....	.....	22	Apr. 27†	Sept. 28
Newbridge	.....	.....	34.2	.....	.....	58.4	65.2	70.2	57.6	48.3	37.4	31.0	.....	101	.....	June 25†	Nov. 1
Newport	44.0	44.6	42.2	50.6	53.2	58.0	57.2	56.4	56.4	55.0	46.7	46.1	50.9	87	17	Jan. 27	Nov.28†
Pendleton	32.1	39.0	39.4	55.0	63.5	63.0	68.1	72.4	60.2	51.6	41.8	37.7	52.0	109	— 9	June 10†	Sept. 15
*Portland	38.8	42.3	40.5	55.0	61.4	61.2	64.6	71.1	60.0	54.2	44.7	43.2	53.1	95	22	Mar. 30†	Nov. 20
Prineville	34.6	36.1	35.8	50.0	60.2	58.4	62.3	66.8	54.4	53.7	47.6	41.4	50.1	98	6	June 18	Aug. 2†
Riddles (*g*)	41.5	41.5	40.9	53.7	58.6	60.5	66.0	72.1	61.5	51.5	45.6	43.5	53.1	103	25	.....	.....
Riverside	.....	.....	.....	.....	.....	.....	66.8	72.1	[d]58.2	44.8	37.6	33.8	.....	.....	.....	.....	Sept. 9†
*Roseburg	41.8	43.5	41.0	53.2	60.4	61.4	65.4	70.4	60.7	53.0	46.0	44.8	53.5	98	28	Mar. 30	Oct. 15
Salem	39.8	.....	.....	53.4	59.6	60.9	63.4	68.9	58.7	52.2	45.8	43.0	.....	95	.....	Mar. 30	Oct. 15†
Sheridan (*g*)	40.1	44.0	42.9	56.7	64.1	64.9	69.4	72.2	60.6	55.7	46.8	45.2	55.2	100	25	.....	.....
Silver Lake	28.8	30.9	30.0	44.5	54.8	54.6	59.5	64.4	50.6	43.0	35.2	31.0	43.9	101	— 2	(1)	(1)
Silverton (*g*)	37.9	42.3	40.4	54.4	62.4	64.0	66.4	69.3	50.8	50.3	47.1	44.8	52.5	100	20	.....	.....
Siskiyou (*g*)	37.4	36.7	35.3	52.8	60.1	58.4	64.6	72.6	60.2	55.5	40.4	36.2	50.8	97	19	.....	.....
Sparta	25.9	27.6	26.2	44.9	56.4	58.1	62.7	69.4	56.8	47.2	34.2	27.1	44.7	96	— 7	June 9	Oct. 14
Springfield (*g*)	39.8	42.4	40.4	52.9	61.7	62.5	67.0	69.7	59.3	51.9	45.7	42.7	53.0	93	24	.....	.....
Stafford	37.4	41.9	39.9	52.8	[c]59.4	60.0	63.4	71.0	[e]58.3	.....	43.3	41.5	.....	102	18	Apr. 27	Nov. 19
The Dalles	35.6	40.5	41.8	55.8	64.4	65.9	69.4	75.4	62.3	53.8	43.6	35.7	53.7	108	9	Mar. 30	Oct. 28
Toledo	44.7	41.8	41.2	.....	.....	.....	.....	.....	54.6	54.4	45.8	44.4	.....	.....	21	.....	.....
Vale	28.5	34.6	36.0	50.2	62.5	64.3	67.0	70.8	58.4	47.4	36.3	30.0	48.8	102	— 2	May 8†	Sept. 12
Vernonia	37.6	41.0	39.3	55.3	60.4	61.9	60.3	67.6	58.1	53.4	41.7	39.7	51.4	103	11	May 26	Oct. 15
Westfork (*g*)	41.8	40.2	38.0	51.5	58.9	60.2	63.8	69.1	58.1	49.8	45.7	42.4	51.6	110	26	.....	.....
Weston	28.0	36.8	35.1	53.0	62.0	61.8	65.4	72.7	59.2	50.4	39.0	34.2	49.8	101	— 7	Apr. 21†	Oct. 14
Williams	38.7	41.2	40.2	52.6	59.8	60.4	64.7	68.4	58.8	50.8	43.2	40.6	51.6	101	21	May 8	Oct. 13
Pennsylvania.																	
Altoona	31.6	35.6	40.0	51.6	60.3	67.0	74.9	69.0	65.2	56.4	46.3	39.2	53.0	96	— 5	Apr. 21†	Sept.21†
Aqueduct	29.0	32.9	41.6	52.3	62.4	68.7	78.0	71.2	66.2	55.6	44.4	36.4	53.2	103	0	Apr. 21†	Sept. 18
Blooming Grove	22.2	25.1	33.6	45.6	55.3	60.5	70.6	66.0	61.4	.....	.....	.....	.....	97	.....	May 8	Sept. 18
Canonsburg	27.6	[c]35.3	45.4	51.2	58.0	67.9	75.8	70.8	68.8	60.9	46.1	37.4	53.8	98	— 8	Apr. 27	Sept. 27
Carlisle	27.3	31.2	41.0	50.6	[c]60.8	67.4	76.0	70.4	[c]66.8	54.6	42.4	34.2	51.9	99	4	Apr. 21†	.....
Cassandra	24.2	30.9	40.3	46.4	54.4	62.4	70.4	64.2	60.8	52.1	40.2	32.2	48.2	91	—10	June 21	Sept. 21
Centerhall	23.6	29.4	37.7	48.6	57.9	62.9	70.6	65.8	63.0	52.4	40.6	31.1	48.6	90	— 5	Apr. 27†	Oct. 10†
Chambersburg	25.0	29.8	40.0	48.8	57.6	66.1	74.0	68.3	[m]69.8	[c]52.8	41.4	33.8	50.6	95	— 3	Apr. 21†	.....
Coatesville	28.2	32.4	42.2	51.2	61.5	67.5	75.7	72.4	67.2	56.0	43.5	35.4	52.8	99	3	Apr. 22	Oct. 4
Confluence	24.2	29.8	39.6	48.8	57.6	66.0	74.4	68.2	63.6	53.0	40.0	32.3	49.8	99	—10	Apr. 30†	Oct. 4†
Coopersburg	29.8	34.5	41.4	50.8	59.8	65.3	73.8	70.4	66.4	56.4	44.8	37.4	52.6	95	3	Apr. 21†	Oct. 4
Derry Station	27.1	.....	[c]39.9	49.2	57.4	66.3	75.5	68.8	64.6	56.2	44.0	33.4	.....	103	.....	May 26†	Sept. 21
Drifton	[d]23.2	27.8	36.3	[c]48.1	[f]55.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dunmore	26.0	27.3	34.8	47.0	57.0	62.8	73.4	.....	.....	.....	.....	.....	.....	.....	.....	May 21	.....
Dushore	.....	28.6	34.0	45.9	54.9	61.8	71.2	63.4	.....	.....	38.0	29.6	.....	.....	.....	June 21†	.....
Dyberry	22.2	25.0	32.9	45.2	55.4	60.1	70.2	64.6	58.6	49.1	36.4	27.6	45.6	94	—10	May 8†	Sept.18†
East Mauch Chunk	25.6	29.8	37.8	50.0	59.5	64.6	73.6	69.4	64.1	53.2	40.7	32.4	50.1	100	— 1	Apr. 22†	Oct. 3
Easton	27.6	31.1	39.0	50.1	61.2	66.2	74.4	70.0	63.7	54.4	42.2	33.8	51.1	94	1	Apr. 22	Oct. 10
Edinboro (*a*)	21.9	24.7	35.2	43.5	53.6	62.8	72.8	64.4	[c]65.1	54.2	37.9	28.6	47.1	99	—12	.....	.....
Emporium	24.0	29.5	37.8	47.2	56.8	63.1	72.6	65.4	61.8	52.0	40.6	32.1	48.6	95	—13	May 17	Sept. 21
*Erie	24.5	28.2	36.4	45.0	53.7	62.3	73.0	66.6	64.0	55.4	41.6	32.4	48.6	94	— 5	Apr. 21†	Nov. 12
Everett	.....	.....	.....	.....	.....	64.2	71.6	66.8	63.5	53.4	41.0	.....	.....	93	.....	.....	Sept.28†
Forks of Neshaminy (*a*)	29.4	33.9	41.9	52.0	64.3	67.4	75.0	72.0	65.3	54.8	44.8	36.2	53.1	91	8	.....	.....
Franklin	20.2	28.2	39.4	47.9	55.1	63.2	73.5	66.8	61.4	53.7	42.0	32.2	48.6	100	—12	Apr. 28	Sept.18†
Gettysburg	28.8	33.5	41.4	52.3	.....	69.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grampian	21.0	26.8	36.8	46.0	55.4	63.7	72.7	66.5	62.1	52.6	38.4	30.0	47.7	94	—10	May 31	Sept. 21
Greensboro	25.7	35.6	46.4	49.8	59.0	68.4	79.4	.....	.....	56.8	42.3	36.2	.....	.....	—15	May 31	.....
Greenville	.....	28.6	39.0	47.2	54.3	63.2	70.8	64.0	58.8	51.1	40.2	33.5	.....	95	.....	May 31	Sept.21†
Hallstead	24.6	27.4	34.6	47.0	[d]56.2	[b]60.0	72.2	66.9	60.4	50.6	38.6	29.6	47.3	96	— 7	May 8†	Sept. 28
Hamburg	28.4	32.6	40.4	52.0	63.0	68.2	75.8	71.6	67.0	56.8	44.0	35.7	53.0	101	2	Apr. 21†	Oct. 10†
*Harrisburg	27.7	32.1	41.1	50.8	60.6	67.2	75.5	71.0	66.8	56.1	43.4	35.6	52.3	95	4	Apr. 21	Sept. 21
Hawley	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	42.8	32.4	.....	.....	.....	.....	.....
Hollidaysburg	25.3	30.7	40.9	[c]50.6	58.3	65.4	73.5	67.9	[d]64.0	54.9	42.0	34.0	50.6	100	— 7	June 21	Sept. 21
Huntingdon	27.0	32.7	41.4	50.2	58.2	65.8	73.8	68.4	64.3	52.6	[c]42.0	36.0	51.0	98	— 4	Apr. 22	Sept.21†
Indiana	26.8	35.2	[m]43.2	51.2	56.8	66.0	69.6	68.0	66.2	59.0	44.6	.....	.....	95	.....	May 18	Sept.20†
Irwin	30.4	38.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Johnstown	25.0	31.9	42.0	49.4	57.0	65.5	74.3	.....	64.5	[c]5.4	42.6	34.7	.....	.....	— 8	Apr. 21	Oct. 3
Kennett Square	29.0	33.4	42.6	51.0	60.7	66.3	74.9	71.7	66.9	56.6	44.6	35.6	52.8	97	4	Apr. 21†	Oct. 4

[1] Every month.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Pennsylvania—Cont'd.																	
Lancaster	[c]25.2	.....	41.5	49.8	56.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Apr. 20†	.....
Lawrenceville	23.6	28.0	36.8	47.6	57.6	.....	.....	66.4	60.0	[d]50.0	39.0	30.8	.....	.....	—10	May 27	Sept. 28
Lebanon	27.5	30.9	40.0	49.9	59.8	66.4	75.0	70.0	65.7	54.6	42.7	34.4	51.4	98	4	Apr. 21†	Oct. 3†
Leroy	21.6	25.8	32.4	44.8	55.0	61.6	71.9	65.2	60.8	52.0	37.0	28.3	46.4	95	— 5	Apr. 28†	Oct. 3
Lewisburg	26.5	29.8	38.8	49.9	58.4	65.5	74.8	68.8	64.6	53.4	41.5	33.4	50.4	96	— 5	May 8†	Oct. 3
Lockhaven	27.6	32.2	40.6	51.8	60.7	66.9	74.4	65.2	66.2	55.8	42.8	34.2	51.5	98	— 2	Apr. 21†	Oct. 10†
Lycippus	25.4	31.4	42.0	50.0	57.6	67.2	76.0	69.5	66.4	57.8	43.2	33.6	51.7	98	— 9	Apr. 27†	Oct. 4†
*Philadelphia	30.8	35.8	43.1	52.6	62.6	68.9	76.4	74.4	68.4	58.2	45.9	38.1	54.6	96	7	Apr. 21	Oct. 31
Philadelphia[1]	31.2	35.4	43.4	52.9	63.0	69.0	76.5	73.7	68.6	58.3	46.2	37.6	54.6	96	8	Apr. 20	Oct. 31
*Pittsburg	27.4	35.0	44.6	51.0	58.0	67.9	76.2	70.5	67.6	59.2	44.9	36.9	53.3	99	— 7	Apr. 21†	Sept. 21
Pottstown	28.0	33.1	42.6	52.9	63.0	69.4	76.2	72.2	66.8	56.9	44.3	36.2	53.5	96	4	Apr. 21†	Oct. 31
Quakertown	26.4	30.0	38.8	48.8	59.4	64.0	74.3	69.4	63.6	[e]52.6	41.4	32.8	50.1	96	0	Apr. 23	Oct. 4
Reading (*b*)	27.4	30.8	39.8	50.3	60.4	67.4	75.6	70.4	63.8	53.6	42.4	34.4	51.4	.....	.....	.....	.....
Reedsville	.....	.....	.....	.....	.....	.....	.....	.....	.....	52.6	41.9	32.6	.....	.....	.....	.....	.....
Renovo	25.2	30.6	38.8	49.4	58.9	66.4	73.6	67.8	63.7	53.7	41.6	33.5	50.3	95	— 5	Apr. 21†	Sept. 21
Saegerstown	21.2	27.2	37.2	45.6	53.7	61.2	71.1	64.0	60.4	53.6	39.5	29.2	47.0	99	—25	June 22†	Sept. 20
St. Marys	21.8	26.9	35.2	[f]45.2	53.7	60.9	70.2	63.8	61.0	51.4	38.7	28.2	46.4	96	— 9	June 2†	Sept. 18†
Salem Corners	23.5	28.0	34.1	46.7	55.8	62.0	70.7	67.4	62.4	52.6	38.5	29.3	47.6	91	— 2	May 22	Sept. 22
Scranton	25.7	29.8	37.2	48.4	58.0	63.2	72.4	68.0	62.5	53.5	40.2	31.8	49.2	96	0	Apr. 21†	Sept. 28
Selinsgrove	27.6	31.4	38.5	50.4	58.6	69.2	75.6	69.6	63.6	53.4	41.2	35.0	51.2	95	— 2	May 8†	Oct. 5†
Shinglehouse	22.0	26.3	36.0	47.6	53.4	59.8	71.3	62.7	60.4	[e]50.5	39.7	29.9	46.6	98	—16	June 21†	Sept. 21
Skippack	28.0	32.4	40.1	[e]49.6	58.6	64.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	May 9†	.....
Smethport	21.9	26.4	35.6	44.8	53.2	60.4	.....	63.0	.....	50.4	31.8	28.7	.....	.....	—16	June 2†	Oct. 3†
Somerset	19.6	28.4	39.0	47.0	52.6	62.0	70.3	63.8	63.5	52.4	40.0	21.9	47.5	95	—12	June 2†	Sept. 21
South Bethlehem	29.0	35.2	39.7	50.2	59.5	66.4	76.3	72.6	66.6	56.6	44.6	34.0	52.6	96	3	Apr. 21†	Oct. 31†
South Eaton	26.5	29.0	36.4	48.1	56.8	62.2	72.0	66.8	61.6	52.6	41.0	31.8	48.7	91	— 1	Apr. 27†	Oct. 3†
State College	23.0	29.2	38.2	48.0	57.6	64.1	71.5	66.0	63.7	53.6	40.0	31.8	48.9	92	— 5	Apr. 21†	Sept. 27
Swarthmore	28.6	33.6	42.3	52.8	.....	68.5	76.4	72.2	66.1	56.2	43.6	35.4	.....	94	6	Apr. 20†	Oct. 30†
Swiftwater	[e]19.9	27.2	34.6	46.6	55.5	61.2	69.5	64.5	59.4	51.8	37.3	29.8	46.4	89	— 2	Apr. 27†	Sept. 28
Towanda	25.2	28.6	36.5	48.0	56.7	62.6	72.6	66.4	62.1	51.8	40.3	31.8	48.6	96	— 3	May 8†	Oct. 3†
Uniontown	28.0	35.4	.....	50.1	56.6	[h]65.2	73.5	68.4	63.4	[e]54.3	42.2	36.3	.....	95	— 6	May 2†	.....
Warren	23.2	28.2	37.4	46.7	55.5	61.6	72.0	63.9	61.1	.....	.....	29.2	.....	95	—13	May 8†	Sept. 21†
Wellsboro	24.1	27.8	34.9	45.6	53.7	59.8	71.0	64.7	59.6	51.0	39.6	31.4	46.9	95	— 8	June 21†	Sept. 18†
West Chester	28.6	32.4	41.8	51.0	60.5	66.8	74.8	71.8	66.7	56.5	43.7	35.0	52.5	94	4	Apr. 21†	Oct. 31
Westtown	26.8	31.7	41.0	.....	.....	.....	.....	.....	.....	55.0	42.6	.....	.....	.....	.....	.....	.....
White Haven	24.2	26.3	34.9	46.2	54.8	60.4	70.8	66.0	60.7	51.6	38.3	30.6	47.1	94	— 7	June 22	Sept. 22
Wilkesbarre	29.1	31.9	38.4	51.1	59.6	65.2	74.8	69.8	64.1	54.0	41.6	33.0	51.0	99	3	Apr. 21†	Oct. 3†
Williamsport	25.8	30.6	38.8	49.6	59.0	64.0	73.0	67.1	63.0	53.5	42.2	33.4	50.0	93	0	Apr. 21†	Oct. 10†
York	27.9	30.5	42.4	50.4	60.1	66.8	75.7	70.0	65.0	55.0	42.2	34.9	51.7	95	1	Apr. 21†	Sept. 22
Rhode Island.																	
*Block Island	30.4	31.8	36.6	44.2	53.1	60.7	68.8	68.6	63.4	55.0	44.7	36.8	49.5	86	9	Apr. 20	Nov. 18
Bristol	27.6	30.4	36.6	46.0	55.9	61.8	70.4	68.6	63.0	53.6	43.3	34.5	49.3	86	5	Apr. 21†	Oct. 10
Kingston	26.4	28.4	35.5	45.6	55.8	61.6	70.6	67.2	61.0	52.0	40.5	32.4	48.1	90	1	Apr. 21†	Sept. 28
*Narragansett Pier	27.7	29.8	36.6	45.2	55.5	61.8	71.0	68.2	61.8	52.8	43.0	34.8	49.0	90	3	Apr. 21†	Oct. 30
Providence	28.2	31.0	38.6	50.0	60.4	65.6	75.3	71.6	63.9	54.2	42.0	34.8	51.3	95	6	Apr. 21†	Oct. 30†
South Carolina.																	
*Allendale	.....	.....	.....	64.2	71.9	82.8	81.6	79.2	73.6	.....	.....	.....	.....	102	.....	Mar. 24†	.....
*Batesburg	43.8	49.0	57.4	61.2	68.5	80.3	81.8	78.4	72.8	65.8	55.8	48.6	63.6	107	11	Mar. 28	Nov. 19
*Blackville	43.8	51.8	58.4	58.1	69.8	81.5	81.8	76.6	74.4	67.6	57.1	48.4	64.1	102	12	Mar. 29	Nov. 24
Central	38.6	45.6	52.0	59.0	67.8	79.4	79.1	77.0	74.8	.....	51.8	45.2	.....	101	5	Mar. 27	Nov. 18
*Charleston	47.4	55.0	60.8	65.6	72.2	80.4	81.6	81.2	75.4	69.6	61.8	54.0	67.1	99	19	Feb. 28	Dec. 29
*Cheraw	39.6	47.6	53.7	61.6	68.6	79.2	81.2	77.5	72.8	64.0	52.8	44.4	61.9	104	9	Apr. 21	Nov. 12
Clemson College	38.8	46.0	53.0	[e]60.2	67.0	79.0	78.8	76.7	72.6	64.8	52.8	45.0	61.2	101	5	Mar. 29	Nov. 18
*Columbia	42.0	50.6	55.8	62.7	70.4	79.8	81.0	78.5	74.0	66.0	55.8	47.2	63.6	102	10	Mar. 28	Nov. 18
*Florence	40.6	49.4	55.0	61.0	67.8	78.2	80.0	77.3	73.6	64.5	54.4	46.0	62.3	99	9	Apr. 21	Nov. 18
Georgetown	44.2	52.4	60.4	62.4	69.2	79.7	81.9	82.8	74.4	67.4	57.0	49.6	65.1	96	15	Feb. 28†	Dec. 27
Gillisonville	46.2	55.4	62.8	65.6	72.2	82.1	81.4	80.6	73.4	68.0	58.9	51.6	66.5	103	10	Mar. 28	Nov. 13
*Greenville	37.4	44.8	50.4	58.2	64.4	75.4	76.8	74.8	71.5	63.7	49.7	43.7	59.2	97	6	Mar. 29	Nov. 12
*Greenwood	40.0	47.2	53.3	61.1	69.4	79.8	80.4	78.1	73.7	65.8	54.6	46.0	62.4	100	9	Mar. 28	Nov. 24
Holland	39.6	43.9	53.2	58.8	66.6	78.3	.....	77.4	72.0	63.1	51.7	46.4	.....	.....	5	Mar. 29	Nov. 19
*Kingstree	42.8	51.6	58.6	63.2	70.4	80.6	82.5	79.6	73.4	65.7	55.4	48.4	64.4	101	11	Mar. 28†	Nov. 18
Little Mountain	43.5	51.0	54.6	62.8	69.4	79.4	80.6	77.8	74.6	[e]67.0	56.0	48.2	63.7	102	9	Mar. 28	Nov. 24
Longshore	40.8	48.5	54.5	61.3	69.1	78.2	78.6	77.0	73.0	65.2	54.4	46.2	62.2	98	10	Mar. 28	Nov. 12
Pinopolis (*a*)	45.0	53.4	59.4	62.8	69.1	77.8	77.7	77.2	71.7	65.6	55.5	49.2	63.7	94	17	Mar. 28	Dec. 5
Port Royal	47.4	54.9	61.4	66.0	73.0	82.5	83.2	81.6	75.1	69.5	61.5	53.4	67.5	101	18	Mar. 28	Dec. 29
*St. Georges	44.4	52.4	58.8	63.4	70.7	79.8	80.5	78.8	74.1	67.2	56.8	49.0	64.7	99	14	.....	Nov. 18
*St. Matthews	43.4	50.8	56.8	62.8	70.5	78.6	81.2	79.1	72.6	66.4	56.8	49.0	64.0	101	13	.....	Nov. 18
Santuck	38.8	46.1	53.2	60.0	66.6	[e]77.4	79.0	76.0	71.4	65.4	52.2	44.8	60.9	99	9	Apr. 21	Nov. 12
Shaws Fork	44.4	53.8	60.5	65.8	70.2	79.4	80.0	78.1	74.5	66.0	55.5	49.3	64.8	98	14	Mar. 29	Nov. 13
Society Hill	41.1	49.4	56.0	61.3	68.0	77.2	78.4	76.2	71.9	65.0	54.2	46.4	62.1	96	12	Apr. 21	Nov. 18
Spartanburg	38.8	46.2	52.0	[h]58.7	67.9	77.4	79.0	75.8	72.0	63.8	50.4	43.6	60.5	99	9	Mar. 28†	Nov. 18
*Statesburg	42.8	51.3	57.7	63.6	71.1	79.3	80.2	77.5	73.4	65.2	55.8	47.8	63.8	100	12	Mar. 28	Nov. 18
Trenton	45.2	52.5	58.2	64.5	71.6	80.6	80.9	[e]78.8	75.2	[e]67.3	[e]58.2	49.8	65.2	99	12	Mar. 28	Dec. 1
Trial	44.9	52.7	58.4	62.6	69.2	78.2	78.8	77.8	72.4	66.3	60.6	52.0	64.5	97	13	Mar. 29	Nov. 30
Walhalla	37.4	45.4	51.4	57.9	64.6	76.4	76.3	74.0	69.6	61.4	49.2	43.3	58.9	98	3	Mar. 27	Nov. 13
Winnsboro	38.8	48.2	54.6	60.3	69.4	77.2	79.0	78.2	75.1	64.0	51.8	45.8	61.9	98	9	Mar. 28	Nov. 18
*Yemassee	46.9	54.3	61.4	64.8	71.7	82.4	82.0	80.8	74.0	67.8	58.2	50.0	66.2	104	16	Mar. 1†	Nov. 18
Yorkville	40.3	48.5	54.9	61.4	68.6	78.2	80.2	77.2	73.8	66.0	53.4	46.6	62.4	99	9	Mar. 28	Nov. 24
South Dakota.																	
*Aberdeen	5.8	9.1	15.0	43.5	57.7	66.2	71.2	64.2	67.6	47.7	27.0	11.3	40.5	102	—34	June 6	Sept. 17
Alexandria	7.8	13.2	21.6	45.6	55.9	67.4	73.8	65.4	.....	49.2	30.0	15.7	.....	.....	—27	May 24	Oct. 9

[1] John Comly.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
South Dakota—Continued.																	
Armour	11.4	16.6	24.6	47.0	58.6	66.5	73.8	67.7	71.2	*53.8	.....	20.0	.....	101	—25	Apr. 29	Sept. 17
Ashcroft	17.5	20.6	22.7	44.6	58.2	63.9	70.2	68.4	67.4	47.8	24.4	20.4	43.8	107	—33	May 29	Sept. 15
Brookings	6.6	14.4	21.2	44.1	56.1	63.6	71.2	63.6	66.4	49.8	27.6	16.1	41.7	95	—30	May 31	Oct. 9
Canton	10.6	18.4	25.8	46.4	58.0	66.2	74.4	67.2	70.3	53.0	26.8	16.6	44.5	98	—27	May 24	Oct. 9
Castlewood	4.6	11.4	17.1	43.8	55.3	63.2	71.6	*63.4	67.4	47.1	.....	14.1	.....	98	—32	June 7	Sept. 17
Chamberlain	14.0	16.6	24.4	47.2	60.2	67.0	76.4	70.4	71.6	54.4	30.2	20.4	46.1	105	—20	May 24	Oct. 15
Cross	22.0	23.1	25.8	40.2	54.9	57.4	65.0	62.8	63.0	47.0	30.8	25.1	43.1	97	—22	June 4	Sept. 16
Desmet	.....	.....	.....	.....	.....	.....	.....	.....	.....	49.0	25.7	13.8	.....	.....	.....	.....	.....
Doland	6.4	11.8	19.2	44.6	56.0	65.6	73.6	65.4	70.0	49.4	25.8	14.0	41.8	102	—30	.....	.....
Eureka	.....	.....	.....	.....	.....	.....	.....	.....	.....	47.3	22.2	16.0	.....	.....	.....	.....	Sept. 16
*Faulkton	6.6	.....	.....	42.8	57.6	63.4	71.2	65.3	68.2	.....	.....	.....	.....	99	.....	May 31	.....
Flandreau	7.8	14.4	22.2	45.2	57.2	63.2	71.0	63.6	69.0	51.0	29.2	15.0	42.4	98	—30	June 7	Sept. 17
Forestburg	9.2	13.9	21.2	46.2	59.0	66.0	73.8	66.6	69.3	51.0	28.4	16.5	43.4	100	—27	May 14	Oct. 9
Forest City	11.5	.....	.....	38.4	.....	.....	.....	.....	.....	50.0	25.6	17.4	.....	.....	.....	May 24	Oct. 16
Fort Meade	.....	.....	26.0	44.8	61.6	63.5	71.4	68.8	69.0	51.4	31.2	25.8	.....	103	—16	Apr. 13	Oct. 15
Gann Valley	.....	.....	.....	.....	.....	.....	.....	.....	68.2	50.0	28.0	16.8	.....	.....	.....	May 28	Oct. 8
Gary	8.2	12.2	19.6	44.0	54.8	62.4	72.4	63.6	67.8	49.4	23.6	14.6	41.0	99	—28	June 7	Sept. 16
Goudyville	7.2	10.6	16.8	43.6	56.6	64.4	70.0	65.6	68.0	48.2	24.6	14.8	40.9	102	—30	June 7	Sept. 16
Greenwood	16.6	23.1	28.6	47.5	60.2	.....	.....	.....	.....	.....	.....	21.0	.....	.....	—16	Apr. 16	.....
Highmore	.....	10.0	19.1	44.0	59.9	66.8	75.4	.....	72.4	50.4	26.4	17.0	.....	.....	—28	June 6	Oct. 9
Hotch City	12.7	14.0	21.4	46.2	59.6	66.1	74.4	68.0	70.7	52.6	27.4	19.3	44.4	104	—25	May 30	Oct. 9
Hot Springs	21.4	25.8	31.0	45.5	59.6	65.0	73.2	69.2	65.7	48.8	32.4	24.2	46.8	95	—19	May 30	Oct. 16
Howard	8.4	13.8	21.4	44.5	56.2	63.8	73.0	66.0	69.8	50.2	27.8	15.4	42.5	98	—29	May 30	Oct. 9
*Huron	7.4	10.4	19.5	45.4	56.8	64.7	73.2	65.8	69.4	50.6	27.8	16.0	42.2	100	—26	June 6	Sept. 7
Interior	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30.5	22.2	.....	.....	.....	.....	.....
Ipswich	.....	.....	.....	.....	.....	.....	.....	.....	67.7	48.6	25.8	15.3	.....	.....	.....	.....	Sept. 17
Kimball	11.0	14.6	21.6	46.2	58.7	66.0	74.4	68.7	71.5	51.7	29.4	18.6	44.4	104	—24	May 30	Oct. 9
Leslie	16.0	17.0	24.5	47.2	62.7	69.3	76.7	71.8	72.0	49.5	25.0	16.1	45.6	107	—35	.....	.....
Mellette	6.2	7.9	17.2	45.2	58.4	66.2	73.0	66.2	68.8	49.2	24.8	13.5	41.4	102	—29	June 6	Sept. 16
Menno	11.6	18.0	25.2	47.3	60.0	69.2	76.6	69.8	72.6	54.2	33.2	18.7	46.4	103	—23	May 24	Oct. 9
*Millbank	6.4	12.9	18.8	44.4	56.2	62.6	71.4	65.6	66.8	49.4	29.2	14.0	41.5	96	—25	June 6	Sept. 17
*Mitchell	10.0	14.0	23.5	46.0	56.7	64.6	73.3	65.8	68.8	52.8	31.0	17.9	43.7	101	—28	May 30	Oct. 9
Nowlin	14.7	19.9	.....	.....	58.5	.....	†75.8	70.1	.....	.....	28.6	22.3	.....	.....	—26	May 29	Oct. 16
Oelrichs	20.4	24.6	31.4	45.6	61.4	67.2	74.0	69.8	68.5	50.6	29.4	22.3	47.1	106	—19	May 14	Oct. 18
Parker	9.1	16.8	25.0	46.2	57.7	66.1	74.0	66.6	69.5	51.4	28.9	16.7	44.0	102	—27	May 24	Oct. 9
Parkston	.....	17.4	20.4	46.9	*56.2	65.4	72.0	67.6	70.2	*53.1	29.4	.....	.....	99	.....	May 29	Oct. 8
*Pierre	14.6	14.9	23.6	46.9	60.9	67.2	75.6	70.1	71.7	53.1	29.8	20.6	45.8	102	—19	May 14	Oct. 16
Plankinton	.....	13.2	22.6	45.9	58.9	68.2	75.2	67.8	70.4	*51.8	27.2	17.4	.....	105	—24	June 5	Oct. 8
*Rapid City	21.0	24.8	27.4	45.4	59.8	63.2	71.0	69.2	68.8	51.5	30.6	25.8	46.5	101	—20	May 14	Oct. 16
Redfield	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	28.0	15.8	.....	.....	.....	.....	.....
Rosebud	14.8	23.1	29.7	42.2	57.0	64.6	73.0	70.8	72.6	50.1	.....	22.0	.....	102	—20	May 30	Oct. 17
Shiloh	7.2	.....	.....	45.6	57.3	63.4	.....	.....	64.2	49.4	25.9	18.2	.....	.....	—30	May 30	Oct. 8
Sioux Falls	8.0	16.0	23.6	45.5	57.1	65.2	73.6	65.6	69.0	51.1	29.8	16.8	43.4	100	—27	May 24	Sept. 17
Spearfish	22.1	25.6	22.4	45.8	61.2	65.2	70.7	67.8	67.5	51.4	29.0	28.2	46.4	96	—18	Apr. 28	Sept. 16
Tyndall	15.0	22.9	28.0	47.2	59.5	68.4	75.4	67.7	70.6	51.0	33.4	20.2	46.6	101	—20	May 30	Oct. 9
Vermilion	12.7	20.2	27.5	47.6	60.1	.....	.....	.....	.....	54.3	32.8	.....	.....	.....	—23	May 24	Oct. 21
Watertown	6.4	.....	19.8	43.2	54.2	60.2	69.0	62.6	65.0	47.2	25.0	14.2	.....	94	.....	June 7	Sept. 17
Webster	5.1	14.2	19.4	42.8	54.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wentworth	6.5	13.2	21.2	44.8	55.6	64.4	72.4	64.2	67.1	50.2	27.4	14.8	41.8	97	—30	June 7	Oct. 8
Wessington Springs	.....	.....	20.8	45.0	59.1	64.9	73.7	65.2	65.5	47.8	26.8	15.2	.....	101	.....	May 30	Oct. 9
*Yankton	13.8	21.2	27.8	47.4	60.1	68.0	75.4	68.6	72.7	54.2	32.9	20.2	46.9	100	—18	May 24†	Oct. 9
Tennessee.																	
Andersonville	34.6	42.6	50.6	58.1	62.6	74.4	75.9	72.8	69.8	61.5	48.4	41.2	57.7	96	— 4	Apr. 10†	Oct. 30†
*Arlington	.....	.....	.....	61.4	65.7	77.5	81.6	78.0	74.6	64.8	.....	.....	.....	101	.....	.....	.....
Ashwood (*a*)	37.7	46.9	54.6	59.7	66.2	78.3	80.1	79.0	76.5	66.9	51.1	42.8	61.6	101	2	Apr. 18	Oct. 25
Bayne	34.2	43.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Benton (near)	38.2	47.4	54.4	58.0	63.9	75.5	76.8	76.0	71.9	.....	.....	43.8	.....	100	— 9	Apr. 18†	Oct. 30
*Bolivar	36.8	44.5	54.4	59.2	64.4	76.6	80.4	78.0	74.0	63.2	49.7	41.4	60.2	102	0	Apr. 10	Oct. 30
Bristol	30.9	41.0	50.2	53.8	58.5	70.9	72.9	70.8	66.4	58.6	45.6	38.6	54.8	94	—15	Apr. 17†	Oct. 30
*Brownsville	.....	.....	.....	61.2	67.0	78.5	83.5	79.9	77.8	67.4	.....	.....	.....	104	.....	.....	.....
Byrdstown	33.6	43.0	53.1	58.6	62.4	72.4	75.4	73.8	70.5	62.1	49.0	41.3	57.9	96	— 8	Apr. 10	Oct. 30
Cagle	31.9	43.2	51.2	56.1	62.4	72.7	74.2	72.6	.....	.....	48.4	41.2	.....	.....	— 1	May 2	Nov. 17†
*Chattanooga	38.6	47.0	53.9	59.5	65.8	77.4	78.6	76.8	74.4	65.4	51.4	43.8	61.0	98	6	Mar. 28	Nov. 17
Clarksville	34.6	43.0	52.4	57.6	62.9	74.6	.....	.....	74.6	65.0	50.2	41.0	.....	.....	— 2	Mar. 28	Nov. 5
*Covington	.....	.....	.....	.....	67.0	78.6	83.8	80.2	77.0	66.8	51.6	40.6	.....	104	.....	.....	Nov. 12†
Decatur	36.2	46.0	52.9	57.8	63.6	75.2	77.0	75.1	71.6	62.3	49.5	42.3	59.1	98	— 9	Apr. 17†	Oct. 30
*Dyersburg	[36.0]	*46.2	52.7	59.1	66.8	79.8	82.4	78.6	77.8	65.3	50.0	39.4	[61.2]	103	7	Mar. 27	Oct. 30
Elizabethton	33.5	42.6	52.2	55.9	60.4	74.2	75.6	74.0	70.0	61.6	48.4	41.3	57.5	98	—13	Apr. 18	Oct. 30
Elk Valley	34.3	43.6	50.9	58.0	61.8	73.4	75.8	74.1	69.0	61.6	49.8	41.8	57.8	96	—10	Apr. 18†	Oct. 30
Erasmus	.....	42.0	50.1	54.0	59.0	69.7	71.5	70.0	65.0	57.5	.....	.....	.....	91	.....	May 2	Sept. 22
Fairmount (*e*)	*32.9	43.3	48.9	*55.2	*61.0	*72.2	*72.4	.....	†71.0	.....	*47.0	40.0	.....	.....	4	Apr. 18	Oct. 30
Florence	36.4	45.0	53.4	58.1	63.4	76.0	78.3	76.9	73.6	64.8	49.6	42.0	59.8	100	— 6	Apr. 10	Oct. 30
Franklin	35.0	44.6	53.4	57.8	63.6	75.6	78.6	76.6	74.0	63.8	50.2	41.6	59.6	100	— 3	Apr. 10†	Oct. 30
*Greeneville	34.0	43.3	51.2	55.9	60.1	71.8	74.1	72.4	69.4	60.9	48.5	41.4	56.9	96	— 8	Apr. 18†	Oct. 30
Harriman	35.0	44.8	51.8	57.6	62.6	74.1	76.2	74.4	70.0	61.4	47.4	40.9	58.0	96	— 4	Apr. 11	Nov. 12
Hickory Withe	†38.5	46.2	56.1	61.2	66.3	78.8	82.2	79.0	76.4	66.0	52.2	42.2	62.1	104	7	Feb. 28†	Nov. 17
Hohenwald	35.5	45.4	53.8	57.2	61.8	73.6	77.1	74.6	69.3	.....	.....	.....	.....	101	— 9	May 2†	Sept. 22
Jackson	36.5	46.0	54.6	60.2	65.1	77.8	80.8	78.8	74.6	64.2	50.0	42.1	60.9	102	0	Feb. 28†	Oct. 30
*Johnsonville	36.6	45.6	55.?	59.5	.....	.....	80.0	77.9	73.0	63.1	50.6	41.5	.....	100	— 8	Apr. 17	Sept. 22
Jonesboro (*a*)	32.7	41.5	50.8	55.0	59.6	†71.0	73.0	71.2	65.7	57.6	45.5	40.2	55.3	90	—14	Apr. 18	Oct. 30
*Knoxville	35.8	45.6	53.1	58.6	63.2	75.0	76.8	74.6	71.6	63.3	49.6	41.6	59.1	96	— 3	Apr. 11	Nov. 12
Liberty	35.2	45.8	54.6	58.0	63.9	75.4	78.1	†76.8	72.8	64.5	51.0	42.5	59.9	.....	—10	Apr. 18†	Oct. 30
Lynnville	34.4	44.2	54.7	57.3	64.0	76.6	78.0	75.8	73.4	65.0	50.2	42.6	59.7	98	2	Mar. 26	Sept. 22
McKenzie	36.3	43.4	53.7	59.8	64.7	77.2	81.2	79.0	75.4	65.4	50.6	40.6	60.6	102	4	Mar. 7†	Sept. 22
McMinnville	36.1	46.2	54.0	58.2	62.6	73.8	76.6	75.8	71.2	62.8	48.8	42.7	59.1	97	— 9	Apr. 10†	Sept. 22
*Memphis	39.4	46.4	55.4	61.4	68.2	78.2	82.1	80.0	78.0	69.9	53.0	41.4	62.8	100	10	Mar. 15	Nov. 17

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.			Killing frost.	
													Mean.	Extremes.		Last in spring.	First in autumn.
Tennessee—Continued.																	
														Max.	*Min.*		
*Milan	.....	.....	.....	60.4	65.0	78.3	82.6	79.8	76.4	70.0	.....	.....	.....	104	.....	.....	.....
Molino	37.0	46.2	54.4	59.6	65.4	77.8	79.4	77.6	76.0	67.2	51.0	43.6	61.3	103	— 1	Mar. 28	Nov.17†
*Nashville	35.7	44.6	53.6	58.4	64.4	76.8	79.4	78.4	75.0	66.4	50.8	41.8	60.4	100	3	Apr. 18	Nov. 17
Newmarket (*e*)	.....	.....	.....	.....	.....	73.7	75.0	72.8	71.4	.....	.....	41.0	.....	96	.....	.....	Nov.12†
Newport	35.0	45.0	53.6	56.9	62.2	74.4	76.6	74.9	70.4	61.4	48.6	42.0	58.4	95	— 9	Apr. 18	Nov. 4
Nunnelly	36.1	45.1	54.2	59.2	64.4	75.5	77.7	76.4	71.8	62.2	49.8	41.4	59.5	100	—10	Mar. 23†	Oct. 30
Oakhill (*a*)	[1]34.0	43.2	52.7	56.4	60.9	71.8	75.6	74.9	68.4	61.7	48.8	42.4	57.6	100	— 8	Apr. 17	Oct. 29
Palmetto	37.8	47.6	54.8	58.6	64.8	76.6	78.4	77.6	74.8	66.4	52.7	44.6	61.2	100	— 3	Mar. 28†	Oct. 30
Paris Landing	.....	.....	53.7	.....	63.9	74.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	Feb. 28†	.....
Peryear	.....	.....	.....	.....	.....	.....	.....	.....	74.0	64.4	49.2	.....	.....	.....	.....	.....	Sept. 22
Pope	36.1	46.1	55.2	59.4	66.6	77.3	79.3	77.7	74.8	66.0	51.1	42.3	61.0	106	— 8	Apr. 18†	Oct. 30
Riddleton	35.4	44.2	54.0	57.8	62.8	74.9	77.2	75.9	71.8	63.0	50.0	42.4	59.1	97	— 9	Apr. 20	Oct. 30
*Rogersville	33.6	43.3	51.6	55.8	59.9	71.4	73.6	71.5	69.2	61.4	47.6	40.6	56.6	93	— 8	Apr. 18	Oct. 30
Rugby	31.4	42.0	50.6	54.2	60.0	71.5	73.2	71.9	66.6	58.8	45.4	[1]39.0	55.4	94	—17	Apr. 20†	Oct. 30
St. Joseph	37.1	47.4	54.8	59.7	65.0	77.7	79.4	78.1	74.2	64.8	50.4	43.4	61.0	103	— 6	Apr. 18†	Sept. 22
Savannah	39.0	48.8	56.0	60.8	65.9	78.0	81.2	80.0	75.8	66.5	51.8	42.6	62.2	105	2	Feb. 28†	Nov. 17
Sewanee	34.3	43.6	52.9	56.0	61.4	72.8	73.6	71.8	71.6	64.2	48.9	40.4	57.5	91	1	Apr. 9†	Nov. 16
Springdale (*a*)	[1]34.5	45.3	52.5	57.6	60.8	75.9	77.4	74.3	67.7	61.1	46.4	39.9	57.8	92	.....	Apr. 18	Oct. 29
Springfield	.....	45.3	51.9	58.1	64.2	76.1	78.8	.....	75.2	65.4	.....	41.1	.....	.....	.....	Mar. 26†	Sept. 22
Sylvia [2]	35.0	43.6	53.4	58.1	63.4	75.0	79.2	78.8	75.8	68.5	50.2	40.6	60.1	105	—13	.....	Oct. 30
Tellico Plains	36.4	47.0	55.2	58.6	64.2	75.6	77.0	75.8	72.3	63.0	51.4	43.6	60.0	101	— 9	Apr. 18†	Oct. 30
Tracy City	.....	.....	.....	.....	.....	72.8	73.2	71.7	68.3	60.1	47.1	40.4	.....	97	.....	.....	Sept. 22
Trenton	35.3	42.0	53.2	58.8	63.7	75.6	79.2	76.6	73.8	64.0	49.5	39.0	59.2	100	1	Mar. 13	Oct. 30
Tullahoma	33.6	44.0	51.6	55.7	60.4	73.6	75.2	73.5	70.8	62.2	48.8	42.0	57.6	98	—14	Apr. 18	Oct. 30
Union City	35.2	42.8	52.4	59.1	65.6	76.6	80.4	77.0	[1]74.5	63.9	49.8	38.8	59.7	100	1	Mar. 25†	Nov. 6
Waynesboro	37.7	45.7	54.2	58.5	63.2	76.4	78.4	76.8	75.0	64.0	51.2	42.2	60.3	102	— 3	Apr. 18†	Oct. 30
Wildersville	.....	.....	.....	.....	.....	.....	.....	.....	.....	64.5	50.6	40.8	.....	.....	.....	.....	Nov. 3
Texas.																	
*Abilene	40.0	51.8	57.6	63.1	70.4	78.5	83.9	80.8	74.7	67.1	55.2	42.8	63.8	105	5	Mar. 23	Nov. 17
Albany	37.8	46.6	52.4	59.5	65.8	73.0	.....	.....	74.8	67.0	.....	43.4	.....	.....	10	Mar. 14	.....
*Amarillo	27.6	39.5	45.2	55.3	63.3	72.4	76.4	73.6	69.2	58.4	46.8	34.0	55.1	102	— 1	Apr. 13	Oct. 26
Austin [3]	.....	.....	.....	.....	.....	.....	.....	.....	77.8	71.4	.....	48.4	.....	.....	.....	.....	.....
Austin (*e*) [4]	42.8	53.7	61.4	65.2	73.8	79.0	85.2	82.2	77.6	70.2	57.6	45.7	66.2	103	17	.....	.....
*Ballinger	41.2	51.3	58.2	65.6	69.9	78.4	82.3	80.0	74.4	67.1	57.5	42.0	64.0	102	9	Mar. 25	Nov. 17
*Beeville	50.5	60.5	69.8	71.3	77.4	82.6	87.0	84.3	79.3	74.8	64.6	51.4	71.1	106	19	Feb. 2	Dec. 4
Blanco	44.2	54.0	61.0	63.2	72.0	78.8	88.3	.....	.....	[c]72.3	63.3	48.4	.....	103	12	Mar. 24	Dec. 3
Boerne (*a*)	45.1	55.0	63.4	65.9	72.9	79.8	84.4	80.8	74.7	70.5	59.3	47.5	66.6	104	12	Feb. 1	Dec. 3
Brady	40.7	53.2	[c]59.4	63.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mar. 25	.....
Brazoria	51.4	58.5	68.1	68.3	73.7	80.8	84.0	82.1	75.9	73.0	62.4	51.4	69.1	100	19	Mar. 24	Dec. 3
Bremond	.....	.....	64.4	67.3	74.0	82.0	88.3	86.5	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Brenham	49.0	57.3	67.2	68.9	74.6	82.9	87.4	82.9	77.8	72.9	60.6	49.0	69.2	106	15	Feb. 1	Dec. 3
Brighton	.....	.....	70.5	69.6	76.0	80.4	83.0	82.0	79.4	75.2	.....	.....	.....	99	22	Feb. 1	Dec. 4
Brownwood	44.3	51.7	.....	65.4	71.4	81.7	85.6	.....	.....	69.7	56.3	43.4	.....	.....	6	Apr. 9	Nov. 17
Burnet (*a*)	43.1	54.6	61.4	66.5	73.7	80.8	85.9	82.2	75.6	70.3	56.4	44.2	66.2	104	8	Mar. 24	Nov. 30
Camp Eagle Pass	51.0	62.9	71.9	74.8	78.4	84.7	89.0	85.4	81.2	75.2	63.2	48.9	72.2	110	20	Feb. 1	Nov. 30
Childress	33.6	43.2	50.8	59.0	67.0	79.8	81.8	80.7	75.8	65.6	53.3	39.3	60.8	111	4	Apr. 14	Oct. 28
Coleman	38.8	50.4	56.6	61.0	68.2	75.2	82.3	[c]78.4	72.7	66.8	55.4	44.3	62.5	.....	8	Mar. 24	Nov. 17
College Station	46.6	55.0	64.6	66.8	72.1	[d]79.9	85.4	83.1	[c]75.5	72.2	60.1	51.3	67.7	101	14	Mar. 24	Nov. 19
*Columbia	50.2	56.9	68.3	67.9	71.8	79.7	83.2	81.6	75.4	72.8	61.6	50.9	68.4	99	20	Mar. 24	Nov. 18
Conroe	.....	.....	.....	.....	.....	.....	.....	.....	77.2	71.9	61.5	48.8	.....	.....	.....	.....	Nov. 17
*Corpus Christi	52.8	61.4	69.2	70.4	75.8	80.6	82.6	82.0	78.9	74.8	65.6	54.6	70.7	96	22	Feb. 1	Dec. 4
*Corsicana	42.4	53.4	64.6	70.5	74.0	81.6	85.4	85.6	78.6	70.9	54.9	44.5	67.2	106	7	Feb. 27	Nov. 17
*Cuero	51.7	58.9	68.2	68.9	74.8	82.2	86.0	83.0	75.9	70.7	60.4	48.0	69.0	101	18	Feb. 1	Dec. 4
*Dallas	40.9	48.7	57.3	63.3	70.9	79.2	85.6	82.6	76.9	67.7	54.2	41.8	64.1	106	8	Mar. 25	Nov. 17
Danevang	50.2	57.9	68.0	68.2	73.6	82.2	85.1	83.1	75.4	72.5	61.1	49.6	68.9	102	19	Mar. 24	Nov. 18
Dean	28.6	38.2	44.4	55.6	59.6	74.4	77.2	.....	.....	.....	.....	.....	.....	.....	.....	Apr. 14	.....
*Dublin	39.4	48.2	57.2	62.8	68.4	.....	84.9	81.3	74.1	66.8	54.8	42.7	.....	104	5	Mar. 23	Nov. 17
Duval (*a*)	48.6	59.0	66.8	70.2	77.8	85.0	90.5	86.8	80.4	74.3	62.8	50.3	71.0	111	15	Mar. 24	Nov. 18
*El Paso	41.5	49.6	55.2	64.6	74.0	80.4	80.0	77.8	72.0	63.0	55.2	44.2	63.1	102	17	Mar. 24	Oct. 30
Emory	.....	.....	.....	.....	.....	79.6	85.0	82.2	75.5	69.4	56.2	45.8	.....	108	.....	.....	Nov. 17
Estelle	39.8	49.6	57.5	63.4	70.1	78.6	85.4	82.1	76.8	68.0	53.7	41.4	63.9	107	6	Mar. 24	Nov. 2
Forestburg	39.5	50.1	57.2	64.2	68.4	76.6	82.8	81.4	75.0	68.3	53.1	42.0	63.2	105	8	Mar. 23	Nov. 16
Fort Brown	.....	.....	.....	.....	.....	.....	.....	83.4	79.2	74.6	65.7	56.6	.....	.....	.....	.....	Dec. 4
Fort Clark	47.8	56.6	62.8	68.2	74.6	82.8	86.2	83.4	79.4	72.6	60.7	48.9	68.7	106	14	Feb. 5	Dec. 3
Fort McIntosh	48.8	61.4	69.0	72.2	76.9	84.4	88.6	85.0	79.6	75.2	66.6	53.5	71.8	107	21	Feb. 1	Nov. 18
Fort Ringgold	52.6	64.3	72.6	73.6	77.2	84.0	86.6	83.8	78.0	77.0	68.0	55.7	72.8	104	23	Feb. 2	Dec. 15
Fort Worth	[d]40.8	[c]50.4	60.5	[d]65.8	[d]72.2	[c]80.8	[d]87.0	[c]83.3	[d]77.4	.....	[b]55.4	44.4	.....	107	10	Mar. 14	Nov. 17
Fredericksburg (*a*)	[c]52.7	[c]53.8	[c]62.7	[c]65.2	[c]72.2	[c]78.9	[d]85.6	[c]80.8	[d]73.4	[d]67.8	[c]57.2	45.2	66.3	102	13	Mar. 24	Nov. 30
Fruitland [5]	39.2	48.0	58.0	62.2	68.9	77.4	85.5	83.1	77.5	68.2	54.4	41.8	63.7	106	5	Mar. 23	Nov. 2
Gainesville	39.4	49.0	58.2	62.8	68.9	77.6	83.4	81.0	75.7	67.6	54.1	42.5	63.4	101	7	Mar. 24	Nov. 2
*Galveston	50.9	56.7	66.5	69.4	74.8	81.7	84.2	82.8	79.1	75.9	65.2	55.4	70.2	97	21	Jan. 29	Dec. 4
Georgetown (*a*)	42.0	[d]52.7	60.8	[c]62.8	[c]69.8	.....	.....	.....	[c]73.8	[d]68.7	57.2	[c]45.8	.....	.....	11	Mar. 24	Nov. 17
Graham	37.3	48.2	53.6	[c]62.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mar. 25	.....
Grapevine	40.5	49.2	58.2	64.2	69.9	77.9	85.4	83.0	76.4	69.4	55.2	[c]41.4	64.2	105	9	Mar. 25	Nov. 16
Hale Center	35.9	47.8	53.4	60.6	66.6	74.6	77.6	76.4	70.5	62.8	52.1	41.6	60.0	101	7	Mar. 24	Oct. 28
Hallettsville	49.2	59.4	68.3	69.2	74.8	82.1	86.6	84.3	77.4	73.6	61.7	50.4	69.8	104	17	Mar. 24	Dec. 4
Haskell	.....	.....	.....	.....	.....	.....	.....	84.1	76.1	.....	[c]55.2	41.1	.....	.....	.....	.....	Nov. 15
*Hearne	.....	.....	.....	.....	76.4	83.3	86.8	83.8	78.7	72.6	.....	.....	.....	105	.....	.....	.....
*Henrietta	.....	.....	.....	.....	69.6	78.0	86.4	84.4	77.6	68.4	.....	.....	.....	106	.....	.....	.....
*Houston	49.6	56.1	67.0	68.6	73.3	81.3	84.8	82.2	76.6	73.9	62.2	50.8	68.9	101	19	Feb. 3	Dec. 5
*Huntsville	44.8	.....	65.4	67.1	73.6	81.6	86.2	82.6	76.4	71.8	58.2	47.5	.....	102	14	Feb. 2	Nov. 18
Jacksonville	.....	.....	.....	.....	.....	.....	.....	.....	76.2	69.8	58.3	48.2	.....	.....	.....	.....	Nov. 17
Junction City	.....	.....	.....	[c]65.8	[d]72.0	81.1	.....	79.4	73.7	68.4	60.9	.....	.....	108	.....	Apr. 9	Nov. 16

[1] Partly estimated.
[2] Observations taken at Charlotte, about 5 miles north, from January to June, inclusive.
[3] E. Kreuger.
[4] Dr. Q. C. Smith.
[5] Observer moved to Fruitland from Bowie, about 5 miles northwest, July 1, 1897.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Texas—Continued.																	
*Kerrville	42.8	51.0	60.8	63.7	70.2	76.4	.....	78.8	72.9	67.1	56.2	44.6	.....	.....	12	Apr. 10	Nov. 22
*Lampasas	43.8	54.6	62.4	65.2	72.0	80.8	85.4	81.0	73.6	67.6	56.2	45.1	65.6	108	11	Mar. 24	Nov. 2
Llano (*e*)	45.2	55.6	62.2	66.8	74.6	83.2	88.8	81.0	74.5	70.2	59.3	46.0	67.3	108	15	Mar. 24	Nov. 17
*Longview	45.3	52.7	62.0	65.8	73.4	82.6	87.2	83.6	78.6	69.9	55.8	46.9	67.0	108	12	Feb. 27	Nov. 18
*Lufkin	.....	.....	.....	.....	74.2	83.0	87.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Luling	49.5	58.8	67.1	69.2	75.2	82.5	86.4	84.0	77.6	72.8	61.4	49.6	69.5	103	17	Mar. 24	Dec. 3
Mann	.....	.....	.....	.....	[h]69.8	.....	[e]88.1	85.6	[d]79.9	.....	.....	.....	.....	.....	.....	.....	.....
Marathon	39.2	51.8	57.3	61.7	67.8	74.4	79.5	.....	.....	.....	.....	.....	.....	103	.....	Apr. 17	.....
Marshall	.....	.....	65.8	68.2	72.4	[g]79.5	.....	.....	.....	[e]72.4	57.9	49.0	.....	.....	.....	.....	Nov. 15
Menardville	40.0	.....	.....	.....	[e]71.7	79.0	81.6	79.3	73.8	67.4	54.9	42.7	.....	105	7	.....	Nov. 16
Midland	.....	.....	.....	63.2	71.6	76.8	80.6	77.4	74.8	68.8	55.4	.....	.....	107	.....	Apr. 9	Oct. 28
Moore Station	48.7	60.4	68.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mar. 23	.....
Mount Blanco	32.0	44.4	50.6	59.4	66.9	75.8	78.4	76.0	69.2	60.1	51.2	41.2	58.8	108	— 2	Apr. 9	Oct. 28
New Braunfels	47.8	57.6	65.8	67.4	73.6	81.0	84.4	82.5	77.1	71.4	60.5	49.4	68.2	101	17	Mar. 24	Nov. 19
*Orange	45.2	52.3	.....	66.0	70.8	79.4	82.2	80.4	74.8	[d]70.0	.....	.....	.....	98	18	Feb. 2	.....
*Palestine	45.2	55.2	64.0	66.1	71.8	79.4	84.4	82.8	77.8	71.7	57.8	47.4	67.0	104	11	Feb. 27	Nov. 2
*Paris	41.5	50.0	58.4	62.8	70.0	79.4	85.2	83.3	77.8	69.6	54.7	42.4	64.6	108	8	.....	Nov. 18
Point Isabel (*a*)	58.6	66.8	72.5	73.4	79.8	82.8	84.2	83.4	82.2	77.6	70.1	60.5	74.3	94	28	June 29	None.
Rheinland	37.8	50.2	55.2	62.0	68.7	79.6	84.6	83.6	76.6	67.7	55.4	39.8	63.4	105	0	Mar. 23	Oct. 27
Roby	.....	46.6	54.2	60.1	.....	76.0	81.5	80.5	[f]74.7	66.7	54.5	41.2	.....	104	2	Apr. 14	Oct. 28
Runge	50.6	.....	.....	.....	.....	.....	[f]88.4	85.4	80.1	[j]75.1	65.4	54.8	.....	.....	14	.....	Dec. 4
*San Antonio	49.2	59.9	67.6	69.2	74.8	81.4	85.0	82.4	77.5	72.6	62.8	51.1	69.5	103	18	Feb. 1	Dec. 3
San Antonio[1]	49.7	60.3	68.2	71.7	76.4	82.8	86.9	84.3	79.4	74.0	63.6	52.0	70.8	104	18	Mar. 24	Dec. 3
Sanderson	41.6	52.7	60.6	64.4	71.8	77.8	82.4	76.3	69.6	64.5	54.4	.....	.....	104	12	Apr. 10	Nov. 4
*San Marcos	47.2	55.8	66.4	65.8	73.9	81.5	84.0	82.0	76.5	70.5	59.6	47.9	67.6	103	16	Mar. 24	Nov. 19
Sierra Blanca	41.8	47.8	52.8	63.0	70.0	76.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	Apr. 25	.....
Stafford	49.4	58.0	69.2	67.2	74.3	82.1	85.6	82.8	77.5	75.4	.....	.....	.....	102	18	Feb. 2	Dec. 4
Sulphur Springs	42.8	52.6	61.8	66.4	73.6	81.4	86.4	84.2	79.2	71.4	57.3	[g]45.0	66.8	108	11	Mar. 14	Nov. 17
Temple[2]	43.2	53.4	61.2	66.0	72.2	79.9	86.4	82.8	76.2	70.2	56.4	44.6	66.0	104	10	.....	Nov. 16
*Temple[3]	.....	.....	.....	.....	[e]72.5	80.8	86.6	82.8	76.4	[f]74.4	.....	.....	.....	104	.....	Feb. 27	Nov. 16
Tivoli	.....	.....	68.8	66.0	74.0	.....	.....	80.2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tulia	27.6	42.6	46.5	55.0	64.2	.....	.....	.....	.....	.....	49.6	.....	.....	.....	.....	Apr. 15	.....
*Tyler	.....	.....	61.2	65.2	72.0	80.9	86.2	83.2	76.6	68.7	55.4	44.6	.....	106	.....	Feb. 28	Nov. 17
Valentine	.....	.....	55.2	61.1	66.8	75.3	77.4	77.8	69.0	61.0	.....	.....	.....	104	.....	Apr. 10	Oct. 27
*Waco	44.2	53.0	61.5	67.6	74.4	81.8	88.6	85.2	78.9	72.2	57.4	45.1	67.5	105	13	Mar. 24	Nov. 18
Waxahachie	.....	.....	.....	.....	74.5	81.8	87.0	[d]83.9	.....	.....	52.5	41.2	.....	112	.....	.....	Nov. 11
*Weatherford	40.4	47.7	57.2	63.4	70.5	79.0	85.3	82.4	75.3	67.8	54.3	42.4	63.8	106	9	Mar. 23	Nov. 17
Utah.																	
Blue Creek (*g*)	25.7	27.9	30.5	48.5	67.9	66.7	74.4	69.5	64.4	48.2	38.8	24.8	48.9	102	— 2	.....	.....
Cisco	30.4	27.9	39.4	53.8	66.0	70.6	78.0	78.0	[f]70.2	53.9	41.9	11.2	51.8	105	—18	Apr. 11	Oct. 16
Corinne	28.1	29.6	30.7	47.4	63.2	63.8	69.7	76.7	64.4	48.0	38.5	24.8	48.7	98	— 5	May 9	Oct. 14
Croydon	.....	.....	26.1	.....	58.1	60.1	63.7	68.0	60.6	.....	.....	.....	.....	95	.....	May 14	.....
Ferron	.....	.....	.....	.....	54.5	66.5	71.8	73.7	62.6	50.2	40.7	26.2	.....	96	.....	May 9	Oct. 18
Fillmore	28.3	30.8	35.2	50.6	61.5	66.9	72.8	75.9	65.6	50.0	36.6	19.8	49.5	115	—14	May 8	Sept. 14
Fort Duchesne	12.3	15.5	27.0	46.2	59.0	62.8	67.5	60.6	62.0	48.2	34.6	[f]6.7	42.7	98	—24	May 8	Oct. 16
Frisco	.....	31.4	31.7	48.4	59.0	66.4	71.5	74.9	63.8	46.8	43.0	29.0	.....	101	.....	May 9	Oct. 15
Giles	22.1	25.5	36.5	51.3	66.4	65.4	77.8	72.5	67.6	53.4	39.4	24.6	50.2	108	— 6	Apr. 25	Oct. 18
Grover	21.7	21.0	27.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Heber	22.8	23.3	26.5	43.0	56.8	58.2	63.0	65.2	55.2	44.2	36.5	[g]14.8	42.5	97	—16	May 9	Sept. 1
Kelton (*g*)	22.0	25.4	.....	49.9	67.3	68.6	80.3	74.9	64.0	50.2	35.8	24.4	.....	100	—10	.....	.....
Koosharem	20.6	21.8	24.0	40.2	54.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	May 12	.....
Levan	27.0	28.2	31.8	47.2	59.8	63.2	68.6	76.8	61.5	46.8	38.6	21.6	47.1	97	— 8	May 8	Oct. 15
Loa	20.8	21.2	25.7	40.5	54.3	57.6	62.4	63.2	54.4	40.6	31.9	21.4	41.2	98	—21	May 8	.....
Logan	21.2	26.5	26.4	44.0	60.8	[e]63.2	68.4	73.0	63.8	47.9	39.8	24.5	46.6	95	—10	May 8	Oct. 15
Mammoth	29.8	25.8	28.3	44.9	61.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	May 8	.....
Manti	25.2	25.4	31.0	48.4	62.3	64.4	69.8	72.4	62.2	.....	.....	.....	.....	106	.....	May 8	Sept. 14
Minersville	.....	30.2	34.0	48.8	62.2	65.6	71.0	73.8	65.0	48.4	41.2	21.4	.....	96	.....	May 9	Oct. 15
Moab	30.1	32.3	41.5	56.0	67.7	72.1	73.9	72.8	67.6	52.4	41.0	21.6	52.4	97	— 9	Apr. 11	Oct. 28
Mount Pleasant	27.8	27.0	32.5	49.0	63.2	65.8	72.2	74.4	64.6	48.8	40.8	24.3	49.2	111	— 8	May 8	Oct. 15
Ogden (*g*)[4]	29.3	33.9	35.6	52.0	68.9	72.5	77.5	76.9	64.6	50.7	41.4	27.7	52.6	97	1	May 9	Oct. 15
Ogden[5]	29.5	33.6	35.4	50.1	65.1	.....	71.9	73.6	65.0	52.1	.....	30.2	.....	.....	1	.....	.....
Pahreah	.....	.....	40.1	53.7	65.4	68.1	74.3	74.8	65.3	50.9	40.5	29.5	.....	99	.....	Apr. 6	Oct. 16
Park City	25.4	27.8	24.7	39.0	51.2	52.0	59.6	60.4	54.0	43.0	.....	.....	.....	84	.....	May 9	Sept. 12
Parowan	28.1	28.6	32.6	48.2	60.8	63.0	68.7	70.5	62.6	46.5	39.6	24.8	47.8	97	—10	May 8	Oct. 15
Pinto	.....	.....	.....	.....	.....	61.3	66.6	67.6	58.6	43.6	37.2	24.5	.....	95	.....	.....	Sept. 14
Promontory	25.8	32.4	35.9	49.9	68.6	70.6	72.8	76.7	61.4	46.0	36.2	21.0	49.8	103	—10	Apr. 21	Oct. 3
Provo	31.6	31.8	38.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Richfield	27.7	28.2	31.5	46.4	60.5	59.0	64.4	68.2	56.2	43.8	40.8	29.2	46.3	98	— 8	Apr. 30	Sept. 7
*Salt Lake City	28.8	30.9	33.6	49.0	63.4	66.0	71.9	75.2	62.2	50.9	43.2	27.4	50.2	98	2	May 8	Oct. 14†
St. George	36.8	36.6	40.9	56.1	69.2	75.1	80.4	81.6	72.8	57.0	46.2	32.4	57.1	110	2	May 8	Oct. 15
Scipio	25.4	28.0	31.4	46.8	58.8	63.1	68.0	69.2	61.2	46.2	39.8	19.9	46.5	96	—19	May 8	Sept. 15
Snowville	23.2	25.7	29.1	45.6	59.8	60.5	64.8	70.4	60.4	46.8	36.9	21.4	45.4	94	— 6	May 8	Oct. 14
Soldier Summit	18.2	18.0	21.7	38.0	52.8	54.2	61.0	62.2	54.8	40.5	29.0	15.6	38.9	98	—16	(6)	(6)
Terrace (*g*)	21.1	21.1	.....	46.5	58.8	68.7	76.6	78.5	68.8	57.8	33.4	21.2	.....	103	— 5	.....	.....
Thistle	24.2	24.1	30.3	45.4	55.6	58.2	67.2	70.0	53.2	.....	38.8	22.0	.....	98	—13	May 9	Sept. 14
Tooele	29.6	32.2	33.4	49.0	63.6	66.4	70.4	74.4	[g]65.0	[f]45.6	[f]41.9	27.3	49.9	97	5	May 7	Oct. 14
Tropic	.....	28.2	29.4	45.2	59.8	60.8	.....	.....	[f]57.5	[f]48.8	.....	.....	.....	.....	.....	May 8	Oct. 5
Vernal	20.6	24.7	32.9	48.0	61.6	65.4	68.5	70.2	60.2	[e]44.1	36.9	13.6	45.6	93	—14	Apr. 22	Oct. 19
Woodruff	12.8	17.0	.....	35.4	49.8	51.6	55.0	56.9	.....	.....	.....	.....	.....	.....	.....	May 11	.....
Vermont.																	
Bennington	21.2	23.6	33.1	45.5	56.2	61.6	72.2	66.4	59.0	50.3	38.2	28.3	46.3	94	— 9	May 8†	Sept. 22†
Brattleboro	23.8	24.3	32.0	47.5	58.2	63.4	73.0	67.4	59.4	49.7	36.4	27.0	46.8	96	—11	.....	.....

[1] G. A. Duerler.
[2] W. G. Jones.
[3] Cotton region observer.
[4] Pacific Railway system.
[5] W. W. Crossman.
[6] Every month.

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Vermont—Continued.																	
Burlington	20.2	22.6	30.8	45.7	57.4	64.1	74.4	67.7	60.8	52.2	36.4	27.4	46.6	96	—15	May 8	Oct. 3
Chelsea	16.8	20.4	26.2	40.2	52.2	57.5	69.7	62.2	55.0	46.4	30.8	22.4	41.6	92	—19	May 8†	Sept.18†
Cornwall	19.2	20.4	30.8	44.8	55.8	63.0	73.7	65.8	58.5	51.0	34.2	24.7	45.2	92	—16	Apr. 21†	Oct. 10
Enosburg Falls	16.8	18.6	28.4	43.2	54.6	60.6	70.4	.....	56.7	48.4	35.0	24.0	.....	94	—22	May 8†	Sept. 22
Hartland	19.4	19.1	28.8	43.4	54.0	58.5	69.6	62.7	56.0	45.7	31.6	23.6	42.7	91	—20	May 8†	Sept.22†
Jacksonville	19.6	21.0	27.4	40.6	51.0	56.4	66.4	60.6	54.7	45.6	33.7	21.4	41.5	92	—21	May 8†	Sept.18†
*Northfield	16.2	18.3	26.6	41.3	51.9	57.4	69.7	61.8	54.9	45.6	31.0	22.4	41.4	95	—18	May 8	Oct. 2
St. Johnsbury	15.6	18.6	26.9	43.0	55.0	59.8	71.0	63.6	55.6	45.7	32.6	21.7	42.4	92	—21	May 8†	Sept. 22
Strafford	17.8	20.8	27.0	42.2	52.9	59.4	69.0	62.8	56.6	48.0	27.8	.....	.....	89	—12	May 8	Oct. 10
Vernon (f)	22.8	23.2	32.6	47.4	57.6	64.5	73.5	67.2	59.7	49.3	35.8	26.8	46.7	95	—12	.....	.....
Wells	19.6	22.0	29.6	42.8	55.0	61.0	71.3	64.5	57.6	48.8	34.1	24.6	44.2	91	—15	May 8	Sept. 28
Woodstock	19.2	20.5	30.1	44.4	55.6	60.6	73.4	63.8	54.8	.....	.....	24.7	.....	99	—25	May 8†	Sept. 17
Virginia.																	
Alexandria	30.4	36.5	46.0	53.7	63.8	71.0	77.7	73.8	68.2	57.3	44.8	37.1	55.0	95	7	Apr. 20	Oct. 30
Ashland	34.8	40.9	50.3	56.9	64.2	72.2	77.3	75.6	69.2	58.8	49.5	41.9	57.6	97	2	Apr. 21	Oct. 31
Barboursville	30.4	36.3	46.6	53.4	62.2	70.6	76.0	73.7	68.4	57.1	45.7	38.6	54.9	95	1	Apr. 21	Oct. 31
Bedford City	.....	40.4	47.8	55.0	61.2	72.1	76.3	74.1	70.4	61.6	48.3	40.2	.....	100	.....	Apr. 21	Nov. 12
Bigstone Gap	31.0	39.8	48.4	52.9	58.1	69.0	71.2	68.5	64.8	57.6	44.2	39.1	53.7	94	—15	May 2	Sept. 22
Birdsnest (a)	36.8	40.7	49.5	55.7	65.0	73.5	79.6	77.5	71.8	63.4	51.2	43.9	59.0	96	16	Apr. 22	Nov. 14
Blacksburg	29.2	36.8	45.8	50.9	56.2	67.4	70.9	67.7	64.0	55.6	43.5	35.9	52.0	94	— 3	Apr. 21	Sept. 30
Buckingham	30.2	37.9	48.3	54.6	61.4	71.4	75.8	74.1	68.9	57.9	45.2	39.1	55.4	100	— 5	Apr. 21	Nov. 3
Burkes Garden	26.0	34.0	42.8	49.8	55.6	67.6	70.4	68.1	.....	.....	.....	.....	.....	.....	— 9	May 29	Sept. 30
Callaville	34.8	42.4	50.4	56.1	63.4	73.2	77.4	75.2	69.4	60.4	49.4	42.3	57.8	96	— 4	Apr. 21	Nov. 7
*Cape Henry	37.8	41.9	50.5	54.9	64.4	73.3	78.3	77.4	72.4	64.0	54.4	45.2	59.5	96	11	Feb. 3	Nov. 24
Clifton Forge	26.7	34.2	47.2	52.4	56.2	68.4	73.7	67.7	65.4	56.5	43.6	37.1	52.4	97	7	Apr. 21	Oct. 5
Dale Enterprise	28.8	33.9	45.2	50.8	58.6	69.2	72.9	70.4	66.0	54.7	43.4	36.4	52.5	98	— 2	Apr. 21	Sept. 29
Doswell	32.4	39.5	51.0	58.7	67.1	77.6	.....	76.6	68.1	57.8	45.8	38.8	.....	.....	3	Apr. 19	Nov. 13
Farmville	.....	47.8	46.6	55.8	64.0	76.2	81.7	77.0	74.8	58.7	49.9	40.3	.....	103	.....	Apr. 21	Nov. 18
Fredericksburg	31.8	38.0	48.5	55.3	63.4	71.9	77.7	75.8	70.2	58.6	47.1	38.8	56.4	97	— 4	Apr. 21	Nov. 7
Gordonsville	32.4	38.9	45.4	53.8	62.2	73.4	77.7	73.0	70.2	55.8	.....	.....	.....	94	0	Apr. 2	Oct. 31
Grahams Forge	30.8	38.4	49.1	52.2	58.0	69.0	71.1	68.6	63.2	55.2	40.2	36.6	52.7	92	— 4	May 26	Sept. 30
Hampton	38.1	43.1	51.1	56.4	65.7	74.0	79.5	77.7	73.1	63.8	53.2	45.1	60.1	93	14	Feb. 28	Nov. 13
Hot Springs	27.8	33.0	43.6	49.7	60.7	72.8	75.8	73.6	64.1	55.8	44.2	38.3	53.3	92	— 3	May 3	Sept. 21
Lexington	31.8	38.2	47.8	53.3	59.6	69.9	73.9	72.0	67.9	58.4	46.0	39.0	54.8	97	— 1	Apr. 21	Sept. 29
*Lynchburg	33.6	40.6	50.0	55.6	63.0	73.1	76.6	75.2	70.6	60.2	48.6	40.6	57.3	99	8	Apr. 21	Nov. 7
Manassas	30.8	37.0	47.0	54.0	63.0	70.5	77.1	74.1	69.2	58.4	46.6	38.2	55.5	96	7	Apr. 21	Oct. 30
Marion	[a]30.3	38.6	[a]48.2	[a]54.2	58.3	[b]69.9	[a]73.8	.....	[a]65.5	[a]57.5	[a]43.7	[a]38.4	.....	.....	— 4	Apr. 20	Oct. 5
Monterey	26.6	32.4	41.9	46.6	55.4	64.7	68.7	60.5	62.8	.....	39.6	37.5	.....	90	0	May 4	.....
*Norfolk	38.3	44.4	51.4	57.5	65.3	74.2	79.2	77.4	72.2	63.6	53.1	45.1	60.1	96	11	Apr. 21	Nov. 13
Nottoway	34.7	.....	.....	.....	.....	.....	.....	78.2	71.4	61.4	50.8	42.4	.....	.....	.....	.....	*Nov. 13
Petersburg	35.8	43.0	51.5	58.7	65.3	73.9	78.7	77.3	73.6	62.3	50.8	43.1	59.5	100	4	Apr. 21	Oct. 31
Quantico	30.0	35.9	46.2	50.0	59.9	70.5	77.4	73.8	.....	57.1	.....	.....	.....	.....	— 4	Apr. 29	Oct. 31
*Richmond	.....	.....	.....	.....	.....	.....	.....	.....	.....	60.3	49.1	42.1	.....	.....	.....	Apr. 21	Nov. 13
Richmond (near)	36.8	42.6	51.5	58.3	65.0	73.9	79.1	78.0	72.2	60.2	49.4	41.2	59.0	101	5	.....	.....
Rockymount	35.6	42.9	51.7	57.6	63.4	74.6	76.9	74.4	71.2	60.7	50.2	41.6	58.4	96	4	Apr. 21	Nov. 12
Salem	36.0	43.1	50.6	57.0	63.0	73.2	77.0	75.4	72.4	62.4	51.0	42.2	58.6	97	— 5	Apr. 21	Nov. 18
Saltville	32.4	40.6	49.0	53.4	58.0	69.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Smithville	34.6	41.2	49.7	56.3	63.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Spottsville	34.0	40.9	50.0	56.1	64.4	74.0	78.3	76.6	70.4	62.5	50.5	42.9	58.4	98	9	Apr. 21	Nov. 28
Stanardsville	30.2	36.8	46.0	52.5	60.8	69.7	74.0	72.6	69.0	58.1	45.0	37.2	54.3	96	5	Apr. 20	Nov. 12
Stanleyton	30.7	35.2	47.4	53.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Staunton	31.9	37.7	47.9	53.4	60.7	70.0	74.3	72.3	67.2	58.4	47.2	39.6	55.0	96	3	May 4	Sept. 29
Stephens City	28.5	35.0	45.5	52.7	61.1	69.2	76.6	73.0	68.4	58.6	44.8	36.3	54.1	98	6	Apr. 20	Oct. 18
Sunbeam	34.4	40.6	48.2	52.7	60.5	73.9	78.5	75.8	70.2	60.6	48.3	41.5	57.1	94	12	Apr. 21	Nov. 13
Swords Creek	.....	43.6	51.8	54.2	58.0	70.3	.....	69.2	64.0	58.2	.....	.....	.....	.....	.....	May 18	Sept. 24
Warrenton	.....	.....	47.6	55.2	63.4	71.0	78.4	76.4	70.4	58.9	46.4	38.9	.....	93	.....	Apr. 21	Oct. 31
Warsaw	33.7	38.6	48.5	54.7	63.4	71.6	78.3	75.0	69.8	59.6	48.4	39.6	56.8	95	3	Apr. 21	Oct. 30
Westbrook Farm	33.4	41.2	48.6	55.0	64.0	72.5	77.2	76.4	.....	60.4	48.6	41.2	.....	.....	4	Apr. 19	Sept. 22
Woodstock	30.9	35.3	46.4	56.5	61.4	70.9	76.5	74.0	*67.9	56.9	42.1	36.6	54.6	100	— 2	.....	.....
Wytheville	31.0	37.0	46.6	51.6	57.0	69.2	72.2	71.4	66.8	58.4	47.2	38.5	53.9	93	— 2	May 26	Oct. 30
Washington.																	
Aberdeen	.....	[a]41.3	40.0	50.7	56.5	57.8	59.5	63.8	57.2	52.4	43.1	42.6	.....	91	.....	Mar. 21†	Nov. 2
Blaine	34.0	36.7	35.0	46.7	52.4	56.1	57.6	61.3	51.2	45.4	34.0	34.1	45.4	84	5	June 19	Sept.12†
Bridgeport	29.2	.....	34.6	55.8	65.5	68.4	.....	.....	.....	.....	.....	22.4	.....	.....	— 5	Apr. 7†	.....
*Canby, Fort	42.5	42.6	40.9	49.8	54.1	57.1	57.8	59.0	57.1	54.2	45.8	44.4	50.4	85	26	Mar. 20†	Nov. 28
Cascade Tunnel	.....	28.4	27.2	39.3	.....	45.0	52.8	65.4	53.3	.....	29.8	28.4	.....	106	.....	June 29†	Sept. 5†
Centerville	29.0	35.8	37.7	52.0	60.1	62.2	66.8	71.2	59.2	50.0	39.0	30.8	49.5	107	— 6	May 25†	Oct. 14†
Chehalis	37.4	41.8	40.4	54.0	60.1	61.8	63.2	68.8	57.4	52.0	44.2	41.2	51.9	102	17	May 1†	Nov. 2†
Colfax	30.6	34.6	35.2	49.3	59.4	59.3	60.2	67.2	55.8	47.4	37.8	31.4	47.4	98	— 7	June 10†	Sept.16†
Coupeville	39.2	41.2	39.2	49.4	53.8	57.4	58.2	63.0	54.6	49.0	42.1	40.7	49.0	84	19	Mar. 30†	Nov.20†
Dayton	31.5	38.0	38.2	52.4	62.1	62.5	.....	68.2	60.0	51.2	39.3	34.3	.....	.....	1	Mar. 31†	Oct. 14
Eastsound	40.4	40.2	38.4	50.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mar. 30†	.....
Ellensburg	24.6	29.9	33.4	52.0	61.4	61.6	66.0	.....	57.0	46.6	34.8	25.0	.....	.....	— 7	Apr. 29†	Sept. 29
Ellensburg (near)	24.6	29.0	33.3	52.6	62.7	65.4	67.3	73.2	57.0	48.2	34.5	24.0	47.6	104	— 2	Apr. 27	Sept. 29
Elma	.....	43.6	43.2	53.5	60.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Apr. 25†	.....
Fort Simcoe	32.4	36.8	38.2	56.6	66.2	65.2	70.0	78.0	62.5	53.8	37.2	29.0	52.2	109	2	May 6†	Nov. 2
Fort Spokane	28.9	30.7	30.8	50.8	62.4	62.8	65.3	71.1	57.2	43.9	32.8	25.2	46.8	104	0	Apr. 7†	Sept. 16
Grandmound	38.0	40.6	38.8	51.4	57.8	60.1	62.6	67.2	56.4	49.8	42.9	41.0	50.6	96	5	Apr. 27	Dec. 23
Hunters	21.2	24.9	24.5	43.4	54.4	54.2	56.0	62.4	50.1	41.8	28.6	22.3	40.3	90	—11	June 10	Sept. 10
Kennewick	29.1	39.8	40.0	54.4	64.6	68.0	72.1	77.4	63.2	53.4	42.5	35.7	53.4	107	0	Apr. 13	Oct. 14†
La Center	37.8	41.3	37.2	53.0	60.5	61.0	63.0	70.1	58.1	52.0	43.0	40.9	51.5	99	19	Mar. 29†	Oct. 14
Lakeside	27.6	30.2	33.4	52.8	62.4	64.6	66.0	74.8	61.2	50.4	34.2	25.7	48.8	99	3	Mar. 31†	Oct. 13
Lapush	40.4	41.5	39.2	48.7	51.4	[b]57.4	*57.6	57.3	54.4	51.2	43.2	.....	.....	75	20	Mar. 30†	Nov. 2
Lind	.....	.....	.....	.....	.....	65.3	68.4	76.7	61.9	51.6	.....	31.0	.....	108	.....	.....	Oct. 2

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual. Mean.	Annual. Extremes. Max.	Annual. Extremes. Min.	Killing frost. Last in spring.	Killing frost. First in autumn.
Washington—Cont'd.																	
Loomis	27.8	29.5	32.0	54.6	65.5	66.2	69.4	75.2	59.2	[d]47.8	31.9	[e]25.7	48.7	102	2	May 24†	Oct. 15
Madrone	39.3	41.1	39.5	51.4	56.3	59.2	61.4	65.2	55.6	49.4	42.0	40.8	50.1	88	14	Mar. 30†	Nov. 7
Mayfield	38.0	[c]43.1	39.6	51.7	59.0	[c]60.2	62.4	67.0	57.4	50.2	43.6	41.4	51.1	97	18	Mar. 3†	Oct. 15†
Moxee Valley	31.2	38.6	38.0	54.6	62.7	68.6	68.2	73.8	59.1	48.6	40.0	30.4	51.2	108	3	May 3	Sept. 1
New Whatcom	39.1	42.0	40.2	51.5	.....	57.5	61.6	65.6	56.5	51.2	42.2	40.8	.....	87	13	Apr. 13	Sept. 28
Northbend	38.2	40.8	[d]40.2	53.4	[d]56.7	59.6	61.9	.....	.....	.....	[c]40.7	39.8	.....	.....	7	Apr. 27†	Nov. 28
Olga	40.9	41.7	39.0	49.4	54.6	57.6	57.8	60.2	53.6	48.4	39.6	41.0	48.6	81	19	Mar. 30†	Nov. 23
Olympia	39.4	41.6	39.8	51.8	57.8	58.8	61.4	66.8	56.7	50.7	43.4	42.7	50.9	93	10	Apr. 27†	Nov. 3†
Pine Hill	34.8	37.9	38.7	52.4	60.6	62.8	66.8	72.8	59.4	50.8	41.5	33.7	51.0	104	0	Apr. 27†	Oct. 14
Pomeroy	33.0	38.8	38.0	54.6	66.5	62.2	70.7	78.6	61.8	54.0	39.3	33.5	52.6	104	—1	Apr. 28	Sept. 16
Port Angeles	39.1	40.3	38.2	46.8	51.8	54.6	55.1	60.0	52.8	47.8	41.0	41.0	47.4	81	19	Apr. 27†	Oct. 14†
Port Townsend	.....	.....	.....	.....	.....	.....	58.8	63.8	56.8	51.4	44.1	42.4	.....	.....	.....	.....	Nov. 28
Pullman	28.9	37.8	31.0	48.1	59.7	59.4	62.0	70.2	58.0	48.4	36.7	30.8	47.6	100	—11	May 2	Oct. 14
Pysht	39.5	40.0	38.2	49.2	54.8	57.8	59.2	60.9	52.0	48.4	41.1	41.6	48.6	83	22	Apr. 3†	Oct. 13†
Rosalia	28.8	31.6	30.8	47.9	59.6	58.4	61.0	69.0	55.2	47.6	35.0	28.8	46.1	98	—3	Apr. 27	Sept. 16
Seattle	40.0	42.2	40.2	52.5	58.4	60.2	62.6	67.8	57.0	51.0	43.6	42.6	51.5	90	20	Mar. 30	Nov. 20
Sedro	39.8	41.7	40.9	52.8	58.8	62.8	61.9	65.6	58.6	52.2	41.4	41.0	51.5	89	11	May 21	Nov. 2
Shoalwater Bay (*h*)	.....	.....	.....	.....	.....	.....	58.8	61.3	57.6	55.5	46.9	44.2	.....	.....	.....	.....	.....
Silvercreek	37.6	38.4	36.2	50.4	57.4	57.8	60.4	.....	.....	.....	.....	.....	.....	.....	.....	Apr. 27	.....
Snohomish	38.8	42.0	40.4	52.4	58.3	60.0	61.8	[d]66.4	58.5	52.6	43.4	42.0	51.4	89	17	Apr. 27	Nov. 27
Southbend	41.0	43.2	40.9	53.1	58.7	58.8	60.4	65.2	58.4	53.2	44.4	43.3	51.7	95	22	Apr. 27†	Sept. 28
Spokane	28.9	33.2	32.8	50.4	62.4	61.6	65.2	72.2	57.8	47.8	35.9	30.2	48.2	100	3	Apr. 27	Oct. 14
Stampede	.....	30.7	29.6	.....	.....	[c]61.7	.....	[c]65.3	54.6	47.8	33.4	[c]29.8	.....	.....	.....	.....	Oct. 1†
Stillagnamish	37.2	39.6	38.2	49.6	55.4	59.4	59.4	63.2	.....	48.5	.....	.....	.....	90	.....	May 27†	Oct. 13†
Sunnyside	30.8	35.7	39.3	55.3	64.3	67.8	[e]69.3	74.4	59.9	49.4	39.3	32.2	51.5	105	3	Apr. 30†	Oct. 26†
Tacoma	37.7	40.0	38.8	50.7	57.2	59.0	61.4	66.2	56.0	50.0	42.9	41.7	50.1	90	16	.....	Nov. 19
Tatoosh Island	41.9	41.7	39.0	47.1	50.7	53.7	55.0	56.5	53.5	50.5	43.8	44.0	48.1	68	25	Mar. 21	Nov. 28
Union City	38.2	41.1	39.4	[b]52.8	59.0	61.6	63.2	65.5	56.8	50.2	42.6	41.8	51.0	88	14	Mar. 30†	Oct. 14
Vashon	39.3	41.6	39.8	50.6	56.2	58.9	61.1	64.6	55.5	50.3	43.3	41.6	50.2	85	19	Mar. 30	Nov. 20
Walla Walla	30.8	39.4	39.6	55.8	65.3	64.9	70.6	76.8	63.2	53.8	41.8	35.7	53.1	105	0	Apr. 11†	Oct. 16†
Waterville	20.2	24.2	25.8	47.5	59.7	58.0	61.0	69.6	55.0	46.0	29.8	19.0	43.0	102	—15	June 10†	Sept. 15
Wenatchee Lake	20.9	27.5	28.6	45.4	55.0	55.8	60.7	64.0	52.2	.....	.....	.....	.....	100	.....	May 1	.....
West Ferndale	37.5	41.4	.....	48.6	57.2	60.0	56.8	.....	.....	.....	.....	.....	.....	.....	.....	Apr. 17	.....
West Virginia.																	
Beckley	27.8	32.7	.....	.....	56.2	70.8	.....	66.2	58.9	.....	43.2	.....	.....	.....	.....	.....	.....
Beverly	27.6	37.8	46.6	51.5	58.8	68.0	73.6	71.6	65.6	59.0	40.3	37.6	53.2	97	—12	.....	.....
Bloomery	26.2	30.4	40.6	47.1	55.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bluefield	30.4	38.2	47.1	53.4	58.3	71.8	73.0	70.7	66.6	58.7	47.2	39.1	54.5	97	—4	.....	.....
Buckhannon	.....	36.2	45.9	50.0	57.2	68.4	[f]75.2	70.5	61.2	55.4	42.7	37.1	.....	99	.....	Apr. 21	Sept. 21
Burlington	27.8	34.4	44.6	50.6	57.8	67.8	73.7	70.3	64.4	55.2	43.3	36.4	52.2	98	1	Apr. 21	Sept. 21
Clay	.....	.....	.....	55.6	58.7	[g]71.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dayton	.....	.....	.....	.....	.....	.....	.....	68.6	64.3	56.2	43.4	37.4	.....	.....	.....	.....	Sept. 21
Eastbank	.....	.....	.....	.....	.....	.....	.....	70.0	69.8	61.8	48.6	41.2	.....	.....	.....	.....	Oct. 30
Elkhorn	33.5	41.9	50.1	54.6	58.9	69.8	72.5	70.1	66.4	59.7	49.1	40.9	55.6	94	—10	Apr. 18	Oct. 30
Glenville	27.8	35.8	46.2	50.9	56.8	67.8	74.0	70.0	65.2	56.0	43.9	37.0	52.6	92	—12	Apr. 20	Oct. 30
Grafton	27.4	35.4	45.4	50.4	56.2	67.7	73.4	69.5	65.5	58.8	43.2	35.6	52.4	98	—10	May 2	Sept. 21
Green Sulphur	30.3	37.2	47.2	52.0	59.1	69.8	73.7	70.6	65.0	56.7	45.8	37.7	53.8	92	—4	May 26	Oct. 5
Hewett	28.8	40.9	50.9	56.9	60.8	71.8	78.1	74.6	.....	.....	.....	.....	.....	.....	.....	Apr. 21	Sept. 24
Hinton	30.3	39.6	48.6	53.6	60.8	71.4	75.6	72.5	66.0	59.4	46.2	36.6	55.0	98	0	Apr. 21	Oct. 29
Huntington	.....	37.8	47.5	54.4	59.5	71.4	76.0	73.0	.....	58.7	46.0	37.6	.....	.....	.....	Apr. 2	.....
Kingwood	26.0	34.7	45.4	49.7	55.7	65.0	71.0	65.4	60.1	55.4	[d]43.4	[e]32.9	50.4	91	—9	May 3	Sept. 21
Marlinton	25.1	33.2	41.7	47.6	55.1	65.2	69.6	67.1	60.9	53.8	39.7	33.9	49.4	89	—8	May 4	Sept. 21
Martinsburg	28.7	34.6	43.4	50.6	60.4	68.4	76.1	71.5	66.8	56.9	41.9	36.1	53.0	98	3	Apr. 20	Oct. 31
Morgantown	29.6	36.5	46.0	51.5	56.4	67.8	75.2	70.1	67.8	59.4	44.9	38.1	53.6	101	—10	May 2	Oct. 29
New Martinsville	29.6	37.6	45.4	53.0	59.2	70.4	77.3	73.1	67.5	59.8	45.4	36.7	54.6	100	—8	Apr. 21	Oct. 30
Nuttallburg	29.4	[c]37.3	45.8	51.0	55.3	71.6	72.2	69.8	70.4	60.6	.....	.....	.....	96	—11	May 4	Oct. 25
Oldfields	27.6	34.8	45.6	52.2	58.7	68.2	73.2	69.8	65.5	55.6	42.0	35.8	52.4	97	1	May 4	Sept. 21
Parkersburg	29.0	37.7	47.1	52.9	58.6	70.4	76.5	71.9	68.2	59.8	45.3	37.4	54.6	99	—7	Apr. 20	Oct. 30
Pennsboro	28.6	37.4	47.0	51.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Apr. 21	.....
Philippi	28.7	37.8	48.4	51.0	55.4	.....	71.7	.....	65.9	.....	.....	.....	.....	.....	.....	May 3	Oct. 12
Point Pleasant	28.8	38.8	47.6	53.8	61.1	72.8	78.2	74.0	71.2	60.8	45.6	37.8	55.9	102	—6	Apr. 20	Oct. 30
Powellton	.....	[g]41.4	49.3	55.4	59.0	69.8	73.8	70.4	65.3	58.3	47.0	40.8	.....	95	.....	Apr. 20	Oct. 5
Romney	29.6	36.2	45.5	52.4	61.0	70.8	76.7	70.1	66.1	56.9	44.0	35.8	53.8	95	3	Apr. 10	Oct. 5
Tannery (*a*)	27.3	34.0	43.2	48.2	53.5	62.8	68.3	.....	.....	.....	.....	.....	.....	.....	—2	Apr. 21	Sept. 21
Upper Tract	.....	.....	.....	.....	.....	.....	.....	.....	72.2	63.4	46.0	.....	.....	.....	.....	.....	.....
Weston (*a*)	29.0	38.2	47.3	.....	59.0	70.6	75.7	71.6	65.7	56.2	44.4	38.2	.....	98	—11	.....	.....
Wheeling	29.2	37.6	47.2	53.5	60.4	71.2	79.4	72.2	66.6	58.1	45.4	38.0	54.9	101	—4	Apr. 20	Oct. 30
White Sulphur Springs	29.6	36.2	48.1	50.5	54.7	68.2	75.9	72.6	63.0	.....	.....	.....	.....	97	—11	May 15	Sept. 18
Wisconsin.																	
Amherst	16.0	19.7	25.6	44.0	53.0	61.7	71.4	63.8	64.2	51.0	29.5	15.2	42.9	96	—23	June 1	Sept. 20
Antigo	.....	.....	26.0	40.6	51.3	60.0	[c]71.2	63.0	64.0	50.0	.....	.....	.....	97	.....	June 7	Sept. 17
Apollonia	11.6	20.4	26.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	—33	.....	.....
Barron	11.4	18.2	22.4	42.9	52.7	60.0	70.7	61.2	61.8	47.6	23.0	.....	.....	96	—33	June 9	Sept. 1
Bayfield	12.4	18.2	22.6	40.0	46.2	56.8	69.0	63.6	66.1	49.3	27.3	16.5	40.7	93	—25	June 4	Sept. 20
Beloit	19.2	26.2	31.6	46.3	57.8	68.5	75.4	69.0	69.2	55.5	34.8	19.4	47.7	95	—23	May 1	Sept. 20
Brodhead	.....	.....	.....	.....	.....	.....	.....	.....	.....	33.2	.....	18.2	.....	.....	.....	.....	.....
Butternut	12.0	17.4	24.3	.....	.....	60.8	73.2	64.6	64.5	49.5	25.6	.....	.....	100	—31	June 6	Sept. 17
Chilton	19.3	22.8	27.3	43.9	54.1	63.1	72.3	65.2	68.0	54.6	32.4	16.4	45.0	98	—21	May 26	Sept. 20
Citypoint	12.2	19.4	24.3	44.6	56.0	66.9	75.4	66.2	68.4	54.6	29.4	15.0	44.4	100	—28	June 1	Sept. 20
Crandon	10.2	16.6	23.8	40.6	51.8	61.8	74.0	66.7	.....	.....	32.0	10.8	.....	.....	—30	June 8	.....
Delavan	20.0	.....	30.4	45.7	55.2	64.7	73.7	67.4	67.8	54.4	34.0	18.1	.....	97	—26	May 31	Sept. 19
Dodgeville	14.8	23.3	28.8	45.2	56.8	.....	73.8	64.4	66.8	52.4	30.8	16.7	.....	97	—29	June 6	Sept. 19
Easton	14.2	20.8	26.1	44.4	55.0	63.4	72.6	63.6	66.0	52.6	30.4	15.0	43.7	98	—24	.....	Sept. 19
Eau Claire	11.8	19.2	23.4	46.0	54.6	61.8	73.4	.....	.....	52.5	28.6	13.6	.....	.....	—30	June 1	.....
Florence	14.3	17.4	.....	.....	.....	58.7	69.2	61.8	60.6	47.2	26.8	15.0	.....	96	—27	June 8	Sept. 17
Fond du Lac	19.3	23.4	28.5	44.7	54.9	63.6	72.4	64.8	65.9	53.9	32.4	17.0	45.1	97	—21	May 31	Sept. 20

MONTHLY AND ANNUAL MEAN TEMPERATURE, ETC., 1897—Continued.

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.			Killing frost.	
													Mean.	Extremes.		Last in spring.	First in autumn.
														Max.	Min.		
Wisconsin—Continued.																	
Grantsburg	7.4	16.8	22.2	44.2	53.1	61.7	72.0	64.7	64.2	50.0	27.2	13.8	41.4	98	—36	June 7	Sept. 17
Gratiot	18.9	24.8	.....	.....	57.8	67.7	.....	67.2	68.0	54.5	33.1	18.1	.....	.....	—24	May 31	Sept. 20
*Greenbay	19.3	23.2	26.7	43.0	53.8	62.6	73.2	65.7	66.0	52.9	31.8	18.1	44.7	95	—20	May 1	Oct. 13
Hartford	.....	.....	.....	44.0	.....	.....	.....	.....	[c]63.0	48.8	29.3	.....	.....	.....	.....	May 31	Sept. 20
Hartland	19.1	24.4	29.1	44.0	55.0	64.6	70.0	65.8	66.8	54.6	34.2	19.3	45.6	98	—20	May 31	Sept. 20
Harvey	19.5	25.4	30.2	45.2	56.2	64.9	73.3	67.1	67.4	54.8	34.0	18.8	46.4	97	—21	May 31	Sept. 20
Hayward	5.8	15.8	21.0	42.3	51.6	60.6	.....	.....	.....	48.6	25.4	13.0	.....	.....	—35	June 6	.....
Hillsboro	15.4	22.2	27.0	44.2	54.1	64.4	71.6	63.8	65.0	51.8	30.2	16.2	43.8	95	—20	June 8	Sept. 20
Hudson	12.6	.....	25.8	[c]47.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kenosha (*h*)	.....	.....	.....	.....	.....	.....	.....	.....	.....	58.3	34.7	17.4	.....	.....	.....	.....	.....
Koepenick (*a*)	13.0	19.8	24.0	41.1	54.4	61.6	68.4	62.2	64.4	51.9	30.0	15.2	42.2	96	—28	June 1	Sept. 20
*La Crosse	14.0	22.0	27.2	46.4	57.4	66.7	74.6	66.6	68.0	55.2	32.7	16.8	45.6	95	—23	June 1	Oct. 9
Lancaster	14.2	21.6	29.5	45.4	57.6	66.0	74.4	66.6	67.5	53.6	31.0	[c]16.0	45.3	98	—27	May 31	Sept. 20
Lincoln (*b*)	20.0	23.6	27.4	43.3	53.9	63.8	72.4	65.8	66.0	53.0	32.2	20.2	45.1	.....	.....	.....	Sept. 20
*Madison	17.6	23.6	29.0	45.0	56.9	66.4	75.3	67.4	67.8	55.4	33.1	18.4	46.3	95	—23	May 1	Oct. 17
Manitowoc	20.8	25.4	28.4	41.4	51.1	58.3	69.6	65.2	62.8	53.0	33.0	19.8	44.1	90	—18	May 25	Oct. 9
Meadow Valley	14.0	20.0	26.0	45.2	54.0	63.6	71.9	63.6	65.0	52.1	29.2	14.2	43.2	98	—25	June 1	Sept. 20
Medford	12.0	18.5	23.3	41.2	51.4	60.6	71.1	63.4	62.3	49.6	27.0	12.7	41.1	101	—33	June 8	Sept. 17
*Milwaukee	21.3	27.2	31.2	43.7	53.7	62.8	73.2	67.6	67.3	56.2	36.0	22.4	46.9	98	—18	May 31	Nov. 6
Neillsville	13.0	19.8	25.3	43.5	52.8	62.8	71.8	63.4	64.2	50.8	27.4	13.1	42.3	94	—29	June 1	Sept. 20
New Holstein	15.5	23.0	28.8	43.0	54.8	[e]65.4	71.7	64.1	67.0	57.0	.....	.....	.....	98	—20	June 1	Sept. 20
New London	17.6	22.8	28.0	47.0	54.5	62.6	72.4	64.2	63.8	51.8	30.4	16.4	44.3	95	—22	May 31	Sept. 20
Oconto	19.4	24.0	27.1	42.4	52.0	60.9	72.1	64.5	64.8	51.5	31.8	19.2	44.1	96	—19	June 1	Sept. 20
Osceola	7.6	18.1	22.0	44.6	54.7	60.9	71.2	63.1	65.1	50.2	26.2	10.8	41.2	99	—38	.....	.....
Oshkosh	18.0	22.0	28.1	44.3	55.5	63.4	73.2	65.4	66.7	.....	.....	22.4	.....	.....	—22	May 31	Sept. 20
Pepin	11.6	19.2	24.3	43.0	52.8	63.8	73.8	64.0	67.4	53.2	29.9	12.8	43.0	96	—28	June 5	Sept. 19
Pine River	17.6	22.2	26.7	44.6	55.4	64.0	72.7	64.9	65.8	52.8	31.0	17.8	44.6	96	—25	June 1	Sept. 20
Portage	15.6	22.3	27.4	44.8	56.5	64.8	73.4	62.8	64.0	51.9	30.0	15.0	44.0	99	—23	June 1	Sept. 20
Port Washington	21.2	26.5	29.8	42.2	51.8	61.0	70.8	66.2	65.7	54.8	34.8	22.1	45.6	95	—21	May 31	Sept. 19
*Prairie du Chien	20.2	27.9	34.0	50.4	60.1	[e]68.7	76.4	69.0	70.6	57.7	37.3	20.7	49.4	102	—23	June 1	Sept. 20
Racine	22.1	28.4	32.0	44.6	53.6	62.7	73.5	68.5	67.6	57.1	37.4	22.5	47.5	96	—19	May 31	Oct. 9
Sharon	.....	23.8	29.0	43.4	54.0	64.0	72.4	.....	66.6	[f]52.6	31.8	17.2	.....	.....	.....	May 31	Oct. 19
Shawano	19.4	23.1	27.2	42.4	51.8	60.1	71.6	62.8	62.6	50.0	30.6	18.6	43.4	94	—20	June 1	Sept. 20
Sheboygan (*h*)	.....	.....	.....	.....	.....	.....	.....	.....	63.0	.....	35.3	26.4	.....	.....	.....	.....	.....
Spooner	7.8	16.8	22.4	42.8	51.2	60.8	[f]75.9	64.5	65.0	49.8	26.7	10.4	41.2	98	—34	June 8	Sept. 17
Stevens Point	16.2	20.6	25.2	44.2	54.2	63.3	73.0	64.3	64.0	51.6	29.2	15.8	43.5	96	—25	June 1	Sept. 20
Sturgeon Bay Canal (*h*)	20.0	23.2	26.4	38.0	48.5	55.9	68.8	64.6	61.6	51.2	32.5	19.6	42.5	.....	.....	.....	.....
Two Rivers (*h*)	.....	.....	.....	.....	.....	.....	71.0	66.9	64.0	53.4	34.6	.....	.....	.....	.....	.....	.....
Valley Junction	14.9	20.9	25.6	44.7	54.0	64.2	71.4	63.0	64.6	52.6	30.4	15.8	43.5	96	—26	June 1	Sept. 20
Viroqua	14.8	22.7	27.7	45.0	55.6	65.3	72.4	65.2	66.6	54.8	31.3	17.7	44.9	95	—26	June 1	Sept. 20
*Watertown	18.8	25.4	29.7	45.1	56.2	64.2	72.7	65.4	66.0	53.6	32.4	17.6	45.6	95	—22	May 31	Sept. 20
Waukesha	20.0	26.1	29.8	44.6	55.0	64.8	73.4	64.0	67.2	55.2	33.6	21.1	46.2	95	—20	May 31	Oct. 29
Waupaca	17.8	21.2	25.8	44.4	55.6	63.6	73.7	65.6	65.7	52.4	30.2	16.5	44.4	98	—24	June 1	Sept. 20
Wausau	15.0	20.5	24.6	42.8	52.6	61.8	72.6	61.1	63.2	49.6	26.9	14.6	42.1	97	—27	June 6	Sept. 20
Wausaukee	16.2	20.8	21.3	40.0	51.2	61.7	72.8	64.5	63.8	48.4	28.8	.....	.....	96	—29	June 5	Sept. 20
Westbend	21.4	26.8	30.0	43.1	53.4	62.4	72.6	65.1	65.3	52.4	31.8	20.4	45.4	96	—14	May 31	Sept. 20
Westfield	16.0	22.7	27.0	44.6	55.8	64.8	73.2	65.8	65.4	52.8	30.1	17.2	44.6	98	—23	June 1	Sept. 20
Whitehall	12.6	19.0	27.0	44.3	56.1	66.0	74.4	64.8	65.7	51.4	28.1	.....	.....	100	—26	May 31	Sept. 20
White Mound	17.2	23.8	28.9	46.2	56.4	66.2	73.9	64.8	66.4	54.9	32.2	17.2	45.7	99	—28	June 8	Sept. 20
Wyoming.																	
Atlantic City	.....	.....	.....	.....	.....	.....	60.5	65.0	54.2	36.4	28.4	15.5	.....	.....	.....	.....	.....
Bighorn Ranch	21.8	20.4	22.2	37.3	52.2	54.3	59.9	60.9	56.9	43.6	30.8	22.9	40.3	89	—25	.....	.....
Carbon	.....	.....	27.1	40.9	56.4	61.5	66.6	68.4	61.7	46.5	38.8	19.8	.....	103	.....	.....	.....
*Cheyenne	23.8	25.8	29.1	40.0	55.0	59.8	65.0	64.8	61.8	46.4	37.4	25.0	44.5	92	—21	May 9†	Oct. 12
Fort Laramie	23.9	30.5	34.6	44.6	60.0	65.4	71.0	70.0	67.2	50.9	35.8	27.1	48.4	104	—22	May 11	Sept. 17
Fort Washakie	16.1	22.5	27.2	41.9	56.6	59.4	64.8	65.1	58.8	43.8	34.2	18.2	42.4	92	—30	June 17	Sept. 18
Fort Yellowstone	15.8	20.5	19.5	37.9	54.0	53.8	60.2	62.5	55.2	40.9	30.2	19.0	39.1	89	—29	May 8	Sept. 9
Greenriver	.....	.....	.....	43.8	58.1	.....	.....	.....	.....	.....	41.4	18.3	.....	.....	.....	.....	.....
*Lander	15.0	23.0	28.6	42.9	57.6	60.2	65.0	64.9	58.2	45.0	34.6	15.9	42.6	91	—21	May 9†	Sept. 17†
Laramie	16.4	19.4	24.9	35.0	50.9	55.6	60.7	60.4	56.9	42.4	34.9	15.0	39.4	85	—30	June 6	Sept. 17
Lowell	.....	.....	.....	.....	.....	.....	.....	.....	.....	45.5	30.0	[c]16.8	.....	.....	.....	.....	.....
Lusk	19.4	23.1	28.0	40.8	57.9	63.3	69.7	66.2	63.8	46.0	30.0	22.2	44.2	105	—23	May 29	Sept. 16
Sheridan	18.4	18.8	20.0	43.0	58.8	60.4	65.2	65.9	61.6	46.7	27.8	19.6	42.2	96	—33	.....	.....
Strong	.....	.....	.....	.....	59.8	62.4	66.0	[e]66.9	61.0	.....	.....	.....	.....	96	.....	.....	.....
Sundance	16.9	19.2	21.4	39.9	54.5	58.2	64.6	63.6	63.7	45.4	26.0	18.8	41.0	95	—27	June 19	Sept. 16
Wamsutter	.....	.....	.....	.....	.....	65.4	65.8	.....	63.9	47.3	30.8	10.1	.....	.....	.....	.....	.....
Wheatland	25.2	29.5	27.9	45.7	59.8	65.5	73.0	71.0	67.4	52.4	42.2	28.2	49.0	102	—21	.....	.....

PART V.

MONTHLY AND ANNUAL PRECIPITATION, 1897—ALL STATIONS.

The precipitation values given in the following tables have been taken largely from the records of voluntary (unpaid) observers. The paid stations of the Weather Bureau are indicated by an asterisk (*). Probably two-thirds of the voluntary observers have standard rain gauges, the remainder having gauges similar in pattern to the standard, or, in a few cases, improvised gauges of their own construction.

The bracketed values have been obtained by a comparison of the data for adjacent stations, and are to be considered only as an approximation to the true amount.

When two or more observers reside in the same city the reports of all are given. The discrepancies between the amounts recorded by the separate observers are often considerable; in general, they are due to differences in exposure, although at times one observer may make the last measurement of the month at 6 o'clock a. m., whereas another observer may defer it to 9 p. m., thus causing a difference in the amounts recorded on the last day of the month.

The small roman letters in the body of the table indicate the number of days missing from the records for the months in which they appear; thus "c" indicates three days missing, "d" four days, etc.

The elevation of each station above sea level, where known, is given in the second column of the table. The altitudes have been compiled from a variety of sources, but the greatest number has been taken from railroad surveys; the altitudes refer, therefore, to the height of the track at the local station rather than the point at which rainfall or temperature observations are made. It has not been possible to obtain the latter, except in a very few cases.

The monthly and seasonal amount of snowfall for the winter of 1897-98 are given for selected stations in the United States at the end of Part V. A chart showing the amount of snow that fell during the snow year, and also its geographic distribution, will be found in Part VI of this volume.

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MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897.

[Compiled from the reports of observers of all classes.]

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Alabama.	*Feet.*													
Alco		2.42	13.53	5.14	5.98	1.15	0.96	6.28	12.19	0.29	0.77	4.59	4.58	57.88
Ashville	685	4.15	6.09	7.42	5.00	1.62	0.96	5.17	2.63	0.30	1.00	0.77	7.04	42.15
Bermuda		3.40	9.76	5.76	5.50	1.07	0.44	4.30	13.45	0.65	2.10	0.88	3.65	50.96
*Birmingham	608	4.35	4.03	6.98	5.09	3.93	3.63	6.16	4.49	1.15	0.56	0.84	6.52	47.73
Brewton	85	2.45	12.30	4.75	4.35	0.50	0.25	7.35	9.80	T.	0.00			
*Bridgeport	660	3.70	3.84	13.17	4.49	5.72	0.63	3.04	2.60	0.10	2.07	1.60	8.03	48.99
Citronelle	352	3.32	6.59	7.39	2.96	0.68	2.14	9.07	13.83	2.09	0.72	2.78	3.58	55.15
*Claiborne Landing			6.00	7.10										
Clanton	590	3.58	7.42	7.57	1.39	0.40	0.37	0.56	1.05	0.70	0.05	1.78	1.05	25.92
*Cordova		5.23	5.10	10.27	4.60	3.99	1.17							
Daphne		2.16	9.63	10.03	6.57	1.61	1.97	3.38	8.75	3.57	5.00	2.62	4.23	59.52
*Decatur	573	3.85	4.13	15.81	4.55	3.30	1.37	3.67	1.82	0.00	2.75	1.54	8.83	51.62
*Demopolis			6.75	7.10	3.15	0.80	1.43	5.73	5.50	0.25	0.15	2.80	5.81	
Elba	204	2.10	8.34	11.63	3.55	1.20	2.48			1.22	0.89	3.31	2.66	
*Eufaula[1]	200	1.60	9.79	11.29	4.28	1.85	2.42	3.73	5.71	1.52	1.07	2.04	2.20	47.50
*Eufaula[2]	200	1.61	8.92	9.73	4.78									
*Evergreen		1.77	9.82	8.79	3.28	1.10	3.30	5.38	8.44	0.40	0.15	2.95	1.80	47.18
*Florence[3]	563	4.82	2.53	17.89	4.44	2.56	0.66	3.91	4.14	0.00	0.81	3.60	8.27	53.63
Florence[3]	563	4.05	2.84	16.15	5.00	2.19	0.60	3.18	3.82	0.00	2.07	1.82	8.36	50.08
*Fort Deposit	520	1.37	7.04	8.80	4.13	T.	1.14	1.47	6.66	0.35	T.			
*Gadsden	621	5.14	7.24	8.15	3.84	1.51	2.59	3.64	4.06	0.04	0.30	0.94	6.56	44.01
*Goodwater	826	3.20	4.33	8.38	3.90	0.10	3.18	4.16	3.62	0.94	0.00			
Greensboro	220	5.74	5.70	6.54	4.24	1.09	2.23	6.61	3.70	0.74	1.96	1.73	6.05	46.33
Hamilton		5.51	3.73	15.48	4.01	2.09	2.82	2.94	3.49	T.	2.77	1.30	11.20	55.34
Healing Springs		4.46	12.05	5.95	3.33	2.14	2.50	9.04	10.29	0.57	0.41	2.56	6.89	60.19
Highland Home			6.32	8.12	4.07	0.20	1.57	2.81	8.01	1.24	1.74	0.50	2.56	
Jasper	310			14.35	4.43					0.44	2.43	0.88	12.13	
*Livingston	160	4.71	5.89	4.29	3.71	0.47	0.94	3.37	5.57	0.10	0.57	2.58	4.43	36.63
*Lock No. 4	510	4.69	5.61	8.23	3.64	1.72	0.43	4.51	3.45	0.73	0.74	1.96	6.74	42.45
Madison Station	573	4.04	5.10	13.68	4.85	4.42	2.19	7.05	2.20	0.00	2.12	1.65	7.96	55.26
Maple Grove					4.34	0.75	1.35	3.77	4.57	1.35	1.60	0.75	7.24	
*Marion	263	4.13	7.16	8.83	4.60	1.00	1.80	3.25	5.04	0.80	2.55	0.84	5.67	45.67
*Mobile	57	2.97	7.70	7.43	5.73	3.54	4.09	7.75	11.56	2.12	2.12	3.20	4.97	63.18
*Montgomery	221	3.26	5.65	12.02	6.30	0.68	3.79	1.40	6.49	1.06	0.55	1.68	3.37	46.25
Mount Willing		2.33	8.46	12.17	5.92	0.57	1.38	0.83	5.67	2.00	0.00	2.66	4.01	46.00
Newbern		5.71	5.50	7.53	4.27	1.61	3.00	4.38	4.24	0.52	1.98	1.49	5.33	45.56
Newburg		3.69	2.82	20.83	4.90	1.53	4.42	3.55	6.72	T.	1.48	1.49	9.81	61.24
Newton		2.25	10.44	14.51	3.55	1.68	0.95	10.49	8.37	1.34	2.16	1.26	2.34	59.34
Oneonto				10.23	3.55				3.41	0.12	0.88	0.82	7.68	
*Opelika	817	1.25	5.92	9.09	5.37	1.03	0.70	6.33	5.38	0.96	2.14	3.29	3.33	44.79
Oxanna	650	3.67	5.29	8.65	2.77	1.73	1.38	7.16	2.91	0.00	0.53	1.87	6.10	42.06
*Pineapple		1.23		6.03	3.01	0.60	1.09	3.48	5.16	0.40	0.30	1.78	6.03	
Pushmataha		5.49	6.07	9.75	3.06	1.54	2.26	4.06	8.22	1.22	2.44	0.92	5.17	50.20
*Riverton							2.07	2.18	5.47	0.00	1.84	6.58	8.60	
Rock Mills		3.39	7.00	7.71	6.50	0.40	3.56	6.57	8.68	0.00	1.29	2.04	4.07	51.21
Scottsboro	652	4.71	3.87	13.47	4.09	5.63	1.13	3.81	1.94	0.07	4.53	4.08	7.18	54.51
*Selma	147	3.27	6.61	13.43	4.03	0.73	2.31	5.52	3.96	0.08	0.52	1.56	4.13	46.15
*Sturdevant	497		4.68	6.59	1.96	0.42			5.10				6.63	
Talladega	586	3.24	5.87	8.97	3.01	1.47	1.65	3.79	3.91	0.24	0.34	1.17	5.48	39.14
*Tallassee		3.28	7.28	11.25	5.03	1.39		4.53	6.21		0.41	1.97	4.11	
*Thomasville		3.35	11.70	12.33	1.98	0.77	1.67	8.47	6.04	0.06	0.10	2.43	4.48	53.38
*Tuscaloosa	230	4.43	4.83	5.63	4.07	2.71	0.89	6.81	1.57	0.31	0.41	1.72	8.08	41.46
*Tuscumbia	488				4.42	1.61	0.81	3.36	3.34	0.00	0.73	2.72	8.45	
Union		5.18	3.97	5.84	4.82	1.44	2.14	7.00	2.44	0.82	1.29	1.15	5.22	41.31
*Union Springs	216	4.33	10.01	12.94	3.97	1.15	3.31	5.19	5.32	0.80	1.02	3.00	2.78	53.82
Uniontown	273	5.49	5.32	9.11	3.21	1.07	1.59	2.60	6.06	1.70	1.86	0.85	3.99	42.85
Valleyhead	1,031	5.29	3.56	13.73	3.54	3.94	2.65	3.61	4.78	0.15	4.43	0.63	8.19	54.50
*Warrior	450	3.65	4.76	8.92	2.43	0.69		6.21	7.58	0.00	0.94	1.07	8.71	
*Wetumpka	205	2.92	5.81	14.02	5.46	0.93	0.86	2.04	6.73	1.78	0.20	2.47	4.36	47.58
*Wilsonville	452	3.31	3.99	6.78	4.25	0.90	1.95	3.14	5.95	0.00	0.54	2.23	5.62	38.66
Alaska.														
Coal Harbor		4.90	5.00	2.88	3.85	0.71	2.35	1.70	1.46	3.76	6.81	12.89	6.82	53.13
Holy Cross Mission							0.46	1.14						
Juneau			5.08											
Killisnoo		5.45	3.40	2.70	4.35	8.40	1.50	5.30	4.65	13.15	11.95	4.25	4.60	69.70
St. Josephs Mission										2.29	1.18	0.69		
Arizona.														
Antelope Valley					0.00	1.00		1.47	5.13	1.67	0.00	0.00	0.40	
Arizona Canal Co.'s Dam				0.21	T.	0.08	0.00	0.19	2.14	2.02	0.00	0.00	0.39	
Benson	3,523	2.10	0.00	0.65	0.00	0.00	0.00	9.65	4.10	2.10	0.00	0.00		
Bisbee		2.50	0.35	0.10	0.00	0.05	0.18	7.36	2.95	3.14	0.52	0.00	0.44	17.59
Buckeye		2.30	0.60	0.20	0.00	T.	0.00	0.03	0.70	1.01	0.00	0.00	0.10	4.94
Buttes		4.40	1.02	1.03	0.00					0.90	0.24			
Calabasas	3,445	2.39	0.00	0.23	0.00	0.01	0.08	2.61	3.28	2.17	0.06	0.00	0.00	10.83
Casagrande	1,396	8.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	
Cedar Springs		2.95	0.43	0.45	0.00	0.53	0.75	1.64	1.46	2.08	0.21	T.	0.63	11.13
Congress		6.66	0.64	0.85	0.29	0.14	0.04	1.29	1.21	1.58	0.59	T.	0.87	14.16
Dragoon		2.11	0.00	0.32	0.00	0.95	0.00	2.51	3.92	3.10	0.05	0.00	0.00	12.96
Dragoon Summit		2.24	0.54	0.10	0.00	0.33	0.00	1.23	2.15	2.27		0.00		
Dudleyville		1.96	0.60	1.07	0.05	0.28	0.36	1.03	2.49	0.98	0.84	0.00	0.37	10.03
Empire Ranch												0.00	0.30	
Farleys Camp		5.95	1.50	0.50	0.00	T.	0.00	0.70	2.35	4.57	0.37	0.00	0.60	16.54
Flagstaff	6,864		2.60	1.60	0.02	0.12	0.01	0.05	0.17	0.42	0.14	T.	1.50	
Fort Apache		2.23	1.40	1.79	0.24	0.34	0.37	1.20	2.07	3.41	1.30	0.00	0.57	14.92

[1] Cotton region observer. [2] River observer. [3] Richard Smith.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Arizona—Continued.	*Feet.*													
Fort Defiance							T.	1.42	1.36	3.06	1.53	0.46	1.15	
Fort Grant		4.09	T.	0.27	0.00	0.04	0.09	2.05	1.91	4.75	0.33	0.00	0.34	13.87
Fort Huachuca		3.68	0.32	0.83	0.00	0.26	0.00	3.05	3.68	3.59	0.62	0.00	0.65	16.68
Fort Mohave		2.92	0.19	0.26	0.10	0.00	0.00					0.00	0.00	
Gilabend	737	2.62	0.70	0.40	0.00	0.00	0.00	0.20	2.57	T.	0.20	0.00	0.00	6.69
Gisela				1.83	T.		[c]0.20	T.	3.57	2.91		0.00	1.03	
Glendale		3.58	0.55	0.39	0.00	0.00	0.00	0.22	0.33	1.79	T.			
Holbrook	5,069	1.63	0.67	0.48	0.16	0.13	0.08	0.77	0.45	1.58	0.91	T.	0.34	7.20
Ingleside		3.35	0.50	0.15										
Jerome										3.00	1.05	T.	1.17	
Lochiel		2.37	0.33	0.28	0.00	0.32	0.13	4.57	3.05	4.32	0.59	0.00	0.18	16.14
Maricopa	1,186	2.53	0.19	0.00	0.00	0.00	0.00	0.50	0.87	1.27	0.70	0.00	T.	6.06
Mesa		3.66	0.75	0.72	T.	0.16	T.	0.33	1.64	1.35	0.10	T.	0.30	9.01
Mount Huachuca		3.45	0.52	1.08	T.	0.16	T.	4.32	5.37	5.66	1.06	0.00	0.39	22.01
Music Mountain	6,761			[c]0.10	0.25	0.07	0.05	0.03	1.32	0.46	0.47	0.03	0.30	
Natural Bridge		5.19	1.17	1.57	0.12	0.27	0.40	0.44	5.12	7.10	0.70	0.00	0.25	22.33
Oracle		3.67	0.96	1.55	0.01	0.04	0.07	0.55	2.64	3.52	0.92	0.50		
Oro		1.58	0.17		0.36	0.13	0.24	2.07	1.65	3.66	0.83	0.00	0.33	
Oro Blanco		2.92	0.38	0.67	0.00	0.35	0.30	1.90	4.71	2.16	0.09	0.00	0.12	13.60
Pantano	3,536	1.07	1.35	T.	0.00	0.00	0.06	2.99	2.05	3.56	0.00	0.00	0.25	11.33
Parker		3.64	0.50	0.19	0.07	T.	0.00	T.		1.96	0.10	T.	0.50	
Payson		7.75	2.47	2.66	0.14	0.18	0.12	1.77	2.48	4.76	0.58	0.00	1.10	24.01
Peoria		4.01	0.50	0.40	0.00	T.	0.00	0.49	0.51	1.75	0.35	0.00	0.26	8.27
*Phœnix	1,106	3.67	0.47	0.53	T.	0.01	0.00	0.59	0.61	3.67	0.15	0.00	0.17	9.87
Phœnix[1]		3.29	0.48	0.49	0.00	0.00	0.00	0.44	1.11	1.58	0.22	0.00	0.08	7.69
Pinal Ranch		8.30	2.82	3.09	T.	0.26	T.	0.62	3.83	2.12	0.70	0.00	1.49	23.23
Reymert		5.42	0.78	1.64	0.01	T.	0.54	0.01						
St. Helena Ranch		3.89	1.29	0.42	0.00	0.29	0.32	3.39	3.45	4.31	0.51	T.	0.34	18.21
San Carlos	2,456	2.77	0.71	0.77	0.00	0.30	0.03	0.66	1.20	0.52	0.35	0.00	0.59	7.90
San Simon	3,609	0.25		0.00	0.00	0.00	0.00					0.00		
Showlow		3.50	1.06	1.31	0.12	0.07	0.30	0.57						
Signal		3.63	0.38	0.30	0.20	T.	T.	0.22	1.11	0.85	T.	T.	0.24	6.93
Snowflake								2.63	1.84	2.00	0.88	T.	0.53	
Strawberry										4.34	0.65	T.	1.22	
Sulphur Spring Valley		1.29	0.12	0.27	0.00			1.77	1.56	0.83	0.02	0.00	0.07	
Texas Hill		0.90		0.18	0.00	0.00	0.00	0.30	0.65	0.00	0.00	0.00	0.00	
Tombstone				0.25	T.	T.	T.	3.24	4.41	5.23	0.05	0.00	0.23	
Tuba					0.09	0.26	T.	0.19	0.25	1.34	1.73	0.55	0.25	
Tucson	2,390	1.79	0.08	0.13	T.	0.00	0.00	1.98	3.43	2.71	0.54	0.00	0.11	10.77
Walnut Grove		0.74	0.18	0.06	1.00	0.02	0.01	1.04	1.20	2.24		0.00	0.40	
Walnut Ranch		3.31	0.24	0.46	0.00	0.48	0.33	4.49	2.71					
Whipple Barracks	5,318	4.62	2.30	1.21	0.37	0.19	0.56	2.48	5.06	3.47	1.20	T.	0.42	21.88
White Hills										0.25	0.44	T.	0.20	
Willcox	4,164	1.47	0.00	0.29	0.00	0.00	0.05	1.55	0.86	1.15	0.04	0.04	0.21	5.66
Williams	6,729				0.75	0.85	0.00	1.50	1.25	3.86	2.65	T.	0.15	
*Yuma	141	2.83	0.06	0.48	T.	T.	0.00	T.	0.57	0.20	T.	0.00	0.04	4.18
Arkansas.														
Amity		5.35	1.53	12.09	2.76	1.65	4.65	2.08	1.34	0.79	1.77	1.88	6.52	42.41
*Arkansas City	145	6.45	4.17	7.07	4.83	7.47	0.60	3.50	3.32	0.00	1.60	3.55	6.15	48.61
Batesville					2.99	1.07								
Beebranch		6.70	3.20	7.92	3.81	1.25	2.55	6.60	2.04	0.50		2.58	4.98	
Blackton		11.12	5.80	16.90		1.75	1.50	3.67	2.00	T.	1.75			
Blanchard Springs		7.22	2.12	10.72	4.28	1.40	3.18	3.58	2.15	0.83	5.36	2.83	9.11	52.78
*Brinkley	226	8.91	5.27	13.05	5.91	2.35	1.70	2.96	2.20	0.30	0.89		3.15	
*Camden[2]	140	7.83	2.71	8.04	4.36	2.77	2.54	3.36	0.29	0.95	4.28	3.58	6.46	47.17
Camden[3]	140	7.76	2.43	8.48	4.38	2.78	2.67	3.30	0.25	0.97	4.88	2.85	6.51	47.26
Conway	309	6.25	2.47	8.53	3.35	1.44	2.13	5.18	5.55	0.02	2.10	2.37	6.00	45.39
Corning	293	5.25	4.38	8.21	4.14	2.79	4.57	1.48	1.45	T.	2.35			
Dallas	1,100	4.27	0.88	11.29	3.39	2.41	6.90	3.04	5.74	1.40	0.83	1.81	4.79	46.75
*Dardanelle		4.40	1.13	8.15	4.36	2.09	4.71	2.47	3.08	0.40	0.49	0.86	2.74	34.88
Elon		7.09	3.76	7.97	2.27	2.89	2.85	3.85	3.91	0.47	4.52	2.35	9.01	50.94
Fayetteville	1,451	5.20	1.04	5.40	4.60	0.67	3.61	5.10	1.85	1.62	1.30	1.41	5.41	37.21
*Forrest		9.14	4.92	13.78	5.49	1.13	3.37	1.56	4.46	T.	0.50	5.80	6.62	56.77
*Fort Smith	481	4.83	0.45	5.72	3.17	2.90	3.98	3.26	5.97	2.87	1.17	1.55	6.04	41.91
*Fulton	264	7.14	1.07	7.29	1.89	3.83	2.13	1.40	0.39	1.29	3.85	2.29	5.43	38.00
Hardy									3.10	0.00	1.68	2.27	4.85	
*Helena[2]	182	6.03	6.21	13.86	5.57	0.44	2.79	2.78	2.39	0.00	1.20	5.88	8.31	55.46
*Helena[4]	182	6.13	6.21		5.63	0.34	2.33	2.35	2.29	0.00	2.02	4.42	6.88	
Hot Springs[5]	700	7.25	2.80	12.52	5.03	2.22	4.43	4.70	3.36	1.32	2.65	5.29	5.87	57.50
Hot Springs[6]	700	7.25	2.01		4.00	1.63	4.18	4.74	3.12	1.06	1.87		5.64	
Hot Springs (near)		7.94	2.01	13.31	5.62	1.69	4.50	7.62	2.14	1.19	2.19	3.26		
Jonesboro	345	7.51	4.82	8.28	3.78	1.81	1.92	5.20	3.67	0.00	1.97	2.70		
Keesees Ferry	750	5.72	0.81	7.28	5.31	2.24	3.92	1.94	1.21	T.	0.52	2.60	5.41	36.96
Lacrosse		5.02	1.78	7.59	2.96	1.15	3.48	2.40	4.49	T.	1.15	2.62	4.75	37.39
*Little Rock	302	8.51	1.76	10.43	5.88	1.15	3.06	1.03	4.14	0.33	1.95	2.97	5.57	46.78
Lonoke		9.44	2.13	12.18	4.50	0.38	2.44	5.62	2.75	0.00	1.50	4.12	6.49	51.55
Luna Landing		5.90	2.68	9.02	2.22	4.57	1.34	3.95	2.10	0.00	4.07	1.99	7.15	44.99
Magnolia	330							5.97	0.46	0.83	2.91	2.29		
*Malvern	288	5.99	1.61	10.28	4.37	1.72	3.24	2.63	1.33	0.45	1.65	3.79	6.96	44.02
Marvell		6.68	4.93	12.76	4.80	0.85	2.38	4.44	2.40	0.00	1.44	4.46	7.30	52.44
Monticello	277										2.90	3.01	6.63	
Moore		14.72	3.13	17.04	3.77	1.05	6.32	3.19	3.09	0.32	1.06	1.65	6.43	71.77
Mossville		8.56	1.60	12.68	5.47	2.96	5.04	7.90	3.67	0.14	0.96	4.34	6.06	50.88
Mount Nebo	1,750	4.04	1.58	9.07	6.12	1.08	6.12	3.55	2.43	0.74	0.44	1.71	6.35	43.23
New Gascony		9.36	2.93	8.89	5.22	1.55	1.85	2.29	1.74	T.	2.29	3.85	7.70	47.67
*Newport[2]	231	7.29	4.33	8.81	4.68	3.11	3.27	2.40	1.91	0.00	1.03	3.86	6.96	47.65

[1] Agricultural experiment station.
[2] River observer.
[3] A. L. Morgan.
[4] Cotton region observer.
[5] Post hospital.
[6] H. H. Harrison.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Arkansas—Continued.														
	Feet.													
*Newport[1]	231	7.17	4.39	9.09	4.77	2.94	3.15	2.41	1.98	0.00	0.93	2.88	6.88	46.59
Newport[2]	231	6.47	3.71	8.50	4.76	3.14	3.18	1.86	2.60	0.00	1.84	3.06	6.72	45.84
Osceola	.....	6.88	5.46	9.70	4.45	1.84	2.84	1.91	2.17	0.00	.....	.....	4.52	.....
Ozark	377	3.69	0.72	9.28	3.56	1.15	6.42	1.54	2.42	2.27	1.39	2.38	4.84	39.66
Paragould	.....	.....	.....	.....	.....	.....	.....	2.10	3.60	0.00	.....	.....	.....	.....
Picayune	.....	3.57	2.02	8.28	2.50	3.81	3.65	2.02	3.53	2.83	2.59	1.71	6.52	43.03
*Pinebluff	215	13.83	2.90	11.33	4.16	1.56	1.42	3.35	3.10	0.22	2.45	2.96	6.93	54.21
Pocahontas	.....	6.79	3.28	7.62	3.18	3.05	4.13	2.20	1.26	0.00	0.81	3.68	5.44	41.44
Powell	.....	.....	.....	.....	.....	.....	4.87	2.37	2.50	0.00	0.50	2.63	4.61	.....
*Prescott	327	5.89	1.16	.....	3.18	2.72	3.22	1.49	0.67	1.15	3.91	.....	4.60	.....
Rison	243	7.62	1.16	.....	2.50	.....	2.24	1.00	1.42	0.57	3.20	3.39	6.08	.....
*Russellville	348	3.95	1.52	7.60	3.72	1.17	6.44	1.47	3.50	0.86	0.29	2.74	4.79	38.05
Silver Springs	.....	6.16	1.25	5.63	5.82	1.86	3.99	4.30	3.93	0.46	1.85	1.54	3.19	39.98
Spielerville	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.87	0.70	1.62	4.93	.....
Stamps	.....	.....	.....	.....	.....	1.72	4.11	.....	0.87	1.30	2.69	2.48	4.68	.....
Stuttgart	228	9.25	3.41	8.91	4.68	1.52	2.59	4.32	1.07	0.01	1.42	3.84	5.74	46.76
*Texarkana	304	5.93	0.73	4.93	4.71	4.31	3.26	1.05	1.44	0.90	3.42	1.90	4.45	37.03
*Warren	206	8.00	2.97	8.57	5.53	3.50	1.49	1.22	4.20	0.38	2.55	3.30	6.45	48.16
Washington	377	7.66	1.19	7.28	3.62	4.12	4.14	0.65	1.11	1.38	2.82	1.98	6.66	42.01
Wiggs	.....	7.07	1.46	14.65	3.80	2.07	4.83	3.85	2.34	1.24	2.37	2.48	5.98	52.14
Winslow	1,734	4.13	0.79	.....	.....	.....	5.25	4.46	2.79	1.58	1.63	3.31	8.10	.....
Witts Springs	1,550	4.77	2.75	7.93	2.76	0.81	3.04	3.80	3.00	0.57	.....	2.59	5.27	.....
California.														
Adin	.....	1.24	3.62	1.98	1.27	0.88	1.83	0.14	T.	.....	.....	.....	.....	.....
Agnew	30	1.65	4.15	3.38	0.20	0.00	0.00	0.00	.....	.....	.....	1.40	1.45	.....
Arlington Heights	1,000	2.75	3.17	1.28	0.01	0.02	0.00	0.01	0.00	0.06	1.57	0.06	0.22	9.15
Athlone	210	2.16	2.32	2.08	0.07	0.00	0.00	0.00	0.00	0.00	1.64	0.35	.....	.....
Azusa	1,800	5.43	10.38	8.25	0.15	0.28	T.	0.00	0.07	0.45	7.85	0.20	0.27	33.33
Ballast Point light-house	.....	3.40	2.92	1.99	0.00	0.05	0.00	0.00	0.00	0.00	1.10	0.10	0.20	9.76
Barstow	2,150	2.15	0.65	0.11	0.00	0.00	0.00	T.	.....	.....	.....	.....	.....	.....
Bear Valley	4,600	4.18	16.05	19.12	3.35	0.80	.....	.....	.....	0.72	5.24	5.56	5.96	.....
Berkeley	320	3.71	4.68	5.97	0.44	0.20	0.30	0.00	0.00	0.20	2.48	1.58	2.71	22.27
Bishop	4,450	0.32	1.67	1.75	0.00	0.12	T.	0.01	0.05	0.09	0.39	T.	0.49	4.89
Bishop Creek	4,450	0.03	1.13	0.90	T.	0.18	T.	.....	.....	.....	.....	.....	.....	.....
Boca	5,531	2.20	6.35	8.35	0.10	0.50	0.40	0.00	0.50	T.	2.10	2.80	2.72	26.02
Bodie	8,248	1.69	4.39	3.40	T.	0.51	0.17	0.53	0.47	0.36	1.56	0.54	2.53	16.15
Bowmans Dam	5,500	4.88	18.31	18.94	2.85	0.92	4.04	0.00	T.	0.61	4.04	5.35	5.31	65.25
Caliente	1,290	1.25	4.96	2.41	0.35	0.13	0.00	0.00	0.00	0.00	0.90	0.00	2.02	12.02
Calloway Canal	394	1.59	1.67	0.91	0.00	0.06	0.00	0.00	0.00	0.00	1.23	0.05	.....	.....
Campbell	.....	2.38	2.49	3.22	0.21	0.06	0.20	0.00	0.00	0.05	1.04	0.54	1.17	11.36
Cape Mendocino light-house	.....	2.62	10.94	7.12	1.50	0.45	2.27	0.30	0.00	0.80	2.20	4.20	6.10	38.50
Castle Pinckney	550	3.88	5.82	3.98	0.03	T.	0.00	0.00	T.	0.21	1.61	T.	0.00	15.53
Cedarville	4,675	0.31	2.16	1.90	0.56	0.80	1.43	0.51	T.	0.21	0.90	2.10	2.31	13.19
Centerville	87	2.08	4.47	4.98	0.45	0.16	0.29	0.00	0.00	T.	2.42	0.92	1.95	17.72
Chico	193	3.89	5.94	1.44	1.36	0.18	0.61	0.00	0.00	0.20	3.26	1.58	2.38	20.84
Chino	64	5.30	6.56	3.48	0.00	0.00	0.00	0.00	0.00	0.00	2.04	0.36	0.26	18.00
Claremont	1,143	4.18	6.35	4.37	T.	0.21	0.00	0.00	T.	0.27	2.54	0.47	0.71	19.10
Corning	277	2.93	5.69	1.90	1.63	T.	0.60	0.00	0.00	0.00	2.18	0.65	1.60	17.18
Coronado	10	3.13	2.72	1.53	0.02	0.12	0.00	.....	T.	.....	.....	.....	.....	.....
Craftonville	1,759	4.72	5.30	2.82	0.07	0.56	0.00	T.	0.00	0.79	2.46	.....	0.67	.....
Crescent City	50	3.53	15.31	12.87	2.95	0.85	0.73	0.15	0.29	2.54	4.68	10.45	10.66	65.01
Crescent City light-house	.....	3.02	15.35	12.34	3.48	1.24	0.83	0.00	0.30	2.50	4.34	9.25	10.58	63.23
Daunt	.....	5.70	7.45	6.07	0.40	1.85	0.20	0.25	.....	0.10	2.45	0.73	3.37	.....
Davisville	51	3.51	4.33	2.97	0.46	0.12	.....	0.00	.....	.....	.....	.....	.....	.....
Delano	319	1.35	2.29	0.87	0.18	0.00	0.00	0.00	0.00	0.00	0.88	0.14	0.30	6.01
Delta	1,138	4.66	7.53	5.33	1.30	0.00	2.75	0.00	0.00	0.00	3.40	3.55	6.05	34.57
Descanso	3,400	6.48	6.27	5.21	0.16	0.21	0.01	0.62	0.04	0.56	2.83	0.40	2.90	25.69
Drytown	790	5.11	9.59	5.45	0.53	0.30	0.60	0.00	0.00	0.30	2.50	1.60	1.79	27.77
Dunnigan	65	3.90	4.99	1.52	0.42	0.26	0.35	0.00	T.	0.08	2.00	0.49	1.69	15.70
Durham	180	3.65	5.17	2.16	0.68	0.17	0.73	0.00	0.00	0.30	3.54	1.93	2.15	20.48
East Brother light-house	.....	3.00	3.55	3.85	0.05	0.25	0.40	0.00	0.00	0.00	1.00	1.40	1.15	14.65
Edgwood	2,955	1.18	2.03	2.35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Edmanton	4,750	5.44	13.80	12.07	1.59	0.06	2.14	0.00	0.00	0.70	3.78	8.17	5.21	52.96
Elsinore	.....	.....	.....	.....	0.00	0.03	0.00	0.00	0.29	0.26	1.06	T.	0.19	.....
*Eureka	64	3.04	11.23	9.85	2.55	0.75	1.60	0.03	0.15	1.05	2.63	5.44	6.18	44.50
Escondido	.....	.....	.....	.....	.....	.....	.....	.....	T.	T.	1.52	0.05	0.75	.....
Fall Brook	700	4.20	6.61	4.37	0.06	0.21	0.00	0.01	T.	T.	2.82	0.17	0.38	18.83
Famosa	.....	1.57	2.38	1.05	0.08	0.00	.....	.....	.....	.....	.....	.....	.....	.....
Folsom City	182	4.57	7.95	5.26	0.74	0.51	0.03	0.00	0.09	0.10	2.44	1.02	1.90	24.61
Fordyce Dam	6,500	4.20	14.92	12.55	2.78	2.47	5.76	0.00	T.	1.42	4.95	5.48	7.17	61.70
Fort Bragg	.....	2.66	10.31	6.27	1.28	0.62	1.04	0.01	0.11	1.15	2.75	2.92	2.28	31.40
Fort Ross	100	4.74	11.49	10.95	0.78	0.86	2.27	0.00	0.00	1.05	4.25	3.45	6.16	46.00
Fort Tejon	3,245	3.52	5.14	3.63	0.95	.....	.....	.....	.....	.....	1.39	.....	1.72	.....
*Fresno	332	1.93	2.65	1.64	0.30	0.00	T.	0.00	T.	T.	1.19	0.22	0.48	8.41
Georgetown	2,750	4.83	18.26	13.65	2.40	.....	1.00	0.00	0.04	0.30	4.25	4.09	5.57	.....
Glendora	.....	5.41	6.35	4.60	0.00	0.45	0.00	.....	.....	.....	7.15	0.92	0.15	.....
Goshen	286	2.64	3.05	1.75	0.00	0.00	0.00	0.00	0.00	.....	.....	0.20	0.36	.....
Grand Island	65	4.14	2.77	1.03	T.	0.30	T.	0.00	T.	0.19	1.74	0.63	0.96	11.76
Grass Valley	2,090	5.30	14.75	8.72	2.56	0.13	0.81	T.	T.	0.51	3.44	4.86	3.52	44.60
Greenville	3,600	2.57	7.58	6.83	0.94	0.05	1.28	T.	0.22	1.48	2.86	6.39	3.73	33.93
Guinda	.....	4.95	4.39	2.11	0.00	0.00	.....	.....	.....	.....	1.50	0.90	1.35	.....
Healdsburg	100	5.07	6.83	5.22	0.11	0.30	1.58	0.00	0.00	0.10	2.41	2.23	3.01	26.86
Hollister	284	1.06	2.99	3.38	0.51	0.06	0.14	0.00	0.03	0.06	1.08	0.46	1.47	11.24
Hueneme	30	3.58	6.51	1.90	0.05	.....	.....	.....	.....	.....	.....	.....	.....	.....
Humboldt light-house	.....	3.43	9.65	8.06	2.23	0.55	1.44	0.00	0.00	1.40	2.97	4.88	5.04	39.65
Hydesville	400	2.96	8.48	8.03	2.39	0.32	0.90	0.00	0.00	0.98	2.36	4.13	4.11	34.66
Indio	420	1.10	0.19	.....	0.00	0.00	0.00	0.00	.....	2.10	0.00	0.00	0.00	.....

[1] Cotton region observer.

[2] G. B. Irby.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
California—Continued.	*Feet.*													
Iowa Hill	2,825	3.44	15.83	11.33	2.15	0.15	1.32	0.00	0.00	0.45	3.09	3.49	5.31	46.56
Jackson	1,975	4.77	10.36	7.66	1.46	0.03	0.00	0.00	0.12	0.19	3.05	2.25	3.18	33.07
Jolon	960	4.61	2.50	3.54	0.00	0.00	0.08	0.00	0.03	0.15	0.43	0.12	0.46	11.92
Keeler	3,622	0.10	0.27	0.13	0.00	T.	0.00	0.00	0.19	0.14	0.15	T.	T.	0.98
Keene	2,705	2.28	7.49	3.27	0.14	0.00	0.59	0.00	0.00	0.00	1.01	0.00	3.02	17.80
Kennedy Gold Mine	1,500	6.00	13.06	7.02	1.51	0.45	1.06	0.00	0.15	0.37	3.68	2.50	3.26	39.06
Kernville	2,600	3.40	3.60	2.57	0.10	0.00	0.00	0.00	0.00	0.00	0.45	0.00	1.14	11.26
King City	332	2.07	1.20	2.20	0.11	0.00	0.07	0.00	0.07	0.00	0.73	0.18	0.32	6.95
Kingsburg	301	1.64	2.95	1.35	0.30	0.00	0.00	0.00	0.00	0.00	1.50	0.45	0.60	8.79
Kono Tayee	1,325	2.85	4.01	3.76	0.90	0.90	0.48	0.00	0.00	0.00	1.24	1.64	2.12	17.90
Lagrange	293	2.20	6.07	3.84	T.	T.	0.52	0.00	T.	T.	1.97	.....	1.38	.....
Laporte	5,000	6.04	17.92	13.51	3.12	0.71	3.94	0.00	T.	1.26	4.84	9.34	6.63	67.31
Las Fuentes Ranch	120	2.68	5.12	3.12	0.00	0.00	.....	.....	0.00	0.24	1.45	.....	.....	.....
Lemoore	227	0.63	2.18	0.99	0.03	0.00	0.00	0.00	0.00	0.00	1.35	0.18	0.24	5.60
Lick Observatory	4,209	3.50	7.42	6.45	0.82	0.28	0.38	0.00	0.00	0.07	1.25	1.51	2.70	24.38
Lime Point light-house	.....	3.25	5.42	4.19	0.18	0.65	0.45	0.00	0.00	0.26	2.12	1.18	1.44	19.14
Lodi	35	3.41	4.29	3.88	0.40	0.10	0.04	0.00	T.	0.16	1.29	0.66	1.57	15.80
Los Alamos	.....	3.52	3.57	2.89	0.00	0.00	0.00	.....	.....	.....	0.95	0.00	0.25	.....
*Los Angeles	330	3.70	5.62	2.31	0.02	0.10	T.	T.	0.00	0.00	2.47	0.01	0.05	14.28
Los Gatos	600	3.07	6.50	6.60	0.40	0.00	0.15	0.00	0.00	0.06	1.84	0.88	1.81	21.31
Lytton Springs	.....	4.65	6.68	5.50	0.26	0.15	1.63	T.	0.00	0.10	2.50	2.15	3.11	26.73
Malakoff Mine	3,000	5.06	16.57	11.15	3.70	0.20	1.45	0.00	0.11	0.57	5.05	6.12	5.41	55.39
Mammoth Tank	257	T.	T.	T.	0.00	0.00	0.00	0.00	0.00	T.	T.	0.00	T.	T.
Manzana	2,850	2.70	3.04	1.71	0.04	0.01	T.	T.	0.28	0.00	0.21	T.	0.14	8.13
Mare Island light-house	.....	1.85	5.44	4.58	0.47	0.28	0.16	0.00	0.01	0.31	2.39	1.70	1.37	18.56
Marysville	66	2.22	5.80	1.75	1.53	0.36	T.	0.00	0.00	0.00	1.60	0.85	.....	.....
Merced	64	2.49	3.20	1.29	0.41	0.00	0.08	0.00	0.00	0.00	0.41	0.17	0.75	8.80
Middletown	1,300	4.21	8.38	7.54	0.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mills College	200	3.43	6.60	6.64	0.47	0.18	0.21	0.00	0.00	0.08	2.99	1.48	2.90	24.98
Milton (near)	660	3.22	6.63	5.37	0.47	0.83	0.58	0.00	0.01	0.18	2.30	1.07	1.50	22.16
Modesto	90	1.19	2.90	1.83	0.00	0.10	T.	0.00	0.00	0.00	1.10	0.11	0.54	7.77
Mohave	2,751	1.86	1.17	0.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.85
Mokelumne Hill	1,550	5.92	9.76	9.00	0.48	0.27	1.02	0.00	0.15	0.13	2.97	2.61	2.30	34.61
Monterey	5	1.10	3.63	3.70	0.40	0.08	0.32	0.00	0.00	0.12	0.70	0.40	1.25	11.70
Morena Dam	3,100	4.44	5.11	3.69	1.13	.....	0.00	.....	0.00	.....	.....	.....	.....	.....
Mount Breckenridge	.....	2.00	4.67	3.15	0.00	0.40	0.10	0.00	.....	.....	.....	.....	.....	.....
Mount Frazier	8,000	7.37	.....	4.00	0.15	0.28	0.00	0.02	.....	0.33	0.62	T.	.....	.....
Mount Glenwood	50	6.59	5.54	3.96	0.02	0.27	0.20	.....	.....	.....	.....	.....	.....	.....
Mutah Flat	4,850	9.10	3.50	3.59	0.00	0.00	0.00	.....	.....	0.00	.....	.....	.....	.....
Napa	95	2.29	5.68	5.88	0.33	0.25	0.46	0.00	0.00	0.26	2.43	1.40	1.74	20.72
Needles	491	2.34	0.02	0.00	0.00	0.00	0.00	0.00	0.36	0.40	T.	0.06	0.10	3.28
Nevada City	2,580	4.38	13.63	9.13	2.08	0.22	0.82	0.00	T.	0.60	3.36	4.38	3.71	42.31
Newcastle	956	4.68	8.68	5.14	0.48	0.15	0.09	0.00	.....	.....	.....	.....	.....	.....
Newhall	1,268	4.86	5.13	3.32	0.00	0.08	0.00	0.00	0.00	0.00	1.00	0.00	.....	.....
Nordhoff	.....	4.11	7.16	2.91	0.00	0.00	.....	0.00	.....	.....	.....	.....	.....	.....
North Ontario	.....	5.26	7.82	5.29	T.	0.07	0.00	0.00	T.	0.00	3.41	.....	0.43	.....
North San Juan	2,130	4.20	13.70	7.88	2.20	0.03	1.45	0.00	0.03	0.74	4.33	5.80	1.65	42.01
Oakland	36	3.32	5.99	6.00	0.52	0.29	0.42	T.	T.	0.16	3.27	1.18	2.49	23.64
Ogilby	354	1.00	0.00	0.00	0.00	0.00	0.00	0.00	.....	0.00	0.00	0.00	.....	.....
Oleta	1,510	5.49	14.44	8.13	1.50	0.35	0.74	T.	T.	0.12	3.00	2.20	3.01	38.98
Orangevale	300	4.50	7.37	4.31	0.75	0.45	T.	0.00	T.	0.00	2.32	0.30	1.92	21.98
Orland	254	3.58	4.01	1.92	1.79	0.00	0.60	0.00	0.00	0.10	.....	0.73	1.41	.....
Oroville	205	4.20	8.60	2.23	0.35	0.30	0.30	.....	.....	0.80	2.95	2.65	1.95	.....
Otay Dam	.....	3.21	2.71	0.98	0.00	0.00	.....	.....	.....	.....	.....	.....	.....	.....
Palermo	185	3.35	6.79	1.92	0.76	0.20	0.89	0.00	0.06	0.33	3.50	2.07	0.45	20.32
Paso Robles	880	3.65	4.18	2.88	T.	0.00	0.00	0.00	0.02	0.03	0.56	0.05	0.23	11.60
Peachland	200	5.60	8.63	6.62	0.12	0.51	1.31	T.	T.	0.13	3.17	2.34	4.01	32.44
Picacho	220	1.90	T.	1.20	T.	.....	.....	.....	.....	.....	.....	.....	.....	.....
Piedras Blancas light-house	.....	4.62	3.45	3.73	0.50	0.35	0.64	0.00	0.00	0.20	0.90	0.30	1.01	15.70
Pigeon Point light-house	.....	1.72	2.63	3.07	0.10	0.10	0.38	0.00	0.00	0.30	0.95	0.65	0.90	10.80
Pilot Creek	4,000	5.63	19.12	15.20	2.60	0.17	2.41	T.	T.	0.38	4.91	3.98	7.59	61.99
Pine Crest	.....	.....	.....	.....	.....	.....	.....	.....	0.00	0.45	2.00	0.01	0.00	.....
Placerville	1,875	4.68	14.61	9.49	2.23	0.36	1.09	0.00	0.05	0.13	3.39	2.68	2.43	41.14
Point Ano Nuevo light-house	.....	1.65	4.64	3.46	0.30	0.05	0.19	0.00	0.00	0.45	1.30	1.26	0.90	14.20
Point Arena light-house	.....	2.55	7.91	6.23	1.11	0.10	0.96	0.00	0.00	0.57	1.80	3.14	2.68	27.05
Point Bonita light-house	.....	3.45	6.85	6.57	0.30	0.94	0.84	0.00	0.00	0.28	3.17	1.69	2.82	26.91
Point Conception light-house	.....	5.15	3.36	1.32	0.00	0.00	0.00	0.00	0.00	0.25	0.63	0.00	0.23	10.94
Point Fermin light-house	.....	3.08	5.20	1.77	0.00	0.00	0.00	0.00	0.00	0.00	1.55	0.00	0.25	11.80
Point George light-house	.....	1.53	5.52	4.22	0.61	0.08	0.24	0.00	0.05	0.50	1.93	4.79	4.94	24.41
Point Hueneme light-house	.....	4.35	7.23	2.37	0.00	0.04	0.00	0.00	0.00	0.00	0.76	0.00	0.02	14.77
Point Lobos	250	2.91	4.47	4.91	0.12	0.71	0.25	0.00	0.02	0.09	2.13	1.20	1.54	18.35
Point Loma light-house	.....	2.05	1.13	1.01	0.00	0.00	0.00	0.00	0.00	0.00	0.59	0.00	0.25	5.03
Point Montara light-house	.....	3.35	5.50	4.94	0.00	0.05	1.63	0.00	0.00	0.27	3.65	2.08	2.44	23.91
Point Pinos light-house	.....	2.04	2.96	4.71	0.80	0.11	0.31	0.00	0.00	0.21	0.92	0.38	1.30	13.74
*Point Reyes light-house	12	2.74	4.95	5.71	0.47	0.20	0.42	0.00	0.00	0.47	2.81	1.99	1.83	21.59
Point Sur light-house	.....	2.45	3.49	3.64	0.10	0.17	0.22	0.00	0.00	0.70	1.49	0.57	0.79	13.62
Pomona (near)	875	5.54	6.16	3.34	T.	T.	0.00	0.00	0.00	0.22	1.26	0.51	0.96	17.99
Poway	460	4.30	4.91	2.89	0.00	0.12	0.00	0.00	0.00	0.02	1.70	0.08	0.72	14.74
Quincy	3,550	2.77	8.31	8.53	0.99	0.00	1.60	0.00	T.	0.63	3.01	6.13	3.97	35.94
Ravenna	2,262	3.59	4.75	2.90	0.00	0.11	0.00	0.40	1.00	0.00	0.97	0.00	0.11	13.83
*Redbluff	334	3.22	6.26	1.99	1.22	0.06	1.25	0.00	T.	0.03	2.70	1.49	1.86	20.08
Redding	565	4.42	6.80	5.29	3.02	0.00	1.59	T.	0.00	0.15	1.36	1.69	3.60	27.92
Represa	300	4.38	8.99	4.95	0.71	0.35	T.	0.00	0.18	0.10	2.61	1.11	2.04	25.42
Riovista	11	2.49	3.99	4.31	0.21	T.	0.05	0.00	0.01	0.11	1.79	0.30	1.24	14.50
Roe Island light-house	.....	1.65	3.30	1.95	0.00	0.00	0.00	0.00	0.00	0.10	1.15	0.30	0.75	9.20
Roseville (near)	200	3.68	5.20	3.39	.....	.....	T.	.....	.....	.....	.....	1.16	.....	.....
Rosewood	865	4.49	4.64	2.17	0.42	0.01	1.77	T.	T.	0.03	1.28	1.16	2.11	18.08
*Sacramento	71	3.66	4.15	2.54	0.25	0.30	0.04	0.00	0.01	0.16	1.96	0.61	1.64	15.32
Sacramento[1]	71	4.20	4.98	3.19	0.12	0.36	0.06	0.00	T.	0.14	2.03	0.73	1.59	17.45

[1] S. H. Gerrish.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
California—Continued.	*Feet.*													
Salinas	44	0.55	3.07	3.80	0.35	0.00	0.30	0.00	0.00	0.55	1.45	0.43	0.82	11.32
Salton	1,263	1.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	1.22
San Bernardino	1,054	3.40	5.40	3.41	0.08	0.11	0.00	T.	0.00	0.03	2.10	0.21	0.57	15.41
*San Diego	69	3.13	2.72	1.58	0.02	0.12	T.	0.01	T.	T.	1.06	0.02	0.32	8.93
*San Francisco	153	2.26	4.41	4.56	0.27	0.61	0.22	T.	T.	0.10	1.70	1.05	1.22	16.40
San Jacinto	1,500	3.55	3.74	2.24	.....	0.14	.....	.....	.....	0.16	3.38	0.34	0.47	.....
San Jose	94	1.68	3.43	2.64	0.91	0.16	T.	0.00	0.00	.....	1.01	0.37	1.20	.....
San Leandro	48	3.13	5.79	6.03	0.50	0.12	0.22	0.00	0.00	0.10	2.67	1.21	2.43	22.20
San Luis light-house	.....	4.03	4.67	2.77	0.19	0.07	0.00	0.00	0.00	0.15	0.68	0.04	0.75	13.35
*San Luis Obispo	234	5.22	4.40	3.17	0.18	0.04	T.	0.00	0.00	0.07	0.79	0.07	0.65	14.59
San Mateo	22	2.02	5.76	6.42	0.06	0.00	0.05	0.00	0.00	0.00	2.61	1.00	1.84	19.76
San Miguel	616	1.14	3.62	1.78	0.13	0.00	0.00	0.00	0.00	0.04	0.27	0.03	0.27	7.28
San Miguel Island	500	4.28	3.57	1.63	0.04	0.03	0.00	0.00	0.00	0.18	0.76	0.00	0.14	10.63
Santa Ana	137	2.19	4.71	2.15	0.00	0.13	0.00	.....	.....	0.00	1.30	0.00	0.00	.....
Santa Barbara	100	4.35	3.65	2.73	0.02	0.00	0.00	0.00	0.00	0.00	1.44	0.00	0.00	12.19
Santa Barbara light-house	.....	6.76	2.54	2.52	0.03	0.00	0.00	0.00	0.00	0.13	1.18	0.00	0.04	13.20
Santa Clara	83	1.20	3.94	3.51	0.15	0.05	0.00	0.00	0.00	0.08	1.04	0.56	1.29	11.82
Santa Cruz	25	3.72	4.96	4.86	0.22	0.24	0.10	0.00	T.	0.17	1.49	0.54	2.13	18.43
Santa Cruz light-house	.....	3.01	5.53	4.80	0.30	0.13	0.24	0.00	0.00	0.00	1.76	0.41	1.93	18.11
Santa Maria	220	3.55	4.00	2.52	0.14	0.01	0.00	0.03	0.00	0.10	0.68	0.03	0.55	11.61
Santa Monica	92	4.30	5.74	1.64	0.00	0.00	0.00	0.00	0.00	0.00	1.13	.....	0.00	.....
Santa Paula	286	5.31	4.98	3.24	0.00	0.00	0.00	0.00	0.00	0.45	1.07	0.00	0.00	15.05
Santa Rosa	181	2.27	6.25	5.50	1.03	0.57	0.83	0.00	0.00	0.10	1.88	2.18	.....	.....
Saticoy	145	4.80	4.77	2.69	T.	0.10	0.00	T.	0.08	0.62	0.92	0.00	0.00	13.98
Shasta	.....	6.95	9.39	7.18	0.78	0.01	2.23	0.00	0.00	0.07	2.66	2.20	4.81	36.28
Sierra Madre	1,206	4.48	8.60	4.08	0.10	0.45	0.06	0.06	T.	0.42	3.46	0.32	0.69	22.72
Sneddens Ranch	4,900	8.30	2.92	2.71	0.02	0.00	0.00	0.25	0.20	0.14	0.70	0.00	0.05	15.29
S. E. Farallone light-house	.....	3.04	3.34	3.64	0.00	0.03	0.32	0.00	0.00	0.00	1.70	1.05	1.74	14.86
Stanford University	.....	1.84	3.58	4.34	0.16	0.00	0.05	0.00	0.00	0.00	1.70	0.48	1.52	13.67
Stockton (*a*)	23	1.81	2.85	2.78	0.37	0.09	T.	0.00	0.01	0.03	1.37	0.39	1.23	10.93
Summerdale	.....	4.42	17.66	11.35	1.13	0.28	0.63	0.00	0.00	0.03	5.02	2.80	4.57	47.89
Susanville	4,195	5.99	4.25	2.66	0.30	0.90	0.42	0.00	0.08	0.55	2.45	3.13	2.22	22.95
Sutter Creek	1,355	2.36	8.58	5.15	T.	0.75	0.66	0.00	0.00	T.	.....	1.92	1.58	.....
Tecarte Dam	1,600	4.95	4.70	2.86	0.31	0.00	0.00	.....	.....	.....	.....	.....	.....	.....
Tehama	220	2.53	5.97	1.91	1.11	0.08	0.86	0.00	0.00	0.13	2.48	0.56	1.77	17.40
Templeton	773	2.68	4.71	4.01	0.09	0.00	0.00	0.00	0.00	0.00	1.15	0.00	0.30	12.94
Trinidad light-house	.....	4.89	10.59	7.53	2.26	0.66	1.50	0.10	0.05	1.06	2.41	6.54	6.76	44.35
Truckee	5,819	.....	7.97	.....	0.30	T.	0.18	0.00	.....	T.	0.55	3.20	3.15	.....
Tulare[1]	274	2.66	2.21	1.51	0.40	0.00	0.00	0.00	0.00	0.66	0.70	0.35	0.93	9.42
Tulare[2]	274	2.40	1.61	1.29	0.35	0.00	0.00	0.00	0.00	0.58	0.59	0.26	0.79	7.87
Turlock	106	1.93	2.07	1.93	0.06	0.00	0.09	0.00	T.	T.	1.18	0.34	0.67	8.27
Ukiah	620	4.25	10.35	6.87	0.91	0.09	1.70	T.	0.00	0.10	1.87	3.02	2.77	31.93
Upperlake	1,300	3.45	6.35	4.58	0.42	0.22	0.97	0.05	0.00	0.08	1.67	2.38	2.61	22.78
Upper Mattole	240	6.83	17.86	13.29	1.83	0.53	1.48	0.00	0.00	0.93	4.75	5.93	7.58	61.06
Vacaville	175	6.36	4.96	5.23	0.24	0.27	0.09	0.00	0.02	0.07	2.32	1.03	2.08	22.67
Ventura	50	4.07	4.83	1.77	0.05	0.04	0.00	0.00	0.01	0.50	1.50	0.07	0.00	12.67
Volcano Springs	1,220	0.00	0.00	0.00	0.00	0.00	0.00	T.	0.03	0.00	0.00	0.00	T.	0.03
Walnutcreek	75	3.45	3.93	4.51	0.19	0.00	.....	0.00	0.00	0.00	1.86	1.06	1.36	.....
West Palmdale	3,399	3.78	3.71	1.31	0.04	0.32	0.00	0.98	1.57	T.	0.98	0.00	0.14	12.83
Westpoint	.....	5.41	14.15	7.30	1.11	0.64	1.11	0.00	.....	0.12	2.10	3.61	4.64	.....
Wheatland	84	3.13	5.00	1.78	0.92	0.26	0.24	0.00	0.01	0.12	2.23	1.64	1.89	17.22
Williams	89	2.90	2.74	1.48	0.25	0.20	0.31	0.00	0.00	T.	1.27	0.52	0.85	10.52
Wilmington	9	.....	.....	.....	0.00	T.	0.00	0.00	0.00	0.00	.....	0.00	.....	.....
Wire Bridge	500	2.20	9.96	7.13	1.60	0.17	0.28	0.00	0.10	0.29	2.43	2.47	3.26	29.89
Yerba Buena light-house	.....	2.40	4.40	3.50	0.00	0.40	0.08	0.00	0.00	0.20	1.45	1.06	0.90	14.39
Yreka	2,635	0.42	3.89	2.18	0.39	0.58	1.51	0.00	0.20	0.12	0.68	2.94	3.76	16.67
Yuba City	70	4.94	4.13	2.10	1.00	0.42	0.07	0.00	0.03	0.23	2.23	1.30	1.78	18.23
Engineers Quarters[3]	5,150	5.16	11.74	10.17	0.03	0.15	0.20	0.00	0.00	0.46	4.10	0.76	1.20	33.97
Morses House[3]	5,350	9.34	20.14	15.61	0.15	0.18	0.40	0.00	0.00	0.73	5.08	.....	1.85	.....
Deep Creek[3]	5,200	5.43	13.03	7.59	0.00	0.19	0.10	0.00	0.00	0.28	3.92	.....	1.40	.....
Holcomb Creek[3]	5,220	3.35	7.89	3.42	0.00	0.11	0.20	0.00	0.00	0.38	3.32	.....	0.81	.....
Squirrel Inn[3]	5,300	7.65	13.31	12.17	0.13	.....	0.20	0.00	0.00	0.00	0.00	.....	.....	.....
Colorado.														
Alma	10,228	0.81	1.20	2.32	1.14	1.79	1.39	1.22	3.35	0.81	.....	.....	.....	.....
Antlers	5,350	1.12	1.23	3.50	0.97	1.50	0.78	1.34	2.07	1.37	1.49	1.16	1.39	17.92
Arkins	.....	0.18	0.50	2.32	1.82	3.61	2.30	2.42	1.09	0.84	1.07	0.82	0.64	17.61
Boulder	5,308	.....	.....	.....	.....	2.30	3.71	3.09	2.96	0.86	1.66	0.47	0.70	.....
Boxelder	.....	0.18	0.65	2.75	2.22	3.49	1.59	4.03	4.31	0.68	0.84	0.83	0.85	21.42
Breckenridge	9,524	2.90	1.99	3.53	4.00	1.54	1.53	1.70	2.27	1.16	1.02	0.60	2.25	24.49
Canyon	5,363	0.08	0.97	0.36	0.75	1.12	1.59	1.55	2.04	0.86	1.22	0.20	0.39	11.13
Castlerock	6,220	0.47	1.20	2.50	1.37	.....	3.12	3.59	8.10	0.24	2.82	.....	[5]1.23	.....
Cheyenne Wells	.....	.....	.....	.....	1.05	1.44	2.17	4.19	3.24	0.92	2.73	0.10	0.20	.....
Collbran	.....	1.60	2.14	1.29	1.04	1.10	.....	1.26	1.09	2.63	2.17	1.16	1.90	.....
Colorado Springs	6,098	0.10	1.02	0.48	0.54	1.27	0.80	3.34	2.55	0.74	0.54	0.19	0.06	11.63
Cope	.....	0.38	0.34	2.25	.....	.....	3.24	1.68	3.00	.....	2.34	0.18	0.45	.....
Cripple Creek	.....	0.61	.....	1.35	1.21	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crook	9,695	.....	.....	.....	.....	3.52	2.24	1.54	3.71	0.62	.....	0.15	*0.73	.....
Delta	4,980	0.49	2.19	1.50	0.05	0.65	0.76	0.90	0.46	2.47	1.75	0.40	0.25	11.87
*Denver	5,309	0.58	0.82	0.90	1.31	3.15	2.16	2.06	1.44	0.44	1.64	0.24	0.63	15.37
Dumont	8,000	0.45	0.55	2.00	1.43	3.75	1.71	2.55	2.59	1.42	3.32	0.20	0.85	20.82
Durango	8,500	2.61	3.70	2.72	0.45	3.22	0.40	1.38	0.93	3.55	3.89	0.09	1.99	24.93
Fleming	4,243	0.61	1.01	2.80	2.20	3.30	2.92	1.25	1.90	0.45	1.78	0.91	0.60	19.73
Fort Collins	4,994	0.18	0.54	2.15	1.39	2.06	1.69	2.65	1.74	0.75	0.75	0.67	0.67	15.24
Fort Morgan	4,330	.....	0.10	1.51	0.06	1.47	3.28	.....	5.36	[6]0.62	1.98	0.36	0.19	.....

[1] John Twohy.
[2] Experiment station.
[3] Records furnished by the Arrowhead Reservoir Company in the San Bernardino Mountains, San Bernardino County.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Colorado—Continued.	*Feet.*													
Fox		0.30	0.35	3.22	0.94	1.08	2.64	1.59	2.92	0.50	2.70	0.20	0.75	17.19
Garnett	7,700	0.26	0.23	0.26	0.10	1.14	0.24	0.90	0.86	0.86	1.08	0.00	0.32	6.25
Gleneyre	6,500	0.39	1.59	1.13	0.44	2.20	1.89	3.25	1.28	0.89	1.05	0.41	0.37	14.94
Goldhill	7,200			5.00	2.93		5.53		1.97	4.21	4.07			
Grand Junction	4,594	1.00	0.80	1.05	1.12	0.62	0.40	0.98	1.05	1.53	1.82	0.33	0.40	11.10
Greeley	4,637	0.06	0.61	2.02	0.81	3.20	2.47	2.98	1.75	0.29	1.11	0.40	0.38	16.09
Grover	5,072						0.89	2.90	3.62		1.02			
Gulch	8,200	0.71	2.21	2.92	2.20	2.00	0.70	3.84	1.51	1.20	1.90	1.22	1.00	21.41
Gunnison	7,648	0.60	1.00	1.39				2.01	0.90	1.50	1.24		0.30	
Hoehne	5,706	1.10	0.30	0.20	0.96	1.65	0.95	2.05	1.62	0.47	2.20	0.01	0.29	11.80
Holly		0.17	1.02	0.15	1.17	1.50	0.77	2.40	4.25	0.82	2.63	T.	0.23	15.11
Holyoke	3,745			3.14	2.36	2.44			3.35	0.25			0.30	
Holyoke (near)	3,745	0.30	0.80			1.94		1.22	2.99	0.50	2.71	0.19	0.42	
Hugo	5,052									0.40	1.00	0.00	0.60	
Hugo (near)	5,500	0.14			0.49	0.70	1.68	1.35	6.21	0.42	0.96	T.	0.22	
Husted	6,596	0.43	0.96	2.06	1.60	1.23	1.70	3.00	1.81	0.70	1.45	0.33	0.26	15.53
Lake Moraine	10,268	1.22	3.40	2.05	1.75	3.10	2.75	3.61	5.26	1.83	3.65	1.00	0.70	30.32
Lamar	3,592	0.06	0.34	0.38	0.45	1.00	2.87	1.61	4.86	0.51	2.86	0.04	0.14	15.12
Laporte	5,069	0.20	0.50	2.15	1.62	3.35	1.80	2.51	1.14	2.05	0.60	1.10	0.70	17.72
Las Animas	3,892	0.45	0.46	3.60	0.85	0.80	1.26	1.20	1.60	0.90	2.57	0.00	0.20	13.89
Lay	6,200	0.77	2.85	5.01	1.83	0.75	0.73		0.87	[c]1.62	[b]1.14			
Leadville (near)	10,185	0.32	1.54	2.77	1.50	1.34	1.43	1.45	0.91	0.50	1.74	0.62	1.39	15.51
Leroy	4,380	0.60	0.72	1.66	1.77	3.08	2.24	1.39	2.79	0.41	2.61	0.40	0.81	18.48
Longmont	4,935	0.23	0.80	2.40		2.59	2.26	2.31						
Longs Peak	8,600	0.78	1.25	1.96	1.45	1.60	1.50	1.85	1.29	0.95	1.41	1.07	0.55	15.66
Loveland		0.15	0.57	1.98	0.94	1.21				0.39	0.61	0.59	0.63	
Meeker	6,182	1.38	2.33	3.11	2.19	1.64	1.17	3.71	2.04	2.33	1.19	1.02	2.19	24.30
Millbrook	7,600	0.45	1.50	1.82	1.27	2.05	2.37	2.26	1.16	1.55	4.78		1.85	
Minneapolis	3,935	0.20	2.10	1.00	1.27	0.89	0.79	4.65	5.19	0.84	2.23	T.	0.10	19.26
Montrose	5,811	0.62	2.14	3.41	0.97	1.50	0.43	1.89	0.35	2.45	1.11			
Moraine	7,900	0.61	1.68	1.86	1.29	2.30	1.79	2.52	2.43	0.78	1.16	1.25	1.20	18.87
Pagoda	6,500	1.70	4.35	4.92	3.50	1.85	1.55	2.51	1.87	1.00	1.75	1.10	3.03	29.13
Paonia		0.85	1.20	0.45	0.20	0.62	0.09	1.05	0.26	2.07	1.57	T.	0.55	9.81
Parachute	5,105	1.52	1.82	0.67	3.98	0.66	1.05	0.80	1.52	2.55	0.57	0.20		
Pinkhamton	8,000	1.50	1.35	2.20	1.95	2.06	2.62	2.41	1.38	0.55		1.10	2.00	
*Pueblo	4,734	0.55	1.47	0.32	0.24	1.93	2.13	1.45	2.14	0.77	1.22	0.10	0.39	12.71
Rangely		0.41	0.75	2.37	0.05	0.09	0.28	0.82	1.04	1.51	2.00	0.26	0.88	10.46
Redcliff	8,656	1.24	3.37	2.23	0.77	0.76	1.40	1.65	0.75		0.34	1.44	1.78	
Rico	8,737	3.26	5.60	6.40	1.66	4.15	0.98	2.41		5.80	2.82	1.60	2.02	
Rockyford	4,171	0.75	0.37	0.20	0.44				0.73	0.79	2.64	0.19	1.06	
Ruby		8.60	23.28	21.00	10.50	3.65	4.55	2.63	1.04	4.17	4.54	3.50	5.75	93.21
Saguache	7,740	0.30	0.35	0.60	T.	1.53	1.70	0.45	0.80	1.20	1.41	0.10	0.40	8.84
St. Cloud		0.10	0.85	4.10	2.12	2.47	1.51	1.31						
Salida	7,034										3.55	0.00	0.77	
San Luis		0.47	0.92	1.32	0.51	2.20	0.68	1.71	0.77	1.95	2.00	0.00	1.40	13.93
Santa Clara	8,500	3.90	3.75	1.80	3.85	5.37	1.85	1.13	3.35	4.25	6.50	0.50	1.80	38.05
Seibert	4,705	0.10	0.20	2.00	2.57	0.91	2.34	2.53	6.64	0.37	2.43	0.20	0.65	20.94
Smokyhill Mine	7,800	0.40	2.10	6.30	2.81		3.80	3.65	3.91	1.95	3.85	0.80	0.70	
Springfield							2.34	1.99	4.08	1.45	3.13	T.	0.11	
Stamford	9,500	1.25	5.75	1.40	2.60	3.05	2.21	2.28	3.13	3.39	4.30	0.40	2.00	31.76
Steamboat Springs		2.13	3.80	2.55	2.80	1.50	0.85	0.90	0.29	0.20	0.10	1.50	2.70	19.32
Strickler's Tunnel											3.45	0.80	0.50	
Sulphur Springs		0.85	2.02	2.05	2.40	1.48	2.45							
Surface Creek	6,175	0.95	1.70	2.10	1.23	1.23	1.01	0.82	0.50	2.25	1.79	0.45	1.02	15.05
Thon	6,500	0.17	0.40	3.88	1.65	2.10	3.15	1.91	3.85	0.71				
T S Ranch	5,200	1.32	1.45	1.88	1.15	0.55	0.28	1.73	0.94	1.87	1.88	0.86	0.54	14.45
Twinlakes	9,012	0.79	3.40	1.38	1.09		0.97	1.00	1.52	1.14	1.62	0.73	0.45	
Vilas		0.20	2.00		2.19	1.14	0.83	0.12	4.95	0.28	2.42	0.00	0.05	
Walden		0.56	0.34	1.99	0.90		0.89	0.93	1.06	0.70	0.31	0.45	[d]0.50	
Wallet		0.20	0.40	2.15	1.70	0.25	3.47	2.65	4.16	1.45	2.27		0.50	
Wray	3,512	0.28	0.26	1.79	1.64	3.34	4.79	1.79	2.27	0.73	2.92	0.07	0.31	20.19
Yuma	4,149	0.37	0.40	2.80	0.80	1.62	4.44	1.78	2.44	T.	2.55	0.10	1.00	18.30
Connecticut.														
Bridgeport	15	3.93	3.00	4.43	2.53	6.62	3.41	18.77	4.11	1.97	2.11	6.40	[5.50]	[62.78]
Canton	900	3.44	3.66	3.41	2.55	4.96	4.92	16.96	6.56	2.09	1.14	6.31	5.71	61.71
Colchester	370	5.85	2.65	3.26	2.77	5.01	2.64	10.82	8.67	2.85	1.37	6.18	5.55	57.62
Falls Village		3.25	2.40	2.44	3.00	3.73	5.22	10.57	4.77	3.81	0.78	5.94	4.63	50.54
Greenfield Hill		4.40	2.89	4.18	2.40	6.99	4.08	15.89	3.54	1.93	2.23	6.62	5.92	61.07
Hartford	38	4.05	2.83	3.14	2.49	5.85	3.83	15.35	5.46	2.33	0.57	6.45	6.29	58.64
Lake Konomoc		3.55	2.85	3.30	3.74	4.97	2.36	6.77	5.45	2.66	1.01	7.10	5.01	48.77
Middletown	70	5.68	3.28	3.83	2.65	5.00	3.52	13.35	7.12	2.44	1.15	6.60	5.85	60.47
*New Haven	107	3.85	2.00	3.66	2.44	5.03	2.47	16.63	6.81	2.42	1.25	5.72	5.61	57.89
New London	47	4.28	1.45	2.48	3.69	4.76	2.48	6.22	5.06	3.74	1.20	7.85	4.55	47.76
North Grosvenor Dale	365	4.92	4.51	4.99	2.42	5.71	2.99	9.09	5.66	1.97	1.03	7.24	5.53	56.06
Norwalk	17	3.90	2.45	3.74	2.41	7.34	2.67	10.12	3.15	2.24	1.79	6.06	5.49	51.36
Southington	140	4.68	2.65	2.55	2.03	5.50	4.55	19.90	6.33	2.65	0.85	5.50	6.35	63.54
South Manchester		4.82	3.51	3.00	2.86	5.24	3.20	11.88	6.13	2.15	1.09	6.70	5.55	56.13
Storrs	640	3.84	3.40	3.66	2.37	4.44	2.79	12.24	5.23	1.39	0.92	7.14	5.61	53.03
Voluntown	260	5.05	2.46	3.40	3.66	4.46	3.66	8.53	5.58	1.82	0.80	8.17	6.31	53.90
Wallingford	73	4.76	1.95	3.84	2.82	6.64	3.62	16.69	5.13	1.11	1.29	6.86	[5.50]	[60.21]
Waterbury	300	4.58	3.48	2.67	1.97	5.34	3.77	18.10	3.51	2.18	1.08	6.00	5.99	58.67
West Cornwall		3.54	2.21	2.09	3.16	4.22	5.15	9.71	5.28	2.85	1.04	5.54	4.53	49.32
West Simsbury		4.42	3.27	3.17	2.34	4.74	4.82	16.21	5.09	1.82	1.13	6.39	6.13	59.53
Windsor	47	4.48	2.95	3.48	2.28	5.47	4.53	15.29	8.19	1.56	0.54	6.90	6.26	61.93
Delaware.														
Milford	16	0.81	5.56	2.04	2.69	3.04	3.27	8.63	2.74	2.56	5.73		3.85	
Millsboro	25	2.69	5.82	3.33	3.20	3.10	2.45	8.16	4.90	1.51	8.17	3.00	3.88	50.16
Newark	136	2.35	4.30	2.27	2.87	6.17	1.17	8.70	2.35	0.99	2.90	5.88	3.78	43.73
Seaford		2.16	4.79	3.25	3.98	3.72	4.84			1.16	6.81	2.46	3.87	

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
District of Columbia.														
	Feet.													
Distributing reservoir	120	1.11	5.84	2.81	2.60	6.82	2.09	5.77	2.17	0.92	3.19	3.51	3.37	44.20
Receiving reservoir	160	1.16	5.89	2.86	2.77	6.33	3.21	5.66	4.59	0.98	2.94	4.77	3.45	44.61
*Washington	112	1.98	6.47	2.66	3.02	6.97	2.60	5.78	3.35	1.54	3.55	3.31	3.35	44.58
West Washington	.....	1.77	5.88	2.83	3.08	7.02	2.66	5.88	3.46	1.40	3.45	3.61	3.68	44.72
Florida.														
Amelia	.....	2.32	7.82	2.08	4.16	0.89	3.00	4.65	6.75	20.88	7.64	1.69	.....	.....
Archer	92	2.05	8.78	0.79	5.24	0.53	4.17	7.95	7.30	8.78	4.29	1.18	5.07	56.13
Bartow	117	1.15	3.31	0.44	4.07	1.80	7.47	14.55	7.40	11.94	2.66	1.16	2.62	58.57
Boca Raton	.....	.....	.....	.....	6.95	11.00	2.25	7.58	4.47	15.97	10.01	1.35	1.74	.....
Brooksville	328	1.67	4.57	0.92	1.90	0.90	8.32	11.98	9.16	7.97	4.62	1.18	2.08	55.27
Carrabelle	.....	.....	.....	.....	.....	.....	3.60	7.10	5.90	10.60	1.10	T.	6.50	.....
Clermont	.....	1.52	5.44	0.45	2.01	0.85	4.05	7.82	7.44	8.48	5.40	1.18	2.52	47.16
De Funiak Springs	193	2.10	12.25	7.82	4.50	1.25	7.00	3.96	12.41	1.94	2.25	2.02	3.15	60.65
Earnestville	.....	1.60	6.92	1.04	3.68	3.10	6.47	11.33	8.08	10.02	3.35	1.07	2.89	59.55
Emerson	.....	0.79	9.10	1.29	4.37	0.93	4.06	5.49	8.49	.....	.....	.....	.....	.....
Estero	.....	.....	.....	.....	.....	.....	.....	.....	.....	9.53	.....	0.80	.....	.....
Eustis	180	2.53	7.30	1.34	1.52	1.84	6.33	6.21	7.36	12.72	5.43	1.22	1.72	55.52
Federal Point	.....	3.63	5.55	1.31	5.13	1.39	4.44	7.05	5.29	17.30	7.28	2.39	3.71	64.47
Fort Meade	125	1.31	2.59	0.59	3.57	5.50	6.02	11.81	8.40	16.36	2.48	0.97	1.68	61.28
Frostproof	.....	1.26	3.52	0.39	2.17	2.07	4.89	8.94	6.23	10.01	2.34	0.50	1.07	43.39
*Gainesville	178	.....	.....	0.96	4.89	2.18	4.41	7.18	5.99	7.29	4.31	1.08	4.35	.....
Grasmere	.....	1.48	4.56	3.29	1.58	3.30	3.72	7.28	3.72	10.96	4.20	1.31	2.55	47.95
Haywood	.....	.....	7.83	6.94	6.99	.....	3.50	8.30	9.33	2.26	0.71	2.34	2.88	.....
Huntington	59	1.66	4.17	0.52	4.82	2.38	7.06	8.56	6.85	12.29	4.42	1.78	2.69	57.20
*Jacksonville	43	1.89	7.10	1.60	5.18	1.35	5.01	3.67	6.27	16.23	6.00	1.56	4.84	60.70
*Jupiter	28	5.20	5.14	3.65	8.47	10.73	4.67	5.89	6.85	18.09	9.93	6.49	1.96	87.07
*Key West	22	3.90	1.06	0.38	4.45	4.38	2.10	3.98	6.55	9.11	7.08	1.40	2.07	46.46
Kissimmee	60	0.18	6.82	0.28	2.75	4.26	5.44	5.70	4.63	15.20	3.00	0.50	2.94	51.70
Lake Butler	.....	1.49	9.77	2.89	7.04	2.81	6.67	3.23	.....	6.36	4.02	1.15	1.98	.....
Lake City	210	1.27	12.79	3.09	5.00	0.66	7.42	2.69	6.58	6.43	3.84	0.93	4.10	54.80
Lemon City	15	4.70	1.90	0.75	10.55	7.20	5.30	.....	2.20	[1]20.35	7.35	1.15	1.00	.....
Macclenny	125	1.28	11.06	2.47	4.51	1.20	7.53	6.49	12.11	9.35	5.26	1.47	3.25	65.98
Manatee	16	3.05	2.97	1.15	4.13	1.15	.....	11.74	.....	9.49	.....	2.00	2.60	.....
Merritts Island	20	1.67	2.34	2.45	3.18	1.16	6.84	2.59	1.91	17.97	10.81	5.99	2.18	59.09
Milton	100	2.14	13.23	6.78	8.25	1.13	2.34	3.95	10.99	2.43	3.96	4.88	.....	.....
Mullet Key	15	2.12	3.89	0.98	2.39	0.27	2.62	7.67	4.60	8.69	4.01	1.03	2.03	40.30
Myers	.....	2.26	3.48	1.09	7.26	2.50	5.80	14.82	5.65	10.45	2.07	0.73	1.06	57.17
New Smyrna	.....	2.19	4.24	0.32	[1]1.30	3.84	3.81	9.94	2.17	17.03	4.20	5.17	2.19	56.40
Ocala	150	2.11	5.12	1.05	3.96	0.82	5.72	7.03	6.90	9.83	3.55	0.53	3.08	49.70
Orange City	50	1.58	4.57	0.76	1.47	2.40	7.19	2.89	5.30	14.03	5.26	3.66	2.21	51.32
Orangepark	24	1.73	.....	2.29	3.74	1.55	3.33	5.18	3.59	12.70	.....	0.66	3.54	.....
Orlando	98	1.16	3.99	0.38	2.83	1.25	6.53	9.26	4.32	15.77	3.55	1.91	2.62	53.57
Oxford	.....	2.00	3.60	0.00	2.34	0.50	2.62	9.80	6.70	14.00	4.10	1.72	1.20	48.58
*Pensacola	56	0.74	10.26	5.31	3.08	1.26	2.03	2.19	5.67	2.35	1.83	3.61	2.86	40.69
Perry	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.35	1.92	2.75	[c]4.24	.....
Plant City	121	0.87	5.40	1.61	4.14	2.63	5.18	10.85	7.86	8.48	3.97	1.26	2.24	54.49
Quincy	260	.....	12.40	6.70	7.66	2.98	4.01	.....	.....	8.51	.....	.....	.....	.....
St. Francis	.....	2.04	6.06	0.93	2.09	1.65	4.77	6.36	8.61	12.87	4.77	1.98	1.86	53.99
St. Francis Barracks	.....	1.57	6.16	1.24	6.65	1.43	5.45	3.05	5.16	12.97	7.50	1.40	2.50	55.10
Sebastian	.....	.....	.....	.....	.....	.....	.....	3.75	3.11	23.01	10.26	2.63	2.27	.....
Switzerland	.....	.....	.....	.....	.....	.....	.....	9.07	.....	.....	6.07	1.73	5.27	.....
Tallahassee	183	1.42	10.45	8.84	9.29	0.43	2.64	6.13	7.29	3.98	2.57	1.02	5.27	59.33
*Tampa	36	1.42	5.40	1.44	4.65	0.33	8.46	6.25	7.84	10.73	4.78	0.63	2.50	54.41
Tarpon Springs	20	1.33	2.13	1.23	2.22	0.32	3.16	10.55	7.87	9.15	2.54	1.50	2.48	44.48
Wausau	.....	.....	.....	.....	.....	.....	.....	.....	9.50	2.13	0.25	1.88	2.28	.....
Georgia.														
Adairsville	772	4.39	5.10	7.60	4.27	0.73	0.91	8.62	5.11	[c]0.18	1.92	1.68	6.21	46.72
*Alapaha	.....	.....	.....	.....	.....	1.15	3.99	3.17	5.72	3.56	1.96	1.81	3.33	.....
*Albany	232	1.00	5.31	11.51	3.69	1.49	3.71	7.53	4.22	2.93	2.39	0.55	2.59	46.92
Allentown	.....	1.92	8.31	9.58	4.16	2.82	1.97	5.38	3.04	0.73	2.51	0.95	1.86	43.23
*Americus	362	2.03	8.02	11.57	3.00	1.06	4.61	2.50	4.91	1.34	1.52	0.46	2.60	43.62
*Athens	694	.....	.....	.....	.....	0.61	2.85	3.19	4.17	0.64	3.12	1.10	2.83	.....
*Atlanta	1,131	3.48	4.59	5.74	5.06	0.34	2.07	4.74	6.01	0.14	1.80	2.29	3.00	39.26
*Augusta	180	3.24	8.57	4.72	3.75	2.22	3.56	6.10	10.39	3.66	2.62	1.02	1.98	51.83
*Bainbridge	119	.....	.....	.....	.....	1.87	1.31	7.74	9.04	3.98	1.27	.....	.....	.....
Belleville	1,342	.....	.....	[d]5.83	[d]4.80	4.20	6.77	7.53	3.17	6.21	3.85	1.00	2.57	.....
Blakely	.....	2.08	9.46	12.62	3.57	1.81	4.31	4.11	8.99	3.23	1.51	0.65	3.20	55.54
Brag	.....	2.06	8.63	9.37	2.20	.....	7.47	4.84	5.32	.....	.....	0.28	2.39	.....
*Camak	613	.....	.....	.....	.....	2.10	3.60	3.42	4.89	4.33	1.22	.....	.....	.....
*Canton	894	5.29	5.49	7.88	4.59	0.70	2.40	5.85	4.05	0.00	3.04	1.95	5.20	46.44
Cartersville	750	.....	.....	7.76	3.83	0.27	1.80	7.61	1.86	0.25	[c]1.07	0.68	.....	.....
Cedartown	850	4.31	5.77	8.35	3.34	0.75	3.14	7.84	2.02	0.14	1.12	0.76	.....	.....
Clayton	2,100	5.05	9.46	9.36	11.65	1.46	5.35	9.07	1.63	0.47	3.82	3.99	6.00	67.31
*Columbus	262	1.63	7.84	9.91	5.09	0.31	2.33	4.97	7.90	0.70	1.29	1.13	3.13	46.17
Covington	800	2.51	6.27	7.58	4.29	0.95	2.68	3.52	5.44	0.98	2.98	1.32	3.07	41.59
Crescent	.....	.....	.....	.....	.....	.....	3.10	6.80	4.53	5.04	5.50	0.80	3.24	.....
Dahlonega	2,230	5.77	6.01	9.98	7.10	0.90	2.05	8.27	1.75	0.65	3.69	3.51	6.08	55.76
Diamond	2,020	4.89	.....	9.27	5.44	1.67	5.48	5.92	3.93	0.09	4.01	2.68	7.97	.....
*Dublin	.....	1.13	9.06	8.95	3.92	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Eastman	361	.....	.....	.....	.....	3.53	2.93	7.90	4.28	2.69	2.08	.....	.....	.....
*Elberton	710	4.06	6.43	7.94	5.02	1.01	5.66	5.33	4.07	1.45	2.80	1.65	3.35	48.77
Fleming	26	1.36	9.90	4.03	3.78	0.57	5.76	5.37	9.77	11.24	8.60	T.	2.75	63.13
*Fort Gaines	166	1.76	8.90	12.70	.....	2.33	2.87	10.08	9.84	3.29	0.89	1.47	.....	.....
Franklin	.....	.....	.....	.....	.....	0.49	2.13	5.04	6.88	0.11	1.12	2.49	4.31	.....
*Gainesville	1,254	4.40	4.89	6.90	.....	1.15	3.03	14.43	2.48	0.05	2.67	3.46	2.78	.....
Gillsville	1,052	4.26	5.40	6.50	6.62	0.00	2.48	10.94	2.95	[b]0.00	5.11	1.83	3.91	50.00
Greenbush	.....	.....	.....	.....	.....	4.22	1.57	7.73	4.06	0.30	3.12	1.55	7.69	.....
*Griffin	975	.....	.....	.....	.....	0.97	3.65	6.11	4.40	0.00	1.18	.....	.....	.....

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Georgia—Continued.	*Feet.*													
Hawkinsville	235	5.84	8.71	9.95	3.60	0.05	.....	.....	.....	.....	3.16	0.30	2.58	.....
Hephzibah	402	2.20	9.65	6.35	3.50	0.90	3.30	6.15	4.85	4.13	1.30	1.00	1.60	44.93
Jesup	90	1.03	12.43	4.27	4.74	1.66	8.16	2.95	6.49	9.55	5.43	0.78	2.54	60.03
Lagrange	778	2.72	5.82	9.40	6.09	1.16	2.27	7.86	4.76	T.	1.70	1.50	1.75	45.03
Deveretti	.....	.....	8.18	5.44	3.46	1.55	2.52	7.53	8.30	.....	.....	.....	.....	.....
Louisville	.....	2.28	9.11	10.77	3.39	1.39	.....	4.55	4.10	3.37	0.38	0.59	0.62	.....
Lumpkin	.....	.....	10.18	.....	4.77	0.64	3.86	2.07	5.39	0.82	2.27	0.31	1.97	.....
*Macon	334	1.95	8.33	10.58	3.30	0.87	6.16	5.10	3.37	1.12	0.70	.....	.....	.....
Marietta	1,133	4.02	4.29	7.14	4.35	0.41	2.63	8.41	3.86	T.	2.33	1.84	3.91	43.19
Marshallville	.....	1.93	8.85	10.06	5.57	0.96	5.87	3.20	4.10	1.16	1.02	0.70	2.83	46.25
Milledgeville	264	1.60	7.84	10.63	2.53	1.87	1.27	1.85	4.72	1.58	.....	.....	.....	.....
*Millen	158	1.82	8.94	7.29	.....	4.61	3.84	5.37	2.72	3.53	1.63	2.11	[6]1.56	.....
Monticello	800	2.00	5.35	9.70	4.55	0.40	.....	3.75	5.10	.....	.....	.....	.....	.....
Morgan	337	1.76	8.93	13.31	4.09	1.25	1.50	2.61	6.40	[a]4.05	1.44	1.58	2.89	49.81
Mount Vernon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.10	2.60	.....
*Newnan	959	3.17	6.70	8.43	4.83	0.66	4.61	5.29	4.85	0.21	1.08	2.24	3.37	45.44
Piscola	190	1.50	10.40	5.45	6.50	0.95	3.75	4.75	4.75	4.50	0.90	1.15	4.05	48.65
Point Peter	1,000	.....	6.50	5.68	6.51	0.96	3.91	4.27	6.74	2.05	2.21	3.00	3.05	.....
Poulan	365	0.56	9.12	9.45	2.68	1.36	2.82	2.91	8.87	2.43	1.45	1.20	2.11	44.96
*Quitman	80	1.60	10.73	4.12	5.16	2.07	5.79	6.66	4.71	2.39	1.24	1.23	3.80	49.50
Ramsey	.....	2.17	5.34	9.91	6.13	2.33	2.94	8.05	4.84	0.11	2.32	1.81	6.50	52.40
*Resaca	657	3.98	5.90	10.00	5.25	.....	.....	.....	.....	.....	.....	1.32	7.16	.....
*Reynolds	.....	1.37	8.67	7.82	4.25	.....	.....	.....	.....	.....	.....	0.63	2.14	.....
*Rome	576	5.43	5.78	9.80	3.16	0.91	3.34	7.68	2.65	0.00	1.15	1.35	6.83	48.08
*Savannah	98	1.49	8.85	4.16	3.35	1.10	3.94	8.10	6.73	6.52	6.87	0.71	2.26	54.08
Sparta	566	1.73	7.31	7.64	3.75	0.92	1.96	2.31	.....	.....	.....	.....	.....	.....
Talbotton	750	.....	7.38	12.99	3.38	2.17	4.13	5.41	7.53	0.68	1.11	1.92	1.51	.....
Tallapoosa	1,150	3.53	6.35	8.10	3.28	0.50	1.24	6.15	3.92	0.10	1.59	1.23	5.07	41.06
*Thomasville	330	1.16	14.17	5.47	4.98	2.57	2.87	4.18	5.18	2.99	0.68	1.65	3.26	49.16
*Toccoa	1,200	4.71	6.77	7.46	7.19	0.85	1.24	6.03	2.59	0.50	3.44	3.71	4.44	48.93
*Union Point	658	.....	.....	.....	.....	2.03	4.05	5.60	7.29	2.10	2.27	.....	.....	.....
*Washington	.....	3.10	8.72	5.38	3.28	3.73	2.54	6.16	6.95	5.94	4.08	2.80	1.55	54.23
*Waycross	131	.....	.....	.....	.....	3.39	4.04	3.45	2.44	7.48	[b]2.63	.....	3.00	.....
*Waynesboro	.....	.....	.....	.....	.....	3.94	3.43	3.61	2.85	3.51	2.42	.....	.....	.....
*Westpoint	620	.....	.....	.....	.....	1.06	1.76	5.37	6.47	0.70	1.23	.....	.....	.....
*Whitesburg	1,050	.....	6.63	7.91	3.96	.....	.....	.....	.....	0.45	0.40	2.40	4.27	.....
Idaho.														
American Falls	4,343	0.53	1.85	1.82	.....	0.60	.....	0.43	0.68	.....	3.09	1.86	1.57	.....
Blackfoot	4,505	0.17	1.08	0.10	1.40	0.23	0.62	1.84	0.50	0.66	1.79	0.88	0.96	10.23
Boise Barracks	2,880	1.15	2.95	3.18	1.10	0.60	0.40	0.16	T.	1.04	1.76	2.34	2.30	15.98
Burnside	6,023	0.37	1.05	.....	0.02	0.78	1.41	T.	0.11	1.59	2.45	0.51	0.93	.....
Challis	.....	.....	.....	.....	.....	.....	0.98	0.52	0.10	.....	.....	.....	.....	.....
Chesterfield	.....	0.66	1.69	2.99	.....	.....	.....	.....	0.59	.....	.....	.....	.....	.....
Corral	5,700	0.70	3.30	3.10	0.88	0.53	0.12	0.06	.....	0.20	1.18	1.98	3.00	.....
Downey	4,860	.....	.....	3.56	1.20	0.60	0.11	0.20	0.64	2.07	2.47	0.99	0.60	.....
Fort Sherman	2,106	2.82	2.37	3.59	1.65	0.78	3.26	1.93	0.64	2.85	0.79	8.12	4.55	33.35
Gimlet	5,503	0.28	2.55	6.00	0.96	0.52	1.14	0.07	0.14	0.55	1.71	2.60	1.95	18.47
Gray	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.12	0.16	2.10	.....
Idaho City	4,000	1.98	4.94	6.74	1.41	1.43	0.39	1.26	T.	1.27	[k]0.71	.....	4.10	.....
*Idaho Falls	4,742	0.67	2.58	3.84	1.35	0.84	0.77	0.20	T.	0.55	1.48	1.90	1.59	15.77
Kootenai	1,750	1.40	0.70	4.50	0.58	1.26	3.19	1.47	0.59	1.07	6.90	4.84	5.34	31.84
Lake	6,000	0.30	2.00	1.50	0.00	0.26	1.35	.....	0.00	.....	1.15	1.40	1.50	.....
Lakeview	.....	.....	.....	.....	.....	.....	.....	.....	0.03	2.08	1.17	3.84	4.96	.....
Lewiston	647	0.48	2.38	0.97	1.38	2.94	1.82	0.83	0.52	.....	.....	4.20	1.37	.....
Lost River	.....	0.05	0.53	1.88	0.13	0.42	1.07	[c]0.51	0.27	0.66	1.86	0.46	0.73	8.57
Martin	6,000	0.00	2.40	3.70	0.40	.....	.....	T.	1.00	.....	.....	.....	.....	.....
Marysville	.....	.....	3.75	2.56	1.51	0.70	1.64	1.80	0.10	0.80	2.34	2.12	3.60	.....
Minidoka	4,287	0.60	1.10	1.30	0.30	.....	0.10	0.10	0.00	.....	2.60	.....	0.85	.....
Moscow	2,569	1.01	2.33	3.45	0.40	1.20	2.72	0.85	0.35	1.67	1.10	4.34	2.56	22.48
Murray	2,750	2.31	4.22	3.42	2.40	1.19	3.96	2.43	0.60	2.25	1.28	10.98	5.27	45.31
Nampa	2,400	.....	.....	1.46	0.96	0.49	0.49	0.23	0.12	0.61	1.11	1.04	2.25	.....
Oakley	4,191	0.50	0.20	0.10	0.92	0.90	0.50	0.85	0.40	1.20	2.70	1.12	1.06	10.39
Ola	.....	1.88	3.80	4.90	1.35	1.10	1.63	0.21	0.00	1.04	0.94	3.89	4.49	25.23
Paris	5,946	0.36	.....	2.15	0.79	0.47	0.65	0.62	0.66	0.75	1.43	.....	0.76	.....
Payette	2,195	1.60	1.96	2.46	0.74	1.03	1.01	0.70	0.10	0.17	0.65	0.98	2.62	14.02
Pollock	2,050	0.45	1.56	1.52	0.41	1.38	1.57	0.63	0.27	2.23	0.38	1.21	0.87	12.48
Rexburg	4,918	0.71	1.55	0.86	0.10	0.27	0.63	1.69	.....	T.	3.63	0.73	.....	.....
Roseberry	.....	0.58	2.08	1.99	0.50	1.28	2.30	.....	.....	.....	.....	.....	.....	.....
St. Maries	.....	.....	.....	.....	1.16	1.44	3.28	2.14	0.64	2.00	1.22	9.78	6.49	.....
Salubria	.....	1.74	3.41	3.76	0.92	1.40	1.23	0.22	0.10	0.38	0.82	2.78	3.77	20.53
Shoup	.....	0.20	2.21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Soldier	5,200	0.43	2.70	2.15	0.75	0.47	0.24	0.13	0.08	0.13	1.02	1.73	2.76	12.59
Swan Valley	5,434	0.98	2.56	1.79	1.68	1.02	1.40	0.50	0.05	1.45	2.80	2.48	1.66	18.39
Warren	5,352	0.72	2.48	2.06	1.47	2.94	3.20	0.77	0.40	1.43	0.14	1.71	1.32	18.64
Yellow Jacket	.....	0.55	1.88	3.98	.....	.....	1.86	.....	0.00	.....	.....	.....	.....	.....
Illinois.														
Albion	531	3.73	4.08	10.19	7.47	2.61	4.34	4.82	1.05	0.74	0.63	6.32	4.60	50.58
Alexander	670	6.05	0.83	4.42	4.35	3.39	4.52	2.41	2.20	0.24	0.33	3.50	2.42	34.66
Ashton	830	4.15	1.51	4.21	3.19	1.58	3.07	0.90	0.45	1.03	0.32	2.21	1.80	24.01
Atlanta	743	5.52	1.37	3.64	4.33	.....	.....	.....	.....	.....	.....	.....	.....	.....
Atwood[1]	665	6.92	2.79	6.37	8.08	3.56	8.17	7.65	1.69	0.64	0.24	5.83	4.22	56.16
Atwood[2]	665	.....	.....	4.90	5.12	3.77	.....	4.89	2.94	0.83	0.15	5.11	.....	.....
Aurora[3]	676	6.02	1.73	3.58	3.04	1.06	5.25	4.45	2.23	0.85	0.21	3.89	1.32	33.63
Aurora[4]	676	6.93	2.12	4.85	2.88	1.27	5.30	5.01	2.79	0.89	0.33	4.11	1.67	38.15
*Beardstown	.....	5.32	1.25	4.52	5.26	2.38	3.75	.....	.....	.....	.....	.....	.....	.....
Bloomington	853	5.41	1.77	4.09	3.92	1.90	3.49	3.91	1.50	2.08	0.48	5.00	2.00	35.55

[1] J. W. C. Gray. [2] W. E. Means. [3] C. A. Love. [4] Dr. M. M. Robbins.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Illinois—Continued.	*Feet.*													
Bushnell	662	5.20	0.69	4.43	3.90	1.11	2.82	4.68	0.53	1.16	0.21	2.77	1.69	29.19
*Cairo	359	3.89	3.95	7.50	6.49	1.12	6.87	2.76	0.89	0.53	0.91	5.50	3.69	44.10
Cambridge	824	4.90	1.52	4.03	3.70	1.48	1.44	2.41	1.16	2.27	0.33	1.89	1.61	26.74
Carlinville	673	3.91	1.62	6.72	5.85	2.66	3.91	3.33	1.65	T.	0.21	5.06	2.89	37.81
Carlyle	470	4.04	2.75	10.24	4.45	2.77	3.50	4.23	0.21	0.09	0.64	5.43	2.75	41.10
Carrollton	660	4.99	1.21	4.63	4.33	2.09	4.89	6.54	0.01	0.59	0.31	5.00	1.94	36.53
Charleston	720	4.47	2.28	5.26	6.41	2.93	6.60	1.96	0.39	1.67	0.42	5.42	3.05	40.86
*Chemung	824	5.06	1.77	5.25	4.66	1.67	6.36	4.73	2.00	1.18	0.84	2.37	1.40	37.29
*Chester	.....	4.13	2.81	8.34	6.28	3.16	9.60	3.05	1.36	0.75	0.17	4.50	4.77	48.92
*Chicago	824	4.53	2.22	3.56	2.23	0.84	3.60	1.47	1.70	0.84	0.18	3.06	1.62	25.85
Cisne	616	3.82	3.70	12.00	5.51	2.18	4.47	6.93	0.43	0.87	0.66	6.46	3.90	50.93
Clearcreek	503	5.47	1.65	3.79	2.36	0.95	7.35	2.92	0.71	0.95	0.18	4.33	1.03	31.69
Coatsburg	763	6.70	0.87	4.16	4.09	1.75	4.31	7.95	1.22	.....	0.53	3.10	2.26	.....
Cobden	656	4.47	4.47	12.64	8.31	2.00	4.67	2.99	2.05	1.06	0.77	5.13	5.15	53.71
Cordova	599	.....	1.52	2.34	3.63	1.15	2.30	2.47	0.68	0.91	0.40	1.79	1.47	.....
Danville [1]	613	3.70	1.00	4.24	[4.00]	2.14	4.58	2.12	0.74	0.15	0.49	5.96	2.43	[31.55]
*Decatur	685	3.83	1.23	5.08	3.87	3.21	4.22	3.03	1.40	0.41	0.28	4.57	2.54	33.67
*Dixon	725	3.00	1.25	4.25	3.43	0.96	5.27	1.97	0.56	2.00	0.48	1.90	1.17	26.24
Duquoin	459	3.05	2.58	10.70	5.69	2.45	.....	.....	.....	.....	.....	.....	.....	.....
Dwight	657	5.34	1.46	3.57	2.74	1.81	5.25	2.50	1.60	0.81	0.44	4.77	1.59	31.88
East Peoria [2]	470	3.47	1.25	3.71	3.19	1.45	1.93	4.71	2.58	1.15	0.09	2.57	1.43	27.53
Effingham	690	4.70	2.73	7.54	5.68	2.63	5.19	2.11	0.56	0.25	0.42	4.76	3.14	39.71
Fort Sheridan	693	4.41	1.07	4.16	2.20	1.32	4.41	1.34	1.52	1.10	0.25	3.53	1.51	26.82
Friendgrove	580	3.62	4.02	10.67	8.00	2.94	5.52	2.49	0.42	1.10	0.53	7.01	4.49	50.81
*Galva	843	4.91	1.23	4.64	2.61	1.06	0.92	3.60	1.01	2.46	0.23	2.00	1.08	25.75
Glenwood	631	2.93	1.57	2.77	1.93	1.32	3.82	1.12	0.54	0.50	0.45	4.17	1.62	22.74
Golconda	500	4.49	5.13	11.44	7.65	1.70	3.58	3.84	1.01	0.20	1.29	4.23	3.38	47.94
*Grafton	422	2.87	2.01	6.97	6.51	1.17	4.99	3.73	1.24	0.11	0.07	3.81	2.72	36.20
Grayville	393	.....	.....	.....	.....	.....	.....	.....	0.78	0.65	0.73	6.41	4.79	.....
Greenville	635	4.97	3.25	7.50	3.90	0.91	3.37	5.69	1.36	0.18	0.59	7.19	3.96	42.87
Griggsville	650	6.74	1.39	4.20	4.25	2.91	5.45	4.50	2.16	0.46	0.25	3.38	2.34	38.03
Halliday	.....	3.31	2.94	11.98	5.15	2.68	4.28	2.32	2.61	0.64	1.64	3.55	3.38	44.48
Havana	475	6.66	1.32	4.53	3.74	1.08	3.58	5.22	1.22	0.51	0.08	3.41	1.82	33.17
Herrin	456	2.83	2.86	11.43	6.34	2.58	5.45	2.66	.....	.....	1.15	.....	2.92	.....
*Hillsboro	676	4.02	2.02	6.04	4.07	1.59	3.93	5.16	1.16	T.	0.25	5.80	2.82	36.86
Iron	436	4.05	2.93	9.59	6.88	3.26	*6.12	.....	[1] 1.49	0.79	1.07	7.22	2.91	.....
Joliet	541	6.67	1.84	3.80	2.87	1.25	5.19	1.59	0.55	0.63	0.44	4.42	1.68	30.93
Jordans Grove	510	3.16	2.37	10.51	3.55	1.57	4.88	0.93	0.49	0.27	1.13	4.54	4.13	37.53
*Kankakee	642	3.23	1.07	3.09	1.99	1.51	3.32	2.15	0.36	0.20	1.60	3.63	.....	.....
Kishwaukee	.....	3.71	1.38	4.63	2.91	0.91	6.35	2.89	0.57	0.62	0.36	1.57	1.79	27.69
Knoxville	775	6.32	0.98	5.67	4.18	1.20	2.38	4.45	1.01	2.05	0.20	2.47	1.47	32.38
Lagrange	657	6.09	1.83	4.00	3.50	1.85	3.74	2.97	1.57	0.80	0.33	3.82	1.36	31.86
Laharpe	700	10.38	1.83	6.22	5.85	2.41	5.80	3.87	1.86	1.39	0.26	1.26	2.10	43.23
Lanark	883	2.48	0.89	3.20	2.67	1.24	5.58	1.06	0.59	1.54	0.39	1.79	1.46	22.89
Lexington	800	5.67	2.51	4.01	2.70	1.68	1.59	6.38	0.50	0.70	0.32	4.19	1.47	31.72
Loami	.....	5.90	0.90	4.11	4.27	3.27	4.31	4.41	2.09	0.12	0.24	4.93	2.73	37.28
Louisville	480	3.93	2.29	9.42	6.00	2.31	4.28	2.95	0.39	0.24	0.37	5.48	2.95	40.61
*McLeansboro	462	4.23	4.00	11.29	7.27	2.53	5.52	3.43	1.70	0.63	0.45	5.85	5.12	52.02
Martinsville	575	4.15	2.50	7.27	5.72	3.47	6.77	2.30	0.25	0.47	0.69	6.01	2.83	42.43
*Martinton	632	3.61	1.37	3.96	2.26	1.78	4.44	1.67	1.28	0.29	0.61	5.71	2.20	29.18
Mascoutah	571	4.71	3.59	9.91	3.64	2.27	4.83	3.27	0.14	1.00	0.40	4.68	2.73	41.17
Mattoon	744	4.05	1.88	4.36	6.38	1.98	5.11	3.63	0.40	1.23	0.30	4.73	2.65	36.70
Minonk	745	5.14	1.45	3.18	2.93	1.05	2.57	2.93	0.92	1.90	0.13	3.92	1.20	27.32
Monmouth	784	5.14	0.82	2.63	3.25	0.94	2.00	5.26	0.65	2.78	0.13	1.87	1.69	27.16
Morgan Park	666	.....	.....	3.65	.....	2.06	5.34	.....	.....	.....	.....	.....	.....	.....
Morrisonville	638	3.35	1.20	6.02	5.27	4.09	4.99	3.60	1.36	0.29	0.12	5.29	2.78	38.36
*Mount Carmel	424	4.52	4.10	10.22	6.20	3.14	3.15	3.10	0.59	0.60	0.58	6.69	4.88	47.71
Mount Pulaski	685	5.19	1.50	3.82	2.98	1.47	4.17	3.10	1.42	1.21	0.37	3.84	2.35	31.42
*Mount Vernon	511	3.57	3.39	10.18	4.47	1.30	7.49	3.00	0.77	0.41	0.56	4.00	1.89	41.03
*New Burnside	700	2.70	3.35	10.97	5.82	1.10	4.15	5.81	0.81	1.18	1.20	4.07	2.71	43.87
Olney	487	3.77	2.92	11.77	6.49	2.75	4.48	2.85	0.40	0.71	0.52	6.57	3.86	47.09
Oregon	702	3.76	0.77	3.05	2.40	1.58	4.19	.....	.....	.....	.....	.....	.....	.....
Oswego	650	6.06	1.60	3.56	2.36	1.19	5.19	3.63	1.77	0.86	0.15	3.71	1.58	31.66
*Ottawa	500	5.98	1.71	4.47	1.88	0.99	6.90	2.99	0.74	1.89	0.46	4.37	1.74	34.12
Palestine	500	3.38	2.95	11.02	5.60	3.45	3.61	2.08	0.01	1.60	1.09	6.33	3.18	44.30
*Paris	600	.....	.....	.....	4.63	2.04	5.60	2.70	0.53	0.38	.....	6.41	2.93	.....
*Peoria [2]	519	7.54	1.51	4.42	3.50	1.75	1.54	5.90	0.91	1.18	0.04	3.83	1.32	33.44
*Peoria [2]	519	5.39	1.19	4.70	2.87	1.29	2.11	4.65	1.02	0.93	0.04	3.48	1.16	28.83
Philo	771	4.25	1.56	3.68	3.48	1.97	6.22	3.48	1.20	0.45	0.54	5.08	2.65	34.56
Plumhill	500	3.86	2.54	9.43	5.13	1.53	4.51	3.91	0.58	0.50	0.35	5.48	3.69	41.51
*Rantoul	768	3.88	1.18	3.41	3.54	2.23	6.73	5.39	0.58	0.68	0.58	3.80	2.32	34.32
Reynolds	800	3.54	1.42	2.59	3.84	1.86	1.67	4.05	0.72	2.99	0.45	1.35	1.42	25.90
Riley	956	4.45	1.49	3.87	2.59	1.08	3.23	1.57	1.24	1.15	0.48	2.52	1.50	25.17
Robinson	500	4.08	2.72	11.33	6.41	3.67	3.69	2.79	0.41	0.37	0.53	7.85	4.35	48.21
*Rockford	763	4.72	1.45	4.90	3.81	1.12	4.09	2.71	0.90	1.18	0.68	1.73	1.62	28.91
Rosehill	679	4.45	4.52	10.40	6.30	4.10	.....	.....	.....	.....	.....	.....	.....	.....
Roundgrove	715	2.91	1.73	3.33	2.88	1.95	5.27	3.05	0.89	2.16	0.43	1.40	1.32	27.32
St. Charles	700	6.04	1.99	4.37	3.47	1.41	2.69	3.41	1.67	0.60	0.28	3.36	1.48	30.77
St. John	450	3.17	2.46	11.55	4.55	2.45	4.52	1.91	0.66	1.50	1.46	4.70	4.16	43.09
Scales Mound	900	1.96	0.95	2.67	3.57	1.52	6.41	2.70	1.53	3.07	0.50	1.15	1.66	27.69
*Springfield	644	5.91	1.15	4.47	3.85	2.19	4.11	4.16	2.86	0.35	0.52	4.94	3.07	37.58
*Streator	626	5.65	1.55	4.08	1.88	1.13	6.70	2.71	1.07	1.10	0.23	4.20	1.32	31.62
*Sycamore	855	4.54	1.31	4.31	3.78	1.10	6.04	3.03	1.06	0.44	0.38	3.38	0.81	30.28
Tiskilwa	798	5.81	1.27	4.55	2.77	1.42	3.34	2.38	1.48	2.62	0.36	3.36	1.24	30.60
*Tuscola	664	4.39	1.40	4.16	4.76	2.78	4.05	5.39	2.10	0.71	0.27	5.25	3.33	38.59
Walnut	717	5.01	1.45	5.05	3.71	1.25	4.95	1.35	1.33	3.43	0.25	2.27	1.31	31.35
*Warsaw	.....	.....	.....	2.37	1.20	0.53	3.93	.....	.....	.....	.....	.....	.....	.....
Wheaton	769	6.61	2.27	5.43	4.36	1.02	4.22	3.09	1.11	1.10	0.49	2.97	0.99	33.66
Winchester	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.38	3.87	2.89	.....

[1] Data for first four months from Catlin, 6 miles southwest. [2] River observer. *Dr. F. Brendel.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Illinois—Continued.	Feet.													
Winnebago	900	3.74	1.38	4.87	3.63	1.31	4.70	3.82	1.37	1.01	0.58	1.28	1.58	29.27
Zion	938	2.22	1.17	3.28	3.16	2.21	4.22	2.22	1.82	2.90	0.85	1.55	2.68	28.28
Indiana.														
Anderson	892	2.78	1.86	5.04	4.70	3.25	2.35	2.61	2.12	0.63	0.39	7.47	2.28	35.48
Angola	1,052	4.30	1.90	3.64	2.90	3.32	3.53	2.76	1.52	0.45	2.10	5.60	2.95	34.97
*Auburn	874	2.86	1.18	2.42	.....	3.93	3.68	1.75	2.72	0.71	0.57	4.22	1.93	.....
*Bloomington	744	3.17	3.35	10.63	6.02	2.37	6.27	2.62	0.59	0.72	1.33	7.42	3.24	47.73
Bluffton	835	2.74	2.05	4.68	4.25	5.94	5.60	1.08	4.66	1.21	0.64	5.67	1.87	40.39
Boonville	442	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.99	3.10	.....
Bright	.....	2.97	4.10	9.50	4.54	2.31	3.57	6.33	0.64	0.39	1.40	8.04	2.86	46.65
Butlerville	767	3.08	4.00	13.03	4.63	3.03	4.68	6.54	1.53	1.06	1.23	7.65	3.64	54.10
*Cambridge City	941	2.69	2.43	7.60	5.45	4.10	3.53	4.29	1.25	1.86	0.39	8.70	2.67	44.96
Columbia City	841	3.78	1.42	4.51	3.20	3.51	3.03	1.29	4.45	1.29	1.06	4.19	2.35	34.08
*Columbus	632	2.74	3.21	9.48	5.25	1.39	4.26	6.25	0.66	0.89	0.90	7.23	3.76	46.02
Connersville	844	2.46	2.57	6.87	4.99	2.98	3.25	3.56	3.33	0.71	0.85	9.15	2.86	43.58
Crawfordsville	774	.....	.....	.....	.....	.....	.....	.....	.....	0.03	1.04	8.46	.....	.....
*Delphi	668	3.79	1.50	3.83	2.89	3.09	4.85	2.10	1.62	0.25	1.79	5.84	2.64	34.19
Edwardsville	901	3.22	4.83	8.09	4.12	3.37	4.40	2.06	0.47	0.50	2.26	6.62	3.00	42.94
*Evansville	383	3.16	4.66	10.96	5.89	2.89	4.95	9.09	0.43	0.52	2.05	5.11	2.91	52.62
*Farmland	1,101	1.99	2.33	6.23	4.47	3.21	3.55	2.62	1.89	0.65	0.76	7.70	1.72	37.12
Fort Wayne	775	.....	.....	.....	3.87	3.28	4.49	1.42	.....	0.41	0.93	4.62	2.25	.....
Franklin	740	2.93	2.35	.....	.....	.....	.....	.....	.....	0.73	1.27	9.46	3.32	.....
Greencastle	860	3.96	2.95	6.49	3.64	2.72	5.38	3.46	1.07	0.54	1.09	6.93	3.97	42.20
Greensburg	954	1.73	4.01	8.86	5.97	3.33	.....	7.24	.....	0.37	0.44	7.85	.....	.....
Hammond	598	5.58	3.42	7.35	0.99	2.40	.....	0.74	0.29	0.31	0.23	.....	0.62	.....
Huntington	741	3.27	3.00	3.23	3.45	3.42	4.87	2.15	4.77	0.93	1.21	5.68	2.91	38.89
*Indianapolis	766	3.71	2.37	5.85	4.83	4.37	3.70	5.70	0.42	0.79	0.45	6.67	3.09	42.15
Jasper	450	2.65	4.95	9.50	5.35	3.50	3.70	3.40	0.53	0.70	2.10	7.00	3.65	47.03
Jeffersonville	455	3.08	4.42	8.55	4.11	3.88	3.39	7.39	1.20	0.41	1.26	6.19	2.84	46.72
Knightstown	.....	3.10	2.93	7.40	6.02	4.12	2.95	3.09	1.36	1.11	0.40	7.93	2.80	43.21
Knox	717	.....	.....	.....	1.90	2.20	4.30	2.50	1.80	.....	0.80	3.10	.....	.....
Kokomo	840	4.66	2.02	3.77	3.76	2.99	6.76	1.05	2.04	[e] 1.20	1.32	6.23	2.46	38.26
Laconia	.....	2.95	4.25	9.55	.....	.....	.....	1.32	.....	.....	.....	.....	.....	.....
*Lafayette	661	3.29	1.62	3.87	2.86	3.40	5.16	2.79	1.03	0.05	1.52	5.49	2.26	33.34
Laporte	810	.....	.....	.....	2.35	3.34	2.51	3.43	0.56	0.33	1.08	4.42	3.55	.....
*Logansport	620	4.10	1.26	2.89	2.84	2.22	3.29	1.28	0.55	0.28	2.44	5.57	1.61	28.33
Madison	460	3.15	6.15	8.09	4.12	2.87	2.30	4.78	1.31	0.26	0.99	.....	2.48	.....
Marengo	363	4.07	5.20	9.19	5.08	2.59	2.97	3.57	0.97	0.45	3.68	7.45	3.02	48.24
*Marion	814	2.78	1.52	4.04	3.90	4.38	5.42	3.24	2.85	0.56	0.90	5.91	1.85	37.35
Markle	525	.....	.....	.....	.....	.....	.....	.....	.....	1.13	1.00	5.10	0.50	.....
Mauzy	980	3.24	2.37	6.94	5.15	3.36	3.46	4.66	2.40	0.80	0.98	9.25	3.24	45.85
*Mount Vernon	410	2.80	3.80	8.43	6.74	2.47	3.82	5.18	0.57	0.65	1.56	5.12	3.23	44.37
Northfield	.....	3.95	2.81	5.31	4.57	3.41	5.11	1.78	0.94	0.20	0.80	7.17	2.25	38.30
Princeton	481	.....	.....	7.75	5.98	2.75	4.77	3.75	1.20	0.25	0.85	6.63	1.13	.....
Richmond	972	2.13	2.52	6.58	4.83	3.61	5.42	3.04	1.89	0.90	0.98	8.23	2.42	42.55
Rockport	414	.....	.....	.....	.....	.....	.....	.....	.....	[d] 0.41	2.33	4.06	2.96	.....
Rockville	722	4.10	2.04	5.14	3.97	1.94	5.30	3.96	0.44	0.13	0.74	6.10	4.37	38.23
*Rushville	964	2.80	.....	7.70	5.57	3.35	3.25	.....	.....	.....	.....	.....	.....	.....
Salem	714	2.75	6.05	7.82	3.65	2.49	4.04	4.09	0.69	0.62	3.60	5.94	2.17	43.91
Scottsburg	570	2.39	6.05	8.01	4.42	2.60	5.02	4.87	1.23	0.16	2.00	7.18	2.44	46.37
Seymour	610	2.80	5.30	12.95	3.44	1.40	.....	6.35	0.50	0.80	.....	.....	.....	.....
Shelbyville	762	3.29	2.56	7.03	5.47	3.50	.....	4.13	1.47	1.30	1.49	9.84	2.59	.....
*South Bend	726	5.53	1.79	3.31	2.52	3.09	1.65	1.75	3.65	0.23	0.71	4.66	3.50	32.39
Sunman	1,018	3.00	3.43	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Syracuse	864	4.56	1.57	4.38	2.28	3.56	3.58	1.47	4.30	0.20	2.81	5.26	2.30	36.27
*Terre Haute	498	4.09	2.56	6.29	4.33	2.85	4.33	3.68	0.64	0.30	0.54	7.10	3.97	41.18
Tipton	860	2.08	2.03	4.39	3.95	3.98	2.65	1.42	.....	0.05	0.51	.....	.....	.....
Topeka	.....	3.91	1.76	2.31	2.13	3.04	3.31	1.05	3.14	0.14	1.62	5.23	1.71	29.35
Valparaiso	737	5.97	1.92	.....	2.50	5.15	3.95	1.10	2.10	T.	1.00	3.16	0.61	.....
Vevay	525	2.80	6.25	8.90	5.80	4.30	4.45	.....	.....	T.	0.85	9.10	2.00	.....
*Vincennes	431	2.69	2.57	13.22	6.93	2.31	3.48	4.59	0.51	1.62	0.44	8.45	.....	.....
Warsaw	826	4.54	1.16	3.74	2.52	3.37	4.11	2.21	3.03	0.19	1.07	5.58	1.42	32.94
*Washington	484	3.21	3.58	9.72	5.73	3.06	3.37	4.36	1.18	0.59	1.18	8.42	3.75	48.15
Winamac	.....	.....	.....	.....	.....	4.08	5.94	.....	1.30	0.52	0.39	.....	.....	.....
Worthington	540	3.84	2.46	10.68	5.85	2.23	5.83	1.96	0.96	0.94	0.96	7.43	4.29	47.43
Indian Territory.														
Afton	785	.....	.....	.....	2.84	0.42	4.35	.....	.....	.....	.....	.....	.....	.....
*Eufaula	610	0.98	0.61	3.62	7.01	.....	.....	.....	.....	.....	.....	.....	.....	.....
Healdton	.....	2.67	0.34	4.85	2.55	8.41	3.85	2.05	4.80	2.34	2.52	T.	1.95	36.33
Kemp	.....	.....	.....	8.83	3.26	7.98	3.34	1.83	2.55	.....	3.50	T.	[f] 0.20	.....
Lehigh	936	5.00	0.42	3.13	4.83	3.94	4.59	3.01	0.43	0.25	1.93	T.	4.27	37.80
Purcell	.....	1.32	0.90	6.13	3.06	6.13	7.77	2.87	1.75	1.81	2.11	1.35	0.03	35.23
*South McAlester	698	4.12	0.00	8.50	7.75	2.70	6.50	2.45	2.37	0.41	0.99	1.22	5.22	42.23
Tahlequah	.....	6.83	1.25	5.56	6.60	4.59	3.45	.....	5.47	0.96	1.00	1.38	1.05	.....
*Tulsa	700	0.97	2.40	6.70	5.60	0.80	2.20	3.72	4.24	0.00	1.22	1.29	1.08	30.22
Wagoner	575	3.26	0.90	3.26	2.24	0.26	4.07	3.22	4.27	T.	1.29	1.19	1.30	25.26
Iowa.														
Adair	1,415	1.46	0.45	2.03	7.28	2.97	4.45	4.04	2.33	2.60	2.90	0.05	0.95	31.55
Afton	1,212	1.15	1.70	5.61	8.01	2.19	4.57	1.89	1.33	2.73	1.12	0.94	2.33	32.96
Algona	1,213	1.38	0.87	2.60	3.50	0.56	3.75	3.52	1.68	1.89	0.97	0.32	1.60	22.64
Alta	1,513	1.62	0.55	4.08	4.23	0.98	1.86	5.19	3.57	0.20	1.76	0.47	1.52	26.03
Amana	.....	2.47	0.79	1.48	7.17	3.56	2.27	4.28	0.93	3.25	0.83	0.88	1.72	29.63
Ames	926	1.29	0.22	0.29	5.70	2.58	2.16	2.45	1.48	3.24	1.63	0.42	.....	.....
Ames (near)	.....	.....	.....	2.25	5.82	2.05	1.54	4.13	0.47	1.85	1.58	0.32	1.56	.....
Atlantic	1,164	0.88	0.63	3.67	6.80	2.68	3.76	2.39	2.68	2.31	2.11	T.	1.50	29.41
Atlantic (near)	1,350	1.42	.....	2.75	5.52	3.07	3.04	3.26	2.16	3.30	.....	.....	.....	.....

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Iowa—Continued.	Feet.													
Audubon	1,301	0.80	0.75	3.98	5.27	1.32	2.78	3.52	2.98	2.00	1.51	0.40	1.70	27.01
Belknap	877	4.20	1.67	2.71	3.89	0.45	5.10	3.55	2.70	0.65	0.63	0.93	2.25	28.73
Belle Plaine	822	1.53	1.35	2.73	7.69	3.42	3.51	4.59	1.86	2.23	0.78	0.94	2.20	32.83
Bonaparte	.....	4.42	0.97	3.53	2.41	0.60	6.43	2.83	1.02	0.97	0.24	1.50	1.97	26.89
Britt	1,236	1.67	0.63	1.52	3.63	0.98	3.02	3.80	2.67	1.96	0.96	0.25	1.10	22.19
Burlington	435	.....	.....	.....	.....	.....	.....	.....	1.73	.....	0.38	1.82	0.61	.....
Carroll	1,265	2.24	0.96	2.37	6.81	2.79	3.60	2.76	2.53	0.81	0.97	0.25	1.71	28.80
Cedarfalls	854	.....	0.70	1.15	5.59	2.64	4.85	6.25	.....	4.50	0.93	0.51	1.80	.....
*Cedar Rapids	733	1.99	0.71	1.28	5.97	2.10	3.96	4.35	2.62	3.78	1.01	0.55	1.02	29.34
*Centerville	1,013	1.22	.....	.....	8.37	0.60	3.20	5.04	1.62	2.85	.....	.....	.....	.....
Chariton	1,042	1.49	1.30	1.11	8.48	1.30	4.25	1.74	0.69	1.20	0.88	1.09	2.13	25.66
*Charles City	1,005	1.58	1.00	1.15	3.82	.....	.....	3.42	0.76	2.75	0.32	0.74	1.65	.....
Clarinda	1,009	1.31	0.56	2.14	6.00	2.01	4.04	2.63	2.53	1.55	1.62	0.37	1.56	26.32
*Clinton	593	3.27	1.61	3.72	2.36	0.98	3.68	1.69	0.54	2.00	0.37	2.09	1.46	23.77
College Springs	.....	0.52	0.44	1.91	5.29	3.07	2.69	2.82	2.41	1.99	1.63	0.44	1.20	24.41
Corning	1,017	0.85	0.60	3.48	7.88	2.18	4.53	1.90	2.15	0.79	1.29	0.18	1.15	26.98
Council Bluffs	990	0.54	0.28	1.28	5.40	2.02	1.47	1.82	2.28	1.90	2.53	0.05	1.23	20.80
Cresco	1,300	1.96	0.76	1.07	2.23	0.69	6.95	2.12	4.36	3.26	0.31	0.44	0.89	25.04
*Davenport	613	3.58	1.57	2.82	3.69	1.91	1.37	3.21	0.68	1.52	0.35	1.68	1.53	23.91
Decorah	875	2.23	0.91	0.70	3.76	0.79	7.38	1.89	1.68	3.22	0.43	0.60	1.19	24.78
Delaware	1,083	2.28	0.92	2.10	4.89	2.12	3.13	1.94	3.00	2.62	1.00	1.05	1.24	26.29
Denison	1,180	0.75	0.90	3.14	5.88	1.78	2.96	4.54	2.05	1.20	0.95	0.05	1.30	25.50
*Des Moines	869	2.02	0.71	2.13	7.37	2.31	3.15	2.88	1.77	1.56	0.85	0.34	1.98	27.07
Dows	1,142	1.65	1.00	1.38	4.69	3.24	4.70	1.18	3.16	2.57	0.52	0.56	1.57	26.22
*Dubuque	698	2.55	1.43	2.97	3.39	2.09	2.36	4.34	1.51	3.19	1.02	1.23	2.08	28.16
Eldora	1,070	.....	.....	.....	5.87	3.37	4.01	2.92	2.15	4.15	1.06	0.71	2.10	.....
Elkader	600	2.31	0.97	1.59	4.05	2.39	8.95	2.42	2.33	4.90	0.92	0.99	1.54	28.36
Estherville	1,298	1.20	0.55	1.05	.....	1.29	5.06	.....	.....	0.80	1.45	0.10	1.05	.....
*Fairfield	780	3.09	1.20	2.66	4.11	0.58	5.88	3.62	1.42	1.08	0.19	1.22	1.12	26.17
Fayette	.....	2.73	1.22	1.75	3.00	2.74	6.80	2.85	1.84	4.34	1.03	1.08	1.50	30.88
Fonda	.....	.....	0.85	3.01	6.09	0.70	1.66	5.07	1.27	.....	0.58	.....	.....	.....
*Forest City	1,226	1.58	0.60	1.48	4.16	1.68	3.82	4.59	1.48	1.53	1.19	0.20	1.56	23.87
Fort Madison	522	6.16	1.70	2.93	4.13	1.94	4.28	5.91	1.18	1.12	0.26	2.24	3.12	34.97
Fredericksburg	1,075	.....	.....	.....	3.01	2.26	4.47	1.69	1.18	4.34	.....	0.50	1.53	.....
Galva	1,290	1.45	0.40	3.40	3.79	0.52	2.17	2.72	1.78	0.21	1.63	.....	.....	.....
Gardengrove	.....	2.15	0.93	4.97	6.95	1.71	4.95	2.16	1.87	1.16	0.46	0.75	2.21	30.27
Gladbrook	949	.....	0.41	1.70	7.32	1.90	3.23	2.93	0.69	3.38	1.45	.....	.....	.....
Glenwood	957	0.77	0.30	1.37	5.65	3.26	1.71	1.31	2.20	2.03	2.58	T	1.70	22.88
Grand Meadow	1,180	2.96	0.93	1.56	3.48	2.07	7.51	4.30	1.04	5.88	1.10	0.88	1.27	32.98
Greene	924	.....	0.39	1.02	3.62	2.07	3.03	4.04	1.99	3.28	0.40	0.52	0.95	.....
Greenfield	.....	1.53	0.48	4.95	5.12	2.09	.....	2.82	2.14	1.66	1.67	0.33	1.40	.....
Grinnell	1,023	1.98	1.00	1.46	7.04	1.53	.....	.....	.....	2.55	0.42	0.58	1.14	.....
Grundy Center	976	1.01	0.91	0.98	5.81	3.30	4.26	3.61	1.60	4.41	1.36	0.40	1.91	29.56
Guthrie Center	1,077	.....	.....	.....	.....	3.00	3.25	5.00	2.40	1.01	1.94	0.35	1.61	.....
*Hampton	1,000	1.99	0.80	1.94	4.96	2.45	4.56	1.30	2.01	4.79	0.70	0.71	1.19	27.40
Hawkeye	.....	.....	1.90	3.61	3.15	2.29	6.30	2.95	0.76	3.37	0.60	0.87	1.35	.....
Hedrick	.....	.....	.....	.....	.....	.....	.....	3.70	2.25	1.12	0.77	*0.35	1.44	.....
Hopeville	.....	1.23	0.84	3.57	8.92	3.13	4.09	1.20	1.62	3.32	0.73	0.63	1.82	31.10
Humboldt	1,095	1.55	1.03	2.52	4.05	1.49	2.86	2.64	1.74	0.70	0.73	0.40	0.84	20.55
Independence	921	1.68	0.75	1.58	6.13	2.10	5.03	2.42	1.26	2.70	0.40	0.36	1.93	25.74
Indianola	969	3.43	0.81	1.59	6.10	3.59	5.23	2.39	2.34	1.59	0.64	0.72	2.26	30.69
Iowa City	685	3.66	1.30	2.07	4.60	3.11	2.38	3.83	1.85	3.54	0.33	1.98	2.48	31.13
Iowa Falls	1,107	1.95	1.15	1.32	4.31	2.45	2.68	2.11	3.23	3.44	1.39	0.47	2.00	26.50
*Keokuk	613	4.90	0.96	4.16	3.54	1.86	5.43	6.75	0.65	0.64	0.24	2.17	1.84	33.14
Keosauqua	664	5.60	1.55	2.86	3.66	1.14	9.38	4.45	1.10	1.20	0.11	1.80	1.28	34.13
Knoxville	910	1.10	1.72	1.46	7.05	1.68	3.57	3.05	1.09	3.01	0.51	0.65	2.15	27.04
Lamoni	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.65	0.69	0.51	[1]1.29	.....
Lansing	632	2.82	0.94	1.70	2.24	0.94	6.53	2.66	1.40	3.03	0.26	0.81	1.22	24.55
Larchwood	1,465	2.24	0.38	2.71	3.29	0.21	4.58	4.27	1.29	3.05	1.77	0.20	1.30	25.29
Larrabee	.....	1.68	0.55	4.32	2.84	0.98	4.26	4.61	3.18	0.42	2.31	0.35	1.88	27.38
*Leclaire	576	.....	.....	2.56	3.60	1.59	1.47	1.88	0.65	1.21	0.33	1.42	1.51	.....
Lemars	1,224	2.60	0.60	3.58	4.36	1.10	3.11	2.09	2.60	0.00	1.95	0.35	2.40	24.74
Lenox	1,250	1.00	0.70	3.25	7.21	1.69	4.53	4.06	2.26	1.32	1.17	0.39	2.00	29.58
Logan	928	1.62	0.65	2.17	6.18	1.80	2.97	1.38	4.98	0.08	1.04	0.20	2.93	26.00
Malvern	995	0.79	0.53	1.70	5.61	2.47	2.07	1.17	2.21	1.47	3.17	0.20	1.12	22.51
Maple Valley	.....	.....	.....	4.76	3.65	0.91	2.14	4.30	1.96	0.37	1.64	0.70	.....	.....
*Maquoketa	688	2.65	1.15	2.31	3.24	1.40	2.54	2.12	0.93	2.11	0.29	1.06	1.01	20.81
*Marshall	947	1.76	0.61	1.98	5.98	2.23	3.76	2.87	0.76	1.95	2.57	0.68	1.75	26.85
Mason City	1,130	4.60	.....	.....	.....	.....	.....	4.01	1.08	0.03	0.37	0.10	.....	.....
Millman	830	1.24	0.95	2.31	7.90	2.83	2.73	3.48	1.02	2.00	1.03	0.35	1.77	27.61
Monticello	925	2.35	1.07	2.56	5.86	.....	.....	.....	1.17	2.11	1.12	1.04	2.63	.....
Mooar	654	3.81	0.80	3.61	3.83	0.94	5.31	6.94	1.20	0.64	0.26	1.83	2.62	31.79
Mountayr	1,286	1.66	1.23	3.39	7.93	2.60	6.17	2.25	1.72	1.22	1.06	0.92	2.53	32.68
Mount Pleasant	729	3.52	1.37	2.34	3.59	1.80	7.10	4.60	0.95	0.78	0.22	1.64	1.27	29.18
Mount Vernon[1]	847	2.37	0.36	1.55	6.52	1.88	2.17	2.95	.....	.....	0.56	0.93	2.05	.....
Mount Vernon[2]	847	2.22	1.53	1.84	6.62	2.05	2.95	5.86	0.99	5.09	0.42	0.95	2.33	32.85
Neola	1,111	0.45	0.40	1.90	6.70	1.55	3.15	3.05	3.00	.....	.....	.....	.....	.....
New Hampton	1,154	.....	.....	.....	2.26	2.99	4.88	2.00	2.48	4.04	.....	.....	.....	.....
Newton	952	2.39	1.01	2.33	6.09	2.98	2.85	2.17	1.68	2.96	0.58	0.38	2.03	27.45
*North McGregor	626	.....	.....	2.06	2.84	1.50	4.68	4.95	0.80	6.63	0.03	0.75	1.67	.....
Northwood	1,222	1.50	0.80	1.51	2.22	1.53	5.05	4.31	1.83	2.70	0.91	0.30	1.20	23.96
Odebolt	1,365	.....	0.72	3.30	6.36	0.96	2.40	4.03	2.95	0.84	1.25	0.20	1.70	.....
*Ogden	1,211	1.13	0.54	1.64	5.24	1.75	1.91	2.13	3.64	3.08	1.32	0.29	1.54	24.26
Osage	1,184	1.89	1.81	2.54	3.21	1.71	5.51	3.51	2.19	3.73	0.44	0.33	1.45	28.42
*Osceola	1,132	1.63	1.52	4.69	9.74	3.40	4.74	1.01	0.67	1.54	0.60	0.57	2.57	32.67
Oskaloosa	843	1.19	1.02	1.53	5.32	0.80	5.06	3.25	1.10	0.54	0.39	0.15	1.42	21.77
Ottumwa	649	3.52	1.60	2.59	5.53	0.63	5.81	2.53	0.77	0.31	0.78	1.11	1.92	27.60
Ovid	992	1.71	1.71	3.45	7.26	1.77	4.50	1.57	1.40	0.69	0.70	0.54	3.22	28.46

[1] Prof. A. Collins. [2] Rev. J. W. Hubbard.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Iowa—Continued.	*Feet.*													
Plover	1,426	0.90	0.90	1.45	3.86	0.47	1.98	4.22	1.54	0.59	1.02	0.05	1.45	18.43
Primghar	1,800	1.55	0.35	2.97	4.78	1.07	1.90	2.96	4.84	1.12	2.30	0.85	1.26	25.95
Red Oak	1,032	.....	0.56	2.44	5.62	1.99	3.95	2.81	2.34	0.92	3.09	0.18	1.53	.....
Reinbeck	926	.....	1.18	.....	4.58	.....	3.82	.....	1.35	.....	.....	.....	.....	.....
Rock Rapids	1,358	1.05	0.50	2.86	3.46	0.38	4.98	2.67	2.82	1.67	1.06	0.25	0.80	22.50
Rockwell City	.....	.....	.....	3.42	3.44	3.40	0.92	2.27	2.49	1.73	0.81	0.11	2.20	.....
Sac City	1,278	1.32	0.95	2.82	5.00	1.90	2.25	3.40	1.45	T.	1.60	0.20	1.78	22.67
St. Charles	1,070	1.98	1.49	2.36	6.45	2.52	6.78	3.67	1.13	2.04	[5]0.92	.....	.....	.....
Seymour	1,079	1.95	1.55	2.42	5.75	1.15	5.13	2.25	1.82	0.80	0.07	2.03	.....	.....
Sibley	1,512	1.84	0.68	2.90	3.68	0.73	4.20	6.21	0.95	1.15	1.39	0.20	1.05	24.98
Sidney	700	0.85	0.80	2.35	5.82	2.63	3.55	2.25	2.80	0.85	3.15	0.26	1.94	27.25
Sigourney	768	2.16	1.09	1.33	4.46	1.94	2.96	4.08	2.12	1.68	0.64	1.37	2.61	26.44
*Sioux City	1,165	1.41	0.43	1.71	4.03	1.24	2.13	2.26	2.51	0.51	2.02	0.49	1.64	20.38
Spencer	1,319	1.28	0.34	1.72	4.20	0.62	3.98	4.81	1.98	0.71	1.95	0.12	0.93	22.64
Spirit Lake	1,458	1.09	0.34	1.02	3.46	0.96	3.51	5.08	1.22	0.49	1.72	0.20	1.30	20.39
Stuart	1,216	1.10	0.66	6.16	7.03	2.26	2.39	7.60	2.57	1.48	2.65	0.18	.....	.....
Thurman	.....	.....	.....	.....	.....	.....	.....	1.50	2.42	1.89	3.30	0.07	1.61	.....
Toledo	856	1.36	0.60	1.89	4.88	2.57	3.11	2.26	0.75	1.90	0.56	0.35	1.79	22.02
Villisca	1,050	1.09	0.38	2.50	7.79	1.83	6.50	1.79	2.24	1.53	1.64	0.34	1.32	28.95
Vinton	810	1.74	0.90	2.59	6.73	1.87	3.31	2.40	1.51	2.67	0.62	0.42	1.55	26.31
Washington	169	3.51	0.82	1.42	5.13	0.93	1.39	6.23	1.43	1.33	0.12	1.01	1.53	24.85
Washta	.....	.....	.....	.....	.....	1.34	2.91	2.67	2.10	0.78	1.87	0.37	1.60	.....
*Waterloo	856	1.78	0.87	1.54	5.16	2.03	4.32	4.16	1.25	2.77	0.93	0.62	1.52	26.95
Waukee	1,039	.....	0.40	2.00	9.54	.....	2.85	4.35	1.67	.....	1.10	.....	.....	.....
Waverly	948	2.28	0.90	1.19	5.04	2.87	2.75	3.32	1.50	3.08	1.25	0.65	1.64	26.47
Webster City	.....	1.24	0.42	1.42	3.81	2.82	2.46	1.76	4.33	1.68	0.58	0.20	1.44	22.16
Westbend	1,197	1.66	1.26	3.85	4.21	0.71	2.96	4.15	1.71	1.04	1.10	0.74	1.50	24.79
Westbranch	718	.....	.....	.....	.....	.....	.....	.....	0.80	3.65	0.34	1.89	1.54	.....
Whitten	1,045	.....	.....	.....	.....	2.50	2.56	2.63	1.62	2.45	1.31	0.53	1.71	.....
Wilton Junction	683	3.18	1.45	3.60	4.33	2.43	2.17	3.19	2.58	3.94	0.28	2.00	1.63	30.78
Winterset	1,129	1.68	1.10	1.89	9.86	1.82	6.21	5.43	2.32	2.46	1.03	0.56	1.80	36.16
Kansas.														
Abilene	1,157	0.90	1.70	2.29	3.14	2.47	2.32	3.74	5.82	1.47	2.28	0.23	0.95	27.31
Achilles	.....	0.05	0.92	2.16	4.54	0.55	3.30	2.83	5.80	2.82	5.29	0.20	0.79	29.25
Altoona	.....	1.46	0.90	3.45	3.58	1.01	4.72	2.44	1.79	1.29	0.77	0.31	1.35	23.07
Anthony	1,329	0.57	0.97	1.57	3.40	2.99	2.84	0.83	4.64	0.84	1.75	T.	0.65	21.05
Assaria	1,286	0.99	1.60	1.38	2.75	0.62	0.27	2.30	2.17	2.10	1.85	T.	0.57	16.60
Atchison	797	1.21	0.79	1.57	7.17	3.06	8.50	3.60	2.58	0.93	0.84	1.22	1.74	33.21
Augusta	1,331	1.05	1.30	1.80	2.80	2.79	2.42	1.66	2.28	0.82	2.24	0.05	1.22	20.43
*Baker	1,182	.....	.....	.....	5.64	3.51	4.90	2.14	3.42	0.60	.....	.....	.....	.....
Beloit	1,383	0.53	0.61	1.38	3.52	0.76	6.48	3.96	0.56	0.45	5.52	0.42	0.39	24.58
Blaine	1,504	1.27	1.35	2.78	.....	.....	9.29	.....	.....	.....	.....	.....	.....	.....
Burlington	1,031	.....	1.25	3.09	1.95	0.60	5.96	1.41	3.62	2.00	0.84	0.17	1.36	.....
Campbell	.....	1.02	0.93	3.03	3.49	2.93	6.61	4.34	3.07	0.70	4.35	0.68	0.90	32.05
Chanute	940	.....	.....	.....	.....	.....	4.66	3.29	2.99	1.51	.....	0.00	.....	.....
Colby	3,138	0.22	0.65	2.13	4.06	1.73	4.74	1.83	4.84	3.19	5.50	0.18	0.47	29.54
Columbus	898	5.46	3.45	4.76	2.84	2.60	.....	4.10	1.36	0.15	1.26	1.23	1.61	.....
*Concordia	1,410	0.91	0.52	1.44	4.20	2.13	6.82	5.31	1.88	1.20	5.80	0.39	0.85	31.45
Coolidge	3,341	0.10	1.00	0.25	2.09	1.80	0.58	2.50	4.75	0.35	2.32	T.	0.15	15.89
Cunningham	.....	0.65	0.45	1.21	4.36	2.04	1.69	2.93	3.96	2.19	1.42	0.06	0.55	21.51
Delphos	1,303	0.93	1.08	0.37	1.90	1.75	.....	.....	.....	.....	.....	.....	.....	.....
*Dodge	2,504	1.44	2.38	0.26	3.21	1.49	2.31	3.91	3.06	0.60	2.66	0.06	0.20	21.58
Downs	1,488	0.85	0.92	1.03	5.04	1.95	.....	.....	.....	.....	.....	.....	.....	.....
Dresden	2,731	0.16	0.52	1.62	7.06	0.69	3.99	2.67	3.66	1.92	4.34	0.15	0.80	28.08
Elgin	781	1.10	1.52	3.46	4.70	2.26	3.48	3.97	2.39	1.30	.....	.....	.....	.....
Ellinwood	1,782	1.01	3.12	0.87	3.50	2.71	1.13	3.09	3.11	1.42	2.44	0.09	0.34	22.83
Emporia	1,134	1.25	1.70	1.15	3.10	1.50	3.00	0.70	3.50	2.50	1.80	.....	1.05	.....
Englewood	1,955	1.18	0.70	0.23	3.79	3.26	1.79	2.07	2.39	0.57	1.73	0.01	0.18	17.90
Eskridge	.....	.....	.....	.....	.....	.....	.....	2.12	1.99	0.98	1.34	1.00	0.75	.....
Eureka	1,075	1.48	1.14	2.84	2.95	1.49	5.28	1.26	3.94	1.77	2.67	0.12	0.69	25.63
Eureka Ranch	.....	0.69	0.49	0.35	5.96	1.15	2.00	3.28	1.75	1.11	2.57	0.07	0.27	19.69
Fall River	925	1.81	1.24	3.60	3.04	3.20	4.23	5.84	2.91	2.34	1.47	0.33	0.18	30.19
Fort Riley	1,074	0.99	1.35	1.80	2.08	3.09	3.02	3.69	2.73	0.77	2.12	0.27	0.88	22.79
*Fort Scott	800	4.77	2.41	5.47	3.59	2.85	10.52	2.35	2.22	0.51	0.54	0.30	3.06	39.19
Frankfort	1,146	0.45	1.22	4.80	4.35	4.34	5.76	3.25	4.84	0.75	2.61	0.75	1.45	34.57
Garden City	.....	.....	2.33	0.19	2.09	0.61	3.19	3.49	5.80	0.38	1.78	T.	0.50	.....
Garfield	2,066	0.69	0.98	0.34	4.67	0.85	1.93	1.35	1.35	0.67	2.80	0.23	0.34	16.20
Gibson	.....	0.60	0.60	0.35	4.90	3.04	2.12	4.76	1.80	1.74	2.25	0.11	0.40	22.67
Girard	993	.....	.....	.....	.....	.....	6.52	.....	2.16	0.13	.....	.....	.....	.....
Goodland	3,687	T.	0.50	1.85	1.89	1.01	3.41	2.54	4.11	.....	.....	.....	.....	.....
Gove	.....	0.20	1.00	1.75	4.68	3.53	4.49	4.77	1.87	3.42	2.67	0.15	0.30	28.83
Grainfield	.....	T.	0.50	6.00	3.30	1.50	4.02	3.75	3.00	2.70	1.50	T.	0.30	27.07
Grenola	1,116	0.95	0.90	3.53	5.77	1.56	2.98	4.62	3.30	1.09	1.42	0.21	1.15	27.48
Halstead	1,388	0.68	0.84	3.20	3.80	3.09	2.30	1.56	2.08	1.13	1.46	0.22	0.87	21.23
*Hays	1,993	0.20	0.50	1.60	7.92	1.50	3.10	2.83	2.22	2.66	3.75	T.	0.30	26.58
Horton	1,188	1.40	0.80	1.97	4.87	2.90	5.34	2.36	2.95	0.50	1.52	0.63	1.35	26.59
Hoxie	2,755	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.55	0.00	0.35	.....
Hutchinson	1,529	0.95	1.20	1.08	3.19	2.98	1.18	3.43	1.12	.....	.....	.....	1.17	.....
Independence	816	2.46	1.31	3.44	3.79	1.23	3.97	7.03	3.52	0.89	0.99	0.66	1.51	30.80
Lakin	2,991	0.01	1.20	0.10	1.70	0.01	1.51	2.25	6.30	0.60	2.15	T.	0.10	15.93
Lawrence	829	1.51	1.54	2.88	1.96	2.26	4.86	1.70	2.69	1.53	1.08	0.72	1.06	23.79
Lebo	.....	1.62	1.73	3.14	2.15	2.25	3.77	0.93	2.86	2.75	1.26	0.17	1.45	24.08
Linn	1,470	.....	.....	.....	.....	2.72	5.14	6.20	3.58	.....	.....	.....	.....	.....
*McPherson	1,495	1.16	1.40	1.90	4.13	2.92	3.22	7.13	2.57	1.58	1.99	0.08	0.19	28.27
*Macksville	.....	0.47	0.93	0.76	3.62	3.17	1.85	3.35	2.18	1.52	.....	.....	.....	.....
*Manhattan[1]	1,014	1.32	1.20	2.19	4.19	2.30	4.97	3.44	0.87	0.53	2.02	0.54	1.28	24.85
Manhattan[2]	1,014	1.47	1.41	2.21	3.66	2.42	4.54	3.97	1.03	0.53	2.04	0.57	1.20	25.05
Marion	1,305	1.10	0.80	3.10	2.35	3.50	1.90	1.98	3.90	0.70	2.20	0.20	0.80	22.53

[1] C. M. Breese.

[2] C. P. Blachly.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Kansas—Continued.	*Feet.*													
Meade	2,502	1.50	1.18	T.	4.63	3.77	1.75	2.55	2.90	1.45	1.92	0.00	T.	21.65
Medicine Lodge	.....	0.64	0.63	1.30	3.73	2.53	2.26	1.84	6.05	1.77	3.44	0.02	0.52	24.73
Minneapolis	1,259	0.79	1.15	1.04	2.38	2.84	2.39	2.00	1.93	1.01	3.07	0.18	0.75	19.53
Morantown	.....	2.60	1.80	3.97	3.04	2.27	4.24	1.26	2.56	1.76	0.81	0.33	1.54	26.18
Morland	.....	.....	.....	.....	6.00	1.67	3.15	3.75	2.72	.....	.....	T.	0.70	.....
Mounthope	.....	0.60	[5]0.90	3.46	3.18	3.18	2.55	1.44	2.54	1.15	1.02	0.22	1.00	21.24
Ness City	.....	.....	.....	.....	4.97	1.45	1.95	3.75	2.18	1.10	2.53	0.00	0.35	.....
Newton	.....	.....	.....	.....	3.26	5.02	1.64	1.71	3.35	0.82	1.44	0.27	0.84	.....
Norton	2,284	0.41	0.60	2.92	4.71	0.53	4.33	2.09	3.12	1.23	3.92	0.00	0.90	24.76
Norwich	1,496	0.98	1.17	1.65	3.36	2.75	1.91	1.18	2.20	0.83	1.15	0.08	.....	.....
Oberlin	2,539	0.40	1.10	3.30	6.70	0.28	5.00	2.65	4.75	2.94	5.07	0.50	1.80	34.49
Olathe	1,054	.....	2.73	3.30	2.53	1.75	6.84	1.40	2.85	2.52	0.55	0.84	1.03	.....
*Osage City	.....	1.33	1.90	2.93	2.49	2.71	6.75	2.01	2.83	2.11	1.20	0.37	1.08	27.71
Osborne	1,563	.....	.....	.....	.....	.....	.....	2.62	1.00	1.10	5.15	.....	0.25	.....
Oswego	899	3.47	2.15	4.47	3.33	1.24	4.21	6.26	1.44	0.05	1.71	0.93	1.40	30.66
Ottawa	975	2.22	1.43	3.75	2.28	3.24	11.01	1.00	4.01	2.42	0.59	0.55	1.20	33.70
Paola	865	2.35	1.95	2.35	1.35	.....	.....	.....	.....	.....	.....	.....	2.09	.....
Phillipsburg	1,939	1.58	.....	1.70	4.56	0.18	4.29	.....	1.81	2.41	5.18	0.10	0.90	.....
Pleasant Dale	.....	2.50	.....	0.45	5.42	3.20	1.31	1.35	4.11	1.18	3.16	T.	0.28	.....
Powhattan	.....	1.15	0.79	2.28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pratt	1,905	1.60	0.85	1.00	3.30	3.90	1.45	0.05	6.30	2.80	0.70	0.20	0.55	22.70
Rome	1,218	1.00	1.50	3.47	4.30	1.81	4.07	1.52	3.84	1.31	1.21	0.02	0.43	24.48
Russell	1,834	1.80	1.55	1.39	5.68	0.49	.....	2.50	1.84	1.04	3.26	0.41	0.37	.....
Salina	1,227	1.00	1.66	1.60	3.72	1.54	1.83	2.91	2.00	1.15	2.29	0.01	0.79	20.50
Scott City	.....	0.13	.....	.....	.....	.....	2.81	3.84	3.24	0.98	3.35	0.00	.....	.....
*Sedan	834	2.10	1.07	4.07	5.15	1.84	3.79	4.06	3.43	1.52	1.97	0.19	0.94	30.13
Seneca	1,156	.....	0.87	3.16	4.36	2.98	4.05	2.97	2.87	0.73	1.55	0.28	1.45	.....
Sharon Springs	.....	.....	0.70	1.50	3.00	0.00	4.10	3.75	3.45	1.75	3.00	0.40	0.30	.....
*Topeka	998	1.45	1.46	2.32	2.44	2.43	7.82	3.89	2.81	1.16	1.37	0.56	1.15	28.86
*Toronto	926	.....	.....	.....	3.35	1.23	3.38	3.17	3.01	1.90	1.15	0.35	1.06	.....
Ulysses	.....	0.55	1.80	0.18	1.40	1.73	0.25	1.85	4.13	0.40	1.39	T.	0.50	14.18
Viroqua	772	0.80	1.55	0.10	3.49	1.67	0.58	1.45	4.41	0.08	1.75	0.00	0.45	16.33
Wallace	3,303	0.01	0.15	0.81	2.09	0.49	1.58	2.72	4.83	1.79	4.43	0.25	0.36	19.51
Wamego	1,002	1.24	1.80	2.71	3.20	2.00	5.68	4.87	2.30	0.26	1.99	0.50	1.01	27.56
Wellington	1,221	0.21	1.45	2.28	4.81	0.65	2.11	1.40	2.99	T.	1.28	T.	0.18	17.36
White Rock	.....	0.40	T.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Wichita	1,351	1.23	1.31	3.34	3.66	2.48	1.99	1.49	4.33	1.22	3.89	0.10	0.97	26.01
Winona	.....	0.02	0.50	1.25	3.75	0.00	1.08	4.50	5.25	2.75	4.50	0.00	0.35	23.95
Yates Center	1,112	1.51	1.06	2.69	4.06	1.31	4.54	1.50	3.37	1.78	1.16	0.47	1.19	24.64
Kentucky.														
Alpha	.....	4.55	6.20	7.56	7.26	2.35	5.44	9.05	2.64	T.	0.85	4.13	5.21	55.24
Ashland	1,944	.....	.....	.....	.....	4.20	5.35	4.50	3.10	0.60	0.40	4.36	.....	.....
*Bardstown	637	2.51	6.54	8.17	6.16	3.47	4.93	8.49	3.52	0.58	0.72	4.73	3.64	53.46
Blandville	445	4.43	4.38	8.61	7.77	1.97	7.36	3.48	2.29	0.08	1.38	6.65	3.61	52.01
Bowling Green[1]	469	3.44	5.26	7.18	8.57	2.75	0.96	3.76	2.51	0.10	0.89	3.23	3.80	42.45
*Bowling Green[2]	469	3.34	4.56	7.61	7.45	2.43	0.80	2.98	2.30	0.08	0.80	3.15	3.76	39.26
*Burnside	773	2.75	7.12	7.04	5.51	3.18	4.08	4.77	5.45	0.01	0.65	3.32	4.94	48.82
Caddo	.....	2.77	4.85	6.25	3.73	4.47	2.58	6.59	2.43	.....	0.14	8.56	.....	.....
Canton	.....	3.90	3.72	8.65	9.97	2.83	6.12	3.82	1.02	T.	0.90	4.03	3.13	48.09
Carlisle	.....	2.80	6.24	5.47	4.31	5.00	3.59	3.11	3.00	0.01	.....	.....	.....	.....
Carrollton	472	2.54	6.75	6.47	2.96	3.10	2.98	5.89	1.79	0.18	0.83	8.11	2.99	44.59
*Catlettsburg	544	3.21	8.20	4.61	4.65	4.97	4.70	5.90	3.79	0.77	0.23	4.83	3.83	49.69
*Earlington	370	3.70	5.67	12.57	6.21	1.78	2.58	4.65	0.40	T.	2.29	4.83	3.91	48.59
Edmonton	.....	2.87	7.64	8.10	6.57	1.88	2.08	4.90	2.40	T.	0.82	3.74	3.80	44.80
Ensor	.....	.....	.....	10.75	5.27	2.03	2.17	0.82	0.88	0.08	4.26	4.79	3.28	.....
*Eubank	1,177	[4]2.22	7.59	6.69	7.10	3.89	2.20	6.37	2.46	.....	*0.32	2.34	3.59	.....
*Falmouth	530	2.55	6.76	6.08	4.26	5.51	2.70	5.82	3.41	0.43	0.42	8.49	3.29	49.72
Fords Ferry	.....	2.90	5.45	10.82	5.38	1.75	4.08	4.94	0.43	.....	.....	4.83	3.01	.....
Frankfort	560	2.97	5.28	6.29	5.58	3.71	4.12	[5]3.12	1.16	0.33	2.18	5.31	2.83	42.88
Franklin	691	4.50	5.48	8.01	6.76	1.30	.....	.....	.....	.....	.....	.....	.....	.....
*Greensburg	581	3.62	6.10	8.22	7.16	5.04	3.21	4.90	4.00	T.	0.78	3.77	3.78	50.58
*Henderson	382	3.35	4.19	11.64	6.29	2.03	4.39	7.23	0.61	0.08	2.18	4.69	3.05	49.73
*Hopkinsville	521	4.47	4.58	7.37	8.84	2.58	2.30	2.44	1.21	T.	1.44	3.49	3.57	42.29
Irvington	.....	.....	.....	.....	.....	.....	.....	1.51	1.61	0.05	2.46	5.21	2.74	.....
Leitchfield	635	3.36	6.66	9.62	5.72	3.10	1.84	2.86	3.70	T.	1.38	4.35	3.48	46.07
*Lexington	989	2.59	6.33	6.55	5.80	4.48	4.77	4.34	3.21	0.80	0.38	4.83	5.11	49.19
Loretto	711	.....	.....	.....	.....	.....	4.22	6.10	1.63	0.01	0.34	3.72	4.23	.....
*Louisa	526	2.10	7.30	4.14	5.34	3.36	3.29	.....	.....	.....	.....	.....	.....	.....
*Louisville	525	3.29	4.04	7.95	3.83	3.30	3.50	5.21	1.35	0.75	1.83	5.36	3.05	43.96
Lyndon	581	2.48	3.78	8.26	3.90	3.62	4.44	5.18	1.17	0.10	2.79	4.06	.....	.....
Marrowbone	.....	2.98	6.39	8.58	7.82	2.47	1.47	8.59	2.87	T.	0.70	4.34	3.87	50.08
Maysville	524	.....	.....	5.77	4.17	5.99	1.48	5.15	.....	.....	.....	.....	.....	.....
Middlesboro	1,000	4.03	7.13	9.80	6.75	6.04	4.76	5.33	2.66	0.10	0.91	2.38	5.27	55.16
Mount Hermon	.....	.....	.....	.....	.....	.....	1.88	6.37	1.28	T.	0.82	3.75	4.08	.....
*Mount Sterling	930	3.24	8.05	6.79	5.60	4.73	5.03	3.09	4.63	0.15	0.16	4.70	5.59	51.76
*Owensboro	479	3.73	4.75	9.36	6.72	2.19	2.47	2.17	0.78	0.26	2.34	4.60	3.40	42.77
Owenton	.....	2.71	5.81	8.39	7.07	4.38	2.95	4.07	2.21	0.18	0.73	9.29	3.74	51.53
*Paducah[3]	341	3.21	4.39	8.65	9.23	2.60	5.68	4.11	1.22	T.	0.59	5.74	3.66	49.08
*Paducah[4]	341	3.94	4.53	9.38	9.89	2.53	5.98	3.83	1.23	0.00	1.82	4.69	3.49	51.31
Pilot Oak	411	4.96	3.02	.....	.....	1.22	5.07	.....	.....	.....	.....	.....	.....	.....
*Pleasure Ridge Park	447	3.50	4.48	8.41	4.40	3.58	5.25	2.28	1.63	0.20	2.96	6.23	3.76	46.88
Princeton	455	4.13	6.10	10.60	6.45	.....	3.22	4.60	2.56	T.	1.64	4.55	3.19	.....
*Richmond	926	2.13	7.68	5.99	6.77	3.42	3.65	5.90	4.39	0.53	0.46	3.02	4.15	48.09
Russellville	534	4.25	4.90	9.53	7.81	1.59	1.59	5.25	5.01	T.	2.31	2.45	3.55	48.24
*St. John	760	3.41	5.60	8.92	5.11	3.39	3.31	2.71	1.33	0.03	1.65	4.46	3.62	43.54
Sandyhook	.....	2.77	4.18	4.04	4.78	4.37	4.88	5.54	1.77	0.49	0.26	2.44	3.58	39.10
Scott	.....	.....	.....	.....	.....	.....	1.65	5.10	2.30	1.20	0.63	7.67	2.47	.....

[1] J. E. Youngloye. [2] M. H. Crump. [3] River observer. [4] W. Bornemann.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Kentucky—Continued.	*Feet.*													
Sergent								4.60	3.40		0.07			
Shelby City	969						1.51	4.83	1.59	0.00	0.18	3.88	4.17	
*Shelbyville	690	2.95	5.60	7.51	4.59	4.45	4.03	5.91	2.69	0.39	1.19	5.74	3.53	48.58
Southfork	981		8.86	8.46	5.16	5.58	3.73	7.53	1.82	0.84	0.91	2.94	4.49	
Vanceburg			8.40	5.33	4.30	5.82	2.85	4.15	4.10	0.45	0.40			
*Williamsburg	939	3.74	6.68	9.83	6.48	4.40	4.50	7.80	3.00	T.	1.30	3.10	5.60	56.43
Louisiana.														
Abbeville		5.36	4.10	5.65	12.40	1.75	1.40	6.75	9.55	2.95	6.20	4.00	5.75	65.86
*Alexandria	77	7.59	4.06	4.64	3.31	5.29	2.41	3.40	5.08	0.97	2.00	4.62	13.59	56.94
*Amite	130	5.19	7.13	4.26	6.07	4.44	2.91	8.09	10.62	1.10	0.95	5.90	6.49	63.15
Bastrop	130	5.92	3.64	7.72	1.52	3.00	4.77	2.42	1.42	1.60	3.70	2.99	8.82	47.52
*Baton Rouge	35	4.83	5.06	5.78	7.27	4.57	4.85	5.38	10.70	1.91	5.86	4.08	7.06	67.35
Calhoun	180	7.06	3.44	6.22	2.00	2.70		[7]3.32	2.47	1.62	2.49	1.12	9.17	
Cameron		10.73	0.93	5.82	2.53	2.05	2.54							
*Cheneyville	67	6.69	3.98	5.45	2.58	3.97	4.18	4.53	4.15	0.85	0.96	3.61	3.54	44.49
Clinton		4.84	4.98	6.45	2.77	1.27	3.64	3.73	9.48	2.31	2.90	2.47	4.35	49.19
Como								[6]7.29	0.86	T.	1.64			
*Covington		7.70			7.74	3.27	3.44	3.30	8.55	1.27	1.35	1.32		
Davis	9	6.47		4.18	1.93									
*Donaldsonville	33	4.07	9.92	6.96	11.08	1.10	3.44	5.39	7.90	2.41	1.90	5.08	8.03	67.28
Elm Hall			6.20	6.67	7.15	0.90	1.97	7.63		2.95				
Emilie		3.45	5.95	4.72	4.83	2.00	2.25	3.91	8.66	2.66	2.09	3.31	5.47	49.30
Farmerville	177	6.00	2.68	7.81	1.98	3.74	[8]2.61		[9]0.67	1.06	4.27	2.63	8.56	
*Franklin	10	5.54	4.99	4.84	7.26	4.23	1.40	5.26	7.18	4.04	2.71	4.01	8.25	59.71
Grand Coteau	93	6.42	3.77	4.55	2.46	2.45	6.42	2.11	9.82	2.06	3.72	3.85	4.82	52.45
Hammond	44	5.27	6.66	5.55	6.45	4.72	2.50	5.02	13.46	1.96	3.46	2.56	10.81	68.42
Houma		4.12	4.70	1.48	10.64	0.15	4.01	5.82		3.63	2.75	1.25	6.26	
Jeanerette	20	7.17	6.93	5.10	7.40	2.42	2.69	7.92	6.34	3.42	6.69	7.39	7.00	70.74
Jennings	39									2.12	2.99	2.78	6.22	
*Lafayette	22	4.45	2.28	6.31	4.49	2.93	2.58	3.32	9.60	4.58	5.88	2.62	3.39	52.43
*Lake Charles	22	10.95	2.16	5.52	2.83	1.98	7.45	2.04	8.59	2.28	4.82	2.37	6.87	57.86
Lake Providence	107	4.13	4.47	7.54	2.00	0.54		1.75	6.63	T.	3.30			
Lawrence		1.83	6.72	3.50	6.66	2.75	5.63	4.72	3.86	3.04	5.04	0.93	5.64	50.37
Liberty Hill		6.84	3.40	6.81	2.44	2.49	6.08	2.00	2.97	0.82	5.93	1.77	10.17	52.72
*Mansfield	321	6.45	1.95	4.40	2.81	3.87	3.90	1.43	0.63	1.50	6.00	0.75	8.20	41.89
*Melville	45	5.51	6.19	3.55	1.57	3.90	5.76	2.70	10.70	1.70	3.78	4.60	4.90	54.86
*Minden		6.06	1.28	6.48	1.89	1.46	3.11	1.14	2.74	0.10	5.25	3.14	[4]7.05	39.70
*Monroe	82	5.85	3.66	4.33	2.29	1.73	3.39	1.30	2.30	0.10	2.02	2.33	10.92	40.22
Montgomery		8.77	2.55		2.46	0.72	6.59	4.20	7.58		5.94	2.70		
New Iberia	15	4.85	6.38	6.50	8.74	0.75	2.45	7.23	8.30		5.75	2.80	8.35	
*New Orleans	54	1.92	4.82	4.82	5.75	0.25	4.82	4.70	3.12	3.19	2.70	3.38	4.00	43.47
Oakridge		[6]6.52	3.81	5.62	2.69	1.35	4.16	5.31	1.73	T.	3.40	3.04	12.39	50.02
Oberlin		12.20	2.50	5.40	3.60	1.40	9.55	2.50	3.10	1.40	2.50	2.87		
*Opelousas	83	6.26	5.50	5.50	3.17	3.25	4.90	2.03	10.56	1.48	3.19	5.95	6.08	57.87
Oxford	258	8.67	2.73	5.82	2.92	2.29	4.17	3.83	2.44	1.40	4.74	1.82	8.62	49.45
Paincourtville		3.86	5.72	7.63	10.28	0.82	2.51	4.14	3.69	3.29	2.95	3.18	7.02	55.09
Plain Dealing	268	7.77	0.88	6.71	4.31	2.36	3.52	2.45	2.36	3.35	2.78	1.75	6.56	44.80
Plaquemine	25										1.54	2.02	3.61	
*Port Eads	2	5.01	4.19	2.43	11.70	1.87	0.00	2.22	6.90	8.60	4.26	1.47	3.27	51.92
*Rayne	44	6.98	3.47	[6.00]	3.76	2.91	2.58	4.68	9.97	2.86	5.88	5.20	3.13	[57.42]
*Robeline	147	[1]3.51	5.43	2.29	2.26	0.88	3.37	0.44	2.75	0.43	2.59	4.74	14.60	43.29
Ruston	312	4.81	3.21	7.11	2.84	2.04	6.22	3.41	2.17	1.60	4.08	1.42	9.46	48.37
*Schriever		4.80	5.48	3.96	8.18	3.32	3.41	6.99	4.98	5.05	2.48	2.93	6.92	58.50
Shellbeach		4.60	3.56	5.36	4.76	4.08	1.99	3.37	8.34	4.03	5.05	3.68	3.65	52.47
*Shreveport	249	5.84	0.43	6.95	1.71	3.29	3.08	1.45	1.86	1.11	3.67	2.16	5.22	36.72
Southern University		2.80	5.80	4.85	5.35	0.50	3.95	2.45	3.90	2.40	2.75	3.20	6.85	44.80
Sugar Experiment Station	18	8.44	5.92	6.73	5.89	1.11	8.01	3.03	3.56	3.56	3.93	3.37	5.74	54.29
Sugartown		7.64	2.81	[5]5.88	1.26	1.97	3.22	0.90	1.88	1.16	5.14	2.14	7.76	41.76
Thibodeaux	2	3.39	2.96	4.58	9.60	3.07	2.74							
Venice		5.69	8.36	5.61	4.85	0.65	2.47	2.93	10.67	3.68	3.23	0.65	3.73	52.52
Wallace	15	3.51	5.42	6.09	6.41	0.61	6.03	4.49	8.50	3.57	2.42	3.13	6.44	56.62
Whitehall			4.81	5.47	4.69	3.68	2.30	5.82	7.90	2.98	3.15	5.75	9.00	
White Sulphur Springs		3.78	2.71	4.80	2.85	2.87	4.11	3.77	8.94	0.53	2.18	2.45	12.93	56.92
Maine.														
Bar Harbor	20	4.82	2.29	3.54	2.75	6.36	4.00	5.62	8.22	2.33	0.35	9.25	4.35	53.88
Belfast	178	3.98	2.32	4.65	2.90	5.02	3.08	3.19	3.92	2.09	0.90	5.75	3.50	41.30
Calais		4.74	1.63	4.65	3.86	5.53	3.45	4.75	4.71	2.49	0.44	6.35	2.93	45.53
Cornish	778	4.02	3.23	2.96	3.07	6.66	8.68	7.19	4.84	3.15	0.77	6.36	5.13	56.06
Cumberland Mills		4.25	2.53	4.06	2.60	5.94	4.87	2.97	2.18	2.35	0.31	6.64	4.62	43.32
*Eastport	53	3.14	1.45	4.03	3.35	7.88	3.32	2.78	2.79	1.82	0.61	5.79	2.61	39.57
Fairfield	90	3.31	1.00	2.63	2.40	4.47	3.39	3.52	2.82	2.54	0.53	3.98	3.06	33.65
Farmington	368	5.45		4.85	3.19	3.75	4.32	8.11	3.93	2.98	0.95	5.01	4.98	
Flagstaff	1,400	2.90	2.60	3.02		7.33	4.27	7.77	5.01	3.72	0.72		[2]2.53	
Fort Fairfield	415	1.44	1.55	2.60	1.76	3.80	3.65	6.15	4.26	2.80	1.80	3.10	2.93	35.84
Gardiner	163	4.51	2.13	4.30	2.86	5.94	4.32	3.15	2.66	3.11	0.92	5.99	3.83	43.72
Indian Stream		3.90	2.07	3.92										
Jackman			2.20	2.50	0.95	5.00	4.00	6.23	2.45	4.20	1.68			
Klueo	1,060	2.82	1.95	2.43	3.27	3.96	2.50	8.37	3.11	2.62	1.52	2.69	2.25	37.58
Lewiston	185	5.17	2.55	4.49	2.93	5.25	3.71	6.63	3.79	3.43	0.95	5.92	4.65	49.47
Mayfield					4.56	5.04	3.41	8.04	4.07	3.01	1.43	5.12	3.43	
North Berwick	140	5.25	3.25		2.92	7.34								
North Bridgton	450	4.59	3.17	4.74	2.93	5.47	6.00	13.25	3.35	2.76	1.14	5.79	4.76	57.95
Orono	129	3.03	2.38	3.96	3.03	4.49	3.71	2.02	5.09	2.65	1.01	5.04	3.58	39.99
*Portland	103	4.09	2.80	4.55	2.60	5.87	4.97	2.62	1.41	2.34	0.46	6.69	4.22	42.42
Winslow			1.39	3.06	2.44	5.30	3.34	5.50	3.42	3.02	0.68	4.96	2.71	

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Maryland.														
Annapolis	20	.....	4.68	2.46	2.80	6.67	1.73	5.76	4.39	2.17	3.69	4.98	3.48	.....
Bachmanns Valley	.....	2.20	7.18	5.50	3.37	7.52	3.71	5.10	5.62	2.08	2.22	8.43	3.59	56.52
*Baltimore	142	2.05	5.13	2.40	3.19	6.88	2.57	6.93	4.71	2.17	3.67	4.39	3.40	47.49
Boettcherville	900	1.90	4.50	2.80	2.30	4.60	2.20	4.30	2.60	1.50	0.70	4.60	3.30	35.30
Charlotte Hall	167	1.75	5.03	2.52	2.33	4.69	2.69	6.78	3.04	0.95	6.21	3.19	2.98	42.16
Cherryfields	20	1.92	5.59	5.05	2.73	2.83	2.82	2.78	3.95	0.58	5.53	1.72	2.78	38.28
Chestertown	80	2.40	4.22	2.97	3.58	4.71	5.35	8.43	4.95	1.28	3.39	5.58	.....	.....
Collegepark	170	1.76	6.11	2.91	3.35	7.45	3.49	5.29	3.02	1.78	4.00	3.98	.....	.....
Cumberland[1]	650	1.76	5.82	2.86	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cumberland[2]	650	1.80	5.81	2.94	3.00	3.47	1.88	4.41	2.26	1.50	0.81	4.85	3.30	36.03
Darlington	300	1.93	4.20	3.23	3.16	5.47	1.27	6.76	2.57	1.94	2.85	4.82	2.48	40.68
Deerpark	2,457	2.80	4.20	3.48	2.77	3.73	.....	5.13	5.33	1.67	1.37	5.84	4.93	.....
Easton	35	2.04	5.47	2.12	2.36	3.32	3.35	8.30	3.18	0.73	5.32	3.40	4.12	43.71
Ellicott City	.....	1.93	5.84	2.49	2.46	6.73	.....	.....	.....	.....	2.59	5.85	3.66	.....
Fallston	450	2.19	5.64	2.53	3.22	5.92	3.01	9.49	4.67	1.40	3.36	5.32	3.67	50.48
Flintstone	.....	2.02	5.63	3.34	2.75	4.30	2.53	3.64	2.31	2.24	0.88	4.84	3.20	37.68
Frederick	250	1.39	4.77	2.72	2.32	3.71	2.06	7.33	2.25	1.63	1.42	5.01	3.74	38.35
Grantsville	2,100	3.97	7.53	3.52	2.99	3.86	2.72	6.16	2.04	2.27	0.55	6.20	4.11	45.92
Greatfalls	150	1.22	5.71	2.71	2.18	5.42	2.28	5.06	1.82	0.91	2.16	4.07	2.36	35.90
Greenspring Furnace	500	1.96	4.78	2.94	2.19	5.20	1.85	4.73	3.91	2.08	0.97	4.75	2.86	38.22
Hagerstown	550	0.87	6.17	3.17	2.37	4.30	.....	4.69	2.53	2.48	0.98	4.96	3.45	.....
Jewell	165	2.19	5.25	3.00	2.16	5.79	2.29	19.90	4.71	1.37	5.79	2.91	3.32	58.68
Johns Hopkins Hospital	.....	1.81	5.38	2.38	3.35	6.34	3.01	7.93	4.60	2.22	4.21	5.15	3.67	50.04
Laurel	.....	2.05	5.51	3.08	3.29	5.62	2.40	6.70	2.33	1.55	4.54	5.15	3.75	45.97
Mardela Springs	25	2.48	5.14	3.73	4.15	3.79	2.79	9.96	2.89	1.17	7.73	2.83	3.92	50.58
Mount St. Mary's College	720	2.26	3.53	3.04	2.90	5.97	3.52	7.99	3.23	2.65	2.24	6.15	3.12	46.60
Newmarket	550	1.66	5.99	3.28	3.15	5.31	2.76	9.48	[4]4.11	1.61	2.21	6.69	3.31	49.56
Pocomoke City	37	1.95	5.86	3.46	3.29	3.07	1.35	8.09	3.00	.....	3.65	1.59	4.25	.....
Port Deposit	.....	.....	.....	.....	2.66	5.51	0.82	7.64	1.48	1.45	2.63	5.40	4.50	.....
Princess Anne	20	1.65	4.72	3.17	3.24	3.12	2.62	11.38	2.76	1.25	5.92	2.81	3.09	45.73
Sharpsburg	420	1.31	5.17	2.40	2.21	5.25	2.40	3.99	5.19	1.54	1.29	4.59	3.23	38.57
Smithsburg	750	.....	.....	.....	2.77	5.52	2.71	5.52	2.78	2.41	1.27	5.23	3.60	.....
Solomons	20	1.68	5.51	3.14	2.00	2.41	5.69	7.39	3.19	0.50	5.42	1.90	3.31	42.14
Sunnyside	2,440	3.07	9.17	4.69	5.06	5.83	6.47	5.51	5.10	3.37	1.06	8.14	6.38	63.85
Taneytown	493	1.84	4.47	2.49	3.10	7.34	3.95	7.27	4.46	2.59	1.70	6.04	4.13	49.38
Van Bibber	22	2.08	5.57	2.31	3.81	5.36	2.31	9.26	4.52	1.22	3.85	4.94	4.07	49.30
Western Port	1,000	1.88	4.86	2.22	3.07	3.80	1.39	3.01	3.38	1.84	1.20	[5]3.95	1.96	32.56
Westminster	700	2.09	5.16	2.58	3.13	6.63	.....	.....	.....	.....	3.28	6.71	3.17	.....
Woodstock	392	1.78	5.51	2.74	2.63	6.64	3.81	.....	4.57	1.88	2.35	6.50	4.17	.....
Massachusetts.														
Amherst	267	3.78	2.52	3.31	2.57	4.24	6.68	13.87	4.32	1.99	0.76	5.79	6.98	56.81
Andover	85	3.75	.....	1.37	6.01	4.91	4.69	3.12	2.66	.....	.....	.....	.....	.....
Attleboro	129	4.29	2.74	1.78	2.59	4.81	3.91	5.58	3.74	1.84	0.61	6.75	5.15	43.79
Bedford	129	4.09	2.53	3.64	2.48	4.72	5.01	3.45	3.59	3.11	0.55	6.29	3.71	43.17
Bluehill	640	4.16	2.77	2.94	3.20	4.38	3.60	4.86	5.74	2.18	0.63	6.77	4.17	45.40
*Boston	125	3.16	2.12	2.79	3.17	4.00	4.46	4.22	3.95	2.38	0.41	6.19	3.92	40.77
Cambridge	74	4.01	2.53	2.92	2.70	3.78	5.98	4.06	4.47	3.00	0.40	6.45	.....	.....
Chestnut Hill	124	4.09	2.79	3.08	3.23	4.40	4.53	4.38	4.68	3.22	0.53	6.74	4.50	46.17
Cohasset	.....	3.85	2.78	3.16	.....	4.70	3.71	4.85	5.09	2.34	0.99	7.65	4.29	.....
Concord	139	3.18	2.52	3.75	2.26	4.39	3.88	4.50	3.45	2.99	0.35	5.81	4.34	41.42
Dudley	.....	2.77	2.10	3.37	2.14	4.27	3.59	9.95	3.25	1.85	0.75	6.02	4.85	44.91
East Templeton	.....	2.09	1.51	1.58	0.76	3.96	4.16	11.03	3.60	1.71	0.53	5.54	4.14	40.61
Fall River	200	4.35	2.44	3.18	3.95	4.10	2.35	4.60	5.87	2.38	1.10	8.22	4.43	46.97
Fiskdale	.....	2.34	2.05	2.25	2.88	3.75	3.67	9.41	3.08	1.36	0.64	6.71	4.78	42.92
Fitchburg[3]	550	2.61	2.42	2.66	1.35	4.86	5.09	12.68	2.50	2.37	1.03	7.33	6.39	51.29
Fitchburg[4]	550	3.22	2.86	3.83	1.81	4.41	4.37	8.88	3.08	1.94	0.91	6.91	5.70	47.92
Framingham	160	4.14	2.85	3.43	2.85	4.46	4.44	5.34	2.95	2.51	0.41	6.45	5.06	44.89
Groton	333	3.08	2.68	3.98	2.04	4.78	6.30	6.57	4.52	2.85	1.08	7.77	6.03	51.58
Hyannis	31	2.71	2.23	3.01	[6]5.57	2.89	1.97	4.44	4.37	1.05	1.74	7.96	3.52	41.46
Jefferson	.....	.....	.....	.....	.....	4.84	4.95	8.48	2.71	1.70	1.00	8.03	7.07	.....
Lawrence	51	4.22	2.66	3.75	2.06	4.84	5.38	3.02	3.29	2.48	0.30	6.05	3.72	41.77
Leeds	390	3.75	3.52	3.48	2.32	4.34	6.56	12.36	4.89	2.24	0.88	5.66	5.46	55.46
Leicester Hill	960	3.60	2.46	3.14	1.93	5.44	3.94	7.44	3.32	2.43	0.63	8.07	6.02	48.42
Leominster	.....	3.41	2.63	4.08	2.28	5.22	5.35	9.96	3.11	2.27	0.91	7.29	5.73	52.24
Longplain	.....	3.82	2.82	3.11	3.73	6.70	3.31	4.45	8.23	0.81	1.56	7.43	3.51	49.48
Lowell	100	4.35	2.96	4.15	2.25	4.94	6.11	4.62	5.63	3.04	0.59	6.49	5.32	50.45
Ludlow Center	239	4.10	2.25	3.27	2.75	4.74	5.21	13.12	4.32	1.86	0.93	5.77	5.77	54.09
Mansfield	169	5.06	3.39	3.46	3.54	5.17	3.49	5.24	4.93	3.74	0.66	8.06	4.60	51.36
Middleboro	53	4.52	2.14	2.29	3.80	4.19	3.26	4.80	2.63	1.45	0.94	6.95	3.49	40.46
Monson	420	4.18	3.07	3.46	1.61	5.15	3.96	9.45	3.23	1.31	1.07	7.21	5.70	49.40
Mount Nonotuck	.....	3.42	2.44	3.42	2.63	4.14	5.73	15.37	3.68	1.52	0.73	5.95	5.63	56.66
Mount Wachusett	.....	3.19	2.04	4.42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Nantucket	14	2.59	2.69	3.05	4.47	2.30	1.64	4.32	2.66	1.31	1.63	3.90	3.17	33.73
New Bedford[5]	88	3.97	2.53	2.79	4.30	6.07	2.48	3.85	8.57	0.88	1.42	9.74	4.36	50.96
New Bedford[6]	88	3.73	2.69	2.81	4.28	5.81	2.86	4.30	7.56	1.01	1.55	9.43	4.62	50.65
New Salem	.....	.....	.....	4.27	2.50	4.50	6.40	13.77	4.32	1.20	0.97	6.68	6.74	.....
Pittsfield	1,038	3.52	2.78	3.16	3.67	3.66	5.01	12.19	4.61	1.28	1.55	7.05	5.77	54.25
Plymouth	.....	4.24	2.00	2.31	4.28	3.65	2.99	2.88	2.91	1.42	0.87	6.42	3.37	37.34
Princeton	956	2.92	3.01	4.08	2.22	5.64	5.39	10.00	3.57	2.17	0.97	7.43	6.23	53.63
Salem	.....	2.80	2.06	2.69	2.95	4.89	4.19	4.76	3.99	2.27	0.43	6.66	2.39	40.08
Somerset	.....	3.88	1.72	2.83	4.65	4.71	3.01	4.65	6.12	2.45	1.34	8.82	4.63	48.81
South Clinton	.....	3.29	2.94	4.21	2.63	4.60	4.85	7.06	3.94	2.21	0.92	7.45	6.22	50.32
Springfield Armory	120	3.99	2.67	3.07	2.24	4.70	6.22	14.99	4.09	1.52	1.64	5.15	5.10	55.38
Sterling	436	3.59	2.53	3.81	2.24	5.18	5.25	9.06	3.66	1.66	0.87	7.58	6.31	51.74
Taunton[7]	40	4.32	3.27	2.91	4.07	5.10	3.33	5.75	4.06	3.32	1.18	8.52	4.79	50.62
Taunton[8]	40	4.23	3.00	2.94	4.28	4.97	3.25	5.69	4.15	2.90	1.13	8.16	4.58	49.28

[1] W. Bruce.
[2] Howard Shriver.
[3] Dr. J. Fisher.
[4] A. P. Mason.
[5] T. R. Rodman.
[6] New Bedford waterworks.
[7] Mrs. H. B. Sprague.
[8] E. L. Redfern.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Massachusetts—Continued.	*Feet.*													
Turners Falls	187	3.11	2.04	.....	.....	.....	6.59	15.39	2.59	1.26	1.48	4.77	5.74	.....
*Vineyard Haven	20	3.89	2.68	3.61	5.95	3.28	2.83	5.28	5.04	0.80	2.44	6.42	4.51	46.73
Wakefield	107	4.50	2.67	3.63	2.88	5.66	6.50	3.60	[d]3.61	2.57	0.36	6.72	.....	.....
Webster	440	3.25	2.65	3.49	2.38	4.31	2.83	7.72	3.93	1.69	1.07	6.67	4.52	44.51
Westboro	298	2.44	2.75	3.91	2.43	4.04	4.53	6.49	2.66	2.22	0.62	6.55	5.29	43.93
Weston	165	4.29	2.69	3.35	2.64	4.39	5.12	4.36	4.45	2.76	0.39	6.32	3.99	44.75
Williamstown	602	2.62	1.37	2.93	3.50	4.21	6.61	9.74	3.40	2.12	0.86	6.46	4.61	49.43
Winchendon	984	3.71	2.15	3.67	2.33	4.06	5.34	10.25	5.62	1.78	0.82	6.40	5.01	51.14
*Woods Hole	22	3.41	1.96	2.83	5.73	3.02	2.05	5.30	3.23	0.93	1.92	7.34	4.18	41.95
Worcester [1]	514	3.41	2.31	3.75	2.30	3.37	3.05	7.10	.....	.....	.....	.....	.....	.....
Worcester [2]	514	3.26	2.95	4.09	2.65	4.52	4.13	7.25	3.21	1.85	1.05	6.92	6.04	47.92
Michigan.														
Adrian	810	2.36	0.83	2.98	3.06	3.41	3.24	1.56	3.22	0.90	0.96	4.02	1.55	28.09
Allegan	707	.....	.....	3.30	2.70	3.00	1.70	0.95	3.00	0.50	0.23	1.48	.....	.....
Alma	.....	4.96	1.26	4.09	3.17	2.68	3.63	4.63	1.24	1.83	2.88	2.45	2.51	35.33
*Alpena	609	3.00	1.09	2.11	4.59	5.43	1.62	3.81	1.77	0.87	4.33	1.50	2.47	32.59
*Ann Arbor	611	2.79	1.46	3.40	3.07	4.74	2.69	1.66	2.88	1.35	1.68	4.79	2.00	32.51
Arbela	.....	4.05	0.94	3.15	2.62	5.68	2.00	8.11	3.22	1.74	2.48	3.68	1.56	39.23
*Badaxe	758	.....	.....	.....	.....	4.97	1.73	3.16	2.59	2.19	.....	.....	.....	.....
Baldwin	837	5.43	1.47	1.94	4.49	2.52	1.19	2.17	1.13	1.67	2.28	2.86	3.79	30.94
Ball Mountain	.....	2.68	1.63	3.77	1.51	4.77	3.22	3.09	1.59	0.76	1.66	3.33	1.83	29.84
Baraga	621	2.43	0.94	2.67	1.88	2.54	2.87	3.15	1.59	1.75	2.81	.....	4.10	.....
*Battlecreek	823	4.80	1.22	3.31	2.18	2.85	3.60	1.69	1.99	0.86	2.15	4.08	2.66	31.39
Bay City	593	3.70	0.61	4.26	3.61	3.65	0.64	10.10	1.16	0.69	3.24	2.30	2.15	36.11
Benton Harbor	596	4.31	3.23	2.68	2.97	[k]0.11	0.84	0.16	1.44	0.87	1.81	4.16	3.00	24.68
Benzonia	.....	3.95	1.47	0.85	3.15	2.60	3.63	4.58	.....	.....	3.50	.....	.....	.....
Berlin	636	3.15	1.51	3.96	1.92	4.34	2.14	2.98	1.75	1.11	1.87	3.86	2.32	30.91
Berrien Springs	.....	7.88	1.55	3.82	2.26	2.87	2.41	0.93	2.62	0.51	2.14	5.25	5.80	38.04
Big Rapids	1,000	6.68	1.19	3.65	4.56	2.02	1.85	2.01	0.31	1.72	1.99	2.49	3.06	31.53
Birmingham	778	.....	.....	2.35	2.67	4.78	2.73	3.22	3.62	0.55	1.47	5.15	2.17	.....
Boon	.....	7.24	2.22	3.32	5.39	3.68	3.80	3.21	1.61	3.49	3.38	2.44	4.56	44.34
Bronson	926	3.43	0.81	2.71	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Calumet	.....	3.01	1.62	1.39	2.29	3.67	2.53	3.80	1.94	1.52	2.77	1.18	2.92	28.64
Camden	.....	3.45	.....	.....	2.67	3.10	2.41	1.69	.....	.....	1.66	5.23	2.57	.....
Carsonville	768	1.83	0.76	2.44	1.04	4.79	1.53	3.52	1.30	0.57	2.56	3.15	1.38	24.87
Charlevoix	.....	6.40	1.30	1.62	1.50	2.25	1.90	1.75	1.87	2.77	3.75	2.40	3.42	30.93
Cheboygan	604	2.69	1.07	1.47	3.06	3.25	2.08	2.58	3.01	2.61	3.63	1.71	1.68	28.84
Clinton	832	2.35	3.02	3.53	2.25	3.50	3.92	2.34	2.83	0.91	1.88	5.33	1.88	33.74
Coldwater	982	.....	.....	.....	2.65	5.30	2.39	4.64	1.74	0.31	1.84	5.48	2.17	.....
*Detroit	724	1.65	1.14	3.70	2.09	4.03	3.52	1.70	3.10	1.02	1.31	5.13	1.95	30.34
East Tawas	588	3.17	.....	3.31	4.06	3.29	1.48	2.99	2.63	0.60	4.69	1.14	1.45	.....
Eloise	.....	.....	.....	3.38	2.00	3.76	2.33	2.91	3.95	1.61	1.04	5.04	1.90	.....
Escanaba	612	2.95	1.22	2.74	2.35	1.92	3.76	2.78	2.24	2.00	3.76	1.50	1.33	28.55
Ewen	1,131	.....	.....	.....	1.47	.....	2.80	.....	.....	3.62	.....	1.75	.....	.....
Fairview	.....	2.62	1.07	2.99	1.38	3.08	3.19	1.78	2.29	0.41	1.01	3.99	1.95	25.76
Fitchburg	.....	5.48	1.53	4.03	1.77	3.85	2.67	3.55	2.73	1.00	1.43	6.03	3.25	37.32
*Flint	726	2.00	0.90	2.10	2.06	3.65	1.37	3.90	3.08	0.84	1.46	3.12	1.61	26.09
Gladwin	784	5.68	1.45	2.41	5.90	3.30	2.27	3.18	0.68	0.60	1.70	0.85	2.40	30.42
*Grand Haven	628	7.99	1.12	3.21	3.12	1.18	2.61	3.03	2.01	1.44	1.28	2.59	2.74	32.22
Grand Rapids	646	.....	1.17	4.69	3.07	1.66	1.91	1.72	1.06	1.11	1.97	2.56	3.77	.....
Grape	.....	2.03	1.15	2.26	3.09	2.83	4.74	3.57	3.39	1.34	0.80	4.31	1.47	30.98
Grayling	1,134	2.27	0.91	2.70	4.57	2.63	1.20	2.80	2.35	1.60	2.37	1.39	3.65	28.84
Hanover	1,111	3.70	1.35	2.06	2.93	4.28	2.61	4.05	4.84	1.51	1.44	5.42	3.10	37.29
Harrison	.....	3.93	1.46	3.38	4.12	2.38	1.61	[e]2.73	2.60	1.77	3.29	1.88	.....	.....
Harrisville	.....	3.11	1.67	4.14	5.22	4.67	1.33	4.28	2.99	1.05	4.03	.....	3.58	.....
Hart	.....	9.05	2.04	2.48	4.16	1.81	2.45	2.18	0.92	1.52	.....	2.08	3.19	.....
Hastings	790	6.40	1.16	3.30	2.95	2.58	2.44	2.99	1.29	1.17	1.90	3.07	3.42	32.67
Hayes	.....	3.93	1.09	2.80	3.08	4.09	2.23	3.74	1.53	1.13	2.72	1.83	1.51	29.68
Highland Station	.....	3.52	1.16	4.35	2.07	3.64	3.82	3.93	2.64	0.10	0.77	4.74	2.57	33.31
Hillsdale	1,094	.....	.....	.....	2.09	4.08	1.71	2.38	0.74	0.46	2.39	4.92	2.66	.....
Howell	921	2.90	0.97	3.13	2.25	2.20	1.75	5.05	3.14	0.10	1.88	4.04	.....	.....
Humboldt	1,534	1.15	1.13	1.17	0.93	2.32	2.25	3.10	1.60	2.24	2.97	1.19	0.76	20.81
Ionia	658	4.18	0.29	2.78	2.66	1.92	1.80	3.22	1.32	1.00	2.09	2.53	1.95	24.74
Iron River	1,491	2.44	0.73	1.65	2.60	2.09	3.51	5.26	1.15	1.12	4.45	1.24	1.04	27.33
Ivan	.....	.....	[h]1.15	2.78	5.72	3.98	2.31	2.93	1.84	2.47	2.68	1.69	4.84	.....
Jackson	926	.....	.....	2.67	1.32	2.93	4.26	2.09	2.33	0.98	1.25	4.63	1.54	.....
Jeddo	742	2.53	1.42	2.78	1.90	4.43	2.54	5.89	1.44	0.69	1.95	4.93	2.22	32.72
Kalamazoo	778	6.98	1.10	3.10	3.17	3.30	4.59	2.35	2.20	0.91	1.97	4.01	2.81	36.49
Lake City	.....	5.66	1.30	2.80	5.78	2.28	2.53	3.94	1.32	1.46	.....	.....	1.68	.....
*Lansing	841	3.62	1.22	3.20	2.43	3.43	3.68	7.36	2.03	0.91	2.14	3.39	1.95	35.36
Lapeer	829	2.72	0.92	2.78	2.30	5.06	1.77	3.13	2.24	0.67	0.58	3.06	1.00	26.23
Lathrop	.....	2.80	1.17	2.05	1.68	2.04	3.16	3.71	1.01	2.14	3.83	2.24	1.12	26.95
Ludington	590	5.54	1.25	1.32	1.08	2.73	1.48	0.93	0.42	1.20	3.20	2.21	2.06	23.42
Luzerne	.....	3.41	1.62	3.12	5.56	3.38	1.66	3.73	3.48	1.62	3.87	1.68	3.62	36.70
Mackinaw City	596	2.07	1.10	2.23	2.98	2.52	2.40	1.65	2.38	2.20	3.53	2.43	2.00	27.49
Madison	.....	2.38	1.05	3.04	2.90	3.10	2.46	1.49	3.17	0.44	0.62	4.02	1.86	26.53
Mancelona	.....	4.66	2.32	3.06	5.74	4.30	1.95	1.68	2.74	2.91	4.02	3.64	5.11	42.34
Manistee	604	5.07	0.67	0.60	4.00	2.79	1.95	1.28	1.36	2.23	2.79	3.25	3.86	29.85
Manistique	613	3.67	1.53	2.48	3.18	2.51	2.33	2.44	2.46	0.95	3.34	2.98	2.53	30.40
*Marquette	734	2.98	1.66	4.29	2.06	1.89	3.64	3.04	2.83	1.97	2.68	1.22	1.77	30.03
Mayville	.....	3.89	0.98	.....	2.20	5.06	1.68	5.47	2.12	0.92	2.08	.....	.....	.....
Midland	608	4.36	.....	2.86	2.63	2.12	1.33	0.98	0.71	1.06	.....	1.75	1.20	.....
Mottville	.....	4.36	1.74	3.11	3.05	4.28	2.42	1.94	1.25	0.23	1.21	5.50	2.24	31.33
Mount Clemens	612	1.38	1.08	2.71	1.63	3.47	2.57	3.99	2.78	0.51	1.16	4.13	2.27	27.68
Mount Pleasant	.....	4.24	1.14	3.05	2.95	1.65	1.56	3.04	1.49	0.93	2.37	1.87	2.44	26.73
Muskegon	593	7.72	0.40	2.45	2.81	1.13	1.74	2.47	1.28	0.90	2.02	1.76	1.78	26.46
Newberry	772	3.99	1.70	2.60	2.25	2.95	2.57	3.99	1.23	0.76	3.34	2.16	1.99	29.53
North Marshall	.....	5.25	0.70	3.31	2.56	3.21	3.02	2.60	2.33	1.29	2.20	4.41	2.78	33.75

[1] Worcester Academy.

[2] G. W. Swan.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Michigan—Continued.	Feet.													
Northport	.....	3.92	1.25	1.64	2.85	3.17	3.05	1.97	2.64	2.85	2.72	3.08	2.85	31.99
Old Mission	.....	3.11	1.64	3.55	4.14	3.84	1.81	1.96	3.53	2.68	2.87	1.40	3.14	33.69
Olivet	884	4.30	0.65	3.00	2.42	3.30	5.39	6.31	2.11	0.77	2.57	4.26	2.48	37.56
Omer	.....	.....	*0.55	3.50	.....	.....	*1.16	3.05	0.96	0.85	3.48	1.44	1.35	.....
*Ovid	734	4.18	0.47	3.24	2.35	3.40	3.23	5.28	1.03	1.15	1.80	2.82	1.75	30.70
Owosso	.....	4.30	0.84	3.64	3.05	3.32	2.42	3.88	2.04	0.53	2.89	2.79	1.67	31.37
Parkville	.....	5.26	1.50	3.84	2.87	3.74	1.96	3.95	1.25	0.73	2.29	4.85	2.73	34.97
Petoskey	662	3.21	1.83	3.05	4.03	3.23	2.60	1.55	2.60	2.25	2.74	2.37	5.05	34.51
Plymouth	731	2.10	0.75	3.24	2.10	4.19	2.33	2.99	3.14	0.89	1.51	4.91	1.64	29.79
Pontiac	938	2.88	2.00	3.34	.....	3.17	2.52	2.93	2.71	0.53	.....	.....	.....	.....
Port Austin	597	4.17	0.45	3.16	2.85	2.61	2.02	1.05	0.88	1.30	3.20	1.48	.....	.....
*Port Huron	639	2.50	1.40	3.42	2.01	4.32	2.70	3.51	2.31	0.51	2.25	4.90	2.27	32.10
Powers	866	2.16	1.84	2.27	1.90	2.21	3.43	3.12	.....	3.52	2.57	.....	.....	.....
Reed City	.....	4.92	0.67	1.83	4.67	2.29	1.31	2.90	1.10	2.30	2.14	2.59	3.62	30.34
Rockland	.....	4.90	1.40	1.50	1.40	2.70	2.00	3.60	2.10	1.70	1.90	2.77	1.30	27.27
Rogers City	.....	2.29	1.30	2.64	5.81	5.89	2.58	4.40	2.63	2.45	3.81	1.97	3.07	38.84
Romeo	.....	.....	.....	2.85	0.88	4.72	.....	.....	.....	1.22	0.89	4.33	2.11	.....
Saginaw	590	5.36	0.98	3.31	2.65	4.03	2.16	6.87	1.92	1.05	2.01	2.75	2.40	35.49
St. Ignace	589	2.29	2.26	2.80	3.28	2.67	2.55	2.42	2.62	1.92	2.04	1.66	1.84	28.35
St. John	766	4.69	0.60	4.27	2.20	3.26	2.78	3.01	0.83	0.92	2.23	2.55	2.18	29.52
Sand Beach	600	.....	.....	2.40	3.54	3.74	0.79	3.02	2.56	0.83	3.07	1.50	2.55	.....
*Sault Ste. Marie	642	4.02	0.94	2.10	3.32	4.26	2.57	4.03	2.36	1.34	4.48	4.01	2.73	36.16
Sidnaw	.....	2.88	0.85	0.93	0.94	1.81	2.98	2.03	.....	.....	2.62	1.75	.....	.....
Somerset	.....	3.89	1.31	4.02	2.41	3.05	3.28	2.87	3.25	0.52	1.76	4.87	2.16	33.39
South Haven	582	4.47	.....	2.48	1.99	1.59	1.55	0.80	1.98	1.05	1.27	2.66	.....	.....
Stanton	903	3.85	0.72	4.40	2.86	1.94	1.61	3.28	1.96	1.43	.....	1.72	1.80	.....
Thomaston	.....	4.40	2.32	2.41	1.44	3.98	4.40	9.40	1.60	2.84	1.78	2.36	1.51	38.44
Thornville	.....	2.39	1.56	3.89	1.33	5.15	1.96	3.56	1.47	0.62	1.67	3.31	2.29	29.20
Traverse City	.....	3.88	1.77	2.12	5.00	3.48	2.31	.....	2.27	2.00	3.01	1.19	2.73	.....
Valley Center	.....	1.48	0.45	2.63	2.64	3.10	2.64	5.35	1.60	0.56	1.21	4.09	2.11	28.36
Vandalia	877	7.42	2.05	4.21	2.57	4.37	2.46	1.80	1.47	0.60	1.62	4.98	3.35	36.90
Vassar	651	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.88	1.26	.....
Wasepi	834	4.24	1.44	3.42	2.10	4.24	1.59	2.03	1.93	0.75	1.22	4.74	2.63	30.33
Waverly	.....	8.11	1.07	3.53	2.56	1.77	2.00	1.34	1.44	0.92	1.28	4.06	3.91	31.99
West Harrisville	779	2.93	1.43	3.64	4.45	3.98	1.21	5.14	3.03	1.07	3.36	0.75	2.26	33.25
Wetmore	.....	3.26	1.00	2.44	2.09	3.15	3.57	2.77	1.47	1.83	3.51	3.76	2.50	31.35
White Cloud	.....	.....	.....	.....	3.74	2.14	2.99	3.11	1.14	1.65	2.51	2.68	2.74	.....
Ypsilanti	713	2.03	1.37	3.86	2.47	4.67	3.06	3.42	2.64	1.75	1.36	5.80	2.17	34.60
Minnesota.														
Ada	906	0.44	0.74	0.49	0.70	0.48	5.96	7.83	1.53	1.10	1.09	0.04	0.22	20.62
Albert Lea	1,229	3.02	0.60	2.70	.....	1.60	3.06	.....	.....	2.41	1.05	0.49	1.25	.....
*Alexandria	1,391	2.15	1.39	1.51	1.57	0.59	5.50	8.19	2.12	3.73	1.36	0.73	0.13	28.97
Beardsley	.....	1.83	0.82	1.13	1.76	.....	6.54	5.35	2.01	1.93	2.50	0.71	0.39	.....
Belleplaine	728	0.20	.....	2.62	1.95	1.10	.....	.....	.....	.....	.....	.....	.....	.....
Bermidji	.....	.....	2.10	1.40	0.90	.....	8.70	8.60	1.40	0.70	.....	.....	.....	.....
Bingham Lake	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.44	.....	0.22	.....
Bird Island	1,039	1.49	0.60	2.04	1.66	1.29	5.43	6.86	1.93	3.03	1.62	0.52	0.05	26.52
Blooming Prairie	1,286	1.10	0.40	1.75	1.45	0.95	5.65	9.10	4.00	0.60	1.10	0.35	0.60	27.05
Bonniwell	.....	1.12	0.74	2.52	1.30	0.65	.....	5.62	1.68	6.50	2.00	0.88	0.13	.....
Caledonia	1,179	2.48	0.51	1.80	2.32	1.31	5.80	2.79	3.48	1.96	0.32	0.63	0.92	24.32
Camden	.....	2.18	0.49	1.22	3.63	1.39	3.82	4.64	2.99	1.81	0.76	0.75	0.07	23.75
*Campbell	984	3.12	1.20	3.90	0.92	0.45	5.40	4.20	1.79	0.75	.....	.....	.....	.....
Collegeville	1,094	1.22	0.64	2.50	1.25	1.48	4.88	6.84	2.71	3.45	1.12	0.35	0.04	26.48
*Crookston	863	0.37	2.30	0.94	0.39	1.21	3.93	8.45	1.15	1.02	1.33	0.20	0.25	21.54
Dawson	1,054	1.30	1.10	2.41	1.55	1.65	.....	.....	.....	.....	.....	.....	.....	.....
*Detroit City	1,364	1.72	1.07	1.44	1.75	1.34	6.61	7.93	0.95	1.00	2.05	0.20	T.	26.06
*Duluth	702	1.48	2.21	1.34	0.72	1.63	3.48	9.29	3.91	3.14	2.11	0.78	0.85	30.94
Faribault	1,003	1.20	0.45	2.05	1.66	1.11	3.44	6.30	3.96	1.09	1.73	0.40	0.40	23.79
Farmington	902	1.77	1.35	3.32	2.15	0.85	6.87	4.49	3.44	1.20	2.62	0.80	0.25	29.11
Fergus Falls	1,210	1.64	0.91	1.46	1.33	1.52	4.86	3.00	1.97	0.58	1.85	0.28	0.61	20.01
Glencoe	1,006	1.21	0.21	2.26	1.44	.....	.....	6.94	3.06	3.87	1.88	0.39	0.12	.....
Glenwood	1,403	1.50	0.94	1.51	2.49	1.22	5.94	8.37	5.55	4.00	.....	1.03	0.45	.....
*Grand Meadow	1,338	0.85	0.95	0.75	1.64	1.55	6.78	8.05	2.15	0.77	0.85	0.38	0.80	25.52
*Granite Falls	944	.....	.....	.....	.....	2.10	4.14	5.25	1.30	1.86	.....	.....	.....	.....
Koochiching	.....	.....	2.35	2.55	0.28	.....	.....	6.18	2.41	0.20	2.12	0.73	0.71	.....
Lake City	.....	0.63	0.95	2.30	0.86	1.83	3.51	4.40	4.20	2.15	1.86	0.29	0.14	23.12
Lakeside	1,040	1.30	1.22	1.97	2.50	1.30	9.75	7.35	4.10	2.42	2.29	0.41	T.	34.61
Lake Winnibigoshish	1,290	2.30	1.62	1.58	1.03	1.13	4.82	9.87	2.32	0.61	1.27	0.40	0.60	27.55
Lambert	.....	0.85	1.40	1.01	T.	0.67	3.85	9.80	1.18	0.79	0.55	0.10	0.55	20.75
Lawrence	1,246	2.75	1.45	.....	.....	.....	2.84	5.35	0.90	0.29	.....	.....	.....	.....
Leech Lake	1,290	1.83	1.97	1.60	1.46	0.98	5.98	6.00	2.18	1.12	1.49	0.24	0.59	25.44
Lesueur	757	1.80	0.50	3.55	1.97	0.78	6.55	10.80	5.30	0.20	3.35	0.45	0.20	35.45
Long Prairie	1,299	1.52	0.73	1.61	1.57	1.56	5.75	5.09	1.21	0.28	1.04	0.52	0.10	20.98
Lutsen	1,202	2.41	1.82	2.51	1.18	2.47	2.51	9.99	2.86	2.58	2.39	0.87	0.48	32.07
Luverne	934	1.06	0.25	1.73	2.35	1.56	4.52	6.59	2.17	1.63	2.41	1.00	0.55	25.82
Lynd	1,330	.....	.....	.....	.....	.....	.....	.....	1.94	2.79	0.76	.....	0.10	.....
Mapleplain	1,023	2.26	1.34	4.22	1.38	1.45	6.26	4.91	2.48	2.69	1.66	1.01	0.24	29.90
Maseppa	934	0.40	1.70	2.40	0.90	0.70	3.70	4.56	2.70	1.10	.....	.....	.....	.....
Milaca	1,072	.....	2.70	1.85	.....	3.50	.....	12.81	1.37	3.51	.....	.....	0.29	.....
Milan	995	4.80	1.32	1.79	2.29	0.86	5.74	3.48	0.30	0.85	1.12	0.53	0.42	23.50
*Minneapolis	837	1.66	1.03	3.05	1.48	1.87	9.00	4.27	1.94	1.57	1.67	0.70	0.13	28.37
Minneapolis [1]	837	1.66	1.05	3.23	1.61	1.92	9.40	4.93	.....	1.97	1.67	0.97	0.18	.....
Minneapolis [2]	837	1.58	1.00	3.11	1.52	1.62	9.22	4.70	2.05	1.40	1.71	0.87	0.10	28.88
Minnesota City	740	2.01	1.00	1.71	2.35	2.90	5.98	4.79	3.46	0.68	0.81	0.53	0.78	27.00
Montevideo	900	1.68	0.80	2.28	1.91	1.40	4.54	4.99	1.12	1.65	1.10	0.56	0.10	22.13
*Moorhead	935	1.56	1.52	1.34	0.92	0.80	7.42	8.02	0.88	0.94	1.84	0.28	0.28	25.80
Morris	1,170	1.40	1.25	2.50	2.53	0.90	5.12	9.30	1.11	3.60	1.47	0.88	0.06	29.62
Mount Iron	1,510	3.30	3.00	0.70	0.20	.....	3.27	8.75	4.38	2.12	2.24	.....	.....	.....
New London	1,215	2.55	0.80	2.70	0.93	1.75	6.18	5.26	1.02	2.08	0.40	0.32	T.	24.01

[1] W. M. Cheney.

[2] J. H. Aahenbeck.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Minnesota—Continued.	Feet.													
*New Ulm	791	2.05	1.05	2.29	2.95	0.76	5.49	4.06	2.15	0.33	2.21	0.51	0.29	24.14
*Park Rapids	.....	2.25	1.56	1.10	2.00	1.05	7.49	10.16	1.12	0.43	1.27	0.38	0.62	29.43
Pine River	.....	2.79	2.57	2.17	1.39	1.33	5.88	8.02	1.20	1.71	1.44	0.53	0.40	29.43
Pleasant Mounds	.....	1.57	0.52	1.87	3.54	0.80	4.15	3.64	5.13	.....	1.70	0.34	0.56	.....
Pokegama Falls	1,290	1.74	1.73	2.15	1.63	1.50	5.01	7.53	3.37	1.29	1.27	0.35	0.67	28.24
*Red Wing	680	.....	.....	2.50	1.14	1.54	4.29	4.51	3.29	5.09	4.51	1.78	.....	.....
*Reeds	.....	.....	.....	2.61	1.64	1.81	6.15	4.56	5.50	2.98	1.30	0.19	0.03	.....
Rolling Green	753	1.90	0.95	1.75	4.65	0.60	4.20	3.10	0.90	1.00	1.40	0.20	0.70	21.35
Roseau	.....	1.51	1.14	[1]1.16	0.24	1.36	2.04	6.58	.....	.....	1.57	0.77	0.57	.....
St. Charles	850	2.25	1.44	2.13	2.20	1.71	5.18	4.43	3.05	1.01	1.15	0.64	1.00	26.19
St. Cloud	1,020	2.75	1.40	4.53	1.56	1.96	6.77	12.81	2.48	4.18	1.69	0.60	0.28	41.01
St. Olaf	1,485	1.59	1.52	1.58	1.35	0.77	6.58	4.28	2.44	0.94	1.83	0.22	0.26	23.36
*St. Paul	850	2.13	1.03	2.95	1.56	1.81	8.18	6.35	2.18	1.33	1.87	0.93	0.20	30.52
St. Peter	711	1.15	0.10	2.50	.....	.....	.....	7.32	4.53	2.30	3.32	0.20	0.10	.....
Sandy Lake Dam	.....	2.18	2.45	2.18	0.53	1.89	5.43	13.41	1.65	2.04	1.33	0.32	0.60	34.01
Sauk Center	1,244	.....	1.20	2.75	1.96	.....	.....	.....	.....	.....	.....	.....	0.10	.....
Shakopee	1,131	1.56	0.52	2.75	1.19	0.86	6.46	5.46	2.06	1.36	1.82	0.69	0.10	24.83
Springpark	.....	.....	.....	.....	.....	.....	.....	5.32	2.17	2.07	1.92	0.85	0.08	.....
Tower	2,350	1.92	1.90	1.50	0.70	1.60	3.00	9.50	4.65	1.60	2.05	1.30	1.00	30.72
Two Harbors	692	1.94	2.58	2.32	1.18	2.55	4.07	9.99	4.11	3.72	2.86	0.52	0.52	36.36
Wabasha	662	2.08	0.82	1.87	1.47	2.24	4.15	8.55	4.14	1.21	1.27	0.65	0.26	28.71
Willmar	1,131	1.77	0.65	1.57	0.84	2.01	7.88	5.59	5.25	3.39	0.15	0.10	0.55	29.75
*Winnebago City	1,104	2.00	.....	.....	.....	.....	3.96	4.34	4.88	2.51	.....	.....	.....	.....
*Worthington	979	0.62	0.79	1.59	2.82	0.93	6.76	5.55	1.81	2.00	1.82	0.43	0.90	26.02
Mississippi.														
*Aberdeen	210	.....	.....	.....	2.85	3.40	0.40	1.95	3.05	0.00	0.70	.....	.....	.....
Agricultural College	424	4.41	4.04	6.76	2.41	1.26	1.93	4.75	3.59	T.	2.55	0.72	12.72	45.14
Austin	200	7.71	6.36	11.19	5.20	0.37	4.94	3.95	4.16	0.00	1.63	5.69	7.18	58.38
*Batesville	230	5.02	5.24	12.02	2.68	1.32	0.14	1.08	1.82	0.00	0.44	2.89	6.98	39.63
Bay St. Louis	28	2.41	8.02	.....	8.75	0.29	1.42	1.53	6.14	2.38	1.37	4.39	5.46	.....
Biloxi	24	4.88	8.02	12.64	4.69	0.67	3.15	2.94	6.08	4.09	1.83	1.67	5.74	56.40
Booneville	504	.....	.....	.....	.....	1.16	0.50	1.70	3.47	0.00	.....	.....	.....	.....
Briers	.....	7.47	2.38	12.68	2.60	0.82	2.39	4.47	7.69	1.00	3.88	1.52	6.67	53.57
*Brookhaven	500	7.05	5.42	5.85	1.84	1.71	2.68	4.32	6.89	0.25	0.75	3.63	6.02	46.42
Canton	228	5.50	2.38	5.66	2.53	1.07	3.10	1.66	5.24	0.89	3.06	1.30	12.28	44.67
*Columbus[1]	250	4.31	3.71	8.65	3.59	1.13	0.74	9.39	6.43	0.08	1.85	2.13	12.81	54.82
*Columbus[2]	250	.....	.....	.....	3.47	1.01	0.69	8.82	6.20	0.05	1.57	.....	12.81	.....
*Corinth	434	.....	.....	.....	4.12	2.60	1.83	.....	0.69	0.00	0.82	6.44	7.79	.....
Crystal Springs	468	7.57	2.32	5.21	1.81	1.32	2.84	6.42	4.32	0.34	2.05	1.85	7.84	43.89
Edwards	222	7.75	3.03	3.90	1.92	0.74	3.34	3.11	5.73	0.47	1.77	1.29	14.78	47.83
Enterprise	248	.....	5.67	6.76	4.89	0.92	1.44	5.43	11.77	T.	2.05	0.97	.....	.....
Fayette	284	8.73	1.43	6.86	1.48	3.97	4.51	5.94	2.00	.....	.....	.....	9.18	.....
French Camp	.....	4.62	3.20	7.03	1.42	2.23	.....	.....	.....	0.65	2.31	1.61	10.83	.....
Fulton	.....	6.23	2.56	19.12	3.37	3.31	1.48	1.50	2.07	0.00	.....	.....	.....	.....
Greenville[3]	126	4.50	4.21	11.37	1.97	1.51	1.09	4.43	2.72	0.02	1.75	3.67	9.12	46.36
*Greenville[2]	126	4.31	4.05	11.48	1.96	2.19	1.05	3.85	2.24	T.	2.20	2.96	8.37	44.66
Greenwood	153	.....	.....	.....	.....	.....	.....	.....	.....	0.10	3.10	1.00	9.51	.....
Hattiesburg	144	.....	.....	3.70	3.28	0.62	1.94	2.76	7.33	0.15	0.38	1.42	3.12	.....
*Hazlehurst	.....	.....	.....	.....	.....	1.30	2.69	3.57	5.43	1.69	1.33	.....	.....	.....
*Hernando	390	.....	.....	.....	2.54	1.30	1.54	0.95	3.00	0.30	0.73	.....	.....	.....
*Holly Springs	600	4.77	5.71	16.35	4.04	1.39	1.28	3.94	5.53	0.00	0.75	3.99	8.50	56.25
*Jackson	288	5.70	4.24	5.62	1.54	1.92	3.59	4.24	5.40	0.38	2.29	3.17	11.86	49.95
Kosciusko	437	7.83	.....	5.18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Lake	446	5.24	4.00	5.78	2.87	1.32	3.80	7.12	5.25	0.00	1.65	0.98	6.60	44.61
Leakesville	.....	5.63	6.60	8.80	5.47	2.84	2.16	9.78	15.57	2.41	2.26	2.29	5.89	69.70
Logtown	.....	3.45	6.72	15.84	4.63	1.10	1.98	5.64	5.23	2.78	2.48	3.80	6.11	59.76
Louisville	.....	6.37	2.39	6.20	2.24	0.99	1.25	2.86	4.19	0.13	2.87	1.36	2.91	43.76
*Macon	185	3.74	3.68	5.31	1.70	1.80	1.41	4.73	1.50	0.41	0.81	1.11	8.50	34.70
Magnolia	415	5.51	6.63	7.93	3.69	4.63	2.56	5.76	15.60	2.55	2.42	3.03	5.17	65.48
Mayersville	.....	5.55	2.43	6.50	1.20	1.25	2.60	3.21	3.95	T.	2.00	1.03	.....	.....
*Meridian	358	5.57	6.15	6.08	3.04	1.34	2.83	3.47	10.36	0.54	1.16	1.70	5.79	48.03
Mosspoint	.....	4.40	8.05	15.35	2.75	.....	2.25	2.00	6.50	2.60	.....	.....	.....	.....
*Natchez	206	7.06	1.95	7.65	4.50	1.25	2.35	3.85	6.85	0.85	1.65	3.75	7.90	49.61
*Okolona	311	4.83	3.87	.....	2.03	3.06	0.37	2.21	3.25	0.00	0.68	2.50	8.61	.....
Palo Alto	300	6.17	3.31	11.46	1.62	.....	.....	.....	2.13	T.	2.81	0.78	11.95	.....
Pontotoc	.....	4.69	1.59	16.73	2.02	2.01	1.86	4.58	3.98	T.	1.74	2.07	8.06	49.33
Poplarville	313	4.17	6.83	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.71	.....
*Port Gibson	.....	6.82	3.73	4.26	3.28	1.82	2.59	4.95	5.00	0.36	0.40	3.37	11.70	48.28
Ripley	.....	.....	.....	.....	.....	.....	1.22	5.83	1.57	T.	2.48	.....	7.43	.....
Rosedale	.....	6.75	2.82	.....	.....	.....	.....	.....	.....	1.15	2.08	4.20	6.84	.....
Thornton	.....	2.00	1.24	4.20	1.65	0.55	3.70	.....	.....	.....	.....	.....	7.50	.....
Topton	426	3.31	4.00	6.00	1.70	0.85	2.25	.....	.....	.....	.....	.....	.....	.....
Tupelo	.....	.....	.....	.....	.....	.....	.....	1.50	2.95	0.00	0.60	2.75	7.68	.....
University	.....	.....	.....	.....	2.38	.....	.....	.....	.....	0.00	1.76	2.58	5.61	.....
*Vicksburg	254	6.24	2.67	5.12	1.96	0.89	3.93	5.31	3.24	0.28	1.94	1.37	13.27	46.22
Waterva.ley	300	6.01	3.39	15.50	2.89	4.05	0.31	4.90	3.38	0.00	3.08	1.30	8.53	53.34
*Waynesboro	191	4.50	5.19	7.01	2.85	2.40	3.60	4.85	10.88	0.60	0.35	2.95	.....	.....
Windham	171	.....	.....	.....	.....	4.19	2.15	3.94	9.27	1.92	.....	.....	.....	.....
Woodville	500	7.01	3.75	4.93	3.01	4.29	5.51	6.35	9.39	1.89	2.18	4.31	6.52	59.14
*Yazoo City	116	4.43	3.79	5.14	2.20	0.43	3.14	3.30	3.52	T.	1.60	2.53	11.22	41.30
Missouri.														
Akron	.....	1.40	1.46	4.07	4.63	1.76	3.27	2.09	2.15	.....	.....	.....	.....	.....
Appleton City	824	5.70	3.04	3.24	5.70	1.69	5.01	1.77	2.37	1.13	1.15	1.62	2.78	35.20
*Arlington	689	.....	.....	5.96	6.34	3.49	5.20	.....	.....	.....	.....	.....	.....	.....
Arthur	767	4.30	3.01	4.65	4.01	2.54	10.76	3.34	1.64	0.74	0.63	1.95	2.06	38.73
Avalon	.....	3.65	1.40	3.27	4.26	3.68	5.58	4.31	.....	1.34	0.20	1.76	.....	.....
*Bagnell	577	.....	.....	7.82	5.95	3.50	7.16	.....	.....	.....	.....	.....	.....	.....

[1] River observer. [2] Cotton region observer. [3] Robert Somerville.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Missouri—Continued.	*Feet.*													
Bethany	916	1.05	0.98	3.13	2.42	2.03	.....	.....	.....	.....	.....	1.23	2.30	.....
Birchtree	998	7.88	1.96	11.69	6.40	2.85	5.78	2.81	5.67	0.94	0.52	2.17	6.61	55.28
Bolckow	929	1.18	0.54	1.75	4.29	2.90	5.24	0.77	3.21	0.83	0.77	0.31	1.70	23.49
*Boonville	588	8.34	5.57	4.36	8.21	2.77	5.35	4.29	3.25	0.03	0.70	1.92	2.56	47.35
Brunswick	652	4.80	1.80	3.45	4.16	4.78	4.94	5.63	1.79	0.71	T.	2.25	1.84	36.15
Carrollton	665	3.68	2.07	3.21	3.08	3.65	6.36	3.05	3.14	0.96	0.14	2.16	1.41	32.91
*Columbia	783	6.87	1.22	5.33	4.83	3.19	6.59	4.28	1.89	0.51	0.69	2.55	2.20	40.15
Conception	787	1.43	0.86	1.79	4.51	2.95	11.67	2.83	3.13	0.87	0.46	0.27	1.90	32.67
Cowgill	960	1.78	1.20	3.04	5.14	2.36	7.28	3.80	3.59	2.25	0.70	1.68	0.95	33.77
Darksville	826	4.30	1.10	7.15	3.00	2.97	7.85	4.40	1.20	0.80	0.00	2.30	1.61	36.68
Downing	869	.....	.....	.....	2.95	1.03	5.82	3.18	1.32	1.20	0.11	1.32	2.69	.....
East Lynne	855	4.26	3.54	4.07	1.80	2.82	5.56	2.82	1.21	1.33	0.67	1.12	2.71	31.91
Edgehill	890	6.07	2.67	10.37	7.00	2.56	8.91	2.17	3.74	0.11	0.86	4.21	4.46	53.13
Eightmile	910	3.62	2.56	4.42	1.85	2.49	5.28	2.76	1.43	1.45	0.55	1.13	2.20	29.74
Eldon	.....	.....	.....	.....	.....	1.59	.....	1.43	3.76	0.61	0.90	3.40	3.11	.....
Elmira	881	1.89	1.70	1.84	5.09	3.60	11.47	3.43	3.78	2.70	0.55	1.33	1.01	38.39
Emma	783	3.72	0.85	2.66	1.20	2.90	7.75	0.60	3.80	1.52	0.12	1.11	2.59	28.82
Fairport	.....	1.44	0.93	2.74	4.03	2.05	5.75	1.62	4.50	0.80	1.02	1.07	0.76	26.71
Farmersville	.....	2.42	0.80	2.65	4.37	2.32	7.34	4.00	3.00	2.08	0.21	1.66	1.20	32.05
Fayette	725	6.58	1.76	5.57	3.69	2.85	7.28	4.02	2.21	1.49	0.57	1.98	2.17	40.17
Fulton	273	8.42	2.25	6.34	0.56	2.49	7.82	6.21	2.14	0.28	1.11	2.93	1.92	45.47
Gallatin	803	1.78	1.21	3.57	4.51	2.32	7.11	4.96	2.88	1.55	0.70	1.31	1.78	33.68
Glasgow	748	4.68	2.35	5.40	2.28	3.14	4.61	3.33	2.53	0.78	0.13	1.56	2.13	32.92
Gordonville	369	5.16	4.72	15.23	6.23	1.56	6.48	1.94	1.36	0.89	0.89	3.59	3.88	50.93
Gorin	701	4.63	1.10	2.63	4.54	1.64	4.58	4.91	1.60	1.15	0.20	1.80	2.23	31.01
Grovedale	.....	10.37	4.12	9.21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Halfway	.....	6.40	1.53	6.52	4.80	3.40	6.10	1.96	1.16	0.11	1.55	1.79	4.41	39.73
*Hannibal	531	6.36	1.54	4.30	3.96	1.13	6.08	8.04	2.48	0.30	0.45	2.07	1.86	38.57
*Harrisonville	914	3.40	1.19	3.24	1.67	3.27	3.84	2.72	1.62	0.93	0.47	0.72	2.25	25.32
Hastain	700	6.29	6.83	6.45	3.96	3.90	7.61	1.78	0.90	0.90	0.33	2.09	2.58	43.62
*Hermann	516	7.50	2.39	7.15	4.78	3.01	8.26	6.61	1.69	0.38	0.52	3.87	2.75	48.91
Houston	.....	6.24	3.64	10.88	5.99	2.09	5.05	2.01	4.26	0.32	0.57	2.40	3.74	47.19
Houstonia	.....	5.13	1.94	3.10	2.17	3.21	8.53	1.96	7.87	1.21	0.45	2.12	3.18	40.87
Humansville	914	5.26	3.79	6.28	.....	.....	5.63	2.66	1.25	0.25	0.80	2.25	.....	.....
Irena	.....	1.49	1.31	4.71	5.78	3.57	5.13	3.91	2.43	1.06	0.71	0.67	2.15	32.92
*Ironton	600	7.40	2.65	10.18	7.64	2.78	10.69	3.10	2.52	0.48	1.13	3.92	5.31	57.80
*Jefferson City	528	7.82	2.45	7.00	2.95	2.90	5.90	3.90	1.05	0.20	1.17	4.16	2.47	41.97
*Kansas City	963	2.66	1.65	2.37	2.57	1.24	7.09	4.29	3.60	1.38	0.75	1.25	1.36	30.21
*Kidder	1,017	1.95	1.29	2.74	4.37	2.23	6.46	5.00	3.68	1.53	0.88	1.54	1.66	33.33
*Lamar	964	5.10	3.33	4.84	3.87	1.67	7.88	2.55	0.64	0.06	0.90	1.95	1.17	33.96
Lamonte	863	5.02	1.30	3.18	2.39	5.20	8.49	4.12	2.21	1.26	1.11	1.92	2.55	38.75
Lebanon	1,265	7.60	3.13	10.04	4.76	3.21	5.20	2.49	3.15	0.30	1.21	2.41	5.31	48.81
*Lexington	813	3.95	1.55	2.71	3.13	2.33	4.02	2.82	3.97	1.13	0.25	1.80	1.83	29.49
Liberty	850	2.12	1.60	2.88	3.64	2.58	8.70	1.45	4.46	1.80	0.68	1.00	0.97	31.88
McCune	850	7.06	2.22	5.08	4.78	3.04	7.52	9.97	1.48	0.75	0.69	3.57	3.06	49.22
Macomb	.....	8.52	2.95	7.61	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Malden	290	.....	.....	.....	.....	.....	.....	.....	.....	0.05	0.60	.....	.....	.....
Mansfield	.....	7.10	3.75	8.25	5.00	2.10	4.55	4.20	4.50	0.65	0.60	2.10	3.48	46.28
Marblehill	420	5.86	4.97	12.63	6.58	1.47	7.40	1.59	0.98	0.66	0.53	4.21	5.70	52.58
Marshall	830	4.44	1.75	3.74	2.38	1.77	3.79	2.17	2.27	1.31	0.23	2.03	2.35	28.23
*Maryville	1,160	1.74	0.76	1.51	6.63	3.83	4.11	3.77	3.25	1.08	0.77	0.38	1.56	29.39
*Mexico	830	6.58	1.48	7.13	3.84	3.99	7.29	8.78	1.74	0.56	0.65	2.75	2.98	46.87
Mine Lamotte	838	5.26	2.05	10.42	6.40	4.28	.....	.....	.....	.....	.....	.....	.....	.....
Mineralspring	1,475	5.53	2.38	7.01	5.96	2.84	3.25	4.60	1.01	0.59	1.16	1.71	4.31	40.35
Montreal	.....	6.25	4.42	10.94	4.06	1.73	3.93	1.45	1.96	0.28	1.04	2.89	3.42	42.19
Mount Vernon	1,480	4.93	4.06	8.56	3.65	4.22	5.18	3.30	3.36	0.04	0.68	2.04	4.25	44.27
Neosho	1,023	4.20	3.47	5.65	3.58	1.73	5.38	1.85	0.74	T.	.....	1.78	2.98	.....
Nevada	860	3.98	2.79	3.64	3.48	1.97	7.40	4.19	2.69	0.11	0.46	0.69	2.28	33.68
Newhaven	508	7.90	2.82	7.15	4.01	2.58	7.62	3.73	0.87	0.55	0.70	3.46	1.68	43.07
New Madrid	295	6.11	5.74	14.52	8.08	1.89	3.27	2.40	3.40	0.09	1.40	4.78	.....	.....
New Palestine	759	5.48	0.84	5.42	4.19	3.65	6.54	3.38	3.22	0.43	0.76	2.42	2.04	38.37
Oakfield	843	4.38	3.02	9.27	6.70	1.98	8.96	3.47	0.56	0.25	1.05	5.94	3.21	48.79
Oakmound	.....	6.32	1.32	9.57	4.71	1.60	3.70	3.00	2.87	1.30	0.40	3.03	5.68	43.50
Oakridge	600	5.41	3.92	12.71	5.76	3.44	6.09	2.50	2.18	0.80	1.35	3.48	6.09	53.73
Olden	1,246	6.81	1.69	9.86	6.27	2.54	3.85	3.56	2.36	0.31	0.93	1.59	4.76	44.53
Oregon[1]	1,100	1.74	1.37	2.07	4.25	3.44	3.68	2.16	5.13	0.69	1.23	0.61	2.78	29.15
Oregon[2]	1,100	1.36	1.59	2.27	4.19	3.33	2.78	2.06	5.13	0.56	1.25	0.45	3.12	28.09
Osceola	727	5.80	2.15	5.66	5.80	3.35	3.32	2.38	0.71	0.40	0.94	2.65	1.90	34.56
Oto	.....	5.42	2.00	5.20	4.20	.....	3.20	2.50	2.10	T.	1.00	2.00	.....	.....
Palmyra	650	7.14	1.70	5.20	3.49	1.37	8.32	6.07	1.50	0.29	0.47	2.92	2.59	41.06
Phillipsburg	1,421	8.05	3.54	7.70	4.74	1.58	6.17	1.57	2.80	0.15	1.53	2.10	4.64	44.57
Pickering	1,019	1.91	1.57	2.04	3.99	3.54	3.72	2.47	3.40	0.93	0.53	0.40	2.24	26.74
Platte River	800	1.12	1.19	2.25	6.65	5.34	5.60	2.52	3.90	0.83	0.91	1.39	1.77	33.47
Poplarbluff	344	5.90	4.41	11.25	5.63	3.02	8.72	.....	2.29	0.04	1.05	4.93	*5.48	.....
Potosi	.....	4.68	2.74	9.73	5.67	1.89	9.22	2.06	1.09	0.43	0.43	5.07	4.97	47.98
Princeton	1,026	3.05	1.90	5.43	3.16	2.30	6.51	2.17	1.74	0.85	1.19	1.82	1.46	31.58
Rhineland	516	7.48	2.85	6.97	4.30	3.66	7.63	5.19	1.21	0.53	0.79	3.50	3.27	47.39
Richmond	869	3.47	1.42	2.18	3.09	3.84	5.28	3.15	4.54	1.98	0.33	2.13	1.33	32.74
Rolla	1,092	7.73	2.45	8.77	5.01	3.61	4.66	4.15	2.02	0.92	0.71	3.16	3.84	47.03
St. Charles	614	3.84	2.66	10.67	4.81	1.76	6.13	3.33	1.54	0.23	0.34	4.74	2.86	42.91
*St. Joseph	850	1.69	0.94	1.91	5.02	4.16	5.30	2.20	4.05	0.91	0.73	0.62	1.12	28.65
*St. Louis	571	3.75	2.67	8.25	4.66	1.59	5.32	3.23	0.66	0.09	0.31	6.21	3.43	40.17
St. Louis[3]	571	3.58	1.78	8.42	6.17	1.65	5.73	2.07	1.45	0.13	0.85	5.23	3.40	40.46
Sarcoxie	1,088	4.65	3.66	7.13	3.04	3.70	4.19	3.55	1.29	0.03	0.94	2.17	2.74	37.09
Sedalia	889	.....	.....	3.83	3.18	5.38	4.00	2.21	1.84	0.35	1.55	1.53	1.40	.....
Seymour	.....	9.07	2.27	7.19	7.15	2.51	3.88	3.71	3.00	1.75	0.90	2.07	4.32	47.82
Shelbina	776	8.10	1.05	5.30	4.30	1.50	6.70	3.80	1.80	0.60	0.20	3.10	2.20	38.65
Sikeston	328	4.81	4.44	10.02	7.43	2.77	4.51	1.40	2.95	0.13	1.84	5.16	4.32	49.78
*Springfield	1,324	6.47	4.10	5.91	3.73	2.48	5.36	2.48	1.48	0.37	0.98	1.77	4.58	39.71

[1] W. Kaucher. [2] S. M. Ruley. [3] F. W. D uenckle.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Missouri—Continued.	*Feet.*													
Steffenville		5.79	1.40	5.81				3.50			1.00	2.17	2.20	
Stellada		4.95	1.15	5.10	2.89	2.12	6.15	2.43	1.15	0.60	1.48	1.62	2.70	32.34
Sublett	1,000	7.06	2.10	7.10	4.77	0.70	3.65	2.16	1.08	1.60	0.09	1.43	2.27	34.01
Trenton	812	1.35	0.83	3.00	3.44			1.72	2.26	1.38	0.33	1.56		
*Unionville	1,072				3.50	1.27	4.54	3.24	1.92	1.52				
Vichy					4.87	4.20	5.60	3.00	3.15	1.37	0.76	5.65	3.20	
Virgil City		5.59	3.14	5.62	2.87	1.13	7.97	3.53	1.98	0.14	0.80	2.57	2.66	38.00
Warrensburg	830	4.58	1.29	3.01	1.33	1.51	7.18	1.17	1.39	0.81	0.59	1.46	2.54	26.86
*Warrenton	853	8.78	2.45	8.98	3.96	2.18	10.40	3.71	2.14	0.22	1.01	4.31	3.31	51.45
Wheatland		3.16	1.81	5.73	4.16	3.84	4.95	2.00	1.18	0.59	0.51	4.02	2.12	34.07
Willowsprings	1,300	7.58	1.51	11.59	6.97	1.51	3.91	2.95	5.50	0.26	0.89	2.21	5.43	50.31
Zeitonia	842	5.43	3.72	8.61	5.40	1.25	6.25	0.84	0.99	0.24	0.57	2.67	3.23	39.20
Montana.														
Augusta	3,500	0.57	1.00	0.30	1.11	0.86	4.77	2.07					0.42	
Bigtimber	4,072	1.00	0.10	0.25	0.44	1.05		0.93				1.88	0.41	
Billings	3,117	0.90				0.20	2.61	0.78		0.40	1.03	2.44	0.45	
Boulder	4,920					1.12	2.38	1.32						
Bozeman	4,754	1.10	1.00	1.10	1.58	0.35	3.90	2.59	0.27	0.95	2.92			
Bozeman Experiment Station		1.51	0.70	0.73	1.44	0.78	3.95	2.09	0.26	1.12	2.71	1.52	0.61	17.42
Butte	5,484	1.20	0.70	1.04	1.63	1.44	3.02	1.19	0.30	[1]0.98	1.10	1.52	1.12	15.24
Castle		0.58	0.85	0.51	0.54	0.88	2.89	1.68	0.17	0.72	2.31	1.88	3.80	16.81
Chinook	2,401	0.60	0.20	0.40	0.20	0.38	4.23	1.26	0.71	0.24	1.23	1.85	0.23	11.53
Choteau		0.60	1.50	1.30	0.93	1.05	7.24	1.20	0.20	0.98	0.32	2.00	0.70	18.02
Cokedale	5,750	0.65	1.35		0.86									
Columbia Falls	2,800	2.21	1.46	1.62	0.99	0.82	5.87	2.91	0.00		0.84	10.04	1.82	
Deerlodge	4,529	0.34	0.38	0.77	0.24	0.70						1.53	0.61	
Dupuyer										1.02	0.60			
Ekalaka		0.46	0.34	1.10	0.57	1.25	1.00	0.58	0.36					
Fort Benton				0.30	1.15	1.14	4.51	2.36	0.00	0.61	0.86	1.10	0.80	
Fort Custer		0.49	0.09	1.72	1.16	0.54	3.10	1.60	0.12	0.65	1.28			
Fort Keogh	2,367	1.00	0.70	1.87	0.41	0.35	1.09	0.19	0.24	0.04	0.70	0.98	0.03	7.60
Fort Logan		0.62	0.62	0.74	0.82	1.22	3.98	2.21	T.	0.48	1.96	2.59	0.21	15.45
Fort Missoula		0.73	1.24	0.42	1.46	1.09	3.88	2.14	0.83	3.42	1.24	2.30	1.23	19.98
Glasgow	2,087	0.72	0.75	2.50	0.69	0.18	1.67	0.74	0.12		1.28	0.68	0.25	
Glendive	2,069	1.70	1.20	2.50	0.40	0.95	1.48	1.70	0.30	0.10	0.60	1.00	0.30	12.23
Glenwood									0.19	1.34	2.15	2.71	1.45	
Greatfalls	3,312	0.31	1.22	1.05	1.04	0.95	5.89	3.24	0.07	1.04	0.67	1.55	0.37	17.40
*Havre	2,477	0.53	0.32	0.43	0.73	0.42	6.39	0.78	0.17	0.66	0.53	2.08	0.26	13.30
*Helena	4,108	0.80	1.49	1.23	1.15	1.14	3.66	1.89	0.52	0.66	0.81	2.22	0.59	16.16
Hogan	4,590	0.67	1.90	0.70	1.50	1.10	6.03	1.00	0.10	0.62	1.00	2.14	0.50	17.26
Kalispel	2,946	[1]0.76	1.33	0.34	0.77	0.34	3.16	1.91	0.11	2.27	0.57	5.17	0.26	16.99
Kipp	4,472	0.30	1.47	0.70	1.60	1.00	7.53	1.00	0.39	1.39	0.64	5.51	0.80	22.33
Lewistown		0.90	1.84	1.15	1.10	0.84	3.54				2.55	3.97	1.10	
Libby		0.61	1.77	2.03	0.83									
Livingston	4,487	0.44	0.35	0.49	0.52	0.60	3.30	1.63	T.	0.43	1.80	1.66	0.55	11.77
Manhattan	4,292	0.51	0.55	T.	0.20	1.71	2.29	0.52	0.12	1.02	0.97	0.44	0.35	8.88
Martinsdale	4,707	0.40	0.80	0.80	0.72	0.96	3.68	1.74	0.68	0.23	1.90	3.15	0.50	15.56
Marysville	5,376	1.57	2.53	0.98	0.83	1.12	4.49	2.14	1.58	1.56	0.97	2.53	1.40	21.70
*Miles City	2,372	0.69	0.65	3.50	1.69	0.35	1.23	0.59	0.32	0.12	0.44	1.18	0.26	11.02
Monarch		0.92	0.72	0.80	2.38	0.66	5.10	3.25						
Poplar	1,955	1.85	0.60	1.60	0.71	0.47		2.87	0.58	0.05	0.11	1.10		
Radersburg		0.50	0.75	0.40	1.75	1.50	4.03	2.05		2.75	1.35	1.23		
St. Ignatius Mission		0.42	0.82	0.83	0.88	0.26	4.91		0.33	3.60	0.98	4.04	1.21	
St. Pauls	4,150	0.14	2.50	2.50	1.30	1.10	0.68	0.26	0.02	0.00	0.19	1.13	2.60	12.42
Sun River		T.	0.65	0.20	1.40									
Troy	2,250	0.90	1.85	2.73	0.68	0.52	4.30	1.48	0.14	2.51	1.42	9.34	3.44	29.31
Utica	4,420	0.30	0.46	0.71		1.33	3.98	1.74	0.30	0.15	2.36	3.10		
Virginia City	5,480	0.21	1.28	2.35	1.29	2.91	3.22	1.43	0.52	1.64	1.75	1.77	1.10	19.47
Wibaux	2,350	0.95	0.40	1.08	0.36	0.85	1.87	1.92	T.		T.	0.25		
Yale		0.40	0.42	1.45	1.21	0.90	2.19	2.71	0.58	0.17	1.89	1.88		
Nebraska.														
Agee		1.37	1.16	1.34	4.08	2.31	3.94	1.74	0.43	2.68	2.88	0.22	2.15	24.30
Albion	1,747				4.03	2.69	4.74	2.56	2.30	1.82	2.82	0.58	1.53	
Alliance	3,968	0.43	0.21	1.21	2.13	2.52	2.01	1.73	2.15	0.06	0.36	0.64	1.10	14.55
Alma	1,996										5.56			
Ansley	2,307	0.40	0.47	1.46	5.00	1.54	4.57	0.92	4.55	1.37	4.98	0.35	1.52	27.13
Arapahoe	2,173	0.40	0.70	0.86	5.69	2.50	2.90	1.48	1.35	4.38	4.96	1.17	1.02	27.91
Arborville		1.72	0.83	2.61	4.80	3.02	4.22	1.12	1.60	1.02	5.57	0.65	0.80	27.96
Arcadia	2,186	0.82	0.90	2.50	7.04	1.25	5.19	1.47	2.11	1.45				
*Ashland[1]	1,100	0.32	0.43	1.23	7.29	2.12	2.31	1.66	1.44	3.70	3.39	0.25	1.13	25.27
Ashland[2]	1,000		0.40	1.68	6.82	2.41	2.69	1.67	1.56	3.65	2.70		1.13	
Ashton	2,061	0.23	0.46	1.48	5.01	0.48	5.14	1.30	2.35	1.94	4.92	0.32	0.28	23.91
Auburn	1,051	1.02	0.99	2.17	4.54	5.26	2.19	4.53	3.74	3.38	2.37	0.18	1.47	31.84
Aurora	1,792	0.62	0.80	2.31	3.79	2.09	5.35	1.07	2.94	2.07	5.58	0.20	1.90	28.72
Bassett	2,323	1.50	1.30	2.35	1.92	1.13	3.39	3.50	1.24					
Beatrice	1,235	0.30	0.60	4.20	6.54	2.41	4.29	4.76	3.12	1.02	3.92	0.30	1.90	35.36
Beaver City	2,147	0.28	0.38	1.30	5.30	0.85	3.54	3.13	1.60	2.16	4.31	0.39	1.09	24.78
Benedict	1,703					3.35	1.71	2.24	2.11	0.78	5.36	0.20	1.15	
Benkelman	2,968	0.08	0.57	1.18	1.12	0.25	3.66	2.03	3.78	1.65	2.60	0.15	0.45	17.52
Blair	1,240										1.51	0.12	1.70	
Bluehill	1,967	0.68	0.55	0.88	5.92	2.40	7.68	1.94	2.52	3.12	5.90	0.68	0.68	32.96
Bratton		0.90	0.70											
Brokenbow	2,477	0.10	0.55	1.60	5.40	0.37	4.28	1.11	1.36	1.14	4.03	0.40	1.15	21.49
Burchard	1,377	0.75	1.00	2.35	7.15	2.50	3.37	5.87	4.42	4.35	3.81	0.05	0.90	37.02
Burwell	2,180	0.50	0.40	1.60	3.24	0.60	2.44	1.87	1.41	T.	3.89	0.20	1.55	17.70
Callaway	2,555	0.35	0.48	1.28	5.30	0.30	4.95	0.70	1.78	1.15	5.00	0.30	0.95	22.54
Camp Clarke						0.85	1.01	3.79	2.83	0.41	0.28	0.72	1.10	

[1] Dr. A. S. Mansfelde.

[2] O. C. Steele.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Nebraska—Continued.	*Feet.*													
Central City	1,708	0.91	0.60	1.40	6.10	1.75	3.75	2.38	2.07	2.96	3.97	0.70	1.10	27.69
Chester	1,618	0.50	0.20	0.78	4.99	1.93	10.00	7.44	2.50	1.05	6.16	0.75	1.30	37.60
Columbus	1,442	0.69	0.66	1.90	5.10	1.12	3.15	2.67	3.11	2.22	3.85	0.15	1.47	26.09
Cornlea	.....	1.47	0.44	.....	4.64	2.69	5.62	3.50	3.46	1.62	3.85	0.27	1.16	.....
Creighton	1,600	2.10	0.75	2.58	5.88	0.65	3.73	2.58	1.69	0.90	2.10	0.30	.....	.....
Crete	1,368	1.45	0.90	3.07	4.38	1.69	2.41	3.73	3.50	1.11	4.23	0.35	1.10	27.92
Culbertson	2,576	0.71	0.77	1.90	4.73	0.75	8.67	1.29	2.95	1.13	4.84	0.38	0.85	28.97
Curtis	2,553	T.	0.50	2.58	5.10	0.43	4.08	0.60	3.26	1.27	4.73	1.60	1.10	25.25
David City	1,619	0.95	0.50	1.75	6.60	2.65	2.00	1.90	3.30	1.10	4.10	0.30	1.30	26.45
Dawson	957	.....	.....	.....	.....	.....	3.42	3.20	5.96	3.86	3.70	0.30	1.60	.....
Divide	.....	0.22	0.56	1.12	4.23	0.61	5.77	0.72	2.74	2.10	4.88	0.34	1.15	24.44
Dunning	2,621	0.50	0.20	0.26	3.11	0.34	3.89	1.55	1.91	0.46	1.78	0.40	1.50	15.90
Eden	.....	.....	.....	.....	4.72	4.00	3.11	4.85	6.11	3.49	2.66	0.17	1.40	.....
Edgar	1,722	1.20	0.55	1.08	5.02	4.44	6.00	1.62	4.17	3.15	6.82	0.40	1.40	35.85
Elba	.....	0.19	0.90	1.58	4.33	0.56	4.79	1.46	2.38	1.53	5.70	0.05	1.60	25.07
Ericson	2,029	1.00	0.50	2.64	4.25	2.07	3.85	1.98	2.61	0.87	3.84	0.10	1.50	25.21
Ewing	1,888	0.90	0.50	1.93	4.34	0.30	3.03	2.76	1.90	0.76	3.77	0.05	2.40	22.64
*Fairbury	1,316	0.44	0.20	1.15	3.35	3.65	5.82	6.26	3.37	1.37	4.97	0.36	1.40	32.34
*Fairmont	1,652	0.63	0.84	2.68	4.72	2.06	4.21	2.06	2.48	2.31	5.95	0.33	1.65	29.92
Filley	1,397	0.40	0.65	2.14	3.74	.....	3.31	5.67	.....	.....	3.59	.....	.....	.....
Fort Robinson	3,764	1.90	T.	0.50	0.40	0.65	1.49	3.60	T.	T.	T.	0.65	1.30	10.49
Franklin	1,820	0.60	0.55	0.61	.....	1.13	5.50	2.45	3.53	2.46	5.99	0.44	1.40	.....
Fremont	1,203	0.92	0.60	1.90	5.61	0.86	2.68	1.23	2.27	0.56	2.77	0.22	2.05	21.67
Geneva	1,633	0.60	0.93	1.61	4.69	2.61	4.42	2.39	3.04	2.94	5.79	0.45	1.05	30.52
Genoa	1,584	1.36	0.64	1.81	5.47	1.64	3.80	4.59	2.93	2.71	4.12	0.34	1.44	30.85
Goring	.....	0.19	0.30	1.08	1.40	1.79	0.67	2.76	1.96	0.30	0.10	0.68	0.40	11.63
Gothenburg	2,557	0.44	0.70	1.06	4.85	0.55	4.45	0.70	3.10	1.71	4.67	0.70	1.50	24.43
Grand Island	1,860	0.70	0.69	2.54	7.01	1.59	5.34	2.40	2.40	2.15	6.28	0.65	1.71	33.46
Greeley	2,021	0.58	0.50	0.31	6.15	1.90	7.18	[5]0.90	2.60	1.85	2.00	0.10	1.00	25.07
Haigler	.....	T.	T.	0.70	2.58	1.62	4.56	0.97	.....	0.51	1.80	0.40	.....	.....
*Hartington	1,309	2.50	0.54	3.01	4.48	0.98	5.82	3.78	1.60	1.01	1.94	0.91	2.95	29.52
Harvard	1,812	1.25	0.60	1.86	4.19	3.06	3.74	1.79	2.56	1.34	4.27	0.57	1.62	26.85
Hastings	1,932	0.27	0.85	1.58	4.89	2.82	6.23	3.89	2.91	2.33	5.82	0.60	1.39	33.58
Hayes Center	.....	.....	0.34	1.86	3.36	0.37	4.36	2.09	2.32	1.19	3.22	0.30	0.50	.....
Hay Springs	3,821	2.45	0.50	2.68	1.65	2.27	1.52	3.62	3.10	0.18	1.20	1.60	1.12	21.89
Hebron	1,458	0.65	0.42	1.33	3.12	3.27	5.52	3.56	2.63	1.22	4.70	0.45	1.00	27.87
Hickman	1,252	0.45	0.40	1.40	4.13	2.36	1.68	5.13	3.19	1.68	2.03	0.03	1.80	24.22
Holdrege	2,324	0.70	1.01	2.30	5.80	2.80	3.45	3.85	0.95	2.30	4.35	0.27	1.00	28.78
Imperial	3,278	0.50	0.70	2.05	2.55	1.95	2.38	1.23	6.03	0.51	3.87	0.52	0.70	22.99
Indianola	2,372	0.80	0.47	1.10	5.23	0.74	6.31	0.75	0.82	1.88	4.86	0.30	1.25	24.51
Kearney	2,146	0.32	0.99	1.08	6.52	1.18	3.34	4.01	1.60	2.51	5.70	0.82	1.68	29.75
Kennedy	.....	1.00	0.36	1.63	1.80	1.76	3.80	3.63	3.61	0.63	1.49	1.74	2.40	23.85
Kimball	4,697	0.20	0.75	1.70	1.10	3.86	2.16	6.42	1.66	0.44	0.88	0.60	1.15	20.92
Kirkwood	.....	0.90	0.92	0.99	2.69	1.50	4.33	3.33	1.41	1.60	4.68	0.52	1.07	23.94
Lexington	2,385	0.20	0.81	1.59	4.24	0.30	4.61	0.72	1.57	1.60	4.13	0.72	1.30	21.79
*Lincoln	1,181	0.65	0.90	1.48	6.15	2.22	2.17	2.54	2.69	1.71	2.77	0.29	2.10	25.67
Lincoln [1]	1,181	0.46	0.84	1.39	6.51	2.94	2.30	2.79	2.71	1.69	2.76	0.12	.....	.....
Lincoln [2]	1,181	0.68	0.77	1.51	5.28	2.43	1.43	2.51	2.33	1.65	2.75	0.25	2.08	23.67
Lodgepole	3,820	0.15	0.40	2.25	2.10	3.38	1.42	2.15	3.61	T.	1.50	[5]0.20	0.60	17.76
Loup	2,067	0.42	0.43	1.32	4.80	0.65	7.17	0.78	7.75	2.97	5.75	0.25	1.35	33.64
Lynch	.....	0.74	0.48	1.73	5.90	1.34	3.09	3.51	1.31	2.25	2.58	0.57	1.10	24.60
Lyons	1,285	1.17	0.84	1.31	4.43	1.21	4.28	1.05	2.51	0.11	2.84	0.25	2.35	22.35
McCook	2,506	T.	1.00	0.85	3.27	0.11	5.63	0.81	1.81	1.04	4.65	0.55	1.00	20.72
McCool	1,575	.....	0.49	3.12	5.35	2.25	2.92	1.84	1.61	1.90	5.71	.....	1.20	.....
Madison	1,585	0.43	0.61	1.53	3.85	1.25	3.51	3.33	3.26	1.40	3.16	0.35	2.36	25.04
Madrid	3,294	T.	0.20	1.36	2.19	0.88	1.52	1.30	2.19	0.22	2.63	T.	0.95	13.44
Marquette	1,830	1.53	0.77	1.93	4.48	2.48	3.40	1.82	1.72	1.83	4.79	0.75	1.45	26.95
Minden [3]	2,169	0.80	1.25	1.93	4.48	2.11	4.99	3.05	2.27	1.04	7.34	0.97	1.61	31.84
Minden [4]	2,169	0.76	0.94	1.56	5.45	2.50	5.01	3.33	2.18	1.02	6.90	0.84	1.15	31.64
Monroe	.....	.....	.....	.....	.....	1.33	3.59	2.73	2.58	2.06	3.55	0.17	0.91	.....
Nebraska City [6]	941	0.78	0.69	1.85	3.50	3.24	.....	.....	.....	.....	.....	.....	.....	.....
Nebraska City [5]	941	0.50	0.55	1.75	3.69	3.67	2.79	3.64	2.36	1.58	2.76	0.05	1.60	24.94
Nemaha	902	0.58	0.96	1.62	4.38	2.92	3.71	2.25	2.76	3.22	2.55	0.50	2.00	27.45
Nesbit	.....	.....	0.35	0.47	2.84	0.27	3.47	2.39	1.99	1.57	6.49	0.80	0.59	.....
Norfolk (*a*)	1,532	0.70	0.43	1.55	3.86	1.03	2.93	3.72	2.67	1.43	2.97	0.26	2.10	23.65
Norman	2,100	0.45	1.18	0.99	5.03	1.96	5.88	2.18	4.55	1.72	6.73	0.89	.....	.....
North Loup	1,961	0.80	0.36	1.42	6.05	0.72	7.87	1.19	2.54	1.00	4.65	0.23	1.40	28.23
*North Platte	2,826	0.47	0.46	0.66	2.59	0.11	1.72	1.85	3.05	0.59	4.11	0.85	0.63	17.09
*Oakdale	1,722	1.61	0.51	1.78	3.36	1.12	4.87	2.92	3.38	1.15	2.33	0.64	1.44	25.17
Odell	1,278	0.44	0.42	2.36	4.33	2.43	4.82	5.35	2.83	4.00	4.61	0.15	1.30	33.04
*Omaha	1,123	0.87	0.63	1.47	5.67	2.16	1.43	2.01	1.92	1.89	1.82	0.14	1.79	21.30
*O'Neill	1,975	1.31	0.48	1.69	4.85	1.35	3.15	1.51	2.26	3.10	3.84	0.13	1.86	25.53
Ord	2,062	0.41	0.42	1.57	4.63	1.05	4.90	1.71	3.33	0.96	4.36	0.10	0.87	24.31
Osceola	1,644	0.60	0.60	2.37	6.74	2.94	2.50	1.29	2.29	0.77	5.30	0.37	1.50	27.27
Ough	.....	0.20	T.	2.19	2.85	0.68	2.76	1.39	5.78	0.63	3.77	0.33	0.50	20.99
Palmer	1,796	1.10	0.50	3.17	4.44	2.30	4.84	2.06	3.49	2.69	4.68	0.08	2.00	31.35
*Plattsmouth	979	1.21	0.72	1.85	5.47	2.68	2.37	2.56	.....	.....	.....	.....	1.10	.....
Ravenna (*a*)	1,997	0.60	0.88	1.61	5.21	1.94	5.82	1.73	6.54	1.63	4.96	0.30	1.53	32.75
Redcloud	1,687	0.40	0.36	0.93	4.97	1.63	10.93	4.32	1.06	1.44	5.21	0.60	0.84	32.69
Republican	1,939	0.40	0.60	0.70	4.04	1.40	3.56	2.21	6.41	1.23	3.76	0.30	0.95	25.56
Rulo	842	0.70	0.90	2.50	5.12	4.30	3.93	2.53	5.23	0.90	2.10	0.30	1.15	29.66
St. Libory	1,887	1.11	0.80	1.87	4.34	1.00	4.94	2.60	3.04	3.07	5.14	0.23	1.90	30.04
St. Paul	1,796	0.96	0.72	1.89	4.59	0.50	5.06	1.75	3.23	1.41	5.35	0.17	1.20	26.83
Salem	909	0.42	0.70	2.41	3.82	5.30	1.20	2.30	4.10	1.10	1.50	0.15	1.45	24.45
Santee Agency	.....	1.37	0.44	1.33	4.32	0.86	2.19	2.71	1.28	1.66	2.09	0.52	1.43	20.20
Sargent	.....	0.74	0.72	0.97	3.77	0.81	5.13	2.19	3.03	0.57	5.25	0.12	1.39	24.69
Schuyler	1,357	0.90	0.70	1.21	6.25	0.69	3.24	1.36	4.20	0.60	3.64	0.20	2.30	25.28

[1] C. W. Ernst. [2] H. F. Bethune. [3] J. Hull. [4] H. Hapeman. [5] Burlington and Missouri Railway.
[6] R. R. Douglas, January to June and December; E. Morton, July to November.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Nebraska—Continued.	*Feet.*													
Seneca	2,971	0.55	0.40	1.59	3.93	0.50	5.70	4.54	1.80	0.89	0.70	T.	1.20	21.80
Seward	1,435	0.80	0.60	3.34	7.31	5.23	1.28	2.32	2.05	0.99	3.57	0.30	1.20	28.99
Springfield	1,057	0.74	0.53	1.57	6.78	2.81	1.55	3.79	2.16	.....	3.05	.....	.....	.....
Springview	.....	1.15	.....	0.50	1.31	2.11	1.90	1.12	2.14	2.01	2.75	0.30	.....	.....
Stanton	1,472	0.61	0.49	1.52	4.92	1.27	4.93	2.19	1.97	1.13	3.29	0.39	2.40	25.11
State Farm	.....	0.31	1.30	1.58	5.08	1.94	2.01	3.44	1.85	1.92	2.62	.....	.....	.....
Stockham	.....	.....	.....	.....	.....	3.60	5.20	1.70	2.00	1.40	5.00	.....	1.90	.....
Strang	1,638	0.60	0.90	1.63	5.27	3.39	2.84	2.99	4.60	1.56	5.40	0.25	1.10	30.53
Stratton	2,304	0.50	0.52	2.22	2.50	0.45	3.29	1.45	2.97	0.90	4.35	0.24	0.64	20.12
Stromsburg	1,649	1.91	0.94	1.45	3.56	2.57	3.47	1.51	2.90	0.75	4.94	0.30	.....	.....
Superior	1,574	0.35	0.25	1.30	5.64	1.71	8.39	3.90	1.39	2.08	4.87	0.75	0.90	31.53
Sutton	1,676	1.97	1.59	3.18	6.21	2.12	3.70	3.23	2.85	2.25	8.53	0.47	2.82	38.72
Syracuse	1,059	0.76	0.04	1.15	3.42	2.45	2.18	1.62	1.65	2.77	3.46	0.05	1.65	21.20
*Tecumseh	1,113	0.65	0.48	2.23	5.32	7.09	3.89	2.90	4.84	0.61	3.49	0.18	0.73	32.41
*Tekamah	1,060	1.50	0.80	1.23	5.09	0.61	4.92	0.88	3.06	0.57	2.01	0.32	2.85	23.84
Thedford	2,842	0.75	0.55	0.66	3.70	0.90	4.00	4.30	2.90	2.50	3.10	0.45	1.70	25.51
Turlington	1,214	0.66	0.40	1.49	4.10	4.01	2.55	2.45	2.60	2.12	3.56	0.11	1.33	25.38
Valentine	2,593	1.22	1.94	1.50	2.19	3.71	1.60	4.71	2.09	0.67	2.01	0.93	1.03	23.69
Valparaiso	1,317	.....	.....	.....	.....	2.52	2.30	2.78	1.60	1.01	2.01	0.51	0.70	.....
Wakefield	1,387	1.73	0.44	1.73	4.26	1.51	4.37	2.89	1.50	0.37	2.98	0.59	3.10	25.56
Wallace	3,116	0.23	0.50	1.35	2.23	T.	1.46	0.86	.....	0.12	0.60	0.50	0.70	.....
Wayne	1,448	.....	.....	.....	5.15	2.76	2.10	.....	.....	.....	.....	.....	.....	.....
Weeping Water	1,080	1.00	0.46	1.09	3.97	0.45	2.44	1.87	2.95	3.96	3.09	0.21	1.77	23.26
Westpoint	.....	.....	0.54	2.24	6.04	1.47	6.08	2.24	1.86	0.20	3.13	0.20	1.95	.....
Whitman	3,588	0.50	0.50	1.05	1.68	1.13	2.60	0.35	0.57	0.05	0.83	1.00	1.70	11.96
Wilber	1,325	0.63	0.60	1.52	8.72	1.86	2.47	5.11	3.77	1.38	4.22	T.	1.05	31.33
Willard	.....	0.35	.....	0.45	2.73	0.18	3.65	2.42	1.39	0.78	5.28	0.95	0.10	.....
Wilsonville	2,298	0.38	0.45	.....	6.61	1.26	2.97	1.05	4.63	2.70	3.90	0.55	1.30	.....
Wisner	.....	1.34	0.43	3.25	4.93	2.82	5.23	1.39	2.18	0.78	3.09	0.23	2.78	28.45
Woodlawn	1,186	0.20	0.52	1.39	5.90	2.13	1.69	3.00	2.12	2.22	2.68	0.19	.....	.....
York	1,642	0.50	1.10	2.80	5.45	2.24	1.76	1.60	1.68	0.72	4.52	0.60	1.30	24.27
Nevada.														
Austin	6,594	1.30	2.11	1.79	0.94	0.61	0.79	0.39	0.38	0.07	2.76	0.55	1.20	12.89
Battle Mountain	4,511	0.69	1.66	0.54	0.36	0.35	1.22	0.00	0.00	0.00	1.90	0.45	0.91	8.08
Beowawe	4,695	0.58	1.14	0.49	0.09	0.00	0.75	0.40	0.00	T.	0.50	0.18	0.65	4.78
Candelaria	5,783	0.08	0.65	0.61	T.	0.55	0.40	0.20	0.18	0.51	0.99	T.	0.04	4.21
Carlin	4,897	T.	0.78	1.18	0.25	0.10	0.19	T.	0.00	0.00	1.10	0.50	1.61	5.71
*Carson City	4,720	1.36	4.30	2.78	0.03	0.23	0.12	0.31	0.41	T.	1.53	0.85	1.71	13.63
Carson City[1]	4,600	1.47	4.37	2.83	0.04	0.20	0.12	0.27	0.34	0.01	1.56	0.88	1.72	13.61
Cloverdale	4,800	1.14	0.62	1.49	T.	1.16	0.02	0.06	0.20	.....	.....	.....	.....	.....
Clover Valley	6,000	1.97	2.05	2.08	1.06	0.18	0.10	.....	0.50	.....	.....	1.50	.....	.....
Cranes Ranch	5,350	0.80	2.13	1.84	1.44	1.11	0.88	0.35	0.20	0.19	2.68	0.75	1.19	* 13.56
Darrough Ranch	4,500	0.81	1.14	1.34	0.05	0.33	0.33	0.31	0.59	0.16	2.19	.....	0.00	.....
Downeyville	4,125	0.40	2.04	0.97	0.47	0.53	0.35	0.58	0.10	0.09	1.54	.....	.....	.....
Duckwater	5,600	0.21	0.89	0.68	0.61	0.77	.....	.....	.....	.....	.....	.....	.....	.....
Elko	5,063	0.58	2.50	3.55	0.52	T.	0.95	0.21	0.15	T.	2.10	1.08	1.05	12.69
Elko (near)	.....	0.29	.....	.....	.....	T.	.....	0.21	.....	T.	2.10	1.37	1.15	.....
Ely	6,000	1.20	3.75	2.65	0.75	1.35	0.15	0.80	0.55	0.04	2.86	1.85	1.25	17.20
Empire Ranch	6,995	1.11	1.82	1.70	0.16	1.31	0.05	.....	.....	.....	.....	0.42	0.22	.....
Fenelon	6,128	0.85	2.35	2.20	0.85	0.35	0.10	T.	1.75	0.10	3.58	0.77	1.31	14.21
Golconda	4,392	0.44	1.19	0.57	0.30	0.15	0.30	0.00	0.00	0.10	1.32	0.10	0.30	4.77
Goldcreek	.....	.....	.....	.....	0.14	0.94	0.57	0.81	.....	.....	.....	.....	.....	.....
Halleck	5,229	0.70	2.15	2.13	0.36	1.00	0.99	0.26	0.27	T.	1.00	1.13	3.57	13.56
Hamilton	7,977	.....	.....	2.43	0.35	0.96	0.04	0.60	0.20	0.00	1.86	.....	.....	.....
Hawthorne[2]	4,569	.....	1.00	0.59	T.	0.23	T.	0.00	0.10	0.02	1.22	0.00	0.34	.....
Hawthorne[3]	4,569	0.17	0.61	0.35	0.10	0.23	T.	0.80	0.05	0.02	1.22	0.13	0.30	3.98
Hot Springs	4,072	T.	0.67	T.	T.	0.05	0.43	T.	T.	0.02	0.08	0.00	0.00	1.25
Humboldt	4,236	0.36	1.34	0.79	0.19	0.40	0.57	0.00	0.00	0.11	1.02	0.13	1.28	6.19
Keysers Springs	5,400	0.25	1.27	0.43	0.40	0.50	0.10	0.40	0.40	0.05	1.05	0.30	0.27	5.42
Lewers Ranch	5,200	2.13	5.35	4.34	0.25	0.20	0.55	T.	0.43	0.08	4.41	3.66	4.21	25.61
Los Vegas	1,074	1.71	1.67	0.50	0.03	0.22	0.00	T.	0.76	0.02	0.16	0.00	0.28	5.35
Lovelock	4,977	0.44	1.21	0.41	0.09	T.	T.	0.00	0.00	0.00	1.00	0.09	0.25	3.49
McGill	.....	.....	.....	0.43	0.45	0.77	0.02	0.18	0.04	0.02	2.16	1.32	1.40	.....
Martins Ranch	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.26	0.73	0.89	1.32	.....
Midas	.....	1.39	2.04	2.58	0.75	1.12	0.17	0.29	0.55	1.00	1.55	0.51	1.08	13.03
Mill City	4,225	0.40	1.26	0.18	0.00	0.00	0.20	0.00	0.00	0.00	0.40	0.00	0.38	2.82
Monitor Mill	.....	.....	.....	.....	0.67	1.33	T.	0.19	0.62	0.27	2.15	0.79	0.80	.....
Osceola	6,500	1.88	3.05	1.08	0.39	0.52	0.03	0.27	1.42	0.41	2.16	1.44	1.53	14.18
Palisade	4,821	0.71	2.45	0.65	0.37	0.20	0.55	0.00	T.	0.00	1.50	0.80	0.33	7.56
Palmetto	6,500	3.20	2.65	3.05	0.05	1.10	0.58	1.41	1.47	1.24	2.10	T.	0.60	17.45
Reno	4,484	.....	.....	.....	0.00	.....	0.00	0.00	.....	.....	.....	.....	.....	.....
Reno State University	.....	1.05	2.10	0.72	0.03	1.73	0.29	T.	0.07	0.02	0.96	0.16	0.87	8.00
Ruby Valley	6,000	1.43	1.84	1.36	1.06	0.69	0.39	0.54	0.26	0.61	2.92	0.71	1.65	13.46
St. Clair	4,000	0.97	1.56	0.15	.....	.....	.....	.....	.....	0.05	1.95	0.05	0.81	.....
St. Thomas	1,600	.....	1.91	1.24	.....	1.00	T.	T.	0.55	T.	1.55	.....	.....	.....
San Antonio	4,500	1.04	0.97	0.78	T.	0.30	T.	0.18	0.60	.....	2.05	0.12	T.	.....
Silverpeak	4,445	.....	.....	.....	T.	0.10	T.	0.95	T.	T.	0.26	T.	T.	.....
Sodaville	4,665	0.22	.....	0.13	0.20	0.41	.....	0.88	0.36	.....	.....	.....	0.15	.....
Tecoma	4,812	0.44	0.57	0.14	0.50	T.	0.00	0.00	T.	T.	1.43	0.12	0.31	3.51
Toano	5,975	1.10	1.72	1.35	1.15	1.85	T.	0.59	0.98	0.22	3.31	0.83	2.13	15.73
Tuscarora	6,400	0.87	4.77	3.57	0.94	1.14	0.72	0.37	.....	0.10	1.55	.....	2.26	.....
Tybo	6,500	3.30	2.03	1.15	T.	0.90	T.	0.80	0.55	0.45	0.60	0.90	0.45	11.13
Verdi	4,895	1.35	4.99	2.75	T.	0.40	0.20	0.00	0.20	T.	0.45	1.62	1.17	13.13
Wadsworth	4,077	0.89	2.33	0.23	0.00	0.30	0.20	0.00	T.	0.25	1.78	0.29	0.98	7.25
Wells	5,628	0.99	1.34	1.30	1.09	0.90	0.71	0.31	0.57	0.00	2.92	1.12	1.14	12.90
*Winnemucca	4,340	0.79	1.15	0.32	0.25	0.69	0.44	0.08	0.00	0.12	1.47	0.38	0.97	6.66

[1] C. W. Friend. * Pacific Railway system. [3] C. P. Mengel.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
New Hampshire.	*Feet.*													
Alstead	.....	2.67	2.91	3.74	3.66	3.46	7.11	12.16	4.38	1.76	1.91	7.39	5.20	56.35
Berlin Mills	.....	2.50	.....	2.57	3.77	5.17	5.66	7.92	1.34	2.48	2.99	5.46	1.08	.....
Bethlehem	1,470	2.54	1.52	2.43	2.65	5.52	6.97	6.21	4.07	2.93	1.41	5.62	3.15	45.02
Brookline	.....	3.99	3.35	3.95	2.03	4.64	6.23	8.50	3.40	2.20	0.88	6.68	6.38	52.23
Claremont	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7.38	4.01	.....
Concord	283	3.72	2.49	3.87	2.38	3.93	8.35	8.56	3.58	1.22	0.58	6.59	4.74	50.01
Durham	88	4.84	2.31	4.40	2.50	4.94	8.85	6.98	2.97	2.71	0.49	6.79	5.33	53.11
Grafton	863	2.85	2.56	2.59	2.27	4.90	4.79	7.30	2.59	1.13	1.43	5.07	3.81	41.29
Hanover	603	2.88	1.64	3.05	2.60	6.07	5.55	7.97	1.70	1.57	1.29	5.78	3.28	43.38
Keene	506	2.55	1.79	4.08	2.74	3.62	5.71	10.19	4.01	1.77	1.86	6.04	5.17	49.53
Lancaster	1,100	2.94	1.86	2.73	2.30	4.42	6.56	7.38	3.40	1.31	2.16	5.75	3.32	44.13
Nashua	125	4.19	2.88	3.73	1.88	4.48	5.12	4.45	3.98	2.07	1.00	6.60	5.45	45.83
Newton	.....	4.05	2.22	3.81	1.95	4.59	6.61	4.22	3.33	3.16	0.15	6.96	4.66	45.71
North Conway	575	5.24	4.08	4.12	2.43	6.55	5.27	7.89	2.30	1.45	1.30	5.80	4.49	50.92
Peterboro	724	3.35	3.23	3.33	2.08	4.03	7.21	9.28	2.77	1.66	0.64	6.12	5.48	49.18
Plymouth	500	3.27	2.79	3.49	1.60	4.57	5.49	6.77	2.53	0.92	1.87	5.17	4.80	43.27
Sanbornton	830	3.30	2.13	3.24	2.55	4.91	7.89	8.55	2.79	1.32	1.25	5.65	4.67	48.25
Stratford	950	2.23	1.46	2.84	2.90	4.92	5.80	10.00	2.88	2.36	1.37	5.75	3.41	45.92
Warner	498	3.24	3.25	4.28	2.35	.....	.....	8.58	.....	1.40	0.62	6.73	.....	.....
West Milan	1,016	2.95	2.20	3.57	2.95	4.60	6.97	5.56	2.44	2.40	1.21	5.51	3.12	43.48
New Jersey.														
Asbury Park	22	3.48	2.39	2.64	4.36	2.81	3.46	8.92	2.94	1.77	2.89	3.75	5.02	44.43
*Atlantic City	53	2.50	2.96	2.20	3.42	1.71	2.62	8.01	2.07	0.36	2.21	4.04	3.55	35.65
Barnegat	36	3.20	3.71	2.74	6.82	2.01	4.82	10.03	3.43	1.48	3.53	4.69	4.18	50.64
Bayonne	50	2.93	2.74	2.66	3.37	5.93	3.72	16.96	5.83	1.26	1.31	4.52	5.22	56.45
Beachhaven	10	2.14	3.82	2.62	3.10	1.42	2.09	8.76	3.27	0.65	.....	.....	.....	.....
Belvidere	289	2.57	2.90	3.26	4.15	8.21	3.23	10.92	4.44	3.52	2.55	5.95	5.39	57.09
Beverly	30	2.32	3.36	2.38	3.35	5.68	4.95	11.11	4.00	1.42	2.31	4.32	5.17	50.37
Billingsport	39	2.48	5.01	2.28	3.48	6.33	4.01	9.27	2.25	1.05	2.81	4.71	4.68	48.36
Blairstown	351	2.26	2.50	2.58	3.75	8.97	3.36	9.94	2.65	3.97	2.61	.....	.....	.....
Boonton	413	2.67	3.71	3.50	3.49	7.53	2.46	11.63	7.30	2.48	1.35	5.91	5.68	57.71
Bridgeton	30	2.33	5.72	3.37	5.06	4.75	4.66	11.93	5.03	0.49	3.75	4.19	4.35	55.66
Camden	31	2.11	2.87	2.08	3.44	5.23	4.43	6.11	4.58	0.86	2.21	3.79	4.39	42.10
Cape May	11	2.06	6.37	2.84	3.55	3.25	2.23	.....	2.85	0.39	.....	.....	.....	.....
Cape May C. H	19	2.92	6.12	2.57	3.36	2.50	2.80	9.98	2.37	0.55	5.93	2.40	3.92	46.42
Charlotteburg	719	3.28	4.99	3.45	3.54	8.23	3.71	13.34	7.97	2.90	1.95	5.20	5.24	63.80
Chester	860	3.15	4.10	4.32	3.79	7.66	3.23	12.83	6.39	2.48	1.95	5.85	4.75	60.50
Clayton	123	2.25	4.46	2.08	4.06	3.93	2.12	12.22	5.06	0.46	2.62	4.85	3.89	48.00
College Farm	100	2.39	2.77	2.47	3.47	6.45	2.50	12.84	3.81	2.10	1.59	4.52	5.07	49.98
Deckertown	442	1.74	2.38	2.81	3.08	4.26	3.08	9.27	3.98	2.72	1.53	5.18	5.30	45.33
Dover	575	3.39	3.94	3.36	3.03	8.85	3.44	13.27	8.23	2.19	1.67	5.79	5.08	62.24
Egg Harbor City	63	2.36	4.38	3.13	4.86	3.55	3.32	10.22	4.75	1.09	3.98	4.26	4.56	50.46
Egg Island	.....	1.81	.....	1.55	2.17	3.44	.....	.....	.....	.....	.....	.....	.....	.....
Elizabeth	33	3.67	2.98	3.08	3.54	6.37	2.71	20.80	6.15	1.50	1.33	5.03	5.47	62.63
Englewood	45	4.21	3.59	2.88	2.54	8.58	2.51	17.87	2.90	1.51	0.87	4.94	6.44	58.84
Franklin Furnace	580	2.18	3.01	2.64	3.69	5.16	2.92	9.58	5.72	3.09	1.78	3.95	4.93	48.65
Freehold	187	2.35	4.35	2.61	4.18	5.14	4.59	13.60	4.11	1.64	3.15	4.87	4.67	55.26
Friesburg	143	2.00	4.18	2.13	4.03	3.79	3.29	6.65	6.50	0.61	2.97	4.94	3.68	44.77
Gillette	400	3.51	2.55	2.82	3.24	6.30	2.35	10.43	5.50	2.40	1.37	4.14	6.09	50.70
Hammonton	80	3.00	4.26	2.56	5.79	4.69	4.16	10.94	5.19	0.94	2.75	3.85	4.73	52.86
Hanover	213	3.05	3.00	2.89	3.54	7.18	2.60	8.82	4.65	2.10	1.45	5.10	5.64	50.02
Hightstown	85	2.87	3.47	2.70	3.93	6.06	4.62	12.19	4.47	0.77	2.36	5.41	3.07	51.92
Imlaystown	106	2.88	3.70	1.90	3.59	5.34	4.57	10.18	3.14	1.44	2.94	3.99	4.40	48.07
Junction	508	2.67	2.59	2.27	2.85	8.76	2.73	8.72	2.42	1.58	1.82	6.67	4.63	47.71
Lambertville	81	3.20	3.00	2.54	3.81	8.80	4.80	10.53	2.71	0.97	1.96	4.68	4.92	51.92
Moorestown	71	2.41	3.58	2.75	4.00	5.38	4.58	11.35	3.12	1.42	2.60	4.64	4.95	50.78
Newark[1]	55	2.74	2.30	3.07	3.41	6.30	3.28	.....	.....	.....	.....	.....	.....	.....
Newark[2]	30	3.19	2.95	2.84	3.66	6.56	3.92	19.09	8.69	2.20	1.65	4.99	5.32	65.06
New Brunswick[3]	61	2.51	3.15	2.92	3.48	7.38	2.47	13.23	4.27	2.09	1.66	4.69	5.22	53.07
New Brunswick[4]	65	2.32	3.08	2.60	3.49	6.94	2.16	13.05	4.19	2.10	1.56	4.94	5.36	51.79
Newton	678	2.10	2.95	3.32	3.79	6.48	3.59	10.87	.....	.....	1.20	5.11	4.20	.....
Ocean City	12	2.70	4.33	2.87	3.77	1.99	2.98	6.70	2.45	0.75	4.63	3.94	4.31	41.42
Oceanic	16	3.14	2.81	2.61	4.50	4.39	2.76	12.88	3.94	0.89	2.09	4.24	5.41	49.66
Paterson	110	3.46	3.55	3.16	3.27	6.92	2.91	9.98	7.59	2.82	1.82	4.88	5.96	56.32
Perth Amboy	61	1.98	2.38	2.72	3.28	5.25	3.32	16.16	5.45	2.15	1.52	5.14	5.07	54.42
Plainfield	100	2.70	3.13	2.91	3.91	6.56	2.79	13.92	5.49	2.81	1.15	5.07	5.23	55.67
Port Norris	.....	.....	.....	.....	.....	.....	.....	.....	2.27	0.21	3.76	2.97	4.74	.....
Rancocas	68	2.55	3.57	2.46	3.81	5.91	4.38	12.21	3.05	1.43	2.12	4.06	4.82	50.37
Rivervale	70	3.57	3.41	3.91	2.34	6.27	3.83	8.91	4.32	2.38	1.06	5.43	5.70	51.13
Roseland	.....	.....	.....	.....	.....	8.02	3.13	11.51	6.06	2.88	1.72	5.54	6.02	.....
Sergeantsville	345	2.66	2.86	2.94	3.43	9.11	5.50	9.83	2.63	1.46	1.81	4.92	4.84	51.99
Somerville	91	3.03	3.04	2.75	3.92	7.84	2.80	11.08	3.96	2.03	0.95	4.98	5.24	51.62
South Orange	187	3.62	2.57	2.56	2.47	6.69	3.20	15.80	7.08	1.51	1.11	4.62	4.70	55.93
Staffordville	29	3.56	3.93	2.92	6.98	2.28	2.95	12.19	3.43	1.15	4.77	3.87	5.29	53.32
Toms River	33	3.21	4.86	2.58	5.30	3.19	4.78	12.03	6.21	3.12	3.78	4.26	5.31	58.63
Trenton	60	2.68	3.28	2.40	3.51	5.59	4.37	9.87	2.85	1.06	2.01	3.94	3.95	45.51
Vineland	118	2.38	5.38	2.56	5.18	4.18	2.30	12.56	5.62	0.46	3.51	4.26	5.35	53.74
Woodbine	43	2.63	5.66	2.28	3.68	2.76	2.58	7.07	2.25	0.90	5.76	2.89	4.83	43.29
New Mexico.														
Albert	4,700	0.45	0.65	0.55	0.32	3.00	4.27	1.56	2.81	0.42	1.79	0.00	0.09	15.91
Albuquerque	5,008	0.57	0.13	0.72	0.63	2.07	0.99	0.31	1.31	1.22	1.44	T.	0.35	9.74
Alma	5,500	2.33	0.47	0.57	0.15	0.11	0.72	3.04	2.16	4.15	1.95	T.	0.38	16.03
Angus V. V Ranch	.....	2.30	T.	0.50	0.55	1.70	1.81	5.15	3.56	2.72	1.70	0.78	0.30	21.07
Aztec	5,590	1.21	1.30	0.94	0.23	1.56	T.	0.78	0.49	2.79	1.53	0.05	0.32	11.20

[1] F. W. Ricord. [2] G. C. Sonn. [3] C. V. Meyers. [4] Mrs. G. H. Cook.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
New Mexico—Continued.	*Feet.*													
Bernalillo	5,260	0.28	T.	0.68	0.55	2.23	0.63	0.69	0.47	4.02	1.77	0.10	0.07	11.49
Bluewater	6,200	0.10	1.10	0.40	0.50	1.80	0.12	0.75	0.93	3.00	3.20	T.	0.50	12.40
Buckmans	8,500	1.88	1.02	2.29	1.35	4.66	1.11	3.30	3.54	3.09	3.51	0.03	1.35	27.13
Chama	7,862	2.58	4.90	5.53	0.79	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clayton	5,178	0.38	1.10	0.00	1.05	4.45	3.29	1.26	1.79	0.35	1.67	0.00	1.15	16.49
Deming	4,315	1.55	.....	0.42	0.00	0.00	0.50	2.89	1.41	1.87	1.57	0.00	T.	.....
East Lasvegas	.....	0.69	0.70	1.43	0.37	6.63	1.23	1.18	3.29	0.79	1.94	0.00	0.59	18.84
Eddy	3,112	.....	0.00	0.33	0.43	1.52	0.66	0.50	5.04	0.76	0.20	T.	T.	.....
Engle	4,750	0.40	0.00	1.01	1.56	1.20	1.58	3.79	3.38	3.23	0.74	0.00	0.00	16.89
Espanola	5,590	0.32	0.14	0.94	0.16	3.48	0.08	0.92	1.01	2.20	0.87	.....	0.30	.....
Fort Bayard	6,040	1.10	0.20	1.05	0.10	T.	0.60	3.28	5.31	4.11	1.90	0.00	0.25	18.00
Fort Union	6,750	0.20	0.05	0.82	0.70	9.73	[1]3.39	2.36	4.33	1.16	6.43	0.00	T.	29.17
Fort Wingate	6,649	0.41	4.20	1.60	0.11	0.70	0.25	0.91	1.03	3.11	3.67	0.40	2.55	18.94
Galisteo	6,074	1.45	0.14	0.66	0.00	4.80	3.61	1.08	.....	1.07	1.50	0.00	0.90	.....
Gallinas Spring	5,272	1.07	0.91	1.53	0.02	5.46	0.79	3.05	1.09	1.01	1.51	0.00	0.50	16.93
Gila	4,040	2.11	0.26	0.87	T.	0.07	0.15	1.73	2.42	5.26	1.38	T.	0.19	14.44
Gold Hill	.....	.....	4.00	3.20	2.20	4.39	.....	.....	.....	.....	.....	.....	.....	.....
Hillsboro	5,100	0.92	0.02	0.50	0.20	0.35	0.42	3.44	3.22	5.38	2.57	0.01	0.10	17.13
Labelle	9,626	1.15	2.50	3.80	0.86	5.05	1.57	.....	.....	.....	.....	.....	.....	.....
Lascruces	3,500	0.35	0.00	0.46	0.23	1.54	0.07	2.25	1.16	2.14	0.73	T.	0.03	8.96
Lordsburg	4,245	1.21	.....	0.12	0.00	0.00	0.00	3.95	1.25	.....	.....	0.00	0.18	.....
Los Lunas	4,900	1.45	0.25	0.15	0.50	1.30	0.25	0.80	.....	0.55	0.80	T.	0.15	.....
Lower Penasco	5,250	1.40	T.	.....	0.50	0.85	0.65	5.60	3.15	1.80	1.05	0.10	0.25	.....
Monero	7,356	1.37	2.25	2.31	0.84	2.55	0.32	2.86	2.04	3.66	1.99	.....	0.70	.....
Ocate	7,500	0.65	0.70	0.80	0.61	9.25	5.51	2.29	.....	.....	.....	.....	.....	.....
Olio	.....	.....	.....	T.	T.	1.59	0.00	0.39	T.	2.15	.....	.....	.....	.....
Puerto de Luna	5,350	1.70	0.20	0.80	0.35	2.05	2.02	1.62	3.09	0.63	0.80	0.10	.....	.....
Raton	6,400	0.20	0.51	0.40	0.20	4.08	2.12	0.10	0.36	0.11	3.57	0.00	0.10	11.75
Rincon	4,030	1.23	0.00	0.00	0.18	0.88	0.20	1.95	2.61	4.23	0.46	0.00	T.	11.74
Roswell	3,570	1.12	.....	0.59	1.35	3.76	1.42	2.78	2.54	1.25	0.44	T.	T.	.....
San Marcial	4,554	0.58	T.	0.34	0.37	1.63	0.85	1.18	0.38	2.92	1.88	.....	.....	.....
*Santa Fe	6,998	1.11	1.10	2.06	0.87	4.35	0.57	2.85	2.33	2.49	1.95	0.08	0.64	20.40
Shattucks Ranch	6,000	1.28	0.20	0.23	0.81	1.26	2.45	1.95	3.77	4.66	0.68	T.	0.35	17.64
Socorro	4,600	0.51	0.05	0.58	1.00	1.20	0.57	2.03	1.02	2.47	1.18	0.00	0.00	10.61
Springer	5,857	0.50	0.37	0.65	0.10	5.26	4.94	2.71	1.73	.....	.....	.....	.....	.....
Valley Ranch	7,000	0.50	0.80	1.10	T.	4.68	.....	1.12	3.99	.....	.....	.....	.....	.....
White Oaks	6,470	2.32	0.55	1.21	0.45	1.27	1.84	1.78	2.28	2.85	0.99	0.06	0.78	16.38
Winsors Ranch	8,000	1.35	0.38	2.24	1.37	4.43	1.77	1.98	3.57	3.77	3.39	0.20	1.04	25.49
New York.														
Adams	585	1.53	1.41	.....	.....	.....	2.05	8.22	3.54	0.78	0.42	2.73	3.95	.....
Addison	1,000	1.54	0.76	2.29	2.41	4.26	2.56	4.52	2.05	2.90	0.94	3.10	1.91	29.24
Akron	765	2.48	2.50	2.89	1.79	2.82	1.79	4.03	1.73	0.62	1.34	5.09	4.20	31.28
*Albany	85	1.62	2.05	1.85	3.12	4.69	4.45	6.67	4.43	1.87	1.01	4.65	4.38	40.79
Alfred	1,795	3.33	1.67	3.24	2.69	3.35	2.97	.....	1.78	2.88	1.02	.....	.....	.....
Angelica	1,340	3.12	1.57	4.21	3.15	4.07	5.56	5.14	1.77	1.74	0.65	3.07	3.10	37.15
Appleton	301	1.42	1.93	2.93	2.58	2.46	1.65	5.08	2.14	0.28	1.05	4.40	3.34	29.26
Arcade	1,707	2.70	1.76	2.80	3.06	4.30	2.64	8.35	3.62	1.13	0.97	4.35	3.47	39.15
Atlanta	.....	1.72	0.83	2.18	1.92	2.91	2.23	7.47	2.20	2.34	1.18	2.81	3.01	30.80
Auburn	650	.....	.....	.....	.....	.....	.....	.....	.....	3.20	0.75	4.49	2.92	.....
Avon	585	1.97	0.64	1.87	1.21	1.75	1.96	4.08	0.90	1.42	0.72	2.19	1.65	20.36
Baldwinsville	390	5.40	0.99	5.13	2.18	2.22	3.23	5.95	2.63	1.20	0.65	5.05	3.64	38.27
Bedford	290	3.92	3.09	2.72	3.22	9.83	3.10	11.42	4.26	2.75	2.03	5.30	4.23	55.87
*Binghamton	875	1.12	1.37	2.66	1.98	4.01	2.98	2.30	1.37	3.03	0.66	2.43	3.23	27.09
Binghamton[1]	870	1.45	2.09	2.92	2.33	4.88	3.76	2.54	1.84	3.57	0.82	2.89	4.03	33.12
Bolivar	1,800	2.31	1.44	3.37	2.48	2.80	3.44	6.36	3.26	2.06	0.70	4.69	3.02	35.92
Bonckville	.....	.....	.....	.....	.....	.....	.....	.....	1.93	3.01	0.68	4.34	3.43	.....
Boyds Corners	.....	4.07	3.14	3.68	2.78	5.56	3.41	12.51	5.63	1.74	2.01	6.81	6.56	57.40
Brentwood	80	4.40	2.08	4.40	4.90	.....	3.50	10.00	2.10	2.30	1.50	4.90	5.50	.....
Brooklyn	107	4.14	3.20	3.63	2.75	6.90	2.60	11.06	4.07	1.90	1.69	3.66	4.74	50.34
*Buffalo	690	3.60	3.13	3.54	2.56	2.62	1.95	8.29	2.12	0.31	0.80	5.21	3.59	37.72
Canajoharie	306	0.69	1.44	3.08	1.56	3.82	6.31	6.48	2.98	1.98	0.74	4.03	4.60	37.71
Canton	304	.....	1.65	.....	3.16	3.49	2.50	7.58	3.33	1.24	0.64	5.38	3.21	.....
Carmel	450	3.45	2.76	3.34	3.05	5.96	3.23	16.64	4.90	1.74	0.89	6.22	5.22	57.40
Catskills	450	2.68	3.28	2.05	3.20	5.81	2.84	9.82	4.13	3.99	0.81	7.57	5.98	52.16
Cedarhill	.....	.....	.....	.....	.....	.....	.....	7.46	5.14	2.15	0.95	5.00	5.02	.....
Chenango Forks	1,188	.....	.....	.....	.....	3.60	2.90	4.85	2.30	2.45	1.00	2.90	.....	.....
Cherrycreek	.....	4.06	2.89	4.58	3.11	4.02	3.10	6.23	4.06	1.11	2.28	6.41	5.30	47.15
Cooperstown	1,250	1.72	2.06	3.31	3.65	5.21	5.22	4.86	6.60	3.40	0.64	5.21	4.64	46.52
Cortland	1,220	2.68	1.11	1.55	0.68	4.23	3.81	4.46	2.07	3.13	0.71	3.55	3.00	30.98
Dekalb Junction	441	2.47	1.02	3.19	2.81	3.14	.....	4.84	2.46	.....	0.86	4.72	2.84	.....
Dryden	1,081	.....	0.59	3.37	2.82	3.96	3.76	4.30	2.22	4.45	1.00	.....	.....	.....
Eagle Mills	.....	0.60	2.05	3.41	4.97	4.37	5.56	4.05	3.63	1.25	1.02	4.58	3.87	39.36
Easton	.....	2.51	1.43	3.80	.....	.....	.....	7.09	.....	1.82	1.34	5.74	5.08	.....
Elizabethtown	.....	.....	.....	.....	4.75	2.89	.....	13.00	.....	.....	.....	.....	.....	.....
Elmira	863	1.40	0.93	2.41	2.30	5.56	1.76	3.23	3.70	3.70	0.65	2.89	1.60	30.13
Fayetteville	538	.....	.....	.....	.....	.....	.....	.....	.....	1.45	0.42	5.02	2.54	.....
Fleming	1,000	1.90	1.40	2.19	2.21	2.17	3.96	3.86	2.52	3.46	0.30	2.68	1.92	29.07
Fort Niagara	263	0.96	1.70	2.50	2.49	3.07	2.15	7.01	1.94	1.00	1.05	3.69	2.77	30.33
Franklinville	1,588	2.54	2.01	3.04	2.76	3.40	1.71	5.88	2.63	0.90	0.75	5.00	4.01	34.63
Friendship	1,550	2.29	1.56	2.59	2.77	2.65	2.93	4.47	.....	.....	.....	.....	.....	.....
Fulton	318	4.41	1.14	3.35	2.42	2.07	3.78	.....	3.02	1.86	0.46	7.37	4.79	.....
Garrattsville	.....	3.15	1.43	2.38	3.15	7.30	2.44	6.21	4.31	3.14	0.59	5.23	2.45	41.78
Glens Falls	340	2.37	1.86	4.32	3.61	3.81	6.21	8.32	5.42	1.19	1.52	10.02	4.71	53.86
Gloversville	850	2.48	2.03	5.41	3.38	5.18	6.72	9.80	2.46	1.78	1.59	6.79	6.52	55.14
Greenwich	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.55	1.73	5.79	4.59	.....
Haskinsville	.....	1.56	0.63	2.46	2.25	3.06	1.38	5.56	1.89	2.73	0.68	2.90	2.10	27.70
Honeymead Brook	450	2.36	2.61	2.56	3.33	4.44	4.55	14.55	4.42	1.62	0.93	5.07	5.39	51.63

[1] Superintendent State hospital.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
New York—Continued.	*Feet.*													
Humphrey	1,950	3.06	2.56	2.19	1.39	3.84	3.71	7.77	2.68	1.25	0.60	4.83	3.59	37.47
Ithaca	810	1.50	0.91	3.04	2.47	3.84	3.54	3.25	2.74	4.72	0.88	4.22	2.56	33.67
Jamestown	1,328	4.29	2.23	5.52	3.77	3.45	2.06	5.93	2.95	0.75	0.69	6.52	4.32	42.48
Kings Station	1,324	2.20	1.75	4.95	3.68	6.35	6.63	8.83	4.70	1.65	1.45	8.15	6.27	56.61
Lake George	.....	2.19	2.48	3.97	3.85	4.52	4.90	8.83	5.02	1.23	1.59	6.95	4.75	50.28
Lake Placid	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.35	1.88	.....	1.90	.....
Lebanon Springs	930	2.99	2.50	2.88	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Little Falls	384	1.01	1.73	4.46	4.47	4.39	5.45	4.68	2.52	1.90	1.31	4.80	5.22	41.94
Lockport	650	1.87	2.70	2.34	1.98	2.30	1.53	3.30	2.29	0.90	0.81	4.46	.....	.....
Lowville	900	2.72	1.75	2.97	2.97	3.97	3.40	2.96	3.27	1.72	1.34	5.81	3.02	35.70
Lyndonville	323	.....	.....	.....	.....	.....	1.74	4.63	2.32	0.29	0.95	.....	.....	.....
Lyons	407	2.27	0.95	2.37	2.14	1.84	2.95	5.04	1.22	1.18	0.48	3.46	3.14	27.04
Madison Barracks	266	1.29	1.79	2.41	1.16	3.99	1.03	2.55	1.90	0.79	0.80	2.66	3.68	24.05
Manhattan Beach	.....	2.82	2.42	.....	3.26	4.23	.....	8.51	.....	.....	.....	.....	.....	.....
Middletown	700	.....	.....	.....	.....	2.92	.....	9.14	3.85	2.86	0.73	5.05	5.71	.....
Mohonk Lake	1,245	1.89	3.02	4.00	2.12	3.92	2.29	14.71	4.11	1.89	1.06	5.10	5.44	49.55
Mount Morris	525	1.40	1.00	2.70	2.10	2.55	2.10	2.20	0.20	1.00	0.60	2.20	1.80	19.85
Napoli	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.52	4.95	4.39	.....
Newark Valley	966	1.25	1.34	2.74	3.08	4.01	3.81	4.43	3.71	4.71	0.36	3.82	2.85	36.11
New Lisbon	1,234	1.14	1.53	2.00	2.63	4.40	4.10	5.58	3.17	3.19	0.73	4.04	4.20	37.61
*New York	314	3.51	2.72	2.51	2.96	5.30	2.98	9.52	3.14	1.64	0.72	4.44	4.83	44.27
Niagara Falls	574	1.87	2.07	2.96	3.09	3.23	1.70	6.73	3.38	0.89	1.31	5.19	3.56	35.98
North Hammond	300	1.47	1.35	4.82	2.57	3.91	2.92	4.33	2.19	1.70	0.78	4.01	2.51	32.56
North Lake	.....	5.50	2.10	7.20	3.80	4.41	4.50	4.15	4.97	2.56	2.08	10.24	5.74	57.25
Number Four	1,571	3.15	3.21	4.25	3.93	3.99	4.29	6.46	4.97	3.37	2.38	6.45	4.60	51.05
Ogdensburg	258	1.65	1.79	4.18	3.98	2.86	1.88	4.62	1.40	0.56	1.19	4.01	2.77	30.89
Oneonta	1,100	1.22	2.09	3.50	3.26	7.42	5.31	6.61	2.43	3.84	0.46	5.03	5.30	46.47
*Oswego	335	6.05	1.26	4.19	2.46	2.76	3.56	3.15	1.70	0.81	0.51	6.56	3.60	36.61
Oxford	550	1.76	2.09	4.08	3.76	5.47	4.80	8.04	2.68	3.13	0.80	4.85	4.01	45.47
Palermo	460	6.78	1.14	4.15	1.49	2.99	4.07	4.22	1.00	0.69	0.40	8.17	4.08	39.18
Penn Yan	756	.....	.....	.....	.....	.....	.....	.....	1.28	1.90	0.62	2.61	1.56	.....
Perry City	1,038	1.81	1.33	2.66	2.56	3.69	4.18	3.55	2.30	2.58	0.86	3.74	2.86	32.12
Phœnix	.....	3.83	1.25	4.52	2.39	2.59	3.28	8.56	2.53	1.49	0.90	6.26	3.25	40.85
Pine City	.....	1.32	0.78	2.30	2.95	4.55	2.28	5.10	4.00	3.48	0.91	3.53	2.04	33.24
Pittsford	502	1.83	2.45	3.32	2.23	2.10	3.18	6.37	1.13	0.98	0.97	3.54	2.26	30.36
Plattsburg Barracks	125	2.98	1.43	2.26	2.67	3.41	3.90	7.19	3.93	1.90	0.52	3.58	1.96	35.73
Port Jervis	470	2.91	3.00	2.74	3.11	5.57	3.24	9.23	3.65	2.22	1.18	5.71	6.71	49.27
Potsdam	300	2.70	2.80	2.70	2.18	3.30	2.70	7.04	1.99	1.31	0.55	4.19	3.26	34.72
Poughkeepsie	180	1.62	2.66	3.00	1.30	3.36	4.25	9.37	2.81	1.83	0.13	5.45	4.57	40.35
Primrose	.....	3.26	2.24	2.83	2.88	6.18	3.35	11.12	3.83	1.84	1.94	4.89	5.42	49.78
Ridgeway	.....	1.10	1.66	2.66	2.62	2.77	1.79	5.51	1.83	0.47	1.07	5.02	2.80	29.30
*Rochester	523	2.47	2.31	3.14	1.63	1.33	2.62	6.37	1.72	0.46	0.97	3.71	3.39	30.12
Rome	445	3.10	1.69	4.90	3.36	4.12	4.87	4.92	2.71	2.30	0.38	6.25	3.49	42.09
Romulus	719	0.97	0.93	3.80	2.53	4.80	2.71	4.14	0.78	3.95	1.21	4.06	2.01	31.89
Rose	386	2.68	1.83	4.01	2.52	2.12	4.75	3.84	1.15	1.12	0.86	4.95	3.57	33.40
St. Johnsville	319	1.14	1.04	2.54	2.30	4.38	3.50	4.67	3.28	1.80	0.93	3.04	4.65	33.27
Saranac Lake	1,606	2.48	1.50	2.70	3.79	3.41	3.75	8.55	2.56	2.75	1.41	4.74	2.22	39.86
Schenevus	1,272	.....	.....	.....	.....	.....	.....	5.35	2.40	3.01	0.73	5.58	.....	.....
Scottsville	563	.....	.....	.....	1.98	1.89	3.15	6.58	0.83	1.37	0.68	3.86	.....	.....
Setauket	40	3.85	2.56	2.80	3.29	5.38	2.82	18.18	5.03	1.20	1.79	5.76	6.60	59.26
Sherwood	719	2.34	1.10	2.99	2.47	3.67	3.90	4.36	1.99	3.07	2.38	3.10	2.55	33.92
Skaneateles	.....	1.77	1.45	4.13	3.16	3.31	3.15	4.92	2.09	2.73	0.95	5.70	3.48	36.84
South Canisteo	1,480	2.34	1.60	3.01	3.13	3.18	3.48	5.62	2.69	3.47	1.04	3.56	2.71	35.83
Southeast Reservoir	.....	3.55	2.66	3.40	3.05	6.03	3.18	11.15	5.21	1.79	0.93	5.72	4.78	51.54
South Kortright	1,700	0.94	1.53	2.59	2.91	5.33	5.00	5.56	6.03	4.67	0.98	4.35	4.02	43.91
Straits Corners	.....	1.31	1.39	2.82	2.68	4.27	3.64	4.04	2.66	4.01	0.52	3.90	2.12	33.36
Ticonderoga	277	.....	.....	.....	.....	1.05	3.04	2.91	2.05	0.30	.....	.....	.....	.....
Tyrone	.....	.....	.....	.....	.....	.....	.....	.....	3.34	1.32	2.19	5.66	4.10	.....
Victor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.83	2.79	.....	.....
Wappingers Falls	.....	2.77	2.66	2.79	3.05	3.92	4.55	11.84	5.82	1.88	1.24	7.24	5.99	53.75
Warwick	502	1.13	2.21	1.96	3.24	4.13	3.38	11.10	2.99	2.24	1.63	4.07	4.15	42.23
Watertown	486	2.46	.....	3.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Watkins	451	.....	.....	.....	.....	3.53	2.04	3.19	1.37	2.75	0.52	2.81	.....	.....
Waverly	825	1.72	1.67	1.89	3.10	3.66	3.22	4.50	3.21	3.42	0.79	3.69	2.70	33.57
Wedgwood	1,350	1.85	0.87	2.54	2.72	3.72	2.74	3.43	3.04	2.66	0.74	3.20	1.93	29.44
Westfield	758	1.93	1.59	1.84	2.99	3.48	1.80	8.21	3.64	0.58	1.72	4.60	2.71	35.09
Westpoint	167	3.05	3.35	3.35	3.17	4.70	3.20	13.05	5.15	2.90	1.43	5.40	5.60	54.35
Willets Point	405	3.54	4.68	3.70	3.21	5.90	2.67	9.75	2.26	1.67	0.70	4.66	5.06	47.80
North Carolina.														
Ashers	.....	.....	.....	.....	4.20	3.30	6.32	3.93	3.76	1.18	6.52	2.82	3.26	.....
*Asheville	2,250	1.78	6.35	7.03	3.81	3.59	6.09	4.40	3.20	0.54	2.70	1.37	3.18	44.04
Beaufort	12	1.91	6.50	3.60	3.53	5.27	4.80	4.60	5.51	2.51	8.77	1.38	7.07	55.45
Biltmore	2,150	1.77	6.73	6.52	4.78	2.59	5.13	3.70	3.44	0.48	2.89	1.02	3.34	44.39
*Bryson City	2,000	3.88	6.96	11.93	4.79	3.55	3.30	5.29	2.72	0.50	2.43	1.43	6.78	53.56
*Chapelhill	500	2.66	5.66	4.52	3.31	6.98	1.69	6.68	2.74	1.15	3.32	3.77	2.72	45.20
*Charlotte	773	2.53	5.44	6.21	3.94	3.72	3.63	5.08	3.92	0.90	1.39	3.11	2.52	42.39
Edenton	30	0.98	4.79	.....	0.98	6.22	3.28	3.05	4.92	1.16	5.66	2.71	3.81	.....
Experimental Farm	475	2.12	4.14	4.68	2.99	3.39	3.28	5.65	2.24	0.66	3.23	2.69	2.12	37.19
*Fairbluff	67	1.63	8.64	2.76	1.89	3.10	4.32	7.94	2.08	3.80	1.91	1.77	3.26	43.10
Falkland	.....	0.92	6.51	6.67	2.77	2.38	.....	.....	.....	.....	.....	.....	.....	.....
*Fayetteville	170	1.31	3.63	4.05	2.77	5.88	2.94	11.11	5.41	1.42	2.17	3.43	2.13	46.25
Flatrock	2,214	.....	.....	.....	8.22	3.66	8.84	4.22	1.97	1.81	5.46	4.65	4.66	.....
*Goldsboro	102	.....	.....	.....	.....	4.13	3.73	9.52	6.70	0.85	3.44	.....	.....	.....
*Greensboro	843	2.15	5.66	5.07	3.36	3.58	2.82	5.35	4.47	2.06	1.51	3.63	3.05	42.73
Greenville	75	.....	.....	.....	.....	.....	.....	3.12	1.50	1.10	6.76	5.71	.....	.....
*Hatteras	11	2.00	5.21	3.79	2.76	4.08	5.76	8.98	5.60	2.02	9.83	0.98	7.81	58.82
Henderson	490	2.25	4.92	5.83	3.25	3.42	4.11	6.82	2.72	1.21	4.65	3.34	3.58	46.10
Highlands	3,817	5.04	5.56	7.35	7.70	2.10	5.91	9.44	4.04	1.06	2.83	5.67	6.36	63.06
Horse Cove	2,800	4.78	9.76	8.80	10.52	2.00	6.81	9.25	1.83	1.24	3.35	4.80	5.99	69.13

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
North Carolina—Continued.	*Feet.*													
Jacksonville	.....	2.24	6.46	.....	1.47	3.10	5.98	4.68	2.09	2.08	7.70	1.65	.....	.....
*Kittyhawk	9	1.35	7.72	4.42	1.35	5.20	3.90	9.06	1.33	1.61	12.29	2.50	5.87	56.60
Lenoir	1,186	2.83	8.35	5.97	5.17	2.70	5.14	2.69	3.96	2.14	5.31	3.43	3.26	49.95
Linville	3,800	3.98	10.23	6.92	5.12	4.54	6.75	7.38	2.82	1.83	3.57	2.24	4.57	59.95
Littleton	380	1.25	5.60	4.54	3.23	4.46	2.15	3.94	4.06	0.25	4.38	2.51	2.61	38.98
Louisburg	375	2.06	4.90	4.49	4.30	4.05	2.12	4.11	3.80	0.65	2.72	3.05	2.70	38.95
*Lumberton	102	.....	.....	.....	.....	5.39	6.16	8.03	4.37	1.65	2.54	1.90	2.56	.....
Lynn	1,500	3.29	7.22	7.20	10.57	3.09	7.69	3.54	1.76	2.42	4.69	5.23	2.93	59.63
Mana	.....	.....	.....	.....	.....	.....	2.20	2.39	4.38	0.65	3.14	3.45	.....	.....
Marion	1,425	3.26	4.61	6.04	6.74	3.34	4.58	6.98	2.74	0.59	5.48	2.90	3.86	51.12
Mocksville	651	2.42	4.80	6.46	.....	.....	.....	.....	.....	.....	.....	3.67	2.66	.....
*Moncure	145	1.46	4.32	5.23	2.89	3.15	3.59	3.23	2.74	2.39	1.81	3.68	2.28	36.77
Monroe	586	2.27	5.85	6.07	4.81	3.63	4.22	6.73	2.05	2.02	1.91	2.40	2.17	44.13
Morganton	1,135	3.40	7.27	6.29	4.99	1.97	.....	3.70	1.16	1.60	6.70	2.13	3.49	.....
Mountairy	1,048	2.57	6.93	5.12	3.45	3.89	3.19	5.06	3.47	1.23	5.01	2.26	3.32	45.50
Mount Pleasant	650	2.62	5.26	6.35	4.05	2.19	4.49	6.25	3.49	2.12	1.02	3.31	2.94	44.09
*Murphy	1,614	3.36	6.02	11.98	5.43	2.97	2.94	10.39	3.50	0.60	2.59	1.96	6.85	58.59
*Oakridge	885	1.87	5.12	5.21	3.96	5.53	2.71	5.18	4.70	1.05	1.76	3.91	2.93	43.93
Pantego	.....	1.16	5.28	5.16	1.96	6.85	4.37	7.58	3.98	0.95	8.42	1.32	5.80	52.83
Pittsboro	480	4.53	5.61	5.82	3.70	5.09	4.51	6.62	3.05	3.25	2.40	3.28	2.54	50.40
*Raleigh	388	2.23	4.42	4.82	4.66	2.85	3.44	4.90	1.94	0.70	2.62	3.43	2.56	38.57
Rockingham	210	1.40	6.55	4.81	2.67	2.40	5.09	4.98	2.98	0.70	3.89	0.82	3.41	39.70
Roxboro	600	0.27	5.92	5.57	1.92	4.61	3.35	4.10	2.49	1.10	3.55	2.82	3.34	41.04
Salem	1,000	2.99	5.52	6.37	4.19	3.03	2.77	4.71	4.14	0.60	2.29	4.41	2.50	43.52
Salisbury	760	2.71	4.61	5.78	2.40	4.73	2.42	7.78	2.49	1.75	2.29	3.85	2.89	43.70
Saxon	900	1.75	6.28	4.84	3.26	6.96	3.03	3.39	3.53	0.95	2.92	4.43	2.72	44.06
Selma	225	2.20	6.55	8.27	4.45	3.27	1.92	6.45	7.35	0.25	0.55	3.25	2.85	47.36
Settle	.....	2.22	5.61	6.61	4.24	3.94	2.70	5.01	2.08	1.00	3.86	3.24	2.77	43.28
Skyuka	3,200	4.31	7.28	10.78	.....	2.36	6.46	9.12	.....	.....	.....	.....	.....	.....
Sloan	50	1.31	6.18	4.16	2.39	3.84	5.74	2.07	3.18	2.04	5.35	1.96	3.06	41.28
Soapstone Mount	.....	2.93	6.65	4.90	3.61	3.87	3.61	6.88	2.84	1.31	3.14	3.99	3.11	46.84
Southern Pines [1]	400	1.39	6.79	4.50	4.07	2.52	4.83	7.96	4.01	0.83	1.87	3.25	2.18	44.20
Southern Pines [2]	400	1.68	6.75	4.41	3.42	2.60	3.08	8.39	4.37	0.79	1.77	3.45	2.35	43.06
Southport	34	2.07	5.44	2.65	1.82	3.11	3.16	3.62	5.88	6.14	4.49	1.93	6.27	46.58
Springhope	.....	1.30	3.40	4.35	2.90	2.00	4.56	6.75	2.60	.....	2.25	3.00	2.50	.....
Tarboro	50	1.92	4.61	4.72	2.81	3.46	2.30	6.69	4.56	1.08	3.82	2.99	3.48	42.44
*Wash Woods	.....	1.75	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.34	.....	.....
Waynesville	2,756	2.93	5.70	9.23	5.08	0.99	5.89	4.89	2.73	0.19	1.67	1.33	3.67	44.30
*Weldon	81	2.25	5.47	4.58	3.10	2.89	1.86	4.20	2.16	4.30	4.12	3.21	2.91	41.05
Willeyton	45	1.34	6.17	5.18	1.48	4.49	1.42	4.64	2.89	1.04	5.37	2.97	4.76	41.75
*Wilmington	78	1.76	6.26	1.23	2.17	2.49	3.88	4.50	3.50	1.54	4.44	1.53	4.38	37.68
North Dakota.														
Amenia	954	0.70	1.40	0.99	1.49	1.12	6.85	8.94	0.58	0.11	1.06	.....	.....	.....
Ashley	.....	0.75	1.10	0.97	2.06	0.77	4.63	3.96	1.49	0.06	0.66	T.	0.10	16.55
*Bismarck	1,681	1.11	1.32	0.91	1.40	1.10	3.44	1.53	2.25	0.30	0.42	0.25	0.30	14.33
Bordulac	.....	.....	.....	.....	T.	1.22	1.34	8.55	.....	.....	.....	.....	.....	.....
Bottineau	1,638	.....	.....	.....	.....	.....	.....	.....	.....	0.21	0.52	0.42	0.50	.....
Buxton	930	1.25	0.66	0.89	0.90	1.56	2.90	5.99	.....	0.54	0.92	0.15	0.13	.....
Churches Ferry	1,458	0.70	1.35	0.98	1.20	0.55	2.97	2.84	0.96	0.38	1.05	0.30	0.29	13.57
Coalharbor	.....	0.62	1.13	1.25	1.96	0.79	2.28	2.17	0.61	0.34	0.70	0.50	0.29	12.58
*Devils Lake	1,430	0.34	0.46	1.40	1.10	0.80	4.43	7.23	1.15	T.	0.93	0.30	.....	.....
Dickinson	2,453	1.50	1.20	2.21	1.93	0.73	.....	.....	.....	0.36	0.15	0.85	T.	.....
Dunseith	.....	.....	.....	.....	0.66	0.06	1.41	2.70	1.00	[3] 0.70	.....	T.	T.	.....
Ellendale	1,449	.....	.....	.....	.....	.....	5.12	4.07	1.59	T.	0.99	T.	T.	.....
Falconer	.....	.....	.....	0.03	0.32	0.09	2.67	3.25	0.47	0.03	0.43	0.14	0.02	.....
Fargo	903	0.36	0.77	0.96	0.89	0.74	7.10	8.24	0.77	0.57	1.81	0.25	0.04	22.50
Forman	1,315	2.04	0.79	0.99	1.39	0.35	5.56	3.48	2.09	0.25	2.19	0.04	0.25	19.42
Fort Berthold	.....	1.87	2.18	3.37	0.70	1.77	1.06	0.15	0.11	0.45	0.05	0.12	0.07	11.90
Fort Yates	1,670	1.10	1.00	3.00	3.25	0.80	2.85	2.35	1.35	0.90	0.50	0.72	0.50	18.32
Gallatin	.....	0.55	0.94	0.77	0.77	0.79	3.25	4.00	0.85	T.	0.54	0.31	0.51	13.28
Glenullin	2,070	.....	0.60	.....	1.17	0.84	2.36	0.33	0.60	0.54	0.15	T.	T.	.....
Goetz	.....	.....	.....	.....	.....	.....	.....	.....	0.71	0.08	0.46	0.33	0.10	.....
Grafton	827	1.60	2.20	0.95	0.40	0.20	.....	6.42	1.66	0.00	0.35	0.40	0.40	.....
Grand Rapids	1,321	0.96	2.87	2.45	0.83	0.72	6.30	4.98	1.39	0.14	1.31	0.21	0.36	22.52
Hamilton	824	2.04	0.89	1.93	0.73	1.84	1.78	8.28	3.48	0.67	0.98	1.07	0.87	24.66
Jamestown	1,395	1.10	2.00	0.74	0.62	1.03	7.29	4.56	0.58	0.00	0.11	0.20	0.50	18.73
*Langdon	1,610	.....	.....	.....	.....	1.19	2.45	5.55	1.53	0.10	.....	.....	.....	.....
*Larimore	1,134	0.29	0.30	1.12	0.81	0.35	3.09	6.11	2.39	T.	0.86	0.10	T.	15.42
*Lisbon	1,091	.....	.....	.....	0.90	0.76	5.13	6.41	1.84	0.51	.....	.....	.....	.....
McKinney	.....	0.40	1.04	1.52	1.65	0.32	10.40	2.40	0.60	T.	0.10	0.64	0.29	19.36
Mayville	978	0.60	0.60	0.85	0.49	0.78	.....	5.74	.....	.....	0.75	0.32	0.30	.....
Medora	2,225	0.40	0.95	1.67	0.72	0.38	1.19	2.34	1.06	0.24	0.52	0.41	0.02	9.90
Milton	1,586	0.65	1.10	1.00	.....	T.	2.77	6.95	1.20	T.	1.00	0.40	0.20	.....
Minnewaukon	1,461	.....	.....	.....	0.83	0.46	5.05	6.80	0.55	0.42	0.65	0.20	T.	.....
Minot	1,557	0.44	0.48	1.82	1.18	0.66	3.38	1.87	0.37	0.23	0.68	.....	.....	.....
Minto	820	1.03	0.97	1.16	1.10	0.83	1.31	4.78	1.38	0.09	0.17	0.55	0.10	13.97
Napoleon	.....	0.75	0.80	0.70	1.43	0.67	8.96	4.90	1.13	0.10	0.55	0.23	0.45	20.67
*Neche	831	.....	.....	.....	.....	0.91	1.32	7.35	2.04	.....	.....	.....	.....	.....
New England City	.....	1.00	1.40	1.90	.....	0.12	1.20	1.60	.....	.....	0.20	0.30	0.30	.....
Oakdale	.....	0.70	1.40	1.80	1.60	0.67	2.60	1.42	2.48	0.80	0.37	0.87	0.70	14.91
Portal	.....	0.07	1.40	0.39	1.34	0.34	2.03	1.34	1.16	0.59	0.50	0.20	0.20	9.56
Power	.....	0.65	1.10	0.55	T.	0.88	6.20	7.62	1.01	0.22	1.91	0.10	0.20	20.36
St. John	1,945	0.90	2.10	0.85	0.54	1.00	2.49	2.92	1.21	0.42	1.13	0.60	0.20	14.36
Sheyenne	1,480	0.31	0.70	0.83	0.77	0.69	3.87	6.52	1.15	T.	0.75	0.60	0.50	16.69
Steele	1,857	0.24	1.60	0.70	1.62	1.04	4.00	3.95	2.94	0.40	0.60	0.50	0.10	17.69
Towner	1,475	.....	.....	.....	.....	.....	1.17	1.85	0.16	0.11	.....	.....	.....	.....
University	830	0.65	0.92	0.78	0.56	1.76	.....	6.44	1.72	0.10	0.85	0.29	[1] 0.24	.....
Valley City	1,218	0.90	1.45	0.30	0.76	0.42	6.82	5.36	0.60	0.15	0.62	0.22	0.28	17.88

[1] S. S. Thomas.

[2] A. Rhodes.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
North Dakota—Continued.	*Feet.*													
Wahpeton	962	0.42	0.95	3.89	1.84	0.87	6.95	8.58	1.83	0.28	2.50	0.27	0.17	28.55
White Earth	2,087	T.	.....	.....	1.20	0.08	.....	.....	.....	0.25	0.50	0.30	0.02	.....
Whites Ranch	.....	.....	.....	.....	.....	.....	1.36	0.78	0.85	0.92	0.60	0.40	.....	.....
Wildrice	911	0.76	1.56	1.71	0.71	0.62	5.74	8.83	1.00	0.52	2.29	0.40	0.34	24.48
*Williston	1,875	0.56	1.10	2.10	1.17	0.72	2.71	1.36	0.45	0.58	0.43	0.85	0.16	12.19
Willow City	1,471	T.	0.40	.....	.....	0.58	.....	2.77	0.45	.....	.....	.....	0.00	.....
Woodbridge	.....	0.69	0.61	0.66	0.04	0.65	2.44	4.41	1.68	0.07	0.85	0.08	0.08	12.26
Ohio.														
Akron	1,081	1.92	2.65	4.30	1.66	5.13	1.55	5.06	2.98	1.07	1.65	.....	1.74	.....
Annapolis	.....	.....	3.46	3.98	4.28	2.25	3.15	4.11	2.09	.....	.....	5.42	2.51	.....
Ashland	1,079	2.33	2.51	3.63	2.75	4.58	3.51	3.62	4.37	0.18	0.67	5.25	1.56	34.96
Ashtabula	580	5.05	2.35	3.25	2.27	2.71	2.65	10.69	5.86	0.54	2.21	5.11	3.12	45.81
Atwater	.....	2.50	3.87	3.60	3.22	3.02	2.41	4.60	3.72	2.04	0.60	4.96	1.84	36.38
Auburn	.....	1.58	2.05	4.23	2.23	4.32	1.55	7.65	.....	.....	.....	.....	.....	.....
Bangorville	1,380	2.53	2.56	4.32	3.23	4.08	3.76	4.87	2.28	0.65	0.77	7.33	2.92	39.30
Basil	879	1.71	3.23	4.97	.....	2.83	2.93	.....	2.77	.....	.....	.....	1.09	.....
*Bellefontaine	1,540	1.86	2.61	5.04	1.92	5.77	2.08	6.29	1.35	0.57	1.25	6.43	0.90	36.07
Bement	.....	.....	1.81	5.48	3.12	5.55	1.96	5.92	3.66	1.30	0.14	7.80	1.72	.....
Benton Ridge	.....	2.66	0.86	2.82	4.06	5.38	2.90	3.99	3.62	0.85	1.15	6.60	1.51	36.40
Bethany	.....	2.72	5.16	7.76	3.78	3.30	2.33	6.85	2.70	0.39	0.87	8.53	2.92	47.31
Bigprairie	.....	3.45	2.19	3.00	3.05	4.03	2.58	4.85	3.88	1.10	0.51	5.97	2.32	36.93
Binola	.....	1.78	1.83	3.25	2.36	6.35	2.15	4.70	3.00	0.79	0.93	5.69	1.67	34.50
Bissells	.....	2.18	2.33	3.60	2.52	5.11	1.52	6.01	5.23	1.30	1.30	6.90	2.14	40.14
Bladensburg	.....	1.57	.....	5.03	.....	1.83	2.25	.....	.....	.....	.....	.....	.....	.....
Bloomingburg	988	1.32	5.40	6.10	.....	3.43	2.19	5.99	3.42	0.49	0.14	7.72	2.06	.....
Bowling Green	703	1.83	1.07	4.42	2.64	2.92	2.67	2.31	1.91	0.28	0.86	6.68	1.83	29.42
*Bucyrus	1,001	.....	.....	.....	1.30	4.42	1.10	5.90	1.50	1.25	.....	.....	.....	.....
Cambridge	803	1.96	4.75	4.64	3.49	3.00	3.56	6.12	1.92	0.47	0.34	7.14	3.00	40.39
Camp Dennison	570	2.51	4.78	9.91	3.64	2.86	2.27	5.70	1.78	0.35	0.56	6.32	2.39	43.07
*Canal Dover	884	2.14	4.25	4.52	4.05	3.81	1.61	6.91	2.69	0.69	0.26	7.88	2.64	41.45
Canfield	1,160	1.44	.....	5.00	3.35	2.80	4.07	10.55	.....	.....	.....	.....	.....	.....
*Canton	1,070	2.09	3.60	3.05	3.59	4.39	2.61	5.70	2.40	1.07	0.35	5.70	2.03	36.58
Cardington	1,011	.....	.....	.....	3.09	.....	.....	.....	.....	.....	0.18	5.79	1.30	.....
Carrollton	1,142	2.66	3.73	3.67	3.38	3.18	3.78	5.36	2.63	0.66	0.49	6.50	2.73	38.77
Cedarville	1,035	2.42	4.61	7.64	4.30	4.01	3.28	4.43	2.26	0.24	0.77	8.90	2.82	45.68
Celina	910	0.67	0.35	4.32	2.29	.....	.....	2.13	2.88	0.92	0.59	6.34	1.26	.....
Cherryfork	.....	2.60	7.67	5.98	3.72	6.16	2.14	4.81	2.94	0.74	0.43	6.74	4.19	48.12
*Chillicothe	635	.....	.....	.....	.....	4.87	2.28	5.52	2.31	0.99	.....	6.00	2.22	.....
*Cincinnati	628	2.48	5.27	9.89	3.08	2.46	1.87	6.71	1.91	0.64	0.46	6.80	2.32	43.89
*Circleville	720	1.37	5.11	4.85	3.85	3.08	1.45	6.06	2.38	0.72	0.90	7.05	2.89	39.71
Clarksville	1,020	2.00	5.16	7.86	3.98	3.90	1.26	4.94	3.77	0.32	0.48	6.95	2.20	42.82
*Cleveland	740	1.85	1.52	2.47	1.34	3.73	1.05	2.48	2.63	0.66	1.32	4.13	1.36	24.54
Cleveland [1]	627	1.97	1.54	2.98	2.32	4.95	1.10	3.53	3.98	1.14	1.55	5.71	1.90	32.67
Cleveland [2]	.....	1.58	1.46	2.40	1.28	4.00	0.91	2.63	2.17	0.92	1.38	4.76	1.34	24.83
Clifton	1,035	2.25	.....	6.94	4.14	4.59	4.76	3.12	1.69	0.23	.....	.....	3.50	.....
Coalton	718	1.60	7.57	4.13	3.67	3.96	3.18	4.95	1.99	1.08	0.12	6.47	2.61	41.33
Colebrook	.....	1.74	2.40	2.96	2.41	4.81	2.53	7.14	8.40	1.27	1.43	6.77	2.84	44.70
*Columbus	824	1.54	3.71	5.45	4.27	3.68	2.45	6.95	1.95	0.82	0.36	7.54	2.43	41.15
*Dayton [3]	790	2.07	3.35	6.61	4.26	3.51	2.20	3.49	2.89	0.15	1.26	8.40	3.24	41.43
*Dayton [4]	790	1.90	3.00	6.65	3.27	3.57	1.47	3.71	2.50	0.14	1.55	7.51	2.65	37.92
*Defiance	712	2.47	1.03	4.40	2.68	3.14	5.91	3.61	2.29	0.27	0.74	5.70	1.84	33.99
Delaware	927	1.44	2.73	4.99	3.00	4.44	2.84	4.04	2.29	0.85	0.38	6.69	2.22	35.91
Demos	.....	0.75	4.01	4.01	2.74	3.64	2.71	3.40	1.74	0.28	0.10	6.32	3.10	32.80
Dupont	724	3.11	1.14	3.94	2.16	3.70	2.97	2.68	2.12	1.40	0.75	3.84	0.93	28.74
Elyria	755	1.47	1.88	3.25	1.83	4.31	1.61	4.86	2.94	1.31	0.78	6.89	1.33	32.46
Fayetteville	.....	2.59	5.48	8.59	3.87	3.98	1.58	10.42	2.92	0.72	0.55	6.57	2.89	50.16
*Findlay	782	2.30	1.15	4.21	3.66	4.25	2.80	3.08	3.22	0.79	1.49	5.41	2.01	34.37
Frankfort	750	1.59	6.56	6.76	3.84	3.79	1.95	4.45	2.08	0.35	0.80	8.22	2.62	41.01
Garrettsville	1,020	2.62	3.09	4.21	2.49	4.76	1.59	6.34	3.42	1.22	1.56	6.20	2.45	39.95
*Granville	1,110	1.96	3.94	6.56	3.39	4.34	3.52	5.37	4.05	0.69	0.58	7.98	2.97	45.35
Gratiot	.....	1.25	3.94	5.29	2.94	2.89	2.66	5.09	1.84	0.75	0.66	6.90	2.51	36.72
Greenfield	.....	1.31	4.88	7.50	3.30	3.10	2.20	4.96	3.15	T.	0.50	5.60	2.90	38.50
Greenhill	.....	1.45	3.44	3.27	2.53	2.69	3.02	6.12	2.97	0.87	0.33	5.85	2.41	34.95
*Greenville	1,060	1.86	2.45	5.85	5.12	4.37	3.31	5.39	2.77	0.79	0.63	8.02	1.91	42.47
Hackney	.....	1.53	5.91	4.42	3.55	3.66	5.36	5.14	1.67	0.50	0.17	7.94	2.56	42.41
Hanging Rock	550	2.55	8.17	4.12	4.60	4.58	5.37	5.73	3.42	0.62	0.34	5.51	3.42	48.43
Hedges	.....	3.05	1.44	4.14	4.11	3.43	5.11	0.82	2.86	0.28	0.25	.....	.....	.....
Hillhouse	.....	2.62	2.27	[illegible]	1.92	4.44	1.60	7.64	4.82	0.88	2.35	6.41	2.84	40.39
Hillsboro	1,129	1.88	5.14	5.75	3.40	3.56	1.25	5.00	4.57	0.42	0.73	6.69	2.61	41.00
Hiram	1,260	2.00	3.01	4.58	2.47	5.01	1.85	6.51	3.21	0.76	2.76	6.15	2.50	40.83
Hudson	1,053	3.51	2.80	3.29	2.14	4.76	2.34	4.45	4.34	1.33	1.31	7.11	2.89	40.27
Jacksonboro	975	2.60	3.85	8.15	3.55	3.60	1.70	3.40	1.27	0.65	1.30	6.00	3.12	41.19
*Kenton	1,015	2.38	2.33	6.05	3.16	5.06	3.94	3.54	2.91	0.60	0.85	7.50	2.53	40.85
Killbuck	.....	2.12	3.28	4.03	3.23	2.74	2.92	7.17	3.55	1.03	1.23	6.64	2.41	40.35
Lancaster	898	1.39	5.79	5.39	3.05	3.25	1.48	5.94	2.02	1.35	0.43	6.88	2.36	39.33
Leipsic	740	2.89	1.61	3.54	3.20	3.44	3.80	4.87	4.12	0.76	0.20	6.52	1.73	36.68
Levering	.....	1.76	2.32	3.79	2.64	3.87	3.45	3.44	2.17	0.66	0.62	8.29	2.57	35.60
Logan	740	1.38	6.70	4.41	3.45	2.69	1.51	5.05	3.07	1.36	0.28	6.68	3.28	39.26
Lordstown	1,000	2.07	2.80	3.68	2.74	3.55	2.28	8.37	3.47	0.93	0.39	4.71	2.26	37.25
Lowell	826	1.73	6.14	.....	.....	4.26	5.93	.....	.....	.....	.....	.....	.....	.....
McArthur	780	1.75	6.53	4.62	3.11	4.52	4.76	6.32	3.61	0.66	0.32	5.81	2.78	44.39
McConnelsville	710	2.21	6.73	4.24	3.51	3.68	4.94	5.20	2.06	0.77	0.56	7.24	4.96	46.10
*Mansfield	1,154	2.30	3.37	5.30	2.71	5.89	2.67	3.91	2.77	0.50	0.69	6.46	1.45	38.02
*Marietta [4]	650	1.62	6.22	4.25	3.54	3.90	3.70	.....	.....	.....	.....	.....	.....	.....
*Marietta [5]	650	1.51	6.36	4.30	3.77	4.20	3.39	7.03	1.89	0.29	0.05	5.39	3.23	41.41
Marion	980	1.05	2.02	4.29	2.45	5.97	3.50	7.28	1.50	0.94	0.53	5.73	2.04	37.30
Medina	1,086	2.27	2.20	5.25	2.16	7.17	2.66	4.04	2.78	1.14	0.77	5.99	1.86	38.29

[1] G. A. Hyde. [2] F. L. Odenbach. [3] Mrs. E. L. Boyer. [4] River observer. [5] J. C. Shedd.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Ohio—Continued.	*Feet.*													
Milfordton		1.64	3.03	5.68	3.10	3.12	2.59	4.82	1.65	1.07	0.68	6.48	2.30	36.16
Milligan		1.47	6.25	4.06	3.38	2.23	3.11	9.44	2.37	0.61	0.35	6.99	2.09	42.35
Millport		2.33	2.99	3.76	3.18	3.23	2.22	4.77	1.85	0.76	T.	6.20	2.65	33.94
Montpelier	880	2.53	1.65	4.26	3.51	2.67	4.04	2.46	1.31	0.87	0.35	4.06	2.66	30.37
Napoleon	680	1.60	1.95	4.05	3.04	2.27	3.75	3.84	1.32	0.46	0.67	4.57	1.81	29.33
Neapolis		2.15	0.95	4.33	2.74	4.48	3.45	2.48			0.05	5.65		
New Alexandria	1,050	2.05	4.10	4.40	3.67	2.81	5.07	5.61	2.18	1.42	0.00	7.46	3.35	42.12
New Berlin	1,073	1.37	2.32	3.57	2.45	3.95	2.37	7.55	2.39	1.56	0.50	5.82	1.82	35.67
New Bremen	1,038	1.66	0.46	5.56	4.01	3.04	2.10	4.50	2.90	0.53	0.55	5.32	1.95	32.58
New Comerstown	800	1.92	3.77	4.52	3.70	4.24	2.32	5.15	1.86	0.67	0.30	6.96	1.35	36.76
New Holland	868	2.25	5.54	6.23	4.63	1.88	1.13	3.80	1.64	0.13	0.58	5.53	2.48	35.82
New Moscow		1.90	3.40	4.55	3.33			7.40	3.15			7.79	2.07	
New Paris	1,020	1.78	2.06	7.58	4.13	1.83	5.28	2.01	2.30	0.99	0.67	10.13	2.28	41.10
New Waterford		1.88	4.81	4.02	3.40	2.60	4.10	8.88	2.09	1.59	0.21	5.72	4.49	43.79
North Lewisburg	1,095	2.14	2.90	6.55	3.20	4.80	3.05	5.50	2.85		0.90	8.20	2.80	
North Royalton		2.34	1.66	4.10	2.29	6.28	1.91	3.08	4.67	0.50	0.62	5.28	2.21	34.94
*Norwalk	719	1.80	0.60	3.44	2.37	3.19	2.71	5.28	1.14	0.66	0.52	6.55	1.18	29.44
Oberlin	850	1.94	0.65	3.67	2.00			2.12	1.98	0.73	0.60	7.89	1.99	
Ohio State University	700	1.00	4.11	6.19	3.80	3.55	2.86	2.73	2.16	0.60	0.57	7.29	2.60	37.46
Orangeville	945	1.84	2.10	3.80	2.08	4.00	3.17	8.07	3.88	1.17	0.18	5.61	2.46	38.36
Ottawa	713	3.38	1.43	3.90	3.70	4.00	3.63	2.25	3.28	0.63	0.44	5.61	1.53	33.78
Pataskala		1.80	4.23	6.26	3.58	3.41	2.51	4.19	3.19	0.42	0.60	8.29	2.95	41.43
Perry	706	2.67	3.02	2.51	2.76	3.62	0.99	3.15	6.76	0.50	0.79	5.98	1.92	34.68
Philo		1.04	4.66	4.55	3.10	3.21	2.93	7.00	1.51	1.66	0.40	7.29	1.59	39.03
Plattsburg		2.41	3.33	6.62	3.25	3.53	3.23	5.20	1.93	1.20	0.23	7.74	3.33	42.00
*Pomeroy	590	1.52	6.24	1.75	3.32	5.44	6.92	3.54	2.24	0.45	0.33	4.54	2.40	38.69
*Portsmouth [1]	527		7.90	5.04	4.55	5.11	2.66	4.86	2.63	1.78	0.40	6.92	3.06	
Portsmouth [2]	527	2.75	8.70	4.93	4.75	4.93	2.61	4.86	2.63	1.78	0.52	6.74	3.90	49.10
Richwood		1.37	3.35	5.45	3.30	5.00	2.40	5.10	3.17	0.52	0.57	7.02	2.53	39.79
Ridgeville Corners		2.06	1.33	4.26	3.76	2.75	2.94	2.43	1.78	0.48	0.19	5.55	1.51	28.98
Ripley		2.42	7.11	6.09	5.54	7.40	2.96	4.73	2.62	0.60	1.29	6.68	3.83	51.36
Rittman		1.64	1.71	2.85	1.44	5.19	2.42	4.79	5.07	0.52	1.38	6.85	1.96	35.82
Rockyridge	658	0.95	1.02	3.38	2.72	3.16	3.03	3.08	2.73	0.70	1.93	6.78	1.94	31.42
Rosewood		1.10	3.37	6.29	3.51	4.80	2.84	3.28	2.40	0.42	0.68	8.19	1.99	38.87
*Sandusky	629	1.14	1.03	2.41	2.31	3.84	2.04	4.29	2.50	0.91	0.43	6.21	1.54	28.45
Sharon Center		1.86	1.22	3.84										
Shenandoah		1.70	1.59	3.70	1.87	4.88	2.22	2.90	4.45	0.20	0.98	5.84	1.55	31.86
*Sidney	970	2.09	2.67	5.78	3.68	5.41	3.31	2.63	2.62	0.60	0.94	7.54	2.24	39.37
Sinking Spring		2.33	6.20	5.66	4.11	4.88	2.09	5.02	3.36	0.41	0.35	6.75	3.44	44.60
*Somerset	1,010							4.81	2.90	0.97	0.06	4.96	2.01	
Springboro		1.75	3.35	7.10	4.38	3.20	2.80	3.30	2.19	0.72	0.41	9.34	2.77	41.31
Spring Valley	758	2.17	4.12	6.92	3.95	3.84	1.86	5.44	3.29	0.72	0.26	9.76	3.30	45.63
Strongsville		1.79	2.19	3.17	3.88	5.99	1.88	5.56	3.25	1.13	0.87	7.02	1.94	38.67
Sylvania	651	2.91	1.26	6.22	2.54	3.53	3.63	2.29	2.23	1.88	0.71	5.31	1.21	33.72
Thurman		1.16	6.78	2.75	3.02	3.28	4.71	4.00	2.36	1.08	0.30	4.82	2.20	36.46
Tiffin	759	2.65	2.38	4.65	2.96	4.86	3.04	1.97	1.61	0.48	0.83	5.91	2.26	33.60
*Toledo	674	1.75	1.10	3.25	2.54	3.28	4.07	3.73	1.95	1.22	0.75	5.41	1.30	30.35
Upper Sandusky	880	2.15	2.16	5.63	3.63	5.84	1.93	3.40	1.88	0.25	0.46	6.21	1.71	35.25
Urbana	1,031	1.70	3.02	4.95	2.75	3.88	2.93	4.78	1.87	0.60	0.69	8.06		
Vanceburg		1.98	7.35	4.04	2.67	7.09	3.64	3.89	2.85	0.35	0.43	7.20	3.77	45.26
Vanwert	784	2.19	1.63	4.09	3.49	4.15	3.43	3.54	3.57	0.21	0.38	5.65	1.65	33.98
Vermilion	603	3.51	1.53	3.93	1.82	4.29	2.02	4.73	3.06	1.45	0.69	7.05	1.45	35.35
Vickery	603	2.00	1.12	3.02	2.42	4.04	2.28	2.99	2.03	0.60	0.75	5.76	1.91	28.92
Walnut		1.68	4.55	4.88	3.07	4.12	2.82	6.05	2.66	0.63	0.65	6.06	2.24	39.41
Warren	900	2.59	2.97	4.19	2.48	3.98	1.91	8.23	4.68	1.55	0.50	5.73	2.90	41.71
Warsaw		0.67							2.07	0.58	0.52	6.47	2.71	
Wauseon	800	3.76	1.35	6.66	5.66	3.90	3.33	3.67	1.88	0.76	0.77	5.20	1.88	38.85
Waverly	604	1.70	7.54	5.59	4.79	3.86	2.11	5.82	1.72	1.54	0.36	6.49	2.98	44.50
Waynesville		2.51	4.05	7.27	4.38	3.60	3.28	3.77	2.49	0.83	0.53	8.88	3.15	44.74
Wellington	856	0.82	1.75	3.82	2.72	5.42	2.36	2.99	2.32	0.72	0.85	6.87	1.74	32.38
Westerville	875	1.77	3.28	6.07	4.12	3.38	2.97	5.81	1.97	1.16	*0.43	7.16	2.69	40.81
Willoughby	649	2.55	2.00	3.02	1.71	3.38	1.38	3.33	6.71	1.17	1.39	5.06	1.59	33.29
*Wooster [3]	920	3.42	2.64	3.28	2.64	5.23	3.23							
Wooster [4]	920	1.96	2.58	2.81	2.75	4.97	2.98	3.89	3.86	0.29	0.89	5.76	2.50	35.24
Youngstown	863	0.76	1.57	2.87	2.68	2.75	2.65	7.48	5.57	1.04	0.25	4.84	2.64	35.00
*Zanesville	732							6.40	2.18	1.01	0.34	6.40	2.61	
Oklahoma.														
Alva	1,320		1.55	1.60	3.40	4.00	1.70	0.90	5.40	2.40				
Anadarko		0.60	1.20	3.37	3.32	7.12	2.60	2.19	0.92	0.35	1.72	0.25	0.30	23.94
Arapaho		1.56	0.46	1.71	4.22	8.80	2.85	1.74	1.65	2.30	0.99	0.18	0.23	26.69
Beaver		1.56		0.62	6.23	5.69	3.66	5.12		0.53				
Burnett	1,200	1.75	1.20	5.24	4.41	5.85	3.37	2.42	2.32	2.93	1.61	1.61	0.76	33.47
Clifton		1.19	1.25	4.62	9.22	3.61	2.64	3.63	2.73	0.60	1.26	0.77	0.97	32.69
Edmond	1,191	0.86	1.86	3.69	13.35	6.29	2.09	2.94		0.76	0.37	0.70	0.77	
Fort Reno	1,400	1.00	1.55	1.80	7.36	6.07	2.69	0.66	1.01	1.27	1.28	0.37	0.50	25.56
Fort Sill	1,200	1.50	0.39	2.62	0.80	8.07	2.80	1.95	2.37	1.75	2.73	0.49	0.82	26.29
Guthrie	947	1.06	2.11	4.85						0.98	0.62	0.33	0.69	
Hennessey		0.58	0.79		5.39	7.22	1.40	0.88	4.09	8.10	1.11	T.	0.20	
Keokuk Falls			1.00	3.40			4.48	1.80	3.59	0.50				
Kingfisher					6.04	7.13	1.83	0.48	3.84	5.58	*0.95	0.14	0.53	
Mangum	1,600	1.82	0.26	1.48	2.72	3.52	3.23	2.28	2.91	2.78	0.92	0.36	0.21	22.49
Newkirk										2.50	1.65	T.	1.52	
Norman		1.22	1.15	4.43	4.87	6.07	5.25	2.34	1.60	1.22	1.38	0.55	0.86	31.14
*Oklahoma	1,239	1.10	1.32	4.71	5.83	6.92	2.53	1.90	1.66	1.22	0.81	0.58	0.70	28.47
Ponca		1.68	1.48	3.45	8.38	3.05	2.48	4.15						
Pondcreek [5]	1,062	0.91	1.02	2.65	5.60	4.96	5.15	1.15	5.48	1.36		0.00	*0.50	
Prudence		1.65	1.50	2.68	6.49	8.26	3.81	1.59	3.89	4.49	1.08	T.	0.71	36.15

[1] River observer. [2] Dr. D. B. Colton. [3] Rainfall observer.
[4] Agricultural experiment station. [5] Post-office changed to Jefferson, June 1, 1897.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Oklahoma—Continued.	*Feet.*													
Sac and Fox Agency		1.40	1.30	5.80	7.90	3.90	2.50	2.70	2.40	1.60	1.00	0.70		
Stillwater		0.81	1.51	3.62	6.36	4.77	4.13	2.63	4.51	0.71	0.97	0.80	0.87	31.69
Waukomis		0.78	0.24	2.33	4.15	5.38	1.22	2.27	2.85	2.25	1.26		0.48	
Winnview		1.56	0.81	2.29	4.49	7.42	2.33	1.54	1.08		2.36		*0.42	
Woodward	2,300	2.22		0.70	1.08	3.71	1.16	0.52	5.21	2.11				
Oregon.														
*Albany	224	3.19	6.30	7.97	2.06	1.07	2.73	0.97	0.48	1.98	2.45	12.07	8.92	50.19
Arlington	855	1.21	1.13	0.42	0.26	0.30	0.51	T.	T.	0.38	0.01	1.39	2.79	8.40
Ashland	1,940	0.75	3.96	2.35	0.99	0.84	2.01	T.	0.00	0.66	0.55	2.48	3.13	17.72
*Astoria	50	9.84	12.89	11.88	3.14	2.38	4.49	1.66	0.87	3.43	3.07	15.36	16.05	85.06
Aurora	140	3.42	5.86	5.99	2.48	0.69	2.90	0.93	0.48	2.95	1.92	13.29	7.65	48.56
Aurora (near)		3.21	6.17	6.20	2.03	1.07	1.68	0.83	0.48	2.64	1.82	11.14	8.23	45.50
*Baker City	3,430	0.74	1.82	2.08	0.64	1.55	1.93	0.24	0.90	1.11	0.33	1.80	1.54	14.68
Bandon	55	1.35	5.54	7.07	0.86	0.42	0.96	0.32	0.14	2.83	4.02	15.98	5.45	44.94
Bay City		6.31	14.69	13.18	3.87	3.40	6.83	3.69	2.10	5.41	6.00	28.00	37.42	130.90
Beulah	4,400											1.09	2.23	
Brownsville		1.84	4.90	5.30	1.58	1.33	2.41	0.55	0.20	2.21	2.26	8.29	4.87	35.74
Burns		1.10	1.10	0.60	1.10	T.		0.75	0.25	2.50	0.25	1.35	0.95	
Burns (near)				0.30	0.15			0.00	0.16	1.14	0.10	1.42	1.72	
Canyon City			1.36		2.71	0.00	2.11	0.23	0.93	1.30	0.49	2.64		
Cascade Locks	125	6.20	14.37	11.47	4.04	1.33	2.75	0.62	1.43	4.01	3.95	19.24	19.26	88.67
Comstock	468	3.58	6.35	8.45	1.60	1.28	1.96		0.23	1.97	3.17	9.06	7.93	
Coquille River							1.55		0.24	1.46	3.67		6.73	
Corvallis	319	2.84	6.98	5.71	1.73	1.09	2.09	0.09	0.38	1.57	2.38	11.66	7.09	43.61
Dayville		1.23	2.05	1.61	0.94	0.96	1.32	T.	0.10	0.93	0.28	2.63	1.69	13.74
*Eugene	435	4.34	4.31	6.75	1.27	1.50	4.14				2.62	7.45	6.17	
Fairview	120								0.68	4.14	4.93	15.21	9.80	
Falls City		6.47	12.67	11.96	3.28	1.74	1.73	0.72	0.60	2.93	4.59	20.54	21.96	89.19
Fife	3,375	1.80	1.76	1.70	3.90		2.16	0.00	T.	1.30	0.00	2.15	1.99	
Forestgrove	229	4.10	7.98	8.45	2.04	0.52	1.79			3.50	2.69	13.74	14.63	
Fort Klamath	4,200	2.68	5.81	5.81	0.75	2.70	1.65	0.03	0.05	0.36	1.16		3.34	
Gardiner	72	4.58	14.77	14.23	2.70	1.52	2.18	0.82	0.90	2.53	3.15	18.84	11.97	78.19
Glenora		12.89	20.90	22.77	4.56	2.45	4.06	1.84	1.67	3.88	6.39	32.91	42.21	156.53
Government Camp	3,580	6.30	17.49	16.37	5.50	2.88	5.91	4.14	1.20	3.80	4.36	18.76	17.09	103.80
Grants Pass	964	1.90	5.88	4.31	0.67	0.74	2.26	0.00	T.	0.72	1.92	4.51	6.13	29.04
Happy Valley		1.32	2.53	1.54	2.33	1.39	1.61	0.33	0.09	0.36	0.39	1.78	1.74	15.41
Heppner	1,950							0.38	0.20	1.24	0.08	3.36	1.73	
Hood River (near)	920	2.85	7.45	6.78	1.84	0.81	0.95	0.18	0.30	1.29	1.24	10.64	12.54	46.87
Irvington		3.90	5.27	3.09	1.82	0.86	1.39	0.49	0.19	2.62	1.60	10.86	7.76	39.85
Jacksonville	1,640	1.03	5.59	2.59	1.02	0.57	1.46	0.00	0.16	0.72	1.29	3.62	4.81	22.86
Joseph	4,400	1.00	1.25	1.99	0.58	0.46	2.68	0.60	0.88	2.15	0.49	2.04	1.09	15.21
Junction City		2.60	5.07	7.70	1.20	1.36	1.68	0.43	0.22	1.14	2.30	10.07	6.37	40.14
Lafayette		1.95	5.77	8.20	1.84	1.15	2.23	0.71	0.30	2.38	2.29	12.58	11.10	50.50
Lakeview	5,060	1.13	2.95	3.13	1.03	0.92	2.09	0.10	0.10	0.86	0.36	1.78	1.68	16.13
Langlois	500	5.20	16.51	19.14	3.23	1.85	3.58	0.77	0.45	3.37	8.18	20.90	11.23	94.41
Lonerock	2,000							0.60		1.79			1.18	
Lorella												3.15	4.85	
McMinnville	180	3.82	7.35	7.26	2.00	1.03	1.55	0.42	0.40	2.31	2.22	15.38	11.33	55.07
Merlin		2.15	6.15	6.18	0.72	0.41	2.12	0.00	0.00	0.52	2.25	4.17	6.75	31.42
Monmouth		2.87	6.04	5.95	1.98	0.90	1.59	0.40	0.35	1.50	1.43	10.16	7.36	40.53
Monroe										1.35	2.86	16.61	8.75	
Moro												2.72	2.06	
Mount Angel	140	2.88	6.84	7.44	2.41	1.48	2.83	0.24	0.57	2.91	2.34	12.88	7.03	49.85
Nehalem		10.43	17.97	18.29	4.73	2.19	5.50	2.22	1.63	3.70	5.18	29.33	21.74	122.91
Newberg	400	3.84	7.81	6.76	2.21	1.11	1.97			0.87	2.38	13.87	12.15	
Newbridge	1,900			0.98				0.33	0.00	0.58	6.29	1.07	1.42	
Newport	68	4.99	14.16	10.12	2.09	2.29	1.70	1.01	1.02	2.14	2.20	17.76	9.80	69.28
Pendleton	1,122	1.88	2.47	2.03	0.95	1.21	0.57	0.68	0.50	1.54	0.25	4.24	2.16	18.48
*Portland	157	3.25	5.57	4.00	1.76	0.90	1.35	0.65	0.26	2.79	1.99	11.65	8.84	43.01
Prineville	2,899	1.20	1.14	1.43	0.51	0.97	2.53	0.00	0.30	0.89	T.	0.92	1.75	11.64
Riddles	732	1.36	5.03	4.29	0.49	0.46	1.05	0.00	0.00	0.62	0.73	4.45	4.48	22.96
Riverside								0.35	0.10	0.14	0.15	1.86	1.61	
*Roseburg	523	1.66	6.04	6.92	1.11	0.89	1.38	0.23	0.19	1.60	2.66	6.33	5.82	34.83
*Salem	120	2.79	5.73	6.11	3.47	1.78	1.77	0.64	0.28	2.45	2.08	11.67	7.76	46.53
Sheridan		4.17	6.51	7.72	2.11	0.95	1.39	0.31	0.38	2.39	2.54	11.73	8.90	49.10
Silverlake	4,300	0.25		0.80	0.25	1.91	2.65	0.07	0.00	0.39	0.23	0.13	1.47	
Silverton		4.07	6.87	7.42	2.76	1.21	1.87	1.08	0.27	3.39	2.34	13.75	7.55	52.38
Siskiyou	4,135		7.20	4.70	0.00		4.25	0.00	0.00		0.60	2.45	4.04	
Sparta	4,125	2.04	6.70	6.40	0.97	2.08	2.85	0.04	0.50	0.90	0.28	2.34	4.37	29.47
Springfield	472	2.32	5.35	6.37	1.85	0.98	2.98	0.35	0.68	2.55	3.02	7.52	6.74	40.71
Stafford		4.05	7.12	8.31	3.42	1.27	2.00	0.95	0.65	1.86	2.35	14.62	12.18	58.78
*The Dalles	116	1.14	2.98	1.94	0.23	0.27	1.07	0.24	0.08	0.54	0.24	3.84	4.03	16.60
Tillamook Rock light-house	146	5.49	8.13	7.83	2.52	1.87	3.74	1.55	0.65	3.13	1.36	9.39	3.33	48.99
Toledo	30	5.13	17.46	15.77						4.03	3.10	21.68	14.15	
*Umatilla	384			0.91	0.26	0.62	0.80	0.45	0.01	0.52	0.04	2.64	1.64	
Vale	4,400	1.78	1.90	1.76	0.66	1.99	1.19	0.09	T.	0.42	0.40	0.55	1.59	12.33
Vernonia	1,238	3.48	7.77	8.06	2.13	1.22	3.52	0.76	0.78	2.37	2.92	14.18	14.32	61.51
West Fork	1,045	1.68	8.81	11.10	1.44	0.70	1.69	0.19	0.15	1.88	4.25	7.66	9.73	49.28
Weston	1,800	2.55	3.13	3.62	1.87	1.20	1.34	0.76	0.58	1.70	0.53	5.16	3.46	25.90
Williams		1.46	5.92	4.53	0.87	0.91	1.64	0.00	0.28	1.02	1.31	5.27	6.14	29.35
Pennsylvania.														
Altoona	1,181	0.95	2.09	3.44	2.91	2.52	2.44	3.22	2.08	2.89	0.71	4.31	2.17	29.73
Aqueduct	367	1.50	2.70	1.93	2.53	5.93	2.93	3.78	2.72	2.66	2.34	5.87	3.15	38.04
*Beaver Dam	603	1.39	2.63	3.34	3.88	2.87	5.22	4.86	1.55	1.90	0.20	6.18	2.82	36.84
Bethlehem	237	2.35	2.57	2.50	3.41	6.05	4.03	4.84	3.64	2.10	1.22	5.99	4.22	42.92
Blooming Grove		3.25	3.59	3.59	4.01	6.87	3.30	9.39	4.56	3.56				
*Brookville	1,173	2.04	1.49	4.95	1.85	1.71	5.19	9.97	3.29	2.85	0.53	5.36	4.82	44.05
Browers Lock		2.00	4.34	2.04	3.38	7.00	4.29	7.13	2.41	1.84	2.37	5.23	4.32	46.35

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Pennsylvania—Continued.	*Feet.*													
Cameron	964	1.45	1.76	3.40	2.70	3.85	2.72	6.81	1.70	2.55	0.86	4.25	2.69	34.75
Canonsburg	936	1.53	1.54	1.01	1.99	1.79	1.11	2.10	0.34	0.25	0.09	3.89	4.19	[1] 19.83
Carlisle	480	1.77	3.42	3.90	2.92	6.54	1.52	4.42	5.12	2.97	2.05	4.07	3.29	41.99
Cassandra	2,100	3.18	3.43	3.70	3.56	4.18	2.88	3.44	2.40	2.86	0.39	4.88	3.75	38.65
Cedarrun	760	1.48	1.87	2.16	2.44	2.26	1.18	3.96	3.88	3.30	1.42	3.55	1.90	29.40
Centerhall	1,100	2.20	4.17	5.08	3.84	5.79	4.03	4.96	2.43	4.06	1.78	5.43	4.19	47.96
Chambersburg	1,000	1.84	4.07	3.40	2.79	6.03	1.22	4.32	6.02	3.08	2.19	5.28	1.93	42.17
Coatesville	380	2.79	4.91	2.15	3.39	7.28	2.92	6.47	3.00	1.63	2.60	5.83	4.96	47.93
*Confluence	1,324	3.54	5.88	4.38	3.33	3.91	2.48	6.46	2.56	2.56	0.43	5.89	4.36	45.78
Coopersburg	520	2.62	3.73	2.77	3.59	8.74	4.33	6.48	2.92	2.07	2.65	6.80	4.76	51.46
*Davis Island Dam	.....	1.12	4.11	3.72	3.30	3.57	4.00	6.31	1.52	2.41	0.20	5.42	2.54	38.22
Derry Station	1,172	2.10	5.11	4.89	3.81	4.03	1.99	4.99	3.40	2.62	0.44	5.76	3.96	43.10
Doylestown	347	1.89	3.73	2.58	3.80	7.89	4.99	8.11	3.87	1.67	2.60	4.95	4.68	50.76
Drifton	1,633	1.52	[6] 2.24	2.33	3.55	4.86	.....	.....	.....	.....	.....	.....	.....	.....
Driftwood	816	2.18	2.18	3.63	3.58	4.40	2.48	9.29	3.07	3.66	1.26	4.36	2.74	42.83
*Dubois	.....	2.18	2.83	.....	3.45	4.11	2.48	6.57	2.23	3.38	.....	.....	.....	.....
Duncannon	356	3.40	6.27	3.25	2.59	6.06	3.91	4.66	2.51	2.59	2.10	4.77	3.71	45.82
Dunmore	.....	1.54	1.84	2.48	3.27	5.15	3.32	4.17	.....	.....	.....	.....	.....	.....
Dushore	.....	.....	1.50	2.06	2.70	4.87	3.09	3.63	3.44	2.53	1.40	3.74	2.74	.....
Dyberry	1,100	1.36	3.06	3.28	3.72	5.13	2.85	6.03	2.83	3.14	0.97	5.36	4.71	42.44
East Bloomsburg	.....	1.13	1.53	2.94	2.54	7.05	2.79	2.74	1.40	2.46	1.38	3.98	4.13	34.07
East Mauch Chunk	553	2.96	3.74	3.31	3.29	7.64	2.08	8.33	2.94	2.14	2.36	6.59	5.16	50.54
Easton	325	1.92	1.28	0.82	1.20	5.75	3.26	8.04	3.20	2.49	1.85	6.20	5.63	41.64
*Elwood Junction	.....	1.68	2.81	2.63	3.82	2.61	4.71	10.94	2.65	1.70	0.04	4.94	3.07	41.60
Emporium	1,050	2.30	3.20	4.03	3.49	3.42	2.04	5.28	2.13	2.73	0.94	5.13	4.20	38.89
*Erie	714	2.57	1.74	2.79	1.55	3.04	3.01	5.81	4.70	0.54	1.24	4.62	2.73	34.34
Everett	1,118	.....	.....	.....	.....	.....	5.00	5.02	2.44	1.55	0.93	4.58	3.96	.....
Farrandsville	583	1.71	1.83	3.34	3.35	4.53	3.10	5.70	3.72	4.63	0.97	5.75	3.20	41.83
Forks of Neshaminy	304	3.39	2.94	2.28	2.93	6.34	6.42	12.42	3.09	1.31	2.41	5.12	5.16	53.81
Franklin	990	1.95	2.50	4.91	3.22	3.66	2.90	5.74	5.00	0.77	0.28	5.45	3.20	39.58
Frederick	.....	1.81	3.07	2.29	3.06	8.85	3.22	9.97	2.19	1.22	2.08	5.78	4.26	47.80
*Freeport	770	2.02	3.99	5.05	4.29	3.65	3.46	8.08	2.69	2.53	0.29	6.42	3.84	46.31
Girardville	.....	2.59	3.46	2.89	3.77	8.27	4.17	5.58	2.64	2.48	1.98	6.12	5.92	49.87
Grampian	1,450	2.15	2.78	4.25	4.14	4.55	3.14	7.02	2.46	3.16	0.68	6.04	4.57	44.94
*Greensboro	768	1.86	4.86	3.54	3.98	4.93	4.15	4.42	1.86	0.65	T.	5.36	4.86	40.47
Greenville	1,105	.....	.....	5.63	2.93	4.10	3.55	8.16	4.88	1.91	0.47	5.89	4.73	.....
Hallstead	.....	2.46	1.76	2.94	2.40	4.87	2.80	3.89	1.86	3.94	0.74	3.41	4.00	35.07
Hamburg	380	2.50	4.61	3.49	3.76	8.15	4.59	6.99	4.16	1.83	1.79	7.04	6.25	55.16
*Harrisburg	377	1.60	2.77	2.87	2.53	5.30	1.83	3.68	3.13	1.30	1.35	4.09	3.21	33.66
Hawley	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.32	5.05	.....
Hollidaysburg	947	2.40	4.58	3.75	2.77	3.52	1.66	4.07	1.95	2.75	0.57	4.95	3.46	36.43
Honesdale	1,000	.....	.....	2.09	3.95	5.92	.....	5.84	.....	.....	.....	.....	.....	.....
Huntingdon [2]	650	1.65	4.69	3.95	3.86	4.69	4.27	3.13	3.38	3.31	1.74	5.16	3.19	43.02
Huntingdon [3]	650	1.64	3.65	3.37	3.55	4.94	4.28	3.57	3.90	3.29	1.43	5.47	3.18	42.27
Indiana	1,350	2.56	1.55	.....	.....	2.98	3.89	.....	.....	2.90	0.57	6.32	.....	.....
Irwin	884	1.44	4.10	4.21	4.05	2.79	2.87	5.39	2.33	1.45	0.32	4.95	4.23	38.13
*Johnstown	1,184	2.92	4.05	5.36	3.98	3.71	3.67	5.97	2.23	3.55	0.72	6.14	3.74	46.04
Karthaus	.....	1.25	1.60	1.43	1.70	2.65	0.82	5.18	0.84	0.72	0.06	2.51	2.75	21.51
Keating	1,870	1.81	2.15	3.22	3.28	4.34	3.77	4.57	2.99	3.93	0.74	4.78	2.28	37.86
Kennett Square	275	2.78	5.46	3.03	3.19	7.96	2.78	10.16	2.77	1.63	2.19	5.47	4.59	52.01
Lansdale	368	1.85	2.94	1.40	3.36	8.62	4.22	7.17	3.20	1.12	2.48	5.62	4.69	46.67
Lawrenceville	1,006	0.90	1.16	2.56	2.90	4.35	2.55	4.27	3.27	2.44	1.45	3.47	2.02	31.34
Lebanon	458	2.26	3.75	3.46	3.51	6.52	3.00	5.89	2.51	1.57	2.36	5.76	4.05	44.64
Leroy	1,400	2.13	2.28	2.55	2.70	4.84	3.77	3.95	4.40	3.08	1.30	3.81	2.89	37.70
Lewisburg	450	3.26	2.54	4.74	3.21	4.30	2.31	4.72	2.52	2.01	2.08	4.76	3.94	40.39
Lockhaven [4]	560	1.66	3.52	3.27	3.42	5.00	3.05	5.65	2.32	4.21	0.89	5.89	2.98	41.86
Lockhaven [3]	560	1.67	2.67	3.17	2.90	4.65	2.72	5.14	3.94	3.93	0.77	4.93	2.59	39.08
*Lock No. 4	.....	1.53	4.62	2.29	3.33	2.63	2.72	3.72	1.64	1.37	0.08	5.95	3.34	33.22
Lycippus	1,420	2.43	4.70	* 4.15	3.93	4.08	2.42	2.82	4.52	2.34	0.60	5.41	5.43	42.83
Mifflin	490	2.45	3.70	3.80	2.81	4.62	1.58	2.95	3.40	2.95	2.17	3.60	2.48	36.51
*Oil City	1,045	2.59	2.91	5.36	3.54	4.12	4.05	7.97	5.07	1.53	0.37	6.37	3.63	47.51
Ottsville	.....	2.44	3.03	2.52	3.28	7.81	5.55	6.82	4.87	1.88	1.54	4.80	4.71	49.25
*Parker	889	2.24	3.64	4.95	3.42	3.41	3.69	7.23	3.82	1.39	0.77	5.39	3.38	43.33
*Philadelphia	117	2.17	2.97	2.03	3.03	4.33	4.53	7.70	3.52	1.10	1.70	4.44	4.52	42.04
Philadelphia [5]	120	2.25	3.64	2.21	3.53	4.96	4.19	10.25	3.27	1.11	2.42	4.84	4.55	47.22
*Pittsburg	842	1.34	4.30	3.50	3.34	2.70	2.97	4.52	2.08	1.65	0.13	5.11	3.44	35.08
Point Pleasant	.....	1.82	3.06	2.08	2.91	9.98	5.04	8.76	2.93	1.24	1.79	4.70	4.57	48.88
Pottstown	150	2.90	5.07	2.53	3.80	7.27	4.90	6.27	2.64	1.54	2.38	6.48	5.00	50.78
Quakertown	536	3.01	3.84	2.71	3.32	7.77	3.81	[6] 8.06	3.43	1.50	2.29	5.58	4.70	50.02
Reading	280	1.69	2.94	2.02	3.89	9.70	3.03	5.77	2.54	1.54	5.93	5.43	4.00	48.48
Reedsville	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.13	2.37	1.28	.....
Renovo [3]	672	1.75	2.31	2.90	2.86	4.64	2.79	5.73	4.28	3.96	1.09	4.95	3.01	40.27
Renovo [6]	672	2.01	2.41	3.03	2.64	4.41	2.59	4.80	3.79	3.69	1.00	4.82	3.54	38.73
*Ridgway	.....	1.72	2.13	3.49	3.57	3.81	2.88	6.70	2.80	2.55	0.59	4.45	3.46	38.15
Saegerstown	1,200	3.26	2.41	3.59	2.22	3.95	3.58	14.51	6.63	1.55	0.50	6.51	3.49	52.20
St. Marys	1,740	1.89	.....	4.21	2.93	3.44	2.13	5.91	2.54	2.85	0.97	4.99	2.97	.....
Salem Corners	.....	1.93	3.69	3.81	3.78	5.84	3.59	6.64	5.51	3.88	1.51	5.09	5.21	50.48
Scranton	746	1.48	2.73	2.99	3.41	4.82	3.43	5.00	2.57	1.20	1.10	4.14	3.64	36.51
Seisholtzville	.....	2.28	2.73	2.47	3.53	8.58	3.12	5.61	3.27	2.02	2.04	6.99	4.48	47.12
Selinsgrove	455	1.85	3.26	3.74	3.25	4.74	2.62	5.08	1.38	2.56	1.89	6.35	3.56	40.78
Shawmont	69	2.94	3.18	2.11	2.84	5.54	5.59	11.45	3.60	1.60	2.10	5.22	3.87	50.04
Shinglehouse	1,475	2.43	1.44	3.63	2.87	3.20	3.49	5.12	2.31	2.49	0.82	6.41	3.14	37.35
Sinnamahoning	794	20.0	1.01	3.30	2.49	.....	1.59	6.91	1.44	3.38	1.04	3.19	2.12	.....
Skippack	.....	3.07	4.20	1.89	3.67	9.25	4.37	.....	.....	.....	.....	.....	.....	.....
Smethport	1,500	1.60	2.75	4.22	3.43	2.90	2.95	.....	3.25	.....	0.65	5.93	3.25	.....
Smiths Corners	.....	2.14	2.60	2.54	3.30	10.05	6.00	10.22	3.75	2.05	1.68	5.03	4.57	58.96
Somerset	2,250	3.01	6.67	5.86	3.99	4.65	2.56	4.89	3.11	1.38	0.32	5.86	5.50	47.80

[1] Measurements of doubtful accuracy.
[2] Prof. W. J. Swigart.
[3] River observer.
[4] Prof. J. A. Robb.
[5] John Comly.
[6] F. C. Eyster.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Pennsylvania—Continued.	Feet.													
South Eaton	660	1.89	2.49	2.40	3.11	5.29	3.92	3.38	3.23	2.24	1.12	3.96	4.13	37.16
State College	1,191	2.21	3.19	4.53	3.78	4.13	3.03	5.69	3.39	3.60	1.45	5.26	3.18	43.44
Sunbury	450	1.95	2.20	3.45	.....	1.60	2.05	2.88	1.60	1.90	2.00	3.45	2.80	.....
Swarthmore	190	2.99	2.91	.....	.....	.....	4.28	10.43	3.34	1.58	2.15	6.15	3.94	.....
Swiftwater	.....	.....	2.83	.....	2.67	6.61	3.35	13.10	8.60	1.86	.....	6.72	5.91	.....
Towanda	754	1.21	1.56	2.20	2.30	3.74	2.11	4.81	1.78	2.93	1.17	2.80	2.78	29.38
Uniontown	681	1.93	5.73	.....	4.63	4.52	.....	6.83	2.15	1.92	0.22	6.24	4.30	.....
*Warren	1,137	2.27	1.53	2.60	3.21	4.20	2.50	6.15	4.09	1.63	0.13	6.60	2.60	37.51
Wellsboro	1,327	2.23	2.30	3.55	2.55	5.53	2.85	5.46	1.84	3.40	0.67	5.21	3.09	38.68
West Chester	455	2.33	5.00	2.55	3.06	7.47	2.43	9.91	2.58	1.27	2.61	5.08	4.21	48.50
West Newton	782	1.92	4.63	4.58	3.60	3.08	2.60	4.51	1.89	2.17	0.05	5.52	2.97	37.52
Westtown	350	2.64	4.52	.....	.....	.....	.....	.....	.....	.....	2.42	4.79	.....	.....
Whitehaven	1,150	1.80	1.73	2.22	3.99	6.49	2.32	6.49	3.48	1.25	1.75	4.94	4.20	40.66
Wilkesbarre	575	1.40	2.06	3.78	3.34	5.81	3.72	3.76	2.57	1.49	1.47	4.35	3.80	37.55
Williamsport	530	1.45	2.99	3.00	2.25	2.85	3.89	4.77	5.83	2.99	1.68	3.46	3.64	38.80
York	385	1.55	4.59	2.51	3.42	6.61	2.42	3.69	4.04	2.73	2.60	5.69	3.37	43.22
Rhode Island.														
*Block Island	27	3.93	2.83	3.06	5.70	4.31	3.06	5.08	3.41	3.95	1.83	9.42	5.61	52.19
Bristol	53	3.76	2.49	2.77	4.03	4.28	2.08	5.33	5.02	1.85	1.22	7.57	5.35	45.75
Kingston	250	5.19	2.73	3.96	4.81	3.95	4.43	6.35	4.31	1.76	0.89	10.25	6.25	54.88
Lonsdale	67	4.94	2.85	2.94	3.31	4.76	4.09	6.16	3.84	1.54	0.90	6.74	4.80	46.87
*Narragansett Pier	22	4.15	3.02	2.94	4.10	3.63	2.56	5.44	6.95	2.50	1.23	8.25	6.70	51.47
Pawtucket	79	5.45	3.15	2.79	3.31	4.77	4.12	5.62	3.82	1.93	0.65	6.52	5.40	47.53
Providence[1]	74	6.24	3.00	2.95	3.30	4.46	3.31	5.56	4.47	1.77	0.49	7.09	4.99	47.63
Providence[2]	74	5.16	2.82	2.94	3.49	4.55	3.59	6.04	4.61	2.01	0.55	7.12	5.26	48.14
South Carolina.														
*Allendale	186	.....	.....	.....	2.66	2.65	4.86	5.05	5.90	3.89	.....	.....	.....	.....
Anderson	764	3.85	6.81	5.39	4.20	1.73	3.12	6.06	6.32	1.98	4.17	4.28	2.76	50.67
*Batesburg	656	.....	.....	3.85	2.08	3.50	4.51	8.16	6.54	4.20	5.05	1.10	1.40	.....
*Blackville	296	2.53	7.82	5.64	2.94	4.28	5.62	3.79	5.24	4.07	1.34	1.09	1.76	46.12
*Camden	222	1.73	8.18	3.23	3.13	3.68	7.03	5.94	3.18	3.33	2.08	2.11	1.92	45.54
*Charleston	52	0.84	7.61	4.38	1.89	1.20	5.47	9.42	7.34	2.61	7.04	0.50	2.35	50.65
*Cheraw[3]	144	0.87	6.30	4.01	2.17	3.94	7.01	6.08	2.92	1.16	1.50	3.74	1.97	41.67
*Cheraw[4]	87	0.99	7.74	4.63	2.54	4.42	7.32	6.64	3.27	2.11	1.73	4.14	2.41	47.94
Clemson College	850	3.72	6.63	6.15	4.27	0.81	2.68	2.75	2.44	1.52	4.23	3.61	2.96	41.77
*Columbia	295	2.28	9.11	3.56	2.32	1.30	4.43	9.66	5.13	2.49	1.87	1.06	1.90	45.21
*Conway	25	2.09	8.70	2.13	1.59	3.15	5.10	3.66	5.76	3.64	2.64	0.90	3.01	42.37
Darlington (near)	.....	1.85	8.14	3.03	4.36	1.58	4.50	8.05	1.94	2.02	4.17	0.72	2.19	42.55
*Edisto	127	1.99	8.09	5.28	3.22	0.99	9.12	6.82	3.49	4.14	1.28	1.01	1.63	47.06
*Effingham	106	1.64	7.02	3.27	1.60	4.07	5.30	4.91	4.26	2.88	1.20	2.87	2.29	41.31
*Florence	136	1.74	7.84	3.67	2.27	3.32	6.42	6.45	4.32	2.40	1.95	2.56	2.91	45.85
*Gaffney	.....	.....	.....	.....	.....	.....	.....	1.67	4.12	2.10	3.88	5.05	2.73	.....
Georgetown	12	1.30	10.50	3.07	5.85	2.75	4.80	4.90	4.30	3.60	3.80	1.00	1.10	46.97
Gillisonville	.....	1.27	9.14	7.81	1.41	1.00	7.76	7.99	5.70	5.32	3.86	0.26	2.55	54.07
*Greenville	989	3.45	7.85	7.79	4.82	2.88	3.63	5.75	3.45	2.42	3.94	4.54	2.39	52.91
*Greenwood	671	4.25	7.56	4.04	4.28	2.20	3.39	5.16	3.14	3.04	2.34	2.34	1.92	43.66
Holland	.....	4.80	6.63	6.72	4.62	1.19	4.80	5.82	2.66	1.76	4.35	4.40	3.09	50.84
*Kingstree[3]	54	2.16	7.24	2.92	1.79	2.73	5.98	4.69	4.72	4.83	2.29	2.20	2.57	44.12
*Kingstree[4]	54	2.16	7.24	2.92	1.79	2.73	5.98	4.71	4.72	4.83	2.29	2.24	2.63	44.24
Little Mountain	.....	3.43	7.65	3.36	2.76	2.78	7.89	3.44	4.41	2.05	1.75	2.00	2.13	43.65
Longshore	530	3.26	8.37	5.11	2.98	2.54	3.89	4.78	3.62	2.10	2.38	1.78	1.98	42.79
*Mount Carmel	.....	3.93	7.93	4.39	5.50	2.97	1.82	4.86	6.38	2.78	1.87	2.43	1.56	46.42
Pinopolis	.....	2.00	9.08	5.20	3.74	1.19	11.75	8.43	6.99	3.34	4.98	1.86	3.05	61.61
Port Royal	5	1.24	7.54	5.94	2.42	1.47	4.85	5.65	7.88	4.57	6.91	0.50	2.07	51.04
*St. Georges	.....	1.95	7.64	5.65	2.03	0.88	6.61	8.81	8.80	2.15	2.20	0.92	2.30	49.94
*St. Matthews	.....	1.77	6.63	3.44	1.81	2.36	5.16	6.15	6.85	5.52	1.96	0.99	1.82	44.26
*St. Stephens	74	2.75	7.67	3.62	2.14	5.17	7.01	9.81	6.35	2.18	3.33	1.49	2.27	53.79
Santuck	512	2.79	8.82	5.87	4.11	3.61	4.77	3.60	3.20	2.06	2.21	2.32	2.23	45.59
Shaws Fork	.....	1.94	8.65	3.56	2.45	2.33	5.74	3.53	8.44	3.80	6.55	0.75	2.63	50.37
*Smiths Mills	62	2.15	8.06	2.54	1.67	3.39	5.61	4.69	6.90	1.64	4.00	1.45	2.92	45.02
Society Hill	192	0.94	8.24	3.38	6.31	2.09	6.86	6.20	2.94	1.05	5.26	0.80	2.10	46.17
*Spartanburg	875	2.59	6.08	6.66	.....	1.52	6.19	2.99	4.42	3.30	2.34	4.78	2.80	.....
Statesburg	500	2.05	8.39	4.11	4.86	2.08	5.85	5.82	8.06	2.74	5.05	0.94	2.20	52.15
Trenton	620	3.59	9.05	4.08	3.32	2.80	2.79	6.97	9.93	3.28	2.18	1.58	1.54	51.11
Trial	.....	2.61	8.68	5.03	2.97	1.67	7.96	7.29	9.48	4.45	2.15	2.47	3.20	57.96
Walhalla	1,061	4.00	6.43	7.08	8.40	1.20	3.01	3.33	3.47	0.80	4.07	3.72	4.11	49.62
Winnsboro	545	2.59	7.51	3.04	2.82	2.07	3.34	3.38	1.27	1.10	1.50	1.16	2.72	32.50
*Yemassee	23	1.16	10.20	5.06	2.15	1.07	5.57	7.57	5.25	3.37	4.54	0.27	2.64	48.85
Yorkville	680	2.65	6.75	6.63	4.07	2.27	4.87	6.71	5.93	1.78	2.31	2.79	2.50	49.26
South Dakota.														
*Aberdeen	1,300	5.45	2.39	7.55	3.39	0.33	4.40	4.81	3.61	2.19	0.70	0.30	0.42	35.54
Alexandria	1,352	2.23	0.72	3.15	3.59	0.49	4.89	4.94	4.96	1.56	2.23	0.44	0.50	29.78
Armour	1,521	2.66	1.14	1.52	4.65	3.40	4.23	3.62	1.01	1.77	2.83	.....	1.14	.....
Ashcroft	.....	0.60	0.50	1.50	1.26	1.72	1.14	0.73	1.12	0.08	0.49	1.06	0.30	10.50
Brookings	1,636	1.60	0.30	0.44	2.45	0.83	3.86	4.32	3.59	3.17	1.48	0.56	0.34	22.94
Canton	1,248	1.72	1.10	3.62	3.63	0.61	3.14	4.23	2.17	1.25	1.17	0.19	1.10	23.93
Castlewood	1,685	2.45	0.40	1.85	3.20	1.37	5.60	7.27	3.01	1.70	1.56	.....	0.38	.....
Centerville	1,225	.....	.....	.....	2.10	1.09	3.91	3.41	1.67	0.95	1.40	0.25	1.02	.....
Chamberlain	1,363	0.39	0.24	2.01	3.53	1.24	1.89	2.44	2.62	1.73	1.96	0.38	0.22	18.65
Clark	1,779	.....	.....	.....	3.60	[b]0.65	.....	.....	2.74	1.09	2.36	1.20	0.27	.....
Cross	.....	0.70	0.29	2.75	1.01	1.64	3.09	1.01	2.75	0.20	0.22	1.10	0.19	14.95
Desmet	1,726	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.97	1.10	0.60	.....
Doland	1,355	4.49	0.52	1.41	3.37	1.33	4.00	2.70	3.19	1.85	2.43	0.53	0.29	26.11
Edgemont	.....	0.10	0.14	0.45	0.80	0.51	0.21	1.81	0.04	0.15	0.04	1.80	0.28	6.33

[1] City engineer. [2] Ladd observatory. [3] Cotton region observer. [4] River observer.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
South Dakota—Continued.	*Feet.*													
Eureka										0.15	0.74	0.05	0.15	
Farmingdale		0.36		1.69	0.60	1.43	2.12			0.00	0.27	0.55	0.20	
*Faulkton	1,595				4.23	0.29	5.18	3.70	2.18	0.52				
Flandreau	1,565	1.79	0.55	1.26	2.94	1.98	5.18	5.66	3.82	1.40	0.91	0.40	0.46	26.35
Forestburg	1,231	2.16	1.10	1.90	3.92	0.93	3.93	3.98	2.69	2.09	2.11	0.47	0.21	25.49
Forest City		1.50		0.70	2.40		4.64	3.00	1.80	0.00	0.50	0.20	0.10	
Fort Meade		1.33	0.05	1.36	1.80	1.07	5.32	2.05	3.11	0.01	0.02	0.50	T.	16.62
Gann Valley										[5]1.01	1.90	0.25	0.40	
Gary	1,484	1.95		1.64		1.86	4.00	4.37	1.69	1.22	1.27	0.55	0.00	
Goudyville		1.80	0.97	2.68	2.16	0.21	4.71	2.22	1.98	0.56	0.50	0.16	0.05	18.00
Greenwood		1.12	0.43	1.90	6.13	2.13	2.42	3.61	1.17	2.04	3.52	0.38	1.18	26.03
Highmore	1,890		0.80	2.57	3.44	1.86	2.79	3.75		0.41	1.16	[6]0.48	0.40	
Hotch City		1.11	0.41	2.91	2.89	0.97	1.96	3.27	1.49	0.42	1.19	0.53	0.30	17.45
Hot Springs		0.58	0.17	1.06	0.70	0.67	1.98	1.16	0.98	0.60	0.64	0.87	0.14	9.55
Howard	1,564		1.10	2.48	3.53	1.02	3.73	5.36	3.60	3.57	2.21	0.25	0.80	
*Huron	1,310	2.87	0.52	1.53	4.03	0.46	3.81	2.32	2.69	1.14	2.13	0.67	0.57	22.74
Interior												1.10	0.10	
Ipswich										0.55	1.18	0.33	T.	
Kimball	1,788	1.80	1.20	2.47	4.20	1.00	2.52	2.26	2.75	2.47	3.00	0.81	0.70	25.18
Leslie		0.50	0.15	1.80	1.40	T.	3.44	0.53	2.35	T.	T.	T.	0.08	10.25
Mellette	1,300	2.62	0.97	1.57	2.51	0.38	4.50	3.41	2.55	0.74	2.03	0.30	0.10	21.68
Menno	1,324	1.30	0.28	1.48	3.02	0.76	1.86	3.87	1.14	1.66	1.49	0.37	0.96	18.19
*Millbank		1.10	1.30	1.40	2.15	2.05	4.60	3.92	0.58	1.68	0.82	0.25	0.15	20.00
*Mitchell	1,312	2.10	0.47	1.85	4.79	1.36	2.26	4.65	3.74	0.91	1.93	0.11	0.53	24.70
Nowlin		1.15	1.10			0.05	1.16	1.10	1.01	0.00	T.	0.45	0.23	
Oelrichs		1.75	0.60	2.20	2.20	0.30	0.70	2.40	2.20	0.40		2.70	1.00	
Parker	1,348	0.60	0.60	2.57	2.91	0.71	3.64	3.34	1.89	1.25	1.12	0.95	1.65	21.23
Parkston	1,400		0.90	2.60	3.71	2.10	4.93	3.76	2.13	1.41	1.46	0.20		
*Pierre	1,470	1.66	0.29	2.49	3.51	0.45	3.11	3.79	2.12	0.14	0.40	0.41	0.47	18.84
Plankinton	1,528	1.89	1.05	2.65	3.95	0.68	1.98	4.18	1.98	2.25	3.15	0.35	0.86	24.97
*Rapid City	3,260	0.62	0.46	1.69	0.69	1.82	2.67	0.71	2.15	0.08	0.15	1.16	0.12	12.32
Redfield	1,295											0.18	0.32	
Rochford				2.32						0.34	0.51	1.87	1.40	
Rosebud		2.30	1.12	1.50	2.87	3.02	1.47	2.50	2.90	0.47	0.50		2.40	
Shiloh					1.30	0.25	2.89			0.07	0.01	T.	0.01	
Silver City		1.07	0.33	3.21		2.31	2.56	1.42	3.10	0.21	0.05	1.87	0.40	
Sioux Falls	1,420	2.10	0.80	2.92	2.74	1.25	4.80	4.45	2.90	1.05	1.41	0.44	0.68	25.54
Spearfish		2.25	0.80	3.35	1.80	2.80	4.38	0.46	1.23	0.00	0.77	0.83	0.25	18.92
Tyndall	1,418	1.60	0.30	1.48	4.84	0.79	4.23	1.42	1.10	1.81	2.40	0.48	1.50	21.95
Vermilion		0.85	0.45			0.31						0.10		
Watertown	1,738	1.00		1.20	2.87	1.13	7.76	5.72	2.88	1.43	1.87	0.20	0.10	
Webster		5.69	5.55	5.55	1.59	0.84								
Wentworth		1.45	0.68	2.23	2.78	4.97	4.35	6.34	2.62	3.10	0.86	0.46	0.63	30.47
Wessington Springs	1,410			4.60	4.18	0.68	2.96	3.83	2.60	1.50	1.60	0.60	0.30	
*Yankton	1,232	1.41	0.84	2.37	4.16	0.78	2.49	4.14	1.71	0.89	1.20	0.24	1.53	21.76
Tennessee.														
Andersonville	1,167	1.75	6.53	11.37	7.47	3.36	4.59	5.39	3.07	0.06	1.05	2.08	4.02	50.74
*Arlington					5.05	0.81	3.08	5.67	4.32	0.00	1.13			
*Arthur								5.69	2.33	0.18	0.63	1.74		
Ashwood	725	3.95	4.20	12.68	6.20	3.73	1.74	3.00	2.32	T.	0.60	3.58	6.35	48.35
Benton (near)	880	1.96	4.72	13.98	4.39	2.24	3.87	5.53	3.27	0.36	2.90	0.91	5.63	49.76
*Bluff City		2.28	6.51	8.35				5.44	1.11	2.07	0.98	1.42	3.77	
*Bolivar	430	3.28	3.00	12.45	6.65	1.09	2.19	0.68	1.27	0.00	0.72	4.05	7.17	42.55
Bristol	1,689	2.17	9.20	8.28	3.39	3.37	4.07	6.13	3.18	0.66	1.25	0.69	3.94	46.33
*Brownsville	333				4.91	1.08	1.82	0.40	0.43	0.00	1.80			
Byrdstown	1,026	3.79	6.55	9.62	6.89	3.71	4.95	7.83	5.22	0.66	1.33	3.85	6.07	60.47
Cagle	1,900	2.96		13.05	5.67	3.40	4.95	7.72	2.21			2.87	6.27	
*Carthage	450	4.18	5.91	9.32	8.45	1.79	2.35	6.35	3.65	0.29	0.86	3.92	6.38	53.45
Center Point						2.05	0.83	1.01						
*Charleston		2.27	6.00	11.97								1.98	7.92	
*Chattanooga	762	3.06	5.52	11.22	4.18	3.26	1.03	3.43	2.10	0.07	3.33	1.18	6.91	45.29
Clarksville	481	4.37	4.06	7.22	8.09	1.09	3.39			T.	1.57	3.06	3.69	
*Clinton	800	3.20	7.42	11.62	7.57	4.59	3.88	5.39	4.85	0.35	2.05	1.95	5.51	58.38
*Covington	340					0.72	1.57	2.85	0.16	0.00	0.40	3.77	6.26	
Decatur	850	2.98	5.62	11.97	8.55	6.89	3.52	6.05	4.04	0.38	3.60	2.37	7.30	63.27
*Dyersburg	350		3.13	10.75	6.43	1.32	2.54	2.11	0.63	0.00	0.75			
Elizabethton	1,575	2.31	6.63	8.06	2.84	4.34	5.60	6.62	3.06	2.71	1.19	1.72	3.23	48.31
Elk Valley	1,129	3.48	5.65	9.48	6.93	3.74	4.34	5.69	4.69	0.66	0.93	2.70	5.16	53.45
Erasmus			5.73	12.27	7.96	4.43	3.28	10.64	3.57	0.51	2.67	3.02	6.59	
Fairmount	1,950	3.84	6.23	14.06	7.49	3.21	2.26	8.60		0.33	3.77	2.53	8.77	
Florence	512	3.43	5.12	10.53	7.80	1.57	1.49	6.66	1.61	0.89	1.04	3.62	6.09	49.94
Franklin	650	3.27	5.40	11.36	7.85	1.06	2.05	5.02	5.68	0.84	0.78	3.36	4.60	51.27
Grace								9.21	1.02	1.06	1.54	3.29	5.91	
*Greeneville	1,581	2.42	4.68	10.52	3.07	4.95	7.30	3.54	2.35	1.20	1.70	1.46	4.15	47.43
Harriman	850	3.22	7.22	12.15	9.25	5.39	3.52	10.10	5.29	0.19	4.20	2.64	4.90	68.08
Hickory Withe			4.69	12.12	4.82	0.94	2.71	3.26	5.64	T.	1.07	6.90	5.77	
Hohenwald	925	3.73	5.00	16.43	6.22	2.08	2.69	4.20	2.34	T.	1.10	5.03	7.13	55.95
Jackson	425	4.20	3.42	11.75	6.62	1.18	2.05	1.72	0.92	0.00	1.15	3.10	6.12	42.23
*Johnsonville	368	3.71	2.96	7.25	5.69	0.77	3.81	3.54	3.38	0.00	1.75	3.43	3.65	39.94
Jonesboro	1,740	2.12	6.46	9.48	4.18	4.64		5.72	2.98	1.06	1.70	2.24	4.26	
*Kingston		3.50	6.65	10.59				5.93	5.86	0.16	2.76	2.22	5.99	
*Knoxville	980	2.91	4.66	9.59	6.26	6.11	3.18	3.83	5.23	1.92	1.97	1.87	5.42	52.95
Liberty	672	4.04	5.06	7.94	6.32	3.21	1.75	4.21	3.12	0.98	1.13	3.38	5.30	46.44
*Loudon	750	3.19	5.05	11.50	7.75	4.70	3.25	7.60						
Lynnville	734	2.71	4.26	14.27	6.66	3.16	1.57	7.35	3.47	0.10	1.03	4.41	7.63	56.62
McKenzie	515	4.85	4.50	6.44	9.41	0.60	2.06	3.26	1.62	T.	0.85	4.06	4.21	41.86
McMinnville	1,000	4.35	6.03	16.90	5.90	5.60	3.90	9.10	3.05	0.20	2.00	3.05	5.20	65.28
*Memphis	399	4.63	5.17	10.04	5.46	1.37	2.50	2.42	2.64	0.00	1.00	5.00	5.80	46.03

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Tennessee—Continued.	*Feet.*													
*Milan	440				7.79	0.90	2.58	1.80	2.22	T.	1.06			
Molino		3.43	5.05	14.36	5.32	4.84	1.70	4.66	5.42	0.00	2.13	3.16	8.30	58.37
*Nashville	545	3.13	3.84	8.49	5.79	1.22	1.82	8.53	2.34	0.19	0.92	2.83	4.93	44.03
New Market					3.66	4.36	5.24	8.52	4.03	3.19	1.25	1.64		
Newport	1,280	2.67	4.12	10.18	4.10	4.49	6.60	3.50	1.98	0.59	1.98	1.40	4.35	45.96
Nunnelly	525	3.50	3.83	13.63	5.75	1.04	5.06	2.38	2.46	0.82	1.05	3.74	4.33	47.59
Oak Hill	357				7.55	3.27	2.42	13.21	3.10	0.87	1.10	4.15	6.27	
Palmetto		2.71	3.85	12.38	7.12	2.72	2.29	7.36	3.02	0.62	0.98	3.33	6.92	53.30
Paris Landing				7.24		0.20	2.46							
Peryear									0.11	0.21	1.40	4.14		
Pope		3.55	1.02	15.60	3.65	2.21	0.78	2.42	0.27	0.00	1.04	4.28	5.89	40.71
Riddleton	549	3.64	4.56	10.92	7.56	1.19	2.11	7.14	4.19	0.67	0.97	3.57		
*Rockwood	872	2.94	7.29	13.18	6.98	2.94	2.57							
*Rogersville		3.16	6.80	10.52	3.83	4.66	6.33	4.31	1.41	0.64	1.00	1.32	4.30	48.28
Rugby	1,410	4.20	7.03	10.41	6.94	3.99	2.21	6.55	6.40	1.10	1.88	2.17	6.44	59.32
St. Joseph		4.19	3.66	18.14	6.61	2.75	1.45	3.14	4.02	0.00	1.25	4.47	10.97	60.65
Savannah	450	2.57	2.84	12.60	4.58	1.83	1.39	3.46	2.41	T.	1.47	4.38	5.93	43.46
Sewanee	1,900	3.73	7.15	16.79	5.96	0.10	2.34	7.21	3.36	0.30	3.12	2.84	8.06	60.96
Silver Lake								6.98	4.71	0.98	1.87	1.35	4.29	
Springdale	1,100		6.44	9.26	5.66	4.66	3.68	5.12	2.52	0.42	0.82	1.55	4.25	
Springfield	545			8.81	7.08	0.89	1.45	3.14		0.00	0.82			
*Strawberry Plains	906	2.53	4.96	10.40										
Sylvia[1]		4.67	4.22	10.63	7.55	0.62	2.48	5.14	2.62	0.00	1.52	3.49	5.91	48.85
Tellico Plains		2.65	4.75	11.22	5.64	2.93	2.80	8.71	2.46	T.	2.16	1.97	5.66	56.95
Tracy City								8.45	3.23	0.16	2.45	3.39	7.43	
Trenton	320	4.67	4.13	7.70	6.10	0.98	2.58	1.56	1.62	T.	1.95	4.32	4.17	39.78
Tullahoma	1,070	3.30	4.35	16.85	6.25	3.85	1.10	4.20	1.85	0.05	3.20	3.50	6.30	54.80
Union City	346	5.16	5.09	9.25	6.07	1.58	4.17	2.23	0.74	T.	0.10	4.17	3.78	42.34
Waynesboro	1,050	3.79	4.17	12.99	4.72	1.59	1.03	3.26	2.98	0.00	1.40	4.06	7.24	47.23
Wildersville											0.96	4.22	6.08	
Texas.														
*Abilene	1,749	1.28	0.02	4.02	0.74	4.73	3.90	2.00	1.87	2.89	1.32	0.01	0.52	23.30
Albany	1,429	2.23	T.	2.74	1.35	4.23	4.08	0.72	1.64	1.75	0.45		0.68	
*Amarillo	3,691	2.26	0.65	0.47	1.08	4.44	2.32	2.16	2.71	0.73	1.63	0.08	0.63	19.16
*Arthur City	590	4.75	0.26	9.44	2.38	4.23	2.92	2.98	1.58	2.69	1.82	0.65	2.87	36.57
Austin	650	5.50	0.40							3.74	7.92	0.00	2.67	
*Ballinger	1,637	1.17	0.01	2.62	0.65	3.75	1.23	3.28	3.67	1.08	2.01	0.11	1.03	20.61
*Beeville		1.89	0.05	0.93	0.53	4.20	3.04	0.15	3.39	1.70	2.66	T.	1.67	20.21
Blanco		1.27	0.00	3.50	2.01	0.51	1.75	T.	3.16	1.75	7.00	0.25	1.88	23.08
Boerne	1,333	1.56	0.10	4.06	3.26	1.45	2.15	1.82	4.03	3.29	2.33	0.12	2.29	26.46
Bowie	1,128	2.32	0.34	5.55	2.36	6.72	6.17							
Brady	1,500	1.63	0.09	1.64	1.31									
Brazoria		5.51	1.42	2.00	2.25	3.05	0.54	0.27	5.09	3.11	10.23	0.82	4.93	39.22
Bremond	467			5.90	3.04	6.57	2.15	0.08	0.85					
*Brenham	350	4.59	0.50	3.48	1.98	1.62	2.02	2.94	3.77	2.86	5.18	1.33	3.28	33.55
Brighton		1.85	0.00	1.47	0.82	1.11	3.22	T.	2.45	0.43	2.14		0.98	
Brownwood	1,342	1.10	0.05	2.08	2.15	7.52	3.17	0.43	2.80	2.40	1.07	0.50	0.50	23.77
Burnet			0.00	4.90	2.60	1.75	1.43	T.	3.83	4.78	4.55	0.08	2.02	
Camp Eagle Pass	800	0.35	0.00	0.33	1.01	3.44	1.50	0.15	1.98	0.68	0.00	0.04	0.82	10.30
Childress	1,884		1.03	1.38	1.66	5.15	2.57	3.71	0.27	2.01	0.61	0.05	T.	
Coleman	1,710	1.54	0.00	2.54	1.05	5.14	4.40	0.65	2.90	1.36	1.50	0.00	0.30	21.38
College Station	360	3.85	0.15	2.87	1.57	2.70	2.82	1.45	4.68	2.46	5.07	1.28	3.61	32.51
Colmesneil	303	6.95	0.37	4.74			1.66		5.13	3.03	3.78	1.09	11.02	
*Columbia	34	5.52	2.33	2.55	2.33	2.80	0.76	0.41	2.70	2.29	7.62	0.15	5.69	35.15
Conroe										5.25	5.07	1.69	6.49	
*Corpus Christi	20	2.57	0.06	1.61	0.83	2.28	1.81	0.00	3.24	0.98	3.79	0.11	1.08	18.26
*Corsicana	445	4.17	0.27	7.28	1.90	6.17	3.46	0.47	0.68	2.58	7.52	0.15	2.63	34.28
*Cuero	177	2.06	0.18	2.09	2.85	2.23	4.68	0.02	1.45	2.46	7.66	1.18	1.82	28.68
*Dallas	466	3.22	0.01	8.14	2.58	4.13	4.00	1.14	1.22	1.75	3.06	1.22	2.90	33.37
Danevang		4.44	1.51	2.57	2.81	3.77	1.67	0.73	3.42	2.59	9.20	0.33	5.52	38.55
Dean		2.05	0.25	0.62		1.62	1.28	1.71						
*Dublin		1.80	T.	4.40	3.23	6.26	5.32	0.00	1.01	3.14	4.50	0.42	1.30	31.38
Duval	650	1.17	0.76	3.08	3.19	1.59	1.29	0.30	1.17	2.70	5.78	0.03		
*El Paso	3,767	0.54	0.00	0.05	0.14	0.46	2.17	2.89	2.57	2.73	0.77	T.	0.09	12.41
Emory	472					3.19	4.44	1.51	4.92	3.97	2.74	0.63	4.18	
Estelle		4.66	0.15	7.50	2.02	4.85	2.64	1.08	1.32	0.93	4.88	0.55	2.14	32.72
Forestburg		2.27	0.47	6.83	2.02	9.39	4.82	4.22	2.30	3.25	1.30	0.22	1.00	38.09
Fort Brown	57								4.63	2.38	1.99	3.03	0.71	
Fort Clark	1,050	1.78	0.00	0.71	1.94	2.08	2.23	0.10	1.16	0.36	0.14	0.00	0.82	11.32
Fort McIntosh	460	1.10	0.00	2.06	0.15	3.48	0.56	0.80	7.22	2.10	0.10	0.00	1.30	18.87
Fort Ringgold	230	1.82	0.00	0.20	1.88	3.95	1.47	0.91	4.01	2.26	0.63	1.70	0.36	19.19
Fort Stockton	3,050	0.45	0.08	0.20		1.36	T.	1.48	5.38	1.40	0.08	0.00	T.	
Fort Worth	1,100	3.14	0.03	7.59	3.32	5.01	5.90	0.55	2.17	1.68		0.10		
Fredericksburg	1,742	1.65	0.05	1.79	3.00	2.04	2.10	1.14	4.14	2.20	3.37	0.20	1.42	23.10
Fruitland[2]		2.32	0.34	5.55	2.36	6.72	6.17	0.64	0.54	2.16	2.45	T.	0.70	29.95
Gainesville	738	3.84	1.12	7.91	2.90	6.02	4.82	7.32	2.82	1.75	2.57	0.43	1.98	43.48
*Galveston	42	2.97	2.25	4.59	1.24	1.27	0.37	0.78	4.65	2.40	5.12	1.02	2.58	29.24
Georgetown	750		0.40	3.64	2.42	4.20		0.17	3.52	4.22	4.10	0.10	1.65	
Golindo		3.60	0.85	7.20	2.50	6.40	7.40		1.15	3.65	3.70	1.10	1.55	
Graham	1,040	1.31	0.24	2.61	[f]2.03									
Grapevine	1,110	2.99	0.01	7.98	3.37	5.99	3.80	0.08	2.63	2.15	2.26	0.26	[d]1.97	33.49
Hale Center		1.20	T.	0.60	1.65	5.26	1.41	3.72	2.00	1.25	0.80	T.	0.08	17.97
Hallettsville		2.61	0.03	1.30	4.57	2.86	3.20	0.52	4.08	1.29	5.26	0.31	1.46	27.49
Haskell	4,013								1.27	0.73		0.25	0.35	
*Hearne	305					4.25	2.85	0.00	2.70	1.60	1.90			
*Henrietta	915					6.83	4.96	1.51	1.06	0.96	2.60			
Hewitt	664	3.00	1.45	7.15	2.75	7.50	5.10	T.	3.95	3.20	3.57	T.	2.70	40.37

[1] Observations taken at Charlotte, about 5 miles north, from January to June, inclusive.
[2] Observer moved from Bowie, about 5 miles northwest, July 1, 1897.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Texas—Continued.														
	Feet.													
*Houston	53	5.93	1.78	2.93	0.83	7.16	0.91	2.00	7.53	5.07	6.59	1.08	4.78	46.59
*Huntsville	400	4.55	0.18	3.90	1.73	1.50	2.17	0.30	2.98	3.44	5.86	1.78	4.25	32.64
Jacksonville	525	.....	.....	.....	.....	.....	.....	.....	.....	1.99	2.60	0.94	6.22	.....
Junction City	1,075	.....	0.03	2.25	0.94	4.11	2.38	2.01	2.74	0.05	1.62	0.00	0.80	.....
Kent	.....	0.69	0.00	0.44	0.06	0.37	2.36	2.22	1.97	2.25	1.02	.....	0.00	.....
*Kerrville	.....	0.64	T.	1.08	1.38	3.62	1.87	0.80	3.39	2.61	1.84	0.15	1.03	18.41
*Lampasas	1,025	2.18	0.18	4.29	1.88	3.41	2.12	0.42	2.36	4.58	2.64	0.08	2.15	26.29
Langtry	1,321	.....	.....	.....	.....	.....	3.80	0.00	2.71	.....	.....	.....	.....	.....
Llano	.....	0.95	T.	1.94	1.42	0.82	3.25	0.40	2.90	2.51	2.55	T.	1.55	18.29
*Longview	336	5.19	0.30	10.31	4.61	6.76	3.89	3.03	1.70	2.16	2.39	1.93	7.02	49.29
*Lufkin	326	.....	.....	.....	.....	5.54	3.13	0.12	.....	.....	.....	.....	.....	.....
*Luling	418	1.37	0.16	2.27	5.70	1.65	3.29	0.88	0.98	3.25	6.74	0.78	2.62	29.69
Mann	450	4.49	1.30	7.37	.....	5.74	.....	0.43	0.20	1.05	.....	.....	.....	.....
Marathon	4,043	.....	0.00	0.62	1.00	1.40	3.80	0.38	2.63	.....	.....	.....	.....	.....
Marshall	375	.....	.....	[3]9.79	3.51	3.26	[3]4.42	.....	.....	.....	2.48	0.97	7.66	.....
Menardville	1,960	0.53	.....	.....	.....	3.55	.....	0.00	3.20	.....	1.67	0.00	0.25	.....
Midland	2,779	.....	.....	.....	0.00	4.55	1.71	2.28	2.86	1.14	0.04	0.00	.....	.....
Mount Blanco	.....	1.02	1.00	1.06	0.05	0.16	3.06	3.03	2.31	1.00	0.11	0.40	0.20	13.40
New Braunfels	720	1.56	0.14	2.43	3.10	1.75	2.93	1.19	1.91	1.24	1.72	0.32	1.84	20.13
*Orange	10	6.80	2.40	3.25	0.50	1.06	0.52	1.03	1.37	2.06	2.59	.....	.....	.....
*Palestine	510	5.95	0.29	8.19	2.01	4.27	4.16	1.01	0.48	1.36	3.65	1.30	6.81	39.48
Panter	.....	3.14	0.15	7.75	2.24	4.71	3.24	2.18	2.56	3.96	2.30	0.51	2.35	35.09
*Paris	592	3.34	0.66	6.88	2.68	4.38	2.01	2.27	0.32	1.90	2.34	0.70	1.27	28.75
Point Isabel	8	0.70	0.00	1.00	1.75	0.20	1.75	0.00	0.35	0.10	1.10	1.80	0.07	8.82
Rheinland	.....	1.49	0.52	3.93	1.38	6.68	1.83	3.34	0.80	1.44	0.91	0.24	0.56	23.12
Roby	.....	1.75	0.20	2.94	1.75	.....	4.69	1.39	1.17	0.66	0.75	0.30	0.69	.....
Rock Springs	.....	1.39	.....	2.61	1.70	4.59	3.01	.....	2.62	0.11	0.60	.....	0.00	.....
Runge	.....	0.76	.....	.....	.....	.....	3.09	0.00	0.71	1.50	4.90	0.00	1.39	.....
*San Antonio	704	1.55	0.15	1.65	1.84	3.13	2.19	0.28	0.40	1.61	1.35	0.43	1.34	15.92
San Antonio[1]	781	1.59	0.13	1.81	2.07	3.20	2.48	0.37	0.46	1.78	1.43	0.46	1.22	17.00
Sanderson	2,780	0.13	0.00	0.36	1.30	2.40	3.35	0.50	3.40	0.20	0.16	0.25	.....	.....
*San Marcos	588	1.61	0.25	3.15	2.47	2.40	4.95	1.45	2.07	1.49	5.03	0.33	2.37	27.57
Sierra Blanca	4,512	0.15	0.00	0.26	T.	0.72	2.43	4.09	.....	.....	.....	.....	.....	.....
Stafford	92	4.99	1.39	2.27	1.67	7.77	1.79	1.35	3.21	3.23	5.10	0.27	.....	.....
Sulphur Springs	530	4.56	0.26	10.15	4.12	6.14	5.22	2.24	3.38	1.90	2.40	0.77	3.33	44.47
Temple[2]	570	3.35	0.88	5.41	2.27	3.07	9.20	0.30	2.70	3.43	2.84	0.93	2.67	37.05
*Temple[3]	630	.....	.....	.....	.....	1.65	8.40	0.10	2.65	2.65	[1]0.40	.....	.....	.....
Tivoli	.....	.....	.....	2.23	0.06	5.07	.....	.....	2.54	.....	.....	.....	.....	.....
Tulia	.....	1.76	T.	0.75	1.08	2.78	.....	.....	.....	.....	.....	0.00	.....	.....
*Tyler	531	.....	1.50	6.86	3.57	6.27	3.46	1.16	1.40	2.68	1.50	0.91	3.73	.....
Valentine	4,424	.....	.....	T.	0.00	2.81	1.57	1.60	2.50	3.65	0.50	0.00	0.60	.....
Victoria	187	.....	.....	.....	.....	.....	.....	.....	.....	2.05	7.50	.....	2.60	.....
*Waco	424	2.57	0.95	6.08	1.87	5.81	3.77	0.22	0.18	2.38	2.48	T.	2.33	28.64
Waxahachie	.....	.....	.....	.....	.....	6.60	4.30	0.40	1.30	2.90	3.35	0.40	2.10	.....
*Weatherford	864	3.03	0.16	6.90	3.43	5.07	4.20	0.17	2.94	3.27	3.12	0.35	2.03	34.67
Wichita Falls	958	1.39	0.42	3.65	1.63	6.00	4.06	2.15	1.75	2.00	1.75	0.83	1.37	27.60
Utah.														
Alpine City	4,900	1.38	3.50	1.80	1.03	1.31	0.47	0.54	0.08	1.77	1.86	0.99	1.27	16.00
Blue Creek	.....	.....	.....	.....	.....	0.20	T.	0.10	T.	0.00	.....	0.30	0.15	.....
Brigham City	4,315	2.24	3.55	3.55	2.09	0.38	0.55	1.03	0.29	0.91	2.79	2.18	1.16	20.72
Cisco	4,447	0.60	1.85	0.58	1.46	0.20	T.	0.65	0.15	1.40	3.04	0.35	1.22	11.50
Corinne	4,232	1.70	1.78	2.66	0.34	0.17	0.15	0.58	T.	1.36	1.49	0.67	0.29	11.19
Croyden	5,251	.....	.....	.....	1.50	0.80	0.16	0.40	T.	0.90	.....	.....	.....	.....
Farmington	4,261	2.35	1.83	2.42	1.86	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ferron	.....	.....	.....	.....	.....	0.15	0.03	0.48	0.40	3.03	1.11	0.05	1.10	.....
Fillmore	5,700	2.15	2.17	2.89	1.26	0.03	0.26	0.19	0.31	1.50	3.59	1.15	1.55	17.05
Fort Du Chesne	4,941	0.87	0.90	0.28	0.01	0.16	0.02	0.17	0.21	4.61	3.00	0.00	1.20	11.43
Frisco	.....	.....	0.30	0.44	T.	0.20	0.11	0.16	0.19	1.21	1.50	0.45	1.00	.....
Giles	4,000	1.10	0.89	0.24	1.57	0.24	T.	0.43	0.69	1.02	3.20	0.55	0.23	10.16
Grover	5,800	3.80	1.60	1.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Heber	5,440	1.30	4.10	2.90	0.90	0.70	0.38	0.56	0.49	3.14	1.50	1.00	.....	.....
Huntsville	.....	1.48	5.94	2.91	.....	.....	.....	0.77	.....	0.17	1.38	1.53	2.80	.....
Koosharem	6,800	.....	.....	1.07	0.75	0.59	.....	.....	.....	.....	.....	.....	.....	.....
Levan	5,010	1.95	1.88	2.22	1.05	0.85	0.41	0.28	0.14	1.84	3.29	1.23	1.65	16.79
Loa	7,000	1.05	1.80	0.69	1.05	0.71	0.22	0.49	1.39	2.00	1.83	0.27	0.06	11.56
Logan	4,507	0.90	2.33	2.84	1.74	0.56	0.56	0.71	0.25	1.28	2.62	2.44	1.22	17.45
Mammoth	6,033	2.02	5.90	1.28	0.14	0.18	.....	.....	.....	.....	.....	.....	.....	.....
Manti	5,548	2.90	2.40	2.05	0.10	T.	0.18	0.28	0.14	2.85	.....	.....	.....	.....
Millville	.....	1.10	2.51	3.39	.....	0.49	0.66	0.74	0.47	1.70	2.66	1.84	1.03	.....
Minersville	.....	.....	1.75	2.40	0.16	0.28	0.03	0.91	0.49	2.07	1.57	0.49	1.52	.....
Moab	4,000	1.22	2.12	2.43	0.72	0.38	0.14	0.80	0.60	1.46	2.52	0.48	1.65	14.52
Mount Pleasant	6,300	1.30	3.10	2.82	0.10	0.58	0.39	0.59	0.05	2.66	2.30	0.75	1.90	16.54
Ogden[4]	4,307	.....	2.85	.....	1.70	0.30	0.98	T.	0.00	0.55	1.93	1.51	2.25	.....
Ogden[5]	4,307	1.80	.....	2.37	1.47	0.35	.....	0.47	0.00	0.88	2.13	1.37	1.89	.....
Pahreah	4,000	.....	.....	.....	3.25	0.50	0.00	1.70	1.00	2.20	1.10	0.04	0.50	.....
Park City	6,852	1.70	5.39	8.00	1.50	0.08	0.39	0.15	0.15	0.28	0.28	.....	.....	.....
Parowan	5,970	1.50	3.45	3.76	0.95	0.51	0.02	0.79	1.56	1.84	2.48	0.73	0.88	18.47
Pinto	.....	.....	3.05	4.11	0.78	0.52	0.05	0.90	0.89	2.17	3.76	0.40	1.16	.....
Promontory	4,905	.....	1.30	0.50	0.70	1.33	0.00	0.25	0.10	0.34	2.36	0.90	0.55	.....
Provo	4,525	1.20	.....	2.60	.....	.....	.....	.....	.....	.....	.....	.....	1.04	.....
Richfield	.....	1.00	1.85	1.95	0.12	0.06	0.00	0.04	0.25	1.45	1.59	.....	0.40	.....
St. George	2,800	2.66	2.35	1.05	0.08	0.15	0.00	0.28	0.45	1.00	1.21	0.30	0.45	.....
*Salt Lake City	4,345	1.16	3.81	2.20	2.00	0.98	0.52	0.69	0.33	0.48	1.91	1.19	1.47	16.74
Scipio	5,260	2.60	2.61	3.26	1.26	0.73	0.21	0.42	0.38	1.39	3.34	1.55	1.49	19.24
Snowville	4,360	1.00	0.95	0.84	0.90	0.33	0.26	0.27	0.00	0.60	3.30	0.90	0.70	10.05
Soldier Summit	7,477	1.82	2.80	5.23	0.67	0.10	0.12	0.02	0.06	2.45	0.65	1.34	2.50	17.76

[1] G. A. Duerler, jr.
[2] W. G. Jones.
[3] Cotton region observer.
[4] Pacific Railway system.
[5] W. W. Crossman.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Utah—Continued.														
	Feet.													
Terrace	4,544	.....	.....	.....	.....	0.01	0.00	0.02	0.00	1.50	.....	0.10	0.15	.....
Thistle	5,050	1.65	2.05	3.00	.....	.....	0.77	0.58	0.66	2.19	.....	.....	1.35	.....
Tooele	4,900	1.15	1.95	1.68	0.91	0.36	0.16	0.91	0.51	0.18	2.92	1.83	1.93	14.49
Tropic	.....	.....	.....	1.30	.....	0.92	0.26	.....	.....	3.77	1.50	.....	.....	.....
Vernal	5,050	0.96	1.11	0.86	0.58	0.62	0.23	1.08	0.26	2.83	2.34	0.42	1.20	12.49
Woodruff	.....	0.20	1.70	2.00	0.20	0.10	0.00	0.20	0.40	.....	.....	.....	.....	.....
Vermont.														
Bennington	641	2.01	2.14	2.57	3.22	4.98	6.33	10.03	2.61	1.94	1.39	6.13	4.93	48.28
Brattleboro	335	2.93	1.99	2.81	2.31	2.91	4.85	12.09	2.93	1.91	1.48	7.52	6.93	50.66
Burlington	220	2.50	1.08	2.49	4.01	5.00	5.63	8.48	4.08	2.13	1.53	4.41	2.10	43.44
Chelsea	1,350	3.58	1.90	3.96	2.91	5.02	4.49	10.60	4.08	1.37	0.89	5.91	3.35	48.06
Cornwall	.....	2.22	1.04	2.01	3.50	4.26	4.92	8.71	3.23	1.65	1.58	5.41	3.41	41.94
Enosburg Falls	436	3.45	1.25	2.47	3.91	5.50	3.46	12.73	2.77	2.02	0.82	4.63	3.93	46.94
Hartland	665	3.39	2.09	3.36	3.25	6.01	6.51	7.20	2.32	1.87	1.38	6.78	4.41	48.57
Jacksonville	1,000	3.78	4.50	5.80	3.33	3.97	5.80	10.31	2.90	2.42	1.56	9.24	7.23	60.84
*Northfield	871	3.46	1.53	2.73	2.73	3.46	3.77	8.04	2.71	1.43	1.16	4.86	3.26	39.14
St. Johnsbury	711	2.15	1.80	2.68	2.84	4.33	6.02	6.40	3.99	2.17	1.17	5.19	3.90	42.64
Strafford	500	3.15	1.95	3.15	3.05	5.52	5.25	6.85	6.32	1.25	1.00	5.35	.....	.....
Vernon	310	3.71	2.18	3.68	2.68	3.49	5.96	13.65	2.98	2.13	1.75	7.41	7.36	56.98
Wells	750	3.41	1.55	3.88	3.19	5.60	5.26	10.07	5.74	2.38	1.28	6.59	3.33	52.28
Woodstock	700	3.76	2.09	3.21	3.63	5.54	6.23	6.04	1.61	1.99	1.06	5.57	3.54	44.27
Virginia.														
Alexandria	30	1.83	5.23	2.58	2.68	6.71	3.43	4.65	2.73	1.53	3.39	3.44	3.43	41.63
Ashland	220	1.52	6.26	4.56	2.82	3.01	3.64	4.93	2.28	0.80	6.93	3.47	2.67	42.89
Barboursville	.....	1.76	5.56	2.71	2.06	6.04	3.63	4.50	1.08	0.80	4.56	2.16	3.92	38.78
Bedford City	900	.....	.....	3.10	1.50	3.70	3.68	1.70	0.87	1.00	3.63	2.52	3.55	.....
Bigstone Gap	1,966	3.11	8.25	9.82	4.61	3.95	3.62	6.78	2.85	0.99	0.60	1.31	4.77	50.66
Birdsnest	40	1.80	5.00	4.95	1.65	4.65	3.25	6.45	3.65	0.65	7.10	2.05	3.60	44.80
Blacksburg	2,100	1.65	6.93	3.87	1.69	4.23	2.34	6.17	3.49	1.19	3.54	1.34	3.67	40.11
Buckingham	550	0.92	6.70	3.56	2.95	3.02	1.90	2.92	0.73	1.05	4.72	3.47	2.77	34.71
Burkes Garden	258	1.16	7.74	5.55	1.97	3.89	3.80	4.61	3.22	1.15	1.44	2.50	4.81	41.84
Callaville	570	1.95	6.38	5.88	2.05	3.25	0.99	5.03	2.52	1.67	5.09	3.19	2.45	40.45
*Cape Henry	20	0.92	3.98	4.01	1.47	5.32	2.09	5.63	1.53	0.32	7.11	2.02	3.57	37.97
Christiansburg	2,160	1.59	6.80	3.62	1.76	2.88	2.04	4.34	3.23	2.13	3.88	0.81	3.66	36.74
*Clarksville	.....	.....	.....	4.58	2.85	4.59	2.68	.....	1.16	0.25	1.15	1.03	2.45	.....
Clifton Forge	1,047	2.35	5.19	3.35	1.13	4.46	3.83	3.78	4.32	0.46	2.87	2.64	3.54	37.92
Dale Enterprise	1,350	1.56	5.64	2.40	1.70	5.37	2.88	4.15	0.68	0.43	2.55	2.40	3.23	32.99
*Danville	413	.....	.....	4.13	2.23	4.83	2.08	5.57	5.17	.....	.....	.....	.....	.....
Doswell	.....	3.15	.....	4.10	1.90	2.70	2.38	2.09	2.40	0.70	5.60	2.57	2.80	.....
Dwale	.....	.....	.....	.....	.....	.....	.....	4.09	3.24	0.76	.....	0.70	2.90	.....
Farmville	316	.....	.....	4.20	1.01	3.65	3.85	6.93	0.33	T.	4.83	1.50	1.91	.....
Fredericksburg	47	1.70	6.40	3.02	2.31	4.59	3.63	5.04	2.04	0.68	5.25	1.99	3.17	39.82
Grahams Forge	2,387	1.80	9.19	3.81	1.47	2.78	4.14	4.75	3.62	0.92	3.41	1.34	4.39	41.62
Hampton	3	1.87	4.94	4.70	3.11	5.00	2.43	3.27	2.42	0.78	7.84	2.36	3.27	41.99
Hot Springs	2,195	2.15	6.96	2.89	1.21	5.73	3.52	3.26	1.08	0.63	2.11	2.02	3.98	35.54
Leesburg	321	.....	.....	2.34	2.23	3.26	.....	2.04	1.46	1.19	1.75	2.94	2.42	.....
Lexington	946	1.76	5.79	3.44	1.58	4.63	3.33	3.99	3.03	1.09	2.56	2.44	3.42	37.06
*Lynchburg	685	2.19	7.84	3.46	2.08	4.27	2.70	6.75	0.94	1.12	3.12	2.24	3.37	40.08
Maidens	.....	1.65	5.91	2.50	2.08	2.16	1.75	3.72	1.04	0.60	8.81	3.06	2.36	35.64
Manassas	317	5.00	6.49	2.99	2.09	4.95	7.19	4.14	3.29	0.80	2.42	4.34	3.33	47.03
Marion	2,124	2.40	9.71	7.46	1.57	3.56	5.83	4.97	4.63	1.35	1.50	1.55	4.08	48.61
Monterey	3,008	1.33	5.21	3.82	1.65	7.04	3.25	4.23	1.60	1.20	.....	4.10	3.38	.....
*Norfolk	57	1.47	4.03	4.38	1.51	5.36	1.98	4.42	2.08	2.01	8.70	2.84	3.88	42.66
Nottoway	421	2.20	.....	.....	.....	.....	.....	.....	1.25	0.75	6.05	4.06	3.21	.....
Petersburg	11	1.96	5.85	5.71	2.52	3.40	2.19	2.72	1.20	1.69	4.88	2.78	2.66	37.56
*Radford	1,773	1.13	6.17	3.75	1.54	2.89	2.13	.....	.....	.....	.....	.....	.....	.....
*Richmond	84	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.54	3.07	2.63	.....
Richmond (near)	96	1.90	6.27	5.00	2.62	2.46	2.11	3.74	1.73	0.86	6.62	4.37	4.01	41.69
Rockymount	33	2.21	9.25	3.51	2.34	5.03	1.09	1.91	2.65	1.02	3.75	2.22	3.80	38.78
*Salem	1,200	1.69	7.56	3.73	1.56	4.03	1.31	3.64	1.76	2.56	4.17	1.25	3.82	37.08
Saltville	1,739	1.67	6.47	7.13	2.14	3.08	4.07	.....	.....	.....	.....	.....	.....	.....
Smithville	1,150	1.87	4.72	3.56	1.70	5.67	.....	.....	.....	.....	.....	.....	.....	.....
*Speers Ferry	.....	2.28	9.48	9.85	.....	.....	.....	6.33	3.76	0.47	0.93	1.27	5.22	.....
Spottsville	15	2.06	6.82	6.97	2.06	5.28	0.71	3.99	2.91	2.03	9.64	3.25	3.23	48.95
Stanardsville	.....	1.88	5.08	2.51	1.86	4.45	3.51	7.70	2.27	0.65	3.81	2.68	4.40	40.80
Starleyton	1,064	0.90	7.73	2.11	1.98	.....	.....	.....	.....	.....	.....	.....	.....	.....
Staunton	1,380	0.92	3.99	2.56	1.56	5.75	2.18	3.70	2.30	0.73	2.84	2.14	3.31	31.98
*Stephens City	.....	1.85	6.89	1.70	2.30	4.48	4.16	4.49	3.32	1.43	2.05	3.79	3.87	40.33
Sunbeam	60	2.22	5.60	5.67	3.86	4.06	1.23	4.13	3.04	1.02	7.30	2.84	3.40	44.37
Swords Creek	.....	.....	7.33	5.77	1.28	4.08	2.99	6.81	2.44	0.30	0.34	.....	.....	.....
Warrenton	265	.....	.....	1.95	2.06	4.65	3.54	4.00	1.78	0.86	3.85	2.84	2.80	.....
Warsaw	200	1.99	6.26	3.74	1.71	3.51	4.14	3.54	5.62	0.54	6.41	2.65	2.94	43.05
*Woodstock	927	1.46	7.65	1.81	2.30	5.41	3.37	4.38	2.74	1.38	2.94	2.20	3.72	39.36
Wytheville	2,370	1.43	9.37	4.69	1.72	3.26	1.98	3.72	4.13	0.92	2.08	1.26	4.13	38.69
Washington.														
Aberdeen	.....	.....	.....	10.61	3.40	2.90	4.76	1.76	1.08	1.77	4.27	16.91	18.66	.....
Anacortes	75	.....	.....	3.24	1.24	2.44	1.48	1.19	0.86	1.55	2.37	5.01	5.67	.....
Ashford	1,775	5.93	8.24	7.26	3.24	3.42	3.08	3.06	0.95	2.62	3.76	19.19	17.31	78.06
Blaine	85	4.54	4.72	3.52	2.74	4.33	3.28	1.63	0.60	2.21	1.60	7.01	7.69	43.87
Bridgeport	.....	.....	.....	.....	0.25	0.10	0.80	.....	.....	.....	.....	.....	1.70	.....
Cascade Tunnel	3,350	.....	11.20	16.90	1.05	.....	.....	0.49	.....	.....	.....	.....	17.43	.....
Centerville	1,509	1.05	2.77	1.99	0.38	0.29	0.43	0.40	0.07	1.01	0.49	3.11	4.74	16.73
Chehalis	204	3.27	6.03	5.80	1.54	1.42	2.58	0.84	0.47	2.00	2.12	11.68	14.27	52.02
Clearwater	.....	16.56	.....	.....	.....	.....	.....	.....	.....	3.15	7.40	23.85	23.66	.....
Colfax	1,974	2.07	3.45	3.46	1.64	1.93	2.82	1.16	0.32	2.25	0.61	5.93	3.92	29.56

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept	Oct.	Nov.	Dec.	Annual.
Washington—Continued.	*Feet.*													
Coupeville	2	2.79	1.82	3.49	0.88	2.18	0.84	1.46	0.85	1.37	1.80	4.42	3.97	25.87
Dayton	1,606	.....	2.32	1.92	1.60	0.48	2.94	.....	0.49	1.55	0.07	[c]3.90	2.76	.....
Eastsound	50	2.85	[b]1.32	2.10	1.37	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ellensburg	1,577	1.62	1.93	0.15	0.08	0.42	0.80	0.17	.....	0.19	0.47	3.92	2.93	.....
Ellensburg (near)	1,700	1.05	1.55	0.25	0.10	0.25	0.50	0.27	T.	0.02	0.27	4.93	5.40	14.59
Elma	.....	.....	3.75	4.95	1.98	0.58	.....	.....	.....	.....	.....	.....	.....	.....
*Fort Canby	179	9.58	10.24	9.15	2.88	1.85	3.98	1.21	1.04	3.63	2.49	14.99	14.11	75.15
Fort Simcoe	.....	0.78	1.76	0.69	0.09	0.32	1.15	T.	0.00	0.48	1.39	5.47	4.75	16.88
Fort Spokane	1,400	1.56	1.78	1.78	0.59	0.70	2.55	1.05	0.65	1.17	0.42	5.10	2.12	19.47
Grandmound	162	4.84	6.78	6.74	2.42	1.02	1.54	0.93	0.48	2.00	1.91	13.18	16.59	58.43
Hunters	.....	1.11	1.78	2.52	1.16	[c]1.19	4.01	2.87	0.54	1.11	0.35	4.20	2.52	23.36
Kennewick	350	1.30	1.00	0.30	0.11	0.55	0.50	0.63	0.07	0.54	0.12	3.38	1.21	9.71
La Center	.....	3.67	9.77	6.14	2.48	0.71	2.69	0.50	0.79	3.44	3.16	13.78	12.09	59.22
Lakeside	985	1.98	2.80	0.81	0.54	1.30	1.25	0.88	0.15	0.11	0.74	2.93	3.37	16.86
Lapush	.....	11.40	9.75	12.32	5.59	3.42	2.77	.....	3.06	3.27	4.55	14.26	.....	.....
Lind	1,363	.....	.....	.....	.....	.....	1.58	0.66	0.03	0.23	0.28	.....	1.64	.....
Loomis	1,200	0.68	0.85	0.89	0.69	0.67	2.32	0.88	0.23	0.75	0.62	0.85	1.48	10.91
Madrone	75	4.34	3.35	3.59	1.25	1.04	1.79	2.45	0.28	2.04	1.59	9.05	13.92	44.69
Mayfield	300	5.16	9.46	7.94	3.59	2.34	3.15	1.84	0.75	3.95	2.66	14.37	12.83	68.04
Moxee Valley	1,000	0.89	0.85	0.25	0.03	0.26	0.68	0.13	0.05	0.43	0.47	3.11	2.07	9.22
New Whatcom	60	3.13	2.70	3.07	1.33	.....	2.53	1.39	0.50	2.49	1.31	5.74	6.07	.....
Northbend	.....	10.07	10.05	7.65	5.40	3.86	5.33	3.84	.....	.....	.....	[d]22.07	22.62	.....
Olga	50	2.75	2.58	2.47	1.65	2.29	1.29	1.38	0.64	2.87	1.15	4.92	7.32	31.31
Olympia	36	5.81	6.58	6.29	1.28	1.02	1.49	0.89	0.36	2.62	1.55	13.01	17.60	58.50
Pine Hill	600	2.16	4.97	3.61	0.50	0.52	0.89	0.28	0.10	0.92	0.57	6.34	7.82	28.68
Pomeroy	1,900	1.70	2.83	3.54	0.91	1.48	4.38	0.47	0.10	2.07	0.30	4.74	2.54	25.06
*Port Angeles	29	1.77	2.19	2.40	0.48	0.63	1.16	0.88	0.28	1.32	1.13	6.03	9.85	28.12
Port Townsend	.....	.....	.....	.....	.....	.....	.....	1.30	0.78	1.30	1.27	2.99	3.66	.....
Pullman	2,550	2.12	3.05	3.95	1.22	1.35	2.34	0.59	0.54	1.86	0.74	5.28	3.74	26.78
*Pysht	.....	8.31	5.94	7.86	2.75	1.88	1.87	0.90	1.36	1.54	2.55	14.37	18.98	68.31
Rosalia	2,300	1.34	2.32	2.19	1.24	1.43	3.16	1.18	0.31	2.08	0.24	6.52	3.90	25.91
*Seattle	119	3.74	2.99	3.05	1.53	1.30	1.67	2.36	0.24	2.04	1.92	8.89	11.80	41.53
Sedro	38	4.91	4.48	5.32	1.99	1.89	3.12	3.86	0.53	2.01	2.24	9.86	5.90	46.11
Silvercreek	.....	4.64	8.64	8.07	2.29	2.49	3.90	2.37	.....	.....	.....	.....	.....	.....
Snohomish	50	3.40	3.69	4.94	1.95	2.51	3.55	4.00	0.28	7.90	3.42	9.68	10.58	55.90
Southbend	6	9.48	10.30	11.24	3.61	2.58	3.77	2.19	0.86	2.65	3.43	18.68	20.70	89.49
*Spokane	1,930	1.56	2.53	2.50	0.60	1.05	3.51	0.98	0.37	1.57	0.27	5.85	3.05	23.84
Stampede	2,746	.....	9.20	12.65	.....	.....	3.93	.....	0.34	1.86	3.16	13.15	12.09	.....
Stillaguamish	35	3.87	5.15	6.31	2.08	3.04	1.55	2.92	0.74	.....	2.60	.....	.....	.....
Sunnyside	764	0.83	0.88	0.25	T.	0.20	0.30	0.47	0.21	0.21	0.11	3.03	1.61	8.10
*Tacoma	31	6.92	5.19	4.73	1.64	1.46	1.54	0.87	0.58	1.41	1.63	12.31	14.48	52.76
*Tatoosh Island	86	12.20	11.16	11.31	7.61	3.45	3.37	3.11	2.66	2.16	2.91	17.77	17.50	95.21
Union City	10	9.56	7.83	7.75	2.25	1.16	2.49	1.08	0.54	3.16	2.25	19.41	29.20	86.68
Vashon	110	6.47	5.51	5.07	1.59	1.39	2.62	1.10	0.37	2.17	1.78	12.35	15.17	55.59
*Walla Walla	1,018	1.85	2.61	2.38	1.75	1.05	1.51	0.84	0.42	1.44	0.23	5.15	2.44	21.67
Waterville	2,500	2.94	2.70	1.60	0.50	1.11	0.58	0.85	0.04	0.44	0.96	2.85	4.08	18.65
West Ferndale	.....	2.91	3.44	.....	2.04	7.51	4.03	2.00	.....	.....	.....	.....	.....	.....
West Virginia.														
Beckley	2,300	1.25	4.94	2.17	.....	1.52	2.11	.....	0.77	0.00	.....	0.30	2.43	.....
Beverly	2,250	2.85	8.23	2.73	2.79	5.01	5.24	9.92	4.15	2.15	0.52	5.21	6.03	54.83
Bloomery	700	1.27	5.41	1.90	1.64	4.67	.....	.....	.....	.....	.....	.....	.....	.....
Bluefield	2,563	1.78	6.28	4.74	1.58	4.43	4.39	6.78	2.34	0.62	0.65	1.42	3.50	38.51
*Buckhannon	1,500	1.79	6.10	4.36	3.37	5.05	6.42	4.94	2.49	2.79	0.25	6.19	6.76	50.41
Burlington	800	1.21	6.43	1.43	2.03	5.06	1.31	4.16	1.69	1.67	0.85	3.84	3.27	32.95
Charleston	598	2.03	5.90	3.80	2.84	5.04	5.36	4.62	3.23	0.59	0.07	4.07	3.97	41.52
Dayton	925	1.85	4.65	3.21	3.22	3.54	4.07	7.03	3.59	0.49	0.31	3.78	4.87	40.61
Eastbank	.....	.....	.....	.....	.....	.....	.....	.....	1.28	0.52	0.15	2.96	6.05	.....
Elkhorn	1,885	1.46	6.74	6.52	1.85	5.58	5.87	7.20	3.06	1.19	0.53	0.92	4.48	45.40
*Fairmont	888	1.94	5.47	3.32	3.42	4.46	3.83	3.38	2.60	0.62	0.12	6.35	4.63	40.14
Glenville	738	1.58	7.49	3.57	3.36	5.31	6.40	8.93	3.36	1.61	0.15	6.00	4.53	52.29
Grafton	985	2.21	5.27	3.43	3.10	4.81	5.15	6.24	2.82	0.65	0.32	4.89	4.96	43.85
Green Sulphur	1,600	1.10	7.21	3.92	1.76	3.05	4.62	4.98	0.85	0.02	0.29	1.04	2.88	31.72
Harpers Ferry	277	1.44	5.76	3.12	2.14	5.67	3.20	4.12	4.50	1.57	2.27	5.56	3.90	43.25
Hewett	858	1.80	7.17	4.56	2.84	5.67	3.48	7.46	3.15	0.55	.....	.....	.....	.....
*Hinton	1,372	1.55	7.08	4.59	2.03	3.56	3.42	5.03	2.55	0.34	0.76	1.00	3.76	35.67
Huntington	566	.....	.....	.....	3.70	4.03	3.29	6.04	4.67	.....	0.12	5.02	2.69	.....
Kingwood	.....	1.92	5.94	3.97	3.89	5.37	3.60	5.35	5.02	0.85	0.62	7.15	5.60	49.28
Marlinton	.....	2.17	5.88	5.21	2.85	7.06	5.59	5.65	2.74	0.80	0.95	4.08	4.64	47.62
Martinsburg	435	1.05	4.90	2.63	2.20	5.00	3.18	2.85	2.78	1.80	1.15	4.70	3.10	35.34
Morgantown[1]	963	1.56	4.90	2.97	3.36	4.34	5.09	.....	.....	.....	.....	.....	.....	.....
Morgantown[2]	963	2.35	3.94	3.88	3.80	4.91	5.77	5.55	3.04	1.23	0.29	5.24	2.77	42.77
New Martinsville	.....	1.48	5.91	3.32	3.79	3.21	4.16	7.33	1.89	0.55	0.18	6.69	4.39	42.90
Nuttallburg	.....	1.50	6.80	4.60	2.00	4.05	4.15	8.20	1.85	0.80	.....	.....	4.65	.....
Oldfields	800	1.15	7.60	1.39	1.91	5.24	1.94	2.97	2.95	1.20	1.16	2.93	2.52	32.96
*Parkersburg	638	1.76	7.04	3.99	3.56	3.95	6.77	6.68	2.08	.46	0.07	4.57	2.85	43.78
Pennsboro	.....	1.88	5.85	3.68	3.40	.....	.....	.....	.....	.....	.....	.....	.....	.....
Philippi	1,192	2.09	7.29	3.99	7.10	5.66	7.89	5.80	5.75	4.00	1.50	.....	.....	.....
*Point Pleasant	553	1.89	8.18	3.32	3.77	4.45	5.46	5.07	4.82	1.40	0.40	6.40	3.42	48.58
Powellton	904	.....	[e]4.61	3.21	.....	4.43	6.63	6.34	3.11	0.61	0.10	2.99	4.33	.....
Romney	.....	1.37	6.03	1.79	1.70	4.66	2.45	3.68	2.06	2.35	0.90	4.56	2.49	34.04
*Rowlesburg	1,402	2.20	5.08	4.29	4.07	3.60	4.57	4.47	4.52	1.95	0.65	6.70	7.24	49.34
Uppertract	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.09	0.93	.....	2.05	.....
*Weston	824	2.36	6.40	3.92	3.28	.....	5.34	.....	.....	1.64	0.10	6.71	5.26	.....
*Wheeling[1]	637	1.38	3.00	3.95	3.95	2.17	2.76	4.42	2.00	0.61	0.07	6.47	3.18	33.96
Wheeling[3]	637	1.21	3.85	4.27	4.31	4.58	3.22	5.69	2.14	0.85	0.07	6.93	3.79	40.91
White Sulphur Springs	2,000	0.90	7.07	4.91	1.77	6.80	6.55	6.59	5.93	0.45	.....	.....	.....	.....

[1] River observer. [2] West Virginia University. [3] Christian Schnepf.

MONTHLY AND ANNUAL PRECIPITATION (IN INCHES AND HUNDREDTHS) FOR 1897—Continued.

Stations.	Elevation.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Wisconsin.	*Feet.*													
Amherst	1,200	1.61	2.20	2.02	2.24	2.70	9.86	2.83	1.90	1.96	0.61	1.40	0.82	30.15
Antigo	1,489	.....	.....	[c]2.03	1.71	3.43	6.42	4.08	1.66	2.59	2.01	.....	.....	.....
Apollonia	.....	1.60	1.40	3.35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barron	1,111	2.03	1.75	2.60	1.86	2.17	6.23	5.54	1.25	2.93	1.85	0.29	.....	.....
Bayfield	600	2.00	0.80	1.60	1.05	2.07	4.41	8.21	3.39	2.86	1.67	1.06	1.20	30.32
Beloit	750	1.30	0.47	2.05	4.72	0.70	5.77	2.42	3.02	1.26	0.65	1.05	1.25	24.66
Brodhead	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.36	1.89	.....
Butternut	1,400	1.25	0.88	1.65	.....	.....	6.54	15.11	1.31	2.38	2.01	1.25	.....	.....
Chilton	900	0.82	0.68	1.40	2.98	1.47	4.69	2.03	0.97	3.90	1.65	1.86	1.87	24.32
Citypoint	973	1.79	1.43	2.01	1.90	5.27	5.70	1.20	5.25	2.47	0.55	1.16	0.75	29.48
Crandon	1,100	1.30	1.52	3.30	0.81	0.69	2.95	1.75	1.15	.....	3.93	1.62	.....	.....
Delavan	920	2.59	.....	2.97	4.87	1.02	4.85	2.32	1.53	1.11	0.95	1.74	1.35	.....
Dodgeville	1,116	2.29	0.78	2.88	3.70	1.00	6.70	2.48	3.69	1.43	1.24	1.77	1.92	29.88
Easton	1,073	1.45	0.58	1.39	2.86	1.71	4.10	3.50	2.40	1.47	0.79	1.40	0.56	22.21
Eau Claire	600	2.00	2.75	4.10	1.16	3.65	5.05	3.26	.....	.....	2.49	0.92	0.72	.....
Florence	1,264	1.72	1.15	.....	.....	.....	5.36	4.65	1.30	1.42	3.28	1.71	0.35	.....
Fond du Lac	800	1.66	0.99	2.05	2.61	1.25	4.99	2.19	2.25	3.34	2.05	2.23	1.40	27.01
Grand River Lock	.....	1.57	0.73	2.10	2.81	1.19	3.27	4.78	2.97	4.29	2.04	1.21	1.86	28.82
Grantsburg	1,100	1.35	1.28	2.70	0.75	2.00	7.93	9.67	2.00	3.65	1.70	1.04	0.35	34.42
Gratiot	1,016	2.30	1.00	3.20	.....	1.00	7.95	.....	0.55	2.75	0.30	0.60	2.55	.....
*Greenbay	616	1.69	1.69	2.52	4.09	2.40	7.56	3.92	1.79	3.21	2.50	1.56	1.20	34.13
Hartford	1,017	3.02	2.06	3.45	4.17	1.21	3.14	2.75	3.90	[c]1.06	[c]1.10	1.76	2.22	29.84
Hartland	.....	2.84	1.42	3.26	4.89	0.94	3.47	[f]2.54	3.11	1.74	1.13	1.31	1.97	28.62
Harvey	897	3.07	1.53	3.61	3.71	0.94	6.39	4.08	2.47	1.18	0.88	2.03	1.61	31.50
Hayward	1,197	1.94	2.28	3.39	0.31	2.34	5.81	.....	4.30	.....	3.06	1.32	0.41	.....
Hillsboro	.....	2.00	1.25	2.77	2.18	1.88	8.23	4.16	.....	1.19	0.48	1.52	1.86	.....
Hudson	718	1.65	0.46	1.61	1.59	2.11	.....	3.38	2.15	1.63	.....	.....	.....	.....
Koepenick	1,683	1.50	1.20	1.30	0.80	2.10	5.40	3.70	2.30	2.60	3.00	1.00	0.60	25.50
*La Crosse	720	1.66	1.39	1.61	1.86	1.59	4.75	1.50	3.47	1.64	0.30	0.75	0.80	21.32
Lancaster	1,070	1.87	0.45	1.31	4.19	2.11	7.90	2.08	1.06	3.84	1.14	1.32	1.05	28.32
Lincoln	817	2.04	1.75	2.10	3.41	3.27	8.20	3.52	0.68	1.98	2.21	1.64	1.25	32.05
*Madison	955	2.22	0.82	2.38	2.51	0.51	4.03	1.79	2.73	1.73	0.86	1.33	1.67	22.58
Manitowoc	616	2.26	1.11	2.25	3.46	1.41	3.27	2.46	1.37	3.32	2.30	1.98	1.39	26.58
Meadow Valley	974	1.61	1.18	2.04	1.75	2.46	3.57	2.37	4.51	2.03	0.74	1.08	1.10	24.44
Medford	1,420	1.02	0.66	2.15	1.34	1.45	8.12	5.27	2.59	1.90	2.45	0.35	0.40	27.70
Menasha	764	0.30	0.82	1.89	0.50	2.36	5.38	3.19	1.47	3.29	1.93	1.25	1.06	23.44
*Milwaukee	673	3.86	1.78	4.83	4.21	1.01	3.21	2.33	3.00	1.48	1.05	1.87	2.42	31.05
Neilleville	600	1.95	1.38	3.28	2.61	2.67	6.04	2.93	4.41	1.64	1.12	1.32	0.81	30.16
New Holstein	925	3.46	0.90	2.73	4.30	1.49	4.67	1.50	2.40	4.50	1.00	.....	.....	.....
New London	762	1.81	1.15	1.69	2.36	2.26	5.65	3.62	2.62	2.11	1.07	2.00	1.06	27.40
Oconto	590	1.32	1.30	2.56	2.80	2.08	4.41	4.49	2.07	2.07	1.61	2.29	1.07	28.07
Osceola	806	2.50	0.73	2.09	1.34	1.60	7.30	4.94	1.35	3.76	2.11	1.32	0.11	29.15
Oshkosh	744	0.19	1.11	2.35	2.52	1.28	3.91	3.64	2.93	3.70	.....	.....	0.71	.....
Pepin	691	1.34	0.90	2.55	1.40	1.27	3.39	4.73	3.47	1.32	1.22	0.60	0.44	22.63
Pine River	.....	1.66	0.87	2.06	2.04	1.39	4.55	2.89	2.31	1.75	1.06	1.73	1.03	23.34
Portage	809	1.43	0.64	1.93	2.49	0.56	6.48	3.51	3.89	2.38	2.04	1.08	1.61	28.04
Port Washington	717	3.33	1.20	4.85	3.92	1.28	3.10	3.56	1.37	0.72	1.34	1.69	1.81	28.17
*Prairie du Chien	690	2.78	1.11	1.73	2.44	1.32	5.10	4.68	0.80	6.58	0.42	0.96	1.47	29.39
Racine	633	3.25	0.84	4.01	3.96	0.87	3.41	1.93	2.47	1.29	0.56	1.92	1.35	25.86
Sharon	1,028	4.11	1.55	3.86	4.49	1.57	5.33	1.96	.....	1.14	0.79	1.54	1.07	.....
Shawano	800	1.76	1.53	2.53	2.42	2.15	5.05	3.68	1.25	1.56	1.06	1.29	0.99	25.27
Spooner	1,104	2.10	0.70	2.00	0.10	2.40	3.34	5.25	2.24	3.60	2.08	1.50	0.10	25.41
Stevens Point	1,113	1.51	0.91	1.73	2.12	2.39	6.76	2.34	1.72	2.26	0.60	1.17	1.02	24.53
Valley Junction	792	1.47	1.06	2.54	1.75	1.89	.....	2.26	3.10	2.59	0.41	1.25	0.91	.....
Viroqua	1,412	2.60	1.27	2.03	2.66	1.23	9.11	3.98	2.82	1.66	0.27	0.98	1.71	30.32
*Watertown	.....	4.08	1.35	2.70	4.34	1.17	5.61	3.93	2.66	1.01	1.24	1.56	2.69	32.34
Waukesha	970	2.73	1.03	3.28	4.10	1.01	3.14	3.20	3.02	1.35	1.11	1.25	1.58	26.80
Waupaca	857	1.08	0.95	2.07	2.27	2.49	8.88	2.24	1.40	2.03	0.69	1.64	0.77	26.51
Wausau	1,212	1.83	1.24	2.37	1.91	2.20	5.17	3.42	2.91	2.76	1.92	0.97	0.86	27.56
Wausaukee	745	2.10	1.08	2.48	3.40	1.93	.....	6.54	1.61	1.60	2.26	1.43	.....	.....
Westbend	910	3.68	1.23	4.24	4.54	1.10	3.37	2.09	1.91	2.02	0.96	1.54	1.43	28.11
Westfield	925	1.22	0.90	2.58	2.39	1.28	5.55	2.88	2.80	1.49	0.59	1.28	1.39	24.35
Whitehall	675	1.65	0.94	1.67	2.06	3.64	5.42	4.58	3.73	1.85	0.95	1.17	.....	.....
White Mound	.....	2.15	0.70	1.75	3.14	0.81	8.25	4.20	4.50	1.80	2.08	1.33	1.20	31.91
Wyoming.														
Atlantic City	7,850	.....	.....	.....	.....	.....	.....	2.26	1.41	.....	.....	0.20	1.42	.....
Bighorn Ranch	.....	0.14	0.79	0.60	0.51	0.77	1.37	1.09	0.79	0.82	1.94	0.35	0.75	9.92
Carbon	6,831	.....	.....	.....	0.74	1.46	1.08	1.20	0.61	0.22	1.25	0.12	1.14	.....
*Cheyenne	6,105	0.27	0.57	2.32	0.60	3.07	1.60	3.77	1.66	0.41	1.03	0.68	1.27	17.25
Fort Laramie	.....	0.29	0.38	2.17	1.03	1.23	2.03	0.99	2.06	1.14	1.02	0.63	0.78	13.75
Fort Washakie	.....	0.12	0.67	0.77	1.00	1.75	1.13	0.98	0.30	0.11	1.00	0.42	2.14	10.39
Fort Yellowstone	.....	1.12	0.83	1.08	1.21	1.55	2.34	1.11	0.57	0.31	1.72	2.98	0.80	15.62
Greenriver	6,089	.....	.....	.....	0.50	0.30	.....	.....	.....	.....	.....	0.65	0.90	.....
*Lander	5,377	0.23	1.11	1.38	1.14	1.25	0.85	1.21	1.04	0.15	1.12	0.44	1.29	11.21
Laramie	7,159	0.39	0.35	4.23	0.55	1.85	0.72	1.29	1.11	0.32	0.55	0.33	0.77	12.46
Lovell[1]	.....	.....	.....	.....	.....	0.85	1.12	0.58	0.01	0.08	1.18	0.29	0.11	.....
Lusk	5,007	0.59	T.	1.61	1.01	0.87	0.79	1.05	2.32	0.73	0.21	0.65	0.24	10.07
Sheridan	.....	0.40	0.75	2.28	1.25	0.49	1.73	0.16	1.10	0.20	0.99	0.73	0.60	10.68
Sundance	.....	2.00	2.30	1.90	1.67	1.57	4.19	1.98	2.48	0.43	0.72	1.53	1.30	22.07
Wamsutter	.....	.....	.....	.....	.....	.....	0.03	0.03	.....	T.	0.40	0.20	0.80	.....
Wheatland	4,747	0.30	0.15	1.10	0.62	0.87	1.63	0.93	2.60	T.	0.30	0.70	0.50	9.70

[1] Name of post-office changed from Strong, October 1, 1898.

MONTHLY AND SEASONAL SNOWFALL, 1897-98.

[Inches and tenths.]

Stations.	1897.				1898.					Annual.
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	
Alabama.										
Ashville				T.	T.	T.				T.
Bermuda						T.				T.
Birmingham				T.	(†)	(†)				
Decatur				T.		T.				T.
Florence				T.		T.				T.
Greensboro						T.				T.
Hamilton				T.		T.				T.
Jasper			T.	(†)		T.				
Livingston						T.				T.
Montgomery						T.				T.
Oneonto				T.	T.	T.				T.
Valleyhead				T.	1.0	T.				1.0
Arizona.										
Benson					5.0	0.0				5.0
Buckeye					0.0	0.0				0.0
Calabasas					3.5	0.0				3.5
Casa Grande					(†)	(†)				
Congress				6.8	4.0	0.0	T.			10.8
Flagstaff		3.0	0.0	15.0	54.0	4.5	28.7	0.5	9.0	114.7
Fort Apache				4.8	(†)	(†)	1.5	0.0	T.	
Fort Defiance		3.0	2.0	11.5	15.0	2.5	6.8	0.0	T.	40.8
Fort Grant				(†)	9.0	0.0				
Fort Mohave					0.0	0.0				0.0
Gilabend					0.0					0.0
Gisela				4.2	1.5	0.0				5.7
Holbrook				3.0	7.0	T.	5.5	0.0	T.	15.5
Jerome				11.7	10.2	0.0	T.	0.0	T.	21.9
Maricopa					0.0					0.0
Mount Huachuca		T.	0.0	2.0	33.2	0.0				35.2
Music Mountain				1.9	1.0	0.0				2.9
Parker					0.0					0.0
Phœnix					0.0					0.0
San Carlos					1.0					1.0
San Simon				(†)	7.5	0.0				
Signal					0.0					0.0
Snowflake				5.8	14.8	T.	1.2	0.0		21.8
Strawberry		T.	T.	12.5	22.3	3.7	4.5	0.0	1.0	44.0
Texas Hill					(†)					
Tucson					6.0	0.0				6.0
Whipple Barracks				3.2	11.4	0.0				14.6
Whitehills				T.	1.0	0.0	T.			1.0
Williams		6.0	T.	1.5	30.0	3.0	9.0	T.		49.5
Willcox				0.7	4.0	0.0				4.7
Arkansas.										
Amity				0.5	0.0	T.				0.5
Beebranch				8.0	0.0					8.0
Blanchard				T.	0.0					T.
Brinkley				T.	0.0					T.
Camden				2.0	0.0					2.0
Canton				(†)	(†)	T.				
Conway				10.0	0.0					10.0
Corning						T.	T.			T.
Dallas				5.0	0.0					5.0
Fayetteville				1.0	T.	0.0	1.0			2.0
Fort Smith				2.2	0.0	0.0	0.6	4.2		7.0
Hardy				0.8	0.0	T.				0.8
Helena				1.0	0.0	T.				1.0
Hot Springs				1.7						1.7
Jonesboro				(†)						
Keesees Ferry				0.8	0.0	T.	1.0			1.8
Little Rock				4.0						4.0
Lutherville				(†)						
Malvern				1.0						1.0
Marianna				(†)						
New Gascony				1.5						1.5
Newport				5.5	0.0					5.5
Texarkana				(†)						

† May have been snow of which no measurement was made.

MONTHLY AND SEASONAL SNOWFALL, 1897-98—Continued.

Stations.	1897.				1898.					Annual.
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	
California.										
Bishop	.....	.....	.....	1.0	0.5	0.0	T.	T.	.....	1.5
Boca	.....	3.0	5.0	15.0	15.0	(†)	25.0	12.0	3.5	.....
Bodie	.....	7.5	7.0	(†)	6.0	6.0	12.0	3.0	5.0	.....
Bowmans Dam	.....	7.0	7.0	13.0	26.0	60.0	13.0	10.0	.....	136.0
Cedarville	.....	T.	7.0	5.0	12.0	6.0	5.0	3.0	.....	38.0
Chico	.....	.....	.....	.....	0.2	0.0	.....	.....	.....	0.2
Crescent City	.....	.....	.....	.....	T.	0.0	T.	0.0	.....	T.
Delta	.....	.....	.....	(†)	.....	.....	.....	.....	.....	.....
Descanso	.....	.....	.....	5.0	17.0	0.0	5.5	0.0	.....	27.5
Edmanton	.....	6.0	10.0	18.0	12.0	28.0	13.0	7.0	.....	94.0
Elsinore	.....	.....	.....	.....	(†)	.....	.....	.....	.....	.....
Escondido	.....	.....	.....	.....	T.	.....	.....	.....	.....	T.
Georgetown	.....	.....	.....	T.	2.5	0.0	.....	.....	.....	2.5
Keene	.....	.....	.....	1.0	0.0	0.0	T.	.....	.....	1.0
La Porte	.....	19.5	6.0	16.0	25.5	61.5	16.0	11.5	3.5	159.5
Lemoore	.....	.....	.....	.....	8.0	0.0	.....	.....	.....	8.0
Lodi	.....	.....	.....	.....	T.	0.0	.....	.....	.....	T.
Los Angeles	.....	.....	.....	.....	2.8	T.	.....	.....	.....	2.8
Mohave	.....	.....	.....	.....	6.0	0.0	.....	.....	.....	6.0
Needles	.....	.....	.....	.....	4.0	0.0	.....	.....	.....	4.0
Newhall	.....	.....	.....	.....	2.0	0.0	.....	.....	.....	2.0
Peachland	.....	.....	.....	.....	1.0	0.0	.....	.....	.....	1.0
Red Bluff	.....	.....	.....	.....	0.5	.....	.....	.....	.....	0.5
Rosewood	.....	.....	.....	.....	1.5	0.0	.....	.....	.....	1.5
Sacramento	.....	.....	.....	.....	T.	.....	.....	.....	.....	T.
San Francisco	.....	.....	.....	.....	.....	.....	T.	.....	.....	T.
Summerdale	.....	1.0	4.0	14.0	18.0	9.0	27.0	2.0	7.0	82.0
Susanville	.....	2.0	1.0	0.0	6.5	12.5	4.0	1.0	.....	27.0
Truckee	.....	5.5	4.0	19.5	10.5	34.0	20.5	2.5	3.0	99.5
Yreka	.....	.....	T.	0.0	(†)	0.0	5.5	0.0	.....	.....
Colorado.										
Antlers	.....	.....	.....	15.0	7.5	2.0	4.0	0.0	.....	28.5
Boulder	.....	8.7	5.5	9.0	7.0	4.2	7.5	8.2	13.0	63.1
Breckenridge	.....	10.2	6.0	22.5	4.4	7.2	16.2	18.2	1.8	86.5
Castlerock	.....	26.0	(†)	12.3	(†)	(†)	4.0	9.0	13.5	.....
Cheyenne Wells	T.	3.0	1.0	2.0	2.5	0.0	2.0	1.0	4.0	15.5
Colorado Springs	.....	4.2	3.4	1.4	3.1	3.2	4.9	2.8	14.4	37.4
Crook	.....	.....	1.5	6.5	4.2	0.8	3.5	1.5	.....	18.0
Delta	.....	.....	T.	(†)	2.5	1.5	T.	0.0	.....	.....
Denver	.....	16.4	3.3	8.3	3.0	6.8	2.6	8.9	15.5	64.8
Fort Collins	.....	4.0	0.0	5.5	1.4	0.8	5.2	1.0	13.0	30.9
Fort Morgan	.....	13.2	2.0	2.6	0.0	T.	T.	0.0	14.0	31.8
Grand Junction	.....	.....	.....	5.5	7.0	T.	5.5	0.0	.....	18.0
Gulch	.....	8.0	11.0	10.0	9.0	7.5	(†)	0.0	8.0	.....
Gunnison	.....	4.0	(†)	3.0	3.8	3.2	(†)	(†)	.....	.....
Hoehne	.....	1.0	0.0	1.0	7.5	(†)	(†)	7.0	14.0	.....
Hugo	.....	10.0	0.0	6.0	T.	0.0	4.5	6.0	.....	26.5
Lake Moraine	5.5	34.0	10.0	7.0	12.0	6.0	29.8	21.8	34.0	160.1
Lamar	.....	3.0	0.5	0.8	10.0	0.0	10.0	T.	.....	24.3
Las Animas	.....	3.0	0.0	(†)	6.0	0.0	6.0	0.0	4.0	.....
Leadville	.....	15.5	6.5	14.6	2.8	9.8	13.3	23.5	12.8	98.8
Meeker	.....	.....	10.3	27.7	10.2	4.8	8.5	0.0	3.0	64.5
Millbrook	.....	40.0	(†)	18.5	12.5	10.0	15.5	T.	(†)	.....
Minneapolis	.....	.....	.....	1.0	6.0	0.5	4.0	2.0	(†)	.....
Pagoda	.....	T.	11.0	30.0	17.5	8.0	16.5	0.0	.....	83.0
Parachute	.....	.....	0.5	(†)	3.0	0.0	8.0	(†)	.....	.....
Pueblo	.....	0.5	0.3	2.1	7.6	0.4	3.9	0.3	3.0	18.1
Rangely	.....	5.5	2.5	9.7	6.0	6.0	5.5	0.0	.....	35.2
Rockyford	.....	4.0	0.5	6.8	3.4	0.0	1.0	1.0	4.0	20.7
Saguache	.....	2.0	1.0	4.0	4.1	1.0	1.0	0.3	.....	13.4
Salida	.....	23.5	0.0	7.8	7.5	10.0	6.2	T.	15.0	70.0
San Luis	.....	3.5	0.0	14.5	12.0	0.5	6.0	(†)	12.2	.....
Walden	.....	1.8	4.5	5.0	3.0	2.5	18.5	10.1	5.5	50.9
Wray	.....	7.0	1.0	2.5	0.5	0.8	4.5	1.0	5.0	22.3
Connecticut.										
Hartford	.....	.....	4.0	(†)	12.2	7.0	3.0	2.0	.....	.....
Middletown	.....	.....	6.0	3.5	14.0	13.0	9.5	3.5	T.	49.5
New Haven	.....	.....	2.1	6.2	10.1	6.6	6.0	2.0	.....	33.0
New London	.....	.....	13.8	8.1	12.5	12.0	3.0	3.5	.....	52.9
Southington	.....	.....	6.0	7.0	12.5	9.5	3.2	1.5	T.	39.7

† May have been snow of which no measurement was made.

MONTHLY AND SEASONAL SNOWFALL, 1897-98—Continued.

Stations.	1897.				1898.					Annual.
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	
Delaware.										
Millsboro	.....	.....	T.	0.0	(†)	T.	0.0	T.	.....	.....
District of Columbia.										
Washington	.....	.....	T.	2.0	6.0	T.	2.0	1.0	.....	11.0
Georgia.										
Adairsville	.....	.....	.....	.....	0.3	T.	.....	.....	.....	0.3
Allapaha	.....	.....	.....	.....	T.	.....	.....	.....	.....	T.
Americus	.....	.....	.....	.....	.....	T.	.....	.....	.....	T.
Atlanta	.....	.....	.....	T.	0.8	T.	0.0	T.	.....	0.8
Augusta	.....	.....	.....	.....	T.	.....	.....	.....	.....	T.
Clayton	.....	.....	.....	.....	1.5	0.8	.....	.....	.....	2.3
Covington	.....	.....	.....	.....	T.	T.	T.	.....	.....	T.
Dahlonega	.....	.....	.....	T.	1.0	1.5	.....	.....	.....	2.5
Hephzibah	.....	.....	.....	.....	T.	.....	.....	.....	.....	T.
Idaho.										
American Falls	.....	.....	.....	(†)	7.5	(†)	.....	.....	.....	.....
Blackfoot	.....	0.5	0.5	3.1	6.7	0.5	T.	.....	.....	11.3
Boise Barracks	.....	.....	.....	4.2	12.5	1.0	4.0	.....	.....	21.7
Burnside	.....	0.3	(†)	7.2	16.0	(†)	2.0	.....	.....	.....
Corral	.....	(†)	5.5	30.0	18.0	10.0	5.0	0.5	T.	.....
Fort Sherman	.....	0.0	16.2	7.9	13.6	7.1	8.3	0.2	.....	53.3
Gimlet	.....	1.5	9.0	19.5	9.5	8.0	4.0	1.5	4.0	57.0
Gray	.....	.....	(†)	21.0	11.0	8.0	20.0	2.0	(†)	.....
Idaho City	.....	.....	8.3	16.8	10.5	7.1	15.2	T.	.....	57.9
Idaho Falls	.....	4.4	8.4	12.4	20.5	2.9	15.8	0.3	1.5	66.2
Kootenai	.....	.....	31.0	35.0	18.0	14.0	11.0	.....	.....	109.0
Lake	.....	11.5	(†)	15.0	20.0	13.0	20.0	3.5	7.0	.....
Lakeview	.....	.....	(†)	4.0	12.0	5.0	(†)	.....	.....	.....
Marysville	.....	6.0	11.0	30.0	34.0	19.0	19.0	4.0	.....	123.0
Minidoka	.....	.....	(†)	8.5	12.0	(†)	6.0	.....	.....	.....
Moscow	.....	.....	(†)	3.5	17.5	1.5	14.5	.....	.....	.....
Murray	.....	(†)	62.0	26.0	55.0	20.0	43.0	T.	.....	.....
Oakley	.....	.....	2.0	7.0	7.0	1.0	3.0	.....	.....	20.0
Ola	.....	.....	4.0	12.5	22.6	2.5	3.3	.....	.....	44.9
Paris	.....	.....	(†)	(†)	13.1	4.8	20.7	.....	.....	.....
Payette	.....	.....	T.	4.8	15.2	0.5	T.	.....	.....	20.5
Salubria	.....	.....	14.4	18.2	18.2	4.5	1.2	T.	.....	56.5
St. Maries	.....	.....	21.7	7.3	24.8	10.0	16.5	.....	.....	80.3
Illinois.										
Albion	.....	.....	.....	4.5	0.8	1.5	0.0	.....	.....	6.8
Alexander	.....	.....	.....	5.5	9.5	7.0	0.5	.....	.....	22.5
Ashton	.....	.....	0.4	7.7	18.3	11.4	7.5	T.	.....	45.3
Aurora	.....	.....	0.6	2.7	18.6	12.4	0.9	(†)	.....	.....
Bloomington	.....	.....	.....	4.0	12.0	2.0	6.0	.....	.....	24.0
Bushnell	.....	.....	.....	4.0	13.5	1.0	1.0	.....	.....	19.5
Cairo	.....	.....	.....	T.	0.4	0.4	T.	.....	.....	0.8
Cambridge	.....	.....	T.	10.4	23.6	12.2	8.8	.....	.....	55.0
Carlinville	.....	.....	.....	1.0	8.0	3.5	2.0	T.	.....	14.5
Charleston	.....	.....	.....	3.4	1.2	3.1	3.4	.....	.....	11.1
Chicago	.....	.....	T.	6.2	15.9	13.7	1.0	T.	.....	36.8
Cisne	.....	.....	.....	2.8	1.0	0.5	0.0	.....	.....	4.3
Cobden	.....	.....	.....	T.	0.1	0.3	T.	.....	.....	0.4
Greenville	.....	.....	.....	4.7	2.0	1.7	2.6	.....	.....	11.0
Havana	.....	.....	.....	5.0	12.0	4.0	2.0	T.	.....	23.0
Joliet	.....	.....	T.	4.2	18.0	5.4	1.1	T.	.....	28.7
Mascoutah	.....	.....	.....	5.2	0.5	1.3	3.2	.....	.....	10.2
Ottawa	.....	.....	T.	3.5	22.5	6.2	5.5	T.	.....	37.7
Palestine	.....	.....	.....	4.6	1.0	3.0	T.	.....	.....	8.6
Rantoul	.....	.....	T.	5.7	5.3	2.7	6.0	.....	.....	19.7
Riley	.....	.....	0.2	6.2	24.7	15.0	3.0	T.	.....	49.1
Rockford	.....	.....	1.5	11.0	26.0	19.0	5.2	T.	.....	62.7
Springfield	.....	.....	T.	1.9	4.7	1.7	1.2	T.	.....	9.5
Indiana.										
Angola	.....	.....	1.6	6.2	11.1	12.1	0.9	.....	.....	31.9
Bluffton	.....	.....	T.	4.5	3.8	12.5	3.5	T.	.....	24.3

† May have been snow of which no measurement was made.

MONTHLY AND SEASONAL SNOWFALL, 1897-98—Continued.

Stations.	1897.				1898.					Annual.
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	
Indiana—Continued.										
Butlerville	.....	.....	.....	4.9	1.7	4.7	2.0	1.2	.....	14.5
Cambridge City	.....	.....	T.	6.0	1.9	2.8	3.5	T.	.....	14.2
Evansville	.....	.....	.....	0.7	T.	1.1	T.	(†)	.....	.....
Indianapolis	.....	.....	T.	6.7	1.4	3.3	0.9	T.	.....	12.3
Greencastle	.....	.....	T.	4.6	2.0	4.5	3.2	.....	.....	14.3
Kokomo	.....	.....	T.	4.0	1.6	4.0	2.0	.....	.....	11.6
Lafayette	.....	.....	(†)	1.2	0.2	2.9	6.3	.....	.....	.....
Laporte	.....	.....	.....	12.4	11.3	(†)	T.	.....	.....	.....
Marengo	.....	.....	T.	5.2	0.4	3.4	0.2	1.6	1.0	11.8
Princeton	.....	.....	.....	5.5	1.0	2.0	0.0	.....	.....	8.5
Scottsburg	.....	.....	.....	2.5	1.0	2.5	4.0	2.5	T.	12.5
South Bend	.....	.....	1.0	22.0	18.5	12.0	1.6	.....	.....	55.1
Terre Haute	.....	.....	.....	0.8	T.	2.2	5.7	.....	.....	8.7
Valparaiso	.....	.....	T.	6.0	8.7	2.6	0.5	.....	.....	17.8
Worthington	.....	.....	T.	5.6	0.6	2.2	4.6	.....	.....	13.0
Indian Territory.										
Kemp	.....	.....	.....	2.0	0.0	0.0	.....	.....	.....	2.0
Lehigh	.....	.....	.....	5.0	0.0	0.0	.....	.....	.....	5.0
Purcell	.....	.....	.....	0.3	(†)	(†)	6.0	.....	.....	.....
Tahlequah	.....	.....	.....	T.	0.0	0.0	1.0	.....	.....	1.0
Iowa.										
Algona	.....	.....	3.8	16.2	2.5	11.0	11.0	.....	.....	44.5
Alta	.....	.....	3.0	16.7	2.5	7.2	5.1	.....	.....	34.5
Ames	.....	.....	T.	(†)	4.7	(†)	T.	.....	.....	.....
Atlantic	.....	.....	T.	15.7	14.5	2.0	5.0	.....	.....	37.2
Belleplaine	.....	.....	0.7	22.0	26.5	13.0	2.5	.....	.....	64.7
Britt	.....	.....	2.8	10.7	1.8	5.7	1.5	.....	.....	22.5
Cedarfalls	.....	.....	T.	18.0	(†)	3.0	4.0	.....	.....	.....
Cedar Rapids	.....	.....	0.4	17.0	19.9	10.4	3.5	.....	.....	51.2
Chariton	.....	.....	T.	19.5	22.4	3.0	T.	.....	.....	44.9
Clarinda	.....	.....	0.2	17.2	12.2	4.2	1.0	.....	.....	34.8
Corning	.....	.....	T.	11.5	14.0	T.	0.1	.....	.....	25.6
Cresco	.....	.....	2.4	8.7	1.5	8.2	5.5	.....	.....	26.3
Davenport	.....	.....	0.3	6.5	21.8	12.0	6.0	T.	.....	46.6
Delaware	.....	.....	.....	9.5	9.0	11.0	1.7	.....	.....	31.2
Des Moines	.....	.....	1.3	19.6	17.6	3.1	0.4	.....	.....	42.0
Dubuque	.....	.....	T.	14.8	15.1	18.5	5.1	T.	.....	53.5
Humboldt	.....	.....	4.0	18.0	2.0	(†)	10.0	.....	.....	.....
Independence	.....	.....	0.4	17.2	12.4	13.5	1.5	.....	.....	45.0
Iowa City	.....	.....	T.	17.0	26.0	7.0	4.0	.....	.....	54.0
Iowa Falls	.....	.....	(†)	20.0	9.0	17.8	3.0	.....	.....	.....
Keokuk	.....	.....	T.	7.4	14.3	3.5	2.0	T.	.....	27.2
Keosauqua	.....	.....	T.	10.0	20.0	9.7	1.0	.....	.....	40.7
Logan	.....	.....	2.0	28.0	13.0	4.0	11.0	.....	.....	58.0
Rock Rapids	.....	.....	2.5	8.0	4.5	(†)	(†)	T.	.....	.....
Sioux City	.....	.....	1.6	26.4	4.3	5.2	4.8	.....	.....	42.3
Spirit Lake	.....	.....	2.0	13.0	3.0	6.0	5.0	1.0	.....	30.0
Stuart	.....	.....	0.5	3.5	9.0	4.0	5.0	.....	.....	22.0
Kansas.										
Abilene	.....	.....	.....	4.5	9.0	0.0	T.	.....	.....	13.5
Augusta	.....	.....	.....	(†)	2.7	0.0	0.0	.....	.....	.....
Beloit	.....	.....	.....	4.0	7.5	3.0	0.0	.....	.....	14.5
Burlington	.....	.....	.....	2.0	10.0	0.0	T.	.....	.....	12.0
Campbell	.....	.....	0.0	13.5	17.5	2.0	1.2	T.	.....	34.2
Colby	.....	1.0	T.	5.0	0.5	T.	1.0	1.5	.....	9.0
Columbus	.....	.....	.....	7.0	8.5	T.	0.8	.....	.....	16.3
Concordia	.....	.....	0.2	8.5	11.5	2.1	0.8	.....	.....	23.1
Coolidge	.....	T.	0.0	1.0	4.0	0.0	T.	.....	.....	5.0
Cunningham	.....	.....	.....	4.5	10.0	1.0	T.	.....	.....	15.5
Dodge City	.....	0.4	T.	2.3	19.7	7.2	1.9	0.2	.....	31.7
Dresden	.....	T.	0.5	8.0	0.5	0.0	0.0	0.2	.....	9.2
Ellinwood	.....	.....	T.	4.9	12.5	2.0	0.1	T.	.....	19.5
Emporia	.....	.....	.....	4.0	11.0	0.0	.....	.....	.....	15.0
Englewood	.....	.....	.....	2.5	8.2	2.0	0.0	.....	.....	12.7
Eureka Ranch	.....	.....	T.	2.7	11.3	0.0	1.4	.....	.....	15.4
Fall River	.....	.....	.....	0.1	5.5	T.	T.	.....	.....	5.6
Fort Scott	.....	.....	.....	8.5	(†)	T.	T.	T.	.....	.....

† May have been snow of which no measurement was made.

MONTHLY AND SEASONAL SNOWFALL, 1897-98—Continued.

Stations.	1897.				1898.					Annual.
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	
Kansas—Continued.										
Frankfort	.....	.....	T.	13.0	15.5	3.0	1.5	.....	.....	33.0
Garden City	.....	2.0	T.	3.5	8.0	0.0	2.0	.....	.....	15.5
Gibson	.....	T.	0.0	4.0	7.0	T.	T.	.....	.....	11.0
Gove	.....	T.	T.	3.0	4.0	T.	2.0	.....	.....	9.0
Grenola	.....	.....	.....	1.5	3.0	T.	T.	.....	.....	4.5
Halstead	.....	.....	.....	9.0	12.0	T.	T.	.....	.....	21.0
Horton	.....	.....	T.	12.0	18.5	2.0	T.	T.	.....	32.5
Hutchinson	.....	.....	.....	6.8	13.8	T.	T.	.....	.....	20.6
Lakin	.....	0.5	T.	1.0	4.0	0.0	3.0	.....	.....	8.5
McPherson	.....	.....	.....	1.9	(†)	0.0	T.	.....	.....	.....
Macksville	.....	.....	.....	(†)	7.0	0.0	T.	.....	.....	.....
Manhattan	.....	.....	.....	10.0	6.0	0.2	0.2	.....	.....	16.4
Marion	.....	.....	.....	7.0	9.0	T.	T.	.....	.....	16.0
Medicine Lodge	.....	.....	T.	4.8	6.5	0.0	T.	.....	.....	11.3
Minneapolis	.....	.....	.....	7.5	12.6	1.0	0.5	.....	.....	21.6
Ness City	.....	.....	.....	2.5	9.0	1.5	0.2	.....	.....	13.2
Osage City	.....	.....	.....	7.4	12.0	0.0	T.	.....	.....	19.4
Phillipsburg	.....	.....	T.	9.0	12.0	1.5	2.0	.....	.....	24.5
Pleasant Dale	.....	.....	T.	2.0	14.0	5.0	T.	.....	.....	21.0
Rome	.....	.....	.....	3.0	4.0	0.0	T.	.....	.....	7.0
Russell	.....	.....	.....	4.5	13.8	3.5	0.5	.....	.....	22.3
Sharon Springs	.....	.....	4.0	3.0	2.0	(†)	1.5	(†)	.....	.....
Topeka	.....	.....	.....	9.8	11.9	T.	0.2	.....	.....	21.9
Viroqua	.....	T.	0.0	3.0	8.0	1.0	2.0	0.5	.....	14.5
Wichita	.....	.....	.....	6.3	10.8	T.	T.	.....	.....	17.1
Kentucky.										
Ashland	.....	.....	.....	1.0	T.	1.5	T.	(†)	.....	.....
Bowling Green	.....	.....	.....	(†)	1.5	2.0	T.	.....	.....	.....
Caddo	.....	.....	T.	(†)	2.0	3.8	5.0	3.5	T.	.....
Canton	.....	.....	.....	0.5	0.5	T.	0.0	.....	.....	1.0
Earlington	.....	.....	.....	1.5	0.0	0.6	T.	.....	.....	2.1
Edmonton	.....	.....	.....	2.3	1.0	7.1	T.	T.	.....	10.4
Ensor	.....	.....	.....	T.	T.	1.5	0.0	.....	.....	1.5
Eubank	.....	.....	.....	4.0	3.2	6.8	T.	.....	.....	14.0
Irvington	.....	.....	.....	2.5	0.5	1.2	0.2	0.1	1.5	6.0
Louisville	.....	.....	.....	4.4	0.4	1.9	1.2	1.7	1.0	10.6
Middlesboro	.....	.....	.....	2.2	2.2	3.5	T.	T.	.....	7.9
Paducah	.....	.....	.....	0.9	0.5	0.3	T.	.....	.....	1.7
Vanceburg	.....	.....	.....	(†)	0.0	T.	0.0	4.0	.....	.....
Williamsburg	.....	.....	.....	T.	3.0	1.5	0.0	.....	.....	4.5
Louisiana.										
Liberty Hill	.....	.....	.....	T.	.....	.....	.....	.....	.....	T.
Oxford	.....	.....	.....	T.	.....	.....	.....	.....	.....	T.
Maine.										
Bar Harbor	.....	.....	9.5	11.5	30.5	32.5	15.0	6.0	.....	105.0
Belfast	.....	.....	7.0	13.0	36.0	28.0	15.0	9.0	.....	108.0
Eastport	.....	.....	3.7	4.9	26.9	23.5	12.6	14.8	.....	86.4
Farmington	.....	.....	11.2	(†)	(†)	63.5	2.5	7.5	.....	.....
Gardiner	.....	.....	6.2	14.8	38.0	17.2	8.0	5.5	.....	89.7
Kineo	.....	.....	8.0	6.0	45.0	48.5	4.5	6.0	.....	118.0
Mayfield	T.	T.	13.0	15.0	(†)	(†)	(†)	4.0	.....	.....
Orono	.....	.....	6.0	12.8	42.0	39.0	13.0	9.0	.....	121.8
Portland	.....	.....	6.1	12.1	41.6	18.0	7.2	10.0	.....	95.0
Maryland.										
Baltimore	.....	.....	T.	2.6	5.4	T.	2.4	0.1	.....	10.5
Cumberland	.....	.....	T.	0.5	1.5	0.5	4.0	4.0	.....	10.5
Deerpark	.....	.....	2.0	6.0	25.0	22.0	4.0	7.0	.....	66.0
Easton	.....	.....	T.	T.	1.0	T.	0.0	1.0	.....	2.0
Frederick	.....	.....	T.	4.3	4.5	T.	2.5	2.0	.....	13.3
Hagerstown	.....	.....	.....	(†)	3.0	(†)	4.0	0.2	.....	.....
Mardela Springs	.....	.....	T.	1.8	1.5	T.	0.0	0.2	.....	3.5
Sunnyside	.....	.....	2.5	7.0	29.0	13.0	5.0	8.5	.....	65.0
Massachusetts.										
Adams	.....	.....	(†)	(†)	26.0	(†)	(†)	(†)	.....	.....
Amherst	.....	.....	6.5	10.0	25.2	22.6	1.0	3.5	.....	68.8

† May have been snow of which no measurement was made.

MONTHLY AND SEASONAL SNOWFALL, 1897-98—Continued.

Stations.	1897.				1898.					Annual.
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	
Massachusetts—Continued.										
Boston	.....	.....	8.1	7.8	16.3	11.5	6.0	2.2	.....	51.9
Dudley	.....	.....	.....	(†)	22.2	14.0	5.0	0.5	.....	.....
Fitchburg	.....	.....	6.6	12.5	27.5	15.5	8.0	5.5	.....	75.6
Hyannis	.....	.....	7.5	3.1	7.0	5.1	6.5	4.5	.....	33.7
Nantucket	.....	.....	2.5	6.6	3.1	1.7	1.0	T.	.....	14.9
Pittsfield	.....	.....	.....	(†)	32.5	26.5	2.5	1.0	.....	.....
Taunton	.....	.....	7.0	3.0	8.0	14.5	9.5	2.0	.....	44.0
Vineyard Haven	.....	.....	4.1	6.2	2.1	1.1	3.4	0.5	.....	17.4
Woods Hole	.....	.....	4.3	3.6	6.3	6.4	3.8	3.5	.....	27.9
Michigan.										
Adrian	.....	.....	0.2	4.2	8.5	6.8	0.5	0.2	.....	20.4
Allegan	.....	.....	1.0	(†)	16.0	28.0	0.0	(†)	.....	.....
Alpena	.....	T.	5.2	16.5	31.9	21.0	0.9	1.7	.....	77.2
Ann Arbor	.....	.....	(†)	5.9	10.1	10.9	0.5	0.5	.....	.....
Arbela	.....	.....	T.	4.5	13.0	18.0	0.0	T.	.....	35.5
Ball Mountain	.....	.....	0.5	5.4	10.9	15.0	0.3	1.4	.....	33.5
Battle Creek	.....	.....	1.1	12.1	13.5	24.7	0.1	.....	.....	51.5
Berrien Springs	.....	.....	0.5	39.0	(†)	(†)	0.5	.....	.....	.....
Camden	.....	.....	T.	7.5	21.0	15.0	(†)	.....	.....	.....
Calumet	T.	1.0	13.0	36.5	19.5	20.0	12.0	1.5	T.	103.5
Charlevoix	.....	.....	11.0	26.8	23.2	25.2	2.0	1.5	.....	89.7
Cheboygan	.....	T.	9.0	9.6	26.0	15.7	2.2	.....	.....	62.5
Detroit	.....	.....	0.4	9.1	11.4	19.6	2.5	0.8	.....	43.8
Escanaba	T.	T.	6.5	10.0	5.0	18.5	10.5	3.0	.....	53.5
Ewen	.....	2.5	11.5	(†)	16.6	13.5	4.2	.....	.....	.....
Gladwin	.....	.....	3.0	12.0	21.0	17.0	0.0	.....	.....	53.0
Grand Haven	.....	.....	1.7	14.9	27.9	22.5	1.3	T.	.....	68.3
Harrisville	.....	.....	(†)	24.8	34.5	20.3	2.7	1.1	.....	.....
Hart	.....	.....	1.6	20.3	45.0	16.5	2.0	.....	.....	85.4
Iron River	.....	3.5	11.0	(†)	4.0	(†)	15.7	8.0	.....	.....
Ivan	T.	T.	5.7	37.5	41.5	22.0	4.5	.....	.....	111.2
Lansing	.....	.....	1.0	8.2	16.6	18.2	0.2	2.2	.....	46.4
Lathrop	.....	1.5	7.0	11.0	5.0	26.5	21.5	13.0	.....	85.5
Luzerne	.....	1.0	8.8	25.5	32.8	20.0	0.5	3.0	.....	91.6
Manistee	.....	.....	6.5	31.0	40.0	17.5	5.0	T.	.....	100.0
Manistique	.....	1.0	14.5	17.2	10.5	15.0	5.0	.....	.....	63.2
Marquette	.....	1.1	9.2	21.2	17.6	32.6	18.8	12.0	.....	112.5
Newberry	.....	.....	6.4	16.5	12.2	9.5	12.0	1.0	.....	57.6
Port Austin	.....	.....	T.	(†)	20.0	14.0	0.0	.....	.....	.....
Port Huron	.....	.....	0.3	10.1	11.5	19.7	0.1	1.0	.....	42.7
Sault Ste. Marie	.....	0.1	29.1	21.7	11.6	12.2	10.9	0.2	.....	85.8
Thomaston	.....	4.0	18.0	14.0	22.0	21.0	7.0	.....	.....	86.0
Minnesota.										
Ada	.....	0.5	0.2	4.5	0.8	4.0	9.5	.....	.....	19.5
Albert Lea	.....	.....	4.5	12.5	3.5	12.8	6.5	T.	.....	39.8
Alexandria	.....	1.0	3.0	1.3	1.0	8.5	10.3	.....	.....	25.1
Beardsley	.....	.....	2.5	3.9	1.0	7.5	5.3	T.	.....	20.2
Bingham Lake	.....	.....	(†)	2.2	0.3	11.7	(†)	2.0	.....	.....
Bird Island	.....	.....	3.0	0.5	T.	9.2	11.2	2.3	.....	26.2
Caledonia	.....	.....	3.0	11.5	3.0	19.0	6.3	.....	.....	42.8
Camden	.....	.....	6.0	1.0	0.5	9.0	6.0	T.	.....	22.5
Collegeville	.....	0.8	(†)	0.4	0.2	5.2	5.1	.....	.....	.....
Crookston	.....	T.	T.	2.5	2.1	7.3	5.0	.....	.....	16.9
Duluth	.....	.....	3.5	10.4	3.7	8.5	5.9	2.5	.....	34.5
Faribault	.....	.....	4.0	4.0	1.0	13.6	7.5	(†)	.....	.....
Fergus Falls	.....	T.	1.6	6.1	1.3	8.4	6.3	T.	.....	23.7
Koochiching	.....	.....	4.5	7.3	(†)	(†)	(†)	.....	.....	.....
Lake Winnibigoshish	.....	.....	(†)	6.3	1.8	5.3	12.0	.....	.....	.....
Lake City	.....	.....	5.0	2.5	1.0	(†)	2.0	.....	.....	.....
Long Prairie	.....	1.0	2.2	(†)	0.2	11.5	5.0	.....	.....	.....
Luverne	.....	.....	3.5	5.5	2.0	4.0	2.0	T.	.....	17.0
Minneapolis	.....	T.	4.9	1.8	0.8	9.9	13.1	.....	.....	30.5
Minnesota City	.....	.....	4.0	8.0	6.5	7.5	5.5	.....	.....	31.5
Montevideo	.....	T.	5.0	1.0	T.	10.0	6.8	.....	.....	22.8
Moorhead	.....	0.2	2.3	2.8	1.5	5.4	13.0	0.2	.....	25.4
Mount Iron	.....	.....	.....	(†)	10.5	6.0	4.0	.....	.....	.....
New Ulm	.....	.....	5.0	3.0	(†)	9.5	6.5	.....	.....	.....
Park Rapids	.....	1.4	3.3	6.2	1.2	7.0	10.7	.....	.....	29.8

† May have been snow of which no measurement was made.

MONTHLY AND SEASONAL SNOWFALL, 1897-98—Continued.

Stations.	1897.				1898.					Annual.
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	
Minnesota—Continued.										
Pokegama Falls	.....	.....	2.3	6.7	5.1	5.3	9.1	.....	.....	28.5
Roseau	.....	0.5	4.0	5.9	2.9	7.7	7.6	.....	.....	28.6
St. Paul	.....	.....	6.0	2.1	0.4	9.4	18.2	2.0	.....	38.1
Sandy Lake Dam	.....	T.	3.0	6.2	2.0	4.8	7.0	.....	.....	23.0
Mississippi.										
Agricultural College	.....	.....	.....	.....	T.	T.	.....	.....	.....	T.
Batesville	.....	.....	.....	1.0	.....	.....	.....	.....	.....	1.0
French Camp	.....	.....	.....	.....	.....	T.	.....	.....	.....	T.
Port Gibson	.....	.....	.....	.....	.....	T.	.....	.....	.....	T.
Watervalley	.....	.....	.....	1.5	0.0	T.	.....	.....	.....	1.5
Missouri.										
Birch Tree	.....	.....	.....	2.0	0.0	0.0	1.0	.....	.....	3.0
Brunswick	.....	.....	.....	5.5	13.0	0.0	.....	.....	.....	18.5
Columbia	.....	.....	.....	2.7	6.9	0.3	0.3	.....	.....	10.2
Conception	.....	.....	T.	19.0	29.0	3.0	1.0	.....	.....	52.0
Cowgill	.....	.....	.....	11.5	21.5	2.0	T.	.....	.....	35.0
Edgehill	.....	.....	.....	0.2	0.0	T.	T.	.....	.....	0.2
Eldon	.....	.....	.....	5 5	1.0	T.	T.	.....	.....	6.5
Fayette	.....	.....	.....	7.0	10.0	T.	0.5	.....	.....	17.5
Gallatin	.....	.....	.....	10.8	28.0	4.0	T.	.....	.....	42.8
Halfway	.....	.....	.....	0.5	0.5	T.	T.	.....	.....	1.0
Hannibal	.....	.....	.....	7.4	11.5	0.6	.....	.....	.....	19.5
Harrisonville	.....	.....	.....	5.0	8.2	T.	T.	.....	.....	13.2
Houston	.....	.....	.....	1.0	0.0	0.0	T.	.....	.....	1.0
Ironton	.....	.....	.....	T.	T.	0.2	T.	T.	.....	0.2
Jefferson City	.....	.....	.....	2.0	0.0	T.	0.0	.....	.....	2.0
Kansas City	.....	.....	T.	11.3	21.9	1.6	1.5	.....	.....	36.3
Lamar	.....	.....	.....	6.0	5.5	T.	T.	.....	.....	11.5
Lebanon	.....	.....	.....	3.5	0.5	0.5	2.0	.....	.....	6.5
McCune Station	.....	.....	.....	10.0	8.0	T.	1.0	.....	.....	19.0
Marble Hill	.....	.....	.....	0.2	0.5	0.2	0.0	.....	.....	0.9
Mineral Springs	.....	.....	.....	1.0	T.	T.	2.0	.....	.....	3.0
Neosho	.....	.....	T.	(†)	T.	T.	1.0	.....	.....	.....
New Haven	.....	.....	.....	2.5	0.1	0.1	1.0	.....	.....	3.7
Oakfield	.....	.....	.....	4.0	2.0	0.8	3.0	.....	.....	9.8
Oakridge	.....	.....	.....	1.0	(†)	(†)	.....	.....	.....	.....
Pickering	.....	T.	T.	21.1	16.2	2.0	0.8	.....	.....	40.1
Princeton	.....	.....	.....	12.0	(†)	3.0	T.	.....	.....	.....
St. Louis	.....	.....	T.	4.3	0.9	0.8	3.8	T.	.....	9.8
Springfield	.....	.....	T.	1.9	1.5	0.9	2.5	.....	.....	6.8
Sublette	.....	.....	T.	15.8	17.1	4.0	T.	.....	.....	36.9
Montana.										
Augusta	.....	.....	.....	1.8	6.3	0.5	15.1	(†)	.....	.....
Big Timber	.....	.....	19.2	3.0	5.5	T.	19.5	4.5	.....	51.7
Billings	.....	1.3	13.5	4.0	2.2	3.0	22.0	(†)	T.	.....
Bozeman	.....	.....	(†)	(†)	6.0	4.9	16.2	2.5	T.	.....
Butte	T.	T.	10.5	10.1	5.7	2.5	15.6	0.8	.....	45.2
Castle	2.1	3.4	18.8	38.0	3.1	1.1	9.0	4.4	3.2	83.1
Chinook	.....	.....	17.0	2.0	2.5	6.3	14.5	(†)	.....	.....
Columbia Falls	.....	3.0	47.0	13.0	15.0	4.0	25.5	2.0	.....	109.5
Deer Lodge	.....	(†)	10.6	5.1	1.0	1.0	17.0	T.	.....	.....
Dupuyer	0.2	6.0	(†)	2.0	4.0	6.0	39.0	8.0	6.0	.....
Fort Benton	.....	0.0	11.0	8.0	1.0	T.	14.0	2.0	(†)	36.0
Fort Keogh	.....	2.0	9.8	0.3	2.0	1.6	(†)	(†)	.....	.....
Fort Missoula	.....	T.	9.3	3.8	4.3	2.2	5.2	(†)	.....	.....
Glendive	.....	1.0	10.0	3.0	2.0	3.0	21.0	T.	.....	40.0
Glenwood	.....	.....	27.0	15.0	9.3	1.9	18.5	(†)	.....	.....
Greatfalls	T.	2.0	14.1	3.7	6.0	2.0	11.4	2.4	T.	41.6
Havre	.....	T.	18.5	2.0	1.7	0.8	10.6	1.0	.....	34.6
Helena	T.	2.1	23.3	5.1	2.6	1.2	26.3	3.8	0.6	65.0
Kalispel	.....	(†)	18.5	2.0	6.0	3.2	30.2	(†)	.....	.....
Kipp	1.5	5.1	30.9	5.3	2.7	3.8	45.5	17.7	11.4	123.9
Lewistown	.....	1.0	42.5	11.0	5.0	7.5	28.5	4.0	0.5	100.0
Manhattan	.....	1.0	4.5	2.5	2.5	1.0	4.2	0.1	.....	15.8
Miles City	.....	1.2	8.3	2.6	1.7	1.7	13.4	T.	.....	28.9
St. Ignatius Mission	.....	.....	10.8	8.0	10.2	(†)	16.0	.....	.....	.....
Troy	.....	0.0	22.0	8 0	7.0	(†)	4.0	.....	.....	.....

† May have been snow of which no measurement was made.

MONTHLY AND SEASONAL SNOWFALL, 1897-98—Continued.

Stations.	1897.				1898.					Annual.
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	
Montana—Continued.										
Virginia City	.....	3.5	15.0	11.0	7.5	2.0	21.0	3.5	.....	63.5
Wibaux	2.5	T.	2.5	(†)	T.	T.	15.0	.....	.....	.....
Yale	.....	3.0	18.5	0.5	3.0	3.8	15.5	3.0	3.0	50.3
Nebraska.										
Agee	.....	4.0	2.2	24.0	6.5	4.0	T.	.....	.....	40.7
Albion	.....	.....	.....	(†)	6.0	8.2	(†)	.....	.....	.....
Alliance	.....	3.5	6.5	11.0	15.5	T.	3.0	0.5	2.0	42.0
Ansley	.....	.....	2.0	15.2	3.5	4.5	1.0	0.5	.....	26.7
Arapahoe	.....	5.5	4.5	10.2	3.0	T.	T.	.....	.....	23.2
Arborville	.....	.....	2.5	8.0	5.5	3.0	5.0	T.	.....	24.0
Ashton	.....	T.	1.0	3.5	4.5	4.0	1.0	T.	.....	11.0
Auburn	.....	.....	T.	14.8	14.6	3.0	1.0	.....	.....	33.4
Beatrice	.....	.....	0.0	19.0	17.0	3.0	3.0	.....	.....	42.0
Beaver City	.....	T.	1.5	11.0	2.0	T.	1.0	T.	.....	15.5
Callaway	.....	5.0	1.0	11.0	5.0	1.0	6.0	.....	.....	29.0
Chester	.....	.....	T.	13.0	(†)	0.5	4.2	.....	.....	.....
Creighton	.....	.....	T.	(†)	2.1	6.0	4.0	.....	.....	.....
Culbertson	.....	0.5	0.5	7.5	4.0	(†)	2.5	.....	.....	.....
David City	.....	.....	2.0	14.0	7.0	5.0	7.0	1.0	.....	36.0
Ericson	.....	.....	1.0	15.0	7.0	4.0	2.0	T.	.....	29.0
Fort Robinson	.....	T.	6.5	13.0	17.0	2.0	13.0	.....	0.9	52.4
Franklin	.....	.....	1.0	14.0	3.0	3.0	0.5	.....	.....	21.5
Fremont	.....	.....	2.0	20.5	5.0	3.5	9.0	.....	.....	40.0
Geneva	.....	.....	1.0	10.5	8.6	4.0	1.9	T.	.....	26.0
Genoa	.....	.....	2.0	16.5	7.0	9.2	3.4	.....	.....	38.1
Gering	.....	1.0	6.8	4.0	(†)	(†)	3.0	3.0	.....	.....
Hartington	.....	.....	4.5	29.5	11.0	8.0	5.5	.....	.....	58.5
Hay Springs	.....	2.8	15.5	11.2	5.5	5.0	5.6	1.0	T.	46.6
Kearney	.....	T.	0.2	16.8	1.5	(†)	0.2	T.	.....	.....
Kennedy	.....	10.0	17.0	24.0	15.0	T.	4.5	.....	.....	70.5
Kimball	.....	8.0	6.0	9.0	6.5	1.5	7.5	7.0	15.0	60.5
Kirkwood	.....	10.0	4.5	10.8	6.0	6.5	5.2	(†)	.....	.....
Lincoln	.....	.....	0.1	21.0	4.9	1.5	10.8	.....	.....	38.3
Lodgepole	.....	15.0	2.0	6.0	4.0	1.0	1.0	1.0	3.0	33.0
Madrid	.....	6.0	T.	9.0	7.5	2.0	3.0	.....	.....	27.5
Norfolk	.....	.....	0.5	21.0	3.0	5.0	3.0	T.	.....	32.5
North Loup	.....	.....	T.	14.0	5.5	4.0	2.0	T.	.....	25.5
North Platte	.....	5.0	4.5	7.8	9.6	2.0	6.6	T.	.....	35.5
Omaha	.....	.....	0.7	17.9	6.1	2.5	7.3	.....	.....	34.5
St. Libory	.....	.....	0.5	19.0	3.8	8.0	2.2	.....	.....	33.5
Valentine	.....	.....	9.0	(†)	(†)	(†)	(†)	.....	.....	.....
Westpoint	.....	.....	2.0	19.5	3.2	6.2	(†)	.....	.....	.....
Nevada.										
Austin	.....	8.0	4.0	12.0	19.5	2.5	16.0	2.0	T.	64.0
Battle Mountain	.....	.....	.....	3.0	5.2	0.0	6.0	.....	.....	14.2
Beowawe	.....	T.	2.0	3.0	6.0	0.0	6.0	.....	.....	17.0
Candelaria	.....	2.0	0.0	0.5	2.5	0.0	2.0	0.0	2.0	9.0
Carlin	.....	T.	5.0	5.0	T.	0.0	5.0	.....	.....	15.0
Carson City	.....	T.	1.4	2.4	7.6	4.6	13.2	2.2	.....	31.4
Elko	.....	.....	2.0	6.0	8.0	0.0	2.0	.....	.....	18.0
Ely	.....	6.0	11.5	10.0	14.0	2.0	20.5	0.0	T.	64.0
Empire Ranch	.....	.....	3.5	2.5	12.0	2.2	9.5	4.5	6.8	41.0
Fenelon	.....	13.0	3.0	13.0	7.5	2.5	15.5	3.5	2.0	60.0
Golconda	.....	T.	0.0	1.0	3.0	0.0	3.0	.....	.....	7.0
Hawthorne	.....	.....	.....	1.2	4.7	0.0	3.5	.....	.....	9.4
Hot Springs	.....	.....	.....	0.0	T.	0.0	T.	.....	.....	T.
Los Vegas	.....	.....	.....	T.	1.5	0.0	0.0	.....	.....	1.5
Lovelocks	.....	.....	0.8	T.	3.4	0.0	0.8	.....	.....	5.0
McGill	.....	6.0	14.0	13.5	2.5	0.0	7.6	.....	.....	43.6
Midas	.....	9.0	8.0	12.0	17.5	2.8	17.2	2.0	17.5	86.0
Monitor Mill	.....	.....	10.2	7.5	7.5	3.5	18.5	T.	.....	47.2
Osceola	.....	6.0	16.0	17.0	11.5	3.2	15.0	0.0	3.0	71.7
Palisade	.....	.....	2.0	1.5	1.5	0.0	5.0	.....	.....	10.0
Palmetto	.....	8.0	T.	6.0	4.0	T.	7.0	3.0	32.0	60.0
Reno	.....	.....	(†)	T.	5.5	(†)	(†)	(†)	.....	.....
San Antonio	.....	.....	T.	T.	1.0	T.	T.	.....	.....	1.0
Sodaville	.....	.....	.....	T.	2.5	0.0	1.5	.....	.....	4.0
Tecoma	.....	6.0	1.0	3.0	15.0	2.0	2.5	.....	.....	29.5

† May have been snow of which no measurement was made.

MONTHLY AND SEASONAL SNOWFALL, 1897-98—Continued.

Stations.	1897.				1898.					Annual.
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	
Nevada—Continued.										
Tuscarora	.....	3.2	(†)	6.5	(†)	3.0	5.2	.....	.....	.....
Tybo	.....	2.0	7.0	7.0	12.0	2.0	7.0	.....	.....	37.0
Winnemucca	.....	4.6	2.0	4.5	7.7	T.	4.3	T.	.....	23.1
New Hampshire.										
Bethlehem	.....	.....	12.5	8.0	26.5	44.5	1.5	10.5	.....	103.5
Brookline	.....	.....	(†)	(†)	55.5	28.0	7.5	8.0	.....	.....
Grafton	.....	.....	10.0	8.5	35.5	42.5	T.	2.0	.....	98.5
West Milan	T.	0.0	9.0	10.0	37.5	48.2	(†)	.....	.....	.....
New Jersey.										
Asbury Park	.....	.....	1.2	T.	7.0	3.5	1.5	3.5	.....	16.7
Atlantic City	.....	.....	T.	0.2	2.6	0.9	0.0	T.	.....	3.7
Belvidere	.....	.....	3.0	5.8	12.3	(†)	5.0	2.0	.....	.....
Bridgeton	.....	.....	T.	0.2	0.3	1.0	T.	(†)	.....	.....
Cape May	.....	.....	.....	T.	0.8	0.5	T.	T.	.....	1.3
Deckertown	.....	.....	3.0	9.3	12.5	7.5	0.0	2.0	.....	34.3
Dover	.....	.....	2.7	6.0	17.0	2.0	6.8	3.5	.....	38.0
New Brunswick	.....	.....	1.5	3.1	10.4	2.5	2.1	4.0	.....	23.6
New Mexico.										
Albert	.....	T.	0.0	1.0	0.7	0.0	T.	.....	.....	1.7
Albuquerque	.....	.....	0.0	3.4	5.4	(†)	.....	.....	.....	.....
Aztec	.....	.....	0.0	2.0	6.8	1.2	T.	0.0	2.0	12.0
Bernalillo	.....	T.	0.0	T.	5.2	T.	0.0	.....	.....	5.2
Bluewater	.....	.....	0.0	5.0	2.0	1.0	0.0	.....	.....	8.0
Buckmans	.....	3.5	0.3	16.4	16.5	4.5	6.0	4.0	(†)	.....
Clayton	.....	T.	0.0	11.5	4.0	0.5	T.	3.0	.....	19.0
Deming	.....	.....	.....	0.0	4.0	0.0	0.0	.....	.....	4.0
East Las Vegas	.....	2.0	0.0	10.0	6.7	3.5	0.5	T.	.....	22.7
Eddy	.....	.....	.....	T.	0.5	0.0	0.0	.....	.....	0.5
Engle	.....	T.	0.0	0.0	T.	0.0	0.0	.....	.....	T.
Fort Bayard	.....	5.0	0.0	2.5	8.0	0.0	3.0	.....	.....	18.5
Fort Union	.....	T.	0.0	T.	2.5	2.0	0.2	T.	T.	4.7
Fort Wingate	.....	.....	0.0	(†)	6.6	(†)	0.0	0.0	(†)	.....
Gallinas Spring	.....	.....	0.0	5.5	5.0	1.0	0.0	.....	.....	11.5
Gila	.....	5.3	0.0	T.	5.5	0.0	0.0	.....	.....	10.8
Hillsboro	.....	.....	0.0	1.0	1.0	0.0	3.0	.....	.....	5.0
Las Cruces	.....	.....	.....	0.0	(†)	0.0	0.0	.....	.....	.....
Los Lunas	.....	.....	.....	0.0	9.5	0.0	0.0	.....	.....	9.5
Raton	.....	T.	0.0	1.0	2.0	0.0	0.0	0.0	5.0	8.0
Roswell	.....	.....	.....	T.	6.0	0.0	0.0	.....	.....	6.0
Santa Fe	.....	5.8	0.0	8.6	8.9	3.1	2.0	.....	.....	28.4
Socorro	.....	T.	0.0	0.0	2.0	0.0	0.0	.....	.....	2.0
White Oaks	.....	3.0	0.0	7.0	19.5	1.5	(†)	T.	.....	.....
New York.										
Addison	.....	T.	1.5	9.8	7.5	8.2	2.0	2.0	.....	31.0
Albany	.....	.....	4.5	9.6	19.8	23.5	2.0	1.2	.....	60.6
Alfred	.....	T.	(†)	(†)	(†)	8.5	5.0	3.0	.....	.....
Appleton	.....	.....	3.3	14.6	13.7	14.6	0.0	1.0	.....	47.2
Baldwinsville	.....	.....	.....	12.0	14.0	10.0	T.	3.0	.....	39.0
Bedford	.....	.....	3.8	8.4	15.9	2.7	6.9	4.9	.....	42.6
Binghamton	.....	T.	3.7	14.7	12.5	10.7	3.7	3.0	.....	48.3
Bouckville	.....	.....	1.8	19.0	24.0	23.0	2.0	5.0	.....	74.8
Buffalo	.....	T.	2.6	11.4	14.0	20.7	2.0	0.3	.....	51.0
Canton	.....	.....	1.0	13.0	29.0	18.0	0.0	2.5	.....	63.5
Carmel	.....	.....	2.5	11.8	12.5	7.5	6.5	1.5	.....	42.3
Cooperstown	.....	.....	8.0	21.5	23.5	18.0	2.0	1.0	.....	74.0
Fleming	.....	.....	T.	8.0	10.0	5.0	3.0	1.0	.....	27.0
Franklinville	.....	T.	11.6	19.0	16.8	12.3	2.5	7.5	0.2	69.9
Glens Falls	.....	.....	6.6	17.5	23.0	29.5	T.	.....	.....	76.6
Gloversville	.....	.....	8.9	22.8	38.0	20.3	2.0	1.5	.....	93.5
Ithaca	.....	T.	1.5	11.6	9.4	11.8	0.8	3.2	.....	38.3
Keene Valley	.....	.....	(†)	(†)	29.0	27.0	T.	.....	.....	.....
Lowville	.....	.....	12.0	17.0	33.0	17.0	(†)	3.0	.....	.....
Lyons	.....	.....	6.0	14.0	25.5	14.0	T.	T.	.....	59.5
Middletown	.....	.....	(†)	16.0	(†)	12.5	0.5	2.5	.....	.....
New York	.....	.....	1.5	2.9	8.7	2.5	1.9	2.6	.....	20.1
North Hammond	.....	.....	4.0	11.8	17.0	26.3	T.	.....	.....	59.1

† May have been snow of which no measurement was made.

MONTHLY AND SEASONAL SNOWFALL, 1897-98—Continued.

Stations.	1897.				1898.					Annual.
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	
New York—Continued.										
North Lake	.....	.....	13.0	27.0	49.0	16.5	0.5	5.0	.....	111.0
Oswego	.....	.....	23.5	12.3	22.6	19.5	T.	3.6	.....	81.5
Rochester	.....	T.	10.1	18.4	32.1	26.8	1.2	2.4	.....	91.0
Saranac Lake	T.	0.0	6.5	15.0	24.8	22.5	T.	2.5	.....	71.3
Setauket	.....	.....	2.0	2.5	6.0	4.0	2.5	3.0	.....	20.0
Westfield	.....	.....	2.0	7.5	6.0	12.0	(†)	4.0	.....	.....
North Carolina.										
Abshers	.....	.....	.....	T.	0.5	T.	3.0	0.0	T.	3.5
Asheville	.....	.....	.....	0.5	1.5	0.8	0.0	.....	.....	2.8
Charlotte	.....	.....	.....	T.	1.0	T.	T.	.....	.....	1.0
Edenton	.....	.....	.....	.....	T.	0.0	0.0	T.	.....	T.
Flatrock	.....	.....	.....	T.	0.8	0.5	0.0	.....	.....	1.3
Greenville	.....	.....	.....	.....	T.	0.0	.....	.....	.....	T.
Hatteras	.....	.....	.....	.....	T.	.....	.....	.....	.....	T.
Highlands	.....	.....	.....	0.5	2.8	1.5	0.0	1.0	.....	5.8
Littleton	.....	.....	.....	.....	0.2	0.0	.....	.....	.....	0.2
Lumberton	.....	.....	.....	.....	T.	0.0	.....	.....	.....	T.
Mana	.....	.....	.....	.....	1.0	T.	0.0	.....	.....	1.0
Morganton	.....	.....	.....	.....	1.0	0.0	.....	.....	.....	1.0
Newbern	.....	.....	.....	.....	T.	0.0	.....	.....	.....	T.
Oakridge	.....	.....	.....	.....	3.0	T.	.....	.....	.....	3.0
Raleigh	.....	.....	.....	T.	1.0	.....	.....	.....	.....	1.0
Roxboro	.....	.....	.....	.....	4.0	0.0	T.	.....	.....	4.0
Sloan	.....	.....	.....	.....	0.7	0.0	.....	.....	.....	0.7
Southern Pines	.....	.....	.....	.....	0.5	0.0	.....	.....	.....	0.5
Tarboro	.....	.....	.....	.....	0.3	T.	0.0	.....	.....	0.3
Weldon	.....	.....	.....	.....	T.	0.0	.....	.....	.....	T.
Wilmington	.....	.....	.....	.....	T.	.....	.....	.....	.....	T.
North Dakota.										
Amenia	.....	2.5	(†)	(†)	0.2	3.5	4.2	.....	.....	.....
Ashley	.....	T.	T.	1.0	T.	2.5	2.7	.....	.....	6.2
Bismarck	.....	3.0	2.4	2.9	2.0	4.8	6.0	0.1	.....	21.2
Bottineau	.....	.....	3.5	5.0	(†)	7.0	7.5	1.0	.....	.....
Buxton	.....	0.1	1.5	1.3	T.	2.9	3.0	.....	.....	8.8
Churchs Ferry	.....	0.2	3.0	2.9	2.4	6.4	5.5	2.5	.....	22.9
Coal Harbor	.....	1.5	5.0	2.9	(†)	4.6	9.1	.....	.....	.....
Dickinson	.....	1.5	8.5	T.	T.	2.0	3.8	T.	.....	15.8
Ellendale	.....	.....	T.	T.	T.	2.0	3.7	.....	.....	5.7
Fort Berthold	.....	0.5	1.2	0.7	0.5	4.0	6.0	.....	.....	12.9
Fort Yates	.....	2.0	7.2	5.0	2.0	4.5	12.6	.....	.....	33.3
Gallatin	.....	.....	3.0	5.1	1.6	5.0	4.4	0.5	.....	19.6
Goetz	.....	.....	1.5	(†)	T.	6.2	7.7	.....	.....	.....
Grafton	.....	3.5	4.0	4.0	0.5	3.4	2.0	.....	.....	17.4
Jamestown	.....	1.1	2.0	5.0	0.2	0.5	6.2	.....	.....	15.0
Larimore	.....	.....	1.0	T.	T.	7.0	3.0	T.	.....	11.0
Medora	.....	1.0	4.2	0.2	0.0	(†)	15.0	.....	.....	.....
Milton	.....	.....	4.0	2.0	3.0	4.0	5.0	0.5	.....	18.5
Minot	.....	.....	.....	(†)	0.6	6.0	6.0	T.	.....	.....
Oakdale	.....	.....	8.2	7.0	0.6	10.0	15.0	2.0	.....	42.8
Portal	.....	.....	2.0	2.0	0.0	4.0	13.0	.....	.....	21.0
Power	.....	T.	1.0	2.0	(†)	2.0	3.5	.....	.....	.....
Sheyenne	.....	6.0	6.0	5.0	0.5	8.0	5.6	.....	.....	31.1
Steele	.....	.....	5.0	(†)	2.3	3.0	3.0	.....	.....	.....
Williston	.....	T.	7.8	1.2	0.1	7.4	12.2	T.	.....	28.7
Willow City	.....	.....	.....	0.0	(†)	3.0	4.0	.....	.....	.....
Woodbridge	.....	T.	0.8	0.8	0.9	0.6	1.6	.....	.....	4.7
Ohio.										
Akron	.....	.....	T.	5.3	9.2	12.5	3.0	0.8	.....	30.8
Annapolis	.....	.....	T.	8.0	6.5	6.5	3.0	T.	.....	24.0
Ashtabula	.....	.....	1.0	11.0	12.0	15.0	2.0	2.0	.....	43.0
Celina	.....	.....	T.	0.8	1.0	2.0	1.0	.....	.....	4.8
Cherry Fork	.....	.....	.....	6.2	1.0	5.0	(†)	1.0	.....	.....
Cincinnati	.....	.....	T.	3.3	0.4	2.8	5.4	0.1	0.1	12.1
Cleveland	.....	.....	0.4	4.4	6.9	12.5	1.7	0.1	.....	26.0
Coalton	.....	.....	T.	4.0	3.0	6.0	4.0	6.0	.....	23.0
Columbus	.....	.....	T.	4.0	1.1	1.8	3.8	T.	.....	10.7
Dayton	.....	.....	.....	6.5	2.0	6.5	3.5	.....	.....	18.5

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MONTHLY AND SEASONAL SNOWFALL, 1897-98—Continued.

Stations.	1897.				1898.					Annual.
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	
Ohio—Continued.										
Defiance	.....	.....	T.	6.2	2.6	12.8	2.0	T.	.....	23.6
Garrettsville	.....	T.	5.5	6.7	10.8	5.2	2.0	0.5	.....	30.7
Gratiot	.....	.....	1.0	10.6	4.7	14.9	5.5	0.8	.....	37.5
Jacksonboro	.....	.....	T.	7.5	2.0	1.0	5.0	.....	.....	15.5
Logan	.....	.....	.....	5.5	3.5	2.5	6.0	2.5	.....	20.0
McConnelsville	.....	.....	T.	8.0	4.0	10.9	7.0	2.0	.....	31.9
Marietta	.....	.....	T.	4.0	1.5	2.5	1.0	3.0	.....	12.0
Marion	.....	.....	T.	4.7	1.0	10.2	1.8	.....	.....	17.7
Medina	.....	.....	T.	4.0	6.0	11.0	3.0	1.0	.....	25.0
Napoleon	.....	.....	.....	6.0	3.0	7.0	2.0	.....	.....	18.0
New Comerstown	.....	.....	T.	3.0	(†)	(†)	(†)	.....	.....	.....
New Holland	.....	.....	T.	7.8	2.5	5.2	5.0	.....	.....	20.5
Pomeroy	.....	.....	T.	6.0	3.5	5.5	2.5	5.5	.....	23.0
Portsmouth	.....	.....	.....	1.0	1.0	T.	3.5	.....	.....	5.5
Rockyridge	.....	.....	T.	11.1	3.0	11.2	2.2	T.	.....	27.5
Sandusky	.....	.....	T.	2.5	1.4	8.8	0.8	0.2	.....	13.7
Shenandoah	.....	.....	T.	2.9	1.9	9.6	0.6	.....	.....	15.0
Sidney	.....	.....	0.5	3.8	1.7	5.9	3.8	.....	.....	15.7
Sinking Spring	.....	.....	T.	6.0	6.5	3.0	10.0	3.0	.....	28.5
Toledo	.....	.....	0.1	4.5	3.4	6.5	1.2	T.	.....	15.7
Van Wert	.....	.....	T.	5.0	2.5	8.5	2.0	.....	.....	18.0
Wauseon	.....	.....	0.4	6.9	6.0	13.8	1.2	T.	.....	28.3
Oklahoma.										
Anadarko	.....	.....	.....	0.0	0.0	0.0	0.0	.....	.....	0.0
Arapahoe	.....	.....	.....	1.0	0.6	0.0	.....	.....	.....	1.6
Fort Reno	.....	.....	.....	T.	(†)	0.0	.....	.....	.....	.....
Fort Sill	.....	.....	.....	2.2	0.0	0.0	T.	.....	.....	2.2
Guthrie	.....	.....	.....	0.0	3.0	(†)	T.	.....	.....	.....
Jefferson	.....	.....	.....	2.0	1.0	0.0	.....	.....	.....	3.0
Mangum	.....	.....	.....	0.0	T.	0.0	.....	.....	.....	T.
Newkirk	.....	.....	.....	2.2	1.9	0.0	.....	.....	.....	4.1
Oklahoma	.....	.....	.....	0.9	6.0	0.0	.....	.....	.....	6.9
Prudence	.....	.....	.....	2.0	0.5	0.0	.....	.....	.....	2.5
Oregon.										
Albany	.....	.....	T.	0.0	3.0	0.0	.....	.....	.....	3.0
Arlington	.....	.....	.....	0.5	0.8	0.0	0.2	.....	.....	1.5
Ashland	.....	.....	.....	0.3	4.0	0.0	4.3	0.1	.....	8.7
Astoria	.....	.....	.....	.....	2.0	1.0	0.2	.....	.....	3.2
Aurora	.....	.....	2.0	0.0	1.0	0.0	.....	.....	.....	3.0
Baker City	.....	.....	6.4	9.7	8.2	3.7	1.9	1.3	0.1	31.3
Bandon	.....	.....	.....	0.0	0.0	0.0	.....	.....	.....	0.0
Bay City	.....	.....	.....	0.0	3.1	0.0	3.2	.....	.....	6.3
Beulah	.....	.....	1.5	11.5	6.0	2.4	T.	.....	.....	21.4
Brownsville	.....	.....	.....	0.0	1.0	0.0	0.5	.....	.....	1.5
Burns	.....	.....	2.0	7.0	14.5	(†)	T.	.....	.....	.....
Comstocks	.....	.....	.....	0.0	4.0	0.0	.....	.....	.....	4.0
Dayville	.....	.....	1.0	1.0	6.2	0.2	2.2	T.	.....	10.6
Eugene	.....	.....	.....	T.	1.3	0.0	2.0	.....	.....	3.3
Fairview	.....	.....	.....	0.0	5.2	0.0	7.5	.....	.....	12.7
Fife	.....	.....	8.0	5.0	9.0	4.0	3.0	T.	.....	29.0
Fort Klamath	.....	1.8	(†)	14.5	17.2	10.2	10.2	0.6	0.1	.....
Glenora	.....	.....	4.0	0.0	6.5	11.5	7.0	T.	.....	29.0
Government Camp	.....	16.0	53.0	45.0	81.0	54.0	49.0	16.0	11.0	325.0
Grants Pass	.....	.....	.....	0.0	3.0	0.0	T.	.....	.....	3.0
Happy Valley	.....	.....	5.5	3.5	12.0	2.8	2.0	0.5	.....	26.3
Heppner	.....	.....	7.5	1.8	2.2	0.9	4.5	.....	.....	16.9
Hood River	.....	.....	10.0	3.0	7.5	5.0	0.0	.....	.....	25.5
Joseph	.....	.....	15.0	9.5	18.0	7.5	23.0	9.0	1.0	83.0
Lakeview	.....	.....	7.5	6.5	14.0	1.5	1.0	0.5	.....	31.0
Lorella	.....	.....	6.0	10.5	5.0	0.0	.....	.....	.....	21.5
Newbridge	.....	.....	2.0	8.5	8.0	1.5	2.0	.....	.....	22.0
Newport	.....	.....	.....	0.0	1.0	0.0	T.	.....	.....	1.0
Pendleton	.....	.....	9.2	2.0	3.0	1.0	0.0	.....	.....	15.2
Portland	.....	.....	3.0	0.2	1.8	T.	1.5	.....	.....	6.5
Prineville	.....	.....	T.	0.0	(†)	0.1	3.0	.....	.....	.....
Riverside	.....	.....	4.0	0.0	6.8	2.0	T.	.....	.....	12.8
Roseburg	.....	.....	1.4	0.1	11.3	0.5	5.2	.....	.....	18.5
Silver Lake	.....	.....	T.	0.7	2.8	0.8	1.5	0.8	.....	6.6

† May have been snow of which no measurement was made.

MONTHLY AND SEASONAL SNOWFALL, 1897-98—Continued.

Stations.	1897.				1898.					Annual.
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	
Oregon—Continued										
The Dalles	.....	.....	4.5	4.0	1.8	0.0	.....	.....	.....	10.3
Toledo	.....	.....	.....	0.0	0.0	0.2	2.2	.....	.....	2.4
Vale	.....	.....	.....	4.7	11.0	0.5	0.0	.....	.....	16.2
Pennsylvania.										
Carlisle	.....	.....	1.0	5.0	11.0	0.5	5.0	3.5	.....	26.0
Center Hall	.....	.....	4.0	19.0	10.0	9.5	10.0	2.5	.....	55.0
Confluence	.....	T.	1.0	5.0	19.0	16.0	1.0	0.7	.....	42.7
Dyberry	.....	T.	5.3	12.0	22.0	11.5	5.0	.....	.....	55.8
East Mauch Chunk	.....	.....	3.0	8.0	14.8	1.5	7.0	3.5	.....	37.8
Emporium	.....	T.	4.1	12.6	16.6	10.2	4.2	1.6	.....	49.3
Erie	.....	.....	1.4	5.1	6.0	7.7	0.7	3.2	.....	24.1
Franklin	.....	T.	2.2	7.2	10.0	6.0	1.0	(†)	.....	.....
Grampian	.....	T.	6.0	14.0	13.0	16.0	4.0	2.0	.....	55.0
Harrisburg	.....	.....	1.5	4.7	7.5	1.3	1.6	2.3	.....	18.9
Huntingdon	.....	.....	0.8	10.6	11.0	7.5	3.0	2.0	.....	34.9
Indiana	.....	.....	0.5	(†)	7.0	10.3	(†)	(†)	.....	.....
Irwin	.....	T.	T.	13.0	3.0	(†)	T.	T.	.....	.....
Johnstown	.....	T.	T.	4.0	13.2	12.0	3.0	2.0	.....	34.2
Keating	.....	.....	0.3	12.2	6.7	8.3	2.0	T.	.....	29.5
Lawrenceville	.....	.....	3.0	8.0	5.2	5.8	5.0	2.2	.....	29.2
Leroy	.....	T.	3.6	13.5	12.5	9.7	9.7	2.5	.....	51.5
Lewisburg	.....	.....	3.5	9.0	7.0	3.0	5.2	2.0	.....	29.7
Lockhaven	.....	.....	8.0	7.5	7.0	13.0	4.0	1.0	.....	40.5
Parkers	.....	.....	0.6	4.0	12.0	9.5	4.0	.....	.....	30.1
Philadelphia	.....	.....	1.0	1.7	10.6	0.7	2.3	3.1	.....	19.4
Pittsburg	.....	T.	0.2	10.4	3.9	3.1	2.4	2.2	.....	22.2
Saegerstown	T.	T.	8.0	10.2	14.0	19.5	0.8	1.0	.....	53.5
South Eaton	.....	.....	2.0	14.0	13.0	3.0	3.5	T.	.....	35.5
Warren	.....	.....	5.0	11.0	14.0	11.1	1.0	3.2	.....	45.3
Wellsboro	.....	T.	3.8	11.0	6.5	7.5	6.5	0.5	.....	35.8
Wilkesbarre	.....	.....	3.0	13.0	5.0	0.8	0.3	3.0	.....	25.1
Rhode Island.										
Block Island	.....	.....	1.2	2.7	2.1	5.4	6.2	5.1	.....	22.7
Bristol	.....	.....	8.0	2.5	8.0	8.5	5.0	3.5	1.0	36.5
Kingston	.....	.....	9.0	4.5	15.0	7.0	10.0	5.0	1.0	51.5
Narragansett Pier	.....	.....	10.0	5.5	4.0	12.0	6.0	3.0	.....	40.5
Providence	.....	.....	7.0	4.0	20.0	11.5	7.0	3.0	.....	52.5
South Carolina.										
Blackville	.....	.....	.....	.....	T.	0.0	.....	.....	.....	T.
Charleston	.....	.....	.....	.....	0.0	0.0	.....	.....	.....	0.0
Cheraw	.....	.....	.....	.....	1.0	0.0	.....	.....	.....	1.0
Clemson College	.....	.....	.....	.....	0.5	0.0	.....	.....	.....	0.5
Columbia	.....	.....	.....	.....	0.2	0.0	.....	.....	.....	0.2
Florence	.....	.....	.....	.....	0.2	0.0	.....	.....	.....	0.2
Greenville	.....	.....	.....	.....	T.	0.0	.....	.....	.....	T.
Holland	.....	.....	.....	.....	1.0	0.0	.....	.....	.....	1.0
St. Matthews	.....	.....	.....	.....	T.	0.0	.....	.....	.....	T.
Statesburg	.....	.....	.....	.....	0.4	0.0	.....	.....	.....	0.4
Trenton	.....	.....	.....	.....	T.	0.0	.....	.....	.....	T.
South Dakota.										
Aberdeen	.....	T.	T.	4.2	0.0	1.0	3.5	.....	.....	8.7
Alexandria	.....	T.	2.5	4.5	2.0	3.0	1.0	.....	.....	13.0
Ashcroft	.....	1.0	12.5	3.0	4.0	1.5	27.8	T.	.....	49.8
Brookings	.....	.....	5.5	3.4	0.0	5.5	4.0	.....	.....	18.4
Canton	.....	.....	2.0	14.0	2.5	4.5	2.2	.....	.....	25.2
Castlewood	.....	T.	(†)	3.8	T.	(†)	1.2	T.	.....	.....
De Smet	.....	2.0	11.0	6.0	T.	7.0	6.0	.....	.....	32.0
Doland	.....	1.6	7.0	3.8	T.	2.0	5.7	T.	.....	20.1
Eureka	.....	T.	0.5	1.5	0.0	5.0	5.5	.....	.....	12.5
Fort Meade	.....	T.	5.1	T.	12.0	1.4	8.2	5.0	.....	31.7
Forestburg	.....	1.0	4.7	2.1	6.0	3.0	2.3	.....	.....	19.1
Forest City	.....	.....	2.0	1.0	2.0	1.0	4.0	.....	.....	10.0
Gann Valley	.....	2.5	4.0	5.0	T.	1.0	2.0	.....	.....	14.5
Greenwood	.....	3.0	4.0	11.8	6.5	4.5	4.3	0.2	.....	34.3
Highmore	.....	2.0	4.0	4.0	T.	(†)	8.0	.....	.....	.....
Hotch City	.....	1.0	5.2	3.5	T.	T.	2.0	.....	.....	11.7

†May have been snow of which no measurement was made.

MONTHLY AND SEASONAL SNOWFALL, 1897-98—Continued.

Stations.	1897.				1898.					Annual.
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	
South Dakota—Continued.										
Huron	.....	0.7	6.7	5.5	0.1	2.2	4.4	.....	.....	19.6
Leslie	.....	.....	T.	(†)	T.	T.	(†)	.....	.....	.....
Mellette	.....	1.0	3.0	1.0	0.0	0.5	4.5	.....	.....	10.0
Menno	.....	.....	3.0	10.3	1.5	4.0	3.5	.....	.....	22.3
Millbank	.....	.....	2.5	1.5	0.0	5.2	3.0	.....	.....	12.2
Oelrichs	.....	.....	27.0	10.0	14.5	2.5	8.0	.....	.....	62.0
Pierre	.....	.....	3.3	4.4	0.1	0.7	5.9	.....	.....	14.4
Plankinton	.....	.....	5.0	8.5	1.5	3.5	2.5	T.	.....	21.0
Rapid City	.....	.....	9.9	1.2	5.8	1.1	5.1	3.1	0.1	26.3
Rosebud	.....	4.0	(†)	24.0	12.0	0.0	12.0	4.0	.....	.....
Sioux Falls	.....	.....	2.5	6.0	2.0	1.7	3.0	.....	.....	15.2
Spearfish	.....	2.0	9.8	3.5	8.4	5.0	18.0	6.0	.....	52.7
Yankton	.....	.....	4.2	20.6	4.6	8.3	4.2	T.	.....	41.9
Tennessee.										
Andersonville	.....	.....	.....	2.0	2.0	T.	T.	.....	.....	4.0
Ashwood	.....	.....	.....	1.5	T.	1.0	0.0	.....	.....	2.5
Bristol	.....	.....	.....	T.	1.8	1.5	T.	T.	.....	3.3
Carthage	.....	.....	.....	1.7	2.1	1.7	0.0	.....	.....	5.5
Chattanooga	.....	.....	.....	T.	0.6	1.6	T.	.....	.....	2.2
Dyersburg	.....	.....	.....	3.0	T.	T.	(†)	.....	.....	.....
Florence	.....	.....	.....	4.8	1.5	T.	0.0	.....	.....	6.3
Greeneville	.....	.....	.....	2.0	3.1	1.6	T.	T.	.....	6.7
Jackson	.....	.....	.....	5.0	0.0	T.	0.0	.....	.....	5.0
Knoxville	.....	.....	.....	0.3	1.3	2.0	T.	.....	.....	3.6
McKenzie	.....	.....	.....	2.4	0.3	T.	0.0	.....	.....	2.7
Memphis	.....	.....	.....	6.0	0.0	T.	.....	.....	.....	6.0
Nashville	.....	.....	.....	4.1	1.4	0.6	.....	.....	.....	6.1
Newport	.....	.....	.....	0.5	1.5	1.0	0.0	T.	.....	3.0
Nunnelly	.....	.....	.....	3.6	T.	T.	0.0	.....	.....	3.6
Oakhill	.....	.....	.....	4.5	2.6	3.9	T.	T.	T.	11.0
Palmetto	.....	.....	.....	2.5	1.5	0.2	T.	.....	.....	4.2
Peryear	.....	.....	.....	(†)	T.	T.	T.	.....	.....	.....
Pope	.....	.....	.....	4.3	T.	T.	0.0	.....	.....	4.3
Tellico	.....	.....	.....	T.	1.1	1.7	0.0	.....	.....	2.8
Texas.										
Abilene	.....	.....	.....	1.5	3.0	0.0	0.1	.....	.....	4.6
Amarillo	.....	.....	.....	4.3	5.8	3.5	0.3	T.	.....	13.9
Ballinger	.....	.....	.....	.....	2.5	0.0	.....	.....	.....	2.5
Brownwood	.....	.....	.....	.....	0.5	0.0	.....	.....	.....	0.5
Burnet	.....	.....	.....	.....	T.	0.0	.....	.....	.....	T.
Childress	.....	.....	.....	.....	3.0	0.0	.....	.....	.....	3.0
Dallas	.....	.....	.....	.....	T.	0.0	.....	.....	.....	T.
Dublin	.....	.....	.....	.....	(†)	.....	.....	.....	.....	.....
El Paso	.....	T.	0.0	T.	0.1	0.0	T.	.....	.....	0.1
Estelle	.....	.....	.....	T.	T.	0.0	.....	.....	.....	T.
Fort Stockton	.....	.....	.....	.....	T.	0.0	.....	.....	.....	T.
Fruitland	.....	.....	.....	T.	1.5	T.	0.0	.....	.....	1.5
Galveston	.....	.....	.....	.....	0.0	0.0	.....	.....	.....	0.0
Hale Center	.....	.....	.....	0.8	3.0	0.0	0.0	T.	.....	3.8
Haskell	.....	.....	.....	2.0	1.0	0.0	.....	.....	.....	3.0
Kent	.....	.....	.....	.....	2.0	0.0	.....	.....	.....	2.0
Palestine	.....	.....	.....	T.	0.0	0.0	.....	.....	.....	T.
Rhineland	.....	.....	.....	4.6	0.0	0.0	1.0	.....	.....	5.6
Roby	.....	.....	.....	2.0	3.0	0.0	.....	.....	.....	5.0
Tulia	.....	.....	.....	.....	5.0	1.0	(†)	.....	.....	.....
Valentine	.....	.....	.....	6.0	0.0	0.0	T.	.....	.....	6.0
Utah.										
Blue Creek	.....	.....	3.0	1.5	6.0	T.	8.0	T.	.....	18.5
Cisco	.....	.....	0.0	10.2	9.5	T.	0.0	.....	.....	19.7
Corinne	.....	T.	2.0	0.5	19.0	(†)	8.5	(†)	.....	.....
Ferron	.....	1.0	0.5	11.0	4.5	4.0	3.0	T.	.....	24.0
Fort Du Chesne	.....	.....	0.0	12.0	6.0	1.0	7.5	.....	.....	26.5
Frisco	T.	0.5	(†)	10.0	3.2	1.0	1.0	2.0	4.0	.....
Giles	.....	T.	1.5	1.0	7.0	2.0	0.0	.....	.....	11.5
Heber	.....	.....	10.0	(†)	14.0	5.0	33.0	0.5	(†)	.....
Kelton	.....	.....	(†)	(†)	1.0	0.0	0.0	.....	.....	.....
Levan	.....	6.5	5.0	16.5	8.0	1.5	14.5	0.0	9.5	61.5

† May have been snow of which no measurement was made.

MONTHLY AND SEASONAL SNOWFALL, 1897-98—Continued.

Stations.	1897.				1898.					Annual.
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	
Utah—Continued.										
Loa	.....	.....	0.5	0.6	3.3	0.0	1.7	T.	0.5	6.6
Minersville	.....	T.	(†)	15.0	14.5	2.0	19.9	0.0	3.0	.....
Moab	.....	.....	1.0	11.0	7.2	1.0	1.0	.....	.....	21.2
Ogden	.....	T.	6.0	7.7	10.5	1.0	18.2	0.4	.....	43.8
Pahreah	.....	.....	0.4	3.0	26.5	(†)	T.	.....	.....	.....
Pinto	.....	16.0	4.0	16.2	22.5	4.5	3.9	.....	.....	67.1
Richfield	.....	.....	(†)	4.0	7.0	3.0	4.0	.....	.....	.....
St. George	.....	.....	.....	5.5	17.0	0.0	(†)	.....	.....	.....
Salt Lake City	.....	3.0	3.4	8.8	5.8	1.1	15.3	5.0	T.	42.4
Soldier Summit	.....	1.5	13.3	25.0	12.5	6.8	29.2	13.8	26.0	128.1
Terrace	.....	(†)	1.0	1.5	7.0	3.0	3.2	0.0	0.2	.....
Vermont.										
Brattleboro	.....	.....	10.5	21.8	37.4	40.5	3.0	3.5	.....	116.7
Burlington	.....	.....	6.0	4.0	23.5	29.0	0.5	T.	.....	63.0
Enosburg Falls	.....	.....	4.5	15.5	36.5	40.0	0.0	1.0	.....	97.5
Hartland	.....	.....	7.8	13.8	41.5	32.0	1.0	1.6	.....	97.7
Northfield	.....	.....	8.9	6.4	34.5	43.3	0.3	2.7	.....	96.1
Virginia.										
Big Stone Gap	.....	.....	.....	2.5	2.3	3.7	T.	T.	.....	8.5
Birds Nest	.....	.....	.....	0.0	0.5	T.	0.0	T.	.....	0.5
Blacksburg	.....	.....	.....	5.0	3.0	0.8	6.0	0.1	.....	14.9
Callaville	.....	.....	.....	0.0	1.0	0.0	0.0	.....	.....	1.0
Cape Henry	.....	.....	.....	T.	0.0	0.0	.....	.....	.....	T.
Clifton Forge	.....	.....	T.	6.0	4.0	0.5	T.	T.	.....	10.5
Dale Enterprise	.....	.....	T.	5.5	2.0	T.	4.0	2.0	.....	13.5
Farmville	.....	.....	.....	0.0	2.0	T.	T.	.....	.....	2.0
Fredericksburg	.....	.....	.....	1.0	4.5	2.0	3.0	T.	.....	10.5
Hot Springs	.....	.....	T.	12.0	2.0	T.	T.	.....	.....	14.0
Lynchburg	.....	.....	.....	T.	3.0	0.1	0.3	T.	.....	3.4
Manassas	.....	.....	.....	1.5	4.2	T.	2.0	1.0	.....	8.7
Marion	.....	.....	.....	6.0	2.0	1.5	(†)	T.	T.	.....
Norfolk	.....	.....	.....	0.0	T.	0.0	.....	.....	.....	T.
Richmond	.....	.....	.....	.....	3.0	T.	T.	2.0	.....	5.0
Stephens City	.....	.....	.....	5.0	1.5	T.	3.0	3.0	.....	12.5
Sunbeam	.....	.....	.....	0.0	T.	0.0	0.0	.....	.....	T.
Wytheville	.....	.....	T.	4.0	3.0	T.	3.5	0.5	T.	11.0
Washington.										
Aberdeen	.....	.....	.....	0.0	5.0	1.4	T.	.....	.....	6.4
Blaine	.....	.....	3.0	1.2	2.0	1.5	2.5	.....	.....	10.2
Bridgeport	.....	.....	(†)	17.0	T.	(†)	(†)	.....	.....	.....
Cascade Tunnel	.....	.....	131.0	124.0	69.0	(†)	(†)	.....	.....	.....
Centerville	.....	.....	11.0	3.0	2.1	0.6	2.0	.....	.....	18.7
Chehalis	.....	.....	4.0	0.0	5.0	0.0	T.	.....	.....	9.0
Clearwater	.....	.....	1.0	0.0	1.8	3.3	0.0	.....	.....	6.1
Ellensburg	.....	T.	14.0	(†)	(†)	0.0	(†)	.....	.....	.....
Fort Canby	.....	.....	.....	0.0	2.1	T.	T.	.....	.....	2.1
Fort Simcoe	.....	.....	17.0	10.0	4.0	2.0	T.	.....	.....	33.0
Hunters	.....	.....	30.5	16.7	11.0	8.5	10.0	2.0	.....	78.7
Lacenter	.....	.....	3.0	0.2	4.5	1.5	3.5	.....	.....	12.7
Lakeside	.....	.....	15.0	30.5	3.0	10.0	T.	.....	.....	58.5
Lind	.....	.....	.....	0.4	7.6	2.0	0.2	.....	.....	10.2
Loomis	.....	.....	2.0	19.0	4.5	4.0	T.	.....	.....	29.5
Madrone	.....	.....	.....	0.0	2.0	0.0	4.0	.....	.....	6.0
Mayfield	.....	.....	14.1	0.0	2.0	0.0	0.0	.....	.....	16.1
New Whatcom	.....	.....	2.0	2.0	0.5	0.2	0.0	.....	.....	4.7
Northbend	.....	.....	5.0	T.	2.0	2.0	0.0	.....	.....	9.0
Port Angeles	.....	.....	.....	.....	2.8	T.	T.	.....	.....	2.8
Port Townsend	.....	.....	1.2	0.0	0.8	T.	0.2	.....	.....	2.2
Pomeroy	.....	.....	.....	4.0	18.8	0.5	14.0	.....	.....	37.3
Rosalia	.....	.....	19.5	3.8	12.8	4.8	6.4	0.2	.....	47.5
Seattle	.....	.....	0.5	0.0	1.7	0.5	4.2	.....	.....	6.9
Spokane	.....	.....	24.2	6.3	13.2	3.7	4.4	.....	.....	51.8
Stampede	.....	4.0	41.0	44.0	(†)	(†)	36.0	1.0	.....	.....
Tacoma	.....	.....	.....	2.0	2.3	T.	T.	.....	.....	4.3
Tatoosh Island	.....	.....	2.5	0.0	4.3	2.0	T.	.....	.....	8.8
Walla Walla	.....	.....	9.8	2.6	4.9	0.2	7.5	.....	.....	25.0

† May have been snow of which no measurement was made.

MONTHLY AND SEASONAL SNOWFALL, 1897-98—Continued.

Stations.	1897.				1898.					Annual.
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	
West Virginia.										
Beverly	.....	.....	T.	13.0	17.0	7.0	5.0	9.0	.....	51.0
Bluefields	.....	.....	0.0	4.7	3.1	2.9	1.8	.....	.....	12.5
Buckhannon	.....	.....	0.8	12.0	10.0	9.5	0.5	.....	.....	32.8
Burlington	.....	.....	T.	0.5	(†)	1.5	3.0	3.0	.....	.....
Eastbank	.....	.....	T.	2.0	3.0	4.0	T.	0.8	.....	9.8
Glenville	.....	.....	0.0	3.0	5.4	12.6	T.	3.0	.....	24.0
Grafton	.....	.....	0.5	7.2	4.0	8.9	1.0	4.9	.....	26.5
Green Sulphur	.....	.....	.....	5.0	5.0	0.8	0.0	.....	.....	10.8
Huntington	.....	.....	.....	1.0	(†)	1.0	0.0	.....	.....	.....
Martinsburg	.....	.....	.....	2.0	2.0	(†)	3.0	2.0	.....	.....
Marlinton	.....	.....	1.0	4.0	9.0	3.0	6.0	2.5	.....	25.5
Parkersburg	.....	.....	T.	3.9	3.9	7.2	3.5	7.0	.....	25.5
Point Pleasant	.....	.....	T.	T.	2.0	1.0	T.	2.0	.....	5.0
Wisconsin.										
Amherst	.....	.....	6.0	7.2	9.5	11.6	13.5	8.0	.....	55.8
Bayfield	.....	T.	2.5	12.0	8.0	18.0	3.0	1.0	.....	44.5
Brodhead	.....	.....	1.0	8.0	17.5	14.0	3.5	.....	.....	44.0
Butternut	.....	T.	11.2	(†)	7.8	10.9	14.6	2.5	.....	.....
Florence	.....	2.2	11.0	4.0	3.0	11.0	14.0	9.8	.....	55.0
Grantsburg	.....	.....	7.0	3.5	4.0	4.5	12.8	2.0	.....	33.8
Greenbay	.....	.....	5.2	12.1	7.0	9.2	7.2	3.0	.....	43.7
Hayward	.....	1.0	11.2	4.1	4.8	5.6	9.0	.....	.....	35.7
Lincoln	.....	.....	6.0	9.0	6.5	6.0	(†)	.....	.....	.....
Madison	.....	.....	3.1	9.6	33.6	21.9	1.8	.....	.....	70.0
Medford	.....	.....	3.5	4.0	0.2	(†)	15.0	4.5	.....	.....
Milwaukee	.....	.....	2.1	14.2	35.4	35.4	6.3	0.8	.....	94.2
Neillsville	.....	.....	8.0	8.0	(†)	(†)	11.0	5.0	.....	.....
Osceola	.....	.....	9.0	1.5	0.3	5.3	15.2	3.0	T.	34.3
Pepin	.....	.....	5.0	5.0	2.0	15.0	4.0	2.0	.....	33.0
Pine River	.....	T.	8.7	11.8	4.3	10.4	8.0	4.5	.....	47.7
Portage	.....	.....	4.0	17.0	7.0	10.0	5.0	T.	.....	43.0
Port Washington	.....	.....	6.5	(†)	45.0	33.0	8.0	.....	.....	.....
Prairie Du Chien	.....	.....	0.5	11.8	2.5	14.0	3.5	.....	.....	32.3
Sharon	.....	.....	0.5	8.5	30.5	20.5	4.0	.....	.....	64.0
Shawano	.....	.....	3.0	13.3	5.0	10.2	6.0	11.0	.....	48.5
Valley Junction	.....	.....	6.5	10.3	4.8	16.5	7.8	1.0	.....	46.9
Watertown	.....	.....	6.0	15.2	15.0	22.5	3.5	0.5	.....	62.7
Waupaca	.....	.....	8.0	11.5	2.8	14.5	7.5	4.0	.....	48.3
Wausau	.....	.....	7.0	9.0	8.5	18.5	15.0	2.5	.....	60.5
Westfield	.....	.....	4.0	11.9	7.0	10.0	6.5	.....	.....	39.4
Wyoming.										
Big Horn Ranch	.....	18.0	6.8	7.5	1.0	3.0	17.5	7.0	.....	60.8
Carbon	.....	8.0	0.4	(†)	(†)	0.2	(†)	0.4	(†)	.....
Cheyenne	T.	9.2	6.8	12.7	4.8	0.6	3.2	1.6	14.2	53.1
Fort Laramie	T.	T.	7.6	6.8	19.1	0.5	3.8	3.0	.....	40.8
Fort Washakie	.....	7.9	4.2	21.4	2.3	0.0	14.2	3.5	12.2	65.7
Fort Yellowstone	.....	6.5	20.5	8.0	3.1	12.1	14.0	6.5	1.0	71.7
Greenriver	.....	.....	5.5	9.0	15.5	0.0	6.5	.....	.....	36.5
Lander	.....	10.3	4.4	12.9	3.3	T.	26.6	6.9	27.1	91.5
Laramie	.....	5.0	(†)	13.0	(†)	(†)	(†)	(†)	.....	.....
Lovell	.....	3.6	6.0	2.0	1.1	2.2	9.0	T.	7.0	30.9
Lusk	.....	T.	(†)	(†)	7.0	3.0	(†)	.....	.....	.....
Sheridan	.....	3.0	4.0	6.0	5.0	16.5	14.0	3.0	.....	51.5
Sundance	.....	7.0	15.0	13.0	12.0	7.0	12.0	3.0	.....	69.0
Wamsutter	.....	4.0	2.0	8.0	6.0	0.0	3.0	.....	.....	23.0
Wheatland	.....	1.0	7.0	5.0	8.0	T.	8.5	0.5	6.0	36.0
Canadian stations.										
St. Johns	.....	.....	5.4	22.0	57.7	3.1	7.0	4.5	.....	99.7
Sydney	.....	.....	10.0	10.0	41.5	13.0	12.5	6.0	0.5	93.5
Halifax	.....	.....	0.9	1.9	17.6	20.3	13.6	3.6	.....	57.9
Grand Manan	.....	.....	1.4	5.1	15.3	31.8	3.6	9.7	.....	66.9
Yarmouth	.....	.....	5.1	5.7	27.3	13.3	9.2	10.9	.....	71.5
Charlottetown	.....	T.	2.2	6.5	27.4	6.6	10.7	2.5	.....	55.9
Chatham	.....	T.	4.6	19.6	27.7	23.9	5.6	19.8	.....	101.2
Father Point	.....	T.	36.5	18.4	19.8	27.0	0.5	8.8	.....	111.0
Quebec	.....	.....	12.7	12.2	31.5	44.2	3.0	2.0	.....	105.6
Montreal	.....	.....	18.6	39.1	62.7	46.3	0.9	1.6	.....	169.2

† May have been snow of which no measurement was made.

MONTHLY AND SEASONAL SNOWFALL, 1897-98—Continued.

Stations.	1897.				1898.					Annual.
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	
Canadian stations—Continued.										
Kingston	.....	.....	(†)	(†)	18.0	9.8	0.0	2.8	.....	.....
Rockliffe	.....	.....	6.2	33.3	18.1	15.8	2.1	0.1	.....	75.6
Toronto	.....	T.	1.7	13.3	12.5	24.5	T.	0.5	.....	52.5
White River	.....	3.4	22.2	9.2	15.8	19.8	14.8	T.	0.8	86.0
Port Stanley	.....	.....	2.7	12.0	20.3	33.0	0.2	2.4	.....	70.6
Saugeen	.....	0.7	9.4	34.3	21.3	27.8	0.4	1.0	.....	94.9
Parry Sound	.....	.....	13.7	46.8	29.2	26.8	0.2	2.2	.....	118.9
Port Arthur	.....	.....	4.9	4.6	5.1	4.6	5.4	0.0	.....	24.6
Winnipeg	.....	0.2	7.2	5.4	8.9	10.7	25.3	0.0	.....	57.7
Minnedosa	.....	0.6	6.2	9.3	3.9	2.5	7.4	0.0	.....	29.9
Qu' Appelle	.....	4.5	11.4	4.3	5.6	4.0	14.6	2.4	.....	46.8
Medicine Hat	.....	3.0	31.1	4.2	4.5	10.7	16.2	2.1	.....	71.8
Swift Current	.....	0.1	14.6	8.9	5.7	8.2	20.2	5.6	.....	63.3
Calgary	.....	3.3	(†)	7.0	2.0	9.0	(†)	2.7	.....	.....
Prince Albert	.....	1.2	18.3	21.0	7.4	18.6	11.0	0.6	.....	78.1
Edmonton	.....	1.0	10.0	5.4	2.4	12.2	8.6	T.	.....	39.6
Kamloops	.....	.....	21.5	10.0	10.0	(†)	(†)	0.0	.....	.....
Battleford	.....	0.6	11.0	4.0	5.3	15.8	9.1	T.	.....	45.8
Banff	.....	7.0	26.5	6.2	2.2	24.7	9.9	5.8	19.5	101.8
Esquimault	.....	.....	0.8	0.0	1.0	1.5	0.2	0.0	.....	3.5
Ottawa	.....	.....	5.8	(†)	36.4	34.3	(†)	2.0	.....	.....

† May have been snow of which no measurement was made.

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PART VI.

MISCELLANEOUS METEOROLOGICAL TABLES AND REPORTS.

The weather of 1897: General characteristics; temperature; precipitation; relative humidity; sunshine and cloudiness; severe local storms; loss of life by tornado and lightning, etc.

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THE WEATHER OF 1897.

ALFRED J. HENRY, Chief of Division.

GENERAL CHARACTERISTICS.

January.—There were but two severe storms during the month; the first passed from the Lake region on the 22d to the Gulf of St. Lawrence on the 26th; the second moved from Florida on the 26th to New England on the 28th.

Mean pressure reduced to sea level was in excess over the Plateau region, Southern slope, Gulf and South Atlantic States; it was deficient in California, Oregon, the northern portion of the Lake region, and the St. Lawrence Valley.

Temperature was generally above normal, except in the Middle, South Atlantic, Gulf States, Ohio Valley, and Tennessee.

Precipitation was in excess of normal in the Upper Lake region, Upper Mississippi and Missouri valleys, Northern slope, Southern plateau, and southern California; elsewhere it was normal or below, the greatest deficits being noted in the South Atlantic and Gulf States. Generous snow fall covered the northern portion of the country.

February.—There were no storms of unusual violence. Pressure was above normal in New England and the St. Lawrence Valley; elsewhere it was below normal.

Temperature was generally above normal, the greatest excesses being in the Northern plateau, Missouri Valley, and the Upper Lake region. Temperature was below normal in the Middle, South Atlantic, and Eastern Gulf States.

Rain and snow fall were generally in excess of normal in the South Atlantic and Eastern Gulf States and on the Pacific coast, but below normal over the Lake region, New England, and the Mississippi Valley. Snow fall was abundant and well preserved; east of the Rocky Mountains it was deeper than usual at the close of the month.

Notable floods occurred in the Ohio and the rivers of the South Atlantic.

March.—The storms of the month were remarkably uniform in origin and direction of movement. Of the eight which passed across the Lake region and down the St. Lawrence Valley six had their origin on the eastern slope of the Rocky Mountains or in the Southwest. The movement at first was south of east, curving to the northeast in the Mississippi Valley.

The month was also remarkable for the heavy snows in the Rocky Mountain region, the heavy rains in the watershed of the Lower Mississippi and its tributaries, culminating in a region of 18 inches of rain in the valley of the Tennessee and causing most destructive floods in the Mississippi River, the abnormally low temperatures in the Dakotas and the Canadian northwest provinces and westward to the Pacific coast.

The flood in the Lower Mississippi was made the subject of a special report (Bulletin E of the Weather Bureau).

April.—The chief characteristics of the month were heavy rains in the valley of the Mississippi and its tributaries and the steady increase of dangerous floods in these rivers.

Pressure was generally in excess throughout the United States and Canada. A remarkable rise occurred in Washington and Oregon, characteristic of the establishment of the summer season, but at a much earlier date than usual.

Temperature was above normal in a majority of districts, the greatest excesses being in the Upper Lake region, New England, the Western Gulf, and the Northern plateau. The greatest deficits were in the Middle and Southern plateau and North Dakota.

May.—The great flood in the Lower Mississippi River began to decline at the close of the month. Heavy rains fell in the upper watershed of the Rio Grande, thus preparing for subsequent floods in the lower part of that river.

The storms of the month followed the northern boundary with but a single exception.

Temperature was considerably in excess on the Northern slope and over the Plateau region; elsewhere it was generally below normal.

June.—The paths of the centers of low pressure did not generally pass over the States east of the Mississippi; most of them passed north of the Lake region.

Mean pressure was generally deficient, as was also mean temperature in the northern sections east of the Rocky Mountains. The mean temperature was the lowest on record in the Lake region, Middle States, and New England.

Precipitation was in excess from Kansas to New England, but was deficient on the central Gulf coast.

July.—There were no features of special interest in this month. As usual, mean pressure was low in the region extending from Hudson Bay southwest to the head of the Gulf of California. It was abnormally low, especially in the Missouri and Upper Mississippi valleys.

Temperature was below normal in the Rocky Mountain Plateau region, the South Atlantic States, and Florida; elsewhere, with a few unimportant exceptions, it was above normal, the greatest excess being in the Lake region.

Precipitation was in excess over a small region in New Hampshire, Vermont, western Massachusetts, Connecticut and eastern New York, and New Jersey. In the center of this area the rainfall for the month was from 18 to 20 inches. Heavy rains also fell on the Florida peninsula and in Minnesota; in the last-named State a maximum of 13 inches for the month was noted at Sandy Lake Dam. Rainfall was much below normal in the west Gulf States.

August.—Rainfall was generally deficient and temperature in excess. Agricultural interests generally began to feel the increased dryness of the air and the failure of rainfall. No severe storms reached the United States from the West Indies, but one was reported to have struck the coast of Mexico and the Gulf of California.

September.—No storm of wide extent occurred within the borders of the United States, although several West India hurricanes passed near Gulf and Atlantic coast stations, the most noteworthy being those of the 13th and 21st. The first named was severe on the Texas coast, where, owing to high winds and tides, 13 lives were lost and property valued at $150,000 was destroyed. The hurricane of the 21st skirted the south Atlantic coast and disappeared south of New England on the 24th. Reports from incoming vessels indicated that it was quite severe off Hatteras on the 22d.

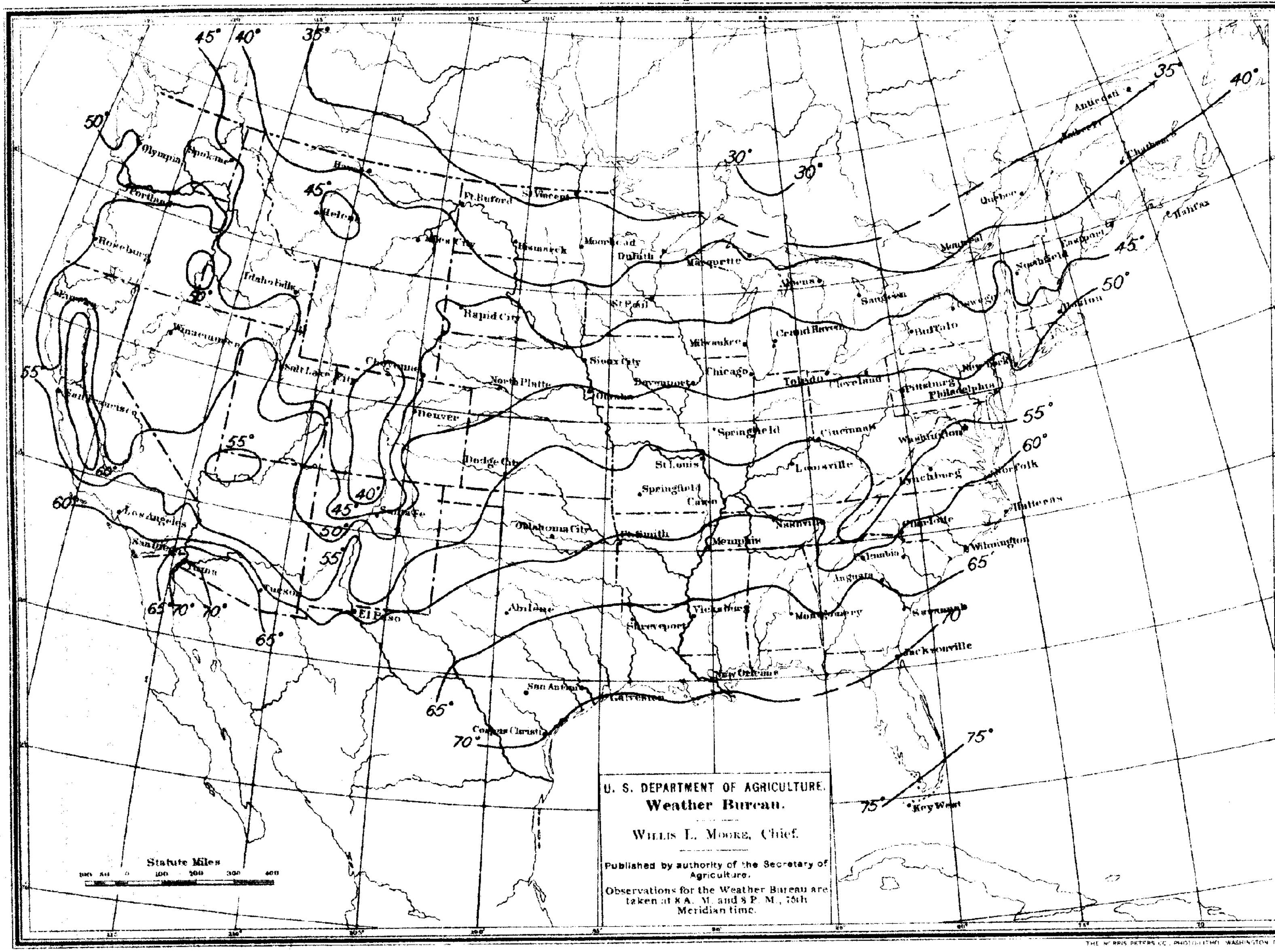
Temperature was unusually high in the Upper Mississippi and Missouri valleys, and generally above normal elsewhere, except in Florida and on the north Atlantic and the Pacific coasts.

The drought that began in some districts in August continued throughout September. No rain fell during the month over a considerable area in northern Mississippi, western Tennessee, and parts of the adjoining States of Kentucky, Alabama, Louisiana, and Arkansas. In all there were 18 States in which the measured rainfall at one or more stations was not more than a trace. The rainfall of August and September was less than 50 per cent of the normal in practically the whole of the Ohio and the greater portion of the Missouri and Mississippi basins.

October.—Unusual warmth and dryness in almost all sections were the chief characteristics of the month.

Average Surface Temperature, 1897.

Chart I.



The mean temperature was the highest on record at points in the west Gulf States, Mississippi and Ohio valleys, the Lake region, and western Kansas. The month was also one of the dryest that has been experienced during the last twenty-five years.

Two tropical storms occurred during the month. The first was not especially severe, but the second increased in violence as it moved slowly northward along the Atlantic coast, causing high tides and destructive gales, especially from Hatteras northward to the mouth of Chesapeake Bay.

November.—There were four severe storms during the month, three of which moved from the eastern Rocky Mountain slope to the Canadian maritime provinces and New England by way of the Lake region. The fourth storm was confined to the north Pacific coast; it was especially severe at the mouth of the Columbia River, where the wind blew at an average rate of 63 miles per hour for 38 consecutive hours.

Temperature was much below normal in North Dakota and Montana; elsewhere the departures from normal were not of special interest.

Heavy rains fell on the north Pacific coast, in eastern Washington, Idaho, the Ohio Valley, Lower Lake region, the Middle States, and New England. Generally less than an inch was recorded at the majority of stations in Florida, Georgia, Alabama, and central Mississippi.

December.—No severe or destructive storms occurred during the month.

Unseasonable temperatures with heavy frosts in places occurred in southern California and Arizona on the 3d and again on the 19th, 20th, 21st, and 22d, the cold of the last-named period being the most severe of the month.

The remarkably low temperature of forty-three degrees below zero (−43°) occurred at Havre, Mont., on the morning of the 2d. During this great cold there was almost no movement of the surface air, the total wind travel for the day being 8 miles.

A cold wave with rain, changing to sleet and snow on its front, spread southward and eastward from Montana on the 14th.

The rain and sleet storm of the 19th–20th in northern Texas, Arkansas, western Tennessee, and Missouri damaged electric wires, trees, and shrubbery quite severely.

The precipitation of the month was on the whole nearly normal in the majority of districts, the greatest departure being on the north Pacific coast, where there was an average excess of 3.7 inches. The greatest negative departure was on the middle Pacific coast, −3.0 inches.

TEMPERATURE.

The mean annual temperature at the surface of the ground is approximately shown by the isotherms (lines of equal temperature) on Chart I, or the individual figures that may be found under appropriate headings in the tables of Part III.

The isotherms east of the one hundredth meridian show the distribution of temperature with considerable accuracy, the general elevation of the land surface at points where observations were made being not far from 1,000 feet. West of that meridian the elevation at which observations were made varies from sea level on the Pacific coast to about 7,000 feet at Santa Fe, N. Mex. The isothermal lines show the surface temperature at the various points occupied by Weather Bureau stations, but it does not follow that they truly indicate the temperature at intermediate points in the Mountain and Plateau regions. Isothermal lines drawn over a region of such varied topography should be studied in connection with a hypsometric chart.

The mean annual temperature was above normal at the great majority of stations and in 14 of 21 geographic districts; it was below normal in four and about normal in the remaining three.

The abnormal features of the year were the cold period in March on the Pacific coast, the Rocky Mountain and Plateau regions, and North Dakota, and the hot weather of September and October.

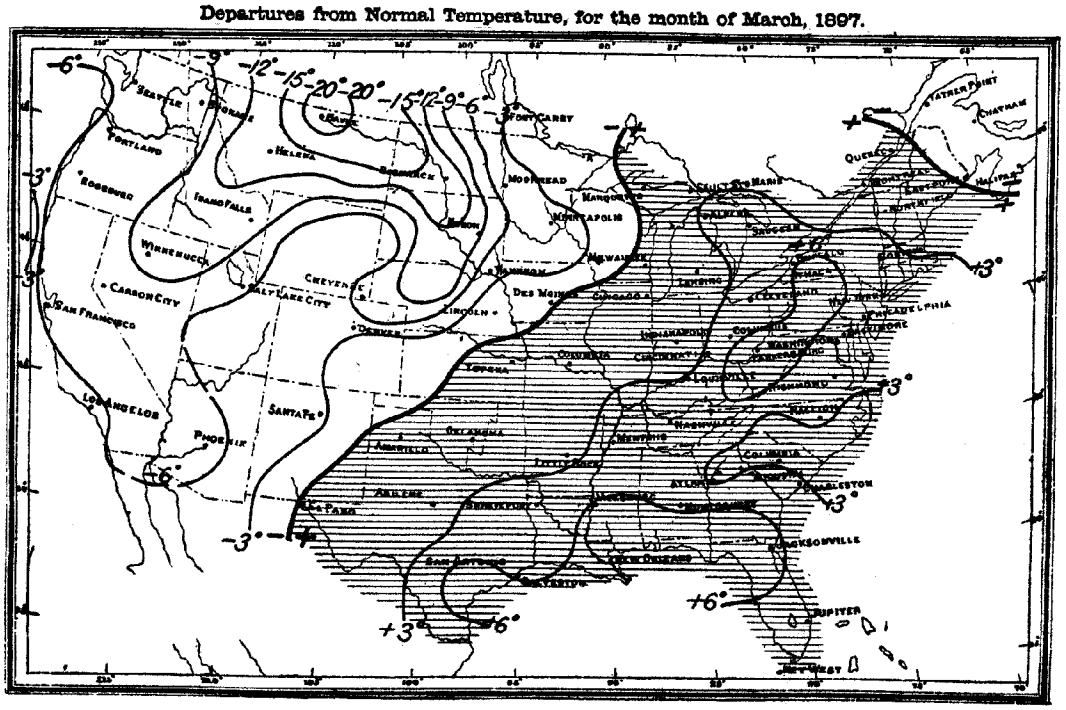
In March temperature was from 3° to 20° below normal from the Upper Mississippi Valley westward to the Pacific coast, including the eastern Rocky Mountain slope and the Plateau region southward to the Mexican boundary. Temperature was above normal over the eastern half of the country, as shown by the small chart on page 264. It is to be noted in connection with the latter, which has been reproduced from the Climate and Crop Bulletin of March, 1897, that the

region of greatest deficiency in temperature is coincident with that part of the country in which the absolute range of temperature is the greatest. The magnitude of departures from normal temperature seems to depend, in a measure, upon local causes as well as accidental changes in atmospheric conditions.

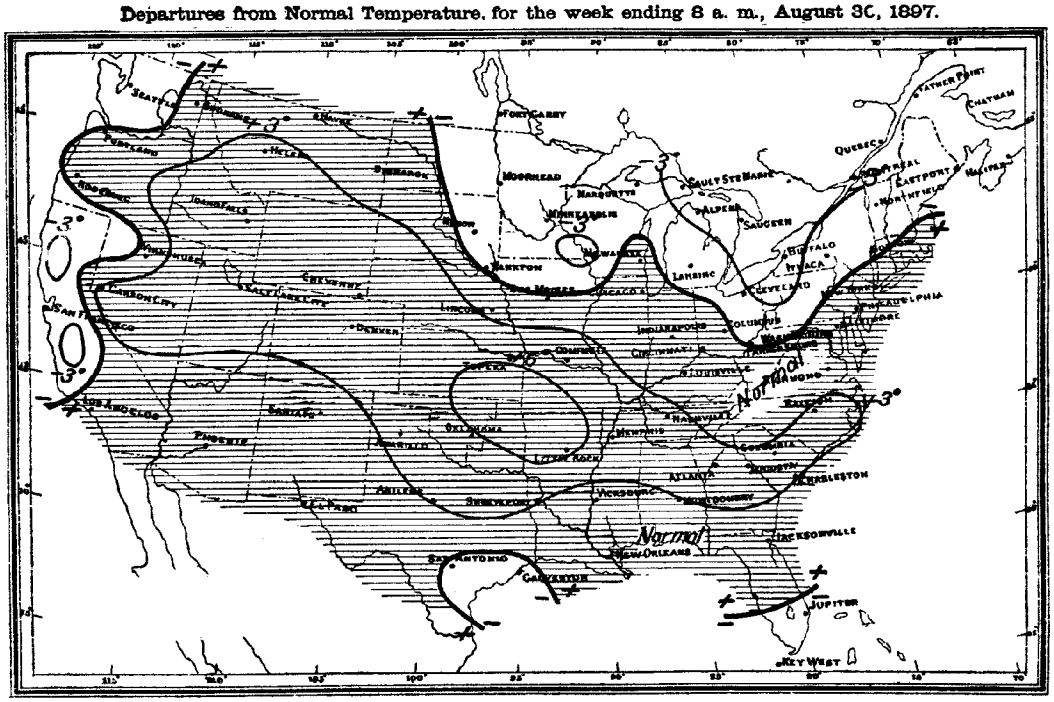
September, 1897, was unusually warm, especially so in the States of Iowa, Illinois, Missouri, Kansas, Nebraska, North Dakota, South Dakota, and Minnesota. In this large region the daily excesses of temperature exceeded 5° on the average of the month. Maximum temperatures, ranging from 90° to 100°, prevailed almost continuously from the 1st to the 16th. Prostrations, and in a few cases deaths, due to the extreme heat occurred in Chicago on the 9th, 10th, 11th, 13th, 14th, and 15th. The unusual heat was coupled with clear skies, southwesterly winds, and a low degree of humidity, conditions which are not especially hurtful to the human organism, however injurious they may be to vegetable life. Cool nights in many localities greatly lessened the discomfort of the heat. Serious bodily discomfort is rarely experienced except when the minimum temperature, or the temperature of nighttime, does not fall below 75°. It will be noticed that in the majority of cases in the table following the temperature of nighttime fell to or below 75°; also that the temperature of evaporation and the relative humidity were low, except in a few cases. No prostrations by heat were reported from the harvest fields or in the smaller towns and cities.

On the 14th an area of cloud and rain formed in Kansas and Nebraska and passed eastward, reaching the Atlantic coast on the 17th, bringing relief from the unseasonable temperatures that had prevailed since the first of the month. The departures from normal temperature during the cold period and also the duration, extent, and intensity of the hot wave are shown by the charts and table following.

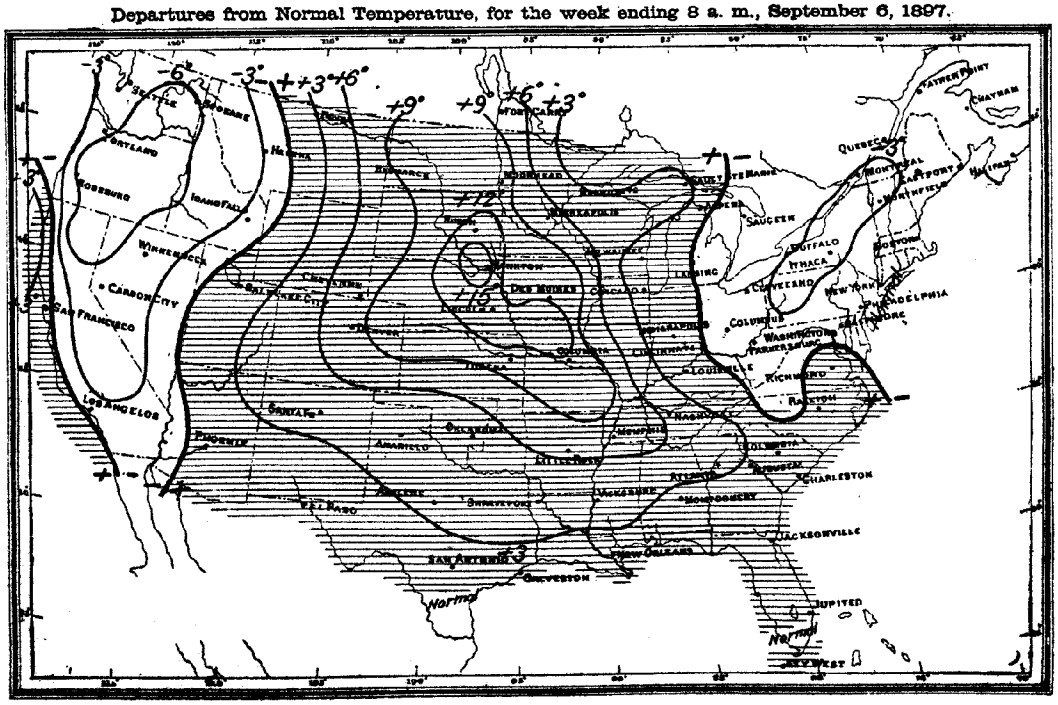
Departures from Normal Temperature, for the month of March, 1897.



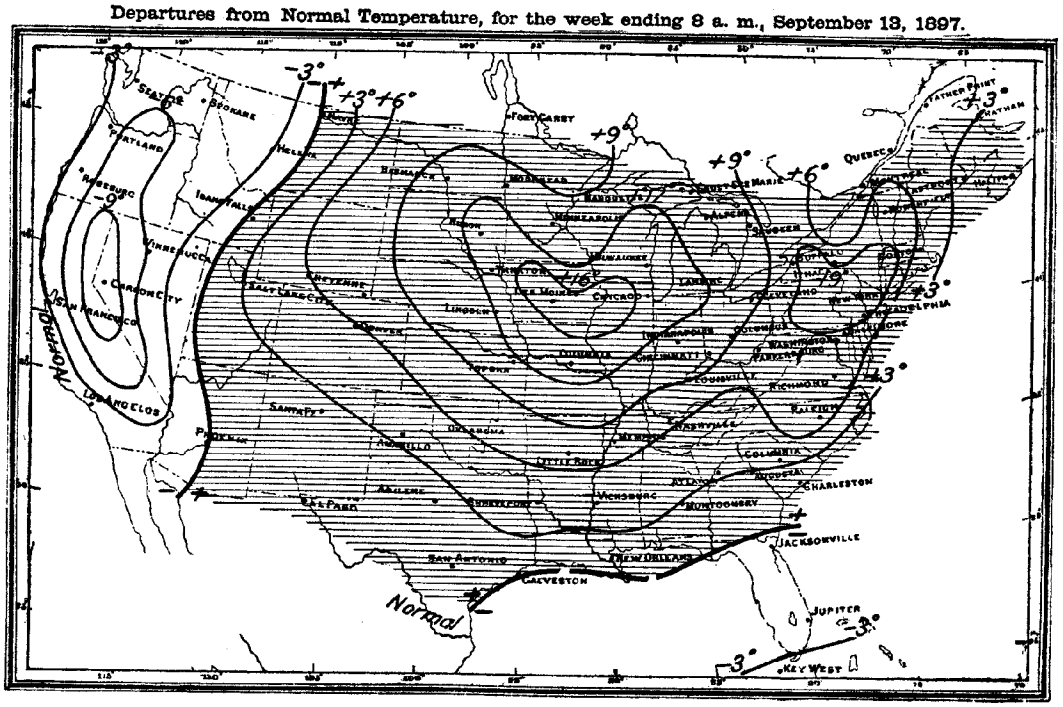
Departures from Normal Temperature, for the week ending 8 a. m., August 30, 1897.



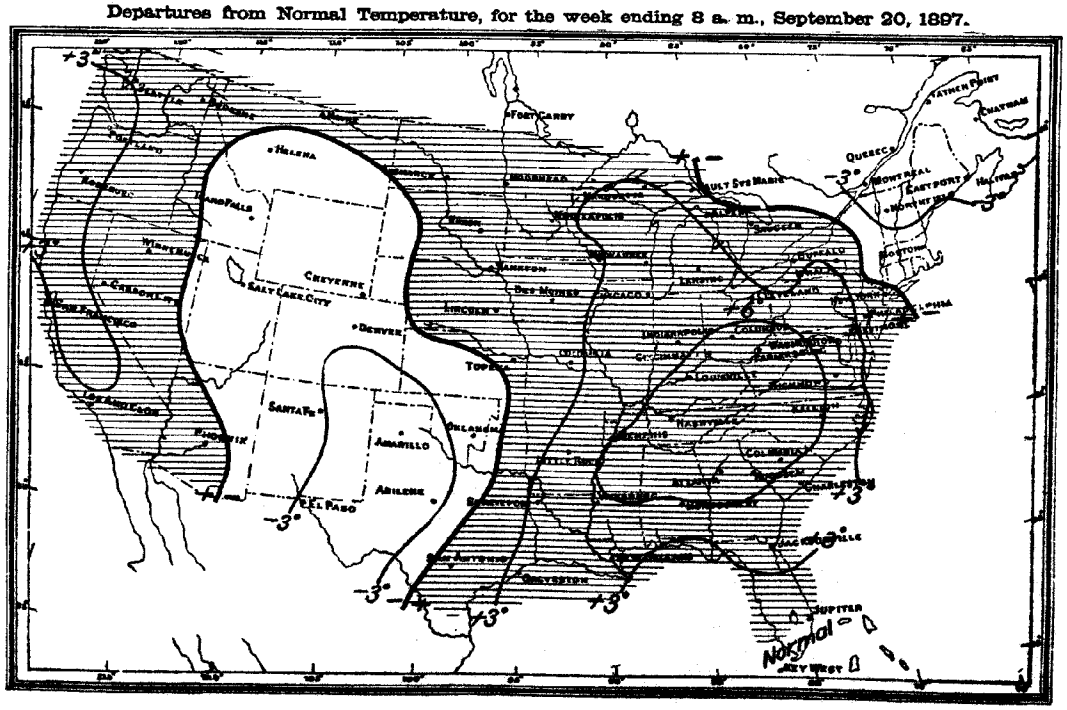
Departures from Normal Temperature, for the week ending 8 a. m., September 6, 1897.



Departures from Normal Temperature, for the week ending 8 a. m., September 13, 1897.

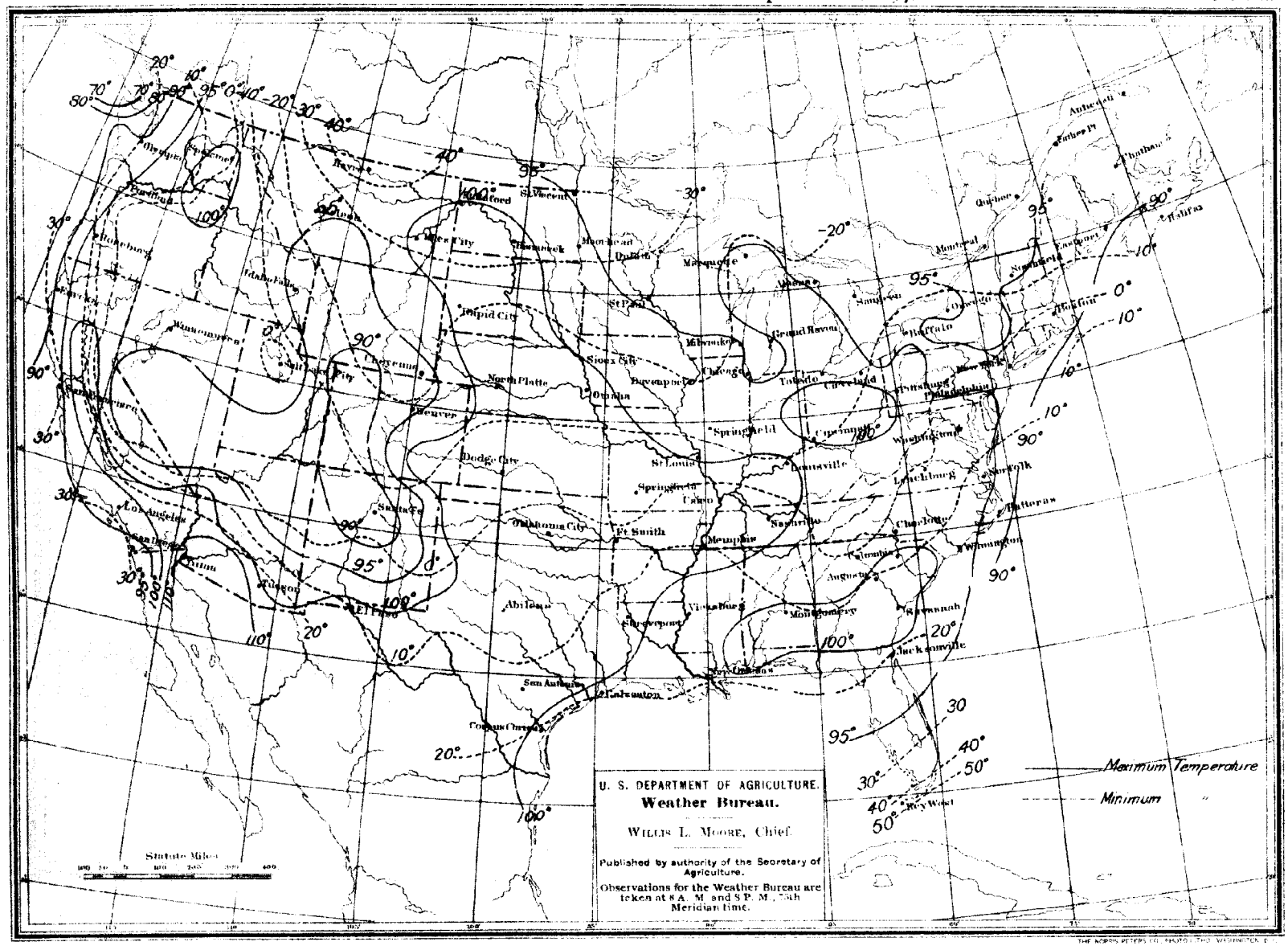


Departures from Normal Temperature, for the week ending 8 a. m., September 20, 1897.



Annual Maximum and Minimum Temperatures, 1897.

Chart II.


U. S. DEPARTMENT OF AGRICULTURE.
Weather Bureau.
WILLIS L. MOORE, Chief.
Published by authority of the Secretary of Agriculture.
Observations for the Weather Bureau are taken at 8 A. M. and 8 P. M., 75th Meridian time.
Maximum Temperature
Minimum "
Statute Miles
Olympia
Spokane
Portland
Baker
Roseburg
Boise
Idaho Falls
Winnemucca
Salt Lake City
Cheyenne
Rapid City
Miles City
Bismarck
St. Vincent
Moorhead
Duluth
Marquette
St. Paul
Sioux City
Omaha
North Platte
Davenport
Chicago
Milwaukee
Grand Haven
Toledo
Cleveland
Pittsburg
Philadelphia
New York
Buffalo
Oswego
Sandusky
Quebec
Montreal
Eastport
Portland
Boston
Nantucket
Hatteras
Wilmington
Norfolk
Lynchburg
Washington
Cincinnati
Louisville
Nashville
Chattanooga
Memphis
Cairo
Springfield
St. Louis
Dodge City
Oklahoma City
Ft. Smith
Abilene
Shreveport
Vicksburg
Montgomery
Atlanta
Augusta
Savannah
Jacksonville
Key West
New Orleans
Galveston
Corpus Christi
San Antonio
El Paso
Tucson
Yuma
Santa Fe
Los Angeles
San Diego
Denver
Pueblo
Helena
Havre
Williston
Huron
Bismarck
Moorhead
St. Vincent
Duluth
Marquette

CLIMATIC STATISTICS DURING THE CONTINUANCE OF THE HOT WEATHER.

BISMARCK, N. DAK.

September, 1897.	Max. temp.	Min. temp.	Wet thermometer. 8 a.m.	Wet thermometer. 8 p.m.	Relative humidity. 8 a.m.	Relative humidity. 8 p.m.	Daily wind movement.	September, 1897.	Max. temp.	Min. temp.	Wet thermometer. 8 a.m.	Wet thermometer. 8 p.m.	Relative humidity. 8 a.m.	Relative humidity. 8 p.m.	Daily wind movement.
	°	°	°	°	%	%	Miles.		°	°	°	°	%	%	Miles.
1	74	54	53	66	87	65	224	10	63	48	45	54	79	55	198
2	96	62	64	69	89	33	306	11	86	56	54	67	80	43	231
3	100	75	64	65	50	24	422	12	78	55	57	58	87	41	141
4	84	61	58	60	74	29	210	13	83	56	50	70	65	67	255
5	87	54	48	62	43	30	260	14	84	61	62	57	78	32	276
6	90	60	57	68	79	43	312	15	63	42	43	43	86	90	241
7	102	58	57	64	86	18	154	16	58	32	31	46	85	58	157
8	100	62	60	65	42	52	363								
9	67	49	46	53	79	42	273	Mean	82	55	53	60	74	45	251

CHICAGO, ILL.

1	71	65	60	67	60	86	344	10	94	70	63	68	52	54	361
2	69	64	63	65	88	85	397	11	73	67	68	68	90	93	389
3	71	66	63	66	78	81	401	12	86	70	69	72	82	77	223
4	76	62	58	68	65	75	405	13	82	72	63	70	54	86	308
5	85	64	59	67	66	40	382	14	91	72	71	70	86	44	258
6	85	71	61	68	52	66	344	15	91	74	67	77	64	64	491
7	84	68	60	66	52	53	361	16	81	64	70	62	82	66	361
8	92	74	62	70	45	41	389								
9	94	73	63	66	48	32	362	Mean	83	68	64	68	66	65	361

OMAHA, NEBR.

1	99	74	67	72	70	36	216	10	84	61	58	72	79	78	108
2	97	72	68	70	78	39	178	11	86	67	67	74	92	63	125
3	94	71	66	69	73	38	272	12	93	73	69	72	84	48	122
4	96	70	64	69	61	34	258	13	93	72	65	69	67	38	142
5	98	78	68	70	50	38	240	14	86	72	67	70	70	54	232
6	92	71	64	67	66	38	227	15	86	68	68	74	95	72	109
7	92	69	64	70	70	40	248	16	76	50	49	50	76	44	338
8	90	72	66	69	69	39	277								
9	92	72	66	70	73	44	195	Mean	91	69	65	69	73	46	205

ST. LOUIS, MO.

1	96	75	70	73	78	42	161	10	96	75	66	70	62	36	154
2	94	75	68	74	65	48	166	11	95	77	69	73	65	54	140
3	93	72	68	73	75	54	194	12	98	74	68	67	64	27	88
4	91	67	63	67	70	36	160	13	95	74	66	73	57	49	146
5	93	70	64	67	70	34	153	14	96	73	69	72	74	44	180
6	93	68	67	68	82	35	136	15	98	75	70	73	74	42	208
7	95	71	62	72	48	41	151	16	91	69	71	70	63	84	269
8	95	74	69	68	67	32	156								
9	96	74	66	68	60	33	164	Mean	95	73	67	70	66	43	164

The lowest annual averages within the United States in degrees Fahr. were: Williston, 38.8; Moorhead, 39.2; Bismarck and Duluth, 39.5 each. The highest were: Key West, 77.2; Jupiter, 74.1; Tampa, 72.2; Corpus Christi, 70.7; Galveston, 70.2.

The extreme temperatures of the year or the absolute maxima and minima, are given in the tables of Part III and are shown by the isotherms on Chart II. The absolute range of temperature during the year is easily obtained by comparing the full and dotted lines on this chart.

Maximum temperatures equaling or exceeding 105° occurred at Shreveport, Topeka, Abilene, Phœnix, Yuma, Walla Walla, Redbluff, Sacramento, and Fresno.

Minimum temperatures of — 25 or lower occurred at Duluth, Moorhead, Bismarck, Williston, Minneapolis, St. Paul, Huron, and Havre.

The only portions of the country not visited by frost, assuming that frost does not occur with air temperatures above 32°, were the southern end of the peninsula of Florida and the coast line of southern California.

The annual range of temperature was large, as usual, in North Dakota and the Northern Slope, viz: Havre, 140°; Bismarck, 138°; Williston, 136°; and Moorhead, 129°. The smallest annual ranges were: Key West, 40°; Eureka, 52°; and San Diego, 53°.

The average daily departure of temperature from the normal in the various geographic districts is shown in Table I.

TABLE I.—TEMPERATURE DEPARTURES, 1897, BY GEOGRAPHIC DISTRICTS.

[+ above, — below, the normal.]

District.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average for year.
	°	°	°	°	°	°	°	°	°	°	°	°	°
New England	+0.5	+1.1	+ 2.0	+1.6	+0.4	−2.5	+0.6	+0.1	+0.1	+1.6	−0.8	+0.8	+0.46
Middle Atlantic States	−1.8	+0.1	+ 3.8	+0.8	−0.5	−1.7	0.0	+0.2	+0.7	+1.4	+0.1	+0.9	+0.33
South Atlantic States	−3.3	+0.5	+ 3.5	+0.3	−1.5	+1.6	−0.4	+0.6	0.0	+1.5	+1.7	+1.0	+0.46
Florida Peninsula	−2.9	+2.2	+ 4.4	−1.2	−1.6	+0.5	−1.3	−0.1	−1.8	−1.3	+1.7	+1.0	−0.03
East Gulf States	−2.6	−0.7	+ 5.5	−1.6	−1.6	+2.1	+0.8	−0.1	+1.1	+3.0	+1.9	+0.6	+0.70
West Gulf States	−0.3	+1.9	+ 4.2	−0.6	−0.7	+0.6	+1.1	+0.7	+2.1	+4.1	+1.1	−3.2	+0.92
Ohio Valley and Tennessee	−1.9	+0.8	+ 3.9	−0.6	−3.9	−0.2	+0.6	+0.2	+3.8	+5.5	+0.6	−0.4	+0.72
Lower Lake Region	−0.8	+1.3	+ 3.4	+1.3	−1.4	−2.4	+2.2	−1.1	+2.4	+4.0	−0.4	−1.0	+0.62
Upper Lake Region	+2.5	+4.2	+ 1.1	+1.0	−0.5	−2.1	+3.0	−0.3	+5.8	+5.1	−1.1	−2.8	+1.32
North Dakota	+3.5	−0.7	−11.6	+1.8	+3.1	−1.7	+0.6	−0.8	+9.5	+4.4	−5.6	+0.3	+0.23
Upper Mississippi Valley	+1.0	+2.8	− 0.5	−0.7	−1.1	−0.3	+1.4	−0.9	+7.9	+6.6	−1.5	−5.2	+0.81
Missouri Valley	+2.1	+1.1	− 1.8	−0.9	+0.4	−0.3	+1.5	−1.3	+9.0	+5.4	−1.5	−4.8	+0.74
Northern Slope	+3.9	+0.5	− 9.0	0.0	+5.6	−1.2	−1.9	0.0	+5.1	+2.1	−2.7	−2.5	−0.01
Middle Slope	+2.6	+0.2	− 0.8	−0.5	+0.8	+0.4	+0.2	+0.1	+5.6	+3.6	+0.6	−4.4	+0.70
Southern Slope	−3.2	+3.6	+ 0.8	−1.2	−0.8	+0.2	+0.4	+0.2	0.0	+1.8	+1.8	−3.6	0.00
Southern Plateau	+0.3	−1.6	− 4.4	+0.6	+1.7	−1.1	−1.6	−0.3	+1.2	−1.3	+2.2	−3.2	−0.62
Middle Plateau	+3.0	−3.3	− 8.5	−0.5	+5.2	−1.5	−2.4	+2.2	+0.1	−1.0	+2.1	−4.2	−0.73
Northern Plateau	+4.2	+5.4	− 6.6	+1.5	+5.0	−0.5	−3.6	+2.8	+0.1	+0.3	+0.9	−1.7	+0.65
North Pacific Coast	+1.9	+1.1	− 5.6	+1.2	+1.6	+0.2	−1.6	+2.4	−0.8	0.0	−1.4	+1.1	+0.01
Middle Pacific Coast	+0.2	−0.7	− 5.3	+1.8	+1.5	+0.3	+0.6	−0.4	−0.3	0.0	−2.4	−0.9	−0.47
South Pacific Coast	+1.3	−0.9	− 4.5	+1.2	+0.7	−1.3	−0.6	−0.2	−0.6	−2.7	−0.3	−1.1	−0.75

An accurate conception of the temperature of a place must include a knowledge of the diurnal range and the variability. The diurnal range expresses the number of degrees on the thermometric scale passed over between the warmest hour of daytime and the coldest hour of nighttime, or the difference between the daily maximum and daily minimum temperatures. The average daily range is not given in the published tables, but it can be obtained by taking the difference between the figures in the columns under mean temperature headed "Max." and "Min." Thus the mean daily range in July, 1897, at New Orleans was 90.9°—76.4°=14.5; Denver, Colo., 84.0°—55.5°=28.5°.

In general, the range is least near the sea and greatest over plateaus and deserts. Compare the daily range at Galveston and El Paso, Tex.

Variability is the term by which climatologists express the accidental changes in the daily mean temperature of one day as compared with the next. It may be expressed in several ways, as, for example, in the table following.

TABLE II.—NUMBER OF DAYS DURING 1897 THAT THE DAILY MEAN TEMPERATURE WAS NORMAL OR DIFFERED THEREFROM BY 1° TO 5°, 6° TO 10°, 11° TO 20°, 21° AND OVER, RESPECTIVELY.

Month.	Key West, Fla.					San Diego, Cal.					San Francisco, Cal.					Phœnix, Ariz.				
	Normal.	1°-5°	6°-10°	11°-20°	21° +	Normal	1°-5°	6°-10°	11°-20°	21° +	Normal.	1°-5°	6°-10°	11°-20°	21° +	Normal.	1°-5°	6°-10°	11°-20°	21° +
January	0	21	9	1	.....	3	25	3	.....	.....	4	25	2	.....	.....	1	23	7	.....	.....
February	0	17	11	.....	.....	2	23	3	.....	.....	4	20	4	.....	.....	1	18	7	2	.....
March	0	18	13	.....	.....	4	24	3	.....	.....	0	14	17	.....	.....	1	11	13	6	.....
April	4	25	1	.....	.....	4	23	1	2	.....	3	16	7	4	.....	4	16	9	1	.....
May	3	28	.....	.....	.....	11	20	.....	.....	.....	1	23	5	2	.....	0	24	7	.....	.....
June	11	18	1	.....	.....	5	25	.....	.....	.....	6	21	2	1	.....	4	20	5	1	.....
July	9	20	2	.....	.....	9	22	.....	.....	.....	4	25	2	.....	.....	2	27	2	.....	.....
August	9	22	.....	.....	.....	4	23	3	1	.....	8	22	1	.....	.....	4	24	3	.....	.....
September	0	26	4	.....	.....	9	15	6	.....	.....	3	21	4	2	.....	5	16	9	.....	.....
October	4	27	.....	.....	.....	4	27	.....	.....	.....	3	20	8	.....	.....	6	14	8	3	.....
November	4	25	1	.....	.....	5	20	5	.....	.....	1	25	4	.....	.....	1	17	7	5	.....
December	3	21	7	.....	.....	1	18	8	4	.....	1	26	4	.....	.....	0	19	8	4	.....
Year	47	268	49	1	.....	61	265	32	7	.....	38	258	60	9	.....	29	229	85	22	.....

Month.	St. Paul, Minn.					Memphis, Tenn.					Charleston, S. C.					Boston, Mass.				
	Normal.	1°-5°	6°-10°	11°-20°	21° +	Normal.	1°-5°	6°-10°	11°-20°	21° +	Normal.	1°-5°	6°-10°	11°-20°	21° +	Normal.	1°-5°	6°-10°	11°-20°	21° +
January	1	10	5	9	6	0	10	7	7	7	2	12	9	6	2	3	11	11	6	.....
February	0	8	5	14	1	1	15	6	4	2	1	19	6	2	.....	2	12	10	4	.....
March	0	10	10	8	3	0	14	8	9	.....	2	11	14	4	.....	3	11	10	7	.....
April	1	16	9	4	.....	5	13	9	3	.....	4	20	5	1	.....	0	14	10	6	.....
May	0	13	9	9	.....	2	18	10	1	.....	4	21	6	.....	.....	4	17	10	.....	.....
June	0	13	10	7	.....	3	18	9	.....	.....	0	26	4	.....	.....	2	15	8	5	.....
July	3	17	10	1	.....	3	15	13	.....	.....	6	23	2	.....	.....	0	15	15	1	.....
August	1	20	9	1	.....	1	20	8	2	.....	4	26	1	.....	.....	3	22	6	.....	.....
September	0	11	6	13	.....	0	8	18	4	.....	4	22	2	2	.....	2	16	10	2	.....
October	0	16	3	11	1	0	7	17	7	.....	3	17	10	1	.....	1	14	12	3	1
November	0	15	7	6	2	0	13	11	6	.....	2	15	8	5	.....	3	14	6	7	.....
December	1	9	5	12	4	3	10	7	10	1	1	18	11	1	.....	1	10	8	9	3
Year	7	158	88	95	17	18	161	123	53	10	33	230	78	22	2	24	171	116	50	4

Normal temperature.—Charts of normal sea-level temperatures were published in the Report of the Chief of the Weather Bureau, 1896–97, page 278. There has been some inquiry for a series of charts showing the normal observed monthly mean temperature not corrected for elevation or local peculiarities of temperature. Charts Nos. III to XVI form such a series, and the accompanying numerical data are presented in Table III.

The figures in the table are the simple arithmetical means of the observed temperatures for the number of years specified in the column, "Length of record." The observations cover the period 1871–1895. In some cases the mean of a short series has been corrected and reduced to the mean of the full period, as may be seen by appropriate reference marks.

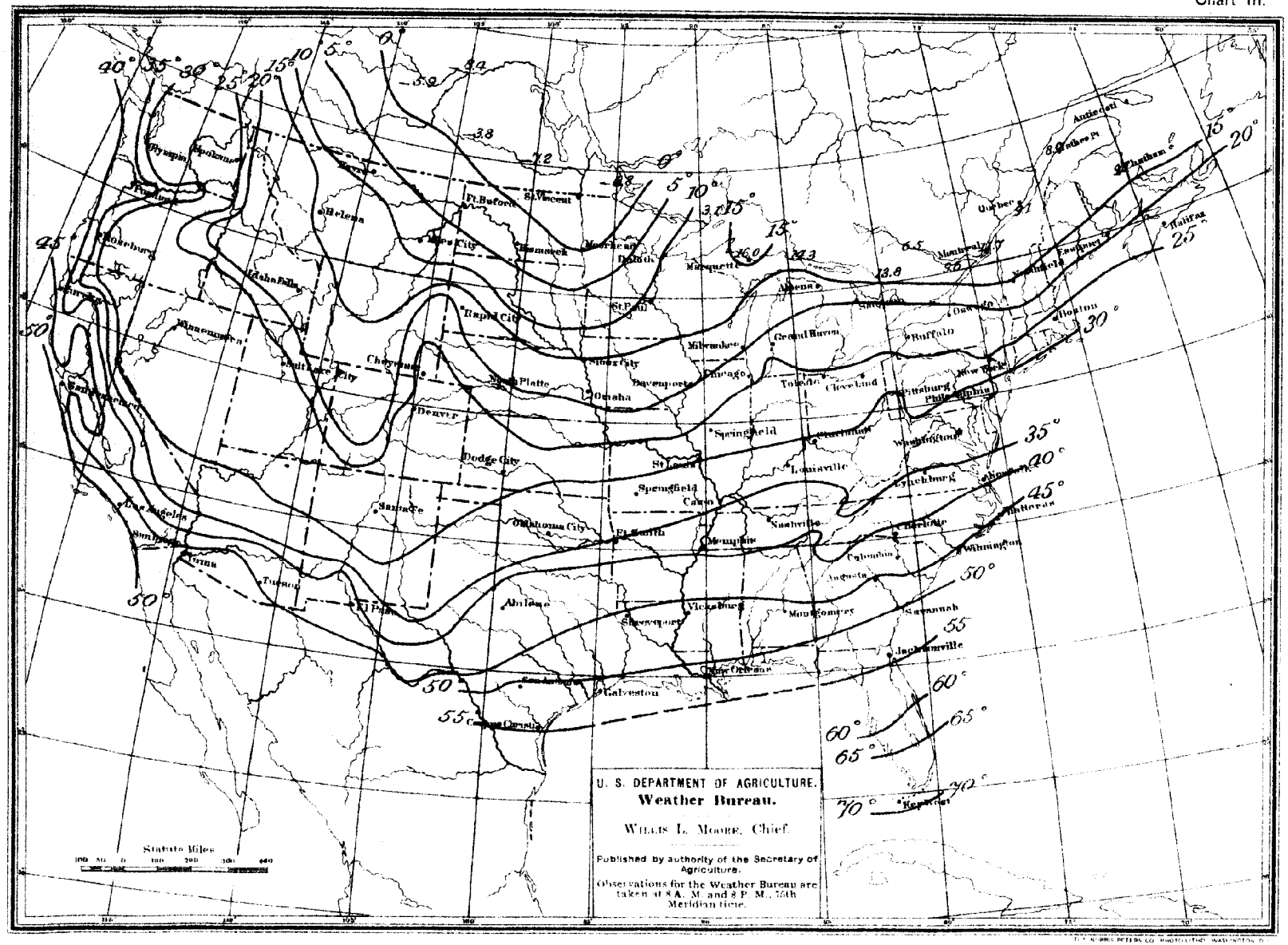
TABLE III.—NORMAL MONTHLY AND ANNUAL TEMPERATURE.

Station.	Latitude.		Longitude.		Height. Ground above sea.	Height. Thermometer above ground. First.	Height. Thermometer above ground. Last.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.	Length of record.
	°	′	°	′	Feet.	Ft.	Ft.	°	°	°	°	°	°	°	°	°	°	°	°	°	Yrs.
Abilene	32	23	99	40	1,728	42	47	42.8	45.9	54.1	65.3	72.2	78.4	82.7	80.2	74.6	64.5	52.0	47.5	63.4	10
Albany	42	39	73	45	26	9	84	23.2	24.2	31.9	46.0	59.3	69.0	72.4	70.5	63.1	50.6	39.2	28.6	48.2	22
Alpena	45	05	83	30	590	31	61	18.1	18.0	24.0	37.1	49.0	60.3	65.3	63.5	57.2	45.2	32.8	24.8	41.3	24
Amarillo	35	13	101	50	3,672	53	54	31.9	35.6	44.9	55.3	64.2	72.4	76.0	72.9	67.4	56.2	45.5	36.3	54.9	*6
Atlanta	33	45	84	23	1,073	78	92	42.5	48.0	51.5	61.6	68.8	75.7	78.4	76.5	71.5	62.2	51.8	45.3	61.2	15
Atlantic City	39	22	74	25	.....	....	68	32.5	33.9	37.6	46.8	57.2	66.8	71.9	71.8	66.7	56.3	44.7	36.4	51.9	21
Augusta	33	28	81	54	136	18	89	46.6	50.4	55.5	64.2	72.0	78.8	81.1	79.4	74.4	63.7	53.4	47.7	63.9	25
Baker City	44	50	117	50	3,447	49	49	22.8	25.0	35.5	44.6	52.7	56.7	66.0	66.1	55.8	48.1	36.8	28.5	44.9	7
Baltimore	39	18	76	37	104	34	68	34.0	36.2	41.5	53.1	64.2	73.5	77.2	74.9	67.9	56.9	45.4	37.5	55.2	25
Bismarck	46	47	100	38	1,670	5	16	4.5	9.5	22.6	42.1	54.2	63.8	69.5	67.5	57.0	43.8	25.9	14.7	39.6	21
Block Island	41	10	71	36	24	8	39	31.1	30.8	34.8	43.4	52.4	62.0	68.4	68.0	63.6	53.6	44.9	36.2	49.1	15
Boise City	43	37	116	08	2,880	25	19	27.8	35.0	44.2	51.2	58.4	65.9	72.9	72.0	61.4	50.4	39.2	32.2	50.9	13
Boston	42	21	71	04	16	70	115	27.0	28.0	34.2	45.1	56.5	66.3	71.3	69.1	62.4	51.9	40.6	31.1	48.6	25
Brownsville	25	53	97	36	38	20	47	58.6	63.4	67.8	74.2	78.5	82.7	83.9	83.3	79.8	75.0	65.9	61.6	72.9	16
Buffalo	42	53	78	53	606	73	178	24.4	24.5	30.0	41.7	54.0	65.0	69.7	68.5	62.1	50.3	38.2	29.8	46.5	25
Cairo	37	00	89	10	317	62	87	34.7	39.4	46.8	58.9	67.1	75.4	78.9	77.0	69.9	58.7	46.2	39.2	57.7	24
Cape Henry	36	56	76	00	8	13	5	40.5	42.5	46.1	54.6	64.7	73.4	77.7	76.3	71.9	61.8	52.1	43.8	58.8	23
Cape May	38	56	74	51	10	24	52	34.4	35.7	39.5	48.2	58.6	68.2	73.6	73.2	68.1	58.9	46.6	37.9	53.6	14
Carson City	39	10	119	46	4,674	....	18	30.8	33.9	40.8	47.9	56.1	63.2	70.1	68.6	59.8	48.9	38.4	34.0	49.4	21
Charleston	32	47	79	56	10	40	60	50.0	52.8	56.7	64.6	72.4	79.1	81.8	80.5	76.0	66.7	57.6	51.5	65.8	25
Charlotte	35	13	80	51	752	35	68	41.2	45.0	49.9	59.7	68.4	75.8	78.2	76.1	71.1	60.3	49.9	43.6	59.9	17
Chattanooga	35	04	85	15	705	45	106	41.0	45.5	50.5	60.9	67.7	75.2	77.8	75.9	70.7	60.5	49.9	43.6	59.9	17
Cheyenne	41	08	104	48	6,065	19	58	25.0	27.3	32.8	40.9	50.6	60.9	66.9	65.0	56.2	44.9	34.2	28.5	44.4	24
Chicago	41	53	87	37	597	58	241	23.4	26.8	34.1	45.6	56.1	66.7	72.0	70.9	64.2	52.0	38.4	29.3	48.3	24
Chincoteague	37	55	75	23	6	30	22	32.8	36.4	39.6	48.2	58.7	68.1	73.9	73.0	69.0	59.8	47.2	38.3	53.8	14
Cincinnati	39	06	84	30	553	68	153	32.5	36.4	42.2	54.6	64.7	73.8	77.4	75.0	68.1	56.4	43.9	36.6	55.1	25
Cleveland	41	30	81	42	649	30	190	26.2	28.0	33.5	45.7	57.7	67.8	71.5	69.6	63.8	52.2	39.7	31.2	48.9	25
Columbia, S. C	34	00	81	03	295	....	5	46.4	50.0	54.2	63.0	72.0	78.1	81.3	78.6	73.8	64.1	54.9	48.5	63.7	*
Columbus	39	58	83	00	764	52	87	28.4	32.1	38.1	51.2	62.0	71.3	74.9	72.3	66.1	53.7	41.2	33.3	52.1	17
Concordia	39	35	97	41	1,380	42	42	23.2	28.2	39.0	55.3	62.1	72.3	77.1	74.4	67.8	54.5	40.0	33.0	52.2	11
Corpus Christi	27	49	97	23	4	42	42	55.5	59.0	62.8	71.3	75.4	79.9	81.7	81.4	78.8	72.5	63.0	59.3	70.1	*9
Davenport	41	30	90	38	578	46	71	20.0	25.3	34.9	49.7	60.7	70.9	75.0	72.8	64.7	52.1	36.8	27.8	49.2	24
Denver	39	45	105	00	5,218	37	79	28.2	32.2	38.8	46.9	56.4	66.4	71.7	70.1	61.9	50.5	38.0	32.0	49.4	24
Des Moines	41	35	93	37	815	33	84	17.5	23.1	34.7	50.5	60.4	70.1	74.5	72.0	64.1	52.2	36.4	26.8	48.5	17
Detroit	42	20	83	03	599	96	160	24.5	26.2	32.5	45.7	57.5	67.9	71.6	69.7	62.9	51.0	38.1	29.5	48.1	25
Dodge	37	45	100	00	2,485	14	44	26.6	31.8	41.6	53.7	62.9	72.6	77.6	75.2	67.6	55.1	40.2	32.6	53.1	21
Dubuque	42	30	90	44	644	38	49	17.3	22.6	32.9	48.6	59.9	69.5	74.3	71.6	63.2	50.6	35.0	25.9	47.6	22
Duluth	46	47	92	06	685	19	95	10.4	14.5	24.0	37.9	48.0	57.8	65.9	64.7	56.2	44.9	29.4	17.8	39.3	25
Eastport	44	54	66	59	38	32	69	20.4	22.0	28.7	38.6	47.5	55.1	60.4	60.6	55.8	46.8	36.7	25.5	41.5	22
El Paso	31	47	106	30	3,709	17	10	44.5	49.4	55.8	63.8	72.3	80.2	81.9	79.0	73.1	63.0	51.5	46.1	63.4	17
Erie	42	07	80	05	660	32	92	26.9	27.5	32.4	44.1	56.7	67.0	71.0	69.5	63.6	52.2	41.0	32.4	48.7	22
Eureka	40	48	124	11	29	60	60	46.3	46.2	48.6	49.6	52.7	54.7	55.8	56.5	55.4	53.2	50.6	47.8	51.4	10
Fort Apache	33	48	109	57	5,000	6	5	35.3	40.2	45.8	52.4	60.3	68.5	72.7	72.0	65.9	55.4	43.6	39.0	54.2	12
Fort Benton	47	50	110	40	2,674	50	7	12.4	21.0	31.0	43.4	55.2	63.4	69.7	68.2	56.0	44.5	28.8	21.3	43.0	11
Fort Bridger	41	28	110	30	6,639	16	16	18.7	22.4	27.8	37.7	49.9	58.9	65.6	63.8	54.3	42.7	31.1	22.0	41.0	18
Fort Canby	46	16	124	04	177	7	10	40.9	41.7	45.4	48.0	52.6	55.5	58.5	59.1	57.0	53.4	48.2	43.8	50.3	12
Fort Concho	31	25	100	24	1,750	6	6	42.9	49.0	57.6	64.8	73.7	80.8	83.7	81.7	74.8	65.7	52.3	45.8	64.4	16
Fort Custer	45	42	107	34	2,725	4	17	14.5	19.9	33.6	46.6	55.2	64.4	71.1	70.0	58.7	47.6	33.2	22.9	44.8	12
Fort Davis	30	38	103	56	4,923	3	15	43.2	48.4	53.5	60.7	68.5	76.3	76.8	74.0	68.2	61.7	50.5	45.8	60.6	9
Fort Elliott	35	30	100	21	2,673	6	7	32.4	38.2	47.0	57.1	64.8	73.9	78.3	76.2	69.7	58.1	43.5	37.6	56.4	11
Fort Grant	32	39	109	57	4,776	6	15	43.4	46.6	52.4	58.8	67.4	75.8	78.8	76.2	71.9	63.0	51.2	46.4	61.0	13
Fort Laramie	42	14	104	29	.....	....	....	28.0	30.6	36.6	46.0	56.4	68.2	75.1	72.5	63.7	49.1	34.7	27.3	48.8	26
Fort Maginnis	47	12	109	10	4,365	7	20	15.5	19.6	31.6	42.2	49.7	58.8	65.4	64.7	54.4	43.8	32.6	25.2	42.0	8
Fort Sherman	47	45	116	46	.....	....	....	25.2	27.0	37.7	45.9	54.0	60.5	67.0	66.4	56.2	46.8	36.6	30.8	46.3	12
Fort Smith	35	22	94	24	438	18	63	36.1	41.5	50.0	62.2	68.2	76.1	80.0	77.7	72.3	61.1	49.3	42.8	59.8	14
Fort Stanton	33	30	105	26	6,146	21	17	32.6	39.2	42.7	50.2	56.8	64.6	68.4	65.8	60.0	51.8	40.4	36.0	50.7	8
Fort Stockton	30	53	102	53	.....	6	6	43.0	48.8	56.6	63.9	72.2	78.8	80.6	78.0	71.9	63.4	50.6	45.5	62.8	9
Fort Sully	44	39	100	39	1,600	18	16	10.2	15.4	27.8	46.9	58.2	69.2	75.6	72.4	62.6	49.1	31.2	20.4	44.9	15
Fort Wingate	35	28	108	32	.....	....	....	29.8	34.4	42.1	49.2	60.1	69.8	73.3	70.2	63.4	52.5	39.4	32.8	51.4	26
Fresno	36	43	119	49	293	36	67	44.5	50.2	54.5	60.8	68.0	74.0	81.5	81.7	74.5	64.9	55.4	46.3	63.0	8
Galveston	29	18	94	50	5	37	85	52.7	57.0	62.5	69.6	75.8	81.6	83.9	83.2	79.5	72.3	62.4	57.1	69.8	25
Grand Haven	43	05	86	13	599	16	55	24.2	25.0	30.6	43.6	54.4	64.4	68.8	67.0	60.9	49.6	37.1	29.6	46.3	25
Green Bay	44	31	88	00	586	50	49	14.2	16.2	26.7	43.0	53.9	66.7	70.0	66.7	60.5	46.9	32.1	23.8	43.4	9
Hannibal	39	41	91	20	509	75	75	25.9	30.5	39.5	53.7	63.1	72.4	76.7	74.2	66.7	55.0	40.2	31.9	52.5	*5
Harrisburg	40	16	76	52	340	94	94	30.3	32.5	36.2	50.1	60.2	70.5	72.9	72.1	64.4	52.5	42.4	34.4	51.5	8
Hatteras	35	15	75	40	8	8	17	45.7	46.6	50.1	57.2	66.4	74.0	77.9	77.4	73.7	64.5	55.6	48.2	61.4	21
Havre	48	34	109	40	2,477	5	15	9.7	13.2	29.0	44.0	53.3	61.3	67.5	65.6	54.9	44.0	29.9	20.6	41.1	15
Helena	46	34	112	04	4,062	6	88	17.1	21.7	32.6	43.5	51.8	59.4	67.2	66.5	55.8	45.2	31.5	25.3	43.1	17
Huron	44	21	98	14	1,290	18	63	7.0	12.0	27.6	46.4	55.1	66.7	70.9	68.4	60.1	48.5	29.5	19.2	42.5	14
Idaho Falls	43	29	112	04	4,714	14	10	16.1	20.0	31.3	43.8	52.3	60.0	68.3	67.6	57.5	45.0	30.0	23.0	42.9	*8
Independence	36	48	118	12	3,883	50	50	38.4	42.8	49.7	57.3	65.4	75.4	80.3	77.6	70.0	58.7	47.8	39.3	58.6	12
Indianapolis	39	46	86	10	712	46	154	28.3	32.3	39.5	52.9	63.2	72.5	76.2	73.6	66.0	54.4	40.9	33.1	52.7	25
Jacksonville	30	20	81	39	8	20	69	55.2	58.4	62.0	68.9	74.9	80.1	82.1	81.1	77.6	69.7	61.4	56.0	69.0	24
Jupiter	26	57	80	07	1	13	13	65.7	67.1	67.8	72.0	75.7	79.0	80.8	81.0	79.6	75.4	71.8	66.7	73.6	8
Kansas City	39	05	94	37	896	86	78	25.4	31.0	40.5	54.4	64.2	73.4	77.5	75.7	67.5	55.7	40.7	31.9	53.2	25
Keeler	36	35	117	50	3,619	4	7	40.4	46.2	52.2	58.6	67.4	73.3	80.3	80.7	74.7	62.8	49.7	44.0	60.8	9
Keokuk	40	22	91	26	579	47	64	28.2	28.3	37.6	52.0	62.6	72.5	76.9	74.5	66.4	54.1	38.8	29.8	51.4	24
Key West	24	34	81	49	6	42	42	69.7	71.4	72.7	76.1	79.4	82.5	83.9	83.9	82.5	78.5	74.2	70.0	77.1	24
Knoxville	35	56	83	58	937	....	80	37.7	42.3	47.6	58.2	66.2	73.6	76.4	74.8	69.3	57.5	46.6	39.9	57.2	25
La Crosse	43	49	91	15	679	66	70	14.7	20.1	30.8	47.4	59.4	68.9	72.9	70.1	61.6	49.5	33.4	23.6	46.0	23
Lander	42	50	108	45	5,373	16	28	16.7	21.9	30.7	42.6	51.0	59.2	67.0	65.0	55.9	44.2	30.1	22.7	42.2	10

* Corrected and reduced to a 20-year period.

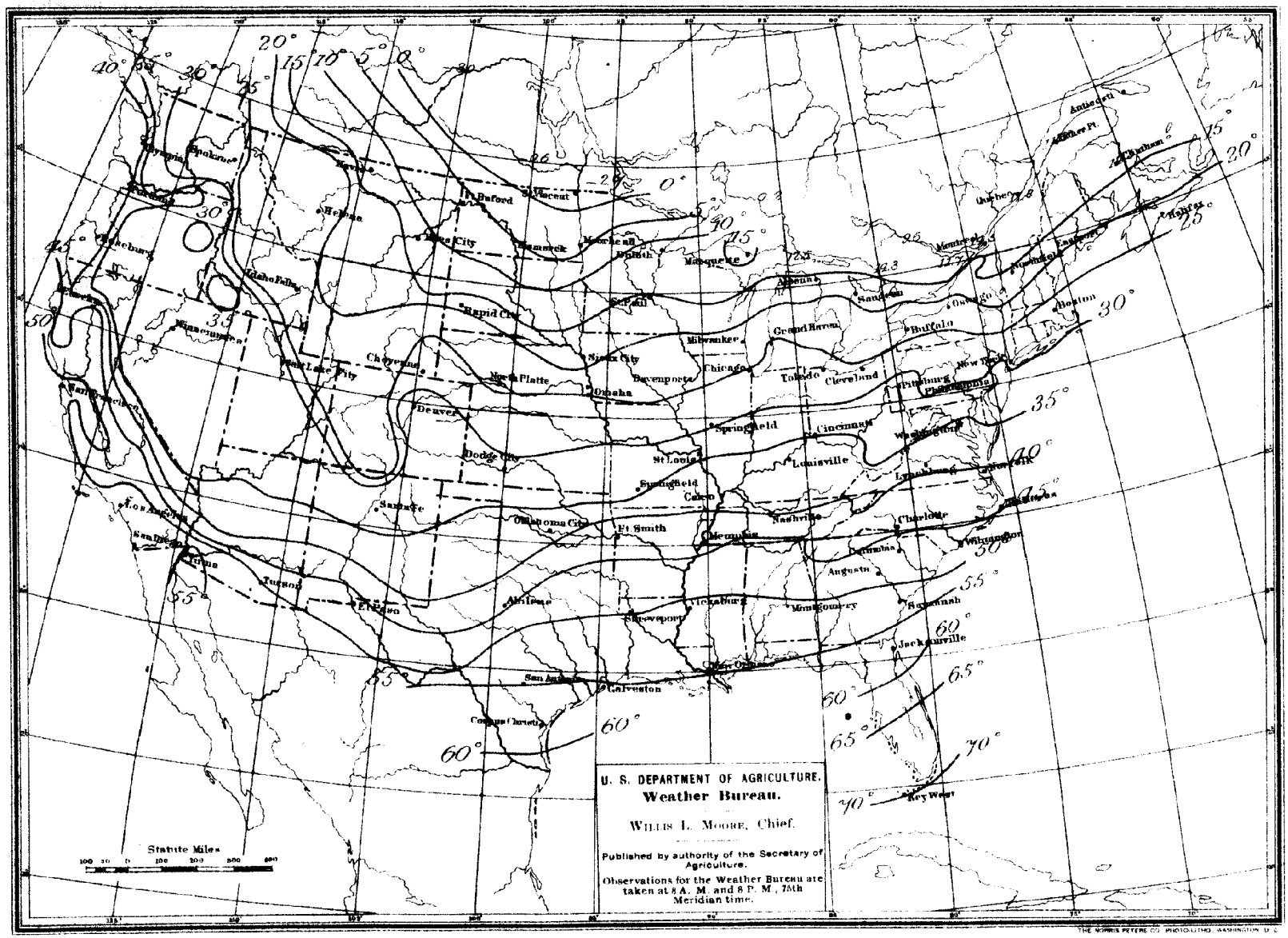
Normal Surface Temperature for January.

Chart III.



Normal Surface Temperature for February.

Chart IV.



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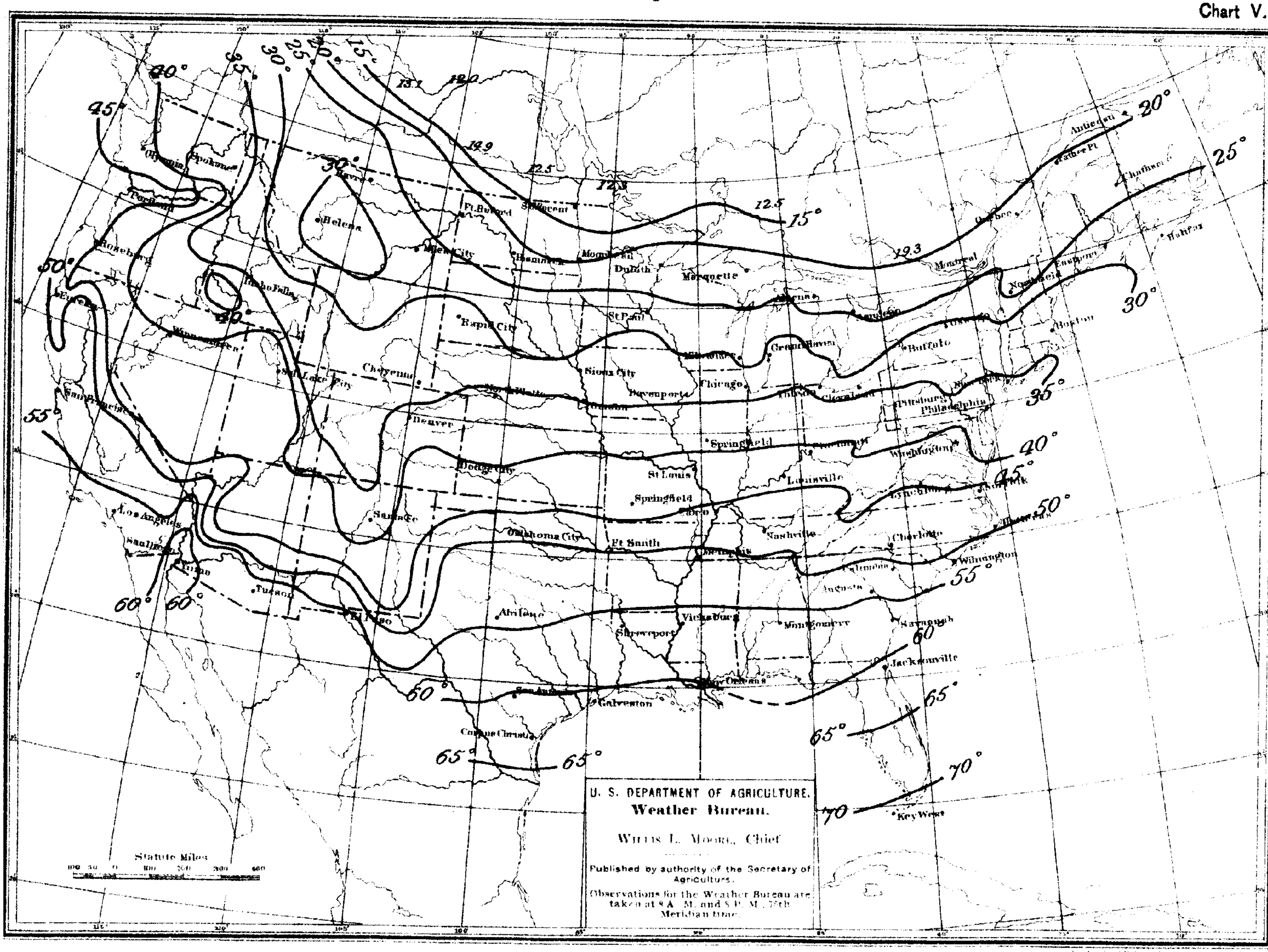
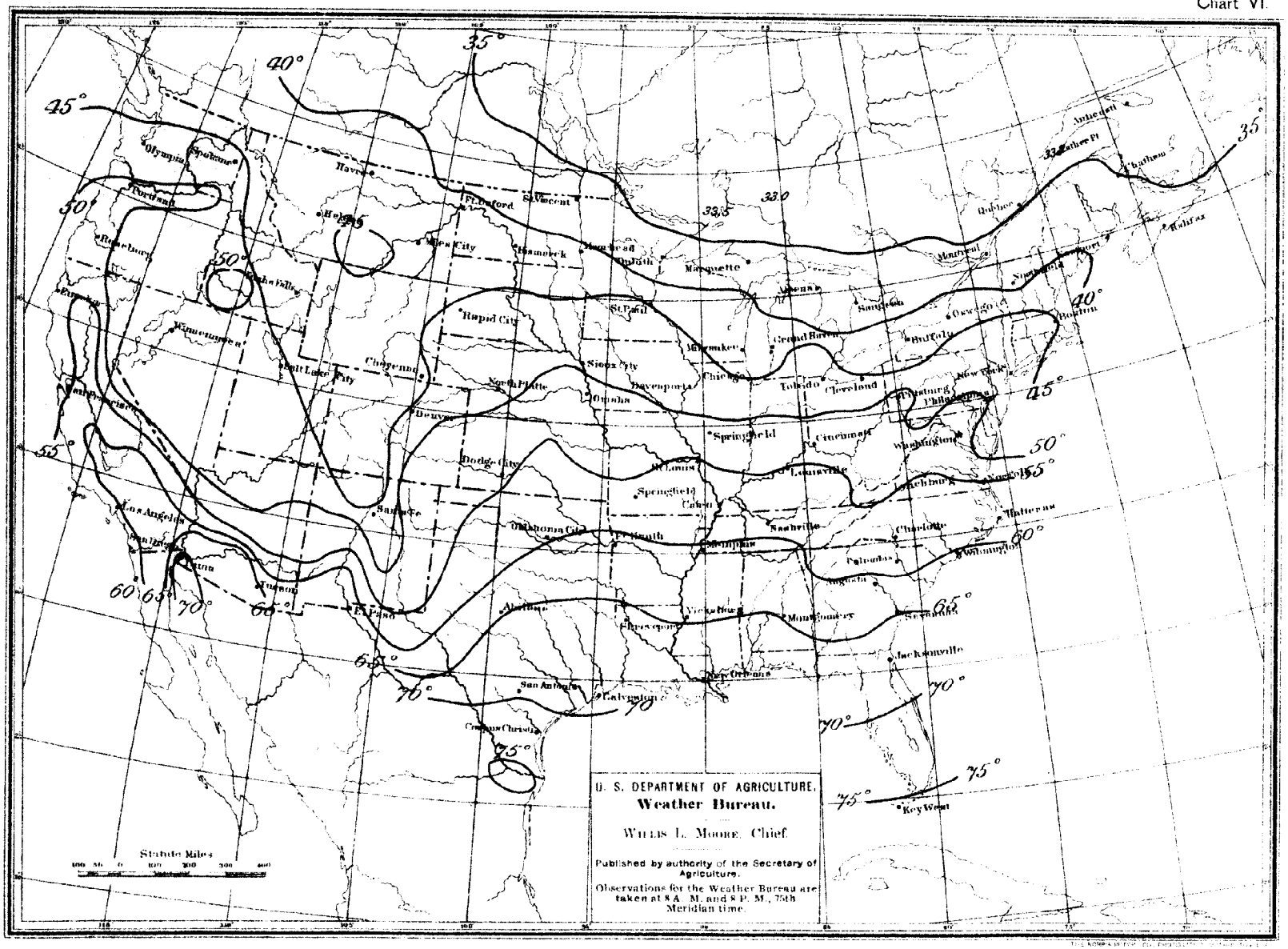
Normal Surface Temperature for March.

Chart V.



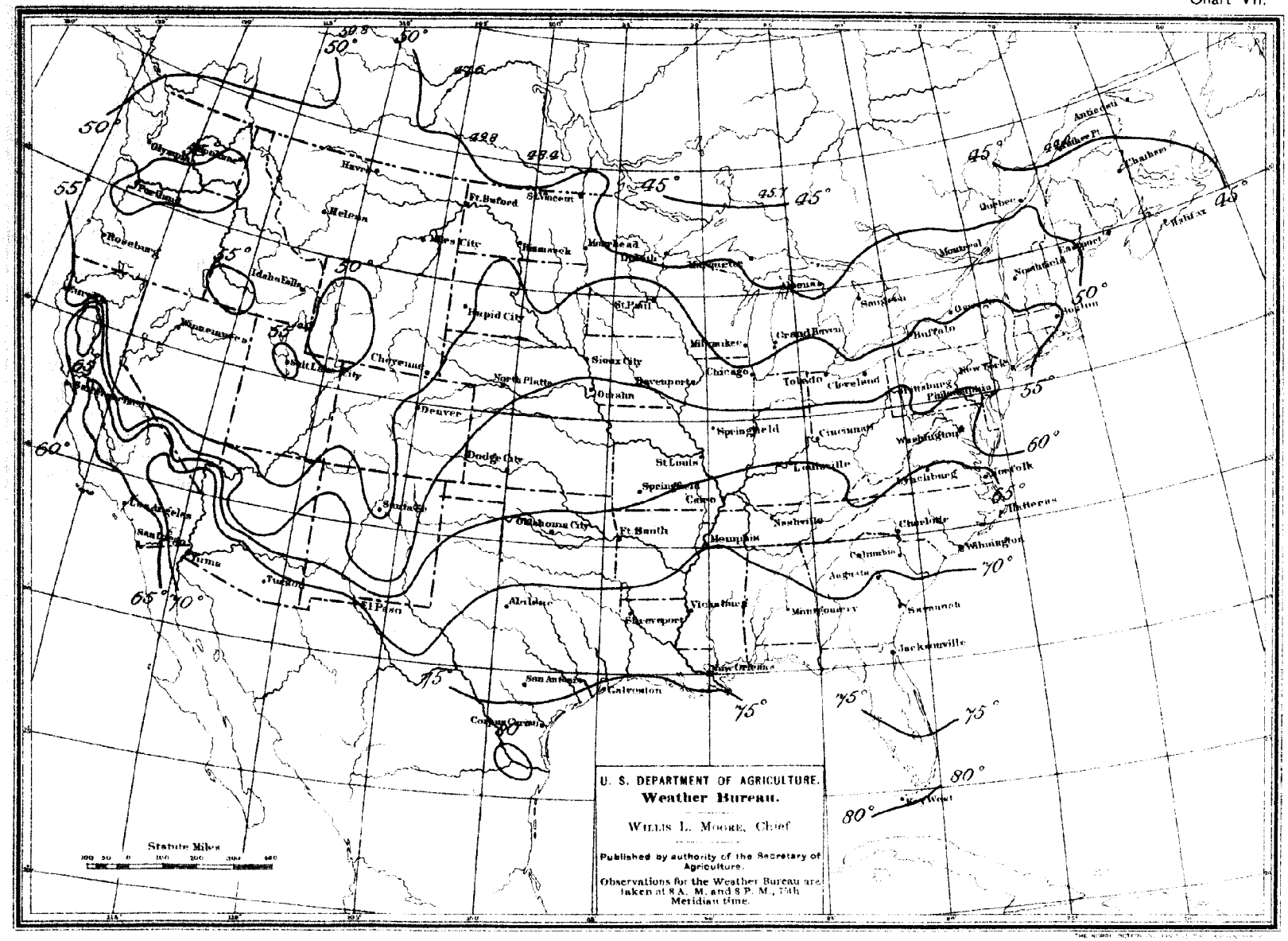
Normal Surface Temperature for April.

Chart VI.



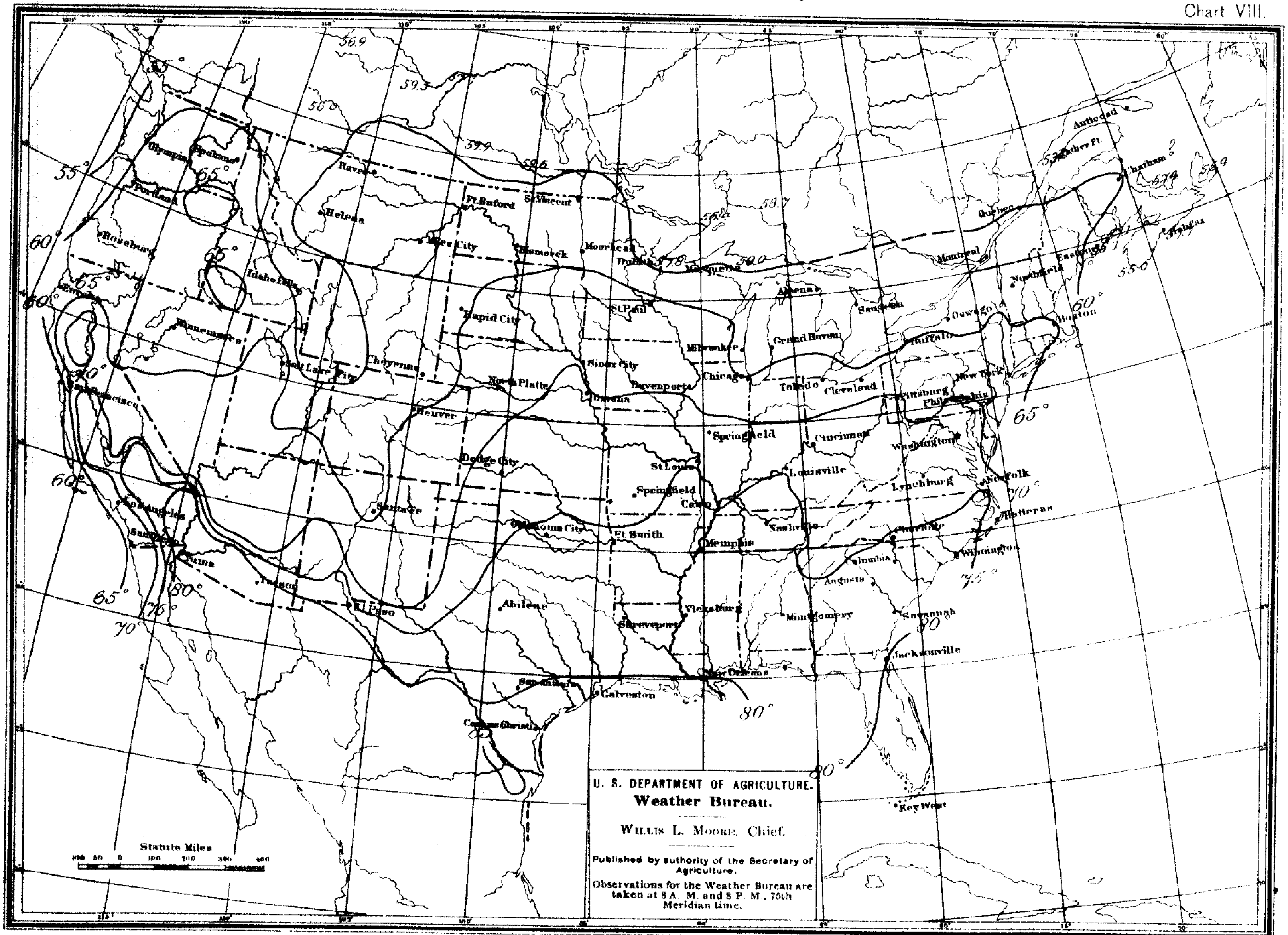
Normal Surface Temperature for May.

Chart VII.



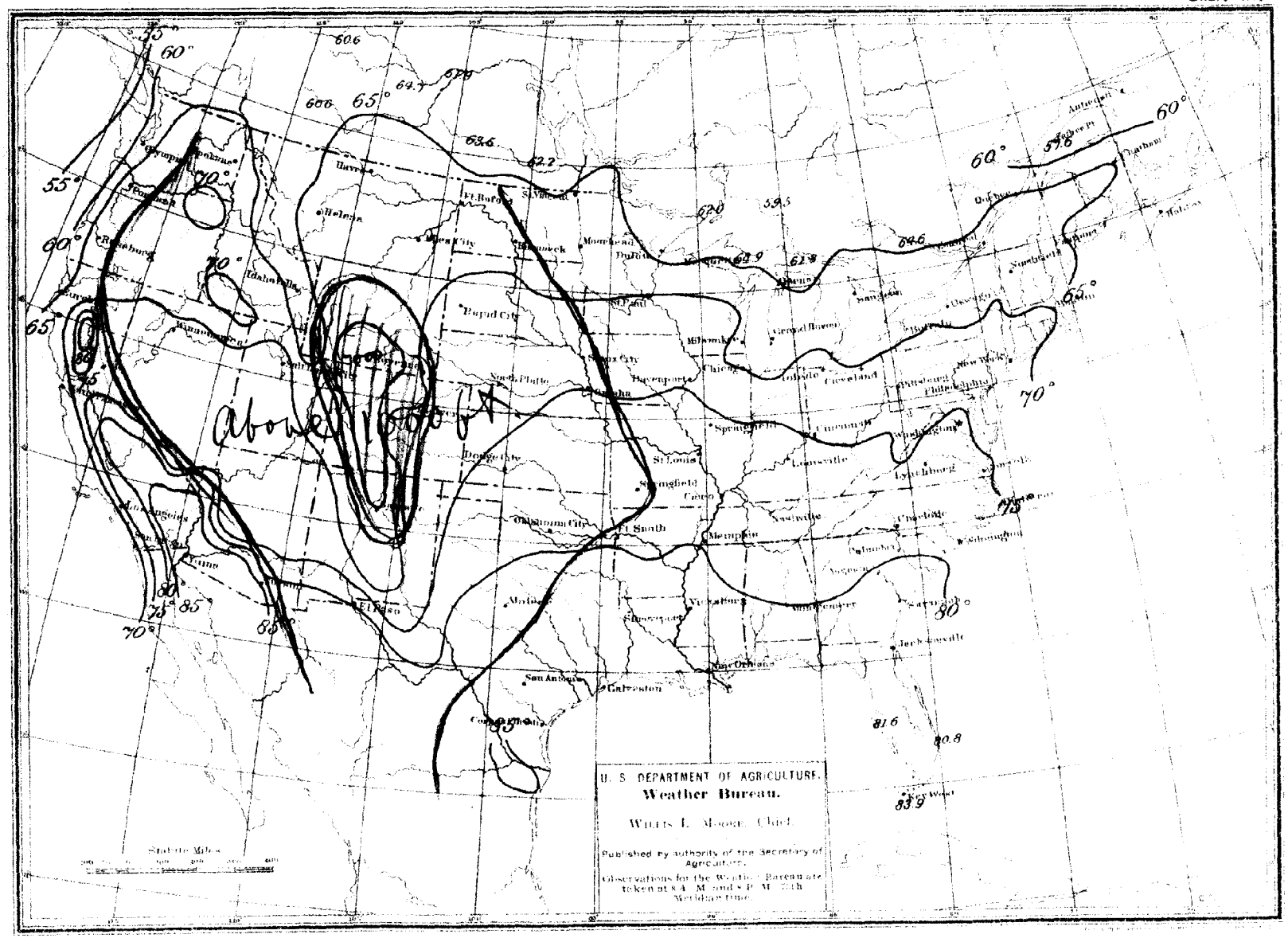
Normal Surface Temperature for June.

Chart VIII.



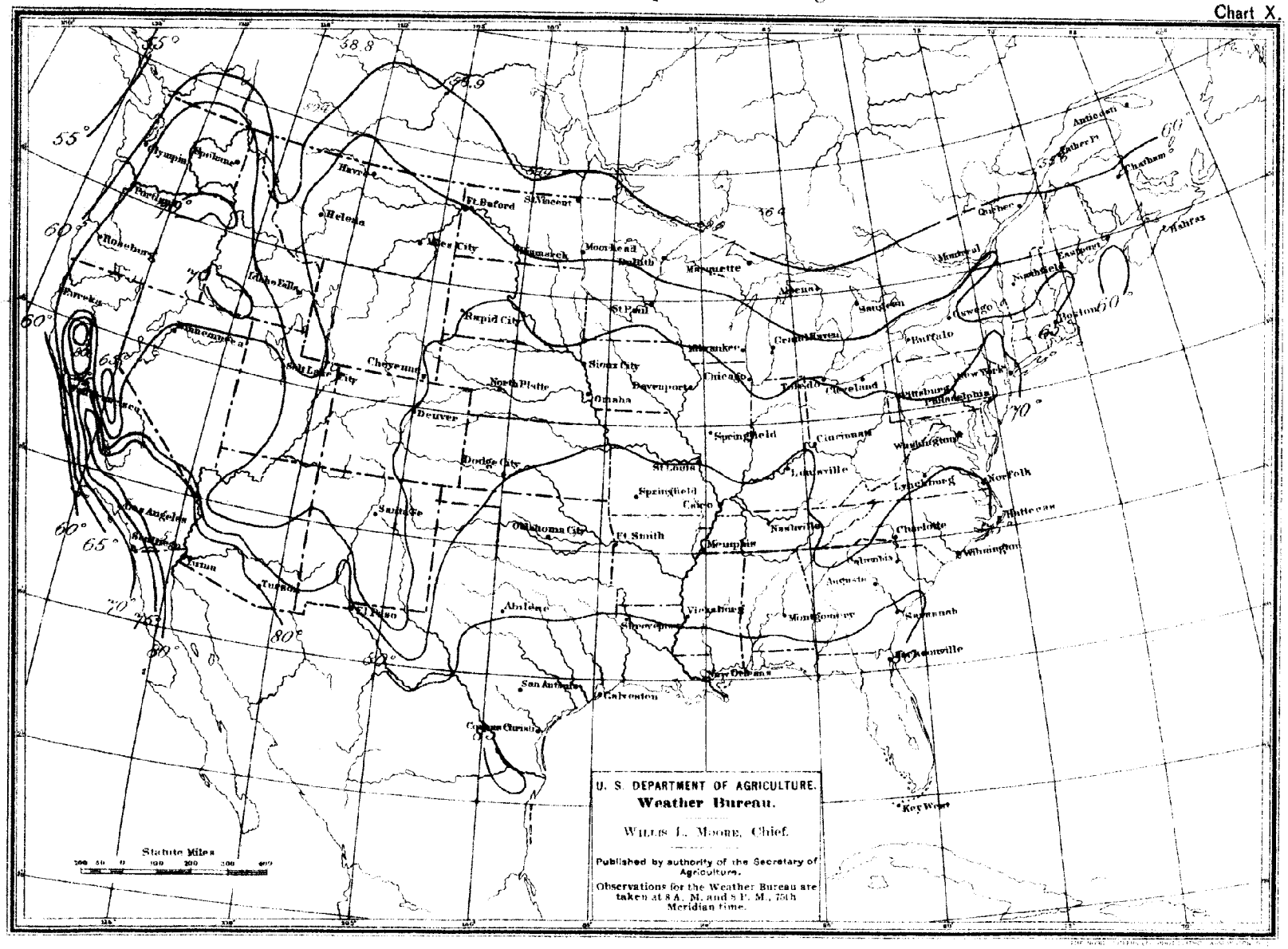
Normal Surface Temperature for July.

Chart IX.



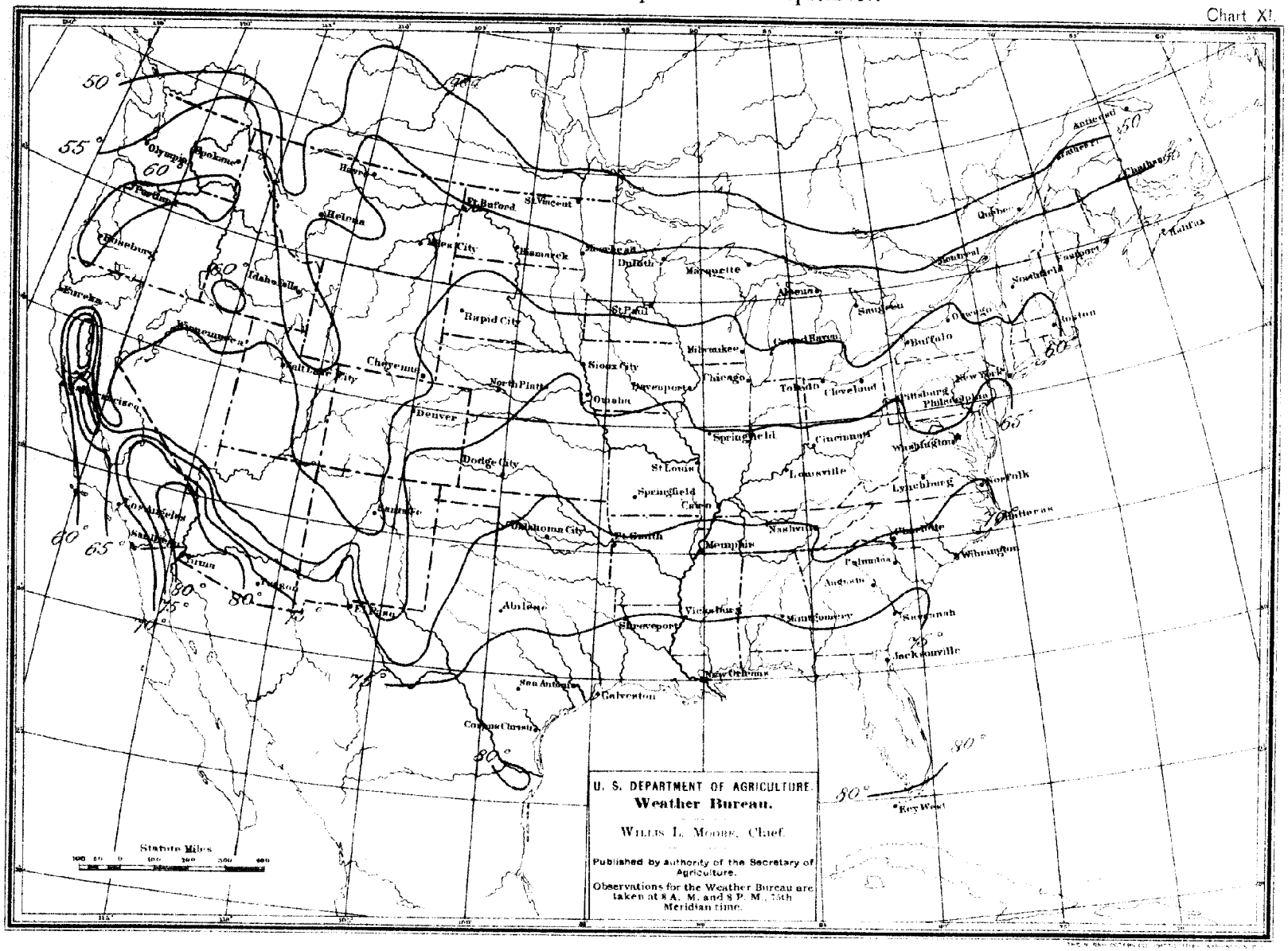
Normal Surface Temperature for August.

Chart X.



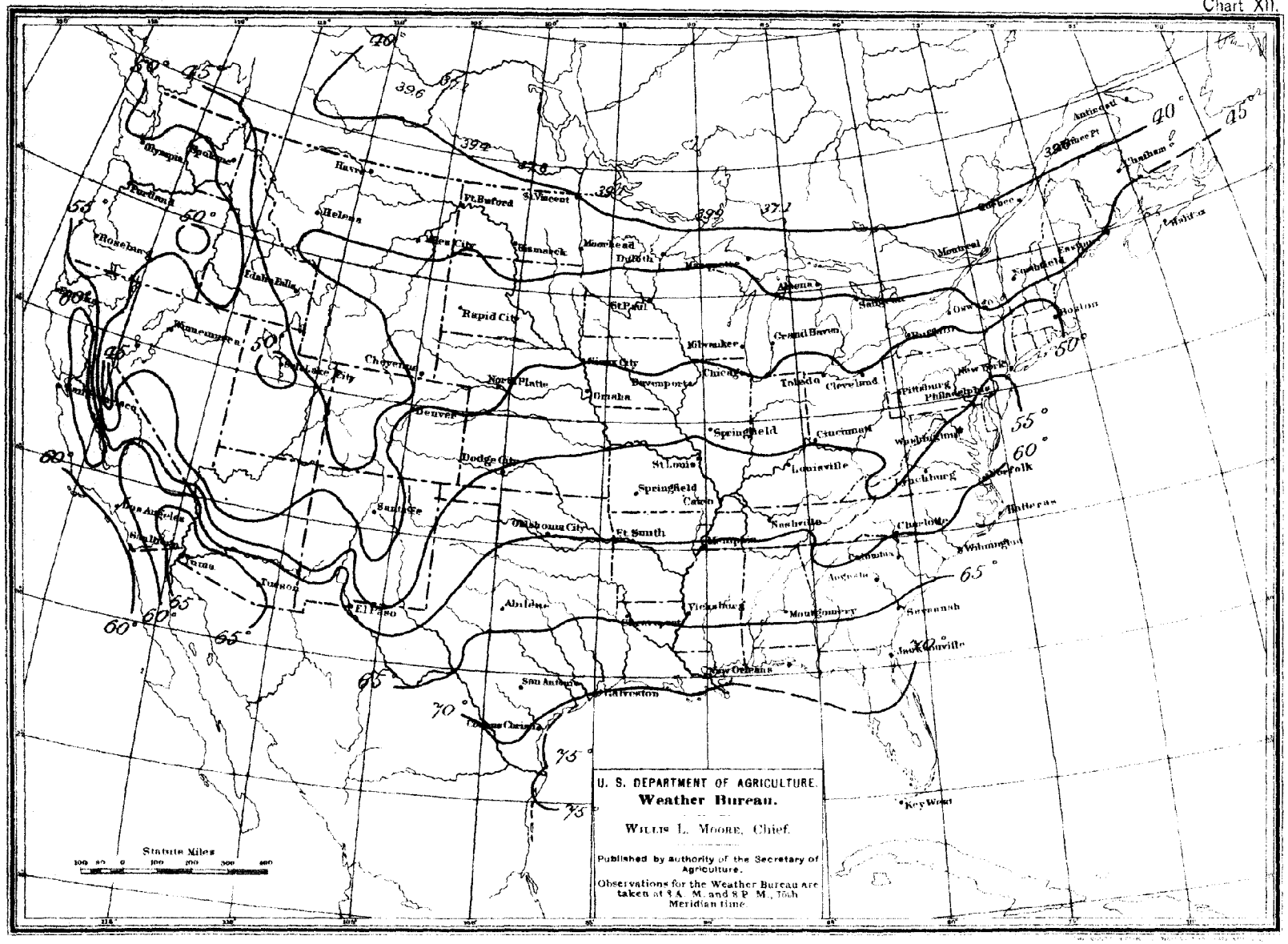
Normal Surface Temperature for September.

Chart XI.



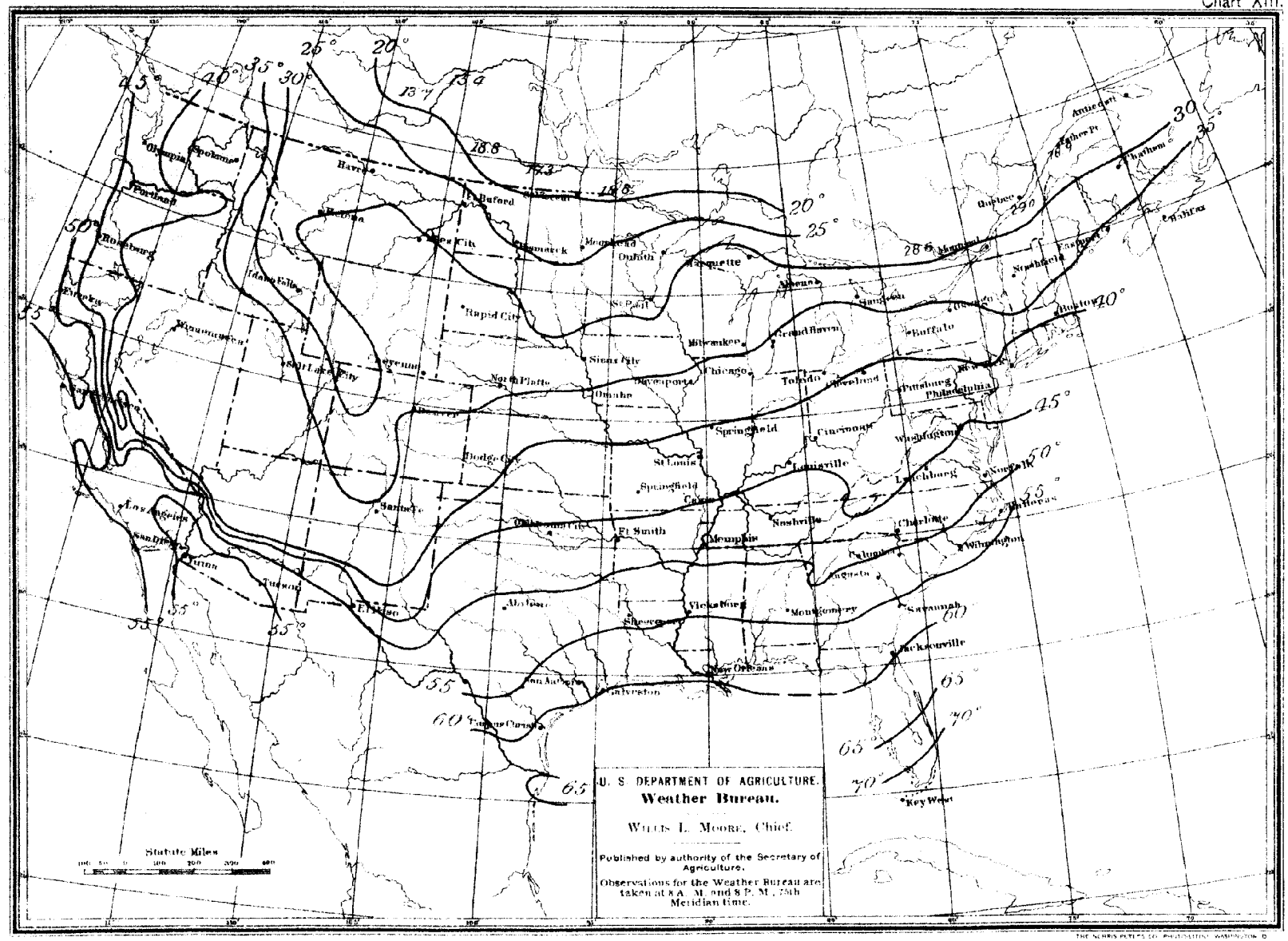
Normal Surface Temperature for October.

Chart XII.



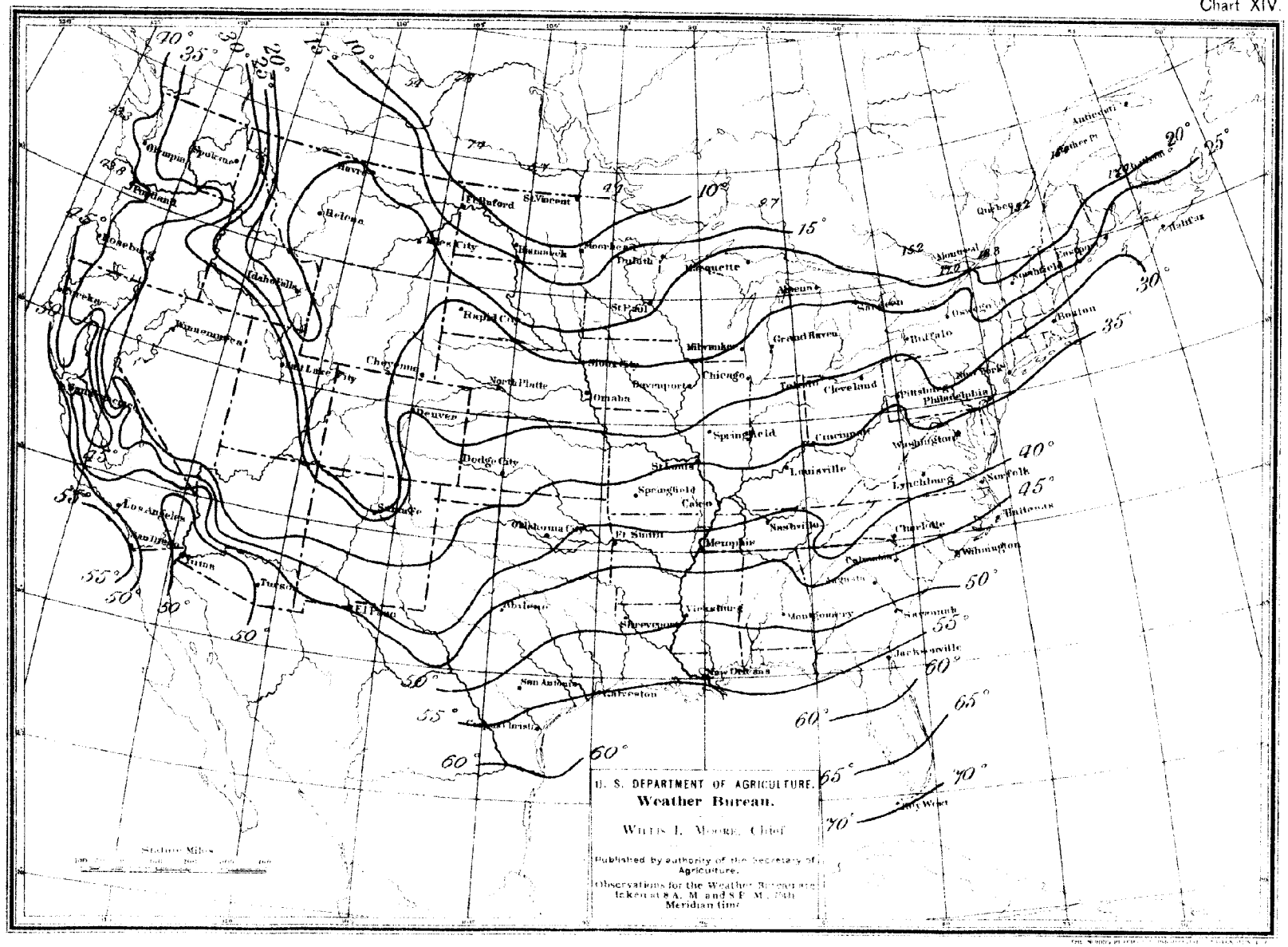
Normal Surface Temperature for November.

Chart XIII.



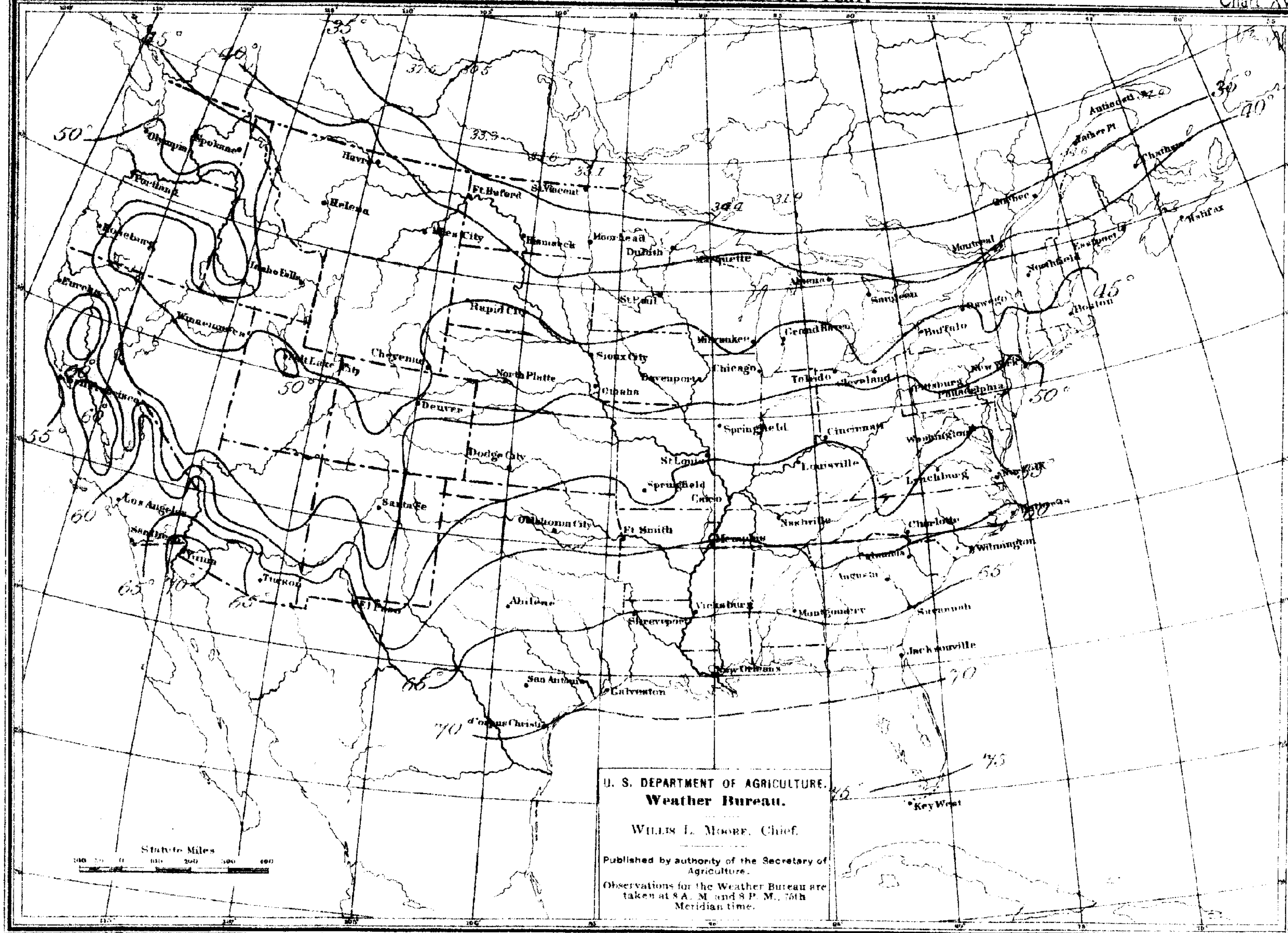
Normal Surface Temperature for December.

Chart XIV.



Normal Surface Temperature, the Year.

Chart XV



Normal Surface Temperature, the Crop Season, April to September, both Inclusive.

Chart XVI

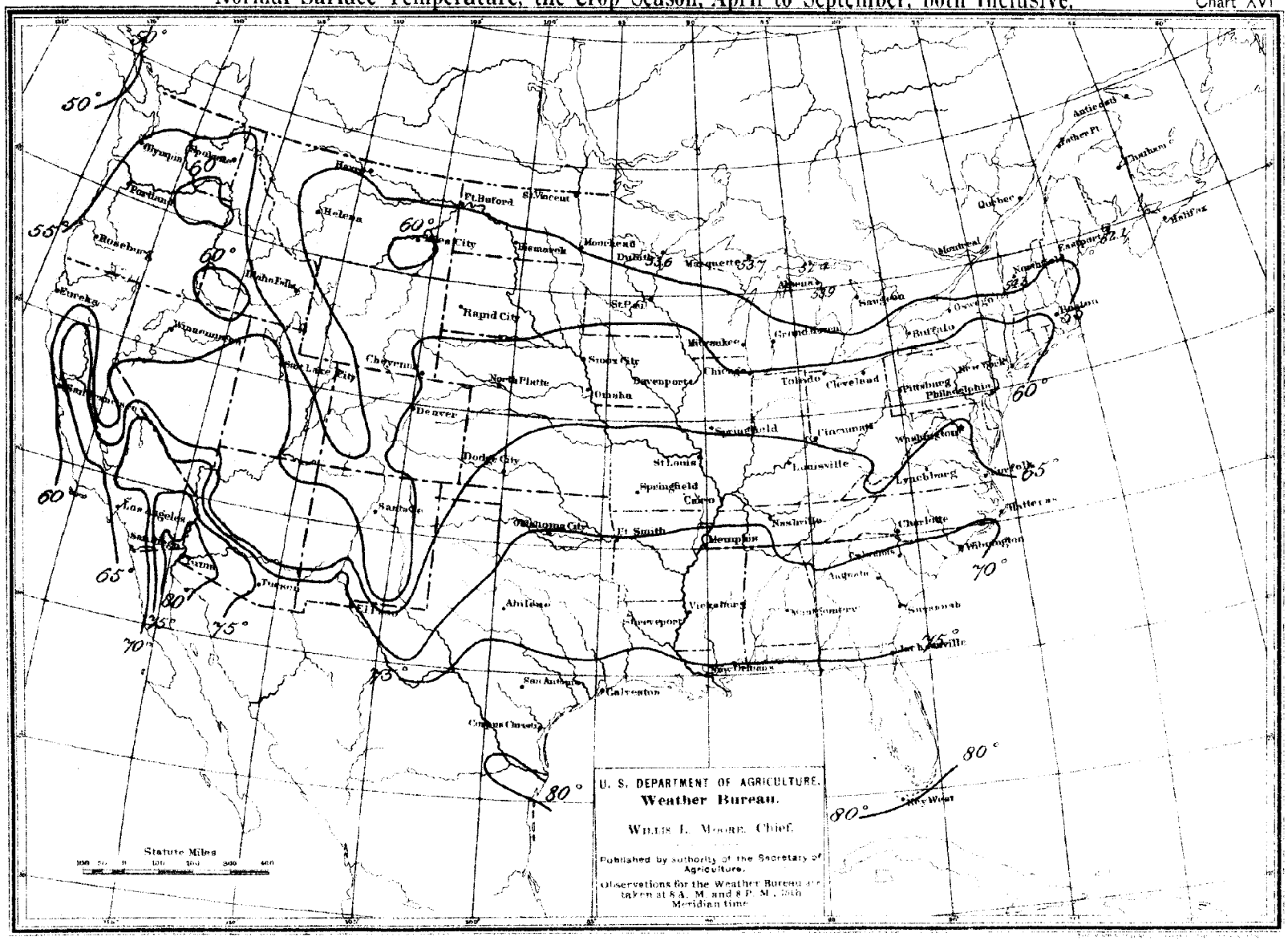


TABLE III.—NORMAL MONTHLY AND ANNUAL TEMPERATURE—Continued.

Station.	Latitude.		Longitude.		Height. Ground above sea.	Height. Thermometer above ground. First.	Height. Thermometer above ground. Last.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.	Length of record.
	°	′	°	′	Feet.	Ft.	Ft.	°	°	°	°	°	°	°	°	°	°	°	°	°	Yrs.
Lansing	42	44	84	32	828	....	72	21.9	23.8	31.0	45.9	57.5	67.8	71.4	68.5	60.7	48.1	35.8	26.7	46.6	32
Lincoln	40	48	96	40	1,181	75	75	17.7	23.4	37.9	51.4	61.1	71.1	76.8	73.6	66.1	54.1	38.1	30.4	50.1	*5
Little Rock	34	45	92	06	284	26	71	40.8	45.4	52.2	63.2	69.3	77.0	80.3	78.2	72.9	62.3	50.8	45.0	61.5	16
Los Angeles	34	03	118	15	278	....	74	53.1	54.4	56.3	58.9	62.1	65.7	69.3	70.4	68.5	63.7	59.2	55.4	61.4	17
Louisville	38	15	85	45	455	56	114	34.1	38.2	44.4	56.4	66.1	75.1	78.4	76.3	69.4	57.7	45.3	38.4	56.7	24
Lynchburg	37	25	79	09	627	43	83	36.8	40.0	45.2	55.9	66.0	74.2	77.5	75.3	69.0	57.1	46.3	39.3	56.9	24
Marquette	46	34	87	24	641	33	67	16.0	17.1	23.2	37.2	49.0	59.0	64.9	63.6	56.8	45.1	31.4	22.8	40.5	24
Memphis	35	09	90	03	472	40	140	39.9	44.8	51.6	62.1	70.2	78.1	80.7	78.7	72.1	61.6	49.9	43.6	61.1	24
Miles City	46	25	105	49	2,353	40	41	10.6	16.2	31.4	46.6	56.4	67.0	73.7	71.7	60.0	46.1	31.3	19.3	44.2	20
Milwaukee	43	02	87	54	593	109	106	19.4	22.7	30.5	42.7	52.9	63.3	69.2	68.3	61.2	49.2	35.2	25.6	45.0	25
Mobile	30	41	88	02	14	31	88	50.5	54.8	58.9	66.9	73.6	79.7	81.2	80.3	76.8	67.4	57.9	52.4	66.7	25
Montgomery	32	23	86	18	180	33	100	48.3	52.7	57.0	65.4	72.8	79.4	81.5	79.8	75.6	65.2	55.2	49.6	65.2	23
Moorhead	46	52	96	44	903	23	54	—0.9	4.5	20.2	41.3	53.2	64.8	67.6	65.2	56.5	43.1	24.2	11.9	37.6	15
Nantucket	41	17	70	06	10	8	43	31.4	31.0	34.9	43.1	52.5	61.2	67.2	67.7	62.7	52.6	44.7	36.4	48.8	9
Nashville	36	10	86	47	477	34	128	38.2	42.7	48.7	59.8	68.3	76.6	79.3	77.5	70.7	59.6	48.0	41.7	59.3	25
New Haven	41	18	72	56	24	92	118	27.5	28.8	34.6	46.1	57.6	67.3	71.8	70.0	63.5	52.4	41.1	32.2	49.4	23
New Orleans	29	58	90	04	9	29	112	53.8	58.1	62.0	69.0	74.6	80.3	82.2	81.5	78.3	69.8	60.7	55.5	68.8	25
New York City	40	43	74	00	68	130	298	30.5	31.5	36.9	48.1	59.5	69.0	73.5	72.3	65.9	55.0	43.4	34.4	51.7	25
Norfolk	36	51	76	17	11	43	88	40.4	42.8	46.9	56.2	66.4	75.1	78.5	76.6	71.1	60.6	50.3	42.8	59.0	25
Northfield	44	10	72	41	858	16	15	15.5	16.0	25.0	39.3	53.7	63.6	65.1	62.9	56.0	43.3	32.9	21.4	41.2	9
North Platte	41	08	100	45	2,809	27	43	20.0	25.3	35.1	48.6	58.2	67.9	73.5	71.4	62.4	49.8	35.2	27.1	47.9	21
Oklahoma	35	26	97	33	1,220	54	54	31.1	40.1	50.5	60.4	67.9	76.4	79.7	79.4	71.6	61.5	49.3	40.5	59.0	19
Olympia	47	03	122	53	19	22	56	37.8	39.3	44.4	48.3	54.6	58.9	62.2	62.3	56.6	49.9	44.4	40.6	49.9	18
Omaha	41	16	95	56	1,035	26	92	19.2	25.0	35.5	51.0	61.7	71.5	76.2	73.7	64.8	52.9	36.6	26.7	49.6	25
Oswego	43	29	76	35	268	35	76	24.3	24.6	30.4	42.3	54.0	64.0	69.0	68.2	61.7	50.0	38.5	29.4	46.4	25
Palestine	31	45	95	40	492	34	54	45.8	51.0	57.6	66.7	71.3	78.2	81.5	80.4	75.7	66.5	56.2	51.4	65.2	13
Parkersburg	39	16	81	36	616	....	77	32.7	34.5	40.5	53.2	61.5	72.7	73.5	72.1	66.8	52.3	42.8	37.0	53.3	*7
Pensacola	30	25	87	13	12	20	78	52.5	56.8	59.5	67.7	73.5	79.4	80.8	80.4	77.5	69.2	59.2	54.5	67.6	15
Philadelphia	39	57	75	09	42	102	168	32.0	33.5	39.1	50.5	62.0	71.7	75.7	73.8	67.1	55.8	43.9	35.5	53.4	25
Phœnix	33	28	112	00	1,055	4	47	49.0	53.9	61.0	67.2	74.6	82.7	89.5	88.0	80.8	69.3	57.6	53.0	68.9	13
Pioche	37	56	114	26	6,217	5	5	28.6	32.4	40.2	47.7	55.3	64.4	72.2	71.2	62.8	49.9	37.9	32.6	49.6	11
Pittsburg	40	32	80	02	756	32	116	30.6	33.4	38.7	51.2	62.2	71.6	75.0	72.8	66.7	54.7	42.8	35.0	52.9	25
Port Angeles	48	07	123	06	11	5	47	35.5	37.8	41.6	44.6	50.4	53.7	56.3	56.7	52.8	47.6	42.3	39.4	46.6	10
Port Huron	43	00	82	26	603	80	70	21.8	23.0	29.1	41.7	53.2	64.1	68.5	67.0	61.2	48.9	36.4	27.8	45.2	21
Portland, Me	43	39	70	15	47	45	81	22.5	24.6	32.0	43.0	53.6	63.3	68.0	66.8	59.7	49.1	38.0	27.4	45.7	25
Portland, Oreg	45	32	122	43	43	42	203	38.4	41.2	47.2	51.6	57.3	61.6	66.3	65.9	60.7	53.4	45.6	41.3	52.5	24
Prescott	34	33	112	28	5,383	5	7	33.8	38.6	45.8	51.0	58.8	66.6	73.9	71.6	65.0	53.7	42.4	38.2	53.3	13
Pueblo	38	18	104	36	4,675	11	74	28.7	30.1	40.4	50.5	58.7	68.3	74.0	72.3	65.2	52.2	38.8	33.7	51.1	7
Raleigh	35	45	78	37	342	8	93	40.8	43.9	48.2	58.8	67.5	75.7	77.1	75.7	70.5	58.0	49.6	43.9	59.1	*9
Rapid City	44	04	103	21	3,231	54	46	20.2	20.6	31.2	46.6	52.9	64.2	71.3	69.9	61.4	49.0	34.9	30.2	46.0	8
Red Bluff	40	10	122	15	311	32	54	44.9	49.0	54.5	59.3	67.0	74.6	81.8	81.1	73.8	63.5	53.9	46.7	62.5	18
Rio Grande	26	23	98	48	167	4	10	57.8	63.8	69.2	77.0	81.0	85.4	87.4	86.2	81.6	74.9	64.9	61.2	74.2	12
Rochester	43	08	77	42	503	60	81	23.9	24.4	30.3	43.5	56.3	66.4	70.4	68.4	62.0	49.6	37.4	28.6	46.8	25
Roseburg	43	13	123	20	498	20	56	40.3	42.1	47.7	51.2	56.9	61.0	66.3	66.2	60.9	52.7	45.2	42.0	52.7	18
Sacramento	38	35	121	20	35	46	106	45.6	49.8	54.7	58.2	63.5	68.6	72.6	72.7	69.5	61.8	53.5	47.1	59.8	18
St. Louis	38	38	90	12	469	26	110	30.5	35.1	43.1	56.2	65.8	75.2	78.8	76.8	69.4	57.5	43.6	35.6	55.6	25
St. Paul	44	58	93	03	759	108	114	10.6	15.8	27.5	45.2	57.5	67.2	71.5	69.1	59.8	47.1	29.9	18.8	43.3	25
Salt Lake City	40	46	111	54	4,282	30	83	27.9	32.9	41.6	49.5	57.8	66.9	75.5	74.6	64.3	52.3	39.8	32.8	51.3	21
San Antonio	29	27	98	28	667	17	95	51.5	55.8	61.9	70.1	74.9	80.7	83.3	82.2	77.5	69.7	59.0	54.9	68.5	16
San Diego	32	43	117	10	36	20	59	53.6	54.8	56.0	58.3	60.4	64.1	67.1	68.9	67.0	63.2	58.6	55.8	60.7	21
Sandusky	41	25	82	40	596	54	62	26.5	28.9	34.7	47.0	58.5	69.0	73.1	71.0	65.1	53.2	40.4	32.5	50.0	18
San Francisco	37	48	122	26	26	48	161	50.1	51.7	53.6	54.6	56.6	58.4	58.3	58.7	60.4	59.3	56.3	51.4	55.8	24
San Luis Obispo	35	18	120	39	215	68	10	51.1	54.3	55.2	56.8	59.0	62.4	64.7	64.8	63.4	62.0	57.0	53.4	58.7	8
Santa Fe	35	41	105	57	6,966	18	47	27.9	32.0	39.5	46.6	55.7	65.1	68.5	66.3	59.9	49.8	37.6	30.8	48.3	22
Sault Ste. Marie	46	28	84	22	605	56	58	14.3	12.5	21.9	37.7	47.8	60.2	61.8	60.8	55.5	42.7	30.3	22.6	39.0	7
Savannah	32	05	81	05	56	40	63	51.0	54.3	58.5	66.1	72.9	79.3	81.9	80.3	75.8	66.4	57.8	52.4	66.4	25
Seattle	47	38	122	20	19	100	114	39.0	39.9	45.4	49.9	55.3	59.4	63.2	63.2	57.2	51.6	44.9	41.8	50.9	*5
Shreveport	32	30	93	40	200	19	77	45.9	51.2	57.6	66.4	73.1	79.9	82.5	81.3	75.5	65.3	54.6	49.5	65.2	24
Sioux City	42	29	96	24	1,116	89	96	16.3	19.0	31.6	50.6	58.4	70.3	74.3	71.6	65.2	57.0	34.3	27.8	47.5	6
Spokane	47	40	117	25	1,895	22	99	25.4	28.5	39.7	48.0	57.0	62.4	69.0	69.0	58.1	48.0	37.8	31.3	47.8	14
Springfield, Ill	39	48	89	39	637	46	82	25.5	30.3	39.2	53.4	62.4	72.2	76.0	73.4	66.4	55.0	40.9	32.8	52.3	17
Springfield, Mo	37	12	93	18	1,299	41	100	32.3	34.7	43.5	57.5	63.2	72.4	75.7	74.0	67.7	56.0	43.5	38.6	54.9	8
Tacoma	47	16	122	23	146	113	113	30.0	38.9	44.4	48.9	54.1	58.2	62.2	61.6	56.2	50.6	44.2	40.9	49.8	(*)
Tampa	27	57	82	27	20	32	60	58.7	62.8	65.5	71.1	76.0	80.0	81.4	81.4	79.6	73.1	67.4	61.9	71.6	7
Tatoosh Island	48	23	124	41	82	5	7	40.6	40.8	44.3	46.1	50.0	53.5	55.5	55.8	53.8	50.4	46.4	43.3	48.4	10
Toledo	41	40	83	34	603	81	122	26.1	28.2	34.6	47.5	59.4	69.8	73.4	70.8	63.9	52.1	39.2	30.7	49.6	25
Topeka	39	03	95	41	941	81	81	26.8	31.3	41.0	56.8	63.4	73.2	77.4	74.8	68.7	56.0	41.2	34.8	53.8	10
Tucson	32	14	110	53	2,374	26	11	49.4	53.2	59.5	65.6	74.0	82.3	87.2	83.5	77.7	68.5	57.0	52.0	67.4	8
Valentine	42	50	100	32	2,579	51	37	16.9	21.5	31.2	47.2	55.8	67.2	73.3	70.3	61.6	49.2	34.3	27.2	46.3	9
Vicksburg	32	22	90	53	220	27	65	47.3	52.6	58.0	65.8	72.6	79.2	81.3	80.1	75.3	65.3	55.4	50.6	65.3	24
Walla Walla	46	02	118	20	969	66	65	30.5	35.4	45.5	53.3	60.9	65.6	74.0	74.2	63.9	54.0	43.0	37.7	53.2	10
Washington	38	54	77	03	80	48	59	33.2	35.8	41.3	53.0	63.9	73.2	76.8	74.6	67.8	56.2	44.5	36.2	54.7	25
Wichita	37	41	97	20	1,294	78	78	30.6	31.8	43.5	57.8	64.2	73.9	78.4	76.5	70.0	57.6	42.8	37.9	55.4	*7
Williston	48	09	103	35	1,872	15	15	3.9	7.7	23.5	42.6	53.2	63.3	68.5	66.5	55.5	43.2	26.1	13.0	38.9	17
Wilmington	34	14	77	57	42	26	82	46.9	49.8	53.9	61.5	69.7	76.7	79.7	78.2	73.6	63.5	54.6	48.3	63.0	25
Winnemucca	40	58	117	43	4,319	40	59	27.0	32.5	40.7	47.3	54.4	62.4	71.4	70.6	60.1	48.2	37.1	31.1	45.6	17
Woods Hole	41	33	70	40	4	8	51	30.3	29.7	35.1	43.2	53.5	62.4	68.2	68.2	63.0	53.4	43.3	35.1	48.8	18
Yankton	42	54	97	28	1,204	6	51	14.2	19.2	30.0	46.7	58.5	68.6	73.6	71.8	62.1	49.7	32.8	22.5	45.8	21
Yuma	32	45	114	36	135	5	16	54.1	58.8	64.5	69.8	77.2	84.9	91.5	90.7	84.4	73.0	61.9	56.0	72.2	21

* Corrected and reduced to a 20-year period.

TABLE III.—NORMAL MONTHLY AND ANNUAL TEMPERATURE—Continued.

Station.	Latitude.		Longitude.		Height. Ground above sea.	Height. Thermometer above ground. First.	Height. Thermometer above ground. Last.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.	Length of record.
Canadian stations.	°	′	°	′	*Feet.*	*Ft.*	*Ft.*	°	°	°	°	°	°	°	°	°	°	°	°	°	*Yrs.*
St. Johns, N. F	47	34	52	42	125	....	....	23.8	22.0	27.7	34.5	42.9	51.6	59.3	59.8	54.0	45.4	36.5	28.7	40.5	24
Sydney, N. S	46	10	60	10	55	....	....	20.5	19.3	26.2	35.0	45.2	55.4	62.3	63.3	56.5	46.5	37.1	28.2	41.3	22
Grindstone Island	47	23	61	58	26	....	....	20.9	16.4	23.7	31.6	41.5	52.2	60.9	61.2	54.4	44.7	35.4	25.9	39.1	7
Halifax, N. S	44	39	63	39	118	....	....	21.9	22.4	29.0	37.8	48.4	57.7	63.4	63.6	57.6	47.2	37.3	27.6	42.8	23
Grand Manan, N.B	44	47	66	46	49	....	....	23.4	23.4	29.8	39.2	47.9	56.2	61.7	61.5	56.1	46.9	38.9	28.3	42.8	13
Yarmouth, N. S	43	50	66	2	65	....	....	26.3	25.8	30.8	38.9	47.6	55.0	59.5	60.2	56.1	47.6	39.9	30.7	43.2	17
St. Andrews, N. B	45	4	67	6	47	....	....	18.4	20.7	28.1	38.5	48.6	57.1	61.9	61.5	55.7	45.9	35.9	24.0	41.4	23
Charlottetown, P. E. I	46	14	63	10	38	....	....	17.0	17.6	25.4	35.2	46.9	57.4	64.1	64.3	57.3	46.5	35.5	24.3	41.0	20
Chatham, N. B	47	3	65	20	21	....	....	9.8	12.5	23.0	35.5	48.5	60.0	65.0	63.2	55.4	43.0	31.0	17.0	38.7	23
Father Point, Que.	48	31	68	19	20	....	....	8.0	11.5	20.3	33.2	44.0	53.0	57.6	55.6	50.4	39.8	28.9	15.4	34.8	20
Quebec, Que	46	48	71	13	296	....	....	9.1	11.8	21.2	35.1	49.9	61.2	65.5	63.1	55.1	42.4	29.0	15.2	38.2	23
Montreal, Que	45	30	23	35	187	....	....	11.7	14.5	23.8	39.7	54.7	64.9	68.5	66.4	58.4	44.8	31.8	18.3	41.5	23
Rockliffe, Ont	46	12	77	55	472	....	....	6.5	9.6	19.3	37.5	51.9	61.4	64.6	61.5	53.7	41.5	28.6	15.2	37.6	20
Kingston, Ont	44	13	76	29	285	....	....	17.1	17.8	25.6	40.0	52.9	63.4	68.2	67.0	60.0	47.0	35.0	23.7	43.1	23
Toronto, Ont	43	39	79	24	350	....	....	21.4	21.5	27.3	40.8	53.2	63.4	68.0	66.0	59.0	46.6	35.6	27.0	44.2	23
White River, Ont	48	20	86	20	1,252	....	....	0.5	1.6	12.5	33.0	45.7	58.7	59.5	56.4	50.3	37.1	20.5	9.7	32.1	8
Port Stanley, Ont	42	40	81	13	592	....	....	22.2	22.8	27.2	41.0	53.0	63.8	67.8	65.9	59.5	47.8	36.8	28.4	44.7	23
Sangeen, Ont	44	30	81	21	656	....	....	20.4	19.9	24.7	38.7	50.7	60.4	64.7	63.8	57.5	46.1	35.0	26.7	42.4	23
Parry Sound, Ont	45	19	80	0	635	....	....	13.8	14.3	21.1	37.6	51.1	61.7	66.0	63.5	56.0	43.9	32.1	21.2	40.2	22
Port Arthur, Ont	48	27	89	12	644	....	....	3.1	6.4	16.8	33.5	45.9	56.4	62.0	59.5	52.2	39.9	24.0	13.2	34.4	17
Winnipeg, Man	49	53	97	7	760	....	....	−6.8	−1.6	12.3	35.9	51.6	62.2	66.0	63.4	52.5	39.1	18.0	4.1	33.1	24
Minnedosa, Man	50	10	99	48	1,690	....	....	−7.2	−2.7	12.5	36.0	48.4	59.6	62.2	59.4	50.5	37.8	17.3	5.7	31.6	14
Qu' Appelle, N.W.T	50	44	103	42	2,115	....	....	−3.8	−0.6	14.9	37.4	49.8	59.9	63.5	61.5	51.1	39.4	18.8	7.4	33.3	13
Medicine Hat, N. W. T	50	1	110	37	2,161	....	....	5.5	11.2	27.5	44.5	54.1	62.0	67.8	65.7	55.0	44.8	27.4	18.2	40.3	12
Swift Current, N. W. T	50	20	107	45	2,439	....	....	3.1	8.0	22.0	41.3	50.7	60.0	66.5	64.0	53.1	42.1	23.2	16.0	37.5	11
Calgary, N. W. T	50	2	114	2	3,389	....	....	8.4	13.5	26.2	39.6	49.0	56.0	60.6	59.4	49.8	40.1	25.8	18.2	37.2	12
Prince Albert, N. W. T	52	55	106	0	1,402	....	....	−8.4	−3.0	12.0	36.1	47.6	57.7	61.9	58.9	48.4	37.1	15.4	2.8	30.5	10
Esquimalt, B. C	48	26	123	25	28	....	....	38.1	41.3	42.0	46.5	52.0	56.5	60.0	59.1	53.4	49.0	41.6	41.3	48.4	6
Edmonton, N.W.T	53	13	113	30	2,158	....	....	1.8	8.3	24.2	39.9	50.8	56.9	60.6	58.8	49.3	41.1	22.9	13.1	35.6	14
Banff, N. W. T	51	10	115	35	4,542	....	....	10.0	20.9	23.0	36.5	47.0	50.8	57.4	54.9	43.2	39.8	13.8	21.9	34.9	2
Battleford, N.W. T	52	41	108	30	1,620	....	....	−5.9	0.1	13.1	37.2	51.0	59.5	64.7	62.6	51.8	39.6	13.7	5.4	32.7	6
Ottawa, Ont	45	26	75	42	330	....	....	9.6	11.7	21.5	40.0	54.9	65.3	69.5	64.8	57.4	43.8	31.7	17.0	40.6	13

PRECIPITATION.

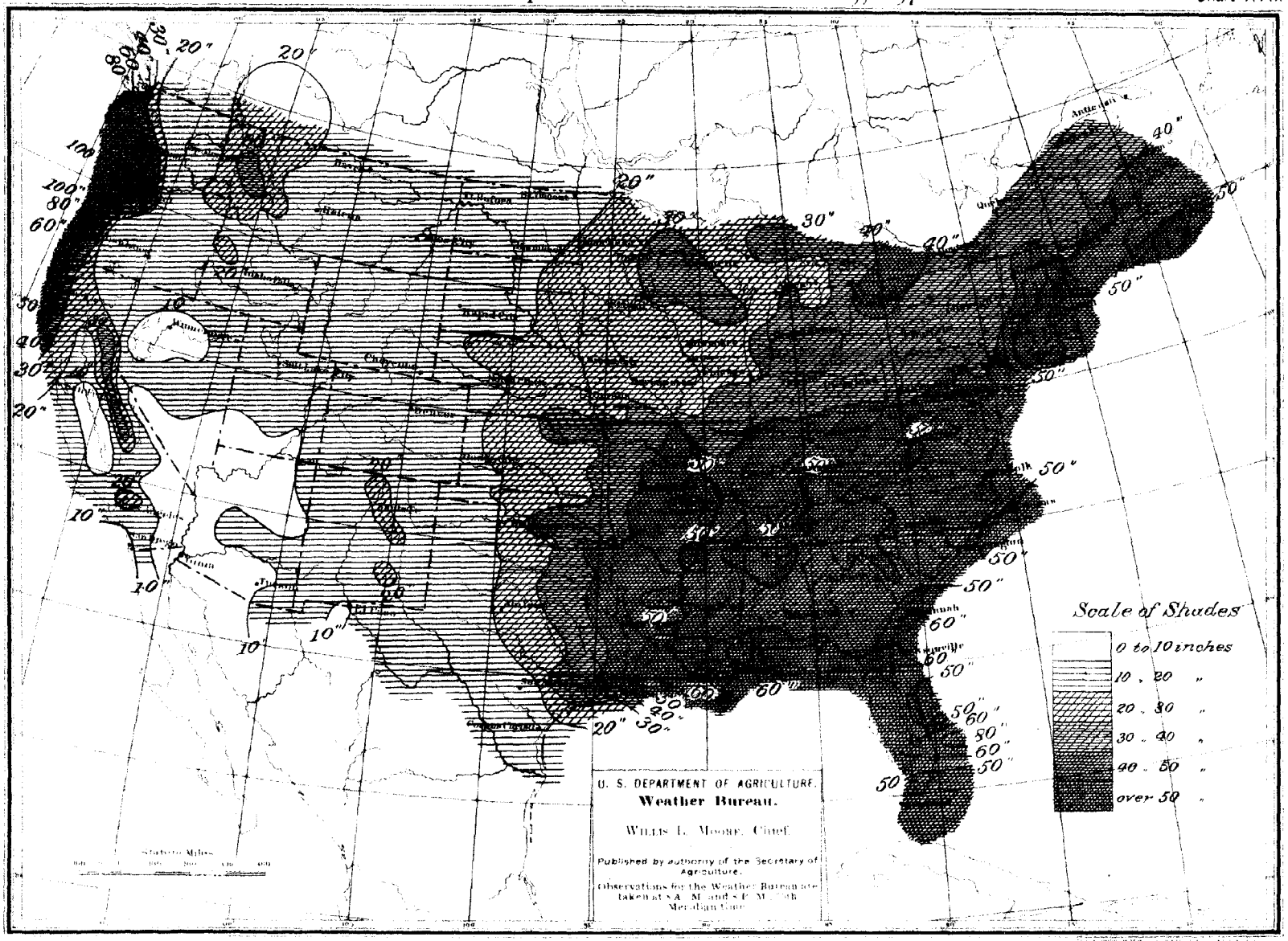
The total fall of rain and melted snow for the calendar year, at regular Weather Bureau and Canadian stations, is shown on Chart XVII.

The total fall of snow for the snow year, viz, from July 1, 1897, to June 30, 1898, is also graphically shown on Chart XVII. The numerical values both of rainfall and melted snow combined and of depth of snow in inches as it lay upon the ground are given in the tables of Part V.

In 1894 precipitation was below average in every district east of the Rocky Mountains. In 1895 there was an excess of precipitation in the Southern and Middle Slopes; but elsewhere between the Rocky Mountains and the Atlantic seaboard there was a marked deficiency. In 1896 there was an excess of rainfall in the extreme Northwest, the upper Mississippi Valley, the Missouri Valley, and the Northern and Southern Slopes. The year 1897 opened with heavy rains in the lower Mississippi Valley, Tennessee, Alabama, and adjoining regions, and it seemed as if the period of diminished rainfall had come to a close. The rainfall of May was about average, except in the Gulf States, Arkansas, Missouri, and upper Mississippi valleys. The June rainfall was generally below the average, but in July unusually heavy rains fell throughout New England, the upper Lake Region, upper Mississippi Valley, Florida, and portions of the Ohio Valley and the Middle and South Atlantic States. By the middle of August a drought had set in over practically all of the territory east of the Rocky Mountains, which was not broken in some localities until about the 1st of November.

Annual Precipitation (rain and melted snow), 1897.

Chart XVII.



The following table exhibits some of the details of the drought in various localities:

Station.	Total precipitation.				Normal.	Per-centage.
	From—	To—	Days.	Inches.		
Little Rock, Ark	Aug. 11	Oct. 27	77	0.97	7.85	12
Vicksburg, Miss	Aug. 20	Oct. 30	71	1.56	7.19	22
Keesees Ferry, Ark	Aug. 14	....do ...	77	0.41	.....	.....
Columbia, Mo	Aug. 25	....do ...	66	1.15	5.51	21
St. Louis, Mo	Aug. 1	Oct. 31	91	1.06	9.39	11
Chattanooga, Tenn	Aug. 21	Oct. 11	48	0.07	5.82	1
Memphis, Tenn	Sept. 1	Oct. 30	59	0.32	5.68	6
Nashville, Tenn	Aug. 24	Oct. 11	48	0.31	5.85	5
Charlotte, N. C	Aug. 23	....do ...	49	0.90	5.94	15
Lynchburg, Va	Aug. 1	....do ...	71	2.06	8.90	23
Parkersburg, W. Va	Aug. 26	Oct. 31	66	0.60	6.86	9
Columbus, Ohio	Sept. 2	....do ...	59	0.84	5.08	17
Sandusky, Ohio	....do ...	....do ...	59	0.83	5.39	15
Chicago, Ill	Aug. 10	....do ...	82	1.33	7.71	17
Louisville, Ky	Aug. 23	Oct. 10	48	0.75	4.47	17

The rainfall of the year as a whole was generally below normal. The stations having the largest deficiencies were: Galveston, Tex., 19.44 inches; New Orleans, La., 17.05 inches; Raleigh, N. C., 16.94 inches; Wilmington, N. C., 16.66 inches. The stations having the largest excesses were: Jupiter, Fla., 29.09 inches; Fort Canby, Wash., 12.88 inches: New Haven, Conn., 9.98 inches.

The accumulated departures of the total monthly precipitation from the normal values are shown in Table IV, from which it appears that the total annual precipitation was normal in 1 district, above the normal in 6, and below in the remaining 14. As in previous years, the greatest deficiency occurred in the west Gulf States and lower Mississippi Valley. Precipitation has been below normal in this region since 1890.

TABLE IV.—ACCUMULATED DEPARTURES OF TOTAL MONTHLY AND ANNUAL PRECIPITATION DURING 1897 FROM THE NORMAL.

District.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
New England	—0.4	—1.7	—2.4	—1.7	—1.0	—0.8	+1.8	+1.7	+0.5	— 2.2	+ 0.2	+ 0.9	+ 0.9
Middle Atlantic	—1.7	—1.0	—2.0	—2.8	—1.5	—2.4	—0.4	—2.1	—4.6	— 4.6	— 4.1	— 3.5	— 3.5
South Atlantic	—2.3	+1.0	+0.3	0.0	—1.5	—2.3	—1.7	—3.3	—4.9	— 3.4	— 4.8	— 4.7	— 4.7
Florida Peninsula	—0.8	+0.7	+0.4	+4.4	+5.6	+4.6	+3.8	+4.5	+9.4	+11.0	+11.3	+11.3	+11.3
East Gulf	—1.8	—0.6	—0.3	+1.0	—1.8	—3.9	—2.0	—1.8	—3.7	— 4.6	— 5.9	— 5.3	— 5.3
West Gulf	+1.1	—1.6	+0.6	—0.9	—2.7	—3.9	—5.8	—6.4	—8.9	— 8.7	—11.3	—10.5	—10.5
Ohio Valley and Tennessee	—1.5	—0.9	+2.3	+2.8	+2.3	+1.2	+2.5	+1.2	—1.1	— 2.8	— 1.9	— 1.3	— 1.3
Lower Lakes	0.0	—1.1	—0.5	—0.8	—1.2	—2.1	—0.7	—1.1	—3.3	— 5.5	— 3.5	— 3.9	— 3.9
Upper Lakes	+1.5	—1.1	—0.1	+0.5	—0.3	—0.6	+0.2	—0.3	—2.1	— 2.8	— 2.9	— 3.1	— 3.1
North Dakota	+0.3	+1.0	+1.6	+0.8	—0.7	0.0	+0.8	+0.1	—0.7	— 1.1	— 1.5	— 1.9	— 1.9
Upper Mississippi Valley	+1.8	+1.5	+3.3	+4.1	+1.8	+2.3	+3.0	+1.7	—0.4	— 2.2	— 2.0	— 2.1	— 2.1
Missouri Valley	+1.7	+1.5	+2.4	+3.5	+0.7	+0.5	—0.3	—1.3	—2.8	— 3.2	— 3.8	— 3.3	— 3.3
Northern Slope	—0.2	0.0	+0.8	+0.4	—0.8	—0.9	—1.0	—1.0	—1.6	— 1.2	— 0.5	— 0.3	— 0.3
Middle Slope	+0.1	+0.6	+0.9	+1.9	+1.2	+1.0	+0.9	+0.7	—0.2	+ 1.2	+ 0.6	+ 0.3	+ 0.3
Southern Slope	+1.0	0.0	+1.4	+0.5	+2.3	+2.1	+2.3	+1.7	+1.2	+ 0.8	0.0	— 0.6	— 0.6
Southern Plateau	+1.5	+1.3	+1.5	+1.5	+2.3	+2.6	+2.7	+2.8	+4.2	+ 4.2	+ 3.7	+ 3.2	+ 3.2
Middle Plateau	—0.6	+1.2	+1.5	+0.9	+0.4	+0.1	+0.2	+0.1	—0.2	+ 0.6	+ 0.3	0.0	0.0
Northern Plateau	—1.0	—0.4	+0.6	+0.2	—0.2	+0.3	+0.3	+0.4	+0.7	— 0.1	+ 2.3	+ 2.5	+ 2.5
North Pacific	—2.1	—0.7	+1.0	—0.8	—1.9	—1.8	—1.5	—1.6	—2.7	— 5.4	— 0.7	+ 3.0	+ 3.0
Middle Pacific	—2.6	—0.5	+0.4	—1.1	—2.4	—2.2	—2.3	—2.3	—2.6	— 1.9	— 2.8	— 5.8	— 5.8
South Pacific	+0.8	+2.3	+2.2	+1.2	+0.9	+0.8	+0.8	+0.8	+0.7	+ 1.7	+ 0.6	— 1.6	— 1.6

EXCESSIVE RAINFALL.

On page 265 of the Annual Report of the Chief of Weather Bureau, 1895-96, there will be found a table showing the accumulated amounts of rainfall for each five minutes during some of the heaviest rainfalls that ever occurred at stations equipped with self-registering rain gauges. In the table below the record of excessive rainfalls for 1896-97 is given in somewhat greater detail than formerly and by geographical districts instead of the usual alphabetical arrangement.

The data in their present form are especially applicable to the problems of drainage and sewer discharge in time of heavy rainfall. The amount of water that runs off from a given surface per unit time is dependent, among other things, upon the intensity of the rainfall. The relation between the time and intensity of fall in a large number of cases can be readily deduced from the figures of the table.

Among the remarkably heavy rainfalls of 1896-97 attention is especially directed to the storm of July 4, 1896, at Louisville, Ky., as a case of great intensity, continuing for a comparatively long time. Rain began at 5.52 p. m. and continued in a perfect deluge until 7.30 p. m., after which the fall was less and ceased altogether at 9.30 p. m. The greatest ten-minute fall was 1.05 inches, 6.11 to 6.21 p. m., and the greatest hourly fall, 2.70 inches, 6 to 7 p. m. The total amount of precipitation from 5.52 to 8 p. m. was 4.20 inches, while the amount for the entire twenty-four hours preceding 8 p. m. was 5.04 inches. These amounts greatly surpass all others hitherto recorded at that station for similar periods of time. The capacity of the sewers was inadequate to carry off the water and all the streets were flooded to a depth varying from 2 to 4 feet. Street-car traffic was suspended for three hours and the electric light failed to burn for about the same time, owing to damage from lightning. Much damage resulted from the flooding of cellars. The maximum intensity for a five-minute period in the above-described storm was exceeded at Kansas City, Mo., on May 31, 1896, on which date 0.80 inch fell in five minutes and 1 inch in eight minutes, which practically concluded the downpour.

The torrential rainfall of March 4-5, 1897, at St. Louis, Mo., illustrates one of the most destructive phases of excessive rainfall, viz, a sudden downpour immediately following a heavy shower. In this case 1.74 inches of rain had fallen before the excessive rate began. Owing to the wet and saturated condition of the ground the run-off was unusually great and disastrous floods resulted.

The greatest damage was caused by the overflow of the River des Peres, in the southwestern suburbs. In the neighborhood of Cheltenham over 150 acres were submerged—the greater portion of which territory is occupied by cottages of workmen employed in large brick and sewer tile works in that vicinity. Persons living nearest the river were awakened about 2 a. m. to find the flood encroaching upon the floors of their dwellings, and it continued to rise until it reached the window sills on the first floor. The majority of the residents of this district were saved from drowning only by the heroic efforts of the police. Another district which suffered greatly was that bounded by Page, Marcus, Vernon, and Walton avenues, in the northwestern portion of the city. Here inadequate sewers caused an overflow, and an inland sea of water several blocks in extent formed. The various railroads entering the city were badly crippled. A passenger train on the Iron Mountain road was ditched by a landslide and the engine overturned, just south of the city. Other roads, both steam and electric, suffered more or less. A section of Mill Creek sewer, which drains the central portion of the city, caved in at Fourteenth and Gratiot streets, causing damage to the extent of $35,000.

TABLE SHOWING THE ACCUMULATED AMOUNTS OF PRECIPITATION FOR EACH FIVE MINUTES DURING ALL STORMS OF 1896 AND 1897 IN WHICH THE RATE OF FALL EQUALED OR EXCEEDED 1 INCH PER HOUR AT STATIONS OF THE WEATHER BUREAU FURNISHED WITH SELF-REGISTERING GAUGES.

Stations and date.	Total duration.		Total amount of precipitation (inches).	Excessive rate.		Amount before excessive rate began (inches).	Accumulated depths of precipitation (in inches) during periods of time indicated.													
	From—	To—		Began—	Ended—		5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
NEW ENGLAND STATES.																				
Eastport, Me.:																				
Apr. 17, 1897	3.10 p. m.	7.30 p. m.	0.63	5.03 p. m.	5.25 p. m.	0.05	0.05	0.20	0.32	0.42	0.45									
Aug. 3, 1897	11.35 p. m.	11.55 p. m.	.45	11.43 p. m.	11.53 p. m.	.05	.05	.20	.40											
Aug. 11, 1897	8.30 a. m.	11.45 p. m.	1.55	4.42 p. m.	5.10 p. m.	.66	.15	.25	.36	.52	.66	.75								
Mean			.88			.25	.08	.22	.36											
Av. increment								.14	.14											
Portland, Me.:																				
Sept. 6, 1896	3.15 a. m.	5.00 p. m.	5.21	7.30 a. m.	8.20 a. m.	1.93	[2].12	[2].24	[2].36	[2].48	.58	.80	.98	1.13	1.26	1.53	1.58	1.73	1.84	1.97
Northf'ld, Vt.: [1]																				
July 6, 1897	4.35 p. m.	8.20 p. m.	2.05	5.08 p. m.	5.37 p. m.	.08	.15	.32	.49	.80	1.15	1.26	1.28	1.38	1.45	1.55				
Aug. 9, 1897	1.28 p. m.	2.50 p. m.	1.00	1.42 p. m.	2.03 p. m.	.05	.45	.73	.80	.87										
Boston, Mass.:																				
July 29, 1897	D. N.	10.05 a. m.	1.48	6.27 a. m.	8.27 a. m.	.16	.30	.39	.45	.49	.52	.62	.68	.77	.78	.99	1.04	1.12	1.17	1.22
Aug. 4, 1897	4.38 p. m.	5.14 p. m.	.58	4.50 p. m.	5.10 p. m.	.04	.06	.23	.46	.53										
Aug. 24, 1897	8.45 a. m.	1.40 p. m.	1.45	12.40 p. m.	1.28 p. m.	.58	.03	.07	.24	.42	.53	.57	.61	.71	.82	.85				
Sept. 20, 1897	3.37 p. m.	6.25 p. m.	.70	4.35 p. m.	5.00 p. m.	.09	.05	.12	.24	.41	.47									
Mean			1.05			.22	.11	.20	.35	.46	.51									
Av. increment								.09	.15	.11	.07									
Nantucket, Mass:																				
July 6, 1896	8.05 p. m.	10.25 p. m.	1.41	9.23 p. m.	10.23 p. m.	.25	.12	.24	.37	.42	.46	.49	.55	.60	.64	.75	1.15			
Aug. 24, 1897	6.23 a. m.	1.13 p. m.	1.06	10.30 a. m.	10.49 a. m.	.20	.10	.33	.50	.66	.71	.75								
MIDDLE ATLANTIC STATES.																				
Albany, N.Y.: [1]																				
July 13–14, 1897	4.30 p. m.	8.01 a. m.	2.34	12.55 a. m.	2.55 a. m.	.50	.03	.07	.13	.16	.19	.22	.27	.32	.37	.40	.45	.66	.96	1.20
Aug. 22, 1897	1.05 p. m.	3.50 p. m.	.43	1.16 p. m.	1.30 p. m.	.01	.26	.35	.40	.42										
New York, N.Y.:																				
July 6, 1896	12.32 p. m.	1.30 p. m.	1.06	12.32 p. m.	1.10 p. m.	.00	.20	.42	.60	.83	.89	.94	.99	1.01						
May 24–25, 1897	8.40 p. m.	1.10 a. m.	.80	9.54 p. m.	10.34 p. m.	T.	.20	.36	.46	.49	.55	.61	.65	.67						
June 4, 1897	6.16 p. m.	8.38 p. m.	.60	6.29 p. m.	6.39 p. m.	T.	.42	.57												
June 8–9, 1897	9.31 a. m.	4.15 p. m.	1.79	11.35 p. m.	12.05 a. m.	.97	.05	.13	.23	.38	.53	.60								
July 18, 1897	7.55 a. m.	2.20 p. m.	.99	8.02 a. m.	9.00 a. m.	.07	.06	.11	.19	.33	.53	.65	.73	.77						
July 23, 1897	3.36 p. m.	7.20 p. m.	.84	3.50 p. m.	4.25 p. m.	.05	.25	.40	.52	.63	.64	.68	.73							
Aug. 22, 1897	6.24 p. m.	7.14 p. m.	.63	6.26 p. m.	6.35 p. m.	T.	.15	.45	.53	.61	.62									
Aug. 24, 1897	1.40 a. m.	6.55 a. m.	1.15	5.47 a. m.	6.26 a. m.	.26	.05	.08	.09	.22	.36	.41	.53	.70	.72					
Mean			.98			.17	.17	.32	.37	.50	.59	.65	.73	.79						
Av. increment								.15	.10	.13	.09	.06	.07	.06						
Philadelphia, Pa.:																				
May 21, 1897	2.32 p. m.	4.50 p. m.	.50	2.38 p. m.	2.53 p. m.	T.	.30	.37	.41	.43	.45									
Aug. 10, 1897	8.40 p. m.	D. N.	1.61	10.48 p. m.	11.20 p. m.	.53	.20	.30	.51	.66	.72	.81	.87							
Atlantic City, N.J.: [1]																				
June 15, 1897	6.19 p. m.	7.35 p. m.	.90	6.41 p. m.	7.13 p. m.	.05	.10	.28	.50	.60	.65	.82	.85							
July 13–14, 1897	1.45 p. m.	1.00 a. m.	2.12	5.25 p. m.	6.15 p. m.	.60	.04	.10	.15	.20	.25	.33	.45	.63	.75	.79				
July 23, 1897	6.10 p. m.	9.30 p. m.	.88	7.24 p. m.	7.46 p. m.	T.	.30	.46	.48	.55	.67									
Aug. 10–11, 1897	11.20 p. m.	D. N.	1.19	12.41 a. m.	12.54 a. m.	.25	.15	.18	.25	.57	.90	.98								
Mean			1.27			.22	.15	.26	.34	.48	.62	.71								
Av. increment								.11	.08	.14	.14	.11								
Harrisburg, Pa.: [1]																				
Aug. 23, 1897	12.02 p. m.	12.17 p. m.	.44	12.05 p. m.	12.17 p. m.	T.	.26	.42	.44											
Baltimore, Md.:																				
July 21, 1896	9.15 p. m.	11.58 p. m.	2.05	9.20 p. m.	10.40 p. m.	.05	.21	.35	.46	.58	.62	.64	.67	.70	.83	.95	1.18	1.77		
Sept. 19, 1896	4.55 p. m.	5.40 p. m.	1.00	5.15 p. m.	5.40 p. m.	.05	.25	.60	.85	.92	.95									
May 21, 1897	1.43 p. m.	2.35 p. m.	.72	1.49 p. m.	2.00 p. m.	.01	.57	.67	.70	.71										
June 4–5, 1897	4.33 p. m.	8.18 a. m.	.82	4.48 p. m.	5.05 p. m.	.05	.16	.40	.49	.50										
July 17, 1897	12.25 p. m.	5.40 p. m.	1.76	3.28 p. m.	3.48 p. m.	.38	.26	.66	1.05	1.17										
Aug. 9–10, 1897	11.30 p. m.	5.10 a. m.	1.60	1.30 a. m.	2.20 a. m.	.40	.03	.07	.12	.19	.25	.42	.52	.62	.77	.82				
Aug. 23, 1897	11.03 a. m.	11.58 a. m.	.74	11.33 a. m.	11.55 a. m.	.02	.14	.24	.48	.71										
Oct. 12, 1897	5.35 a. m.	10.05 a. m.	1.92	6.59 a. m.	8.00 a. m.	.14	.17	.26	.31	.48	.52	.67	.82	.92	1.05	1.21	1.35	1.45		
Mean			1.33			.14	.22	.41	.56	.66	.58	.58	.67	.75	.88	.99				
Av. increment								.19	.15	.10	.04	.11	.09	.08	.13	.11				
Washington, D.C.:																				
Aug. 13, 1896	5.20 p. m.	8.24 p. m.	1.73	6.20 p. m.	7.00 p. m.	.05	.14	.33	.75	.95	1.15	1.34	1.45	1.52	1.57					
May 12–13, 1897	11.30 p. m.	9.40 a. m.	1.75	12.35 a. m.	1.30 a. m.	.15	.13	.15	.30	.39	.41	.45	.48	.56	.66	.72	.81	.89	.98	1.07
May 24, 1897	5.36 p. m.	8.24 p. m.	.98	5.36 p. m.	6.21 p. m.	T.	.05	.30	.33	.40	.42	.46	.55	.69	.73	.75	.79	.85		
June 17, 1897	2.30 p. m.	4.55 p. m.	1.09	3.20 p. m.	4.40 p. m.	.01	.16	.26	.34	.41	.51	.58	.64	.70	.72	.77	.90	1.06		

[1] Not equipped with a self-registering gauge during 1896.

[2] Partly estimated.

TABLE SHOWING THE ACCUMULATED AMOUNTS OF PRECIPITATION FOR EACH FIVE MINUTES DURING ALL STORMS OF 1896 AND 1897, ETC.—Continued.

Stations and date.	Total duration.		Total amount of precipitation (inches).	Excessive rate.		Amount before excessive rate began (inches).	Accumulated depths of precipitation (in inches) during periods of time indicated.													
	From—	To—		Began—	Ended—		5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
MIDDLE ATLANTIC STATES—cont'd.																				
Washington, D. C.—Cont'd.																				
July 7, 1897	3.00 p.m.	3.48 p.m.	.83	3.00 p.m.	3.48 p.m.	.00	.06	.09	.40	.50	.56	.56	.70	.82	.83					
July 21-22, 1897	11.20 p.m.	3.40 a.m.	1.13	2.37 a.m.	3.17 a.m.	.53	.23	.38	.39	.40	.45	.55	.58	.60						
Aug. 10, 1897	7.30 p.m.	9.10 p.m.	1.92	8.13 p.m.	8.38 p.m.	T.	.18	.56	1.08	1.62	1.86	1.87	1.88	1.90	1.92					
Oct. 12, 1897	6.00 a.m.	11.15 a.m.	1.03	6.43 a.m.	7.07 a.m.	.08	.09	.21	.34	.57	.68	.70								
Mean			1.31			.10	.13	.28	.49	.66	.76	.81	.90	.97	1.07	.75	.83	.93		
Av. increment								.15	.21	.17	.10	.05	.07	.07	.04	.04	.08	.10		
Norfolk, Va.:																				
June 9, 1896	2.47 p.m.	3.50 p.m.	1.45	2.47 p.m.	3.58 p.m.	.00	.25	.40	.55	1.00	1.17	1.26	1.35	1.44						
June 22, 1896	5.13 p.m.	6.40 p.m.	1.32	5.13 p.m.	5.40 p.m.	.00	.10	.37	.66	1.00	1.06	1.10								
July 16, 1896	7.25 p.m.	8.35 p.m.	1.04	7.30 p.m.	8.00 p.m.	.05	.05	.33	.58	.80	.87	.95	1.01							
May 24, 1897	4.43 p.m.	6.35 p.m.	.74	5.20 p.m.	5.45 p.m.	.10	.09	.22	.40	.55	.60									
July 27, 1897	7.00 p.m.	7.30 p.m.	.79	7.03 p.m.	7.22 p.m.	T.	.20	.48	.70	.76										
July 28, 1897	7.20 p.m.	8.03 p.m.	.78	7.31 p.m.	7.46 p.m.	.02	.30	.55	.75											
Aug. 23, 1897	10.20 p.m.	11.50 p.m.	.59	11.03 p.m.	11.31 p.m.	.02	.18	.27	.35	.41	.49	.55								
Aug. 30, 1897	5.15 p.m.	7.25 p.m.	.57	5.30 p.m.	5.55 p.m.	.01	.14	.31	.37	.42	.47									
Mean			.91			.02	.16	.37	.54	.71	.78	.96								
Av. increment								.21	.17	.19	.08	.07								
SOUTHERN ATLANTIC STATES AND FLORIDA.																				
Hatteras, N. C.:[1]																				
May 1, 1897	1.12 p.m.	10.15 p.m.	.98	2.18 p.m.	2.23 p.m.	.05	.30	.40	.50											
June 5-6, 1897	12.08 p.m.	2.30 a.m.	2.06	6.17 p.m.	6.47 p.m.	.35	.08	.18	.48	.63	.70	.75								
June 29, 1897	4.00 a.m.	5.17 a.m.	.80	4.07 a.m.	4.31 a.m.	.05	.10	.25	.53	.65	.70									
July 12-13, 1897	9.30 a.m.	5.40 p.m.	5.57	8.00 a.m.	8.50 a.m.	1.37	.06	.15	.23	.40	.53	.60	.72	.87	.98	1.12				
				8.50 a.m.	9.40 a.m.		1.17	1.25	1.42	1.53	1.62	1.73	1.77	1.79	1.81	1.91				
				9.40 a.m.	11.00 a.m.		2.05	2.24	2.47	2.74	2.93	2.97	3.09	3.27	3.35	3.40	3.59	3.77		
Aug. 5, 1897	8.40 p.m.	11.20 p.m.	1.50	8.50 p.m.	9.20 p.m.	.05	.15	.42	.71	.97	1.15	1.26								
Oct. 12, 1897	12.20 a.m.	4.45 a.m.	1.17	3.57 a.m.	4.15 a.m.	.35	.12	.25	.60	.77										
Oct. 19-20, 1897	7.30 p.m.	10.40 a.m.	4.79	7.45 a.m.	9.45 a.m.	2.47	.07	.18	.24	.29	.32	.37	.42	.52	.67	.76	.82	1.09	1.34	1.57
Dec. 2-3, 1897	8.35 p.m.	11.55 a.m.	3.35	11.03 a.m.	11.55 a.m.	2.15	.07	.12	.18	.27	.35	.47	.60	.72	.95	1.11	1.20			
Mean			2.53			.86	.12	.24	.43	.57	.62	.69	.58	.70	.87	1.00				
Av. increment								.12	.19	.14	.09	.08	.10	.12	.17	.13				
Raleigh, N. C.:[1]																				
Apr. 9, 1897	6.20 a.m.	5.15 p.m.	2.10	6.35 a.m.	7.15 a.m.	.03	.10	.35	.44	.60	.75	.82	.85	.91	.94	.96	1.00	1.06	1.15	1.23
June 24, 1897	1.00 a.m.	2.00 a.m.	1.54	1.17 a.m.	1.57 a.m.	.04	.08	.35	.53	.69	.83	.98	1.15	1.41	1.49					
July 12, 1897	4.20 p.m.	9.00 p.m.	1.25	5.40 p.m.	6.25 p.m.	.01	.21	.37	.49	.58	.65	.73	.76	.81	.95					
Mean			1.63			.03	.13	.36	.49	.62	.74	.84	.92	1.04	1.13					
Av. increment								.23	.13	.13	.12	.10	.08	.12	.09					
Wilmington, N. C.																				
Aug. 3, 1896	1.25 p.m.	3.45 p.m.	1.19	1.58 p.m.	2.20 p.m.	.05	.10	.50	.75	.90	1.06	1.07	1.08	1.09						
Apr. 30-May 1, 1897	5.05 p.m.	9.30 a.m.	1.17	5.15 p.m.	5.35 p.m.	.05	.15	.36	.40	.50	.54	.56								
May 15, 1897	7.15 p.m.	9.10 p.m.	.48	7.33 p.m.	7.45 p.m.	.02	.18	.33	.41	.42										
June 5, 1897	10.13 a.m.	11.40 a.m.	1.55	10.17 a.m.	10.37 a.m.	.01	.17	.58	.90	1.23	1.30	1.32	1.36	1.43	1.47					
July 25, 1897	1.05 p.m.	3.50 p.m.	2.60	1.52 p.m.	2.50 p.m.	.32	.38	.83	1.23	1.49	1.55	1.58	1.87	2.03	2.06	2.14	2.25			
Aug. 1, 1897	7.00 p.m.	8.30 p.m.	.72	7.30 p.m.	8.00 p.m.	.14	.19	.33	.41	.46	.53	.58								
Mean			1.28			.10	.20	.49	.68	.83	1.00	1.02	1.44	1.52						
Av. increment								.29	.19	.15	.08	.02	.11	.08						
Charleston, S. C.[1]																				
June 5, 1897	8.55 a.m.	10.30 a.m.	1.33	9.02 a.m.	9.50 a.m.	.02	.08	.31	.51	.57	.59	.71	.91	.94	.98	1.10	1.16			
June 22, 1897	9.10 a.m.	4.15 p.m.	1.47	9.11 a.m.	9.42 a.m.	.01	.22	.42	.52	.77	.83	.90	.91	.92						
Sept. 21-22, 1897	9.50 p.m.	8.25 a.m.	1.34	7.05 a.m.	7.40 a.m.	.32	.06	.11	.17	.26	.39	.61	.75							
Mean			1.38			.12	.12	.28	.40	.53	.60	.74	.86							
Av. increment								.16	.12	.13	.07	.14	.12							
Savannah, Ga.:																				
Apr. 24, 1896	5.30 p.m.	8.45 p.m.	1.30	7.06 p.m.	7.27 p.m.	.20	.05	.10	.13	.15	.20	.45	.67	.80	.87	.93	1.02	1.10	1.25	
July 7, 1896	9.45 a.m.	11.10 a.m.	1.34	9.55 a.m.	10.13 a.m.	.05	.02	.05	.30	.65	.90	1.05	1.10	1.11	1.12	1.13	1.15	1.30		
Aug. 18, 1896	5.45 p.m.	10.45 p.m.	2.68	8.33 p.m.	8.56 p.m.	1.46	.25	.50	.70	.95	1.00									
Aug. 26, 1896	4.30 a.m.	5.35 a.m.	1.63	4.42 a.m.	5.19 a.m.	.10	.05	.08	.15	.27	.38	.62	.97	1.25	1.45	1.57	1.63			
Feb. 1, 1897	8.10 a.m.	1.35 p.m.	1.42	11.35 a.m.	12.30 p.m.	.41	.06	.09	.13	.14	.21	.26	.30	.35	.43	.68	.76	.91	.98	
Mar. 13, 1897	11.30 a.m.	1.21 p.m.	.91	12.27 p.m.	12.47 p.m.	.30	.38	.44	.51	.58										
June 15, 1897	4.40 p.m.	6.15 p.m.	1.60	4.40 p.m.	5.35 p.m.	T.	.15	.39	.71	.95	1.11	1.21	1.34	1.42	1.49	1.55	1.60			
July 5, 1897	11.20 a.m.	11.59 a.m.	1.00	11.20 a.m.	11.59 a.m.	.00	.10	.26	.37	.44	.59	.73	.83	1.00						
July 11, 1897	2.25 p.m.	3.20 p.m.	1.47	2.32 p.m.	2.52 p.m.	T.	.65	1.08	1.32	1.43	1.45									
July 22, 1897	11.28 a.m.	1.15 p.m.	2.00	11.33 a.m.	12.35 a.m.	.01	.05	.19	.39	.52	.64	.79	1.01	1.29	1.49	1.69	1.84			
Aug. 14, 1897	4.05 p.m.	5.55 p.m.	1.99	4.08 p.m.	4.45 p.m.	T.	.03	.32	.63	1.01	1.30	1.47	1.61	1.71	1.75	1.78	1.83	1.86		
Aug. 15, 1897	5.05 p.m.	6.45 p.m.	.90	5.09 p.m.	5.25 p.m.	T.	.36	.56	.62											
Sept. 21-22, 1897	4.05 a.m.	10.15 a.m.	2.97	12.20 a.m.	1.50 a.m.	1.36	.05	.10	.19	.25	.30	.35	.40	.43	.45	.49	.56	.80	.95	1.00
Mean			1.63			.30	.17	.32	.47	.61	.73	.77	.91	1.04	1.13	1.23	1.30	1.19	1.06	
Av. increment								.15	.15	.15	.12	.14	.14	.13	.09	.10	.07	.13	.12	

[1] Not equipped with a self-registering gauge in 1896

TABLE SHOWING THE ACCUMULATED AMOUNTS OF PRECIPITATION FOR EACH FIVE MINUTES DURING ALL STORMS OF 1896 AND 1897, ETC.—Continued.

Stations and date.	Total duration. From—	Total duration. To—	Total amount of precipitation (inches).	Excessive rate. Began—	Excessive rate. Ended—	Amount before excessive rate began (inches).	Accumulated depths of precipitation (in inches) during periods of time indicated. 5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
SOUTHERN ATLANTIC STATES AND FLORIDA—con.																				
Jacksonville, Fla.:																				
Mar. 11, 1896	6.20 a.m.	10.15 a.m.	1.20	8.38 a.m.	9.07 a.m.	.10	.14	.20	.35	.85	.90	1.91								
June 4, 1896	2.35 p.m.	4.55 p.m.	2.49	2.58 p.m.	3.50 p.m.	.12	.07	.14	.47	.92	1.30	1.57	1.58	1.60	1.71	1.79	1.99	2.19	2.34	
June 19, 1896	3.05 p.m.	5.40 p.m.	1.35	3.05 p.m.	3.55 p.m.	.00	.30	.61	.70	.77	.82	.85	.87	.89	1.00	1.15				
Aug. 4, 1896	1.20 p.m.	2.20 p.m.	1.21	1.30 p.m.	2.02 p.m.	.05	.04	.26	.44	.69	.81	.91	1.04	1.12	1.15	1.18				
Aug. 26, 1896	3.04 p.m.	6.15 p.m.	2.09	3.17 p.m.	4.00 p.m.	[1].15	[1].05	[1].11	[1].20	[1].34	.50	.85	1.07	1.20	1.50	1.65	1.80			
Apr. 9, 1897	3.30 a.m.	11.30 a.m.	1.75	3.30 a.m.	3.45 a.m.	.00	.32	.50	.55	.58	.61	.63	.64	.65	.67	.69	.70	.74	.79	.85
May 12, 1897	7.15 p.m.	10.20 p.m.	.82	9.27 p.m.	9.45 p.m.	.27	.06	.13	.39	.50										
June 6, 1897	3.40 p.m.	5.10 p.m.	1.68	3.40 p.m.	4.50 p.m.	.00	.30	.43	.53	.61	.85	.92	.97	.98	1.00	1.03	1.34	1.66		
June 20, 1897	8.40 p.m.	10.25 p.m.	.74	8.40 p.m.	9.00 p.m.	.00	.15	.45	.60	.72										
Aug. 13, 1897	3.40 p.m.	5.48 p.m.	1.65	3.59 p.m.	4.19 p.m.	.05	.45	.85	1.15	1.60										
Sept. 8, 1897	1.50 p.m.	5.45 p.m.	2.20	3.02 p.m.	3.52 p.m.	.50	.10	.25	.35	.44	.60	.85	1.05	1.18	1.28	1.35				
Sept. 11, 1897	3.55 a.m.	8.45 a.m.	1.84	7.03 a.m.	7.55 a.m.	.85	.07	.15	.22	.25	.28	.31	.38	.46	.55	.70	.80			
Oct. 18, 1897	D. N.	9.50 a.m.	2.07	3.27 a.m.	4.10 a.m.	.45	.05	.14	.20	.31	.40	.45	.53	.63	.68					
Mean			1.62			.20	.16	.32	.47	.66	.71	.84	.90	.96	1.06	1.19	1.33	1.53		
Av. increment								.16	.15	.19	.13	.13	.09	.06	.10	.08	.15	.19		
Jupiter, Fla.:																				
Jan. 25, 1896	5.25 p.m.	10.30 p.m.	2.18	6.40 p.m.	7.21 p.m.	.35	.03	.06	.10	.16	.30	.43	.51	.66	1.06	1.36	1.56			
July 10, 1896	4.00 p.m.	10.30 p.m.	2.17	8.00 p.m.	8.40 p.m.	.97	.10	.35	.55	.59	.67	.75	.90	1.10						
Sept. 9, 1896	10.30 a.m.	12.00 noon	1.35	10.30 a.m.	11.12 a.m.	.00	.07	.24	.51	.73	.88	.96	1.01	1.10	1.14	1.17				
Feb. 1, 1897	7.50 a.m.	2.00 p.m.	2.61	11.23 a.m.	12.26 p.m.	.65	.09	.26	.55	.80	.93	1.07	1.15	1.29	1.41	1.46	1.74	1.81		
Mar. 2-3, 1897	6.00 p.m.	8.50 a.m.	3.30	6.07 a.m.	[2]	.73	.21	.31	.43	.52	.70	.73	.75	.75	.76	.80	1.04	[1].50	[1].94	2.37
Apr. 7, 1897	12.55 p.m.	2.15 p.m.	.74	1.09 p.m.	1.17 p.m.	.05	.30	.40	.41	.42	.43	.44	.45	.53	.64	.71	.72			
Apr. 15, 1897	2.10 p.m.	3.20 p.m.	.77	2.22 p.m.	2.37 p.m.	.05	.30	.47	.65	.70	.72	.73								
Apr. 30, 1897	7.30 a.m.	5.05 p.m.	4.25	10.03 a.m.	[3]	.10	.42	.55	.68	.78	[3]	[3]	[3]	[3]	[3]	[3]	[3]	[3]	[3]	2.46
May 30-31, 1897	5.00 a.m.		8.76	[4]	8.50 a.m.		1.34	1.42	1.50	1.55	1.56	1.60	1.67	1.74	1.82	1.87				
				8.50 a.m.	9.40 a.m.		1.92	1.99	2.06	2.14	2.19	2.22	2.25	2.29	2.34	2.39				
				9.40 a.m.	10.30 a.m.		2.43	2.46	2.50	2.53	2.57	2.60	2.62	2.64	2.69	2.73				
				10.30 a.m.	11.20 a.m.		2.80	2.89	2.97	3.05	3.09	3.16	3.24	3.29	3.35	3.40				
				11.20 a.m.	12.10 p.m.		3.44	3.49	3.55	3.62	3.68	3.76	3.92	4.09	4.18	4.34				
		3.00 a.m.		12.10 p.m.	1.10 p.m.		4.58	4.76	4.93	5.14	5.43	5.68	5.89	6.07	6.22	6.28	6.45			
June 8, 1897	1.00 p.m.	4.00 p.m.	1.59	1.15 p.m.	1.38 p.m.	.10	.03	.06	.10	.35	.55	.69	.90	.95						
July 9, 1897	3.40 a.m.	10.00 a.m.	1.25	5.25 a.m.	5.50 a.m.	.15	.05	.20	.34	.52	.64	.67	.69	.75	.79	.90				
July 29, 1897	5.25 p.m.	6.10 p.m.	.98	5.25 p.m.	5.50 p.m.	.00	.05	.14	.43	.80	.93	.96								
Aug. 25, 1897	11.30 a.m.	1.00 p.m.	2.24	11.50 a.m.	12.35 p.m.	.05	.30	.70	1.07	1.62	1.75	1.85	1.95	2.05	2.15					
Sept. 4, 1897	3.50 p.m.	11.00 p.m.	2.33	6.45 p.m.	7.25 p.m.	.53	.12	.44	.71	.87	.96	1.06	1.13	1.22	1.26					
Sept. 6, 1897	11.30 a.m.	5.45 p.m.	2.58	2.05 p.m.	3.00 p.m.	.42	.21	.46	.69	1.03	1.36	1.56	1.67	1.75	1.83	1.90				
Sept. 6-7, 1897	8.10 p.m.	D. N.	2.11	9.15 p.m.	9.45 p.m.	.33	.07	.32	.60	.86	.94	1.02	1.06							
Oct. 10, 1897	6.30 a.m.	8.30 a.m.	.90	6.30 a.m.	7.20 a.m.	.00	.11	.21	.27	.33	.39	.50	.56	.66	.72	.81				
Oct. 19, 1897	12.50 a.m.	2.00 a.m.	.90	1.00 a.m.	1.35 a.m.	.03	.04	.10	.21	.36	.56	.81	.86							
Nov. 27, 1897	4.00 a.m.	8.30 a.m.	1.43	6.45 a.m.	7.20 a.m.	.10	.25	.45	.58	.76	.92	1.09	1.20							
Nov. 30, 1897	12.50 p.m.	9.30 p.m.	3.06	4.50 p.m.	5.50 p.m.	.74	.06	.12	.16	.23	.36	.64	.85	1.01	1.18	1.32	1.66			
Mean			2.28			.28	.15	.31	.48	.65	.78	.89	.98	1.06	1.18	1.16	1.34			
Av. increment								.16	.17	.17	.13	.11	.08	.10	.11	.10	.21			
Key West, Fla.:																				
Nov. 7, 1896	2.20 p.m.	4.10 p.m.	1.00	2.56 p.m.	3.41 p.m.	.14	.05	.10	.22	.32	.34	.35	.45	.65	.82	.86				
Feb. 5-6, 1897	D. N.	D. N.	.96	9.53 p.m.	10.37 p.m.	.05	.06	.15	.27	.38	.45	.52	.57	.61	.65	.68	.72			
Apr. 6, 1897	11.06 p.m.	11.55 p.m.	.95	11.33 p.m.	11.50 p.m.	.05	.45	.70	.85	.88	.92	.93	.94	.95						
May 29-30, 1897	5.26 p.m.	12.10 a.m.	2.05	9.20 p.m.	9.35 p.m.	1.07	.08	.15	.17	.19	.20	.23	.35	.55	.70	.73	.77	.87		
June 11, 1897	10.45 a.m.	2.15 p.m.	.74	11.01 a.m.	11.21 a.m.	.10	.22	.38	.47	.52	.56									
July 31, 1897	9.08 p.m.	10.15 p.m.	.83	9.25 p.m.	9.45 p.m.	.10	.15	.42	.60	.66	.69									
July 31, 1897	11.20 p.m.	D. N.	.74	11.25 p.m.	11.45 p.m.	.04	.04	.30	.47	.65	.70									
Aug. 6, 1897	1.30 p.m.	3.31 p.m.	1.04	3.18 p.m.	3.30 p.m.	.40	.30	.55	.62											
Aug. 26, 1897	5.58 p.m.	7.20 p.m.	1.42	6.04 p.m.	6.41 p.m.	.05	.15	.40	.70	1.00	1.11	1.20	1.28	1.32						
Sept. 6, 1897	3.58 p.m.	8.30 p.m.	1.28	5.34 p.m.	5.45 p.m.	.40	.32	.55	.62											
Oct. 1, 1897	D. N.	8.30 a.m.	1.36	12.47 a.m.	1.40 a.m.	.05	.17	.38	.68	.90	1.00	1.10	1.23	1.30	1.35	1.45	1.53			
Oct. 19, 1897	D. N.	9.10 a.m.	2.98	4.50 a.m.	5.56 a.m.	.40	.10	.19	.27	.34	.42	.47	.51	.54	.65	.85	1.40			
				7.57 a.m.	8.45 a.m.		.10	.17	.25	.36	.52	.62	.75	.80	.87	.93	.99			
Nov. 18-19, 1897	8.42 p.m.	D. N.	.92	8.52 p.m.	9.17 p.m.	.05	.14	.29	.45	.55	.65									
Dec. 14, 1897	8.52 a.m.	10.40 a.m.	1.15	9.06 a.m.	9.36 a.m.	.05	.20	.32	.50	.78	.86	1.05								
Mean			1.28			.21	.17	.34	.48	.58	.65	.72	.76	.84	.84	.92	1.08			
Av. increment								.17	.14	.12	.07	.07	.08	.08	.10	.08	.16			
Tampa, Fla.: [5]																				
Feb. 5, 1897	3.10 p.m.	8.10 p.m.	3.10	3.47 p.m.	[2]	.10	.10	.30	.47	.60	.68	.75	.78	.80	.85	.90	1.05	1.28	1.61	[2]1.79
Apr. 29-30, 1897	10.30 p.m.	3.25 a.m.	1.72	12.48 a.m.	1.12 a.m.	.25	.09	.35	.55	.80	.96	.99	1.01	1.03	1.05	1.06	1.11			
June 7, 1897	2.05 p.m.	5.15 p.m.	3.52	2.30 p.m.	[2]	.20	.05	.10	.15	.38	.70	1.15	1.55	1.97	[2]					
June 21-22, 1897	D. N.	D. N.	.90	11.57 p.m.	12.27 a.m.	.05	.11	.25	.49	.65	.72	.77								
June 28, 1897	6.25 p.m.	6.55 p.m.	.90	6.32 p.m.	6.53 p.m.	.05	.28	.62	.68	.78	.85									
July 11-12, 1897	D. N.	4.40 p.m.	2.94	8.00 a.m.	9.05 a.m.	.74	.10	.17	.21	.23	.26	.34	.41	.54	.65	.75	.95			
Aug. 10, 1897	9.40 a.m.	5.20 p.m.	1.02	10.27 a.m.	10.36 a.m.	.20	.05	.35	.52											
Aug. 21, 1897	7.42 p.m.	8.45 p.m.	1.05	8.17 p.m.	8.30 p.m.	.20	.32	.65	.82											

[1] Partly estimated.
[2] Gauge overflowed.
[3] Gauge out of order after 10.25 a.m.; 2.46 inches fell from 10 a.m. to 12 m.
[4] Storm began about 5 a.m. of the 30th, but the self-register failed to record until 8 a.m., at which time 1.25 inches had fallen. The first amount, 1.34, represents the total fall from the beginning of the storm to 8.05 a.m. The 5 minute accumulations are given from that time to 1.10 p.m.
[5] Not equipped with a self-registering gauge during 1896.

TABLE SHOWING THE ACCUMULATED AMOUNTS OF PRECIPITATION FOR EACH FIVE MINUTES DURING ALL STORMS OF 1896 AND 1897, ETC.—Continued.

Stations and date.	Total duration.		Total amount of precipitation (inches).	Excessive rate.		Amount before excessive rate began (inches).	Accumulated depths of precipitation (in inches) during periods of time indicated.													
	From—	To—		Began—	Ended—		5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
SOUTHERN ATLANTIC STATES AND FLORIDA—con.																				
Tampa, Fla—Con.																				
Sept. 16, 1897	1.50 p. m.	2.12 p. m.	.81	1.53 p. m.	2.03 p. m.	.05	.40	.80												
Sept. 20-21, 1897	11.33 a. m.	D. N.	6.56	9.00 p. m.	(1)	2.65	.10	.30	.50	.80	1.00	1.15	1.25	(1)	(1)	(1)	(1)	(1)	(1)	2.25
Oct. 10, 1897	4.10 p. m.	7.30 p. m.	1.00	4.18 p. m.	4.47 p. m.	.05	.20	.50	.58	.63	.70	.76								
Mean			2.14			.19	.16	.40	.50	.61	.73	.84	1.00	1.08	.85	.90	1.04			
Av. increment								.24	.14	.16	.08	.13	.12	.14	.06	.05	.14			
GULF STATES.																				
Atlanta, Ga.:																				
Feb. 22-23, 1897	11.00 p. m.	D. N.	.56	11.55 p. m.	12.15 a. m.	.05	.21	.25	.41	.45										
Mar. 5-6, 1897	11.10 p. m.	10.15 a. m.	1.86	7.11 a. m.	7.50 a. m.	.94	.18	.31	.36	.41	.51	.55	.59	.66	.68					
June 8, 1897	2.10 a. m.	4.30 a. m.	.73	2.49 a. m.	3.24 a. m.	.05	.19	.35	.39	.44	.48	.55	.60							
July 19, 1897	7.33 a. m.	3.45 p. m.	2.21	10.48 a. m.	11.28 a. m.	.02	.25	.52	.89	1.16	1.58	1.68	1.76							
Aug. 2, 1897	7.09 a. m.	8.10 a. m.	1.61	7.22 a. m.	8.00 a. m.	.06	.26	.53	.79	.89	1.00	1.24	1.47	1.55						
Oct. 10-11, 1897	8.03 p. m.	9.30 a. m.	1.24	8.03 p. m.	8.15 p. m.	.00	.25	.38	.42	.43	.44	.51	.59							
Mean			1.37			.19	.22	.39	.54	.63	.80	.91	1.00							
Av. increment								.17	.15	.09	.14	.11	.09							
Montgomery, Ala.:[2]																				
Mar. 5-6, 1897	8.05 p. m.	10.15 a. m.	4.81	5.42 a. m.	6.22 a. m.	2.53	.04	.09	.13	.17	.36	.66	1.11	1.31	1.54	1.67	2.01	2.18		
Mar. 12, 1897	2.00 p. m.	6.10 p. m.	1.72	3.02 p. m.	3.57 p. m.	.01	.16	.21	.46	.53	.60	.71	.76	.87	.90	.94	1.29			
Mar. 12, 1897	8.50 p. m.	11.57 p. m.	1.14	10.00 p. m.	10.15 p. m.	.11	.19	.73	1.01											
Apr. 29, 1897	9.45 a. m.	12.35 p. m.	1.35	10.13 a. m.	10.30 a. m.	.01	.25	.56	.87	.95	1.00	1.03	1.07	1.10	1.13	1.16	1.22			
June 16, 1897	3.35 p. m.	4.40 p. m.	1.04	3.58 p. m.	4.22 p. m.	.03	.22	.50	.67	.77	.88									
June 19, 1897	4.40 p. m.	5.20 p. m.	.80	4.52 p. m.	5.17 p. m.	.01	.22	.44	.65	.72	.76									
June 25, 1897	5.30 p. m.	6.25 p. m.	.83	5.32 p. m.	5.52 p. m.	.01	.21	.49	.73	.80										
July 9, 1897	4.52 p. m.	6.35 p. m.	.80	4.54 p. m.	5.47 p. m.	T.	.13	.25	.33	.34	.35	.36	.42	.53	.60	.68	.76			
Aug. 6, 1897	7.05 p. m.	8.45 p. m.	.62	7.16 p. m.	7.37 p. m.	.01	.15	.35	.47	.56										
Dec. 13, 1897	6.15 a. m.	4.00 p. m.	1.58	11.28 a. m.	12.05 p. m.	.89	.09	.12	.27	.37	.47	.55	.60	.65						
Mean			1.47			.36	.17	.37	.56	.58	.63	.66	.79	.89	1.04	1.11	1.32			
Av. increment								.20	.19	.07	.08	.11	.13	.10	.09	.07	.21			
New Orleans, La.:																				
Mar. 10, 1896	2.30 p. m.	9.20 p. m.	1.81	6.27 p. m.	7.08 p. m.	.30	.06	.15	.25	.30	.35	.40	.48	.65	.95	1.05	1.09			
Mar. 18, 1896	1.10 p. m.	6.30 p. m.	2.32	2.11 p. m.	3.00 p. m.	.25	.11	.16	.30	.65	.92	1.05	1.22	1.35	1.44	1.50	1.55			
Apr. 9, 1896	1.20 p. m.	2.20 p. m.	1.57	1.20 p. m.	1.50 p. m.	.00	.15	.40	.72	1.12	1.45	1.51	1.55							
Apr. 14, 1896	1.30 p. m.	7.40 p. m.	1.52	3.45 p. m.	4.31 p. m.	.15	.04	.21	.44	.60	.84	.87	.79	.96	.99	1.07	1.11			
Sept. 2, 1896	8.25 a. m.	2.15 p. m.	3.33	9.45 a. m.	10.40 a. m.	.65	.04	.09	.15	.24	.34	.46	.62	.92	1.22	1.44	1.67			
Mar. 21, 1897	3.30 p. m.	7.55 p. m.	.98	4.48 p. m.	5.33 p. m.	.01	.06	.21	.31	.51	.64	.69	.76	.81	.85	.88				
Apr. 6, 1897	6.40 p. m.	8.05 p. m.	1.09	6.47 p. m.	7.20 p. m.	.01	.20	.29	.39	.63	.80	.86	.89	.92	.96	.97	.98			
Apr. 8, 1897	6.05 p. m.	8.05 p. m.	.78	6.18 p. m.	6.33 p. m.	.02	.09	.39	.58	.59	.63	.74	.76							
June 16, 1897	2.03 p. m.	6.05 p. m.	1.75	2.52 p. m.	3.12 p. m.	.04	.30	.40	.58	.75	.76	.76	.76	.76	.76	.78	.90	.95	.96	
June 26, 1897	6.28 p. m.	7.10 p. m.	.80	6.30 p. m.	7.00 p. m.	.01	.20	.30	.40	.52	.62	.75	.80							
July 17, 1897	12.25 p. m.	1.50 p. m.	1.35	12.36 p. m.	1.20 p. m.	T.	.20	.49	.60	.78	.87	1.05	1.19	1.25	1.30					
Aug. 15, 1897	12.35 p. m.	1.35 p. m.	.52	12.39 p. m.	12.49 p. m.	T.	.27	.44	.50											
Sept. 17, 1897	1.55 p. m.	8.15 p. m.	2.31	2.29 p. m.	3.29 p. m.	.04	.09	.22	.32	.43	.49	.59	.68	.78	.95	.98	1.20			
Nov. 9, 1897	5.00 a. m.	5.55 a. m.	.93	5.05 a. m.	5.30 a. m.	.01	.09	.31	.56	.81	.90									
Mean			1.50			.11	.14	.29	.44	.61	.72	.79	.88	.93	1.05	1.08	1.21			
Av. increment								.15	.15	.18	.11	.08	.09	.11	.12	.07	.10			
Vicksburg, Miss.:																				
Apr. 13, 1896	1.30 p. m.	7.15 p. m.	1.63	1.36 p. m.	2.20 p. m.	.05	.04	.16	.36	.60	.66	.78	.84	.90	.96	1.02	1.07			
June 6, 1896	3.25 p. m.	9.55 p. m.	1.60	3.34 p. m.	3.57 p. m.	.05	.03	.08	.25	.60	.80	1.00	1.06							
Oct. 22-23, 1896	9.45 p. m.	8.15 a. m.	1.38	5.31 a. m.	5.46 a. m.	.55	.19	.45	.61	.65	.68	.72	.76							
Jan. 17, 1897	3.45 a. m.	10.25 a. m.	1.26	4.45 a. m.	5.27 a. m.	.17	.02	.06	.20	.30	.44	.55	.60	.75	.86	.94	1.00			
Mar. 5-6, 1897	4.45 p. m.	10.15 a. m.	2.03	6.07 p. m.	6.48 p. m.	.10	.05	.20	.29	.40	.42	.44	.45	.49	.70	.80	.85			
June 3-4, 1897	6.52 p. m.	2.40 a. m.	1.24	7.44 p. m.	8.05 p. m.	.06	.10	.32	.55	.64										
June 15, 1897	12.58 p. m.	3.10 p. m.	.90	1.01 p. m.	1.48 p. m.	.01	.08	.20	.45	.45	.45	.45	.45	.51	.74	.84				
July 10, 1897	7.48 p. m.	8.50 p. m.	1.70	7.58 p. m.	8.40 p. m.	.03	.24	.44	.62	.82	1.00	1.25	1.46	1.60	1.65					
July 18, 1897	2.30 p. m.	6.30 p. m.	1.81	3.27 p. m.	3.47 p. m.	.03	.16	.36	.89	1.23										
July 20, 1897	8.26 p. m.	9.30 p. m.	1.52	8.28 p. m.	9.10 p. m.	.01	.15	.39	.66	.90	1.05	1.26	1.42	1.50	1.52					
Dec. 2-3, 1897	9.24 a. m.	7.38 p. m.	5.75	3.10 a. m.	4.15 a. m.	1.42	.05	.09	.14	.24	.29	.46	.66	.85	.95	1.01	1.16	1.31	1.47	1.54
Mean			1.89			.23	.10	.26	.46	.62	.64	.77	.86	.94	1.05	.92	1.02			
Av. increment								.16	.20	.16	.09	.13	.09	.09	.11	.08	.08			
Galveston, Tex.:																				
Mar. 15, 1896	8.00 a. m.	6.00 p. m.	2.17	11.20 a. m.	11.47 a. m.	.35	.10	.30	.37	.47	.62	.75	.82	.85	.88	.90	1.00	1.12	1.18	1.22
July 11, 1896	12 noon.	3.30 p. m.	1.67	2.07 p. m.	2.52 p. m.	.32	.30	.45	.57	.65	.77	.90	.98	1.04	1.10	1.13	1.23			
Jan. 19, 1897	1.02 p. m.	7.20 p. m.	.96	5.13 p. m.	5.52 p. m.	.20	.20	.35	.42	.46	.50	.54	.60	.65	.70					
Feb. 10-11, 1897	1.06 p. m.	3.10 a. m.	1.11	3.47 p. m.	4.35 p. m.	.05	.05	.12	.24	.35	.50	.62	.70	.79	.87	.91				
Mar. 5, 1897	1.32 p. m.	8.37 p. m.	1.98	6.55 p. m.	7.03 p. m.	1.33	.15	.23	.31	.35	.40	.46	.54	.58	.61	.66	.71	.81	1.01	1.10
Apr. 14, 1897	6.02 a. m.	9.07 a. m.	.78	7.07 a. m.	7.25 a. m.	.02	.37	.46	.49	.54	.56	.58	.59	.61						
Sept. 2, 1897	2.36 p. m.	5.19 p. m.	1.05	2.40 p. m.	3.20 p. m.	.01	.11	.21	.24	.31	.34	.45	.68	.77	.80					
Oct. 30-31, 1897	8.22 p. m.	10.17 a. m.	2.81	12.50 a. m.	1.45 a. m.	.45	.12	.25	.33	.44	.50	.57	.65	.72	.77	.86	.90			
Mean			1.57			.34	.18	.30	.37	.45	.52	.61	.70	.75	.82	.89	.96			
Av. increment								.12	.07	.08	.07	.09	.09	.05	.05	.05	.07			

[1] Record defective during greater part of the storm. From 3 to 4 a. m. 1.15 inches fell, with a maximum fall of .60 in 10 minutes, and from 9 p. m. to midnight estimated that 3.00 inches fell.

[2] Not equipped with a self-registering gauge during 1896.

TABLE SHOWING THE ACCUMULATED AMOUNTS OF PRECIPITATION FOR EACH FIVE MINUTES DURING ALL STORMS OF 1896 AND 1897, ETC.—Continued.

Stations and date.	Total duration. From—	Total duration. To—	Total amount of precipitation (inches).	Excessive rate. Began—	Excessive rate. Ended—	Amount before excessive rate began (inches).	Accumulated depths of precipitation (in inches) during periods of time indicated. 5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
OHIO VALLEY AND TENNESSEE.																				
Pittsburg, Pa.:																				
Aug. 13, 1896	7.50 a.m.	11.40 a.m.	2.22	8.33 a.m.	9.31 a.m.	.10	.07	.25	.50	.85	1.05	1.13	1.21	1.29	1.37	1.44	1.70			
Apr. 26, 1897	2.10 p.m.	2.40 p.m.	.43	2.18 p.m.	2.30 p.m.	.01	.19	.37	.40	.42										
July 11, 1897	3.00 p.m.	6.00 p.m.	.83	3.33 p.m.	4.00 p.m.	.07	.10	.19	.40	.52	.60	.62								
July 18, 1897	5.55 p.m.	7.25 p.m.	.76	6.00 p.m.	6.30 p.m.	T.	.04	.14	.29	.49	.56	.60	.62							
Mean			1.06			.04	.10	.24	.40	.57	.74	.78								
Av. increment								.14	.16	.17	.12	.04								
Parkersburg, W. Va.:[1]																				
July 26-27, 1897	7.25 p.m.	D. N.	1.10	7.50 p.m.	8.17 p.m.	.05	.09	.11	.24	.31	.47	.54								
Cincinnati, Ohio:																				
July 20-21, 1896	9.45 p.m.	12.20 a.m.	1.93	9.48 p.m.	10.27 p.m.	.02	.14	.30	.42	.55	.82	1.00	1.05	1.12	1.16	1.19	1.23			
Feb. 20, 1897	5.30 p.m.	10.30 p.m.	.55	9.47 p.m.	10.10 p.m.	.04	.05	.18	.27	.40	.50									
Mar. 4-5, 1897	7.15 p.m.	1.05 p.m.	4.97	1.55 a.m.	(1)	.84	.05	.10	.15	.19	.22	.25	.29	.33	.36	.39	.42	.54	.67	.76
Mar. 9, 1897	7.50 p.m.	9.30 p.m.	.83	8.05 p.m.	8.35 p.m.	.15	.10	.20	.34	.40	.50	.55								
July 5, 1897	4.20 p.m.	5.58 p.m.	2.20	4.32 p.m.	5.32 p.m.	.01	.11	.31	.51	.73	1.05	1.32	1.55	1.67	1.79	1.94	2.10	2.18		
Mean			2.10			.21	.09	.22	.34	.45	.62	.78	.96	1.04	1.10	1.17	1.25			
Av. increment								.13	.12	.11	.17	.13	.11	.08	.06	.07	.08			
Columbus, Ohio:[2]																				
July 11, 1897	3.55 p.m.	8.04 p.m.	3.81	4.03 p.m.	4.50 p.m.	.01	.20	.28	.40	.65	1.05	1.35	1.65	2.00	2.45	2.62	2.79	2.80	2.86	2.93
Indianapolis, Ind.:																				
May 25, 1896	5.40 a.m.	6.05 a.m.	1.01	5.40 a.m.	6.05 a.m.	.00	.30	.50	.90	.93	1.01									
Sept. 18, 1896	10.20 p.m.	11.40 p.m.	1.78	10.25 p.m.	11.10 p.m.	.05	.05	.20	.42	.55	.80	1.00	1.30	1.50	1.65	1.73	1.78			
May 15, 1897	12.20 p.m.	2.20 p.m.	1.06	12.52 p.m.	1.48 p.m.	.15	.10	.18	.20	.20	.20	.25	.39	.51	.66	.78				
July 11, 1897	9.55 a.m.	1.45 p.m.	1.50	12.17 p.m.	12.57 p.m.	.05	.10	.25	.40	.54	.65	.84	1.00	1.08						
July 25, 1897	6.10 p.m.	9.10 p.m.	1.50	7.25 p.m.	8.00 p.m.	.08	.05	.10	.35	.70	1.05	1.32	1.42							
Mean			1.37			.07	.12	.25	.45	.58	.74	.85	1.03	1.03						
Av. increment								.13	.20	.13	.16	.18	.18	.13						
Louisville, Ky.:																				
June 23, 1896	4.17 p.m.	4.53 p.m.	1.37	4.30 p.m.	4.46 p.m.	.05	.20	.65	1.20	1.30										
July 4, 1896	5.52 p.m.	9.35 p.m.	4.60	6.08 p.m.	7.40 p.m.	.15	.06	.15	.70	1.20	1.52	1.70	[3]1.90	[3]2.06	[3]2.22	[3]2.38	[3]2.70	[3]3.43	[3]4.15	[3]4.35
June 20, 1897	3.25 p.m.	3.50 p.m.	.51	3.28 p.m.	3.42 p.m.	.01	.26	.41	.48											
July 10, 1897	12.55 p.m.	3.12 p.m.	1.65	1.15 p.m.	2.00 p.m.	.04	.05	.15	.20	.40	.72	.97	1.11	1.23	1.28	1.31	1.39	1.60		
July 11, 1897	4.04 p.m.	7.10 p.m.	1.02	5.30 p.m.	5.50 p.m.	.05	.20	.45	.72	.81	.83									
July 24, 1897	11.40 a.m.	12.45 p.m.	.92	12.05 p.m.	12.35 p.m.	T.	.30	.47	.52	.74	.86	.90								
Aug. 22, 1897	11.45 a.m.	1.35 p.m.	.64	11.55 a.m.	12.30 p.m.	T.	.05	.32	.42	.52	.55									
Nov. 8, 1897	12.02 p.m.	7.25 p.m.	.86	5.39 p.m.	5.50 p.m.	.33	.30	.45	.47	.48										
Mean			1.45			.08	.18	.38	.59	.78	.90	1.19								
Av. increment								.20	.21	.17	.16	.16								
Cairo, Ill.:[2]																				
June 22, 1897	3.45 a.m.	11.45 a.m.	3.28	3.56 a.m. 4.46 a.m.	4.46 a.m. 6.00 a.m.	T. 1.61	.03 1.69	.10 1.70	.30 1.73	.52 1.85	.65 1.94	.90 1.96	1.08 1.98	1.30 2.12	1.46 2.26	1.56 2.52	2.78			
Nov. 15-16, 1897	11.50 p.m.	5.30 a.m.	1.73	12.15 a.m.	1.45 a.m.	T.	.08	.11	.16	.20	.30	.41	.47	.55	.58	.67	.80	.94	1.16	1.25
Nashville, Tenn.:																				
May 31, 1896	1.15 p.m.	2.25 p.m.	1.24	1.46 p.m.	2.20 p.m.	.15	.05	.08	.20	.31	.40	.64	.79	.90	1.12	1.22				
July 2, 1896	3.37 p.m.	6.13 p.m.	1.32	4.52 p.m.	5.46 p.m.	.10	.05	.19	.44	.60	.72	.76	.78	.80	.85	.97	1.21			
July 12, 1896	3.58 p.m.	5.15 p.m.	1.50	3.58 p.m.	4.26 p.m.	.00	.12	.30	.60	.82	1.05	1.11	1.12	1.13	1.14	1.15	1.20	1.50		
Mar. 31, 1897	5.15 p.m.	8.45 p.m.	1.24	7.00 p.m.	7.40 p.m.	.30	.06	.14	.16	.22	.40	.65	.74	.80	.82	.84	.87			
July 4, 1897	6.24 p.m.	9.15 p.m.	1.95	8.26 p.m.	9.00 p.m.	.20	.15	.35	.57	.80	1.05	1.37	1.59	1.70						
July 10, 1897	5.40 p.m.	9.30 p.m.	1.20	5.40 p.m.	6.00 p.m.	.00	.17	.67	.95	1.02										
July 11, 1897	6.38 p.m.	7.25 p.m.	1.30	6.40 p.m.	7.20 p.m.	T.	.10	.23	.41	.72	.98	1.09	1.18	1.26						
Mean			1.39			.11	.10	.28	.48	.64	.77	.94	1.03	1.10	.98	1.04	1.09			
Av. increment								.18	.20	.16	.19	.17	.09	.07	.08	.06	.11			
Memphis, Tenn.:																				
May 13, 1897	11.22 p.m.	11.42 p.m.	.55	11.22 p.m.	11.42 p.m.	.00	.30	.41	.48	.55										
June 27, 1897	8.25 p.m.	9.45 p.m.	.95	8.27 p.m.	9.02 p.m.	.01	.07	.20	.44	.61	.79	.88	.91							
July 21, 1897	2.45 a.m.	3.10 a.m.	.47	2.47 a.m.	3.00 a.m.	T.	.25	.43	.46											
Aug. 30, 1897	4.45 p.m.	5.15 p.m.	1.06	4.45 p.m.	5.12 p.m.	.00	.16	.39	.65	.83	1.02	1.04								
Nov. 16, 1897	1.35 a.m.	7.10 a.m.	1.17	1.35 a.m.	2.00 a.m.	.00	.15	.29	.40	.51	.55	.58	.61							
Mean			.84			.00	.19	.34	.49	.62	.79	.83								
Av. increment								.15	.15	.13	.14	.04								
LAKE REGION.																				
Duluth, Minn.:																				
July 9, 1897	D. N.	7.35 a.m.	.69	6.37 a.m.	6.58 a.m.	.05	.13	.25	.36	.43	.47	.50								
Aug. 8, 1897	2.46 p.m.	3.35 p.m.	1.04	3.00 p.m.	3.18 p.m.	.01	.34	.79	.95	.99										
Milwaukee, Wis.:																				
Aug. 1, 1897	1.30 a.m.	7.00 a.m.	2.11	1.53 a.m.	2.26 a.m.	.10	.10	.19	.30	.46	.61	.80	.91							

[1] Gauge overflowed.

[2] Not equipped with a self-registering gauge during 1896.

[3] Partly estimated.

TABLE SHOWING THE ACCUMULATED AMOUNTS OF PRECIPITATION FOR EACH FIVE MINUTES DURING ALL STORMS OF 1896 AND 1897, ETC.—Continued.

Stations and date.	Total duration.		Total amount of precipitation (inches).	Excessive rate.		Amount before excessive rate began (inches).	Accumulated depths of precipitation (in inches) during periods of time indicated.													
	From—	To—		Began—	Ended—		5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
LAKE REGION—continued.																				
Chicago, Ill.:																				
May 25, 1896	1.37 a.m.	3.50 a.m.	1.46	3.08 a.m.	3.25 a.m.	.09	.01	.09	.52	1.07	1.26	1.29	1.31	1.32						
Aug. 6, 1896	6.05 a.m.	7.35 a.m.	1.18	6.05 a.m.	6.45 a.m.	.00	.10	.30	.36	.62	.90	.99	1.04	1.17						
July 4, 1897	12.08 p.m.	1.00 p.m.	.42	12.10 p.m.	12.25 p.m.	T.	.05	.20	.37											
Mean			1.02			.03	.05	.20	.42											
Av. increment								.15	.22											
Detroit, Mich.:																				
June 25, 1896	5.50 p.m.	6.40 p.m.	1.19	5.58 p.m.	6.28 p.m.	.05	.15	.45	.85	1.00	1.07	1.14								
July 26-27, 1896	8.15 p.m.	5.00 a.m.	2.62	8.17 p.m.	8.58 p.m.	.02	.38	.57	.63	.91	1.13	1.30	1.43	1.63	1.70	1.73	1.78			
June 16, 1897	4.25 a.m.	5.40 a.m.	.96	4.33 a.m.	5.15 a.m.	.05	.05	.25	.38	.45	.53	.63	.71	.80						
Aug. 4, 1897	12.25 p.m.	1.25 p.m.	.68	12.38 p.m.	1.02 p.m.	.05	.14	.22	.29	.50	.57									
Mean			1.36			.04	.18	.37	.54	.72	.82	1.02								
Av. increment								.19	.17	.18	.10	.11								
Cleveland, Ohio.:																				
Apr. 30, 1896	3.25 p.m.	5.00 p.m.	1.64	3.27 p.m.	4.00 p.m.	.05	.28	.58	.88	1.13	1.23	1.38	1.49	1.53						
June 8, 1896	11.00 a.m.	12.55 p.m.	1.87	11.12 a.m.	11.47 a.m.	.04	.04	.19	.49	.79	1.04	1.31	1.58	1.68	1.73	1.76				
Aug. 29, 1897	7.50 p.m.	8.40 p.m.	.52	7.54 p.m.	8.16 p.m.	.01	.07	.17	.33	.43										
Mean			1.34			.03	.13	.31	.57	.78										
Av. increment								.18	.26	.21										
Erie, Pa.:[2]																				
Aug. 15-16, 1897	6.51 p.m.	D. N.	1.25	7.53 p.m.	8.13 p.m.	.32	.11	.22	.52	.57										
Buffalo, N. Y.:																				
Mar. 20, 1897	5.25 a.m.	5.28 a.m.	.79	5.25 a.m.	5.28 a.m.	.00	.79													
July 11, 1897	5.05 p.m.	7.45 p.m.	1.88	5.05 p.m.	5.50 p.m.	.00	.20	.45	.70	.85	1.00	1.20	1.50	1.57	1.62					
July 23, 1897	5.47 a.m.	9.10 a.m.	.67	5.47 a.m.	6.07 a.m.	.00	.20	.42	.59	.67										
Mean			1.11			.00	.40													
Av. increment																				
Rochester, N. Y.:																				
July 11, 1897	3.30 p.m.	9.40 p.m.	3.37	4.05 p.m.	5.15 p.m.	.03	.14	.44	.71	1.06	1.36	1.70	1.84	1.96	2.12	2.24	2.49	2.74		
UPPER MISSISSIPPI AND MISSOURI VALLEYS.																				
St. Paul, Minn.:																				
Aug. 4, 1896	12.08 a.m.	12.38 a.m.	1.58	12.08 a.m.	12.38 a.m.	.00	.10	.46	.84	1.24	1.44	1.58								
Aug. 9, 1896	4.15 p.m.	5.10 p.m.	1.07	4.15 p.m.	4.55 p.m.	.00	.06	.19	.39	.59	.61	.68	.85	1.00	1.07					
July 3, 1897	4.40 a.m.	6.25 a.m.	.64	5.55 a.m.	6.15 a.m.	.08	.08	.30	.43	.52	.54									
July 5, 1897	8.05 p.m.	11.55 p.m.	.93	10.50 p.m.	11.40 p.m.	.11	.05	.11	.29	.49	.64	.66	.69	.74	.80	.83				
July 25, 1897	2.44 p.m.	3.55 p.m.	1.53	2.50 p.m.	3.40 p.m.	T.	.26	.27	.44	.70	.78	.91	.98	1.31	1.46	1.51				
Mean			1.15			.04	.11	.27	.48	.71	.80	.96	.84	1.02	1.11					
Av. increment								.16	.21	.23	.09	.09	.09	.18	.09					
Des Moines, Ia.:[2]																				
Apr. 22-23, 1897	8.05 p.m.	8.35 a.m.	2.95	10.05 p.m.	11.05 p.m.	.48	.13	.43	.73	.88	.96	1.07	1.17	1.24	1.31	1.33	1.41	1.50	1.53	1.57
June 23, 1897	12.50 p.m.	2.00 p.m.	.60	12.56 p.m.	1.20 p.m.	T.	.26	.38	.48	.55	.59									
July 9, 1897	3.32 p.m.	8.00 p.m.	.57	3.32 p.m.	4.00 p.m.	.00	.15	.37	.40	.42	.50	.52								
July 23-24, 1897	10.55 p.m.	1.25 a.m.	1.05	10.55 p.m.	11.20 p.m.	.00	.11	.29	.57	.79	.86									
Aug. 3, 1897	7.25 p.m.	8.30 p.m.	.66	7.55 p.m.	8.10 p.m.	.01	.10	.37	.65											
Mean			1.17			.10	.15	.37	.57	.66	.73									
Av. increment								.22	.20	.12	.07									
St. Louis, Mo.:																				
May 27, 1896	5.43 p.m.	10.05 p.m.	2.39	6.04 p.m.	7.00 p.m.	.01	.08	.17	.33	.49	.72	.85	.93	.99	1.05	1.23	1.33			
				7.23 p.m.	7.35 p.m.	.12	.23	.66	.70	.70	.70	.71	.71	.71	.76	.83	1.01	1.16	1.35	1.43
Mar. 4-5, 1897	9.26 a.m.	4.30 a.m.	3.33	12.17 a.m.	1.30 a.m.	1.74	.88	.93	.98	.99	1.00	1.03	1.05	1.06	1.09	1.14	1.23	1.36		
June 22, 1897	1.30 a.m.	9.30 a.m.	1.49	1.40 a.m.	3.00 a.m.	T.	.18	.39	.54	.56	.57	.58	.59	.60	.60	.61	.77	.89		
Nov. 15-16, 1897	6.03 p.m.	D. N.	1.39	7.11 p.m.	7.22 p.m.	.05	.20	.32	.37	.39	.44									
Mean			2.28			.38	.31	.49	.58	.63	.69	.79	.82	.84	.88	.95	1.08	1.14		
Av. increment								.18	.09	.05	.06	.04	.03	.02	.04	.07	.13	.13		
Little Rock, Ark.:																				
June 2, 1896	10.25 a.m.	11.35 a.m.	1.11	10.43 a.m.	11.03 a.m.	.05	.25	.50	.75	.95	.99	1.02	1.05							
Oct. 29, 1896	8.20 a.m.	11.45 a.m.	1.75	10.29 a.m.	10.54 a.m.	.79	.06	.33	.46	.60	.66	.70	.73	.76	.79	.82	.91			
Aug. 6, 1897	6.56 p.m.	8.00 p.m.	1.21	7.09 p.m.	7.38 p.m.	.03	.13	.33	.53	.75	.98	1.09								
Mean			1.36			.29	.15	.39	.58	.77	.88	.94								
Av. increment								.24	.19	.19	.11	.06								
Bismarck, N. Dak.																				
June 16, 1897	7.58 p.m.	9.15 p.m.	1.17	8.15 p.m.	8.42 p.m.	.15	.05	.14	.49	.64	.89	.99	1.09	1.14						
July 25, 1897	4.43 p.m.	5.35 p.m.	.59	5.00 p.m.	5.25 p.m.	.04	.06	.15	.21	.39	.53									

[1] Partly estimated.

[2] Not equipped with a self-registering gauge during 1896.

Annual Snowfall, June 1897 to July, 1898.

Chart XVIII.

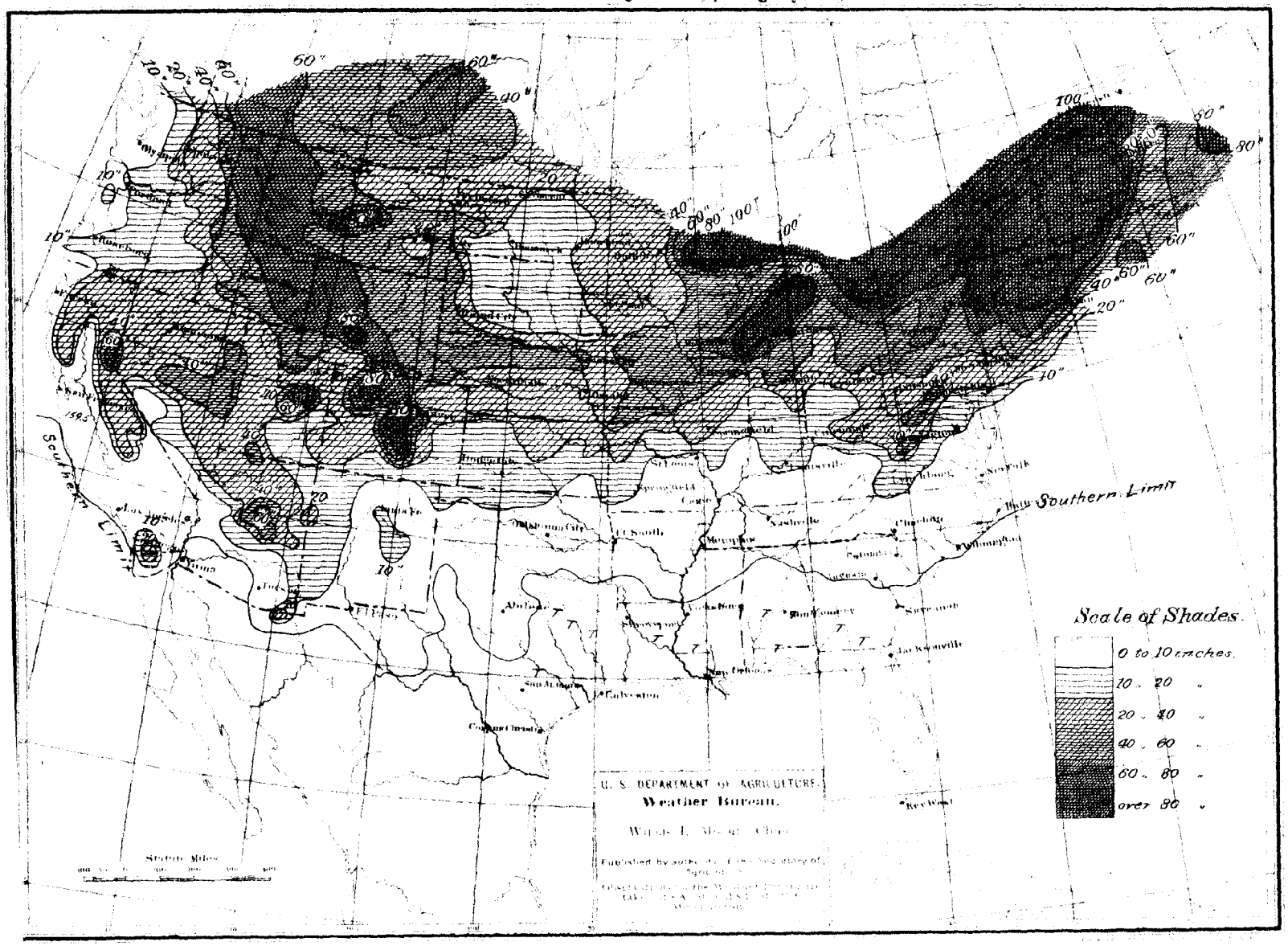


TABLE SHOWING THE ACCUMULATED AMOUNTS OF PRECIPITATION FOR EACH FIVE MINUTES DURING ALL STORMS OF 1896 AND 1897, ETC.—Continued.

Stations and date.	Total duration.		Total amount of precipitation (inches).	Excessive rate.		Amount before excessive rate began (inches).	Accumulated depths of precipitation (in inches) during periods of time indicated.													
	From—	To—		Began—	Ended—		5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
UPPER MISSISSIPPI AND MISSOURI VALLEYS—con.																				
Lincoln, Nebr.:[1]																				
Apr. 23-24, 1897	5.50 p. m.	3.45 a. m.	2.13	7.27 p. m.	7.47 p. m.	.37	.18	.48	.78	1.08	1.12									
Aug. 17, 1897	2.23 p. m.	2.56 p. m.	1.17	2.29 p. m.	2.50 p. m.	.01	.25	.65	1.00	1.05										
Omaha, Nebr.:																				
Aug. 15, 1896	6.30 p. m.	7.54 p. m.	1.68	6.37 p. m.	7.00 p. m.	.05	.35	.70	1.10	1.45	1.62									
Apr. 22-23, 1897	9.20 p. m.	6.50 a. m.	1.05	9.38 p. m.	10.05 p. m.	T.	.12	.28	.35	.44	.46	.47	.48							
May 11, 1897	4.58 p. m.	7.55 p. m.	.50	5.12 p. m.	5.22 p. m.	T.	.25	.41	.43	.45										
June 30, 1897	3.50 a. m.	6.20 a. m.	.52	4.17 a. m.	4.37 a. m.	.04	.15	.26	.36	.41										
July 9-10, 1897	3.42 p. m.	D. N.	1.03	3.45 p. m.	4.20 p. m.	T.	.06	.16	.30	.46	.60	.65	.68	.70						
Sept. 15-16, 1897	7.40 p. m.	9.15 a. m.	1.14	1.40 p. m.	2.40 p. m.	.14	.09	.17	.25	.32	.39	.44	.49	.55	.60	.64	.73	.80		
Mean			.99			.04	.17	.33	.46	.59	.77	.52	.55							
Av. increment								.16	.13	.13	.10	.04	.03							
Kansas City, Mo.:																				
May 31, 1896	5.55 a. m.	7.25 a. m.	1.17	6.28 a. m.	6.38 a. m.	.10	.80	1.05												
July 18-19, 1896	3.30 p. m.	7.20 p. m.	5.54	3.50 p. m.	5.05 p. m.	.10	.05	.15	.40	.65	1.00	1.30	1.52	1.72	1.87	1.99				
June 13, 1897	6.45 p. m.	7.20 p. m.	.52	7.00 p. m.	7.15 p. m.	T.	.22	.44	.50											
June 26, 1897	1.40 a. m.	4.20 a. m.	2.40	1.49 a. m.	2.30 a. m.	T.	.35	.65	1.00	1.25	1.58	1.75	1.87	1.95	1.97	1.98	2.00	2.15	2.30	
July 1, 1897	D. N.	9.40 a. m.	1.79	12.45 a. m.	2.42 a. m.	.08	.15	.30	.34	.36	.38	.43	.48	.53	.54	.59	.77	.98	1.17	1.48
Mean			2.28			.06	.31	.52	.56	.75	.99	1.16	1.29	1.40	1.46	1.52				
Av. increment								.21	.04	.17	.24	.17	.13	.11	.06	.06				
MIDDLE SLOPE.																				
Denver, Colo.:																				
July 25, 1896	3.52 p. m.	4.22 p. m.	1.02	3.57 p. m.	4.22 p. m.	.05	.05	.30	.60	.78	.95	1.02								
May 24, 1897	3.48 p. m.	5.10 p. m.	.45	4.45 p. m.	4.55 p. m.	.01	.25	.39	.40											
Dodge, Kans.:																				
April 16, 1896	4.45 p. m.	5.46 p. m.	1.26	5.05 p. m.	5.40 p. m.	.05	.05	.15	.40	.65	.80	.97	1.12	1.20	1.25					
July 18, 1896	1.45 a. m.	2.35 a. m.	1.18	1.45 a. m.	2.15 a. m.	.00	.19	.35	.59	.78	.91	1.00	1.06	1.11						
July 19, 1897	4.02 p. m.	5.40 p. m.	1.70	4.02 p. m.	4.38 p. m.	.00	.10	.29	.53	.72	.90	1.15	1.47	1.57						
July 19-20, 1897	10.28 p. m.	1.15 a. m.	1.78	11.01 p. m.	11.40 p. m.	.05	.06	.22	.37	.59	.75	.97	1.15	1.30	1.36					
Aug. 17, 1897	2.05 a. m.	4.30 a. m.	1.30	2.28 a. m.	3.01 a. m.	.10	.15	.35	.45	.50	.55	.67	.72	.75	.78	.80	.85	.95	1.07	1.20
Mean			1.44			.04	.11	.27	.47	.65	.78	.95	1.10	1.19	1.13					
Av. increment								.16	.20	.18	.13	.17	.15	.09	.05					
Oklahoma, Okla.:																				
July 20, 1897	12.01 a. m.	D. N.	1.48	12.05 a. m.	1.05 a. m.	.03	.07	.34	.47	.50	.60	.73	.76	.94	1.09	1.17	1.24			

[1] Not equipped with a self-registering gauge during 1896.

[2] Partly estimated.

Snowfall.—The snowfall of the winter of 1897-98 was not so abundant as that of the previous year, especially in the mountain region of the West, along the eastern slope of the Rocky Mountains, and throughout the upper Mississippi and Missouri valleys. East of the Rocky Mountains the winter was mild and open, and snow did not extend as far south as usual nor did it lie upon the ground long after falling.

There were two storms of marked severity during the winter. The first occurred on January 31 and February 1, 1898, being most severe throughout New England. In portions of Maine, New Hampshire, and Vermont 3 feet of snow fell in this storm alone. Other less severe storms occurred during February, augmenting the snow covering throughout central and northern New England, so that at the end of the month there was an average depth of from 40 to 70 inches in Maine, 10 to 40 inches in New Hampshire and Vermont, and from 10 to 20 inches in Massachusetts. This great snow covering disappeared very gradually and without causing disastrous freshets, as was feared. The second severe storm occurred on February 19 and 20, the region of greatest fall being in southeastern Wisconsin and Michigan. The average depth in this region was from 1 to 2 feet, with drifts from 10 to 15 feet deep.

Further details as to the depth and distribution of snow can be had from Chart XVIII and the tables in Part V.

HUMIDITY.

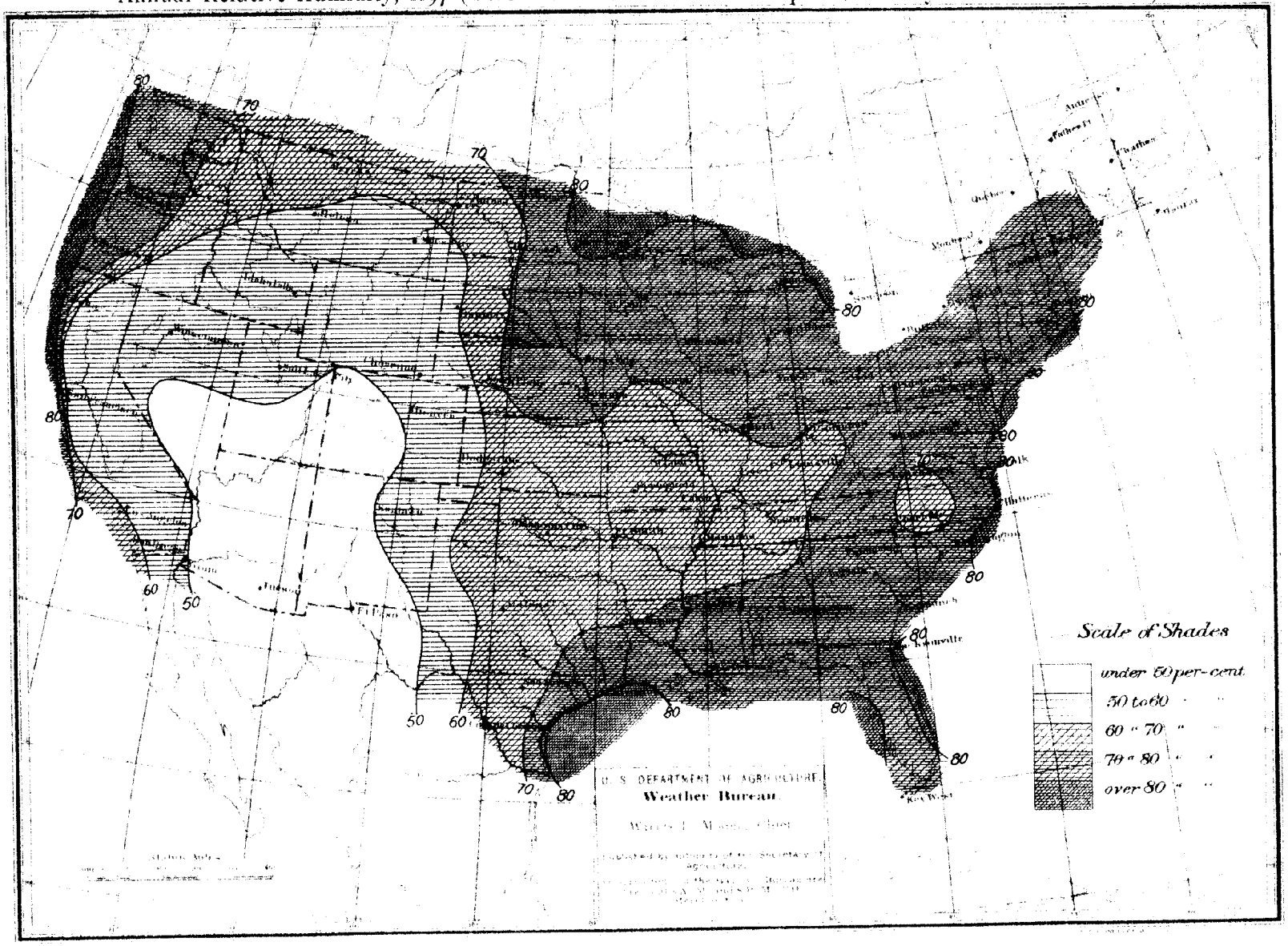
The humidity observations of the Weather Bureau are divided into two series. The first or tridaily series began in 1871 and ended with 1887; the second or twice-daily series is continuous from 1888 to the present time.

The monthly means of the second or present series are based upon observations of the whirled psychrometer at 8 a. m. and 8 p. m., seventy-fifth meridian time, which corresponds to 5 a. m. and 5 p. m., Pacific; 6 a. m and 6 p. m., mountain; and 7 a. m. and 7 p. m., central standard time.

In using the table by means of which the relative humidity of the air is computed from the readings of the wet and dry bulb thermometers, the pressure argument has almost always been neglected—an omission that has little significance except for low temperatures and at high stations, such as Santa Fe, El Paso, Cheyenne, and a few others. The failure to apply a correction for the influence of the prevailing pressure on the psychrometer has the effect of making the monthly means of relative humidity at high-level stations too small by quantities ranging from 5 to 10 per cent. In the application of the monthly means in the tables of Part III to special inquiries, whether in the departments of biology, climatology, or sanitary science, this fact should be kept in mind. It should also be remembered that the hours at which observations in the Rocky Mountain Plateau Region are made, viz, from 5 to 6 local mean time, morning and afternoon, give approximately the maximum and minimum values for the day; therefore, monthly means calculated from such hours approach more nearly the true mean of the month than is the case on the Atlantic seaboard and in the seventy-fifth meridian time belt.

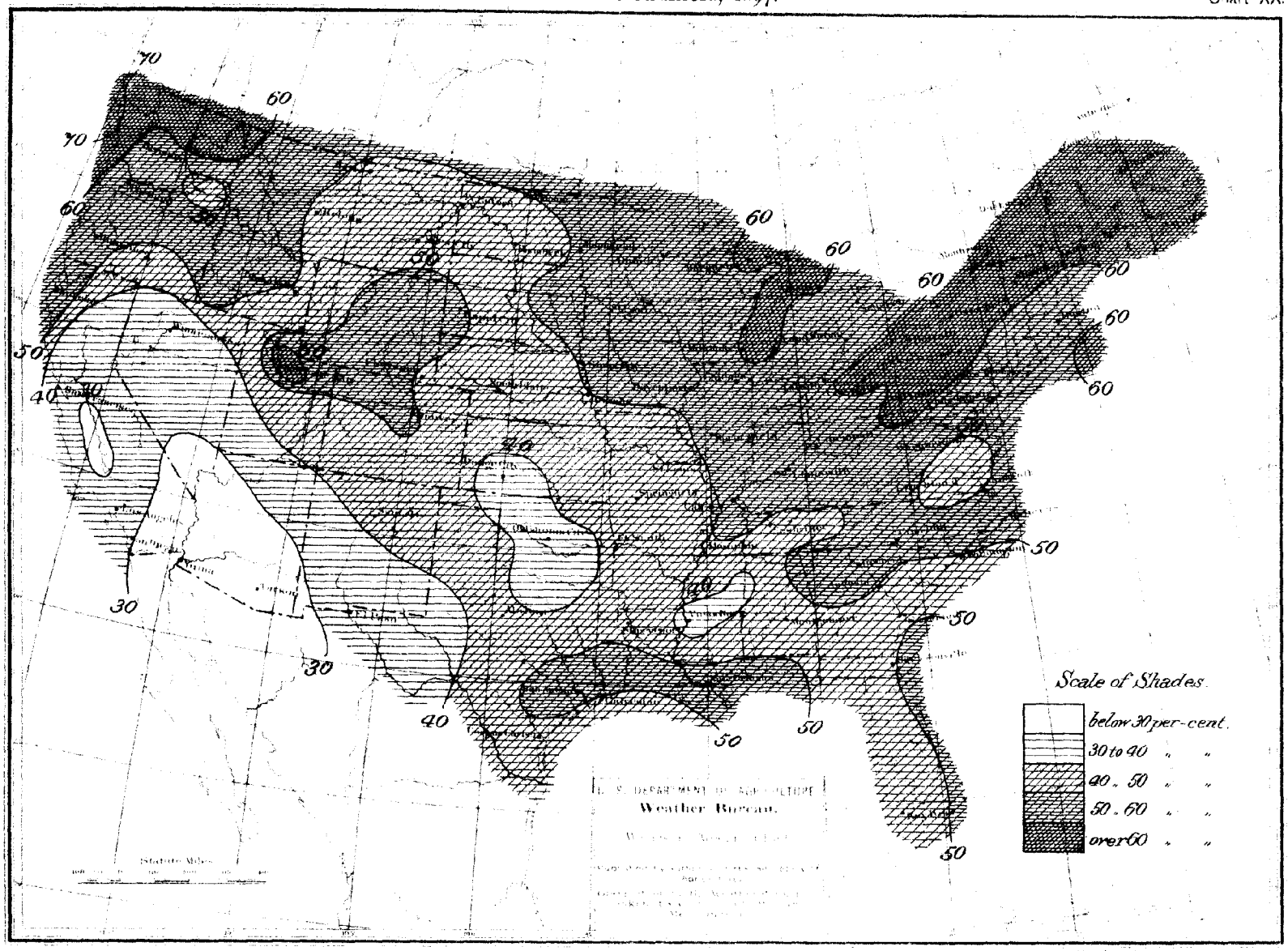
Chart XIX shows the geographic distribution of relative humidity in the United States for 1897.

Annual Relative Humidity, 1897 (Observations at 8 a. m. and 8 p. m., Seventy-fifth Meridian Time). Chart XIX.



Annual Cloudiness, 1897.

Chart XX.



SUNSHINE AND CLOUDINESS, 1897.

The following tables give for 67 stations the percentages of hourly sunshine as derived from the automatic records made by two essentially different types of instruments, designated the thermometric recorder and the photographic recorder, respectively. The kind of instrument in use at each station is indicated by the letter T. (thermometric) or P. (photographic) at the right of the name of the station.

Both instruments have been described and illustrated in the preceding volumes of this series.

Neither of these instruments will record satisfactorily the duration of sunshine for about one hour after sunrise and about one hour before sunset, and on this account it has been considered necessary to apply to the record for these hours what has been designated a "twilight correction." The amount of this correction is found by noting the comparative clearness of the sky during the time that elapses between the hour of sunrise and the moment the instrument begins to record and between the time the instrument ceases to act and the hour of sunset.

The average cloudiness of the whole sky is determined by numerous personal observations at all stations during the daytime, and is given in the column "cloudiness" in the tables of Part III.

The average cloudiness for 1897 is graphically shown on Chart XX.

SUNSHINE, 1897.

ALBANY, N. Y. (T.).

[N. lat. 32° 23′.]

Month.	Percentage of sunshine recorded during hours ending (local time)—																Total (hours).	Percentage of possible.
	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h		
January	.....	.....	.....	28	28	37	41	43	47	45	41	30	20	.....	.....	.....	78.5	37
February	.....	.....	46	28	46	53	73	79	79	83	68	59	41	34	.....	.....	173.5	59
March	.....	50	33	45	58	62	73	73	70	67	64	61	58	43	49	.....	219.2	59
April	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
May	33	29	32	46	59	63	71	75	73	71	68	57	52	42	24	21	242.1	53
June	37	37	49	55	70	80	90	88	85	84	76	76	68	57	47	47	305.1	66
July	36	32	45	64	79	92	89	92	94	94	83	70	59	46	38	43	315.5	68
August	44	54	52	64	80	89	95	94	93	92	90	86	79	65	57	69	336.3	78
September	.....	46	46	63	77	87	94	97	96	93	90	88	74	55	46	.....	294.7	79
October	.....	100	43	61	89	98	95	96	97	96	95	87	70	64	.....	.....	289.6	85
November	.....	.....	5	7	21	43	50	47	40	41	45	30	19	.....	.....	.....	101.3	35
December	.....	.....	.....	16	20	27	39	44	38	32	26	25	20	.....	.....	.....	83.7	30

ATLANTA, GA. (T.).

[N. lat. 33° 45′.]

January	.....	.....	0	16	29	50	51	59	59	60	52	46	26	22	.....	.....	140.1	44
February	.....	.....	28	29	31	38	42	41	42	44	43	32	29	30	.....	.....	112.0	36
March	.....	30	20	18	22	25	30	30	34	39	30	22	20	16	30	.....	95.1	26
April	.....	54	52	57	60	57	59	65	63	65	65	61	56	51	52	.....	230.4	59
May	82	77	78	77	78	76	78	76	71	73	72	67	68	66	67	75	316.6	73
June	63	63	62	60	64	65	74	74	68	61	47	40	37	37	37	36	242.2	56
July	50	41	45	43	47	49	56	62	61	60	47	45	43	35	34	23	208.6	47
August	.....	39	42	43	48	59	57	52	54	55	64	55	51	44	38	0	310.8	51
September	.....	60	57	58	65	70	74	75	73	69	63	63	57	54	53	.....	237.8	65
October	.....	82	61	65	65	71	76	75	71	71	68	65	67	69	.....	.....	241.5	69
November	.....	.....	59	60	57	58	71	73	70	65	61	62	64	67	.....	.....	199.3	64
December	.....	.....	17	26	27	34	37	40	43	41	32	28	25	33	.....	.....	102.6	33
Sum	195	446	521	552	593	652	705	722	709	703	644	586	543	524	311	134	2,437.0	623
Percentage of possible	.....	.....	43	46	49	54	59	60	59	59	54	49	45	44	.....	.....	203.1	52

ATLANTIC CITY, N. J. (P.).

[N. lat. 39° 22′.]

Month.	Percentage of sunshine recorded during hours ending (local time)—																Total (hours).	Percentage of possible.
	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h		
January	.....	.....	.....	40	46	53	60	61	58	61	55	49	52	57	.....	.....	163.6	54
February	.....	.....	57	44	48	53	44	48	46	47	46	41	38	43	.....	.....	136.8	45
March	.....	67	49	42	52	51	53	54	50	53	53	49	46	42	46	.....	184.0	50
April	.....	72	70	67	72	82	84	79	74	71	71	68	66	50	48	.....	278.6	70
May	67	65	62	63	65	70	65	61	60	67	71	63	60	54	49	58	277.6	63
June	53	53	51	58	60	64	61	59	62	66	61	60	57	48	40	34	251.2	56
July	71	65	64	63	63	64	66	70	69	67	71	65	63	57	39	34	283.8	63
August	.....	65	66	73	72	86	82	81	76	82	81	79	75	71	56	64	317.7	75
September	.....	72	70	77	86	86	78	77	80	80	82	81	82	80	93	.....	298.4	80
October	.....	45	52	50	56	55	54	52	57	62	57	51	48	63	.....	.....	187.8	54
November	.....	.....	44	54	54	65	63	68	66	58	58	58	51	.....	.....	.....	178.4	59
December	.....	.....	.....	45	44	48	50	49	54	53	50	59	34	.....	.....	.....	144.6	49
Sum	191	504	585	676	718	777	760	759	752	767	756	723	672	565	371	190	2,702.5	718
Percentage of possible	.....	.....	.....	56	60	65	63	63	63	64	63	60	56	.....	.....	.....	225.2	60

BALTIMORE, MD. (T.).

[N. lat. 39° 18′.]

January	.....	.....	.....	37	30	36	38	35	42	49	40	33	36	60	.....	.....	115.1	38
February	.....	.....	29	25	29	38	49	47	42	42	45	46	38	39	.....	.....	119.9	40
March	.....	75	31	31	37	56	55	57	63	61	58	56	51	36	50	.....	184.9	50
April	.....	49	47	46	55	61	67	70	66	62	59	56	47	33	33	.....	215.3	54
May	68	58	61	62	65	70	75	80	66	62	58	46	46	29	27	39	255.4	58
June	17	19	23	39	58	69	78	73	70	66	66	57	46	27	23	22	219.0	49
July	26	29	30	39	55	62	61	58	54	53	39	38	33	20	19	21	187.1	41
August	.....	40	40	49	60	66	75	69	70	62	57	40	21	14	12	0	205.9	49
September	.....	53	60	66	72	78	87	82	82	83	88	82	66	57	35	.....	277.0	74
October	.....	45	26	34	46	55	59	64	65	68	63	51	39	45	.....	.....	180.4	52
November	.....	.....	28	35	55	64	67	75	70	64	55	43	29	.....	.....	.....	166.8	55
December	.....	.....	.....	7	13	26	36	45	41	38	31	14	6	.....	.....	.....	78.1	27
Sum	111	368	375	470	575	681	747	755	731	710	659	562	458	360	199	82	2,294.9	587
Percentage of possible	.....	.....	.....	39	48	57	62	63	61	59	55	47	38	.....	.....	.....	183.7	49

BINGHAMTON, N. Y. (T.).

[N. lat. 42° 8′.]

January	.....	.....	.....	6	14	25	35	38	43	29	23	20	16	31	.....	.....	76.2	26
February	.....	.....	31	25	25	32	42	38	45	50	43	32	26	23	.....	.....	104.7	35
March	.....	0	20	22	34	38	40	46	48	47	44	37	33	40	50	.....	140.0	38
April	29	30	38	41	45	54	63	60	63	59	52	43	36	37	36	.....	190.9	48
May	42	42	43	49	60	63	66	64	54	46	38	38	31	25	27	33	206.8	46
June	30	30	44	57	67	72	77	80	77	69	65	59	52	45	36	37	261.3	57
July	38	31	34	44	50	57	69	66	66	69	69	64	55	42	32	29	240.5	52
August	8	44	55	58	64	72	80	81	83	80	75	70	55	51	43	31	279.4	65
September	.....	34	39	45	55	75	82	82	81	83	74	69	66	65	69	.....	251.1	67
October	.....	0	32	32	43	70	75	73	77	74	72	65	50	55	.....	.....	208.3	61
November	.....	.....	17	23	32	33	37	41	42	41	35	22	13	.....	.....	.....	92.5	32
December	.....	.....	.....	7	13	26	36	45	41	38	31	14	6	.....	.....	.....	78.1	27
Sum	147	211	353	409	502	617	702	714	720	685	621	533	439	414	293	130	2,129.8	554
Percentage of possible	.....	.....	.....	34	42	51	58	60	60	57	52	44	37	.....	.....	26	177.5	46

BISMARCK, N. DAK. (P.).

[N. lat. 46° 47′.]

January	.....	.....	.....	31	30	37	43	39	40	49	49	49	48	0	.....	.....	118.0	42
February	.....	.....	50	34	46	54	60	62	58	59	58	56	46	43	.....	.....	153.2	53
March	.....	0	43	49	59	65	68	68	65	63	64	63	59	55	38	.....	221.5	60
April	45	42	42	44	45	44	53	52	48	45	42	46	48	40	36	43	183.8	45
May	68	71	71	72	72	77	83	71	67	77	76	76	73	54	58	53	329.5	71
June	44	43	50	55	64	70	71	72	70	72	71	64	59	62	56	54	290.7	61
July	46	51	50	61	64	66	67	67	69	66	63	57	54	51	47	36	277.1	58
August	44	51	56	67	71	76	81	78	80	82	76	74	70	66	59	54	309.0	70
September	.....	62	66	72	78	77	79	77	82	82	83	80	81	82	69	.....	292.7	78
October	.....	0	51	57	61	68	66	64	58	59	53	53	56	51	.....	.....	198.2	59
November	.....	.....	53	40	46	56	62	70	70	67	68	67	70	.....	.....	.....	172.7	61
December	.....	.....	.....	48	43	45	43	45	45	54	53	52	53	.....	.....	.....	126.4	48
Sum	247	320	532	628	679	735	776	765	752	775	756	737	717	504	363	240	2,672.8	706
Percentage of possible	.....	.....	.....	52	57	61	65	64	63	65	63	61	60	.....	.....	.....	222.7	59

BOSTON, MASS. (T.).

[N. lat. 42° 21′.]

Month.	Percentage of sunshine recorded during hours ending (local time)—																Total (hours).	Percentage of possible.
	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h		
January	.....	.....	.....	37	45	45	39	47	51	53	48	49	42	62	.....	.....	136.4	46
February	.....	.....	59	51	49	54	53	53	55	60	58	53	51	49	.....	.....	158.7	54
March	.....	54	42	48	50	49	44	47	50	46	42	40	40	36	33	.....	164.9	44
April	71	46	61	61	62	64	65	64	58	54	56	52	53	51	38	.....	227.4	57
May	13	23	30	35	38	45	53	56	53	49	47	52	49	45	45	22	196.0	43
June	40	42	47	54	54	65	70	68	72	65	69	59	52	53	43	35	257.5	56
July	38	43	45	48	45	56	60	58	65	61	53	53	42	34	24	16	219.7	48
August	67	50	54	65	65	69	73	72	77	75	68	60	55	52	45	27	270.2	63
September	.....	58	66	69	73	72	80	82	82	81	66	55	55	52	49	.....	258.0	69
October	.....	0	56	66	69	70	75	75	72	71	69	61	56	54	.....	.....	230.5	67
November	.....	.....	32	31	35	47	47	48	48	43	41	34	25	.....	.....	.....	118.6	40
December	.....	.....	.....	36	39	50	60	55	50	53	46	31	30	.....	.....	.....	131.8	46
Sum	229	316	492	601	624	686	719	725	733	711	663	599	550	488	277	100	2,369.7	633
Percentage of possible	.....	.....	.....	50	52	57	60	60	61	59	55	50	46	.....	.....	.....	197.5	53

BUFFALO, N. Y. (T.).

[N. lat. 42° 53′.]

January	.....	.....	.....	0	2	16	32	34	35	32	32	24	14	22	.....	.....	68.1	23
February	.....	.....	0	3	18	29	41	54	62	55	41	28	14	18	.....	.....	99.3	34
March[1]	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
April	.....	30	45	50	61	73	77	77	81	85	69	61	46	33	19	.....	205.0	59
May[2]	32	32	41	54	68	71	75	80	79	74	71	70	54	45	34	33	244.1	59
June	44	47	56	61	60	75	79	88	84	85	84	80	65	51	37	30	300.7	65
July	37	36	47	59	71	77	83	86	84	85	85	77	69	55	43	36	308.3	66
August	67	40	52	75	87	92	91	92	91	86	88	87	84	69	44	31	333.0	77
September	.....	33	30	46	59	70	78	83	85	84	78	76	72	62	52	.....	252.5	67
October	.....	25	35	40	57	67	73	73	68	67	60	49	34	20	.....	.....	192.3	56
November	.....	.....	12	8	19	30	34	33	34	30	23	8	7	.....	.....	.....	67.2	23
December	.....	.....	.....	0	5	14	22	36	37	36	26	18	10	.....	.....	.....	61.4	22

CHARLESTON, S. C. (T.).

[N. lat. 32° 47′.]

January	.....	.....	50	39	44	46	56	66	66	61	62	60	55	53	.....	.....	172.9	54
February	.....	.....	32	32	36	46	49	50	50	47	44	45	42	38	.....	.....	134.1	43
March	.....	44	30	30	45	55	59	62	62	59	52	49	30	26	36	.....	174.8	47
April	.....	43	38	52	70	77	85	85	87	82	76	70	64	67	67	.....	272.6	70
May	47	52	57	84	91	93	95	95	94	92	92	82	73	64	61	70	346.3	80
June	38	37	39	66	86	91	94	92	89	84	80	70	60	39	23	21	288.9	67
July	57	58	60	64	77	85	82	81	81	75	75	62	49	38	26	27	283.5	65
August	.....	22	24	42	61	62	65	69	59	58	60	53	48	32	29	.....	208.0	50
September	.....	57	53	61	75	66	63	62	48	54	60	59	44	43	49	.....	213.5	58
October	.....	67	24	27	38	47	51	63	63	51	48	48	43	53	.....	.....	162.1	46
November	.....	.....	47	47	55	76	80	76	75	72	65	51	51	50	.....	.....	201.1	64
December	.....	.....	16	23	30	40	43	57	49	43	47	38	39	67	.....	.....	128.3	41

CHATTANOOGA, TENN. (T.).

[N. lat. 35° 4′.]

January	.....	.....	0	23	31	41	59	52	52	53	49	37	24	14	.....	.....	130.8	42
February	.....	.....	14	10	12	22	41	44	50	44	44	33	18	23	.....	.....	94.4	31
March	.....	20	12	11	19	30	31	35	38	34	29	24	20	15	30	.....	93.2	25
April	.....	52	46	47	55	58	65	70	62	65	58	52	49	35	34	.....	212.7	54
May	48	48	50	60	65	64	70	65	64	63	59	56	61	38	36	50	248.3	57
June	38	37	41	57	78	76	69	66	72	63	69	67	68	63	52	53	289.4	62
July	38	38	46	54	55	69	65	69	61	57	54	53	53	39	37	34	235.8	53
August	.....	44	45	44	53	64	68	61	66	59	63	61	52	43	40	91	228.6	55
September	.....	64	68	68	83	87	89	90	87	78	74	73	63	61	71	.....	284.4	76
October	.....	67	61	58	75	82	85	83	81	79	82	73	71	78	.....	.....	265.1	76
November	.....	.....	51	45	45	54	61	65	61	66	59	55	51	50	.....	.....	173.9	56
December	.....	.....	9	9	11	21	31	30	35	35	30	28	16	.....	.....	.....	75.7	25
Sum	124	370	443	486	582	668	734	730	729	696	670	612	546	459	300	228	2,312.3	612
Percentage of possible	.....	.....	37	40	48	56	61	61	61	58	56	51	46	.....	.....	.....	192.7	51

[1] Record incomplete.

[2] All values for 28 days.

CHEYENNE, WYO. (P.).

[N. lat. 41° 8′.]

Month.	Percentage of sunshine recorded during hours ending (local time)—																Total (hours).	Percentage of possible.
	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h		
January	.....	.....	.....	64	66	77	71	74	68	63	56	50	33	35	.....	.....	185.5	62
February	.....	.....	50	55	58	61	65	63	62	56	60	53	35	33	.....	.....	165.5	55
March	.....	50	61	61	63	65	66	65	57	65	61	57	45	37	46	.....	216.5	58
April	.....	31	51	64	71	70	70	66	66	66	62	59	60	52	41	.....	241.0	60
May	43	61	77	82	85	84	77	71	61	65	62	57	52	54	39	29	293.5	65
June	54	58	72	74	73	72	69	61	57	53	53	57	52	48	33	32	263.3	58
July	67	72	75	75	77	80	83	77	72	65	54	56	57	50	40	36	300.9	66
August	50	49	65	75	77	85	87	86	83	82	73	73	62	55	45	10	305.0	71
September	52	59	62	73	76	73	77	74	69	69	69	59	44	28	.....	.....	247.2	66
October	.....	82	54	60	67	74	71	73	71	71	64	64	52	51	.....	.....	224.5	65
November	.....	.....	48	41	47	62	62	71	73	73	64	63	59	.....	.....	.....	182.0	61
December	.....	.....	.....	47	53	62	65	58	65	60	64	57	50	.....	.....	.....	169.2	59

CHICAGO, ILL. (T.).

[N. lat. 41° 53′.]

January	.....	.....	.....	25	25	34	38	43	48	48	40	36	37	35	.....	.....	113.1	38
February	.....	.....	31	16	24	34	39	43	44	39	36	23	20	19	.....	.....	92.1	31
March	.....	46	35	42	50	58	63	60	59	61	53	45	40	31	30	.....	184.5	50
April	0	28	31	36	48	55	59	64	67	67	65	60	45	27	19	.....	196.1	49
May	49	48	50	63	71	75	75	75	77	78	72	62	58	39	33	35	279.1	62
June	26	23	38	51	58	64	71	73	79	75	67	63	50	26	18	24	236.1	52
July	21	20	40	51	73	79	79	82	79	77	71	72	58	40	27	32	270.8	59
August	17	30	24	43	62	69	75	80	73	71	64	63	49	23	33	35	234.0	54
September	.....	43	49	54	59	71	70	78	86	80	85	86	66	71	75	.....	264.5	71
October	.....	100	48	63	80	81	83	86	87	78	74	65	49	57	.....	.....	247.6	72
November	.....	.....	15	10	20	35	39	42	48	43	36	23	21	.....	.....	.....	94.0	32
December	.....	.....	.....	29	13	30	35	37	42	41	27	21	29	.....	.....	.....	86.7	30
Sum	113	338	361	483	583	685	726	763	789	758	690	619	522	418	235	126	2,298.6	599
Percentage of possible	.....	.....	.....	40	49	57	60	64	66	63	58	52	44	.....	.....	.....	191.6	50

CINCINNATI, OHIO (T.).

[N. lat. 39° 6′.]

January	.....	.....	.....	34	32	28	32	41	44	38	34	40	47	77	.....	.....	114.0	38
February	.....	.....	26	21	25	37	40	47	48	41	36	32	32	35	.....	.....	107.6	36
March	.....	33	37	38	47	50	55	54	53	59	45	41	33	19	17	.....	164.1	44
April	.....	44	40	45	49	54	52	54	59	62	58	55	47	28	26	.....	193.5	49
May	58	53	56	55	67	69	69	70	71	68	69	65	60	58	58	60	281.5	63
June	47	48	57	67	80	81	86	86	92	96	94	91	84	80	65	59	345.8	78
July	40	33	38	60	78	85	87	90	90	92	92	94	82	75	65	53	337.8	75
August	.....	44	33	47	71	88	92	91	87	84	86	87	83	64	42	2	304.3	72
September	.....	54	60	62	80	92	96	96	97	97	95	94	84	50	47	.....	307.4	82
October	.....	100	75	76	81	86	86	88	87	86	82	78	76	82	.....	.....	284.1	82
November	.....	.....	32	39	49	48	48	46	53	46	42	37	38	.....	.....	.....	133.6	44
December	.....	.....	.....	26	26	33	35	40	41	43	39	35	27	.....	.....	.....	102.8	35
Sum	145	409	454	570	685	751	778	803	822	812	772	749	693	568	320	183	2,676.5	698
Percentage of possible	.....	.....	.....	48	58	63	65	67	68	68	64	62	58	.....	.....	.....	223.0	58

CLEVELAND, OHIO (T.).

[N. lat. 41° 30′.]

January	.....	.....	.....	11	10	15	22	30	34	24	22	10	10	31	.....	.....	57.1	19
February	.....	.....	10	9	14	17	18	21	25	31	29	26	15	12	.....	.....	59.4	20
March	.....	69	36	37	46	49	53	58	55	57	55	44	35	26	35	.....	170.2	46
April	0	6	8	25	38	44	48	47	59	50	38	26	23	14	14	.....	129.9	32
May	8	6	7	17	33	50	62	66	67	65	60	51	39	31	24	32	182.3	40
June	10	10	12	29	53	64	71	78	87	83	82	79	62	36	21	21	235.4	52
July	25	24	31	48	59	73	73	75	76	71	73	71	68	59	52	49	275.5	60
August	8	14	25	62	70	79	80	81	81	70	68	67	55	44	31	38	255.5	60
September	.....	58	55	62	67	81	88	95	86	85	77	69	60	54	56	.....	271.9	73
October	.....	100	38	36	43	46	67	67	73	67	61	54	49	43	.....	.....	188.0	55
November	.....	.....	8	11	14	19	21	28	23	23	20	19	22	.....	.....	.....	58.1	20
December	.....	.....	.....	6	10	10	7	8	12	12	6	6	8	.....	.....	.....	24.7	9
Sum	51	287	230	353	457	547	610	654	678	638	591	522	446	350	233	140	1,908.0	486
Percentage of possible	.....	.....	.....	29	38	46	51	54	56	53	49	44	37	.....	.....	.....	159.0	40

COLUMBUS, OHIO (T.).

[N. lat. 39° 58′.]

Month.	Percentage of sunshine recorded during hours ending (local time)—																Total (hours).	Percentage of possible.
	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h		
January [1]	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
February	.....	.....	18	7	12	23	38	44	46	48	37	30	25	22	.....	.....	91.7	31
March	.....	50	27	27	35	38	38	44	40	42	37	32	24	20	22	.....	125.3	34
April [1]	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
May	40	35	35	43	64	76	75	74	75	64	69	63	53	53	50	50	262.4	59
June	37	39	55	70	83	83	91	95	92	92	85	82	75	65	59	59	333.4	74
July	54	55	63	65	75	83	90	93	90	92	86	79	74	70	60	53	344.4	76
August	40	60	62	69	83	83	88	92	87	85	78	72	65	61	41	36	313.1	74
September	.....	72	78	83	94	94	96	98	87	98	93	87	87	86	80	.....	337.5	90
October	.....	64	69	70	78	77	85	85	84	81	74	73	65	70	.....	.....	263.2	76
November	.....	.....	17	17	20	28	31	31	33	31	29	19	18	.....	.....	.....	76.5	26
December	.....	.....	.....	6	6	18	22	24	20	16	11	11	10	.....	.....	.....	43.1	15

DENVER, COLO. (P.).

[N. lat. 39° 45′.]

January	.....	.....	.....	63	62	75	79	69	74	72	73	56	30	17	.....	.....	196.0	65
February	.....	.....	47	55	61	65	69	64	55	64	63	56	45	48	.....	.....	176.8	59
March	.....	50	53	64	67	73	68	74	65	71	70	61	56	53	43	.....	239.1	64
April	.....	54	64	77	88	83	85	78	68	67	71	69	47	49	57	.....	275.2	69
May	75	75	78	91	93	89	91	80	73	66	63	65	53	47	44	42	320.5	72
June	66	63	79	87	93	85	83	82	79	76	65	60	52	45	42	50	314.6	70
July	76	73	76	73	78	76	86	76	72	75	67	63	62	56	47	61	318.0	70
August	100	74	79	81	84	88	89	88	78	72	70	65	54	51	58	36	313.5	74
September	.....	69	60	63	69	75	84	81	80	76	75	66	64	35	29	.....	256.7	69
October	.....	82	65	56	74	71	66	70	67	68	67	62	57	45	.....	.....	224.6	65
November	.....	.....	65	50	63	62	69	71	66	73	65	70	68	.....	.....	.....	196.9	66
December	.....	.....	.....	57	56	65	74	72	73	74	68	68	77	.....	.....	.....	199.6	68
Sum	317	540	666	817	888	907	943	905	850	854	817	761	665	446	320	189	3,031.5	811
Percentage of possible	.....	.....	.....	68	74	76	79	75	71	71	68	63	55	.....	.....	.....	252.6	68

DES MOINES, IOWA (T.).

[N. lat. 41° 35′.]

January	.....	.....	.....	34	41	48	55	61	63	63	64	53	46	46	.....	.....	158.1	54
February	.....	.....	48	31	32	29	29	38	49	46	45	39	36	40	.....	.....	112.1	38
March	.....	23	33	34	27	31	35	41	44	49	49	48	47	43	48	.....	148.9	40
April	71	42	41	42	43	47	55	52	48	46	54	44	46	46	46	.....	187.5	47
May	63	71	68	68	76	82	80	86	83	83	76	69	59	55	54	47	323.7	72
June	40	45	48	57	56	64	66	60	54	55	58	62	59	59	59	50	256.7	56
July	62	66	63	64	68	68	75	78	79	78	72	70	65	72	75	67	326.1	71
August	33	55	61	61	71	82	83	84	89	90	79	76	63	70	68	42	316.5	74
September	.....	66	75	78	78	83	86	87	88	89	87	85	84	82	76	.....	310.5	83
October	.....	40	54	65	67	67	69	71	71	72	67	62	57	64	.....	.....	225.9	66
November	.....	.....	43	53	54	57	56	57	58	59	52	56	51	.....	.....	.....	162.5	55
December	.....	.....	.....	41	48	50	55	56	52	53	53	53	39	.....	.....	.....	144.9	51
Sum	269	408	534	628	661	708	744	771	778	783	756	717	652	577	426	206	2,673.4	707
Percentage of possible	.....	.....	.....	52	55	59	62	64	65	65	63	60	54	.....	.....	.....	222.8	59

DETROIT, MICH. (T.).

[N. lat. 42° 20′.]

January	.....	.....	.....	19	22	29	42	42	48	43	41	27	21	38	.....	.....	101.1	34
February	.....	.....	38	19	18	28	44	54	59	45	34	21	22	26	.....	.....	101.2	34
March	.....	69	39	34	45	52	59	58	59	62	63	55	38	31	39	.....	183.7	50
April	0	24	27	40	52	52	59	54	53	51	41	36	27	25	24	.....	164.5	41
May	33	29	29	50	61	68	71	73	72	75	68	64	58	33	24	22	245.3	54
June	44	43	56	73	75	79	84	88	92	89	82	76	72	53	38	36	314.3	69
July	54	56	71	77	80	84	90	87	84	83	82	79	78	71	58	55	349.8	76
August	33	43	51	64	81	84	85	84	75	71	81	75	66	52	44	46	294.6	69
September	.....	41	46	73	80	85	83	87	87	87	83	76	68	57	39	.....	279.3	75
October	.....	0	15	32	58	75	71	79	73	76	75	56	31	44	.....	.....	201.8	59
November	.....	.....	15	12	23	34	37	36	35	27	22	29	15	.....	.....	.....	79.3	27
December	.....	.....	.....	11	15	27	38	40	44	37	31	17	8	.....	.....	.....	30.9	28
Sum	164	305	387	504	610	697	762	782	781	746	703	611	504	430	266	159	2,396.3	616
Percentage of possible	.....	.....	.....	42	51	58	64	65	65	62	59	51	42	.....	.....	.....	199.7	51

[1] Instrument out of order.

DODGE, KANS. (P.).

[N. lat. 37° 45′.]

Month.	Percentage of sunshine recorded during hours ending (local time)—																Total (hours).	Percentage of possible.
	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h		
January	.....	.....	.....	51	58	65	69	75	74	74	72	70	64	54	.....	.....	206.9	68
February	.....	.....	39	43	55	61	66	63	65	66	64	65	47	41	.....	.....	175.8	58
March	.....	50	58	57	63	63	63	66	62	60	60	58	55	42	28	.....	217.7	59
April	.....	58	65	70	71	75	72	72	66	67	63	68	62	58	37	.....	260.2	66
May	22	32	52	65	69	68	73	68	68	73	78	79	73	64	32	36	278.5	63
June	54	59	63	68	76	87	86	80	83	86	83	87	73	73	41	31	323.2	73
July	69	75	85	90	91	88	88	89	87	89	87	86	79	76	66	65	376.2	84
August	.....	54	66	82	88	83	89	85	88	90	83	85	85	74	45	43	334.0	79
September	.....	83	83	83	87	92	93	91	90	90	83	85	82	73	81	.....	320.4	86
October	.....	50	54	65	70	72	72	73	74	78	77	75	62	61	.....	.....	243.4	70
November	.....	.....	54	64	82	81	79	73	73	76	73	72	68	100	.....	.....	223.9	74
December	.....	.....	64	54	68	74	77	78	77	75	72	69	64	.....	.....	.....	211.4	71
Sum	145	461	683	792	878	909	927	913	907	924	895	899	814	717	332	175	3,171.6	851
Percentage of possible	.....	.....	.....	66	73	76	77	76	76	77	75	75	68	.....	.....	.....	264.3	71

DUBUQUE, IOWA (T.).

[N. lat. 42° 30′.]

January	.....	.....	.....	17	18	28	38	42	43	43	41	37	36	54	.....	.....	104.3	35
February	.....	.....	48	22	22	28	39	35	36	34	25	21	21	27	.....	.....	84.6	29
March	.....	23	29	31	37	41	38	43	48	49	50	45	40	36	35	.....	150.4	41
April	0	35	31	38	48	48	52	50	56	54	52	46	42	35	38	.....	180.1	44
May	50	52	55	75	87	86	89	89	91	91	78	76	62	50	45	36	326.1	72
June	37	37	42	42	50	63	73	72	77	71	64	61	55	46	44	43	253.7	56
July	62	57	59	67	73	83	85	83	83	76	78	78	69	64	68	68	336.1	73
August	17	44	46	59	65	72	77	78	77	75	77	66	58	52	47	35	274.9	64
September[1]	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
October	.....	40	58	62	66	69	75	71	74	76	80	65	67	61	.....	.....	237.8	65
November	.....	.....	36	27	34	39	49	49	55	50	48	38	34	.....	.....	.....	125.3	42
December	.....	.....	.....	11	17	35	48	61	63	52	42	35	33	.....	.....	.....	116.8	41

[1] Instrument out of order.

EASTPORT, ME. (P.).

[N. lat. 44° 54′.]

January	.....	.....	.....	37	48	60	62	56	48	48	49	45	36	67	.....	.....	142.1	50
February	.....	.....	38	40	58	69	79	71	58	61	56	50	44	36	.....	.....	168.0	58
March	.....	50	35	38	43	46	48	45	45	50	45	44	37	28	37	.....	156.2	42
April	0	22	34	39	40	50	49	46	49	55	54	58	52	43	31	0	182.7	45
May	17	16	15	18	23	28	32	33	35	43	39	36	35	30	23	19	130.7	28
June	30	32	41	48	52	54	56	59	58	56	52	49	47	48	34	24	218.1	47
July	26	29	32	38	46	52	55	61	54	60	56	58	52	45	40	35	221.5	47
August	21	29	33	40	46	55	55	61	57	61	62	64	62	51	38	24	221.0	51
September	.....	43	51	58	65	67	61	49	50	51	54	52	51	43	51	.....	202.7	54
October	.....	0	41	52	65	75	69	73	73	76	74	71	62	63	.....	.....	226.5	67
November	.....	.....	34	30	37	46	44	39	34	39	39	29	21	.....	.....	.....	105.4	37
December	.....	.....	.....	37	38	51	50	45	42	44	31	25	21	.....	.....	.....	107.8	39
Sum	94	221	354	475	561	653	660	638	603	644	611	581	520	454	254	102	2,082.7	565
Percentage of possible	.....	.....	.....	40	47	54	55	53	50	54	51	48	43	.....	.....	.....	173.6	47

ERIE, PA. (T.).

[N. lat. 42° 7′.]

January	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
February	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
March	.....	69	33	37	39	54	64	63	65	67	66	48	39	28	35	.....	167.6	51
April	0	30	31	36	49	54	59	58	55	59	60	55	40	27	19	.....	184.3	46
May	28	26	30	40	59	64	66	71	75	76	70	60	56	42	30	28	242.1	54
June	27	28	35	40	51	58	61	69	65	69	72	74	62	48	34	34	240.7	53
July	52	48	46	50	63	78	70	73	75	71	63	58	55	52	50	49	278.7	60
August	83	55	55	60	81	85	88	88	89	91	84	80	70	60	37	35	314.8	73
September	.....	46	51	56	67	72	88	87	91	85	80	69	68	59	68	.....	269.4	72
October	.....	100	41	36	47	59	66	68	70	71	63	53	47	53	.....	.....	194.5	57
November	.....	.....	8	6	13	20	26	29	25	16	11	10	7	.....	.....	.....	48.5	16
December	.....	.....	.....	3	4	7	13	19	22	15	12	9	3	.....	.....	.....	32.3	11

EUREKA, CAL. (P.).

[N. lat. 40° 48′.]

Month.	Percentage of sunshine recorded during hours ending (local time)—																Total (hours).	Percentage of possible.
	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h		
January	.....	.....	.....	16	25	32	33	35	39	41	44	35	23	12	.....	.....	98.1	33
February	.....	.....	41	22	32	39	33	36	42	47	42	39	26	24	.....	.....	105.3	35
March	.....	0	28	35	38	52	54	49	56	51	50	48	39	21	13	.....	160.1	43
April	.....	21	35	47	56	58	65	72	72	74	69	65	63	66	54	.....	238.0	60
May	8	10	30	39	46	58	65	66	75	72	68	64	64	58	39	26	235.8	53
June	7	20	25	34	45	47	52	56	61	62	64	66	62	59	49	24	214.8	48
July	8	14	23	29	41	47	62	71	82	83	86	85	82	78	59	31	266.4	58
August	50	7	11	10	12	22	26	37	45	44	46	39	35	32	25	35	120.4	28
September	.....	6	20	38	50	57	57	56	58	56	51	48	47	50	71	.....	180.4	48
October	.....	55	43	43	46	50	56	60	58	63	64	61	48	43	.....	.....	185.0	54
November	.....	.....	10	11	20	34	42	42	39	42	41	37	30	.....	.....	.....	99.4	33
December	.....	.....	.....	34	43	59	61	62	59	61	56	49	37	.....	.....	.....	153.4	53
Sum	73	133	266	358	454	555	606	642	686	696	681	636	556	443	310	116	2,057.1	546
Percentage of possible	.....	.....	.....	30	38	46	50	54	57	58	57	53	46	37	26	10	171.4	46

FRESNO, CAL. (T.).

[N. lat. 36° 43′.]

January	.....	.....	.....	3	11	22	26	23	25	20	17	20	18	6	.....	.....	57.5	19
February	.....	.....	62	43	49	60	61	64	66	70	66	67	51	36	.....	.....	177.2	58
March	.....	55	39	40	64	74	74	73	72	71	71	63	63	49	48	.....	233.3	63
April	.....	92	87	86	93	95	94	95	98	98	99	97	90	88	88	.....	367.3	93
May	78	77	78	83	90	94	94	95	96	93	94	92	89	82	81	90	387.6	88
June	60	60	66	87	92	93	93	94	97	96	94	92	86	77	67	65	371.2	84
July	84	81	84	91	98	99	100	100	97	97	96	95	96	95	94	96	422.2	94
August	.....	76	81	84	94	100	100	100	100	100	100	100	97	92	87	96	395.2	94
September	.....	74	74	77	82	95	97	100	96	97	96	95	94	92	94	.....	338.5	91
October	.....	50	67	68	73	74	74	76	76	83	83	81	78	67	.....	.....	262.7	76
November	.....	.....	61	55	72	82	84	84	84	89	90	80	63	100	.....	.....	238.4	78
December	.....	.....	50	51	54	69	80	81	84	80	79	72	63	.....	.....	.....	214.9	72
Sum	222	565	749	768	872	957	977	985	991	994	985	954	888	784	559	347	3,466.0	910
Percentage of possible	.....	.....	.....	64	73	80	81	82	83	83	82	80	74	.....	.....	.....	288.8	76

GALVESTON, TEX. (P.).

[N. lat. 29° 18′.]

January	.....	.....	12	19	30	39	47	46	46	49	44	36	22	12	.....	.....	119.1	36
February	.....	.....	16	48	56	55	54	55	56	54	57	54	42	21	.....	.....	155.0	50
March	.....	29	26	26	30	35	45	46	42	38	34	40	39	23	31	.....	131.6	35
April	.....	32	44	67	76	90	88	89	76	81	76	81	72	58	25	.....	277.1	72
May	.....	31	72	75	79	75	78	76	78	79	83	88	81	75	55	.....	311.7	74
June	.....	53	80	95	95	98	99	98	95	97	97	97	95	93	63	80	376.3	90
July	.....	46	78	90	93	92	93	95	94	99	99	100	96	88	57	75	375.1	88
August	.....	4	39	62	65	72	73	70	64	64	64	61	48	43	25	.....	230.8	57
September	.....	33	62	77	82	82	85	86	82	85	87	87	85	58	3	.....	289.7	78
October	.....	25	30	53	68	73	73	66	69	67	72	76	59	38	.....	.....	224.7	63
November	.....	.....	42	56	67	72	73	69	68	70	73	70	53	50	.....	.....	210.9	66
December	.....	.....	25	35	45	48	46	49	42	47	47	45	35	41	.....	.....	139.6	44
Sum	.....	253	526	703	786	831	854	845	812	830	833	835	727	600	259	155	2,841.6	753
Percentage of possible	.....	.....	.....	59	66	69	71	70	68	69	69	70	61	50	.....	.....	236.8	63

HARRISBURG, PA. (T.).

[N. lat. 40° 16′.]

January	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
February	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
March	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
April	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
May	69	58	61	68	75	80	82	80	84	77	73	68	61	53	39	38	304.3	68
June	40	41	50	68	74	79	83	86	83	84	76	71	69	49	50	50	302.3	67
July	49	49	53	63	70	75	78	80	77	73	65	60	59	51	39	35	284.6	63
August	100	63	66	72	85	85	94	95	98	90	86	71	67	53	43	21	325.3	77
September	.....	62	65	73	78	87	86	89	92	90	87	90	85	70	64	.....	306.3	82
October	.....	82	40	43	54	63	70	72	75	63	58	53	52	69	.....	.....	203.6	59
November	.....	.....	46	30	31	43	55	68	73	62	46	28	25	.....	.....	.....	139.9	47
December	.....	.....	.....	10	17	44	55	61	59	57	47	27	20	.....	.....	.....	120.0	41

HELENA, MONT. (P.).

[N. lat. 46° 34′.]

Month.	Percentage of sunshine recorded during hours ending (local time)—																Total (hours).	Percentage of possible.
	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h		
January	.....	.....	.....	26	26	46	57	45	43	42	44	34	30	0	.....	.....	113.6	41
February	.....	.....	31	20	25	43	53	46	50	50	50	36	35	40	.....	.....	118.6	41
March	.....	31	35	35	51	62	54	55	50	59	52	46	37	32	35	.....	175.9	48
April	64	54	53	59	63	62	61	61	58	60	61	61	52	51	58	71	237.5	58
May	64	67	75	74	73	70	74	78	72	63	71	71	65	61	60	49	321.2	69
June	40	42	52	57	63	63	65	54	48	52	52	51	47	48	41	33	241.2	51
July	57	64	76	71	69	73	77	73	68	63	66	58	59	63	62	47	316.1	66
August	88	83	86	87	89	96	97	92	92	82	81	83	79	74	70	67	374.1	85
September	.....	62	67	70	84	82	77	68	71	75	62	64	63	52	50	.....	260.9	69
October	.....	100	44	49	70	70	76	72	69	69	72	65	61	59	.....	.....	221.6	66
November	.....	.....	29	24	34	35	39	34	34	37	39	22	21	.....	.....	.....	91.9	33
December	.....	.....	.....	18	15	31	45	45	53	52	54	21	19	.....	.....	.....	101.2	38
Sum	313	503	548	590	662	783	775	723	708	704	704	612	568	480	376	267	2,573.8	665
Percentage of possible	.....	.....	.....	49	55	61	65	60	59	59	59	51	47	.....	.....	.....	214.5	55

HURON, S. DAK. (T.).

[N. lat. 44° 21′.]

January	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
February	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
March	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
April	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
May	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
June	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
July	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
August	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
September	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
October	.....	100	31	35	50	63	59	60	59	54	51	48	43	36	.....	.....	171.6	50
November	.....	.....	6	14	21	47	59	68	75	67	56	28	33	.....	.....	.....	136.4	47
December	.....	.....	.....	22	26	45	54	58	53	49	37	26	29	.....	.....	.....	115.5	42

IDAHO FALLS, IDAHO (T.).

[N. lat. 43° 29′.]

January	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
February	.....	.....	4	7	18	39	64	75	72	70	59	30	15	16	.....	.....	128.0	43
March	.....	21	23	25	31	39	59	68	64	61	48	37	24	20	13	.....	153.9	41
April	100	53	43	45	69	75	83	82	80	74	70	61	58	54	49	.....	257.7	64
May	43	39	40	63	76	85	85	89	87	82	77	71	60	41	23	29	291.9	64
June	44	44	65	79	81	86	83	88	92	85	80	73	57	47	44	44	318.9	69
July	33	35	38	53	75	85	86	85	85	79	76	73	61	64	49	46	305.3	66
August	0	32	36	51	68	86	89	91	88	92	83	75	61	45	45	34	290.2	67
September	.....	41	33	37	58	75	77	75	80	76	76	67	55	46	70	.....	233.6	62
October	.....	0	22	29	34	46	56	62	64	55	50	47	44	29	.....	.....	158.8	46
November	.....	.....	44	31	35	32	40	39	34	33	32	23	20	.....	.....	.....	95.5	33
December	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

INDIANAPOLIS, IND. (T.).

[N. lat. 39° 46′.]

January	.....	.....	.....	36	34	46	62	69	73	74	70	50	39	71	.....	.....	168.7	56
February	.....	.....	37	20	43	59	68	68	69	64	56	49	33	20	.....	.....	154.7	52
March	.....	42	36	37	46	57	62	63	62	60	62	54	41	34	43	.....	190.6	51
April	.....	33	29	41	48	62	55	64	67	65	64	55	44	35	32	.....	200.4	50
May	64	61	64	68	72	70	69	68	75	76	77	72	64	54	53	62	300.1	67
June	37	41	60	70	86	91	88	90	94	94	85	82	75	69	56	50	336.5	75
July	61	57	72	83	83	91	90	91	86	94	91	84	82	81	64	38	365.9	80
August	0	44	47	61	65	76	80	75	86	81	74	76	70	61	50	43	269.2	68
September	.....	83	87	87	92	96	97	97	95	93	91	88	84	88	80	.....	338.2	91
October	.....	100	74	75	84	89	87	85	84	82	80	76	74	82	.....	.....	279.6	81
November	.....	.....	42	44	45	45	46	43	49	44	36	32	30	.....	.....	.....	124.4	42
December	.....	.....	.....	11	14	25	35	26	26	27	22	16	17	.....	.....	.....	65.2	22
Sum	162	461	548	642	712	807	839	839	866	854	808	734	653	590	378	193	2,813.5	735
Percentage of possible	.....	.....	.....	54	59	67	70	70	72	71	67	61	.....	.....	.....	.....	234.5	61

JACKSONVILLE, FLA. (T.).

[N. lat. 30° 20′.]

Month.	Percentage of sunshine recorded during hours ending (local time)—																Total (hours).	Percentage of possible.
	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h		
January																		
February																		
March																		
April																		
May																		
June																		
July																		
August																		
September																		
October																		
November			48	49	55	66	75	74	74	69	67	59	51	60			201.8	63
December			27	34	46	63	68	75	76	80	68	55	42	48			190.8	60

KANSAS CITY, MO. (P.).

[N. lat. 39° 05′.]

January				59	56	51	52	51	45	55	56	54	49	43			159.7	53
February			31	12	31	35	38	39	42	42	39	30	26	43			102.2	34
March		42	34	29	44	43	42	47	44	47	52	53	44	40	52		161.3	43
April		38	35	43	49	51	52	56	54	57	50	52	49	38	43		190.9	48
May	39	33	46	53	56	68	67	65	70	73	77	65	65	58	42	39	263.9	59
June	24	24	30	39	43	47	49	48	50	62	63	66	67	46	31	26	206.0	46
July	54	55	72	78	77	78	84	85	79	76	79	81	77	76	75	86	346.1	76
August		55	58	71	72	77	77	79	78	81	81	69	71	69	63	36	304.0	72
September		77	80	85	91	88	88	84	83	79	80	81	85	84	84		313.0	84
October		100	73	74	77	78	76	76	83	80	76	73	70	72			262.8	76
November			48	47	50	57	63	63	62	57	50	39	44				160.7	53
December				11	24	38	45	41	46	47	39	31	34				105.9	36
Sum	117	424	507	601	670	711	733	734	736	756	742	694	681	569	390	187	2,576.5	680
Percentage of possible				50	56	59	61	61	61	63	62	58	57				214.7	57

KEY WEST, FLA. (T.).

[N. lat. 24° 34′.]

January																		
February																		
March																		
April																		
May		75	79	84	89	91	92	94	87	84	89	85	84	68	69		348.5	84
June		42	49	64	77	79	73	79	84	75	74	68	58	54	58		275.7	67
July		34	45	62	71	78	83	85	79	86	83	79	65	42	32		281.5	67
August		54	55	73	81	88	96	97	94	81	76	83	70	51	44		308.6	77
September		32	45	58	71	78	74	69	72	73	65	53	34	22	3		216.2	59
October		46	57	59	68	75	84	90	90	83	80	72	55	44			259.4	72
November			56	53	60	77	84	86	85	85	76	76	63	62			239.2	73
December			50	58	59	66	70	78	85	83	79	67	63	60			230.1	70

KNOXVILLE, TENN. (T.).

[N. lat. 35° 56′.]

January																		
February																		
March																		
April																		
May																		
June																		
July																		
August																		
September																		
October																		
November			24	26	47	63	74	74	76	71	71	67	55	50			187.7	61
December			6	10	18	28	38	35	42	39	37	33	31				94.2	31

LITTLE ROCK, ARK. (T.).

[N. lat. 34° 45′.]

Month.	Percentage of sunshine recorded during hours ending (local time)—																Total (hours).	Percentage of possible.
	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h		
January	.....	.....	.....	40	45	50	60	61	59	60	52	54	49	47	.....	.....	166.6	53
February	.....	.....	35	29	36	48	49	49	53	62	66	63	45	38	.....	.....	149.9	49
March	.....	50	38	40	48	51	55	55	57	59	64	58	53	47	60	.....	194.7	52
April	.....	44	49	50	54	72	78	82	86	86	78	70	67	61	48	.....	265.5	68
May	52	54	60	71	83	88	96	91	87	91	91	91	89	73	58	38	346.3	80
June	57	57	64	82	89	92	97	97	97	97	94	90	85	85	81	86	372.2	86
July	90	79	80	82	84	88	84	86	94	100	93	86	79	66	55	51	363.4	82
August	.....	68	80	93	94	94	94	98	98	95	85	85	78	68	52	100	355.7	85
September	.....	87	87	86	90	91	93	96	98	99	97	95	81	78	77	.....	337.8	91
October	.....	100	79	77	85	89	96	95	97	93	91	84	72	78	.....	.....	303.8	87
November	.....	.....	56	59	67	74	76	86	87	92	80	68	60	50	.....	.....	227.3	73
December	.....	.....	36	26	25	41	48	52	53	50	41	35	35	.....	.....	.....	124.5	41
Sum	199	539	664	735	800	878	920	948	966	974	932	879	793	691	431	275	3,207.7	847
Percentage of possible	.....	.....	.....	61	67	73	77	79	80	81	78	73	66	.....	.....	.....	267.3	71

LOS ANGELES, CAL. (P.).

[N. lat. 34° 3′.]

Month.	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h	Total (hours).	Percentage of possible.
January	.....	.....	40	62	67	76	73	74	71	70	73	57	45	37	.....	.....	208.7	66
February	.....	.....	54	56	67	69	74	69	68	69	64	67	54	54	.....	.....	198.1	65
March	.....	60	54	63	74	81	78	68	75	77	78	76	66	50	55	.....	260.8	70
April	.....	55	63	71	68	76	80	84	86	94	94	93	89	85	63	.....	314.1	80
May	0	4	9	10	18	33	48	65	72	75	79	83	81	71	54	25	216.1	50
June	27	27	34	43	55	68	77	86	93	99	93	99	97	98	91	90	326.6	76
July	8	17	17	34	53	75	85	93	94	96	99	100	100	99	94	93	331.7	75
August	.....	42	49	50	62	76	89	95	96	98	98	98	99	97	97	100	343.8	83
September	.....	36	39	42	55	78	91	93	92	91	94	90	95	91	100	.....	291.2	78
October	.....	67	53	59	62	65	67	69	80	80	84	80	75	60	.....	.....	246.4	70
November	.....	.....	79	78	81	86	88	93	96	93	93	89	84	100	.....	.....	273.6	88
December	.....	.....	78	84	84	88	87	85	89	84	86	77	88	100	.....	.....	262.1	85
Sum	35	308	569	652	746	871	937	974	1,012	1,026	1,041	1,009	973	942	554	308	3,273.2	886
Percentage of possible	.....	.....	47	54	62	73	78	81	84	86	87	84	81	78	.....	.....	272.8	74

LOUISVILLE, KY. (T.).

[N. lat. 38° 15′.]

Month.	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h	Total (hours).	Percentage of possible.
January	.....	.....	.....	44	39	37	47	50	56	54	43	37	42	62	.....	.....	138.0	45
February	.....	.....	26	28	31	36	49	54	50	47	41	31	25	27	.....	.....	115.9	38
March	.....	50	44	43	44	48	56	55	61	58	55	46	31	28	33	.....	176.3	47
April	.....	43	35	41	55	60	66	69	71	69	68	57	51	37	38	.....	218.4	55
May	69	62	68	70	73	73	79	82	82	76	72	70	62	57	57	71	310.8	70
June	41	47	47	48	62	81	87	90	97	90	87	82	78	61	53	51	313.9	71
July	76	70	69	68	66	70	78	83	84	89	85	82	62	63	54	59	327.9	73
August	.....	64	61	64	80	91	94	94	92	87	81	72	62	45	33	29	309.1	73
September	.....	87	90	90	93	99	98	100	95	93	96	95	89	83	75	.....	347.0	93
October	.....	95	78	77	80	86	87	87	83	83	84	84	78	80	.....	.....	286.7	82
November	.....	.....	43	51	55	53	55	57	62	62	54	51	44	0	.....	.....	164.8	54
December	.....	.....	0	13	15	18	35	37	35	31	19	18	12	.....	.....	.....	70.2	24
Sum	186	518	561	637	693	752	831	858	868	839	785	725	636	543	343	210	2,779.0	725
Percentage of possible	.....	.....	.....	53	58	63	69	72	72	70	65	60	53	.....	.....	.....	231.6	60

MINNEAPOLIS, MINN. (T.).

[N. lat. 44° 59′.]

Month.	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h	Total (hours).	Percentage of possible.
January	.....	.....	.....	24	20	36	46	51	55	46	38	33	32	33	.....	.....	112.4	39
February	.....	.....	48	24	22	26	33	33	33	33	33	30	14	14	.....	.....	81.0	28
March	.....	25	24	25	32	46	53	55	53	54	48	36	26	19	29	.....	145.8	39
April	40	38	30	29	37	45	57	57	59	50	42	36	18	13	16	50	153.9	38
May	30	45	55	56	56	61	56	57	56	68	66	67	55	43	36	30	249.0	54
June	23	32	36	46	50	58	64	63	67	56	55	46	36	26	20	13	202.8	43
July	22	29	35	41	47	54	58	61	66	63	58	50	46	35	25	23	215.5	46
August	42	38	44	53	73	80	76	81	83	78	78	75	65	49	47	48	286.5	66
September	.....	28	37	53	66	69	76	77	74	74	73	76	63	45	26	.....	239.1	64
October	.....	0	20	17	23	41	41	41	53	52	43	28	27	45	.....	.....	121.2	36
November	.....	.....	28	23	29	34	32	45	43	38	27	13	10	.....	.....	.....	87.1	30
December	.....	.....	.....	23	27	34	38	37	47	46	36	25	25	.....	.....	.....	96.4	35
Sum	157	235	357	414	482	579	630	658	688	658	597	515	417	322	199	164	1,990.7	518
Percentage of possible	.....	.....	.....	34	40	48	52	55	57	55	50	43	35	.....	.....	.....	165.9	43

NASHVILLE, TENN. (T.).

[N. lat. 36° 10′.]

Month.	Percentage of sunshine recorded during hours ending (local time)—																Total (hours).	Percentage of possible.
	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h		
January	.....	.....	.....	43	55	52	57	61	65	65	56	55	46	47	.....	.....	172.8	55
February	.....	.....	40	28	39	55	55	56	52	49	48	47	40	39	.....	.....	141.1	46
March	.....	36	28	30	35	44	62	68	72	72	60	47	41	39	49	.....	186.5	50
April	.....	55	53	57	58	56	59	61	64	66	63	64	63	61	48	.....	235.3	60
May	72	62	61	65	71	73	75	79	80	77	74	66	64	64	60	57	302.6	69
June	61	56	51	67	71	73	79	80	76	77	77	76	75	72	69	54	309.5	71
July	68	62	70	71	71	74	79	84	84	80	78	70	62	49	43	24	306.3	69
August	.....	67	72	71	74	82	85	92	91	91	87	90	72	70	54	50	330.7	79
September	.....	93	93	89	91	96	97	96	91	93	83	84	85	86	98	.....	337.0	91
October	.....	100	83	82	86	90	90	88	86	88	85	85	84	86	.....	.....	301.7	86
November	.....	.....	51	49	55	54	59	59	59	57	54	52	49	20	.....	.....	168.2	55
December	.....	.....	33	17	19	25	27	39	36	30	31	21	18	.....	.....	.....	80.9	27
Sum	201	531	635	669	725	774	824	863	856	845	796	757	699	633	421	185	2,872.6	758
Percentage of possible	.....	.....	.....	56	60	64	69	72	71	70	66	63	58	.....	.....	.....	239.4	63

NEW ORLEANS, LA. (T.).

[N. lat. 29° 58′.]

January	.....	.....	12	13	15	25	26	37	45	43	44	39	36	31	.....	.....	104.1	32
February	.....	.....	11	5	7	21	35	39	39	35	35	23	14	14	.....	.....	75.0	24
March	.....	25	19	16	16	22	25	30	35	42	34	29	22	23	34	.....	97.7	26
April	.....	24	21	19	19	33	42	53	51	44	45	34	22	17	16	.....	125.6	32
May	60	59	58	60	69	72	70	74	75	68	67	63	49	42	44	.....	264.6	62
June	33	40	41	46	49	63	59	56	48	56	45	48	32	21	20	25	186.9	44
July	.....	37	41	52	62	56	54	60	52	53	51	50	41	23	15	18	199.0	46
August	.....	43	39	37	38	41	51	56	57	53	45	42	36	26	27	.....	174.0	42
September	.....	45	50	49	55	62	65	64	71	70	62	56	45	43	22	.....	211.3	57
October	.....	67	53	62	64	63	65	62	67	62	57	51	42	43	.....	.....	207.1	58
November	.....	.....	35	37	63	69	70	76	73	69	58	44	32	32	.....	.....	183.5	57
December	.....	.....	20	29	45	55	66	70	73	67	59	50	38	52	.....	.....	173.3	55
Sum	93	340	397	425	502	582	628	677	636	662	602	529	409	367	178	43	2,002.1	535
Percentage of possible	.....	.....	33	35	42	48	52	56	57	55	50	44	34	31	.....	.....	166.8	45

NEW YORK, N. Y. (T.).

[N. lat. 40° 43′.]

January	.....	.....	.....	34	48	54	61	61	64	63	57	49	45	65	.....	.....	162.3	54
February	.....	.....	47	36	50	60	65	73	68	66	59	50	39	26	.....	.....	164.2	55
March	.....	83	39	47	51	58	63	60	61	60	62	51	41	38	48	.....	195.5	53
April	.....	41	60	74	80	85	93	96	84	82	81	86	80	64	37	.....	304.6	76
May	41	38	54	63	71	75	76	84	89	83	83	79	72	62	34	36	304.9	68
June	20	31	51	62	73	78	77	82	83	78	79	82	76	54	28	25	287.1	64
July	4	11	23	34	53	68	73	71	70	72	70	65	54	42	21	15	227.3	50
August	50	29	41	61	72	85	88	80	82	82	80	82	78	62	40	60	296.5	69
September	.....	34	46	71	73	76	74	77	76	81	81	83	70	47	41	.....	261.4	70
October	.....	0	17	33	55	60	65	73	74	72	67	61	39	34	.....	.....	193.3	56
November	.....	.....	13	27	50	58	56	63	61	63	58	40	35	.....	.....	.....	149.2	50
December	.....	.....	.....	21	37	46	55	56	58	61	53	32	28	.....	.....	.....	133.1	46
Sum	115	267	391	563	713	798	846	876	870	863	830	760	657	494	249	136	2,679.4	711
Percentage of possible	.....	.....	.....	47	59	66	70	73	72	72	69	63	55	.....	.....	.....	223.3	59

NORTHFIELD, VT. (P.).

[N. lat. 44° 10′.]

January	.....	.....	.....	35	36	44	44	39	41	44	47	27	22	67	.....	.....	111.6	39
February	.....	.....	38	41	45	58	62	55	50	45	48	44	34	24	.....	.....	138.2	47
March	.....	47	39	40	46	50	47	43	46	46	44	44	38	31	23	.....	158.5	43
April	3	32	37	48	45	50	49	52	54	50	52	53	47	37	27	100	184.7	46
May	28	31	39	42	52	50	51	50	51	46	46	49	49	42	20	10	195.9	43
June	34	38	48	55	55	55	58	53	54	52	49	51	49	47	40	40	227.8	49
July	10	22	39	45	51	55	55	50	48	50	53	57	54	46	23	24	207.0	44
August	27	25	40	66	69	70	71	70	73	70	60	66	57	44	23	18	248.9	57
September	.....	35	38	46	55	57	61	62	58	62	61	56	56	44	53	.....	202.8	54
October	.....	0	51	54	57	68	76	70	64	71	70	65	54	52	.....	.....	217.2	64
November	.....	.....	19	26	29	35	34	32	33	28	22	17	13	.....	.....	.....	79.3	27
December	.....	.....	.....	28	30	32	33	38	26	27	28	21	17	.....	.....	.....	79.6	29
Sum	102	230	388	526	570	624	641	614	598	591	580	550	490	434	209	192	2,052.5	542
Percentage of possible	.....	.....	.....	44	48	52	53	51	50	49	48	46	41	.....	.....	.....	171.0	45

OKLAHOMA, OKLA. (T.).

[N. lat. 35° 26′.]

Month.	Percentage of sunshine recorded during hours ending (local time)—																Total (hours).	Per centage of possible.
	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h		
January																		
February																		
March																		
April																		
May																		
June																		
July																		
August																		
September																		
October																		
November																		
December			73	44	44	55	61	67	67	68	61	55	53				175.9	58

OMAHA, NEBR. (P.).

[N. lat. 41° 16′.]

January				46	49	53	53	53	55	55	55	50	45	29			153.7	52
February			29	21	32	46	54	57	55	61	58	45	31	30			134.4	45
March		33	31	26	31	35	40	40	42	49	50	51	50	55	57		155.6	42
April		46	36	49	50	49	52	54	51	56	56	60	47	42	41		197.8	50
May	55	65	69	70	77	80	78	78	77	76	79	74	63	59	45	34	314.1	70
June	28	29	46	64	69	76	68	66	67	66	75	68	65	56	47	38	269.6	60
July	61	57	63	72	77	80	90	89	91	90	87	86	85	71	58	59	354.9	77
August	50	46	57	70	79	82	83	83	76	75	77	73	75	69	66	45	309.4	72
September		73	73	81	82	89	87	92	98	98	93	90	86	81	69		324.8	87
October		82	55	57	71	72	71	73	68	70	67	65	53	50			225.0	65
November			33	40	53	60	61	54	50	57	56	54	55				158.8	53
December				38	29	45	43	37	34	44	43	33	33				109.7	38

PARKERSBURG, W. VA. (T.).

[N. lat. 39° 16′.]

January																		
February																		
March																		
April																		
May																		
June																		
July																		
August		58	61	57	60	67	65	70	71	71	66	57	44	44	44	36	253.4	60
September		91	93	93	91	90	93	94	89	89	77	75	70	72	71		319.6	86
October		100	68	68	71	78	80	81	79	77	78	70	68	83			258.8	75
November			26	27	30	40	46	48	45	41	32	20	11				103.2	31
December				11	15	23	26	28	25	21	18	10	7				55.7	19

PHILADELPHIA, PA. (T.)

[N. lat. 39° 57′.]

January				47	45	57	62	61	56	57	50	47	49	75			161.3	54
February			63	40	49	58	68	71	71	66	62	61	46	44			174.7	58
March		92	53	47	55	54	69	68	69	67	62	63	57	44	43		218.9	59
April		60	62	67	75	76	78	80	77	78	73	67	67	68	72		285.7	72
May	66	62	68	64	69	73	79	83	85	87	84	73	65	59	56	62	318.8	71
June	29	31	35	49	55	64	74	77	80	79	69	70	52	31	20	23	243.7	54
July	28	29	42	45	59	64	72	76	73	69	61	55	57	40	40	33	248.9	55
August	100	54	64	71	71	73	81	75	76	76	75	64	54	45	46	36	281.9	66
September		67	68	71	71	75	81	85	86	86	86	84	76	60	57		287.4	77
October		82	43	41	52	58	65	71	75	61	60	58	50	65			200.8	58
November			31	30	43	53	57	55	55	57	52	35	36				141.0	47
December				31	35	43	52	61	59	55	54	49	43				142.0	49
Sum	223	477	524	603	679	748	838	863	862	838	788	726	652	531	334	154	2,705.1	720
Percentage of possible				50	57	62	70	72	72	70	66	60	54				225.4	60

PHOENIX, ARIZ. (P.).

[N. lat. 33° 28′.]

Month.	Percentage of sunshine recorded during hours ending (local time)—																Total (hours).	Percentage of possible.
	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h		
January	.....	.....	50	58	62	65	69	66	75	74	68	66	45	44	.....	.....	201.9	63
February	.....	.....	54	57	76	81	78	72	73	75	77	76	54	54	.....	.....	216.8	70
March	.....	78	66	70	80	83	86	84	85	85	90	89	86	85	80	.....	307.7	83
April	.....	87	96	100	96	96	99	99	98	95	98	94	91	91	80	.....	371.3	95
May	100	94	94	95	99	99	98	97	98	96	88	85	85	84	86	80	399.3	93
June	96	97	98	100	99	99	100	96	99	98	98	99	99	98	95	93	420.2	98
July	71	63	86	85	93	91	89	92	94	94	97	93	92	84	65	61	379.7	87
August	.....	52	62	69	79	84	88	91	90	93	92	89	80	65	45	.....	324.3	78
September	.....	54	63	77	84	86	90	91	91	88	91	91	74	70	58	.....	304.8	82
October	.....	35	77	79	86	90	90	87	92	93	81	79	80	79	.....	.....	298.5	85
November	.....	.....	77	81	92	97	96	98	97	92	91	88	81	62	.....	.....	285.4	91
December	.....	.....	56	69	93	95	94	87	91	95	92	84	77	100	.....	.....	271.4	87
Sum	267	610	879	943	1,039	1,066	1,077	1,060	1,083	1,078	1,063	1,033	944	916	509	234	3,781.3	1,012
Percentage of possible	.....	.....	73	79	87	89	90	88	90	90	89	86	79	76	.....	.....	315.1	84

PITTSBURG, PA. (T.).

[N. lat. 40° 32′.]

January	.....	.....	.....	0	3	10	20	28	31	36	30	22	17	29	.....	.....	60.6	20
February	.....	.....	32	11	17	23	34	38	36	38	32	27	18	19	.....	.....	82.4	28
March	.....	17	13	17	34	43	46	48	52	50	45	40	32	20	15	.....	136.4	37
April	.....	27	28	33	39	46	53	57	61	59	56	46	39	25	26	.....	172.7	43
May	28	26	24	30	40	56	62	68	71	65	66	60	44	30	29	28	212.3	47
June	20	20	21	30	55	67	69	66	73	70	72	74	71	48	40	41	242.3	54
July	27	26	27	37	64	71	81	74	81	75	67	58	49	29	19	17	240.1	52
August	0	10	10	16	50	63	76	75	76	64	60	53	34	13	10	5	188.4	44
September	.....	16	17	18	28	44	58	71	78	74	68	63	57	48	50	.....	191.0	51
October	.....	18	18	17	32	55	65	73	82	78	67	55	42	50	.....	.....	184.5	54
November	.....	.....	3	20	29	40	45	42	44	40	33	24	24	.....	.....	.....	100.0	34
December	.....	.....	.....	3	6	12	18	30	37	28	16	3	0	.....	.....	.....	47.2	16

PORTLAND, ME. (T.).

[N. lat. 43° 39′.]

January	.....	.....	.....	6	36	54	66	71	72	73	66	53	33	67	.....	.....	161.7	56
February	.....	.....	54	41	60	71	79	81	82	79	74	59	45	37	.....	.....	193.4	66
March	.....	47	40	48	59	68	76	74	71	69	64	53	37	34	40	.....	213.7	58
April	0	30	46	57	64	70	73	81	78	81	71	64	58	53	38	25	253.9	63
May	0	9	22	36	43	49	58	63	65	65	66	56	42	42	20	5	197.8	43
June	0	13	40	49	56	59	63	67	73	64	62	53	48	35	14	0	209.3	45
July	0	1	15	31	47	59	67	77	77	73	73	60	47	37	8	0	208.6	45
August	7	15	38	60	71	75	78	85	87	86	77	74	69	54	20	0	274.9	63
September	.....	35	49	75	79	86	91	87	87	88	84	80	67	49	29	.....	281.4	75
October	.....	0	33	56	74	86	88	87	87	88	80	67	58	55	.....	.....	251.4	74
November	.....	.....	3	22	42	48	52	52	54	52	42	29	24	.....	.....	.....	122.0	42
December	.....	.....	.....	16	27	40	45	47	45	41	35	35	24	.....	.....	.....	103.6	37
Sum	7	150	340	497	658	765	836	872	878	859	794	683	552	463	169	30	2,471.7	667
Percentage of possible	.....	.....	.....	41	55	64	70	73	73	72	66	57	46	.....	.....	.....	206.0	56

PORTLAND, OREG. (T.).

[N. lat. 45° 32′.]

January	.....	.....	.....	6	6	18	26	30	35	34	31	22	14	0	.....	.....	66.6	24
February	.....	.....	11	8	10	24	31	40	39	31	27	21	15	18	.....	.....	71.3	25
March	.....	0	3	7	10	25	46	42	40	47	33	31	25	14	12	.....	100.4	27
April	25	36	33	40	55	67	76	73	73	74	73	68	60	61	67	50	250.4	61
May	49	46	49	53	56	68	75	77	73	72	72	68	56	49	49	54	283.0	61
June	16	15	19	24	39	53	58	72	78	75	69	59	43	27	33	35	212.6	45
July	48	52	51	55	66	68	73	75	84	88	83	77	70	67	71	73	329.3	69
August	65	72	70	74	79	80	85	86	88	93	88	85	83	80	82	81	357.5	82
September	.....	19	23	27	30	36	40	58	68	63	59	54	49	43	22	.....	168.1	45
October	.....	0	21	24	35	50	68	75	79	80	77	67	52	58	.....	.....	196.8	58
November	.....	.....	0	0	8	18	31	37	37	37	31	10	9	.....	.....	.....	63.9	23
December	.....	.....	.....	12	14	27	30	39	39	36	27	25	19	.....	.....	.....	76.5	28
Sum	203	240	280	330	408	534	639	704	733	730	670	587	495	417	336	293	2,176.4	548
Percentage of possible	.....	.....	.....	28	34	44	53	59	61	61	56	49	41	.....	.....	.....	181.4	46

RALEIGH, N. C. (T.).

[N. lat. 35° 45′.]

Month.	Percentage of sunshine recorded during hours ending (local time)—																Total. (hours).	Percentage of possible.
	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h		
January	.....	.....	.....	22	41	53	61	70	69	67	62	56	42	46	.....	.....	170.0	55
February	.....	.....	29	30	48	56	59	66	71	68	61	49	41	31	.....	.....	161.5	53
March	.....	45	24	29	39	45	58	65	70	62	60	52	43	23	26	.....	177.0	48
April	.....	55	51	69	77	77	82	89	91	92	88	81	74	61	53	.....	297.9	76
May	33	36	37	53	75	84	91	93	86	87	81	77	59	52	45	43	296.6	68
June	40	40	49	61	77	84	86	91	95	90	85	85	82	65	50	51	319.9	73
July	35	36	45	65	84	91	94	96	93	87	82	79	68	55	44	37	319.4	72
August	.....	42	50	62	69	78	76	86	85	90	85	76	71	64	57	92	300.1	72
September	.....	62	63	84	89	88	93	94	91	83	82	88	82	69	75	.....	309.7	83
October	.....	33	22	31	47	57	65	63	68	72	66	60	45	43	.....	.....	189.1	54
November	.....	.....	46	43	58	70	80	81	85	81	71	63	42	50	.....	.....	206.2	67
December	.....	.....	6	3	25	46	55	56	55	55	54	39	20	.....	.....	.....	125.1	41
Sum	108	349	422	552	729	829	900	950	959	934	877	805	669	559	350	223	2,872.5	762
Percentage of possible	.....	.....	.....	46	61	69	75	79	80	78	73	67	56	.....	.....	.....	239.4	64

ROCHESTER, N. Y. (T.).

[N. lat. 43° 8′.]

January	.....	.....	.....	7	10	18	36	45	45	43	36	29	20	33	.....	.....	88.8	30
February	.....	.....	8	7	12	24	31	40	46	42	36	24	20	27	.....	.....	83.1	28
March	.....	64	36	32	33	39	42	45	59	58	54	45	46	40	45	.....	164.2	44
April	14	35	40	48	53	55	61	58	48	52	50	47	43	27	24	.....	187.0	47
May	37	32	31	33	43	47	46	51	46	54	51	49	48	40	35	31	195.0	43
June	44	48	50	49	56	64	68	66	70	67	61	60	48	40	34	27	248.3	54
July	45	39	45	44	48	61	66	70	68	64	62	56	54	38	38	20	243.0	52
August	67	49	49	50	61	65	72	72	70	74	73	63	50	39	46	31	256.0	59
September	.....	44	40	38	50	51	61	54	59	67	65	58	51	55	67	.....	202.4	54
October	.....	0	23	24	36	49	55	61	64	51	36	28	31	44	.....	.....	144.0	42
November	.....	.....	9	4	16	26	34	40	24	26	16	13	11	.....	.....	.....	62.4	21
December	.....	.....	.....	1	5	11	25	26	22	18	13	7	3	.....	.....	.....	40.3	14
Sum	207	311	331	347	423	510	597	628	621	616	559	479	425	383	289	109	1,914.5	488
Percentage of possible	.....	.....	.....	29	35	42	50	52	52	51	47	40	35	.....	.....	.....	159.5	41

ST. LOUIS, MO. (T.).

[N. lat. 38° 38′.]

January	.....	.....	.....	42	47	59	65	65	63	57	59	49	49	70	.....	.....	170.0	56
February	.....	.....	29	25	36	46	56	61	59	61	51	48	39	40	.....	.....	143.5	48
March	.....	17	14	19	32	41	54	62	65	64	61	55	48	39	26	.....	172.0	46
April	.....	35	38	49	59	67	64	61	62	58	59	47	41	37	40	.....	206.1	52
May	49	60	69	74	78	87	88	91	81	77	80	76	79	71	52	53	334.7	75
June	44	43	52	64	70	78	77	87	87	90	92	86	78	58	31	18	306.1	69
July	71	72	74	78	79	81	85	92	90	90	89	88	86	77	67	63	367.6	81
August	.....	57	64	73	75	85	86	93	94	86	91	94	87	74	62	64	341.3	81
September	.....	73	79	79	91	97	97	96	97	98	96	94	89	82	69	.....	337.7	90
October	.....	100	80	79	87	91	94	95	97	97	95	89	74	67	.....	.....	305.4	88
November	.....	.....	22	31	52	58	63	69	68	64	50	42	26	.....	.....	.....	157.0	52
December	.....	.....	.....	12	17	23	36	38	45	38	36	27	14	.....	.....	.....	86.6	29
Sum	164	457	521	625	723	813	865	910	908	880	859	795	710	615	347	198	2,928.0	767
Percentage of possible	.....	.....	.....	52	60	68	72	76	76	74	72	66	59	.....	.....	.....	244.0	64

ST. PAUL, MINN. (P.).

[N. lat. 44° 58′.]

January	.....	.....	.....	26	31	44	43	39	41	42	41	35	30	33	.....	.....	108.4	38
February	.....	.....	43	21	26	31	29	29	30	26	24	27	13	9	.....	.....	73.0	25
March	.....	44	31	31	39	47	40	28	38	42	44	47	39	33	31	.....	141.8	38
April	60	41	45	57	60	61	61	57	61	62	59	51	50	41	32	90	216.1	53
May[1]	41	41	52	54	51	55	41	29	31	44	51	62	61	58	38	43	149.4	47
June	40	40	43	49	44	46	55	48	49	49	52	42	42	36	36	32	206.9	44
July	41	50	60	66	66	63	58	62	65	67	73	79	69	58	53	53	293.3	62
August	21	40	53	64	65	63	61	60	60	61	65	61	64	61	50	41	256.5	59
September	.....	46	58	66	71	73	77	75	72	75	74	75	73	67	46	.....	265.2	71
October	.....	100	23	32	44	52	53	49	55	61	57	48	37	41	.....	.....	159.2	47
November	.....	.....	21	26	31	40	46	46	45	43	47	37	36	.....	.....	.....	113.9	40
December	.....	.....	.....	36	36	39	44	47	51	48	39	36	37	.....	.....	.....	115.1	42
Sum	203	402	429	528	564	614	608	569	598	620	626	600	556	437	286	259	2,098.8	566
Percentage of possible	.....	.....	.....	44	47	51	51	47	50	52	52	50	46	.....	.....	.....	174.9	47

[1] All values for 21 days.

SALT LAKE CITY, UTAH. (P.).

[N. lat. 40° 46′.]

Month.	Percentage of sunshine recorded during hours ending (local time)—																Total (hours).	Per centage of possible.
	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h		
January	.....	.....	.....	34	47	49	52	45	41	54	48	45	25	6	.....	.....	132.2	44
February	.....	.....	36	21	33	35	39	39	37	38	28	31	24	19	.....	.....	94.8	32
March	.....	17	20	27	37	49	53	61	50	59	58	52	50	35	26	.....	170.3	46
April	.....	66	58	65	74	72	74	70	66	74	72	63	61	59	53	.....	265.9	67
May	71	75	79	75	84	84	85	78	66	69	71	69	68	67	53	50	326.9	73
June	60	63	74	73	74	76	79	74	69	82	79	71	68	63	57	57	319.4	71
July	72	73	78	83	85	85	89	87	81	81	87	91	84	78	71	75	375.6	82
August	64	70	75	71	78	89	90	94	82	77	78	82	76	69	43	15	328.3	77
September	.....	62	64	73	79	84	81	76	78	83	84	80	77	66	69	.....	286.7	77
October	.....	36	47	49	53	61	68	65	63	65	69	70	63	53	.....	.....	211.1	61
November	.....	.....	42	33	36	42	52	59	50	47	49	47	29	.....	.....	.....	133.1	45
December	.....	.....	.....	42	32	37	45	49	55	57	63	54	41	.....	.....	.....	137.5	48

SAN DIEGO, CAL. (P.).

[N. lat. 32° 43′.]

January	.....	.....	50	58	58	65	69	71	74	74	74	66	65	55	.....	.....	213.6	67
February	.....	.....	59	55	62	67	74	69	69	71	70	65	68	63	.....	.....	205.1	67
March	.....	56	45	50	67	74	82	79	73	81	76	69	60	58	68	.....	253.7	68
April	.....	41	47	52	64	78	87	88	87	92	90	90	86	78	66	.....	298.2	76
May	13	16	14	16	28	45	61	67	68	69	67	65	58	57	54	50	210.4	49
June	13	13	15	22	42	67	87	87	73	72	75	75	74	65	54	53	249.6	58
July	14	14	9	27	64	81	93	99	99	99	96	96	94	92	87	89	329.5	75
August	.....	21	23	25	50	72	84	95	96	99	99	97	94	90	79	.....	307.9	74
September	.....	28	23	30	49	72	89	93	97	98	93	94	93	83	91	.....	279.4	75
October	.....	79	53	57	66	76	82	87	91	89	90	87	89	76	.....	.....	277.5	79
November	.....	.....	68	68	78	90	91	93	92	89	90	86	78	62	.....	.....	266.3	85
December	.....	.....	80	88	89	90	94	91	86	88	86	83	82	100	.....	.....	272.5	88
Sum	40	268	486	548	717	877	993	1,019	1,005	1,021	1,006	973	941	879	499	192	3,163.7	861
Percentage of possible	.....	.....	40	46	60	73	83	85	84	85	84	81	78	73	.....	.....	263.6	72

SAN FRANCISCO, CAL. (T.).

[N. lat. 37° 48′.]

January	.....	.....	.....	12	44	55	66	68	70	67	61	49	28	13	.....	.....	161.4	53
February	.....	.....	37	22	37	51	54	70	73	69	65	53	39	18	.....	.....	154.4	51
March	.....	42	42	48	58	66	70	75	74	77	76	72	63	30	20	.....	231.0	62
April	.....	55	58	70	79	89	93	93	94	96	93	91	83	67	48	.....	320.9	81
May	22	36	45	52	56	81	96	98	99	99	100	91	78	59	35	36	319.9	72
June	57	58	75	85	91	93	95	94	92	90	92	90	83	74	60	50	364.2	82
July	11	11	45	58	66	82	96	99	99	100	100	100	96	78	39	32	335.6	74
August	.....	2	12	24	31	52	81	94	99	98	99	95	77	44	17	29	255.1	60
September	.....	39	35	44	61	76	81	84	90	89	92	85	70	49	66	.....	263.1	71
October	.....	50	30	44	61	69	76	81	87	88	89	80	63	53	.....	.....	243.1	70
November	.....	.....	14	20	50	66	71	80	77	74	70	60	29	0	.....	.....	178.9	59
December	.....	.....	36	19	56	79	81	81	81	86	85	74	54	.....	.....	.....	210.3	71
Sum	90	293	429	498	690	859	960	1,017	1,035	1,033	1,022	940	763	485	285	147	3,037.9	806
Percentage of possible	.....	.....	.....	42	58	72	80	85	86	86	85	78	64	.....	.....	.....	253.2	67

SANTA FE, N. MEX. (P.).

[N. lat. 35° 41′.]

January	.....	.....	.....	57	62	71	69	74	71	70	75	64	45	36	.....	.....	203.5	65
February	.....	.....	47	59	71	70	72	62	64	66	59	51	43	38	.....	.....	182.7	60
March	.....	36	62	75	78	83	80	83	82	83	77	78	73	51	30	.....	278.7	75
April	.....	58	74	83	90	86	86	75	72	68	70	65	71	64	35	.....	287.2	73
May	36	49	72	79	79	85	77	70	68	55	51	45	49	38	21	7	260.8	60
June	57	67	81	92	94	92	94	85	80	69	66	66	59	64	55	33	326.8	75
July	58	60	77	81	77	80	81	77	68	66	56	53	52	57	40	28	290.9	65
August	.....	48	77	93	96	91	90	87	74	65	59	61	56	43	24	50	292.8	70
September	.....	40	56	70	76	83	79	77	81	67	59	48	39	30	29	.....	234.0	63
October	.....	18	44	61	70	75	71	70	74	69	69	61	61	54	.....	.....	229.7	66
November	.....	.....	70	76	84	89	84	78	86	88	79	80	70	50	.....	.....	249.6	81
December	.....	.....	67	65	76	85	86	80	87	89	88	85	62	.....	.....	.....	244.2	81
Sum	151	376	727	891	953	990	969	918	907	855	808	757	700	525	234	118	3,080.9	834
Percentage of possible	.....	.....	.....	74	79	82	81	76	76	71	67	63	58	.....	.....	.....	256.7	70

SAVANNAH, GA. (P.).

[N. lat. 32° 05′.]

Month.	Percentage of sunshine recorded during hours ending (local time)—																Total (hours).	Percentage of possible.
	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h		
January	.....	.....	50	32	46	55	48	42	46	42	47	46	31	26	.....	.....	137.9	43
February	.....	.....	26	30	37	42	38	38	32	44	40	39	21	17	.....	.....	106.6	34
March	.....	33	21	34	47	46	47	45	42	46	39	41	40	33	35	.....	149.5	40
April	.....	47	41	51	61	68	70	64	64	65	66	68	69	51	49	.....	236.1	61
May	75	72	77	85	84	88	90	85	87	80	82	88	73	50	32	.....	330.3	77
June	58	70	86	88	89	87	84	84	87	85	75	69	61	38	19	17	309.0	73
July	33	57	69	81	84	83	80	79	78	74	69	67	59	54	44	40	303.0	70
August	.....	54	55	64	62	72	61	55	59	63	53	46	41	32	27	.....	221.2	54
September	.....	48	48	60	63	67	67	57	55	53	54	51	52	39	43	.....	205.6	55
October	.....	60	39	40	52	60	66	66	61	69	67	69	52	51	.....	.....	205.1	58
November	.....	.....	53	55	64	70	72	72	73	71	64	64	58	75	.....	.....	207.6	66
December	.....	.....	42	43	43	54	52	49	44	51	55	51	43	50	.....	.....	152.2	49
Sum	166	441	607	663	732	792	775	736	728	743	711	699	600	516	249	57	2,564.1	680
Percentage of possible	.....	.....	51	55	61	66	65	61	61	62	59	58	50	43	.....	.....	113.7	57

SEATTLE, WASH. (T.).

[N. lat. 47° 38′.]

January	.....	.....	.....	16	13	8	17	26	30	30	20	18	13	0	.....	.....	54.5	20
February	.....	.....	15	8	12	25	41	47	55	48	49	34	10	6	.....	.....	92.6	32
March	.....	17	16	26	33	48	59	73	71	68	57	42	44	20	8	.....	171.3	46
April	14	30	33	44	57	64	67	69	72	81	75	67	53	39	34	20	232.4	57
May	44	45	54	59	59	65	84	95	89	89	90	87	71	55	43	40	321.4	68
June	4	8	24	43	51	58	71	72	78	73	69	58	56	40	23	18	223.0	46
July	32	35	39	47	62	62	72	84	92	87	82	82	74	62	54	53	310.5	64
August	60	46	53	62	83	91	96	97	96	93	93	89	86	76	70	61	356.1	80
September	.....	12	13	17	26	38	44	52	61	58	56	50	40	41	16	.....	150.9	40
October	.....	.....	0	2	10	24	38	44	49	49	46	38	31	34	.....	.....	104.8	31
November	.....	.....	0	0	0	4	11	13	7	3	1	0	0	.....	.....	.....	11.7	4
December	.....	.....	.....	0	1	3	8	9	6	13	9	0	0	.....	.....	.....	15.3	6
Sum	154	193	247	324	407	490	608	681	706	692	647	565	478	373	248	192	2,044.5	494
Percentage of possible	.....	.....	.....	27	34	41	51	57	59	58	54	47	40	.....	.....	.....	170.4	41

SPOKANE, WASH. (P.).

[N. lat. 47° 40′.]

January	.....	.....	.....	4	7	11	9	6	0	11	16	17	9	0	.....	.....	25.9	9
February	.....	.....	31	21	24	24	32	29	25	35	37	41	27	11	.....	.....	83.2	29
March	.....	0	18	28	39	48	60	62	62	59	59	57	37	24	20	.....	171.1	46
April[1]	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
May	38	40	53	67	76	84	84	86	93	88	86	76	74	59	47	41	328.9	70
June[1]	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
July	45	63	67	73	77	84	85	91	88	88	91	93	82	80	76	56	377.6	78
August	56	73	87	96	98	97	97	97	97	97	96	91	92	77	65	49	394.4	89
September	.....	32	40	50	59	62	68	75	72	69	66	59	42	28	10	.....	210.4	56
October	.....	.....	31	37	48	66	76	80	79	72	70	55	43	54	.....	.....	204.2	61
November	.....	.....	0	2	6	14	21	24	23	17	16	7	9	.....	.....	.....	39.7	14
December	.....	.....	.....	2	4	10	13	16	20	23	18	10	12	.....	.....	.....	35.7	14

TACOMA, WASH. (T.).

[N. lat. 47° 16′.]

January	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
February	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
March	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
April	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
May	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
June	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
July	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
August	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
September	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
October	.....	0	6	12	25	43	59	74	76	76	64	62	51	55	.....	.....	172.7	51
November	.....	.....	12	6	6	15	24	22	21	20	11	14	18	.....	.....	.....	44.0	16
December	.....	.....	.....	2	3	4	13	21	24	13	13	13	13	.....	.....	.....	33.4	13

[1] Instrument out of order.

TAMPA, FLA. (T.).

[N. lat. 27° 57′.]

Month.	Percentage of sunshine recorded during hours ending (local time)—																Total (hours).	Percentage of possible.
	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h		
January	.....	.....	33	35	40	56	69	69	68	71	65	48	38	45	.....	.....	181.6	55
February	.....	.....	26	29	42	61	76	82	83	85	79	61	51	60	.....	.....	198.9	63
March	.....	33	46	44	51	74	80	84	80	82	75	63	42	55	46	.....	239.6	64
April	.....	65	52	47	40	56	61	62	67	66	61	52	35	43	47	.....	206.7	54
May	.....	83	84	82	79	85	82	79	82	82	80	73	72	74	75	.....	333.2	79
June	.....	83	83	74	63	68	79	74	71	71	78	69	59	63	63	.....	296.7	71
July	.....	68	68	64	62	69	64	68	61	55	54	43	35	29	29	.....	233.4	55
August	.....	71	70	65	76	78	77	75	73	66	65	55	33	35	35	.....	256.0	63
September	.....	43	43	39	54	61	62	71	65	60	44	28	30	27	6	.....	178.3	48
October	.....	100	71	68	67	74	75	78	70	65	63	62	63	65	.....	.....	244.6	69
November	.....	.....	76	69	69	80	74	72	62	67	64	54	63	65	.....	.....	219.6	68
December	.....	.....	57	52	47	63	67	66	65	55	59	50	58	55	.....	.....	187.4	58
Sum	.....	546	709	668	690	825	866	880	847	825	787	658	579	616	301	.....	2,776.0	747
Percentage of possible	.....	.....	59	56	58	69	72	73	71	69	66	55	48	51	.....	.....	231.3	62

VICKSBURG, MISS. (T.).

[N. lat. 32° 22′.]

January	.....	.....	50	44	44	51	59	67	63	63	59	59	53	56	.....	.....	180.0	56
February	.....	.....	24	30	36	46	66	75	74	70	63	53	46	37	.....	.....	166.5	54
March	.....	78	33	34	46	57	69	74	73	66	65	54	45	30	39	.....	201.1	54
April	.....	61	60	80	84	85	86	86	77	86	88	87	76	61	49	.....	303.1	78
May	75	62	72	83	95	99	99	99	96	94	93	89	85	79	65	.....	371.3	87
June	64	64	78	90	93	97	98	96	94	93	95	94	87	84	63	62	371.4	87
July	67	46	75	93	100	100	100	97	94	96	96	88	81	79	52	41	370.8	85
August	.....	17	20	51	74	78	83	83	91	86	82	66	57	42	25	.....	260.6	63
September	.....	55	57	68	89	92	94	94	93	88	79	73	68	42	27	.....	286.3	77
October	.....	60	56	65	76	80	82	91	89	89	81	72	60	47	.....	.....	265.9	75
November	.....	.....	44	46	61	62	70	72	75	81	77	74	53	42	.....	.....	208.0	66
December	.....	.....	18	20	34	43	45	45	47	49	42	39	28	50	.....	.....	122.6	39
Sum	206	443	587	704	832	890	951	979	966	961	920	848	739	649	320	103	3,107.6	821
Percentage of possible	.....	.....	49	59	69	74	79	82	80	80	77	71	62	54	.....	.....	259.0	68

WASHINGTON, D. C. (P.).

[N. lat. 38° 54′.]

January	.....	.....	.....	49	52	56	55	61	54	53	57	51	49	63	.....	.....	163.6	54
February	.....	.....	43	39	43	41	46	46	47	45	42	45	40	43	.....	.....	130.9	44
March	.....	67	41	39	51	61	62	62	60	61	67	65	59	58	61	.....	213.6	58
April	.....	57	59	69	70	67	69	72	75	74	73	68	69	59	49	.....	266.8	67
May	46	45	44	59	67	70	74	71	66	73	64	69	62	42	36	42	265.6	50
June	47	48	53	57	58	58	61	71	65	73	69	55	54	55	47	46	258.8	58
July	46	52	55	61	67	66	71	66	74	73	65	58	60	56	51	55	280.9	62
August	.....	73	78	84	83	87	90	83	78	84	77	74	75	67	57	64	330.8	78
September	.....	68	66	71	73	77	80	85	88	83	81	83	84	82	89	.....	296.0	79
October	.....	64	52	48	45	44	49	50	54	57	60	51	49	63	.....	.....	177.0	51
November	.....	.....	49	47	55	60	58	61	54	57	54	52	48	.....	.....	.....	164.6	55
December	.....	.....	.....	31	37	52	58	58	54	56	60	45	40	.....	.....	.....	146.1	50
Sum	139	474	540	654	701	739	773	786	769	789	769	716	689	588	390	207	2,694.7	706
Percentage of possible	.....	.....	.....	54	58	62	64	66	64	66	64	60	57	.....	.....	.....	224.6	59

WILMINGTON, N. C. (T.).

[N. lat. 34° 14′.]

January	.....	.....	20	30	46	57	65	74	75	73	69	61	49	43	.....	.....	188.4	60
February	.....	.....	29	29	38	48	57	64	69	68	65	52	38	22	.....	.....	153.8	50
March	.....	50	30	35	48	60	64	70	71	63	57	52	40	24	30	.....	190.7	51
April	.....	37	42	54	75	84	85	87	85	84	84	67	62	52	44	.....	271.4	69
May	14	11	40	69	81	90	97	97	98	95	89	81	72	52	21	25	307.8	71
June	38	37	55	78	89	94	96	90	95	94	90	77	63	53	39	38	319.3	74
July	50	28	35	55	72	69	65	63	61	58	53	52	51	38	29	32	227.6	52
August	.....	22	31	62	85	80	86	89	80	81	76	68	66	47	28	.....	275.0	66
September[1]	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
October	.....	33	14	36	58	66	78	78	76	76	64	52	35	18	.....	.....	198.0	56
November	.....	.....	46	54	66	73	79	86	85	81	77	72	54	50	.....	.....	223.5	72
December	.....	.....	22	19	42	50	60	68	62	59	54	45	21	.....	.....	.....	147.9	48

[1] Instrument out of order.

YANKTON, S. DAK. (T.).

[N. lat. 42° 54′.]

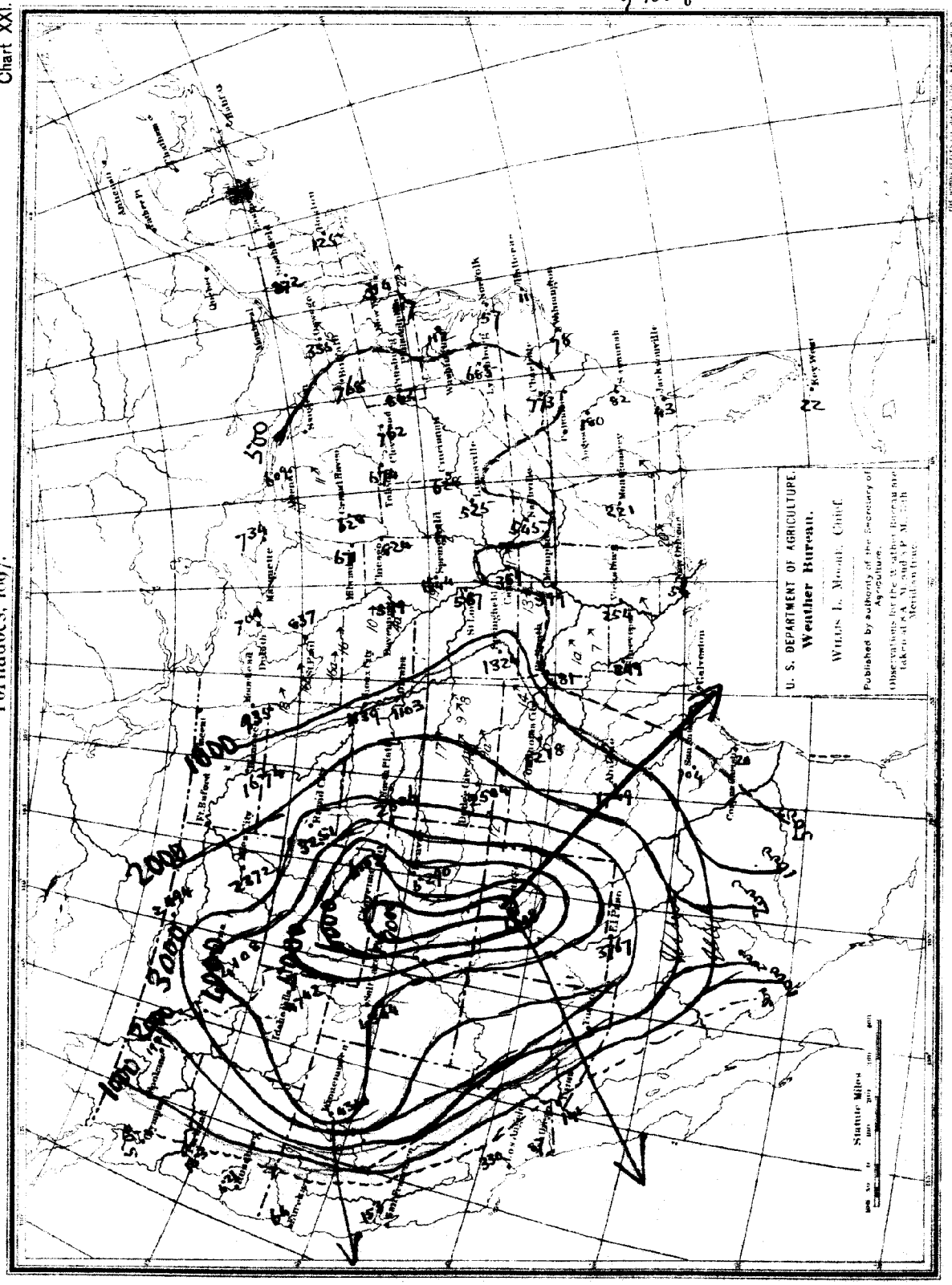
Month.	Percentage of sunshine recorded during hours ending (local time)—																Total (hours).	Percentage of possible.
	5h a. m.	6h	7h	8h	9h	10h	11h	Noon.	1h p. m.	2h	3h	4h	5h	6h	7h	8h		
January	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
February	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
March	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
April	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
May	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
June	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
July	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
August	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
September	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
October	.....	0	25	40	60	62	67	71	72	69	62	59	44	51	.....	.....	197.9	58
November	.....	.....	49	41	49	61	69	71	70	63	60	54	41	.....	.....	.....	171.2	58
December	.....	.....	.....	22	40	53	60	64	65	50	35	31	26	.....	.....	.....	131.1	47

Elevation of Barometer above sea-level in feet (see pp. 35 to 38).

N.B. direction of wind in places differing in altitude by 1000 ft or more certainly not comparable. agt

Chart XXI.

Tornadoes, 1897.



SEVERE LOCAL STORMS AND TORNADOES.

There was about the usual number of days during the year when tornadic conditions prevailed, and the number of storms of only moderate violence was about up to the average. The year was remarkably free from storms of a violent nature.

Tables showing the loss of life and property by tornadoes, also of life by lightning, will be found at the end of this section.

The important details of each storm are given in the list below, and the approximate geographic position and the direction of movement are shown on Chart XXI. The numbering in the list is by dates rather than by individual storms. Corresponding numbers on the chart show the position of the storms described in the text.

CHRONOLOGICAL LIST OF SEVERE LOCAL STORMS AND TORNADOES, 1897.

No. 1, January 2.—Tornadoes wrecked the small villages of Mooringsport, La., and Benton, Ark, on the afternoon of January 2, 1897. Five people were killed at Mooringsport and 21 were injured; the property loss was about $6,000; path of storm 300 yards wide; length, unknown; movement, northeast; occurred, 3.45 p. m., Central time.

No. 1a.—The tornado at Benton, Ark., was much more destructive to property, although but one life was lost. The total property loss was estimated at $12,000 in the town and a much larger sum for the county. Details as to the latter, however, are wanting. The path of the storm was 100 yards wide; length, unknown; movement northeast; time, about 7 p. m., Central meridian.

No 2, February 21.—A diminutive tornado was reported to have occurred near Benwood, Clay County, Ind., on the evening of February 21, 1897. The path of the storm was estimated to have been about 100 yards wide and 3 miles long. The damage was not great. The meteorological conditions on February 21 were not such as are generally noted in connection with tornadoes. A correspondent of the Bureau writing from Terre Haute, 15 miles southwest of Benwood, says:

"About 8 o'clock Sunday morning (the 21st) the wind suddenly shifted from the south or southwest to the northwest, blowing quite strong, accompanied with round snow, enough to make the ground quite white. At the same time there was a great deal of thunder. In the course of an hour the wind veered to the north and northeast, the snow changing to a cold rainstorm, which continued hard and steady, with very few cessations, until dark. The air was raw and chilly here at Terre Haute all day."

At the time this tornado occurred Benwood was in the northeast quadrant of a somewhat oval-shaped depression that covered Missouri and the west Gulf States. The temperature at Benwood was probably not greatly above 40°, if it reached that figure. Snow was falling in Iowa. The region of warm, moist, southerly winds, so far as can now be ascertained from the daily weather maps, did not reach the southern border of Indiana.

No. 3, March 18.—Texas, Tarrant County, 8.20 p. m., Central time. No funnel, whirl, counter clock wise; moved from southwest to northeast; no fatalities; property loss small.

No. 4, March 19.—On this date minor tornadoes occurred at widely separated places, viz, near Salina, Kans., about 6 p. m., Central time; near Durant, Iowa, about 4 p. m., Central time. The area of low pressure was almost directly east of both of these localities. High winds swept over southeastern Louisiana and southwestern Mississippi early in the morning of the 19th. In two cases the evidence seems to point to tornadic action, viz, in the suburbs of Jackson, Miss., and near Utica, Miss. At the latter place 4 persons were killed and 1 injured. Property loss at both places, about $5,000.

No. 5, March 22.—A minor tornado passed over Arlington, Ga., at 8.30 a. m., Central time, wrecking the Arlington Academy, killing 8 of the pupils, and injuring 8 others. But little damage was done outside of that building. Total property loss, about $6,000.

No. 6, March 30.—The first severe and destructive tornado of the year occurred at Chandler, Okla., at about 5.30 p. m., Central time. Fourteen persons were killed and 40 more or less injured. In answer to a request for information as to the character of this storm, a correspondent writes:

"As near as I can describe, I would compare it with a stream that is very much swollen with heavy rain, the main current going northeast, with whirlpools all over its surface. Some of the trees and buildings were apparently mashed flat, others were scattered over large territory. Some in the track were lying north, while beside them, or probably across them, would be one lying south, and at times there were places where they lay in all directions in a space of a hundred feet. One place in particular I noticed to-day, the first tree was torn up by the roots and lay with its top west; across that was one broken off with the top north, and across these two was one with the top east, while a few feet away was one with the top south. This occurred at numerous places. In many places it seemed that shoots would go off to one side and literally rip up the trees with a whirling motion, and finally cease or the track would be lost. The main storm seemed to keep straight along on the ground and was very destructive. I have no idea of the damage; the storm simply wiped the town of buildings with the exception of probably fifteen, and they were more or less injured. The town was about a mile long and probably not over a quarter wide, and the storm struck it about the center."

Another correspondent, after consulting with conservative business men of the town, estimates the property loss at $100,000. The path of greatest destruction was nearly half a mile wide and at least 10 miles long. How much farther it extended is not known.

No. 7, March 31.—Arkansas: First observed near Orlando, Cleveland County, about 7 miles southeast of New Edinburg, Ark.; path one-quarter to one-half mile wide; moved northeast. Observed again near Star City, Lincoln County, and at Grady, about 13 miles northeast of the latter. In all, 7 persons (colored) were killed, and probably a larger number injured. The path of the storm varied in width, and the length is not known. Property loss not large, probably not over $10,000, aside from the loss to crops and standing timber.

A minor tornado was observed near Tuckerman, Jackson County, about 3. p. m. of the same date. No casualties and but small property loss.

No. 8, April 3.—Kansas: Topeka, 1 p. m., Central time. A small funnel cloud formed over the corporate limits of Topeka and moved slowly northward, a little above the house tops. The damage was confined principally to chimneys and roofs. The funnel cloud was not more than 40 feet wide, and at no time descended to the ground. Pedestrians were warned of its approach by a buzzing noise and had abundant opportunity to get out of the way. The funnel cloud was very black and the whirling was plainly visible, but no wind effects were noticed, except in the immediate track of the funnel.

No. 9, April 23.—Kansas: Four miles north of McFarland, Wabaunsee County, 8.45 p. m., Central time. One killed, 7 injured; property loss about $2,000; path from 50 to 200 feet wide and 15 miles long; moved a little east of north. One mile west of Newton, 10 p. m., Central time; no fatalities, 3 injured; property loss about $2,000; moved a little east of north; path 150 feet wide and 12 miles long; destruction not continuous over the entire length.

No. 10, April 23.—Iowa: Anamosa, 8.50 p. m., Central time. No casualties; property loss under $5,000; path 300 feet wide, 5 miles long; moved a little east of north.

No. 11, April 24.—Michigan: Omer, Arenac County, 5.30 p. m., Central time. Three injured; property loss about $4,800; path about 40 feet wide and half a mile long. Mr. C. F. Schneider, section director of the Michigan climate and crop service, makes the following report upon the meteorological conditions on the day of the tornado:

"The morning at Omer was clear and warm, with a fresh southeast wind. Toward noon the sky began to cloud over rapidly and the wind to increase in force. During the afternoon the clouds lowered and began to assume a threatening appearance, and the southeast wind increased to a gale of about 30 miles per hour. By 5 p. m. the sky was very dark and the wind had become strong enough to loosen signs and boards, and it had begun to shift to the south-southeast. At this time a violent thunderstorm set in, the thunder and lightning being continuous. The thunderstorm moved from the southwest to the northeast, and in advance of the tornado. About 5.15 p. m. a light sprinkle of rain fell for a few minutes, and this was followed by a light fall of small opaque hailstones. During the half hour from 5 to 5.30 p. m. the wind continued to blow a gale from the south-southeast, and this wind was very warm and somewhat suffocating. At 5.30 p. m. (as near as can be determined) the tornado cloud suddenly made its appearance from the southwest.

"This tornado cloud was typical in form, being described by such citizens as saw it as "balloon shaped," or, as text-books speak of such phenomena, "funnel shaped." It was about 40 feet high, its top having a steady forward movement, but the lower part of it, which corresponds to the basket or car of a balloon, had an unsteady motion, moving from side to side, and in advance, and sometimes in the rear, of the body of the cloud. The whole cloud had a wavy horizontal movement, sometimes being nearly in contact with the earth, and then lifting up for some distance. It was accompanied by a peculiar roar."

No. 12, May 8.—Kansas: One mile west of Ulysses, 3 p. m., Central time. No casualties; one building destroyed; path 100 yards wide, one-half mile long.

No. 13, May 9.—Arkansas: Corning, 5 p. m., Central time. No casualties; property loss about $200; width of path 200 to 300 yards, length 2 miles; moved northeast.

No. 14, June 2.—David, Ind. T. (1 mile southwest of Chelsea), 6 p. m., Central time. One killed, 8 injured; property loss, $3,000; path from 200 yards to ½ mile wide; length uncertain, said to be 30 miles; moved to the east. Heavy rains and winds throughout portions of eastern Texas on the 2d and 3d injured growing crops and wrecked possibly as many as 30 buildings, the greatest destruction at a single place occurring at Grand Prairie, within 13 miles of Dallas. Newspaper reports place the damage to crops at a quarter of a million dollars.

No. 15, June 3.—On this date severe local storms were reported from Texas, Mississippi, Alabama, and New York, The storm in New York State seems to have been a true tornado. It was first observed near Westmoreland. Oneida County, at 5 p. m., Eastern time. One person was killed and three injured. The funnel cloud is described as having an irregular swaying motion, rising and falling alternately. It moved toward the east in a path about ½ a mile wide and 5 miles long. A conservative estimate places the amount of damage at $18,000.

No. 16, June 10.—Several minor tornadoes were observed in southern Minnesota on the evening of the 10th. In most cases the funnel cloud at the point of contact with the earth was quite small; the whirl covered a small area, and the destruction of life and property was not great. The most severe whirl originated in Lyle Township, Mower County, near the State line, and moved eastward rather slowly, being clearly visible when a mile away. But 1 person was killed, although 22 were more or less injured. The property loss was probably $10,000. Path of the storm, 80 rods wide, 6 miles long; moved east.

No. 16a.—The second storm of importance was first observed north of Mapleton, Blue Earth County, about 4 p. m., Central time. It moved a little north of east into Waseca County, passing near Little Cobb and Alma City, where it was last observed. Two persons were injured, and the property loss probably reached $6,000. The path of the storm was quite narrow, probably 100 feet on the average, and the distance traveled was about 12 miles.

No. 16b.—The third storm formed about 2 p. m. in Kandiyohi County, near the railroad station of the same name. No casualties; path, 20 feet wide, 3 miles long; property loss, about $1,000; moved northeast.

The tornado cloud was closely observed by Mr. Charles U. Peterson, who remarked upon it as follows:

"This storm passed about 3 miles south of town, but I was within 80 rods from it, and saw how it worked. The main cloud was quite a ways up, while the funnel came down to the ground. It appeared to be about the same size from top to bottom, about 12 feet in diameter, and perfectly white. The roar sounded as when a heavy train comes thundering along, although not a breath of wind was to be felt where I was."

Other funnel clouds were doubtless observed of which no record has been made.

No. 17, June 24.—On the same date a tornado was observed north of Culver, Ottawa County, Kans. It moved a little north of east for a distance of 5 or 6 miles, passing and partly demolishing about twenty farmhouses. The house of George W. Geesey was totally destroyed, 3 of the inmates killed, and 4 severely injured. Property loss, about $3,000.

No. 18, July 6.—A tornado formed a short distance west of Lowery, Pope County, Minn. It traveled about 6 miles in a northeasterly direction in a path from 25 to 80 rods in width. Two persons were killed and 8 injured. Its approach was very generally observed and almost everyone had an opportunity to escape.

No. 19, July 30.—A minor tornado was observed at 7 p. m., Central time, near the town of San Jose, Ill. One house was destroyed and 6 of the inmates killed. Five other persons were injured. The path of the storm was quite narrow; its length could not be ascertained.

October 31.—8 p. m. (?); Seminole, Baldwin County, Ala. One person killed; 5 injured. Property loss, about $600 Width of path, 100 yards; length, 2½ miles; moved northeast.

November 8.—6.15 p. m., Central time; Graves County, between Fancy Farm and Boaz Station, Ky. No casualties. Loss to property, about $2,000. Width of path, 200 yards; length, 11 miles. Moved northeast.

November 9.—3 p. m., Eastern time; Lanoka (Cedar Creek), Ocean County, N. J. No casualties. Property loss, about $500. Width of path, 75 yards; length, unknown. Moved northeast. No funnel cloud.

PROPERTY LOSS BY TORNADOES DURING THE PERIOD 1889–1897.

State.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	Total.
Alabama			$7,000		$125,000	$1,500	$30,600	$5,000	$600	$169,700
Arkansas				$4,500	45,400	508,600	1,000	1,700	22,200	583,400
Florida						2,000				2,000
Georgia	$10,000	$500			212,500	3,000	22,000		6,000	254,000
Illinois	10,000	485,500		323,500	13,000		12,000	103,000	1,000	948,000
Indiana		500	9,500		20,000	2,500	12,000	3,000		47,500
Indian Territory					1,500			6,000	3,000	10,500
Iowa		29,000	8,500	58,000	274,500	39,000	60,000	75,000	4,500	548,500
Kansas	28,500		7,500	371,500	148,500	9,000	120,000	272,000	7,000	964,000
Kentucky		2,841,500	3,500		80,000			6,000	2,000	2,933,000
Louisiana					70,000	6,000		90,000	6,000	172,000
Maine				13,000						13,000
Maryland	3,500	15,000	3,000		10,000					31,500
Massachusetts		60,000								60,000
Michigan					240,000	1,000		400,000	4,800	645,800
Minnesota	10,000	16,000	15,000	103,500	12,200	419,500		2,000	17,000	595,200
Mississippi			19,000		277,000	8,800		5,750	5,000	315,550
Missouri	10,000	18,500	71,000	13,000	50,000	1,500		12,904,900		13,068,900
Nebraska		480,000	6,200	90,000	29,000	1,900	6,000	50,000		663,100
New Jersey			2,000	8,500			70,000		500	81,000
New York	11,000			25,000	22,000				18,000	76,000
North Carolina		1,000			20,000			1,000		22,000
North Dakota		300								300
Ohio	10,000	15,000		27,500		51,000		104,000		207,500
Oklahoma				2,000	60,000	2,000		300	100,000	164,300
Pennsylvania	77,500	427,000	1,000	7,000	4,000			118,000		634,500
South Carolina			1,000		13,000	500		1,500		16,000
South Dakota			400	15,000		15,500	29,000	21,000		80,900
Tennessee		60,000		2,000	22,000		6,000			90,000
Texas			28,000	54,000	290,700	119,600	15,000	175,000		682,300
Virginia								3,200		3,200
West Virginia	3,000									3,000
Wisconsin			4,000		3,500		100			7,600
Total	173,500	4,449,800	186,600	1,118,000	2,043,800	1,192,900	383,700	14,348,300	197,600	24,094,250

DEATHS BY LIGHTNING, 1890–1897.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
1890	0	0	2	6	8	37	55	12	0	0	0	0	120
1891	0	0	0	13	23	73	52	34	9	0	0	0	204
1892	0	0	0	5	27	74	67	54	15	6	1	2	251
1893	0	0	5	19	17	66	73	18	8	2	0	1	209
1894	0	2	6	14	45	96	60	78	29	6	0	0	336
1895	0	0	5	29	66	109	123	78	16	0	0	0	426
1896	0	1	6	26	71	45	89	75	21	6	1	0	341
1897	0	1	11	8	44	107	109	61	14	3	4	0	362
Sums	0	4	35	120	301	607	628	410	112	23	6	3	2,249

DEATHS BY VIOLENT STORMS, 1890–1897.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
1890	0	0	160	6	26	27	29	25	0	0	0	0	273
1891	2	1	10	9	9	35	30	11	1	0	0	0	108
1892	0	0	39	21	91	49	7	17	11	9	21	11	276
1893	0	3	96	174	20	6	83	7	10	0	0	0	399
1894	1	13	32	25	32	34	2	2	76	19	0	0	236
1895	0	0	4	6	59	6	59	17	15	0	0	0	166
1896	0	0	0	17	515	3	3	4	[1] 114	4	2	0	662
1897	6	0	33	1	0	6	8	0	0	1	0	0	55
Sums	9	17	374	259	752	166	221	83	227	33	23	11	2,175

[1] West India hurricane.

PART VII.

CLIMATE OF CUBA; WEATHER OF MANILA; TEMPERATURE, RAINFALL, AND HUMIDITY OF SAN JUAN, PORTO RICO, BY W. F. R. PHILLIPS; METEOROLOGIC WAVES, AND THE DISTRIBUTION OF MOISTURE IN THE UNITED STATES, BY H. A. HAZEN, PROFESSOR, WEATHER BUREAU.

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CLIMATE OF CUBA.

By W. F. R. PHILLIPS, in Charge, Section of Climatology.

INTRODUCTION.

The Island of Cuba is very long and narrow, and lies between the seventy-fourth and eighty-fourth degrees of west longitude and the nineteenth and twenty-third of north latitude. Its average breadth is about 80 miles. Its length is about eight times its average breadth. Its extreme length, measured along a curved line following its center, is about 730 miles. The area of Cuba, including its dependent islands, is estimated at 43,000 square miles.

The coast is generally low and flat and surrounded with numerous small islands and reefs, though in places it rises abruptly some distance above the sea. The highest part of the island is a range of mountains, known as the Sierra Maestra, bordering the southeast coast from Cape Cruz to Cape Maysi. The highest peaks of this range are the Pico de Tarquino, 7,670 feet, the highest point in the island; Gran Pedra, 5,200 feet; Yunque, and Ojo del Toro, 3,000 feet, above the level of the sea. From this range there extends very nearly through the center of the island a general ridge, or range of hills, of much less elevation. In the extreme western part of the island this ridge again attains considerable height in the Pan de Guajaibon, which is 2,530 feet above the sea. The island is divided by this ridge into two general watersheds, one draining toward the north and the other toward the south. According to Humboldt, "the face of the interior of the island is gently undulating, like that of England, and is not more than 280 to 380 feet above the level of the sea."

METEOROLOGICAL DATA.

Unfortunately, meteorological statistics for Cuba are neither numerous nor complete, and even some of the small number obtainable are of questionable accuracy. As far as ascertained, observations have been made at one time or another at the following places: Havana, Ubajay, Guanabacoa, Matanzas, San Fernando mines, Trinidad de Cuba, Santiago de Cuba, and Firmeza. The following is a chronological statement of the several series of observations made in Cuba, as far as known:

Began.	Ended.	Number of years.	Place.	Observer.	Hours of observation.	Nature of record.	Reference.
1794	1794	1	Havana	Unknown	6, N.,[2] 6	Pressure, temperature, wind direction, weather.	Sagra, Hist. Phys. Cuba
1796	1799	4	Ubajay	Antonio Robledo	7, N., 10	Temperature	Humboldt, Island of Cuba.
1800	1801	2	Havana	do	7, N., 10	Temperature, pressure	Sagra, supra.
1806	1807	2	do	do	7, N., 10	do	Do.
1810	1812	3	do	Jos. Ferrer	(1)	Temperature	Do.
1811	1815	5	do	Miguel Arrambarri	(1)	Rainfall	Do.
1819	1820	1	Guanabacoa	(1)		Temperature	Dove, Nicht Period. Tem.
1825	1831	7	Havana	Ramon de la Sagra	(1)	Pressure, temperature, humidity, rain, weather, wind.	Sagra, supra.
1832	1835	2	Matanzas	A. Mallory	Sr., 2, Ss	do	Am. Jnl. Sc., Vols. 26 and 31.
1839	1840	1½	San Fernando mines	John H. Blake	8, N., 6	Pressure, temperature, rainfall.	Sill. Jnl., Vol. 42.
1854	186-	(1)	Havana	Andres Poey	(1)	Probably complete, but not published in any accessible work.	
1851	1852	½	Trinidad de Cuba	H. Yates	7, 2, 7	Temperature	Canad. Med. Jnl.
1859	1898	40	Havana	Belen College	Hourly	Complete	Repts. of Belen College.
1874	1882	4	Santiago de Cuba	Robt. Mason	7, 3, 11	Pressure, temperature, rain, wind.	MS. Weather Bureau.
1888	1898	10	Firmeza	Juragua Iron Co	6, 9, N., 3, 6	Temperature, rain, weather	Do.

[1] Name of observer or hours of observation not given. [2] Noon.

TEMPERATURE.

Havana.—Several independent series of observations have been made at different times in Havana. The earliest of which there is any record, and which consisted of a single year's observations, was made in 1794. However, as there is reason to suppose that the data were incorrect, either from faulty exposure of the thermometer or some serious instrumental defect therein, they have not been considered. The first credible observations were made by D. Antonio Robledo in 1800 and 1801, and again in 1806 and 1807. A mean of the two series gave an annual average temperature of 77° F. From a later series of observations made in 1810, 1811, and 1812 by D. Joseph Ferrer, an annual average of 78.3° F. was deduced. A series of seven years' observations, 1825–1831, made by Ramon de la Sagra, gave an average of 77° F. Averages computed from observations made during the decennial periods 1866-1875 and 1888–1897 at Belen College give mean temperatures of 79.2° F. and 76.8° F., respectively.

The monthly and mean averages of the several series mentioned, except that of 1794, are shown in the following tabular view:

HAVANA.

Month.	1800–1; 1806–7 (4 years).	1810–1812 (3 years).	1825–1831 (7 years).	1866–1875 (10 years).	1888–1897 (10 years).
	(1)	(2)	(3)	(4)	(5)
	°	°	°	°	°
January	68.2	70.0	71.4	73.1	70.3
February	71.3	72.0	74.0	75.1	72.0
March	72.0	75.7	74.1	76.3	73.2
April	75.4	79.0	76.6	79.0	76.0
May	79.7	82.6	77.9	81.8	78.8
June	83.7	83.1	81.0	83.9	81.5
July	85.3	83.3	81.5	83.9	82.4
August	83.6	83.8	81.5	83.9	82.2
September	80.6	82.0	80.4	82.8	80.7
October	78.4	79.5	78.8	80 1	78.1
November	72.6	75.6	75.2	76.6	75.3
December	70.0	72.0	72.7	74.1	71.4
Mean	77.0	78.3	77.0	79.2	76.8

It will be noticed that there is a greater difference between the values of the (5) and (4) series of the foregoing table than there is between the (5) and any of the others. The observations from which both (4) and (5) were computed were made at the same observatory, Belen College, and, doubtless, the same care was taken in both to correctly record the instrumental readings. The explanation of the difference is perhaps to be found in a note made in one of the annual reports of the director of the observatory, to the effect that the new instruments were procured from England in 1882, and, having been previously compared with standard instruments in that country, were substituted for those previously in use. It is probable, therefore, that the results of the (5) series are more nearly representative of the true temperature conditions than those of the (4) series.

A mean annual temperature of 77.1° F. is obtained by combining the (1), (2), (3), and (5) series, properly weighted with regard to the length of each record.

The highest annual temperature recorded in the decennium 1888–1897 was 77.2° F., and happened in three separate years; the lowest annual temperature was 76.1° F., and happened only once, showing in 10 years an extreme range in annual averages of but 1.1° F. In the same ten years the warmest month was July, with an average temperature of 82.4° F. The warmest July had an average temperature of 83.5° F., and the coolest July a temperature of 81.7° F. The warmest single month was August, 1888, with a mean of 84.2° F. The coldest month was January, with an average temperature for the ten years of 70.3° F., and the warmest and coldest Januaries were, respectively, 73.4° F., and 67.5° F. The highest temperature recorded was 100.6° F., in July, 1891, and the lowest, 49.6° F., in February, 1896.

Guanabacoa.—The mean temperature of Guanabacoa for one year, July, 1819, to June, 1820, was 76.8° F. Guanabacoa is about 5 miles east of Havana.

Matanzas.—There is a record for two years, one year beginning with August, 1832, and ending with July, 1833, and the other beginning and ending with the calendar year 1835. A combination of the means of the two years gives a mean of 78°. The highest temperature recorded was 93° F., and the lowest was 51° F. Matanzas is on the coast about 50 miles east of Havana.

Santiago de Cuba.—The average annual temperature of Santiago de Cuba is given by Ramon de la Sagra as 80.6° F. No information, however, is given as to the length of the series from which this average was obtained. From the meager data obtainable from the observations made irregularly between 1874 and 1882 by Robert Mason, the average annual temperature of Santiago appears to be 79.6° F. But from evidence in the reports themselves there is reason to suppose that the earlier thermometer readings were too low, perhaps as much as 1°.

Trinidad de Cuba.—Observations of the thermometer were made in Trinidad de Cuba by Dr. H. Yates at 7 a. m., 2 p. m., and 7 p. m., during December, 1851, and January, February, and March, 1852. But only the mean temperatures at the several hours of observation are given. They are, respectively, 72.8° F., 78.7° F., and 75.3° F. The observer notes in regard to the temperature that the highest observed was 84° F. and that the lowest was 64.5° F.

Ubajay.—Observations were made at Ubajay for four years, 1796–1799, by D. Antonio Robledo. It is noted of the thermometer that it was so exposed as to be open freely to the winds but sheltered from the sun and rain. The mean temperature for the four years was 73.6° F. The warmest month was July, 83.7° F., and the coldest month was December, 62.2° F. Ubajay is (or was at the time) a village about 15 miles southwest of Havana and about 242 feet above sea level. The summer temperature of Ubajay, as determined from the observations mentioned, is slightly higher than that of Havana. The winter temperature, on the other hand, is very much lower than that of Havana, probably too much so. (See table, page 308.)

San Fernando mines.—Observations of the thermometer were made by Mr. John H. Blake for eighteen months from January, 1839, to June, 1840, at the mines of San Fernando, situated almost in the center of Santa Clara province, at an elevation of 554 feet above the sea. The mean temperature of the calendar year 1839 was 75° F. The mean temperature of July was 80.5° F. and that of December was 67.9° F. The highest temperature observed in the eighteen months was 91.5° F., and the lowest was 51° F.

Firmeza.—Observations at Firmeza, a mining village 16 miles east of Santiago de Cuba, 6 miles inland from the ocean and about 500 feet above the level of the sea, were made by the Juragua Iron Company, and embrace a period of ten years from April, 1888, to March, 1898. The average temperature for the decade was 79.8° F. As the observations were made at the hours of 6 a. m., 9 a. m., noon, 3 p. m., and 6 p. m., it is probable that this average is too high. A mean temperature, computed from observations made at the same hours for a period of six years for Havana, gives a mean 0.84° F. in excess of the true mean for the same period. The warmest month, July, has an average temperature of 82.9° F., and the coldest month. January, an average of 76.1° F.

Variability and diurnal range.—The monthly temperatures depart but little from their normals. The greatest difference between the warmest and coldest January at Havana was less than 6° F., and at Firmeza less than 4° F. The greatest difference between the warmest and coolest July at the same places was only 1.8° F. at the former and but 2.3° at the latter.

Statistical data are not at present available from which the variability or average change between the mean temperatures of consecutive days can be estimated.

The diurnal range of temperature, or the difference between the highest and lowest temperatures of the day, varies a good deal in different months and in different localities. At Havana the average is perhaps a little more than 10°. The greatest daily range of temperature observed in five years was 23° F. The greatest daily range observed at San Fernando mines in 1839 was 18° F.

The maximum temperature of the day occurs generally between noon and 2 o'clock in the afternoon, and the minimum temperature usually between dawn and sunrise. The general course

of the temperature from hour to hour is fairly accurately shown in the following table, which has been computed from observations made at Belen College (6 years, 1892–1897):

Month.	4h a. m.	6h a. m.	8h a. m.	10h a. m.	Noon.	2h p. m.	4h p. m.	6h p. m.	8h p. m.	10h p. m.
	°	°	°	°	°	°	°	°	°	°
January	64.6	64.2	65.8	70.9	73.6	74.1	73.2	70.9	69.1	67.6
February	66.0	65.7	67.6	72.3	75.6	76.3	75.6	72.9	70.7	69.1
March	67.3	66.9	70.3	75.7	78.4	79.2	78.1	75.0	72.7	71.1
April	70.0	69.6	78.4	79.5	81.3	81.1	80.8	77.9	75.2	73.8
May	72.7	72.9	78.8	82.8	83.1	83.3	82.8	80.4	77.5	76.3
June	75.0	75.6	81.5	84.9	85.6	85.5	84.0	82.0	79.2	77.7
July	75.7	75.9	81.9	86.2	87.1	87.7	85.6	83.5	80.2	78.8
August	76.3	76.3	81.1	85.8	86.9	86.7	85.5	83.3	80.6	79.5
September	75.6	75.4	79.3	83.8	85.1	84.6	83.7	81.3	79.3	78.3
October	73.9	73.6	76.6	80.6	81.9	82.0	80.4	78.3	77.0	76.1
November	71.1	70.7	73.4	77.5	79.2	79.2	77.9	75.7	74.5	73.4
December	67.3	66.9	68.7	73.4	75.2	75.7	74.5	72.3	70.9	69.8

Comparative temperatures.—The average temperature of the months of June, July, and August, and of December, January, and February, corresponding to the summer and winter seasons of north temperate latitudes, and representing the warmest and coolest parts of the year in Cuba, differ about 10° at Havana, and between 5° and 6° at Santiago and Firmeza. If the temperature record for Ubajay be accurate, the difference between the summer and winter months in the interior of the island is about 18° F. However, the difference between the summer and winter temperature, as determined from the eighteen months' record at San Fernando mines, is only 10°—the same as at Havana. On the contrary, Humboldt states that he was credibly assured that in the country near Havana, on a hill 318 feet above the level of the sea, water had frozen, the ice being several lines in thickness.

The average temperatures of the summer and winter months at the several Cuban stations are shown in the subjoined table, together with the same data for several other places in the West Indies and elsewhere.

Station.	Summer.[1]	Winter.[2]
	°	°
Havana (10 years)	82.0	71.2
Ubajay (4 years)	83.1	65.0
San Fernando mines (1 year)	79.7	69.7
Firmeza (10 years)	81.4	75.9
Santiago (4 years)	83.4	77.8
Key West, Fla. (21 years)	83.8	71.1
San Juan, Porto Rico (12 years)	81.3	76.3
Kingston, Jamaica (10 years)	80.8	75.0
Praia, Cape Verde Islands (5 years)	78.1	73.1
Honolulu, Hawaii (7 years)	77.2	70.6
Manila, Philippines (17 years)	81.3	77.3
New Orleans, La. (25 years)	81.3	55.8
Galveston, Tex. (18 years)	83.3	55.6
Washington, D. C. (25 years)	74.9	35.1

[1] June, July, and August. [2] December, January, and February.

San Juan, Kingston, Praia, Honolulu, and Manila are situated nearly within or not very distant from the same latitudes as the Cuban stations.

ATMOSPHERIC MOISTURE.

Relative humidity.—The relative humidity of the atmosphere appears to be fairly constant, as far as can be determined from the observations available. It averages about 75 per cent of saturation. The mean relative humidity of the different months differs hardly enough to characterize one month as being drier or damper than another.

From observations made at Havana at different hours of the day it appears that the diurnal

range of the relative humidity varies from a maximum of about 88 per cent in the morning to a minimum of about 64 per cent at noon. The following table, computed from four years' observations, shows the average relative humidity at certain hours of the day:

Month.	4h a. m.	6h a. m.	8h a. m.	10h a. m.	Noon.	2h p. m.	4h p. m.	6h p. m.	8h p. m.	10h p. m.
January	84	85	82	70	63	63	65	93	77	79
February	85	85	81	68	62	61	63	70	76	79
March	85	85	78	64	58	58	62	70	75	79
April	82	84	73	61	68	59	60	67	73	76
May	85	85	73	63	62	63	65	69	76	78
June	89	89	77	67	67	67	70	74	81	84
July	88	88	76	64	63	64	67	70	78	82
August	87	88	78	64	62	64	67	72	78	82
September	90	90	83	72	70	71	74	78	83	85
October	88	89	80	72	69	69	72	78	81	84
November	86	87	82	71	68	68	72	77	80	82
December	82	82	79	67	64	64	67	72	75	77

Absolute humidity.—The absolute humidity is very great. At Havana the average is about 7.5 grains of vapor to the cubic foot of air, and varies from 6.2 grains per cubic foot in January to 8.9 grains in September.

RAINFALL.

Havana.—The first series of rainfall observations was made by D. Miguel Arrambarri, and embraced a period of five years, from 1811 to 1814. The average annual amount during the period was 39.60 inches. Observations made by Ramon de la Sagra, from 1826 to 1831, a period of six years, gave an annual average of 40.48 inches. The mean of an aggregate of thirty years' observations at Belen College, embracing two periods, 1859 to 1875 and 1885 to 1897, gives an annual average rainfall of 51.73 inches.

The averages of the several series are shown in the following tables:

HAVANA.

Month.	1811–1815 (4 years).	1826–1831 (5 years).	1859–1875; 1885–1897 (30 years).
	Inches.	*Inches.*	*Inches.*
January	3.15	2.52	2.71
February	1.93	2.09	2.27
March	1.69	2.36	1.83
April	2.36	1.22	2.83
May	3.38	3.82	4.47
June	5.91	5.04	7.16
July	5.63	5.47	5.06
August	2.68	4.57	6.02
September	4.72	5.79	6.71
October	4.92	3.11	7.42
November	1.81	3.27	3.08
December	1.42	1.22	2.15
Year	39.60	40.48	51.73

Although observations have been made at Belen College Observatory continuously since 1859, yet the published records from 1876 to 1884, inclusive, are not to be found in the library of the Weather Bureau, neither are they known to be available in any library accessible to the writer. In the thirty years represented in the periods 1859–1875 and 1885–1897 the greatest annual rainfall was 71.40 inches and the smallest was 40.59 inches.

Firmeza.—The average annual rainfall for Firmeza during ten years, 1888–1897, was 61.75 inches. The greatest annual fall was 90.57 inches and the smallest was 51.51 inches.

Santiago de Cuba.—A single year's record, beginning August, 1881, and ending July, 1882, gave a rainfall of 33.82 inches.

Matanzas.—The rainfall at Matanzas for the year 1835, the only record obtained for the place, was 55.29 inches.

San Fernando mines.—The rainfall was measured only for the first six months of the year 1840. The amount recorded was 42.75 inches.

Rainy season.—The fall of rain is as a rule greatest during the months of May to October. On the average the greatest amount falls in October and the next greatest in June. The contrast between the quantity of rain that falls during the summer and that that falls during the winter is so striking that it has given rise to the habit of speaking of the former as the "rainy season" and of the latter as the "dry season," terms that are somewhat likely to be misunderstood, as will appear later on.

Relatively the greater bulk of the rain at Havana falls during the months from June to October, the average rainfall for which period is 32.37 inches, or 63 per cent of the annual fall. The average rainfall for the "dry season" is 19.36 inches. The following table shows the amount falling in the rainy and dry seasons of each year of the periods 1859–1875 and 1885–1897.

AMOUNT OF RAINFALL AT HAVANA.

Year.	Rainy season (June to October, inclusive, 5 months).		Dry season (November to May, inclusive, 7 months).	
	Amount.	Per cent of annual.	Amount.	Per cent of annual.
	Inches.		*Inches.*	
1859	28.44	63	16.40	37
1860	27.80	63	16.65	37
1861	28.76	71	11.83	29
1862	36.09	70	15.20	30
1863	23.07	51	22.03	49
1864	28.53	60	19.35	40
1865	25.29	54	21.57	46
1866	33.29	73	12.56	27
1867	45.66	64	25.74	36
1868	22.00	44	27.80	56
1869	22.64	41	33.15	59
1870	32.38	70	13.89	30
1871	39.52	73	14.32	27
1872	27.56	58	20.32	42
1873	24.12	47	27.35	53
1874	42.11	79	11.07	21
1875	27.63	65	14.68	35
1885	26.79	56	21.38	44
1886	47.49	74	17.04	26
1887	32.38	66	16.95	34
1888	23.97	45	29.54	55
1889	35.71	60	24.02	40
1890	28.15	50	28.41	50
1891	38.02	65	20.51	35
1892	49.49	85	8.81	15
1893	38.95	64	21.64	36
1894	38.08	75	12.63	25
1895	38.78	69	17.07	31
1896	31.09	60	19.97	40
1897	27.70	60	18.51	40

It is worth stating that, as shown in the above table, four times in thirty years more rain fell in the "dry season" than in the "rainy season."

Rainy days.—The number of days in the year on which rain falls in Cuba is relatively large. At Havana the average is one day out of every three. Notwithstanding the great frequency of rain, the days on which precipitation occurs are not continuously cloudy. As a rule, the rain falls in heavy showers, and the clouds generally break up as soon as precipitation ceases, leaving the sky clear and bright. Out of 714 days on which rain occurred in the course of seven years, Ramon de la Sagra records that the rain fell after the middle of the day 449 times, before the middle of the day 146 times, and both before and after the middle of the day 119 times.

Excessive rainfalls.—The following table shows the greatest twenty-four hour rainfalls recorded during the decennium 1888–1897 at Havana and Firmeza :

1888–1897.	Greatest rainfall in twenty-four hours.	
	Havana.	Firmeza.
	Inches.	*Inches.*
January	3.98	1.85
February	2.79	3.80
March	3.06	6.70
April	2.46	3.60
May	6.27	4.30
June	4.65	3.04
July	3.28	1.70
August	2.70	5.06
September	3.76	6.15
October	5.32	13.10
November	3.73	2.28
December	2.23	3.25

Comparative rainfall.—The division of the seasons in Cuba into "rainy" and "dry," as has already been alluded to, is purely a relative classification. More rain falls at Havana during the "dry season" than falls in the entire year at Denver, Colo. (14.5 inches), or Los Angeles, Cal. (18.1 inches). The following table shows the average amount of rain falling in the "rainy" and "dry" seasons at the several stations in Cuba and at a number of other places in the West Indies and elsewhere in the same time :

Station.	Rainy season.[1]	Dry season.[2]
	Inches.	*Inches.*
Havana[3] (30 years)	32.37	19.36
Matanzas (1 year)	44.01	11.28
Santiago (1 year)	24.31	9.51
Firmeza (10 years)	47.78	13.97
Port au Prince, Haiti (4 years)	39.05	22.12
San Juan, Porto Rico (12 years)	35.83	25.38
Kingston, Jamaica (10 years)	26.03	6.61
Key West, Fla. (25 years)	29.50	10.60
Honolulu, Hawaii (16 years)	14.65	24.89
Manila, Philippines (32 years)	55.04	20.39
New Orleans, La. (25 years)	27.00	33.52
Washington, D. C. (25 years)	24.10	20.60

[1] May to October

[2] November to April.

[3] Rainy season, June to October ; dry, November to May.

WIND.

The prevailing winds are the "northeast trades." Except when influenced by the passage of cyclonic and anticlyconic areas, the wind blows steadily from points between east and north. During the passage of storms and areas of high barometric pressure, however, the winds may blow from any direction, being governed in this regard by the location of the center of cyclonic or anticyclonic activity. In the winter season cold waves in the United States, when extending far to the southward, cause cold northerly winds, or "northers," along the north Cuban coast.

The average velocity of the wind at Havana is about 7.5 miles an hour. The velocity, however, varies considerably with the season, being highest in winter, when its average velocity is 8.5 miles an hour, and lowest in summer, when its velocity is 6.5 miles an hour. The velocity is probably higher on northern coasts than on southern coasts, as would appear to be shown by difference between the anemometer records of Havana and Kingston. The diurnal variation in the velocity of the wind is much more pronounced than the seasonal variation. The following

table shows the average velocity of the wind at certain hours of the day at Havana, Cuba, and Kingston, Jamaica:

Hour.	Miles an hour.	
	Havana.	Kingston.
4 a. m	4.3	2.0
6 a. m	4.5	2.0
8 a. m	6.5	2.1
10 a. m	9.2	4.3
Noon	10.7	6.9
2 p. m	11.4	7.6
4 p. m	10.7	6.6
6 p. m	8.7	4.5
8 p. m	6.9	2.7
10 p. m	5.6	9.1

In a climate having such high temperatures and humidities as shown for Cuba the velocity of the wind and its constancy are of the greatest importance to both comfort and health.

CLOUDS.

But little can be said of the clouds. What Maxwell Hall states relative to the clouds of Jamaica will probably hold good for Cuba:

> During the winter months there is much detached stratus. During the summer months there is much cumulus, which keeps the afternoons cool, especially as the cumuli soon degenerate into strato-cirrus and then disappear, leaving the nights perfectly clear. When rains begins to fall from a large cumulus a quantity of cloud is poured into the air from the top of the cumulus as smoke from a factory chimney. This takes place in all parts of the world when rain falls from a cumulus, but in the temperate zones only a little false cirrus or cirri-form, is thrown off. In Jamaica the process is on a gigantic scale, and the cloud is spread out as a sheet far and wide, so as to shade the land for an hour or two from the direct rays of the afternoon sun. It is, therefore, a common cloud in Jamaica. Its texture at first is thick and woolly, but as it spreads the sheet becomes thinner, * * * and it finally disappears a little after sunset, leaving the evening sky perfectly clear.

STORMS.

Thunderstorms.—Thunderstorms, accompanied with profuse electrical display, are of frequent occurrence; especially is this so during the summer, when they are almost a daily characteristic of the afternoon weather. Very little damage, however, results from either the wind or the lightning.

Hurricanes.—Cuba, in common with the other islands of the West Indies, is occasionally visited by very destructive storms of the class known as tropical hurricanes. Fortunately these storms are of infrequent occurrence, and when they do happen their destructive energy is limited to a relatively narrow region in the course of their path. Experience and statistics both show that these storms are most likely to occur in August, September, and October. The histories of 22 of these phenomena occurring since 1872 have been collected by the Weather Bureau and their paths determined. Of the 22 only 7 crossed or passed through Cuba.

TABLES.

The appended tables have been compiled for the benefit of those who may desire more information regarding the temperature and rainfall at the different places in the island than is given in the text and the tables interspersed therein. In the case of Havana, all the different series of observations are not given, a selection being made of the series, or parts of series, that seemed to be the most trustworthy. In all the other cases the results are given for the entire length of the series, because, as a matter of fact, the alternative of selection could not be exercised.

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TABLE I.—FIRMEZA, CUBA (16 MILES EAST OF SANTIAGO, 6 MILES INLAND). ELEV., 500 FEET.

[MS. furnished by Juragua Mining Company Limited.]

MEAN TEMPERATURE.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
1888	.....	.....	.....	77.9	77.9	80.1	82.1	81.6	79.2	80.2	77.8	76.0	79.2
1889	77.0	81.6	80.6	82.4	81.6	83.4	83.3	82.0	80.6	80.4	79.6	76.3	80.7
1890	77.0	77.3	76.0	75.9	78.0	82.3	82.2	81.6	81.4	82.5	79.8	76.2	79.2
1891	76.9	79.3	79.4	79.3	81.4	82.0	83.4	82.6	82.5	81.0	79.7	77.0	80.4
1892	74.2	72.6	76.2	77.8	78.6	80.6	81.6	81.4	81.4	80.3	79.4	76.4	79.2
1893	76.4	77.7	77.5	79.2	79.4	81.6	83.8	82.2	81.2	80.6	78.6	77.9	79.7
1894	76.6	76.7	76.6	78.3	79.3	81.6	82.2	82.2	81.7	80.8	81.2	77.1	79.5
1895	77.2	75.7	78.3	79.5	80.5	81.7	83.9	83.1	82.2	80.5	79.2	76.3	79.8
1896	76.4	76.9	77.7	81.8	82.5	83.1	83.6	83.5	82.5	81.8	81.6	79.2	80.9
1897	76.2	79.3	81.3	82.1	81.9	83.5	82.9	84.1	83.0	80.1	80.2	79.0	81.1
1898	73.5	76.6	78.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mean	76.1	77.4	78.2	79.4	80.1	82.0	82.9	82.4	81.6	80.8	79.7	77.1	79.8

PRECIPITATION (in inches).

1888	.....	.....	.....	.....	.....	.....	1.61	7.80	19.45	5.19	4.70	1.75	.....
1889	0.04	0.60	10.22	8.86	11.90	2.90	1.35	8.40	21.78	9.38	1.01	0.31	76.75
1890	2.22	0.56	8.58	2.19	6.62	4.25	3.80	4.01	10.78	1.89	9.60	1.34	55.84
1891	2.48	1.10	0.81	9.10	6.43	8.85	2.30	7.15	5.15	13.94	2.61	0.22	60.14
1892	3.18	1.42	0.39	1.40	7.91	1.15	4.43	10.10	4.16	13.98	1.74	1.65	51.51
1893	0.91	1.07	0.86	3.56	9.92	2.38	5.16	11.57	7.23	9.94	5.43	2.50	60.53
1894	0.54	0.15	2.26	2.37	11.79	8.90	2.25	5.04	7.49	12.92	0.60	1.93	56.24
1895	0.13	0.90	0.38	1.71	8.15	5.78	5.92	4.45	8.30	19.20	8.14	0.36	63.42
1896	2.90	4.35	1.62	0.39	7.54	0.48	2.20	9.65	17.07	6.35	0.97	4.70	58.22
1897	0.05	.....	0.77	4.80	11.05	6.80	8.60	2.75	10.10	38.65	5.70	1.30	90.57
1898	0.40	1.83	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mean	1.28	1.33	1.88	3.82	9.04	4.61	3.76	7.09	11.15	12.14	4.05	1.61	61.75

TABLE II.—GUANABACOA, CUBA. LAT., 23° N.; LONG., 82° 20′ W.; ELEV., —— FEET.

[Dove, Nicht period. Aender. Temp., IV. Theil, p. 111.]

MEAN TEMPERATURE.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
1819	.....	.....	.....	.....	.....	.....	81.3	82.1	80.2	79.3	72.0	70.3	.....
1820	71.0	72.8	78.3	76.0	78.7	79.3	.....	.....	.....	.....	.....	.....	.....

TABLE III.—HAVANA, CUBA. LAT., 23° 9′ N.; LONG., 82° 23′ W.; ELEV., 63 FEET.

[Reports, Belen College.]

MEAN TEMPERATURE.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
1888	72.0	72.9	73.6	75.7	78.4	81.1	82.6	84.2	80.8	79.2	75.0	70.5	77.2
1889	72.0	72.3	71.8	76.1	79.0	82.2	83.1	81.9	82.2	77.2	76.6	70.5	77.2
1890	73.4	73.8	72.5	76.2	79.3	82.2	82.6	81.0	79.5	79.0	75.2	70.2	77.0
1891	69.3	73.6	74.1	74.8	77.7	82.8	83.5	82.2	80.8	76.3	74.1	73.0	76.8
1892	69.6	70.7	71.1	77.0	79.3	80.2	81.9	81.5	80.6	77.0	73.2	71.4	76.1
1893	67.5	73.6	74.3	77.9	80.1	81.1	82.6	80.1	79.9	79.2	74.8	71.6	77.1
1894	71.2	72.5	73.2	76.3	77.9	79.8	81.7	82.6	80.4	76.6	74.8	70.7	76.5
1895	70.3	66.9	74.1	75.9	79.9	81.9	83.5	82.2	81.1	78.4	75.4	69.6	76.6
1896	68.7	69.8	72.1	75.4	79.2	82.2	81.9	82.8	81.0	79.3	77.4	71.6	76.8
1897	69.1	73.9	76.1	76.1	77.9	81.3	81.7	82.2	79.0	77.9	76.1	73.8	77.2
Mean	70.3	72.0	73.2	76.1	78.8	81.5	82.4	82.2	80.7	78.1	75.3	71.4	76.8

ABSOLUTE MAXIMUM TEMPERATURE.

1888	82.4	86.4	91.4	87.3	96.3	95.7	95.5	98.6	94.1	91.8	86.0	80.6	98.6
1889	83.1	87.4	84.7	88.5	93.6	96.8	97.7	96.2	93.9	86.4	86.9	80.6	97.7
1890	82.0	87.1	91.4	92.8	97.9	96.4	99.7	92.1	92.5	89.1	84.4	82.8	99.7
1891	80.8	85.8	89.1	90.5	93.7	97.7	100.6	91.8	92.3	87.1	85.1	82.0	100.6
1892	82.0	84.4	89.4	90.1	91.6	94.6	92.8	91.8	93.4	88.3	83.8	83.7	94.6
1893	80.2	87.3	90.1	91.6	95.4	95.7	92.1	93.9	96.6	91.9	84.0	81.7	95.7
1894	83.1	84.9	88.7	86.5	93.2	92.3	95.2	93.9	89.1	86.9	86.7	82.6	95.2
1895	81.4	84.2	87.4	93.6	99.0	95.4	95.2	96.3	89.6	89.4	83.3	82.2	99.0
1896	80.9	83.5	88.2	85.6	93.6	97.3	92.3	90.7	90.1	89.8	88.7	81.5	97.3
1897	79.9	87.6	89.0	87.4	86.4	91.6	91.2	93.2	90.3	89.8	88.2	86.0	93.2

ABSOLUTE MINIMUM TEMPERATURE.

1888	59.4	59.4	62.4	62.8	66.6	69.1	73.2	73.0	72.7	69.1	56.5	55.4	55.4
1889	57.2	60.4	59.4	62.0	64.4	71.4	73.0	72.5	74.1	65.1	64.0	60.6	57.2
1890	63.7	61.9	55.0	65.5	69.8	73.0	72.0	71.2	70.9	61.9	64.8	56.7	55.0
1891	52.3	58.3	60.8	52.9	64.9	72.1	72.3	72.7	71.6	63.3	61.3	62.2	52.3
1892	54.0	59.0	55.0	64.8	68.2	72.1	71.2	72.1	72.5	61.7	61.2	57.7	54.0
1893	53.8	57.9	60.6	60.4	66.7	70.7	72.9	73.4	72.5	71.6	63.1	60.8	53.8
1894	59.0	60.1	60.3	61.5	64.8	70.7	72.1	71.6	72.1	64.8	64.2	51.8	51.8
1895	55.6	51.4	56.8	61.3	70.9	72.7	73.4	72.7	72.7	66.9	62.8	54.9	51.4
1896	51.5	49.6	58.3	64.4	66.2	73.0	73.4	72.7	73.6	69.8	67.1	59.0	49.6
1897	57.2	57.2	59.0	65.5	65.8	71.6	71.6	69.8	72.0	63.7	65.1	60.4	52.2

PRECIPITATION (in inches).

1859	5.81	0.19	0.78	0.40	2.00	2.95	3.70	7.93	3.94	9.92	5.93	1.29	44.84
1860	2.02	3.42	0.55	6.02	1.07	7.88	2.78	6.08	6.47	4.59	0.59	2.98	44.45
1861	0.61	0.59	2.39	2.05	4.43	3.19	4.88	8.39	5.01	7.29	0.63	1.13	40.59
1862	2.00	1.09	2.22	1.17	3.26	9.20	8.42	5.70	4.90	7.87	2.28	3.18	51.29
1863	1.48	0.28	2.70	0.38	10.22	3.20	2.14	7.89	4.61	5.23	2.49	4.48	45.10
1864	4.50	1.43	3.73	2.05	2.59	7.32	5.13	7.09	3.63	5.36	2.33	2.72	47.88
1865	4.88	2.92	2.70	0.07	4.98	1.17	2.55	5.41	7.36	8.80	5.85	0.17	46.86
1866	2.01	2.72	0.57	1.93	1.75	3.72	12.33	4.42	6.81	6.11	2.52	1.06	45.95
1867	2.89	1.16	0.52	1.20	13.95	14.44	6.71	7.19	6.43	10.89	1.47	4.55	71.40
1868	3.22	2.36	1.31	6.60	3.85	2.99	1.95	2.96	5.39	8.71	8.65	1.81	49.80
1869	2.02	2.02	2.10	22.57	2.48	4.83	4.13	4.08	7.04	2.56	0.87	1.09	55.79
1870	1.50	1.62	1.04	2.44	4.70	8.65	8.20	3.15	2.42	9.96	1.88	0.71	46.27
1871	2.09	0.00	0.35	0.06	6.67	3.92	6.65	8.32	15.98	4.65	0.90	4.25	53.84
1872	6.29	1.86	1.06	0.19	2.94	1.46	4.08	6.38	8.50	7.14	4.01	3.97	47.88
1873	5.32	9.41	1.02	4.92	2.38	4.76	1.15	4.52	6.88	6.81	1.62	2.68	51.47
1874	1.64	1.30	0.11	1.72	2.31	15.25	4.96	6.64	5.92	9.34	1.34	2.65	53.18
1875	1.72	4.09	1.07	4.18	2.89	1.24	2.36	10.60	10.02	3.41	0.47	0.26	42.31
1885	2.16	5.54	1.42	1.55	6.35	8.03	0.64	4.52	6.00	7.60	1.92	2.44	48.17
1886	2.69	1.09	0.73	8.07	3.06	12.62	15.06	10.03	4.52	5.26	0.73	0.67	64.53
1887	3.33	0.01	3.52	2.69	0.68	15.19	3.21	5.12	2.44	6.42	3.50	3.22	49.33
1888	0.02	3.07	1.56	0.82	13.58	7.92	4.17	1.45	6.47	3.96	7.47	3.02	53.51
1889	5.77	4.37	5.05	2.58	1.16	9.30	5.24	9.36	3.31	8.50	3.91	1.48	59.73
1890	0.52	0.66	0.54	0.06	17.51	1.50	7.13	5.25	12.27	2.00	7.94	1.18	56.56
1891	3.45	1.80	5.05	1.98	1.58	3.14	6.16	8.72	5.50	14.50	5.19	1.46	58.53
1892	0.90	1.24	1.70	0.02	1.27	17.56	5.03	5.75	9.24	11.91	2.35	1.33	58.30
1893	4.21	0.26	0.56	1.12	5.79	10.67	4.64	7.18	3.15	13.31	4.14	5.56	60.59
1894	0.46	1.26	2.42	0.78	2.60	6.78	5.11	2.40	10.26	13.53	4.17	0.94	50.71
1895	0.45	5.05	1.31	1.85	4.92	3.76	4.33	4.65	13.57	12.47	2.16	1.33	55.85
1896	1.11	6.22	3.69	0.00	2.70	16.91	3.10	3.88	5.73	1.47	3.53	2.72	51.06
1897	6.31	1.23	3.22	5.67	0.33	5.26	5.93	5.72	7.61	3.13	1.45	0.30	46.21
Mean	2.71	2.27	1.83	2.83	4.47	7.16	5.06	6.02	6.71	7.42	3.08	2.15	51.73

TABLE III.—HAVANA, CUBA. LAT., 23° 9′ N.; LONG., 82° 23′ W.; ELEV., 63 FEET—Continued.

NUMBER OF DAYS ON WHICH RAIN FELL.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
1863	11	7	8	2	16	5	10	10	17	15	13	9	123
1864	12	6	7	4	6	11	14	12	7	10	8	7	104
1865	7	6	6	2	11	7	9	10	20	17	11	3	109
1866	8	6	5	3	4	15	20	11	16	9	7	4	108
1867	6	3	5	5	10	20	15	19	16	17	4	4	124
1868	5	5	4	7	6	13	9	9	10	19	13	14	114
1869	6	5	4	6	6	9	16	14	14	7	6	11	104
1870	4	8	3	6	7	11	9	9	11	20	5	9	102
1871	4	0	1	2	12	9	9	15	17	16	6	8	99
1872	9	7	6	3	6	4	7	12	14	12	16	10	106
1873	12	2	7	4	8	11	11	11	12	14	8	9	109
1874	6	5	2	7	8	18	15	12	15	15	12	7	102
1875	4	5	2	9	12	9	13	12	16	12	5	2	101
1885	10	13	8	6	19	14	10	11	18	19	8	12	148
1886	11	8	7	9	4	13	19	13	12	18	9	8	131
1887	6	1	9	6	7	21	13	15	18	16	10	13	135
1888	1	9	6	4	14	18	12	13	17	11	14	7	126
1889	12	9	10	4	3	13	14	21	11	12	9	11	129
1890	9	3	3	3	16	7	14	16	18	13	18	6	126
1891	7	2	6	5	8	11	13	13	19	21	13	9	127
1892	9	6	7	1	6	20	12	13	16	21	9	4	124
1893	14	5	3	5	11	19	12	16	18	22	8	16	149
1894	6	5	9	1	10	16	14	9	15	19	14	11	129
1895	4	9	3	6	14	12	11	11	13	14	15	8	120
1896	7	11	8	0	8	16	12	11	15	13	11	12	124
1897	6	3	4	9	9	11	16	10	25	10	12	6	121
Mean	7.5	5.7	5.5	4.6	9.3	12.8	12.7	12.6	15.4	15.1	10.2	8.5	119.9

TABLE IV.—MATANZAS, CUBA. LAT., 23° 2′ N.; LONG., 81° 36′ W.; ELEV., —— FEET.

[A. Mallory, American Jnl. Sc., vols. 26 and 31.]

MEAN TEMPERATURE.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
1832	.....	.....	.....	.....	.....	.....	.....	83.0	83.3	80.5	77.8	76.7	.....
1833	74.8	75.7	77.0	82.0	81.5	83.8	82.2	.....	.....	.....	.....	.....	.....
1835	72.3	68.5	74.5	78.5	80.0	80.4	80.8	81.2	81.0	77.1	77.7	72.7	77.1
Mean	73.6	72.1	75.8	80.2	80.8	82.1	81.5	82.1	82.1	78.8	77.8	74.7	.....

ABSOLUTE MAXIMUM.

1832	.....	.....	.....	.....	.....	.....	.....	90	88	88	84	84	.....
1833	84	84	88	90	90	90	90	.....	.....	.....	.....	.....	.....
1835	86	84	89	90	93	90	90	90	90	86	86	82	.....

ABSOLUTE MINIMUM.

1832	.....	.....	.....	.....	.....	.....	.....	76	76	71	68	64	.....
1833	62	66	58	71	70	76	75	.....	.....	.....	.....	.....	.....
1835	58	51	58	57	68	73	73	74	74	63	64	55	.....

PRECIPITATION (in inches).

1835	3.18	0.77	0.63	1.92	2.32	5.35	9.57	11.50	7.80	7.47	3.38	1.40	55.29

TABLE V.—SAN FERNANDO MINES, CUBA. LAT., 22° 22′ N.; LONG., 80° 9′ W.; ELEV., 554 FEET.

[Silliman's Journal, vol. 42, p. 292.]

MEAN TEMPERATURE.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
1839	69.9	71.4	73.2	74.6	77.9	78.9	80.5	79.6	78.6	75.9	72.7	67.9	75.0
1840	74.9	70.5	73.5	78.1	78.0	82.4	.....	.....	.....	.....	.....	.....	.....

ABSOLUTE MAXIMUM TEMPERATURE.

1839	78	78	82	83	85	85	86	87	86	81	80	77	87
1840	78	87	79	82	85	92	.....	.....	.....	.....	.....	.....	.....

ABSOLUTE MINIMUM TEMPERATURE.

1839	57	57	62	64	71	72	71	71	68	70	65	51	51
1840	60	60	65	70	73	71	.....	.....	.....	.....	.....	.....	.....

PRECIPITATION (in inches).

1840	2.74	0.59	2.49	2.09	20.28	14.56	.....	.....	.....	.....	.....	.....	.....

TABLE VI.—SANTIAGO DE CUBA, CUBA. LAT., 19° 55′ N.; LONG., 75° 50′ W.; ELEV., 8 FEET.

[MS. Weather Bureau.]

MEAN TEMPERATURE.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
1874	.....	.....	78.0	80.6	79.3	82.4	82.4	82.1	79.9	80.3	77.2	75.5	.....
1875	74.8	76.7	77.5	78.3	79.5	80.3	81.4	82.1	81.4	79.6	79.3	76.9	.....
1880	77.0	.....	.....	.....	79.1	83.1	83.7	82.0	79.7	81.5	81.0	77.2	.....
1881	77.3	77.0	77.8	80.8	80.6	.....	.....	83.2	81.8	81.0	79.5	78.1	.....
1882	77.3	77.0	77.5	80.3	81.2	83.5	83.1	.....	.....	.....	.....	.....	.....
Mean	76.6	76.9	77.7	80.0	79.9	82.3	82.6	82.4	80.7	80.6	79.2	76.9	79.6

PRECIPITATION.

1881	.....	.....	.....	.....	.....	.....	.....	5.20	8.96	3.90	2.36	1.77	.....
1882	0.51	0.76	1.70	2.41	4.53	0.48	1.24	.....	.....	.....	.....	.....	.....

TABLE VII.—UBAJAY (15 miles SW. of Havana), CUBA. ELEV., 242 FEET.

[Humboldt, Island of Cuba, N. Y., 1856, p. 161.]

MEAN TEMPERATURE.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
1796	65	72	71	74	78	80	82	83	81	78	75	63	75.2
1797	64	66	64	68	77	81	80	84	82	76	70	68	73.2
1798	68	69	68	70	73	83	85	82	80	80	71	60	74.2
1799	61	63	64	68	76	85	87	84	86	73	61	59	71.4
Mean	64.5	67.5	66.8	70.0	76.0	82.2	83.5	83.2	82.0	76.5	69.2	62.2	73.5

TEMPERATURE, RAINFALL, AND HUMIDITY AT SAN JUAN, PORTO RICO.

By W. F. R. Phillips, in charge Section of Climatology.

San Juan is situated in latitude 18° 27′ north, and longitude 66° 7′ west, on a small island on the coast of Porto Rico.

Meteorological observations have been made at San Juan for a number of years, but the series of reports to be found in the library of the Weather Bureau is very much broken. However, from such reports as have been found the data in the subjoined tables have been compiled. The observations were made under the auspices of the "Jefatura de Obras Públicas de la Isla de Puerto Rico."

It is impossible to state either how accurately the data represent the meteorological conditions prevailing in the island, or how much dependence is to be placed on the accuracy of the instrumental readings themselves.

San Juan, Porto Rico. Lat. 18° 27′ N., Long. 66° 7′ W.; Elev. —— Feet.

MEAN TEMPERATURE.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
1876	.....	.....	.....	.....	.....	.....	.....	83.8	83.1	82.9	81.1	80.4	.....
1877	79.0	78.1	79.5	81.7	84.6	84.0	84.4	85.5	84.7	84.7	82.2	80.2	82.4
1878	79.3	81.0	81.0	82.0	84.6	86.0	85.6	85.6	84.6	84.0	81.9	79.9	82.9
1879	78.6	78.2	78.8	80.8	81.7	83.7	84.9	83.8	81.0	79.3	77.4	73.8	80.2
1880	73.4	72.3	74.8	73.4	79.2	81.1	81.7	82.4	82.0	81.3	80.2	77.7	78.2
1881	77.4	75.9	77.7	79.5	80.6	81.7	81.8	82.0	82.2	.....	.....	.....	.....
1884	.....	.....	.....	.....	.....	82.4	81.7	.....	.....	.....	.....	.....	.....
1888	.....	.....	.....	.....	77.4	79.2	80.8	80.6	80.6	80.8	79.9	78.8	78.1
1889	76.8	77.2	77.7	.....	.....	.....	.....	80.6	79.7	80.6	.....	75.6	79.2
1890	74.5	.....	74.5	.....	77.0	.....	.....	.....	.....	.....	.....	.....	76.8
1891	82.4	.....	74.7	.....	77.4	78.8	79.5	79.2	80.1	80.1	77.9	74.8	78.4
1892	73.8	72.7	74.3	74.1	76.1	77.2	78.4	78.4	.....	76.3	72.7	72.3	.....
1893	.....	.....	.....	.....	.....	.....	79.0	.....	.....	.....	.....	.....	.....
1894	.....	.....	.....	.....	.....	.....	.....	.....	76.6	76.6	.....	71.6	73.6
1895	70.0	71.0	72.9	74.1	74.5	.....	76.1	76.8	76.8	.....	.....	.....	.....
Mean	76.6	75.7	76.6	77.9	79.3	81.5	81.1	81.3	81.0	80.6	79.2	76.5	78.9

ABSOLUTE MAXIMUM TEMPERATURE.

1876	.....	.....	.....	.....	.....	.....	.....	93.6	92.5	92.5	92.5	91.4	.....
1877	89.0	88.5	93.2	95.0	98.1	95.4	95.0	95.4	94.8	97.9	99.1	92.5	.....
1878	90.3	92.5	95.4	95.0	100.8	99.3	96.4	99.0	96.8	96.1	93.9	89.6	.....
1879	87.1	90.3	90.0	93.2	93.9	97.2	96.8	97.2	92.1	90.0	87.1	82.8	.....
1880	82.4	81.0	89.6	90.3	93.2	90.0	92.1	92.1	91.4	93.2	92.8	94.6	.....
1881	90.0	88.2	91.0	93.2	96.1	92.5	93.9	94.3	95.4	.....	.....	.....	.....
1884	.....	.....	.....	.....	.....	97.2	94.3	.....	.....	.....	.....	.....	.....
1888	.....	.....	.....	.....	87.1	88.2	88.5	89.2	89.6	89.6	90.3	90.3	90.3
1889	88.5	87.8	90.0	.....	.....	92.1	.....	89.6	90.3	90.3	.....	84.2	92.1
1890	.....	.....	.....	.....	.....	89.6	.....	.....	.....	.....	.....	.....	89.6
1891	90.7	.....	88.9	.....	89.6	91.0	87.4	88.2	89.2	90.3	90.3	89.6	91.0
1892	93.2	91.4	87.1	83.1	86.0	86.0	87.1	90.0	.....	90.0	87.4	86.0	.....
1893	.....	.....	.....	.....	.....	.....	87.1	.....	.....	.....	.....	.....	.....
1894	.....	.....	.....	.....	.....	.....	.....	87.8	88.2	91.8	.....	87.1	91.8
1895	83.5	.....	84.7	90.7	92.1	.....	86.0	86.4	88.7	.....	.....	.....	.....

SAN JUAN, PUERTO RICO. LAT. 18° 27′ N., LONG. 66° 7′ W.; ELEV. —— FEET—Continued.

ABSOLUTE MINIMUM TEMPERATURE.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
1876	.....	.....	.....	.....	.....	.....	.....	74.5	73.4	73.0	72.3	70.5	.....
1877	69.1	68.7	68.0	72.0	72.7	72.7	74.1	76.3	74.8	75.2	71.2	65.8	.....
1878	69.4	70.2	70.9	71.6	73.8	75.2	71.6	74.5	75.2	72.3	72.7	69.1	.....
1879	65.5	64.8	69.1	70.9	70.9	72.7	72.3	72.3	69.1	69.8	68.0	64.8	.....
1880	64.8	63.0	66.2	67.3	69.4	66.2	69.1	71.6	70.5	70.9	70.2	66.6	.....
1881	65.1	64.4	64.8	66.2	69.1	72.0	66.9	67.3	67.3	.....	.....	.....	.....
1884	.....	.....	.....	.....	.....	70.9	70.5	.....	.....	.....	.....	.....	.....
1888	.....	.....	62.6	.....	66.6	71.2	73.0	69.8	72.3	71.6	69.8	68.7	62.6
1889	65.5	65.8	65.3	.....	.....	.....	.....	71.6	70.5	71.6	.....	66.6	65.3
1890	65.5	.....	63.3	.....	69.1	.....	.....	.....	.....	.....	.....	.....	63.3
1891	65.1	.....	63.7	.....	67.6	64.8	70.9	70.2	69.8	69.8	67.3	62.2	63.7
1892	63.3	61.2	64.4	64.8	64.4	65.1	68.0	64.8	.....	61.2	59.4	56.1	.....
1893	.....	.....	.....	.....	.....	.....	64.0	.....	.....	.....	.....	.....	.....
1894	57.2	.....	.....	.....	.....	.....	.....	64.0	64.0	62.2	.....	57.9	57.2
1895	57.6	58.3	60.1	60.8	62.6	.....	65.3	65.5	65.1	.....	.....	.....	.....

PRECIPITATION (in inches).

1876	.....	.....	.....	.....	.....	.....	.....	4.29	10.00	3.11	7.50	3.20	.....
1877	3.21	5.26	2.60	7.60	1.05	7.32	8.88	3.25	4.68	9.63	6.53	6.34	66.35
1878	2.78	1.59	12.40	4.10	10.26	8.17	11.58	5.53	5.39	11.98	6.84	2.02	82.64
1879	3.50	1.45	4.31	11.78	12.25	8.91	5.76	8.39	3.77	4.46	11.73	3.51	79.82
1880	2.59	1.98	0.51	1.61	8.23	5.45	5.25	5.59	3.52	1.97	6.84	2.25	45.79
1881	1.07	2.16	0.41	3.72	5.74	7.00	6.20	5.82	9.54	.....	.....	.....	.....
1884	.....	.....	.....	.....	.....	4.43	4.35	.....	.....	.....	.....	.....	.....
1888	.....	.....	.....	.....	3.88	5.32	2.48	6.53	7.73	4.64	3.40	5.51	48.81
1889	2.35	1.30	1.10	.....	.....	.....	.....	6.22	7.41	4.68	.....	4.50	63.18
1890	8.60	.....	2.68	.....	1.90	.....	.....	.....	.....	.....	.....	.....	50.90
1891	1.38	.....	0.29	.....	4.91	4.62	4.81	17.07	4.00	8.81	10.90	4.28	64.63
1892	1.89	0.35	1.00	2.10	9.10	2.34	5.56	4.28	.....	2.96	7.24	1.90	.....
1894	.....	.....	.....	.....	.....	.....	.....	4.50	5.20	3.29	.....	5.28	48.31
1895	2.92	0.70	1.39	7.37	6.43	.....	3.30	3.04	2.91	.....	.....	.....	.....
Mean	2.28	1.80	2.67	5.35	6.38	5.96	5.82	6.21	5.83	5.63	7.62	3.88	59.45

RELATIVE HUMIDITY (percentage).

1876	.....	.....	.....	.....	.....	.....	.....	81	81	79	80	78	.....
1877	80	82	77	75	72	78	81	77	79	77	81	80	.....
1878	78	74	76	74	76	77	79	78	78	80	82	78	.....
1879	80	80	76	73	72	71	67	72	68	72	77	71	.....
1880	73	70	74	79	85	79	75	75	88	76	83	85	.....
1881	80	74	65	83	80	86	79	75	77	.....	.....	.....	.....
1888	.....	.....	.....	.....	80	84	82	81	82	83	85	82	.....
1889	88	83	77	.....	.....	.....	.....	83	79	78	.....	73	.....
1890	73	.....	74	.....	72	.....	.....	.....	.....	.....	.....	.....	.....
1891	73	.....	73	.....	74	78	78	83	77	79	81	76	.....
1892	75	74	73	75	78	80	76	77	.....	84	81	74	.....
1893	.....	.....	.....	.....	.....	.....	79	.....	.....	.....	.....	.....	.....
1894	.....	.....	.....	68	72	.....	.....	72	75	72	.....	75	.....
1895	72	70	70	71	75	.....	73	74	75	.....	.....	.....	.....

WEATHER OF MANILA.

By W. F. R. PHILLIPS, in charge Section of Climatology

Manila, the capital and chief port of the Philippine Islands, is situated in latitude 14° 35′ north, and in longitude 121° east of Greenwich.

Meteorological observations have been made for many years at the Observatorio Meteorologico de Manila. Observations of rainfall for thirty-two consecutive years and of the other meteorological elements for seventeen consecutive years have been published by the observatory.

Temperature.—The average temperature of the year is 80° F. The months of April, May, and June are the hottest part of the year. May, with an average temperature of 84° F., is the hottest of the three. December and January are the coolest months, each with an average temperature of 77° F. The highest thermometer reading recorded is 100° F; this was observed in May. The lowest reading recorded is 74°, and was observed in January.

Humidity.—The average relative humidity is 78 per cent. That of the most humid month, which is September, is 85 per cent, and that of the least humid month, which is April, is 70 per cent. The average absolute humidity is 8.75 grains in a cubic foot. It is greatest in August and least in February.

Rainfall.—The average annual rainfall is 75.43 inches. The greater part of the rain falls from June to October, the average being 50.74 inches, or something more than 80 per cent of the amount for the year. September has the largest average fall, 15.01 inches, and February the smallest average fall, 0.47 inches. The heaviest rainfall in any one month was 61.43 inches, in September, and sometimes no rain at all has fallen in February, March, April, and May. Departures from the average rainfall are in some instances remarkable. For example, as much as 120.98 inches have fallen in one year, and as little as 35.65 inches in another. Still more remarkable was the fall of 61.43 inches in one September, and that of only 2 inches in another September.

The following table, compiled from the reports of the Observatorio de Manila, shows in concise form the more important elements of the climate:

TEMPERATURE, RAINFALL, ETC., AT MANILA.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
Temperature (degrees F.):													
Mean monthly	77	78	81	83	84	82	81	81	81	80	79	77	80
Warmest month	79	81	82	85	87	85	82	82	82	82	81	80	82
Coolest month	74	76	79	81	82	81	79	80	79	79	77	75	79
Highest	91	96	96	99	100	98	95	94	94	95	94	92	100
Lowest	60	61	65	66	71	70	70	69	71	69	63	60	60
Humidity:													
Relative, per cent	77	73	71	70	75	80	84	84	85	82	80	80	78
Absolute, grains per cu. ft.	7.75	7.60	7.90	8.42	9.27	9.39	9.33	9.53	9.33	9.24	8.59	8.06	8.75
Wind movement in miles:													
Daily mean	98	115	132	145	144	138	182	165	192	111	94	93	134
Greatest daily	152	187	220	229	236	361	267	264	282	196	164	153	204
Least daily	66	72	82	92	68	96	110	79	69	48	67	59	95
Prevailing wind direction	NE.	E.	E.	SE.	SE.	SE.	SW.	SW.	SW.	NE.	NE.	NE.	.....
Cloudiness, per cent	45	37	35	32	47	65	74	68	72	58	54	53	53
Days with rain	4.3	2.2	3.4	3.5	9.2	15.4	22.1	19.8	20.7	14.4	11.3	8.4	135
Rainfall, in inches:													
Mean monthly	1.15	0.47	0.65	1.11	4.30	9.68	14.70	13.88	15.01	7.47	4.92	2.09	75.43
Greatest monthly	7.59	1.97	3.94	5.37	10.11	25.81	29.71	43.20	61.43	23.65	15.27	13.67	120.98
Least monthly	0.02	0.00	0.00	0.00	0.00	0.98	5.28	5.15	2.00	0.90	1.17	0.01	35.65

Rainfall record for 32 years, 1865–1896; remaining data for 17 years, 1880–1896.

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METEOROLOGIC WAVES.

By H. A. HAZEN, Professor, Weather Bureau.

If it were possible to establish the existence of definite waves or periodic motions in the atmosphere or in meteorologic elements, it would confer a very great advantage in all attempts of weather prophecy. If it could be shown that there is an invariable connection between temperature and pressure waves, the existence of clouds, the fall of rain, the velocity of the wind, and so on, it would be a great step in advance and would give us an easy means of correlating phenomena which can be studied at present only on separate maps and at a great disadvantage. The following discussion is advanced as preliminary to a more exhaustive study of the problem.

At the outset one of the more serious difficulties we shall meet with will be a peculiar theory held by some that there are rather sudden reversals in some, if not in all, meteorologic phenomena. For example, the waves of temperature may succeed each other according to a certain definite law for some time, when rather suddenly they will be reversed, and where we would naturally expect a warm wave we find it grows cold unexpectedly, and vice versa. This question should be most carefully studied and a perfectly clear idea of such reversals, if there be any, should be gained.

The earliest definite notion of such reversals is to be found in a book of 310 pages, published in 1857 by William H. B. Webster, surgeon, royal navy. The following quotations must suffice us, though the whole book bristles with this theory of a reversal in meteorologic waves. He says: "I searched every work I could find, and from 1800 to 1856 found that all the observations gave the same result, but varying slightly in the number only of the recurring monthly periods. But I was puzzled with the discordances between what I expected and what I found, for I perceived reverse occurrences." Again, at page 129: "We can not discern the cause of the alternating or reverse series, and say why February 15 should be the warmest day, while March 13, which is its recurring period, should be the coldest, and even 70 degrees colder than February 15, and again on July 10 and August 10. And yet in these strange reverses the law of recurring periods holds its sway, and is the rule." The last quotation will be taken from page 268: "The first imperfection (in this study of periods) is the frequent appearance of the reverse state or condition of the recurring period."

Since the time of this book there have been many others who have announced the same views of reversals in their studies of waves in the atmosphere. In one case a strong attempt to forecast temperature for a week in advance, which was strenuously maintained for nearly two years, was finally abandoned on precisely this same ground, that there were rather sudden reversals in the onward advance of temperature waves which caused a warm wave to appear just at the time when a cold spell had been predicted, and vice versa.

It seems quite evident that if there is some outside force, or source of energy of cosmic origin in our atmospheric waves, it must invariably act in the same direction or continuously. For example, if in the rotation of the sun we find certain meridians which appear to cool off the earth or swing the magnetic needle in a certain direction, then we must consider that, so far as the sun is concerned, that meridian must always produce the same effect. If we are forced to adopt any other hypothesis we must virtually throw overboard the whole idea of a certain definite cosmic influence upon the earth from the sun, or, at least, we must abandon the opinion that there is any cosmic source of energy affecting alike the earth and the corresponding meridian of the sun turned toward

the earth. It is unthinkable that the force which swings the needle of the horizontal force magnet to a certain definite degree is not always acting in the same degree whenever the needle gives the same indication. If we have reason to think that there is a cosmic influence in producing our cold waves and that we have ascertained a probable law of such influence, and if we then apply the law and find an exact reversal at any time, it would be much the fairer judgment to say that we have not found the law than that there is any reversal in the cosmic influence. This conclusion is forcibly borne out when we come to study the observations themselves. For such a study the United States presents a most satisfactory series of observations taken for twenty-seven years, if we can only assemble them in proper array.

Let us consider the question of temperature waves and their recurrence in any definite period. When we project the whole series at any one station, or the mean of a dozen contiguous stations, in the form of curves, we find rather regular fluctuations or wave crests and hollows, some of them quite marked and with considerable uniformity in intervals between them. Now we may draw a free-hand curve through these "ups and downs," smoothing out the minor changes, or, much more rigidly, we may take the mean of five consecutive observations and thus smooth the curve. The records for the [colder] months, September to April, were selected as exhibiting the more prominent waves of heat and cold.

In the 6,478 days considered there were found exactly 500 recurrences of the crests of the larger waves. This gives an average interval of 12.956 days for these waves. If we assign a period of 12.956 days for these periods we shall obtain the nearest approach to a normal wave condition that is possible from the data, and we may compare these normal waves directly with the fluctuations themselves. The best way to do this will be to draw a series of normal temperature curves having the above interval, and after that compare them directly with the curves projected from the observations. In such comparison, however, it is very essential that we do not coax the crests in any manner, or, in other words, we must not consider that a variation from the normal crest of a whole day is negligible. This is a most unfortunate tendency, which must be invariably guarded against or it will serve to vitiate all the deductions to be made from such comparison.

For the present we will consider of less importance a comparison between the depth of the normal and actual waves, though it is evident that in a rigid analysis such consideration is quite essential. We find 245 wave crests that were direct coincidences and 217 apparent reversals in the whole series for twenty-seven years. In no case, however, did a direct reversal follow upon a coincidence, but there was a slight interval without coincidence before the reversal. This may be best shown by a concrete example (see Diagram I). The question may arise as to the completeness of this study in settling the question of nonreversal. Why should we consider the normal crests 12.956 days apart superior to all other waves? A little reflection will show that if the period of these normal wave crests is fairly uniform through the twenty-seven years no other intervals can be so satisfactory for determining a recurring period. In order to make the normal curve slightly more uniform with that for any one year we may take a little shorter time than the twenty-seven years, say for eight months, but on comparing normal wave crests obtained in this way we shall find precisely the same effects as those noted above; that is, there will be first a coincidence for a few crests, then a lack of coincidence, and finally an exact noncoincidence or reversal.

We may arrive at the same result by a consideration of the source of these waves of heat and cold. A very slight part of the cold wave is due to the direct radiation of heat to the sky each night, but this is purely a secondary effect, as the presence of the high area, with its clear sky and dry air, permits the radiation. In the last analysis, then, we must consider that these waves of heat and cold are entirely due to the onward advance of low and high areas of air pressure. Now, if it can be shown that there is an exact correspondence between a wave of high pressure and a wave of low temperature, we must conclude that if there were a uniform velocity of progression of these conditions there would be an exact correspondence between the actual and normal wave crests and hollows. If the velocity of the high area increases, the hollow of the cold wave will come earlier than the normal, and in a very few days there will be an exact noncoincidence or reversal.

After such lack of coincidence the high area assumes its previous velocity, and hence it is

easy to see why the reversal should persist. The sequences in the whole phenomenon are as follows: The general tendency of all high and low areas is to appear to move with a rather uniform velocity at each season; that is, in winter about 30 miles an hour and in summer at 23 miles an hour. Now, this average velocity does not continue for any great length of time, but may be increased or diminished for a short period only to resume again the average apparent motion.

Diagram II shows the marked coincidence between temperature and pressure waves in the Missouri Valley. The colder months were taken as giving more marked fluctuations. Each point on each curve shows the mean pressure or temperature of all the stations in the district. The coincidences in the curves are very remarkable, though it is not desired to imply a necessary relationship between the phenomena. In order to make comparison more easy the pressure curve has been reversed; that is, the lower crests of the pressure curve are the maximum points in it, and vice versa. The same facts have been learned from an enormous number of curves of a similar character, and the evidence is overwhelming that in the winter season in the Missouri Valley changes of air pressure and changes in temperature are concomitant phenomena. When we extend the inquiry to other parts of the country south and east of the Missouri Valley, we do not find the same accordance between these phenomena as has just appeared, and this may serve to show a lack of direct relationship; but that demands a separate investigation.

The easiest way to study these temperature waves is to project individual observations in curves for each station of the northern hemisphere and compare the curves with each other. Such an investigation was made in 1883. (See Science, February 8, 1884, p. 150.) One of the more remarkable facts brought out by this earlier study was the persistence of these temperature waves. It was possible to follow 16 of them along the sixty-fifth parallel from St. Michaels, in Alaska, to Turuckhansk, in Siberia, over 7,500 miles, giving an average velocity of 15.8 miles an hour for 19.8 days.

It is impossible to consider that accidental effects from insolation and terrestrial radiation of heat to clear skies can alone produce such persistent conditions. We are confronted in this by a most remarkable condition and one that can be elucidated only by a knowledge of the constitution of these lows and highs. Even if we could assume that differences in temperature conditions are due to variations in insolation, amount of clouds, and so on, we would still be utterly unable to account for the apparent heaping up of the air in our highs and the lowering of the air mass in our lows. It is generally conceded by all meteorologists to-day that the temperature conditions are not responsible for these highs and lows, though for nearly fifty years it was a favorite theory.

It would appear a good working hypothesis that our waves of high and low pressure are in the nature of fields of positive and negative electricity in the atmosphere. Our electrometers indicate positive electricity in a high and negative in a low or when rain is falling. Lord Kelvin has also advanced the view that electric fields may cause a disturbance of equilibrium in the atmosphere fully equal to that produced in our highs and lows. The evidence is accumulating that we have to deal here with some form of electric action. It would certainly seem a wise plan to obtain an idea of electric conditions in our highs and lows on mountains and in balloons, or possibly by kites.

Now, as to the modifying effect upon our highs and lows by some cosmic or extraterrestrial influence, it seems safe to assume that such influence must be practically instantaneous over the whole earth. We can not say that this will be strong in one part of the world and very much less elsewhere, except as there may be a certain reciprocal action in the earth itself. Such cosmic influence must be felt all along upon every high and low in the world. If we say that a certain meridian of the sun will produce cold or tend to cool highs and lows, then when that meridian is in its proper place it will show its influence by cooling every high and every low on the earth. We can not say that such specific influence can be localized. The evidence seems quite strong that there is no such universal cooling or heating. Why may it not be possible that the electricity of highs and lows is affected by cosmic energy, and changes in temperature and pressure are secondary?

In order to correlate clouds with temperature the whole country east of the one hundred and fifth meridian was divided into four equal portions by the parallel of 40° and the ninetieth meridian. Then the relative clouded surface in each of these four portions was determined both a. m. and p. m. These results will form most valuable data for comparing cloudiness with remaining elements. These have been projected for the northwest portion in Diagram III. The tempera-

ture curve in this diagram is made up by taking a mean of all the temperatures observed a. m. and p. m. in the Missouri Valley for each day. The clouds are projected directly from the table above determined. We see a most wonderful accordance between the waves of clouds and waves of temperature. A maximum of temperature coincides with a maximum of clouds, and this serves to bear out all the more closely the view just expressed that direct insolation has little if anything to do with the high temperature of our lows, because when the clouds are most abundant, thus tending to shield from the sun, the temperature is highest.

This also emphasizes the fact that in our highs, where the sky is almost perfectly clear and dry, insolation has slight effect as compared with its effect in a low. This is a remarkable fact and one that can not be explained at all on the theory that our lows are dependent on solar radiations and our highs on the absence of them. Some have thought that insolation is really greater in our highs, but it is more than balanced by a descent of cooler air from above; still others believe that air so descending would be heated 1° F. in each 182 feet of descent and would reach the earth very much heated. It would certainly be of some use if we could ascertain whether insolation is really greater in the clear dry air of a high. This could be done approximately at least by use of so-called actinometers. The United States presents a grand field for such research, as no effects like those in this country have ever been observed in highs in Europe, where only the actinometer has ever been observed.

A final comparison will now be instituted between clouds in the northwest portion of the country and the mean wind velocity in the Missouri Valley. In this case, as also in that of clouds and temperature, an exact comparison of the two elements can not be hoped for, for the reason that the cloud area measured covered a larger territory than the Missouri Valley, whose temperature and wind were accurately computed from the observed readings. In a more complete analysis all difficulty of this kind could be obviated by dividing the whole country east of the one hundred and fifth meridian into four, six, or nine equal portions and arranging the stations exactly in these portions. This would greatly facilitate comparison of data in different parts of the country, would give us valuable information as to the march of weather conditions from west to east, and would seem far preferable to the present cumbrous arrangement according to districts.

On examining Diagram IV we see a fair agreement between the crests and hollows of the two curves.

CONCLUSIONS.

1. Waves of pressure and temperature exhibit exactly opposite phases, especially in the extreme Northwest or in the Missouri Valley.

2. Waves of pressure can not be produced by ordinary heat radiating from the sun.

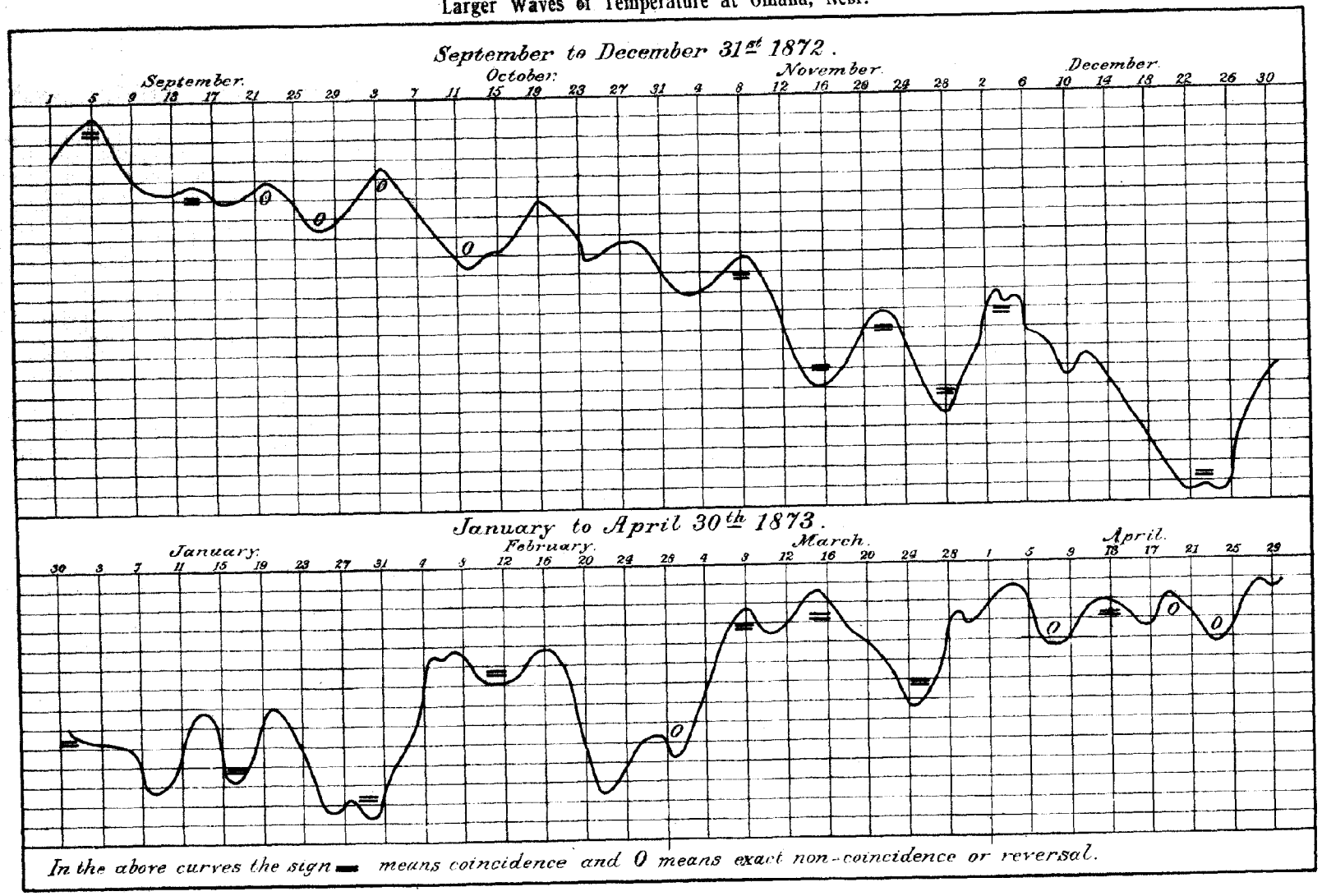
3. These may be regarded, for a working hypothesis, as fields of positive and negative electricity.

4. Waves of clouds correspond with those of heat and are opposite those of pressure; that is, an abundance of clouds occurs with high temperature, and vice versa.

5. Waves of clouds and wind velocity seem to correspond in their maximum and minimum points. These are but a few of the generalizations that may be made from the abundant data at hand in this country. This would seem a very promising field for further research.

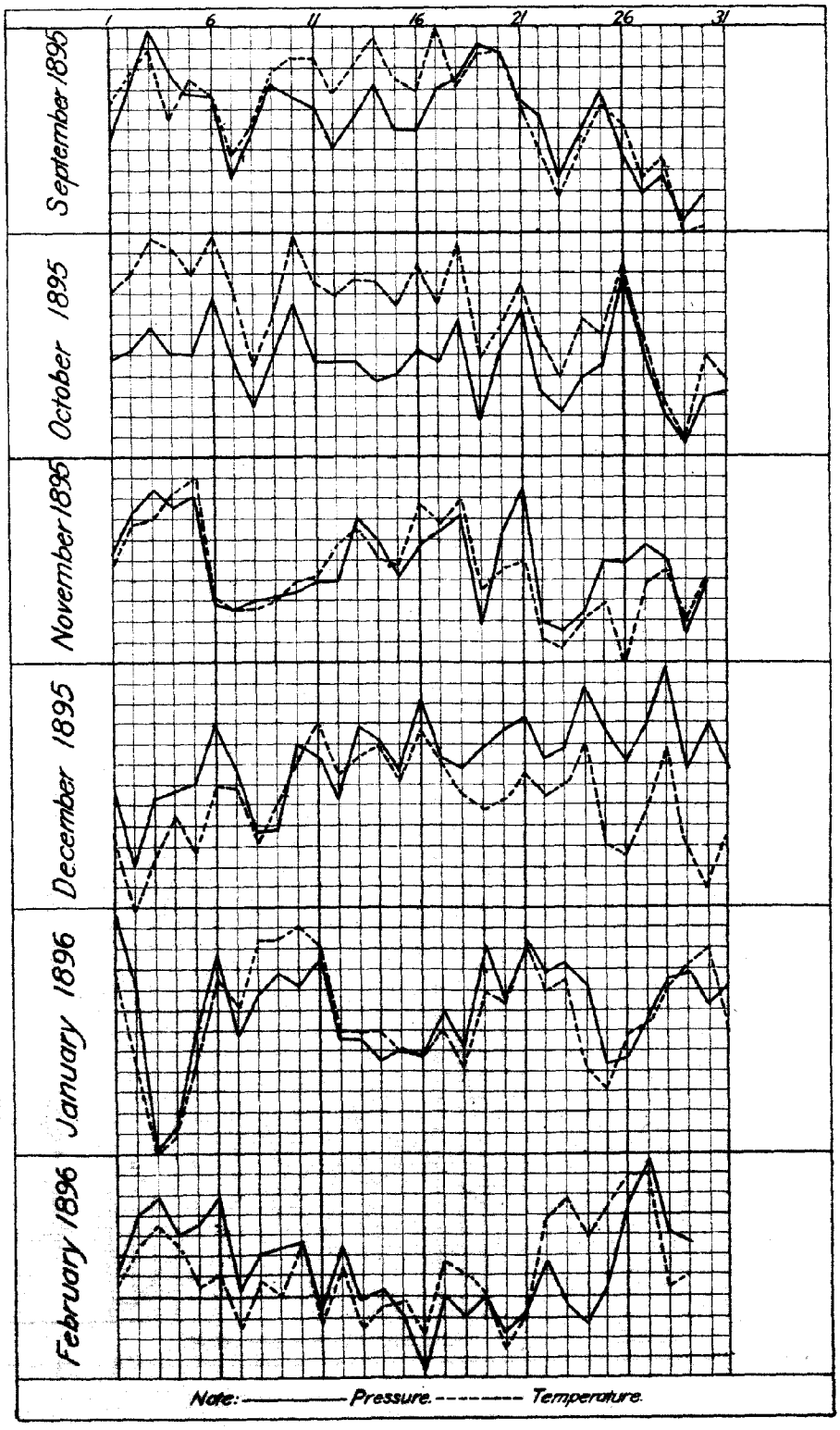
Diagram I.

Larger Waves of Temperature at Omaha, Nebr.

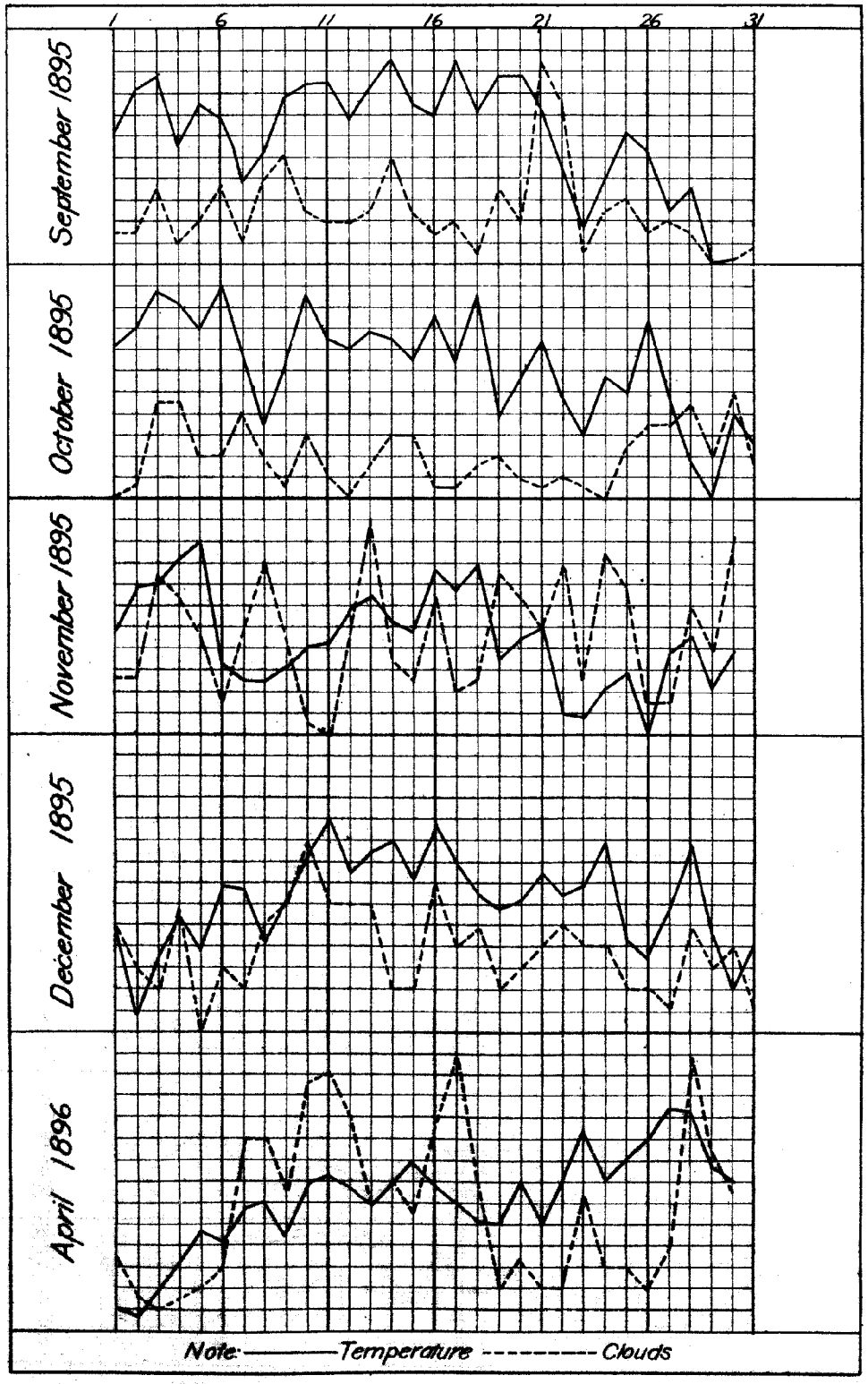


In the above curves the sign ▬ means coincidence and O means exact non-coincidence or reversal.

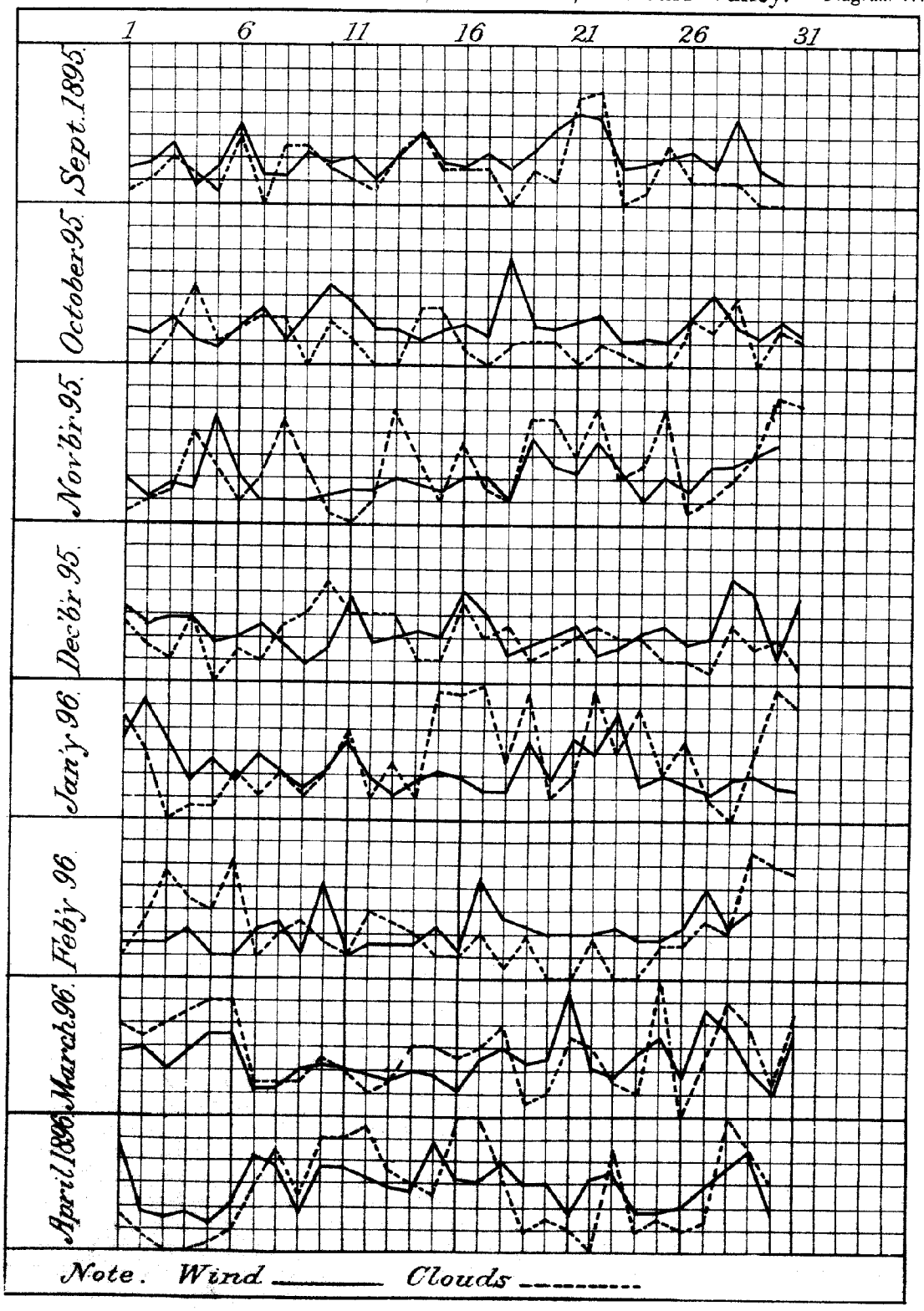
Waves of Pressure and Temperature in the Missouri Valley. Diagram II.



Temperature and Clouds, Missouri Valley and Northwest. Diagram III.



Clouds, Northwest Portion, and Winds, Missouri Valley. Diagram IV.



THE DISTRIBUTION OF MOISTURE IN THE UNITED STATES.

By H. A. HAZEN, Professor Weather Bureau.

The object of this paper is to discuss the prevalence of water vapor in the air as distinct from the occurrence of precipitation. The Germans use the expression Feuchtigkeit-Gehalt (moisture content), and this is a vastly better term than "absolute humidity," which is sometimes used. By "moisture content" or "moisture" we are to understand the vapor pressure, or grains in a cubic foot of air, or the dew-point; these are, in fact, almost interchangeable terms. It is quite interesting to note that at one part of the scale the dew-point in degrees Fahrenheit has almost the same value as the vapor pressure in hundredths of an inch, or the number of tenths of grains in a cubic foot; and in the Centigrade scale a like comparison may be made—thus at 65° dew-point the vapor pressure is 0.62 inch, and there are 6.8 grains of moisture in a cubic foot of saturated air. In centigrade and metric measures 18° dew-point corresponds to 15^{mm} vapor pressure, and also to 15 grams of moisture in a cubic meter of saturated air or space. The important point is that these three terms may be used with equal freedom, and we may place upon a curve of dew-point, for example, either 65° or .62″ v. p. or 6.8 g. c. The observations of the United States are nearly all worked up in the dew-point nomenclature, and it will save an enormous amount of labor if we confine ourselves to that, though we must distinctly remember that our "moisture content" is not, properly speaking, a temperature at all, but is a definite quantity or pressure of vapor. This moisture in the air is a very remarkable element. The temperature may change 30° during the day, but the moisture will remain almost absolutely constant. It is not affected by the wind or by change in pressure or by clouds, and must be regarded by all odds the most invariable or least changing of all the meteorologic elements.

Our subject may be considered under three heads:

First. The method of obtaining the moisture content of the air and tables for deducing it directly.

Second. Its diurnal range.

Third. Its distribution in connection with the passage of low and high areas, or, in other words, its occurrence under varying weather conditions.

METHODS OF OBSERVATION.

An accurate determination of the moisture in the air has been found a most difficult problem in physics. The most accurate method, at first sight, would seem to be the chemical. In this a large mass of air is drawn through some substance which absolutely absorbs all the moisture and then the quantity of moisture abstracted is determined by weight. In practice, however, this has proved a most cumbersome and difficult process, where accuracy is desired, and the few published observations show that much is still needed to be guarded against before this method can be deemed satisfactory.

The very common observation of dew forming on a vessel of water cooled below the dew-point of the air would seem to show a simple method of measuring the moisture content of the air, and there are various devices for accomplishing this, which are called condensing hygrometers. The best of these is that by Regnault, in which ether is evaporated in a cup of highly polished silver until a deposit of dew is seen upon the metal, when a thermometer immersed in the ether shows

the dew-point temperature. With proper precautions this system, under ordinary conditions, will give very reliable results, but for extreme accuracy, especially in moist air, the utmost skill in manipulating the apparatus is needed.

For ordinary purposes, however, there is no method equal to that of observing the temperature of evaporation in the air and from this deducing the proper moisture content. The instrument used for this purpose is called the psychrometer, or combination of wet and dry bulb thermometers, in which one of the thermometers is covered with thin muslin and wetted, and this gives the temperature of evaporation. This temperature is exactly dependent upon the moisture content of the air, and hence, if we can establish the relation between the two, we have a most simple device for indirectly measuring the amount of moisture in the air. All attempts at determining this relation accurately failed until 1884, when it was shown that the most essential element in this study was a perfect ventilation of the psychrometer. To accomplish this the simplest method would seem to be to join the thermometers on the same frame and rapidly whirl them through the air. This instrument has been called the sling psychrometer and many thousand comparisons have been made between it and the condensing hygrometer. The formula for showing the relation between the evaporation temperature and that of the dew-point was devised by Regnault and is as follows:

$$x = f - A(t - t')p,$$

in which X = vapor pressure at dew point,
f = vapor pressure at wet bulb temperature,
A = a constant to be determined,
t and t' = the dry and wet temperatures
p = pressure of the air.

In making these comparisons, after the most painstaking care, there will appear most aggravating discordances, and such as can not be explained readily. One finds very quickly that good observations can not be made outdoors unless the air is perfectly still, which is practically never the case. Indoors, with all the conditions apparently favorable, it was found that the relation found one day did not agree by quite a large quantity with that previously found. Moreover, two skilled observers working side by side in the same room would obtain remarkable differences in their results. By way of example, a few of the simultaneous results obtained at Washington in 1885 by Professor Marvin and the writer are here given. The original observations are published in the annual report of the Chief Signal Officer for 1886, page 242.

Value of A.

Marvin, .000396-413-393-423.
Hazen, .000343-370-343-363.
Marvin, .000430-430-450-433-393-313-346-330-396.
Hazen, .000323-363-390-390-347-377-413-403-340.

It seems probable that the still air in the room would have given a steady value of A, and yet we find a range in A from .000450 to .000313 by one observer, and a maximum difference between the simultaneous values of A by both observers of .000107.

The elimination of these accidental errors has been a matter of the most careful study and experiment, and it is only during the present summer of 1898 that nearly all the difficulties have been removed and consistent results obtained day after day and under all conditions. The following precautions have been found essential to accuracy:

First. The greatest care must be taken to have a good light on the metal on which the dew is to be deposited. In ordinary dry air a black surface in front of the plate gives an almost black plate, on which dew may be easily noted. In damp air, however, this is not enough; we must then get just the right reflection of the light, striking the plate preferably from above.

Second. The first deposit of dew on the plate seems to produce a peculiar effect, which vitiates subsequent deposits, so that the plate must be thoroughly cleaned after each observation. This is especially necessary in moist air.

Third. A fan should be used to blow the air gently across the plate and parallel to it.

Fourth. The level of the ether should be kept nearly constant.

Fifth. There seems to be a remarkable tendency for the moisture from the wet bulb to remain where the thermometer has just passed, and it is essential to whirl the psychrometer in a space of at least 60 to 70 cubic feet for the best results. The following values of A were obtained on different days and in three rooms at No. 8 Iowa Circle. The "front" room had a window open and the fireplace closed as tight as possible; the "middle" room had window closed, but the fireplace open, and the "back" room had window closed and no fireplace; the last was an attic room and not plastered. It should be noted that while the light was almost perfect in the front and middle rooms, in the back room it was faint and not so good, which will account for some, if not all, of the apparent discrepancies there, though it is possible that the moisture acted differently there. In using the sling psychrometer there were attached to the frame two wet bulbs and two dry, in order to eliminate any discrepancies from lagging or difference in thermometers.

Date.	Room.	Dew-point.	Wet bulb.	Dry bulb.	A_1.	A_2.
Sept. 10	Front	53.03	60.14	70.46	.000378	.....
		.....	60.16	70.51	.....	.000378
		53.16	60.39	70.87	.000381	.....
		.....	60.41	70.95	.....	.000381
		53.26	60.50	71.01	.000383	.....
		.....	60.54	71.08	.....	.000385
	Back	50.16	58.12	68.92	.000375	.....
		.....	58.14	68.96	.....	.000375
		50.56	58.33	69.07	.000373	.....
		.....	58.39	69.15	.....	.000374
		59.09	66.52	80.10	.000366	.....
		.....	66.57	80.11	.....	.000370
	Front	54.03	63.59	78.47	.000378	.....
		.....	63.57	78.47	.....	.000380
		54.23	63.77	78.70	.000380	.....
		.....	63.76	78.70	.....	.000379
		48.05	57.48	69.66	.000377	.....
		.....	57.55	69.72	.....	.000379
		48.38	57.55	69.74	.000369	.....
		.....	57.65	69.80	.....	.000375
	Back	45.60	54.55	65.14	.000377	.....
		.....	54.64	65.16	.....	.000384
		45.80	54.71	65.60	.000367	.....
		.....	54.82	65.60	.....	.000375
	Middle	46.35	54.42	64.51	.000361	.....
		.....	54.56	64.53	.....	.000371
		46.40	54.73	64.91	.000371	.....
		.....	54.83	64.97	.....	.000378
	Front	47.00	56.83	69.32	.000374	.....
		.....	56.91	69.40	.....	.000377
Sept. 12	Front	41.74	52.63	64.65	.000368	.....
		.....	52.80	64.69	.....	.000379
		42.00	52.90	64.96	.000371	.....
		.....	53.04	65.03	.....	.000378
	Back	41.81	51.68	62.14	.000377	.....
		.....	51.78	62.16	.....	.000385
		42.00	51.84	62.52	.000371	.....
		.....	51.96	62.46	.....	.000383
	Middle	42.34	53.11	65.17	.000369	.....
		.....	53.25	65.20	.....	.000378
		42.64	53.32	65.52	.000366	.....
		.....	53.46	65.53	.....	.000375
	Front	46.40	58.12	73.69	.000364	.....
		.....	58.21	73.78	.....	.000367
	Back	52.06	61.25	75.11	.000367	.....
		.....	61.27	75.17	.....	.000377
	Middle	48.00	57.72	70.82	.000362	.....
		.....	57.79	70.79	.....	.000368
		48.60	58.00	70.95	.000360	.....
		.....	58.06	71.11	.....	.000359
Sept. 13	Middle	51.16	58.10	67.70	.000380	.....
		.....	58.19	67.76	.....	.000380
		51.31	58.33	67.95	.000380	.....
		.....	58.40	68.01	.....	.000384
	Front	49.78	57.72	68.25	.000379	.....
		.....	57.75	68.28	.....	.000381
		49.88	57.83	68.59	.000372	.....
		.....	57.90	68.62	.....	.000378

Date.	Room.	Dew-point.	Wet bulb.	Dry bulb.	A_1.	A_2.
Sept. 13	Back	45.21	54.01	64.44	.000371	.....
		.....	54.14	64.58	.....	.000378
		45.60	54.26	64.56	.000374	.....
		.....	54.43	64.57	.....	.000388
	Back	55.77	63.57	76.38	.000370	.....
		.....	63.55	76.44	.....	.000366
		55.87	63.78	77.48	.000352	.....
		.....	63.77	77.48	.....	.000351
	Front	51.53	60.93	74.52	.000377	.....
		.....	60.94	74.57	.....	.000377
		51.56	61.00	74.79	.000374	.....
		.....	61.00	74.81	.....	.000374
	Middle	52.88	60.79	72.60	.000372	.....
		.....	60.82	72.63	.....	.000374
		53.10	60.89	72.62	.000371	.....
		.....	60.88	72.64	.....	.000369
Sept. 15	Back	58.23	63.99	73.91	.000367	.....
		.....	63.97	73.94	.....	.000365
		58.69	64.41	74.29	.000371	.....
		.....	64.40	74.29	.....	.000370
	Middle	60.21	64.59	72.33	.000374	.....
		.....	64.61	72.26	.....	.000379
		60.46	64.72	72.40	.000369	.....
		.....	64.71	72.41	.....	.000367
	Front	62.00	66.85	75.78	.000380	.....
		.....	66.87	75.77	.....	.000384
		62.12	66.95	75.91	.000380	.....
		.....	66.97	75.95	.....	.000382
		62.29	66.97	75.91	.000371	.....
		.....	66.99	75.95	.....	.000370
Sept. 16	Front	64.88	67.34	72.18	.000377	.....
		.....	67.35	72.15	.....	.000381
	Middle	62.04	65.74	72.49	.000384	.....
		.....	65.71	72.47	.....	.000374
		62.58	66.09	72.76	.000369	.....
		.....	66.13	72.78	.....	.000373
	Back	57.58	63.14	72.13	.000383	.....
		.....	63.14	72.12	.....	.000384
		58.03	63.41	72.44	.000373	.....
		.....	63.46	72.41	.....	.000379

Each temperature in the above table represents the mean of four observations. It will be noted that without exception the second and subsequent observations at the same time in a room always show an increased dew-point and t and t'. This seems to have been due to the presence of the body of the observer, which heated the air as did also the breath, and the latter, with the perspiration from the body, served to raise the dew-point and t'. The above observations serve to show that with proper precautions the condensing hygrometer may be made a very reliable instrument. The value of A found by the writer in 1885 was .000374 (English measures), and an almost identical value was found by Professor Ferrel in 1886. The great difference between the two results lay in the addition of a term by Professor Ferrel depending upon a similar term in the expression of the latent heat of water. The change made by this term is excessively small, and, while called for by a theoretic analysis, it would seem by far the best plan to determine the actual change in the constant A depending upon the value of t'. The following table exhibits all the values of A available for this purpose arranged according to t':

VALUES OF A ARRANGED BY t'.

Place.	Year.	t'													Weight.
		25°–29°	30°–34°	35°–39°	40°–44°	45°–49°	50°–54°	55°–59°	60°–64°	65°–69°	70°–74°	75°–79°	90°–94°	95°–	
Washington	1884	.000363	.000375	.000375	.000376	.000393	.000388	.000384	.000374	.....	.....	.000368	.....	.....	2
Oakland, Md	1885	.000376	.000384	.000385	.000388	.000365	.000383	.000376	.000371	.000375	.....	.....	.....	.....	3
Colorado Springs	1885	.000369	.000372	.000371	.000365	.000369	.000364	.000373	.000371	.000383	.....	.....	.....	.....	2
Trail House	1885	.....	.....	.000366	.000368	.000381	.000384	.....	.....	.....	.....	.....	.....	.....	2
Pikes Peak	1885	.000387	.000368	.000364	.000367	.....	.000379	.....	.....	.....	.....	.....	.....	.....	1
Washington	1885	.....	.....	.....	.....	.....	.....	.000386	.000395	.000380	.000393	.....	.....	.....	1
Do	1885	.....	.....	.....	.....	.....	.....	.000369	.000371	.000380	.000381	.....	.....	.....	3
Do	1893	.....	.....	.....	.....	.....	.000381	.000399	.000378	.000367	.000380	.....	.000382	.000380	2
Mean	.....	.000374	.000375	.000372	.000373	.000374	.000380	.000381	.000377	.000376	.000385	.000368	.000382	.000380	----
Mean by weight	.....	.000375	.000378	.000376	.000375	.000376	.000380	.000379	.000374	.000377	.000382	.....	.....	.....	----

Mean of all, .000377.

A study of these comparisons shows no change in A with increasing t', and, whatever the explanation of the discrepancy between theory and experiment, it would seem by far the best plan to adopt a constant for A throughout.

In practice it has been found extremely difficult to obtain reliable results when the air has 90 per cent or more of relative humidity. The dew, instead of depositing in a fine, whitish cloud, simply dims the plate, and it is next to impossible to determine the moment of the first deposition. At first it was thought best to take no account of the first dimming and wait for an unmistakable show of dew, but it is evident that this would give too low a dew-point and a consequent too high value of A. A few observations made with the greatest care and with a perfect light have shown very little or no increase in A for high humidity. It should be noted that at 90 per cent humidity a change of 80 or 100 points in the value of A will not change the dew-point by a half degree or far within the greatest accuracy that can be obtained with the ordinary whirled psychrometer.

A note should be made of the behavior of thermometers in these later experiments. In 1885 I purchased from Mr. Green, in New York, several thermometers having an open scale, and it may be supposed that by this time their zeroes have stopped changing. In 1896 I purchased two more thermometers of Mr. Green, made of Jena glass, and specially constructed so as to have invariable zeros. The accompanying table gives some of the corrections which have been obtained for these thermometers at various times. It seems impossible to explain the apparent remarkable variations in these thermometers from time to time. A part of the variation is due to a difference in the standards used at different times. A part is also due to the effect of raising the thermometers to a high temperature (110°), which seems to cause a partial set in the zero below its normal position. In making accurate observations these varying corrections have introduced a most aggravating confusion, and this note is added as a warning to any attempting a similar research.

CORRECTIONS FOUND FOR THERMOMETERS AT VARIOUS TIMES WITHIN A YEAR.

t Fahr.	Thermometer No. 6669.				Thermometer No. 6674.				Thermometer No. 6678.				Thermometer No. 8918.			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
32	—.62	—.52	—.53	—.55	—.60	—.51	—.55	—.55	—.50	—.40	—.50	—.40	—.55	—.52	—.55	—.51
42	—.64	—.41	—.46	—.45	—.60	—.43	—.57	—.48	—.55	—.36	—.47	—.37	—.55	—.41	—.41	—.39
52	—.63	—.54	—.50	—.45	—.42	—.46	—.51	—.35	—.37	—.36	—.39	—.36	—.32	—.36	—.36	—.33
62	—.56	—.51	—.32	—.50	—.52	—.51	—.64	—.54	—.42	—.38	—.49	—.44	—.32	—.30	—.32	—.37
72	—.63	—.51	—.45	—.59	—.59	—.52	—.59	—.59	—.49	—.51	—.52	—.49	—.39	—.30	—.26	—.39
82	—.56	—.43	—.51	—.47	—.54	—.53	—.51	—.54	—.44	—.34	—.41	—.47	—.44	—.30	—.38	—.38
92	—.66	—.54	—.45	—.50	—.54	—.53	—.51	—.54	—.55	—.42	—.44	—.39	—.50	—.34	—.37	—.43

	Thermometer No. 8921.				Thermometer No. 8926.				Thermometer No. 9558.				Thermometer No. 9559.			
32	—.60	—.65	—.61	—.65	.....	—.38	—.40	—.43	.00	+.05	+.07	+.05	.00	.00	.00	.00
42	—.60	—.40	—.50	—.51	.....	—.28	—.25	—.22	+.03	+.12	+.11	+.14	—.12	+.06	—.06	—.03
52	—.37	—.28	—.43	—.36	.....	—.20	—.26	—.21	+.06	+.05	+.05	—.02	+.01	—.02	.00	—.08
62	—.42	—.40	—.48	—.49	.....	—.18	—.18	—.27	—.02	+.10	+.03	.00	—.07	+.10	—.05	—.07
72	—.49	—.36	—.55	—.54	.....	—.27	—.29	—.31	—.04	+.18	—.02	+.10	—.04	+.18	+.05	+.01
82	—.54	—.31	—.35	—.41	.....	—.20	—.20	—.22	+.01	+.13	.00	.00	+.01	+.16	+.02	+.12
92	—.55	—.47	—.41	—.50	.....	—.20	—.18	—.23	—.05	+.01	+.02	—.05	—.05	+.01	+.07	+.03

In the above table, column 1 refers to Weather Bureau corrections determined in September, 1897; column 2, Weather Bureau in July, 1898; column 3, Weather Bureau, September, 1898, and column 4, eye observation without reading glass, by H. A. Hazen, made at the same time with 3.

TABLE FOR COMPUTING GRAINS OF MOISTURE IN A CUBIC FOOT OF AIR DIRECTLY FROM WET AND DRY THERMOMETERS.

The ordinary method of first obtaining the dew-point from wet and dry bulb readings (t and t') and then by another table, the grains of moisture in a cubic foot of the same air, is extremely cumbersome and leads to errors in the final determination. There has been a loud call for a convenient table for computing grains of moisture in a cubic foot of air from direct t and t', and such a table is here added. Such a table is of great service where it is desired to obtain directly the quantity of vapor in the air, as in the case of metallurgical inquiries. In obtaining t and t' there should be a good ventilation of the thermometers, or a stream of air of at least 5 feet a second should blow past them. In this table the computations are based on the supposition that the relative humidity obtained by using vapor pressures in the ordinary psychrometric formula from the values of t and t' is exactly equal to that computed by dividing the quantity of vapor actually in the air, as given in the table, by the quantity needed to saturate the air or space.

GRAINS OF MOISTURE IN A CUBIC FOOT OF AIR FROM WET AND DRY BULB TEMPERATURES.

$$W = \frac{5766.27\,(f - .011\,(t - t'))}{458.92 + t}$$

Fah.	$t - t'$															Fah.
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
—10	.29	.13														—10
— 9	.30	.14														— 9
— 8	.32	.16														— 8
— 7	.33	.18	.02													— 7
— 6	.35	.19	.03													— 6
— 5	.37	.21	.05													— 5
— 4	.39	.23	.07													— 4
— 3	.41	.25	.09													— 3
— 2	.43	.27	.11													— 2
— 1	.46	.29	.13													— 1
0	.48	.32	.16													0
1	.51	.34	.18													1
2	.53	.37	.20													2
3	.55	.39	.23	.06												3
4	.58	.42	.25	.09												4
5	.61	.44	.28	.11												5
6	.64	.47	.31	.14												6
7	.67	.50	.33	.17												7
8	.70	.53	.36	.20	.03											8
9	.74	.57	.40	.23	.06											9
10	.78	.60	.43	.26	.09											10
11	.82	.64	.47	.29	.12											11
12	.86	.68	.50	.33	.16											12
13	.90	.72	.54	.37	.19											13
14	.94	.76	.58	.41	.23	.06										14
15	.99	.81	.63	.45	.27	.10										15
16	1.03	.85	.67	.49	.31	.14										16
17	1.08	.90	.71	.54	.36	.18										17
18	1.13	.94	.76	.58	.40	.22	.05									18
19	1.18	.99	.81	.63	.45	.27	.09									19
20	1.24	1.05	.86	.68	.49	.31	.13									20
21	1.29	1.10	.91	.73	.54	.36	.18									21
22	1.35	1.16	.97	.78	.59	.41	.23	.05								22
23	1.42	1.22	1.03	.83	.64	.46	.28	.09								23
24	1.48	1.28	1.09	.89	.70	.51	.33	.14								24
25	1.55	1.35	1.15	.95	.76	.57	.38	.19								25
26	1.62	1.42	1.22	1.02	.82	.63	.44	.24	.07							26
27	1.70	1.49	1.28	1.08	.88	.69	.50	.30	.12							27
28	1.77	1.56	1.36	1.15	.95	.75	.56	.36	.17							28
29	1.85	1.64	1.43	1.22	1.02	.82	.62	.43	.23							29
30	1.94	1.72	1.51	1.30	1.09	.89	.69	.49	.29	.08						30
31	2.02	1.80	1.59	1.37	1.17	.96	.76	.56	.36	.16						31
32	2.11	1.89	1.67	1.45	1.24	1.03	.83	.63	.43	.23	.04					32
33	2.19	1.98	1.76	1.54	1.32	1.11	.90	.70	.49	.30	.10					33
34	2.28	2.06	1.85	1.62	1.40	1.19	.98	.77	.57	.36	.17					34
35	2.37	2.15	1.93	1.71	1.49	1.27	1.06	.85	.64	.44	.24	.04				35
36	2.46	2.23	2.01	1.80	1.58	1.36	1.14	.93	.72	.51	.31	.11				36
37	2.55	2.32	2.10	1.88	1.67	1.45	1.23	1.01	.80	.59	.38	.18				37
38	2.65	2.42	2.19	1.97	1.75	1.53	1.32	1.10	.88	.67	.46	.26	.05			38
39	2.75	2.51	2.28	2.06	1.84	1.62	1.40	1.19	.97	.76	.54	.33	.13			39
40	2.85	2.61	2.38	2.15	1.93	1.71	1.49	1.27	1.06	.84	.63	.41	.20			40
41	2.95	2.72	2.48	2.25	2.02	1.80	1.58	1.36	1.14	.93	.71	.50	.29	.11		41
42	3.06	2.82	2.58	2.35	2.12	1.89	1.67	1.45	1.23	1.02	.80	.58	.37	.18		42
43	3.18	2.93	2.69	2.45	2.22	1.99	1.76	1.54	1.32	1.10	.89	.67	.46	.26	.05	43
44	3.29	3.05	2.80	2.56	2.32	2.09	1.86	1.63	1.41	1.19	.97	.76	.55	.34	.13	44
45	3.41	3.16	2.91	2.67	2.43	2.19	1.96	1.73	1.50	1.28	1.06	.84	.63	.42	.21	45
46	3.54	3.28	3.03	2.78	2.54	2.30	2.06	1.83	1.60	1.37	1.15	.93	.72	.50	.29	46
47	3.67	3.41	3.15	2.90	2.65	2.41	2.17	1.93	1.70	1.47	1.25	1.02	.81	.59	.38	47
48	3.80	3.54	3.27	3.02	2.77	2.52	2.28	2.04	1.80	1.57	1.34	1.12	.90	.68	.46	48
49	3.94	3.67	3.40	3.14	2.89	2.64	2.39	2.15	1.91	1.68	1.44	1.22	.99	.77	.55	49
50	4.08	3.80	3.54	3.27	3.01	2.76	2.51	2.26	2.02	1.78	1.55	1.31	1.09	.87	.64	50
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	

NOTE BY THE EDITOR.—The numerical tables adopted by the Weather Bureau, by means of which the amount of moisture in the air is computed from the readings of the whirled psychrometer, are those of Ferrel, as described by him in the Annual Report of the Chief Signal Officer, 1886, Appendix 24, except only that a revision of the tables was made to accord with Professor Marvin's revised values of the tension of aqueous vapor at low temperatures.

It should be noted that results obtained by using the Weather Bureau tables—and those discussed by Professor Hazen on pages 336-7 were so obtained—differ appreciably from such as would be given by the use of the above table. The printing of this table is not to be understood as changing in any way the methods employed by the Bureau during the last twelve years.

GRAINS OF MOISTURE IN A CUBIC FOOT OF AIR, ETC.—Continued.

$$W = \frac{5766.27\,(f - .011\,(t - t'))}{458.92 + t}$$

Fah.	$t - t'$												Fah.
	0	1	2	3	4	5	6	7	8	9	10	11	
50	4.08	3.80	3.54	3.27	3.01	2.76	2.51	2.26	2.02	1.78	1.55	1.31	50
51	4.22	3.94	3.67	3.41	3.14	2.88	2.63	2.38	2.13	1.89	1.65	1.42	51
52	4.37	4.09	3.81	3.54	3.27	3.01	2.75	2.50	2.25	2.00	1.76	1.53	52
53	4.53	4.24	3.96	3.68	3.41	3.14	2.88	2.62	2.37	2.12	1.88	1.64	53
54	4.68	4.39	4.11	3.83	3.55	3.28	3.01	2.75	2.49	2.24	1.99	1.75	54
55	4.85	4.55	4.26	3.98	3.70	3.42	3.15	2.88	2.62	2.37	2.11	1.87	55
56	5.02	4.72	4.42	4.13	3.85	3.57	3.29	3.02	2.76	2.50	2.24	1.99	56
57	5.19	4.89	4.58	4.24	4.00	3.72	3.44	3.16	2.89	2.63	2.37	2.11	57
58	5.37	5.06	4.75	4.45	4.16	3.87	3.59	3.31	3.03	2.76	2.50	2.24	58
59	5.55	5.24	4.93	4.62	4.32	4.03	3.74	3.46	3.18	2.90	2.64	2.37	59
60	5.74	5.42	5.11	4.80	4.49	4.19	3.90	3.61	3.33	3.05	2.78	2.51	60
61	5.94	5.61	5.29	4.97	4.66	4.36	4.06	3.77	3.48	3.20	2.92	2.65	61
62	6.14	5.81	5.48	5.16	4.84	4.53	4.23	3.93	3.64	3.35	3.07	2.79	62
63	6.35	6.01	5.67	5.36	5.03	4.71	4.40	4.10	3.80	3.51	3.22	2.94	63
64	6.56	6.22	5.88	5.54	5.22	4.90	4.58	4.27	3.97	3.67	3.38	3.10	64
65	6.78	6.43	6.08	5.74	5.41	5.09	4.77	4.45	4.14	3.84	3.54	3.25	65
66	7.01	6.65	6.30	5.95	5.61	5.28	4.95	4.64	4.32	4.02	3.71	3.42	66
67	7.24	6.88	6.52	6.16	5.82	5.48	5.15	4.83	4.51	4.20	3.89	3.59	67
68	7.48	7.11	6.74	6.38	6.03	5.69	5.35	5.02	4.69	4.38	4.07	3.76	68
69	7.73	7.35	6.97	6.61	6.25	5.90	5.56	5.22	4.89	4.57	4.25	3.94	69
70	7.98	7.59	7.21	6.84	6.48	6.12	5.77	5.43	5.09	4.76	4.44	4.12	70
71	8.24	7.85	7.46	7.08	6.71	6.34	5.99	5.64	5.30	4.96	4.63	4.31	71
72	8.51	8.11	7.71	7.33	6.95	6.58	6.21	5.86	5.51	5.17	4.83	4.50	72
73	8.78	8.37	7.97	7.58	7.19	6.81	6.44	6.08	5.73	5.38	5.04	4.70	73
74	9.07	8.65	8.24	7.84	7.44	7.06	6.68	6.31	5.95	5.60	5.25	4.91	74
75	9.36	8.93	8.51	8.10	7.70	7.31	6.93	6.55	6.18	5.82	5.47	5.12	75
76	9.66	9.22	8.80	8.38	7.97	7.57	7.18	6.80	6.42	6.05	5.69	5.34	76
77	9.96	9.52	9.09	8.66	8.24	7.84	7.44	7.05	6.67	6.29	5.92	5.56	77
78	10.28	9.83	9.38	8.95	8.53	8.11	7.71	7.31	6.92	6.54	6.16	5.79	78
79	10.60	10.14	9.69	9.25	8.82	8.39	7.98	7.57	7.18	6.79	6.41	6.03	79
80	10.93	10.46	10.00	9.55	9.11	8.68	8.26	7.85	7.44	7.05	6.66	6.28	80
81	11.28	10.80	10.33	9.87	9.42	8.98	8.55	8.13	7.71	7.31	6.92	6.53	81
82	11.63	11.14	10.66	10.19	9.73	9.28	8.84	8.42	7.99	7.58	7.18	6.78	82
83	11.99	11.49	11.00	10.52	10.06	9.60	9.15	8.71	8.28	7.86	7.45	7.05	83
84	12.36	11.85	11.35	10.86	10.39	9.92	9.46	9.02	8.58	8.15	7.73	7.32	84
85	12.74	12.22	11.71	11.21	10.73	10.25	9.78	9.33	8.89	8.45	8.02	7.60	85
86	13.13	12.60	12.08	11.57	11.08	10.59	10.12	9.65	9.20	8.75	8.32	7.89	86
87	13.53	12.99	12.46	11.94	11.44	10.94	10.46	9.98	9.52	9.06	8.62	8.18	87
88	13.94	13.39	12.85	12.32	11.80	11.30	10.80	10.32	9.85	9.38	8.93	8.49	88
89	14.36	13.80	13.25	12.71	12.18	11.67	11.16	10.67	10.18	9.71	9.25	8.80	89
90	14.79	14.22	13.66	13.11	12.57	12.04	11.53	11.03	10.53	10.05	9.58	9.12	90
91	15.23	14.65	14.08	13.52	12.97	12.43	11.91	11.39	10.89	10.40	9.92	9.45	91
92	15.69	15.09	14.51	13.94	13.38	12.83	12.29	11.77	11.26	10.76	10.27	9.78	92
93	16.15	15.55	14.95	14.37	13.80	13.24	12.69	12.16	11.63	11.13	10.63	10.13	93
94	16.63	16.01	15.40	14.81	14.23	13.66	13.10	12.55	12.02	11.50	10.99	10.49	94
95	17.12	16.49	15.87	15.26	14.67	14.09	13.52	12.96	12.42	11.89	11.37	10.85	95
96	17.63	16.98	16.35	15.73	15.12	14.53	13.95	13.38	12.83	12.28	11.75	11.23	96
97	18.17	17.48	16.84	16.20	15.58	14.98	14.39	13.81	13.24	12.69	12.14	11.61	97
98	18.67	18.00	17.34	16.69	16.06	15.44	14.84	14.25	13.67	13.10	12.55	12.01	98
99	19.21	18.52	17.85	17.19	16.55	15.92	15.30	14.70	14.11	13.53	12.97	12.41	99
100	19.77	19.07	18.38	17.71	17.05	16.41	15.78	15.16	14.56	13.97	13.39	12.83	100
101	20.34	19.62	18.92	18.23	17.56	16.90	16.26	15.63	15.02	14.42	13.83	13.26	101
102	20.92	20.19	19.47	18.77	18.09	17.42	16.76	16.12	15.49	14.86	14.28	13.69	102
103	21.52	20.17	20.04	19.32	18.63	17.94	17.27	16.62	15.98	15.35	14.74	14.14	103
104	22.13	21.37	20.62	19.89	19.18	18.48	17.80	17.13	16.48	15.84	15.21	14.60	104
105	22.75	21.98	21.21	20.47	19.74	19.03	18.33	17.65	16.99	16.34	15.70	15.07	105
106	23.39	22.60	21.82	21.06	20.32	19.59	18.88	18.19	17.51	16.84	16.19	15.56	106
107	24.05	23.24	22.45	21.67	20.92	20.17	19.45	18.74	18.05	17.37	16.70	16.05	107
108	24.72	23.90	23.09	22.30	21.52	20.77	20.03	19.30	18.60	17.91	17.22	16.56	108
109	25.41	24.57	23.74	22.94	22.15	21.37	20.62	19.88	19.16	18.45	17.76	17.08	109
110	26.11	25.64	24.41	23.59	22.78	21.99	21.22	20.47	19.73	19.01	18.31	17.62	110
	0	1	2	3	4	5	6	7	8	9	10	11	

GRAINS OF MOISTURE IN A CUBIC FOOT OF AIR, ETC.—Continued.

$$W=\frac{5766.27\ (f-.011\ (t-t'))}{458.92+t}$$

Fah.	$t-t'$													Fah.
	11	12	13	14	15	16	17	18	19	20	21	22	23	
50	1.31	1.09	.87	.64	.43	.21								50
51	1.42	1.19	.96	.74	.52	.30	.09							51
52	1.53	1.29	1.06	.84	.61	.39	.18							52
53	1.64	1.40	1.17	.94	.71	.49	.27							53
54	1.75	1.51	1.27	1.04	.81	.58	.36	.14						54
55	1.87	1.62	1.38	1.15	.92	.68	.46	.24						55
56	1.99	1.74	1.50	1.26	1.02	.79	.56	.34	.10					56
57	2.11	1.86	1.61	1.37	1.13	.90	.67	.44	.20					57
58	2.24	1.98	1.73	1.49	1.24	1.01	.77	.54	.30					58
59	2.37	2.11	1.86	1.61	1.36	1.12	.88	.65	.41	.18				59
60	2.51	2.25	1.99	1.73	1.48	1.24	1.00	.76	.52	.29				60
61	2.65	2.38	2.12	1.86	1.61	1.36	1.11	.87	.63	.40	.17			61
62	2.79	2.52	2.26	1.99	1.74	1.48	1.23	.99	.75	.51	.28	.05		62
63	2.94	2.67	2.40	2.13	1.87	1.61	1.36	1.11	.87	.62	.39	.16		63
64	3.10	2.82	2.54	2.27	2.00	1.74	1.49	1.23	.99	.74	.50	.27	.03	64
65	3.25	2.97	2.69	2.41	2.14	1.88	1.62	1.36	1.11	.86	.62	.38	.13	65
66	3.42	3.13	2.84	2.56	2.29	2.02	1.76	1.50	1.24	.99	.74	.50	.26	66
67	3.59	3.29	3.00	2.72	2.44	2.16	1.90	1.63	1.37	1.12	.87	.62	.28	67
68	3.76	3.46	3.16	2.87	2.59	2.31	2.04	1.77	1.51	1.25	.99	.74	.50	68
69	3.94	3.63	3.33	3.04	2.75	2.47	2.19	1.92	1.65	1.39	1.13	.87	.62	69
70	4.12	3.81	3.51	3.21	2.91	2.63	2.34	2.07	1.79	1.53	1.26	1.00	.75	70
71	4.31	3.99	3.69	3.38	3.08	2.79	2.50	2.22	1.94	1.67	1.40	1.14	.88	71
72	4.50	4.18	3.87	3.56	3.25	2.96	2.66	2.38	2.09	1.82	1.55	1.28	1.02	72
73	4.70	4.38	4.05	3.74	3.43	3.13	2.83	2.54	2.25	1.97	1.70	1.42	1.16	73
74	4.90	4.58	4.25	3.93	3.61	3.31	3.00	2.71	2.41	2.13	1.85	1.57	1.30	74
75	5.12	4.78	4.45	4.12	3.80	3.49	3.18	2.88	2.58	2.29	2.01	1.73	1.45	75
76	5.34	4.99	4.65	4.32	4.00	3.68	3.36	3.06	2.75	2.46	2.17	1.88	1.60	76
77	5.56	5.21	4.87	4.53	4.20	3.87	3.55	3.24	2.93	2.63	2.34	2.04	1.76	77
78	5.79	5.43	5.08	4.74	4.40	4.07	3.74	3.43	3.11	2.81	2.51	2.21	1.92	78
79	6.03	5.66	5.31	4.96	4.61	4.28	3.94	3.62	3.30	2.99	2.69	2.39	2.09	79
80	6.28	5.90	5.54	5.18	4.83	4.49	4.15	3.82	3.50	3.18	2.87	2.57	2.26	80
81	6.53	6.15	5.77	5.41	5.05	4.70	4.36	4.02	3.69	3.37	3.06	2.75	2.44	81
82	6.78	6.40	6.02	5.65	5.28	4.92	4.58	4.23	3.90	3.57	3.25	2.93	2.62	82
83	7.05	6.65	6.27	5.89	5.52	5.15	4.80	4.45	4.11	3.77	3.45	3.12	2.81	83
84	7.32	6.92	6.52	6.14	5.76	5.39	5.03	4.67	4.33	3.98	3.65	3.32	3.00	84
85	7.60	7.19	6.79	6.40	6.01	5.63	5.26	4.90	4.55	4.20	3.86	3.53	3.20	85
86	7.89	7.47	7.06	6.66	6.27	5.88	5.51	5.14	4.78	4.42	4.08	3.74	3.40	86
87	8.18	7.76	7.34	6.93	6.53	6.14	5.76	5.38	5.02	4.65	4.30	3.96	3.61	87
88	8.49	8.05	7.63	7.21	6.80	6.40	6.01	5.63	5.26	4.89	4.53	4.18	3.83	88
89	8.80	8.36	7.92	7.50	7.08	6.68	6.28	5.89	5.50	5.13	4.77	4.40	4.05	89
90	9.12	8.67	8.22	7.79	7.37	6.96	6.55	6.15	5.76	5.38	5.01	4.64	4.28	90
91	9.45	8.99	8.53	8.09	7.66	7.24	6.83	6.42	6.02	5.63	5.25	4.88	4.52	91
92	9.78	9.31	8.85	8.40	7.86	7.53	7.11	6.70	6.29	5.90	5.51	5.13	4.76	92
93	10.13	9.65	9.18	8.72	8.27	7.83	7.40	6.99	6.57	6.17	5.77	5.38	5.01	93
94	10.49	10.00	9.52	9.05	8.59	8.14	7.71	7.28	6.86	6.44	6.04	5.65	5.26	94
95	10.85	10.35	9.87	9.39	8.92	8.46	8.02	7.58	7.15	6.73	6.32	5.92	5.52	95
96	11.23	10.72	10.22	9.73	9.26	8.79	8.33	7.89	7.45	7.02	6.60	6.19	5.79	96
97	11.61	11.09	10.59	10.09	9.60	9.13	8.66	8.20	7.76	7.32	6.90	6.48	6.07	97
98	12.01	11.48	10.96	10.45	9.96	9.47	9.00	8.53	8.08	7.63	7.20	6.77	6.35	98
99	12.41	11.87	11.34	10.83	10.32	9.82	9.34	8.87	8.40	7.95	7.50	7.07	6.64	99
100	12.83	12.28	11.74	11.21	10.69	10.19	9.69	9.21	8.74	8.27	7.82	7.38	6.94	100
101	13.26	12.69	12.14	11.60	11.08	10.56	10.06	9.56	9.08	8.61	8.15	7.69	7.25	101
102	13.69	13.12	12.56	12.01	11.47	10.94	10.43	9.93	9.43	8.95	8.48	8.02	7.57	102
103	14.14	13.56	12.98	12.42	11.87	11.34	10.81	10.30	9.80	9.30	8.82	8.35	7.89	103
104	14.60	14.00	13.42	12.85	12.29	11.74	11.20	10.68	10.17	9.66	9.17	8.69	8.22	104
105	15.07	14.46	13.87	13.28	12.71	12.15	11.61	11.07	10.55	10.04	9.54	9.05	8.57	105
106	15.56	14.94	14.33	13.73	13.15	12.58	12.02	11.47	10.94	10.42	9.91	9.41	8.92	106
107	16.05	15.42	14.80	14.19	13.59	13.01	12.44	11.89	11.34	10.81	10.29	9.78	9.28	107
108	16.56	15.91	15.28	14.66	14.05	13.46	12.87	12.31	11.75	11.21	10.68	10.16	9.65	108
109	17.08	16.42	15.77	15.14	14.52	13.91	13.32	12.74	12.18	11.63	11.08	10.55	10.03	109
110	17.62	16.94	16.28	15.63	15.00	14.38	13.78	13.19	12.61	12.04	11.49	10.95	10.42	110
	11	12	13	14	15	16	17	18	19	20	21	22	23	

GRAINS OF MOISTURE IN A CUBIC FOOT OF AIR, ETC.—Continued.

$$W=\frac{5766.26\ (f-.011\ (t-t'))}{458.92+t}$$

Fah.	$t-t'$														Fah.
	23	24	25	26	27	28	29	30	31	32	33	34	35	36	
64	.03														64
65	.13														65
66	.26	.02													66
67	.38	.14													67
68	.50	.25	.02												68
69	.62	.37	.13												69
70	.75	.50	.25	.01											70
71	.88	.63	.38	.13											71
72	1.02	.76	.51	.26											72
73	1.16	.90	.64	.39	.14										73
74	1.30	1.04	.70	.52	.27	.02									74
75	1.45	1.18	.92	.66	.40	.15									75
76	1.60	1.33	1.06	.80	.54	.28									76
77	1.76	1.48	1.21	.94	.68	.42	.16								77
78	1.92	1.64	1.36	1.09	.82	.56	.30	.04							78
79	2.09	1.80	1.52	1.24	.97	.70	.44	.18							79
80	2.26	1.97	1.68	1.40	1.12	.85	.58	.32							80
81	2.44	2.14	1.85	1.56	1.28	1.00	.73	.46	.20						81
82	2.62	2.32	2.02	1.73	1.44	1.16	.88	.61	.34	.08					82
83	2.81	2.50	2.20	1.90	1.61	1.32	1.04	.76	.49	.23					83
84	3.00	2.69	2.38	2.08	1.78	1.49	1.20	.92	.65	.38					84
85	3.20	2.88	2.57	2.26	1.96	1.66	1.37	1.08	.80	.53	.26				85
86	3.40	3.08	2.76	2.44	2.14	1.84	1.54	1.25	.96	.68	.41	.14			86
87	3.61	3.28	2.96	2.64	2.32	2.02	1.72	1.42	1.13	.84	.57	.29			87
88	3.83	3.49	3.16	2.84	2.52	2.20	1.90	1.60	1.30	1.01	.73	.45	.20		88
89	4.05	3.71	3.37	3.04	2.72	2.39	2.08	1.78	1.48	1.18	.90	.61	.35		89
90	4.28	3.93	3.59	3.25	2.92	2.59	2.27	1.96	1.66	1.36	1.07	.78	.50	.22	90
91	4.52	4.16	3.81	3.46	3.13	2.80	2.47	2.15	1.85	1.54	1.25	.95	.66	.38	91
92	4.76	4.39	4.03	3.68	3.34	3.01	2.68	2.35	2.04	1.73	1.43	1.13	.83	.54	92
93	5.01	4.63	4.27	3.91	3.56	3.22	2.89	2.56	2.24	1.92	1.61	1.31	1.01	.71	93
94	5.26	4.88	4.51	4.15	3.79	3.44	3.10	2.77	2.44	2.12	1.80	1.49	1.19	.89	94
95	5.52	5.14	4.76	4.39	4.03	3.67	3.32	2.98	2.65	2.32	2.00	1.68	1.38	1.08	95
96	5.79	5.40	5.01	4.63	4.27	3.90	3.55	3.20	2.96	2.53	2.20	1.88	1.57	1.27	96
97	6.07	5.67	5.27	4.89	4.51	4.14	3.78	3.43	3.08	2.84	2.41	2.08	1.77	1.46	97
98	6.35	5.94	5.54	5.15	4.77	4.39	4.02	3.66	3.31	2.96	2.62	2.29	1.97	1.65	98
99	6.64	6.23	5.82	5.42	5.03	4.64	4.27	3.90	3.54	3.19	2.84	2.50	2.18	1.85	99
100	6.94	6.52	6.10	5.69	5.30	4.90	4.52	4.15	3.78	3.42	3.07	2.72	2.39	2.06	100
101	7.25	6.82	6.39	5.98	5.57	5.17	4.78	4.40	4.03	3.66	3.30	2.95	2.61	2.27	101
102	7.57	7.12	6.69	6.27	5.86	5.45	5.05	4.66	4.28	3.91	3.54	3.18	2.84	2.49	102
103	7.89	7.44	7.00	6.57	6.15	5.73	5.33	4.93	4.54	4.16	3.79	3.42	3.07	2.72	103
104	8.22	7.76	7.32	6.87	6.45	6.02	5.61	5.20	4.81	4.42	4.04	3.67	3.30	2.95	104
105	8.57	8.10	7.65	7.19	6.76	6.32	5.90	5.48	5.08	4.69	4.30	3.92	3.55	3.18	105
106	8.92	8.45	7.98	7.51	7.07	6.62	6.20	5.77	5.36	4.96	4.57	4.18	3.80	3.43	106
107	9.28	8.79	8.32	7.85	7.39	6.84	6.50	6.07	5.65	5.24	4.84	4.45	4.06	3.68	107
108	9.65	9.15	8.67	8.18	7.72	7.26	6.82	6.38	5.95	5.53	5.12	4.72	4.33	3.94	108
109	10.03	9.52	9.03	8.53	8.06	7.59	7.14	6.69	6.26	5.83	5.41	5.00	4.60	4.21	109
110	10.42	9.90	9.39	8.89	8.41	7.93	7.47	7.01	6.57	6.13	5.71	5.29	4.88	4.48	110
	23	24	25	26	27	28	29	30	31	32	33	34	35	36	

THE DIURNAL RANGE IN THE AIR MOISTURE.

On clear, bright days in summer there is a marked double oscillation in air moisture at Washington. The earliest maximum after sunrise comes at about 8 a. m., and from that time the fall is quite rapid till about 3 p. m.; then a steady rise, succeeded by a slight fall in the night. The accompanying Diagram V exhibits the diurnal range of dew-point at Washington for several months. It would seem that in studies of this kind it is hardly appropriate to combine all the observations of a month in order to determine diurnal range, but it would be vastly better to consider only records on fair days or those not introducing a complication from the occurrence of rain or other untoward causes. Most of the variations in these and all similar curves are due to these accidental causes, and due allowance must be made for them.

The remarkable constancy of the moisture content of the air becomes apparent when one makes observations on a bright, hot day. The following diagram, VI, shows the moisture change as compared with the temperature change during August, 1892 (a very dry month). A hot, sunny day should cause an increased evaporation and addition of moisture to the air, but observations in Washington do not show an increase in the moisture content of the air in the afternoon of such days. It may be said that the moisture passing into the air is at once diffused into the higher atmosphere, and hence does not affect the lower air. The evidence seems to show that such effects would explain only a part of the apparent anomaly. It would be a great advantage if we could have a single observation all over the country of all the meteorologic elements at the hottest part of the day. The amount of moisture in the air seems the greatest on cloudy days and just when there is the least evaporation, and one of the great mysteries of meteorology to-day is the presence of, and addition to, as well as subtraction from, this moisture.

From the year 1881 to 1886 complete observations were made at stations of the United States at the hours 7, 11, 15, 19, and 23, and at a few of the more prominent stations there was an additional observation at 3. These form a most valuable storehouse of facts for showing diurnal range and other conditions. In the matter of air moisture, however, most of these observations were made in window shelters, where the air was almost stagnant and the results often vitiated. The observer at Chicago, for example, had studied his thermometer observations in the window shelter, and finally found it very necessary for accuracy to lower his upper window instead of raising the lower sash in his manipulations. In 1885, however, most of the shelters had been carried to the roof, and from July, 1885, on we have a fairly accurate idea of the air moisture.

The dew-point observations for several of the months at all the stations have been collated and the diurnal range determined by projection in curves. These curves fall into three rather definite groups: (1) Stations having a double oscillation, as already explained for Washington; (2) stations showing a rather strong single oscillation with the minimum in the afternoon; (3) stations having a single oscillation with a marked maximum in the afternoon or evening. The following list gives the stations lying in each of these groups, arranged geographically:

GROUP 1.

Stations having a double oscillation: New Haven, Conn.; Albany, . Y.; Oswego, N. Y.; Baltimore, Md.; Washington City; Lynchburg, Va.; Toledo, Ohio; Nashvi' Tenn.; Atlanta, Ga.; Chattanooga, Tenn.; Augusta, Ga.; Montgomery, Ala.; Chicago, Ill.; Sh' eport, La.; Indianola, Tex.; Palestine, Tex.; Vicksburg, Miss.; Indianapolis, Ind.; Cairo, Ill.; Springfield, Ill.; Louisville, Ky.; Keokuk, Iowa; St. Louis, Mo.; Dubuque, Iowa; Lamar, Mo.; Omaha, Nebr.; Yankton, S. Dak.; North Platte, Nebr.; El Paso, Tex.; Marquette, Mich.; Santa Fe, N. Mex.

GROUP 2.

Stations having a minimum in afternoon: Wilmington, N. C.; Norfolk, Va.; Sanford, Fla.; Cedar Keys, Fla.; Cincinnati, Ohio; Galveston, Tex.; New Orleans, La.; Memphis, Tenn.; Valentine, Nebr.; Abilene, Tex.; Denver, Colo.

GROUP 3.

Stations having a maximum in afternoon: Eastport, Me.; Block Island, R. I.; Sandy Hook, N. Y.; Fort Macon, N. C.; Cape Henry, Va.; Smithville, N. C.; Charleston, S. C.; Savannah, Ga.; Pensacola, Fla.; Erie, Ohio; Columbus, Ohio; Cleveland, Ohio; Detroit, Mich.; Port Huron, Mich.; Alpena, Mich.; Escanaba, Mich.; Mackinaw, Mich.; Greencastle, Ind.; St. Vincent, Minn.; Moorhead, Minn.; La Crosse, Wis.; Huron, S. Dak.; Des Moines, Iowa; Concordia, Kans.; Dodge City, Kans.; Leavenworth, Kans.; West Las Animas, Colo.; Cheyenne, Wyo.; Salt Lake City, Utah; Keeler, Cal.

There have been selected the curves at ten stations in each of these groups, and these will be found in the accompanying Diagrams VII, VIII, and IX. The variations in moisture at these stations are very remarkable, and it does not seem possible to account for them on any general hypothesis. We would naturally expect that a seacoast station would give a maximum of moisture at the afternoon hours, though we have just seen that the increased evaporation at inland stations showing a double oscillation may be disposed of by diffusion. However this may be, there seems no adequate explanation of the enormous afternoon rise in the moisture curve at such a dry station as St. Vincent, Minn., for example, where almost no rain falls. Again, it is very difficult to explain why the seacoast stations, such as Wilmington, Norfolk, Sanford, Cedar Keys, and so on, have a minimum in the afternoon, or at a time when other seacoast and lake stations have a maximum. There is opened up here a most interesting field for study, and an elucidation of these anomalies may go a long way toward explaining other peculiar weather conditions.

DISTRIBUTION OF MOISTURE IN HIGHS AND LOWS.

It is known that in our highs there is usually a slow descent of very dry air from the upper regions. In our lows, on the other hand, the quantity of vapor is greatly increased, and this, too, at a time when ordinary heat evaporation is greatly diminished. It may be well supposed that these changes in air moisture cover large areas, but till recently there has not been found any adequate method of charting these moisture waves, or of comparing them with temperature and pressure waves. We may easily project in curves the moisture and other elements at a single station, but it is important to combine all the observations in a single wave. An attempt has been made repeatedly to chart the departure from the normal of moisture, temperature, etc., but here we meet with a serious difficulty in that oftentimes the temperature for a whole month may be below the normal, and hence all the departures minus. In the case of pressures the isobars inclose more or less oval areas, and thus enable a study of pressure waves, or highs and lows, but with moisture and temperature this can not be done, for the reason that the normal change in these conditions, in going from a low to a high latitude, is so great that it serves to completely hide the wave of moisture or temperature.

The following method, however, eliminates most of the difficulty. We may assume the normal plane or surface of moisture, pressure, temperature, or other element as a constant plane each for itself; then we may superpose upon this plane the wave of moisture, etc., we wish to study. In such case the fact that during the whole progress of the wave the conditions may be far below or above the normal does not make any appreciable difference, for all we wish to ascertain is the wave crest, and this may be done by inclosing about equal areas in our ovals of moisture, pressure, etc., without regard to the actual departure from our normal plane. For example, suppose we assume 7,000 square miles as the size of the oval we wish to employ about the wave crest. If we find such an oval of moisture having 1.3 grains in a cubic foot above the normal, we may take that as the position of the wave of moisture and compare it with a like oval of 7,000 square miles for pressure and temperature, though sometimes in the center of the low-pressure wave the departure from the normal may be —1.00 inch and at other times it may be even +0.20 inch. In other words, we do not draw lines showing abnormal pressure conditions for each 0.1 inch, as in the case of isobars, but only the oval wherever it may come, which will lie about the center of the wave crest and will inclose about 7,000 square miles.

An attempt has been made to chart waves of moisture, pressure, and temperature during several months, and there are given here twelve of these charts (see Plates VI and VII) for several days in September, 1898. During the warmer months such waves are very irregular, and in fact

there are scarcely any well defined high and low areas on our maps. It is only in the colder season that we may hope to trace these waves with accuracy. The most important point to be gathered from these charts is the position of the moisture wave in front of both the temperature and pressure wave in each case. Another point is the lagging of the pressure wave behind the other two. We have already seen that the moisture of the air is the most constant of all our weather conditions, and yet here we find plain evidence that it is the first to change on the advance of weather changes. It would be premature to attempt any explanation of this interesting fact without more observations, especially in the upper air. It may be hoped that the kite observations recently instituted by the Chief of the Weather Bureau will help to elucidate this among other important points in our weather changes.

The evidence from clouds seems to show a change in the moisture in the upper air some time before it occurs at the earth, and this naturally leads to the conclusion that our moisture waves are generated in the upper air and are then propagated downward to the earth. That the earlier change should be in the moisture and not in the temperature is extremely significant. Theory seems to indicate that the propagation downward of a mass of moist air would tend to dry it, and hence that the moisture in our storms must be due to an upward motion of air which has its moisture condensed by the cold of expansion. The upward motion of air in a storm has never progressed beyond a paper theory, however, and there is abundant evidence to show that there is no such uprush. The occurrence of precipitation 400 or 500 miles in front of the point where theory gives the greatest uprush of air is extremely significant, and we have now in the position of this wave of moisture another most important point bearing upon the formation of rain, perhaps the greatest mystery of modern meteorology. It is believed that this moisture does not get into the air through heat evaporation, as is shown, in fact, by its occurrence in front of the heat wave. It can not be brought into the air through motion of air currents, for these usually advance from drier regions toward the storm, at least in its front.

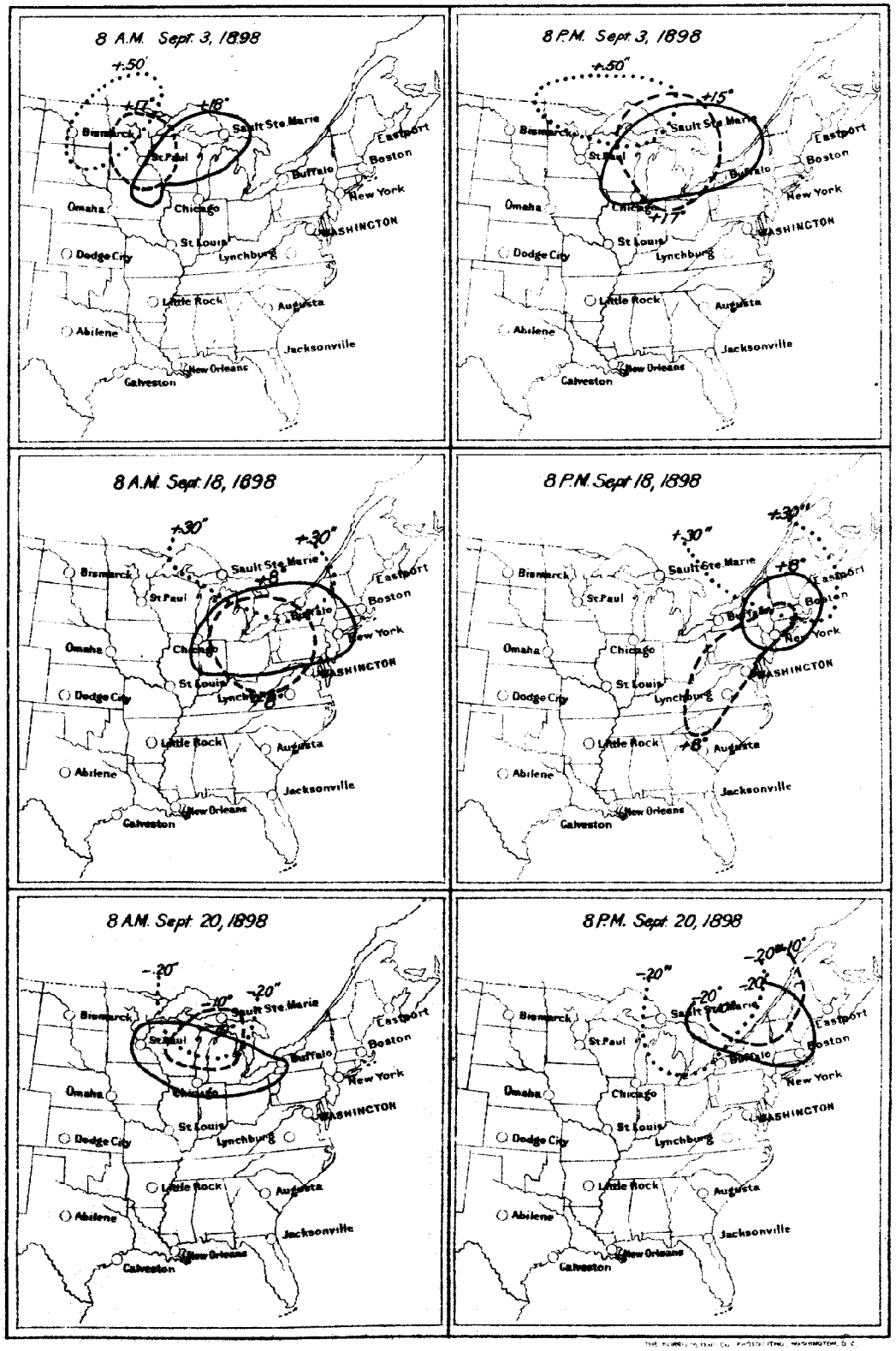
The closeness of these waves of moisture, pressure, and temperature is extremely interesting. Here are three elements of our weather that are as dissimilar as they well can be, and yet we see enormous regions covered by their changes almost at the same hour. At one time it was believed that abnormal heat radiation, due to the clear sky of our highs, caused a contraction of the air from its increased density and that other air from surrounding regions flowed in, thus causing our high-pressure area. In like manner the heated air in the center of the storm produced an outflow in the upper regions, and this in turn gave us the low pressure of the storm. These theories have been abandoned mostly in later times, however, and we are now groping, oftentimes with eyes half blinded by previous theories, for some explanation for these remarkable conditions so patent to our eyes. Whatever may be thought as to the interrelation or correlation between pressure and temperature, it is plain that no theory as to such relation can possibly touch the question of moisture in the air. We must go back of all our paper theories and find some source of energy acting to produce these remarkable simultaneous waves of most dissimilar conditions. It is believed that we are on the eve of most important developments in the science of meteorology. Certain it is that the convection hypothesis, which has hung like a millstone about the neck of progress in this science, has now been practically cut loose, and meteorologists everywhere are looking and studying carefully the upper regions above our storms and highs for their elucidation.

O

Waves of Moisture, Pressure, and Temperature.

Moisture,———— Pressure, ... Temperature,— — — — — —

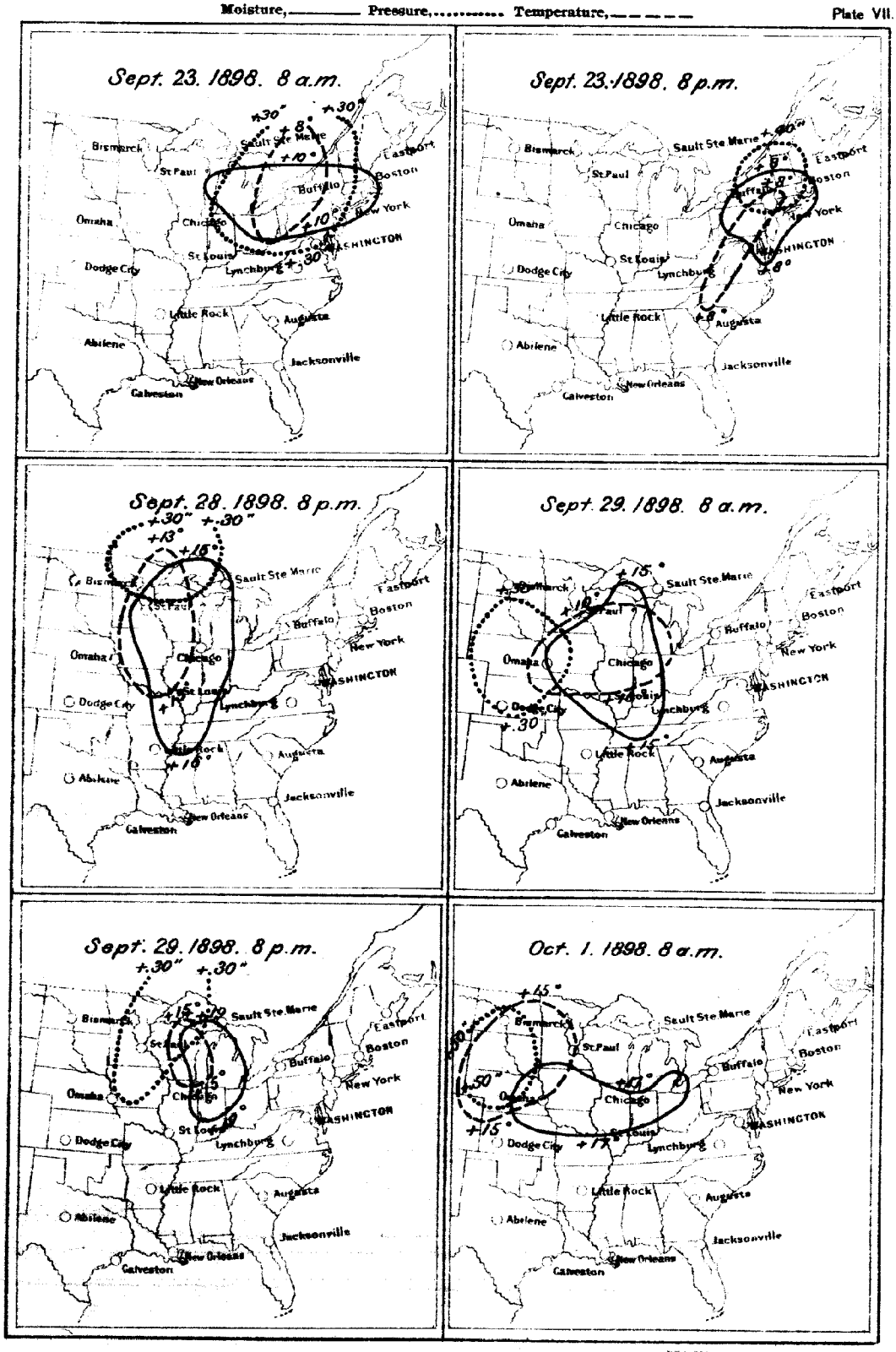
Plate VI.



Waves of Moisture, Pressure, and Temperature.

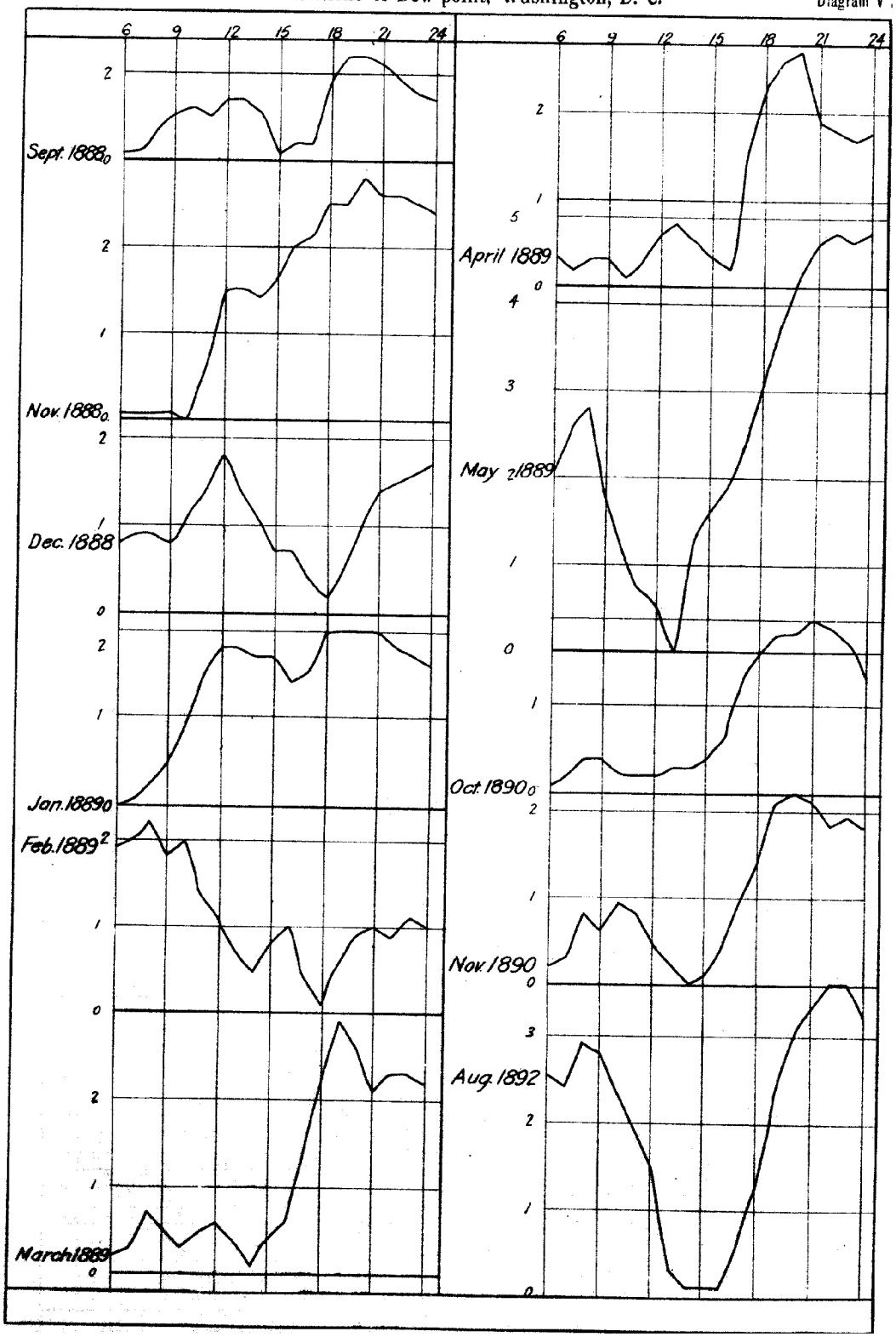
Moisture,———— Pressure,..... Temperature,— — — —

Plate VII.

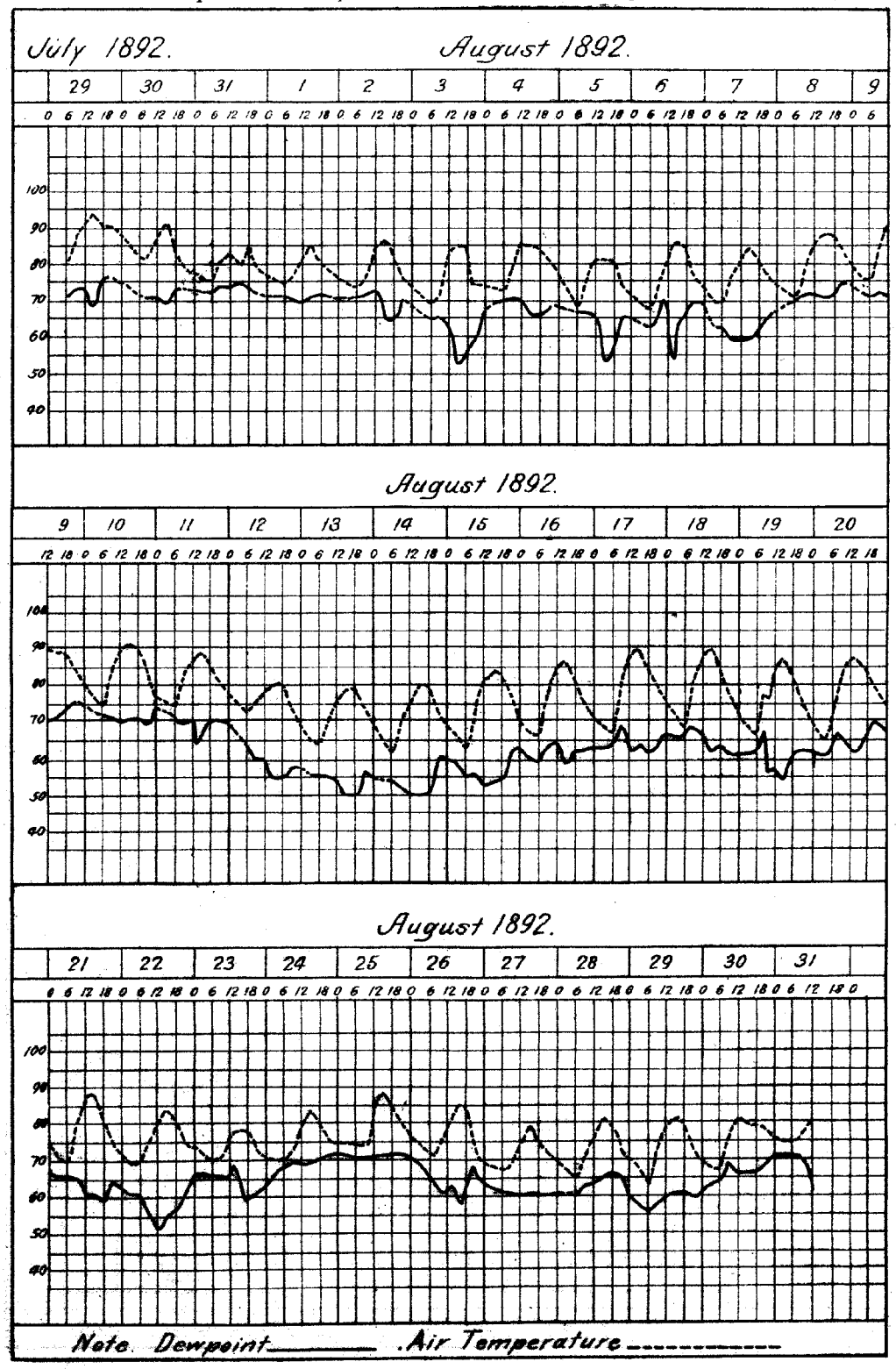


Fluctuations of Dew-point, Washington, D. C.

Diagram V.



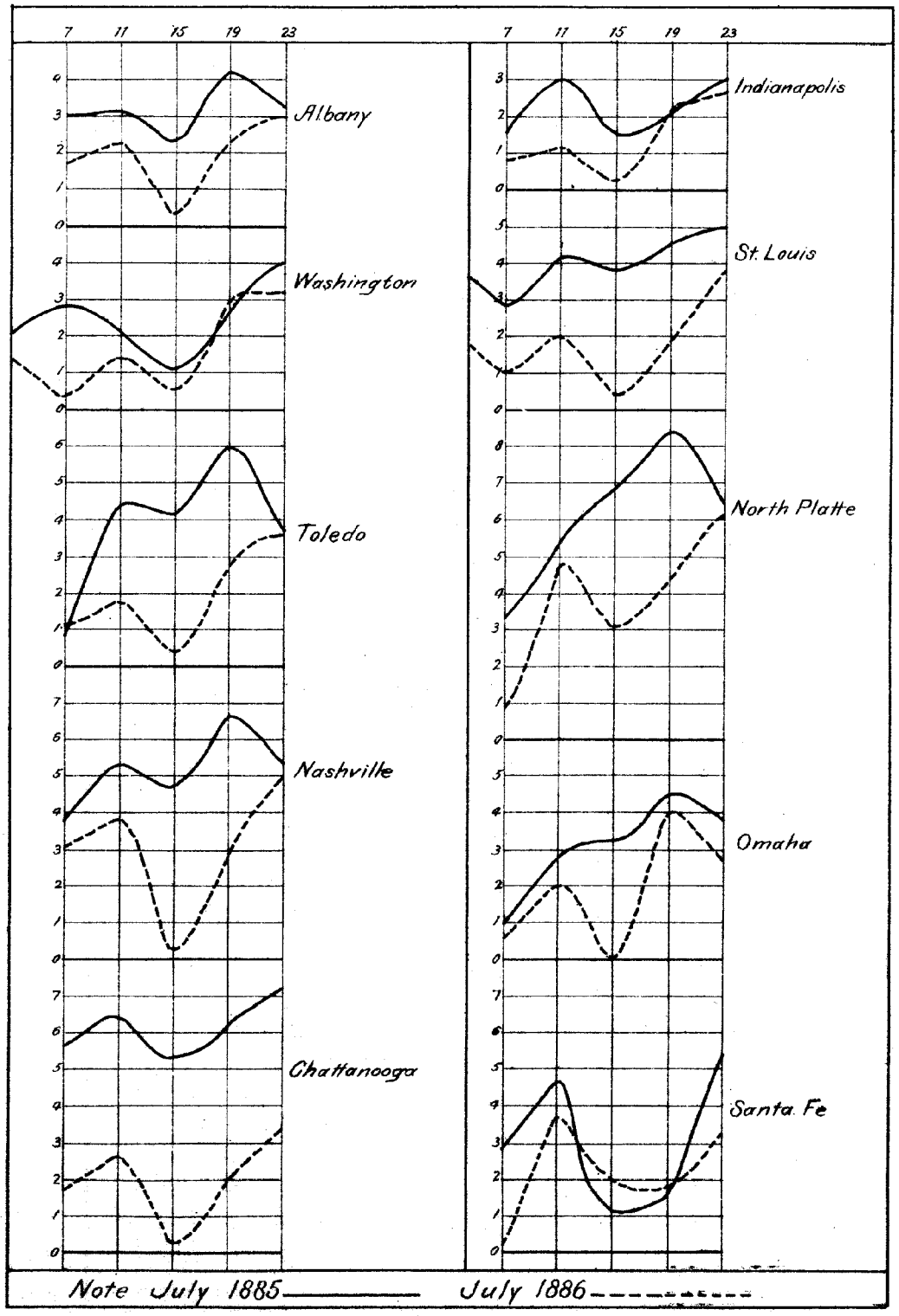
Dew-point and Temperature Fluctuations, Washington, D. C., 1892. Diagram VI



Diurnal Range of Moisture.

(Typical Stations showing the Double Oscillation.)

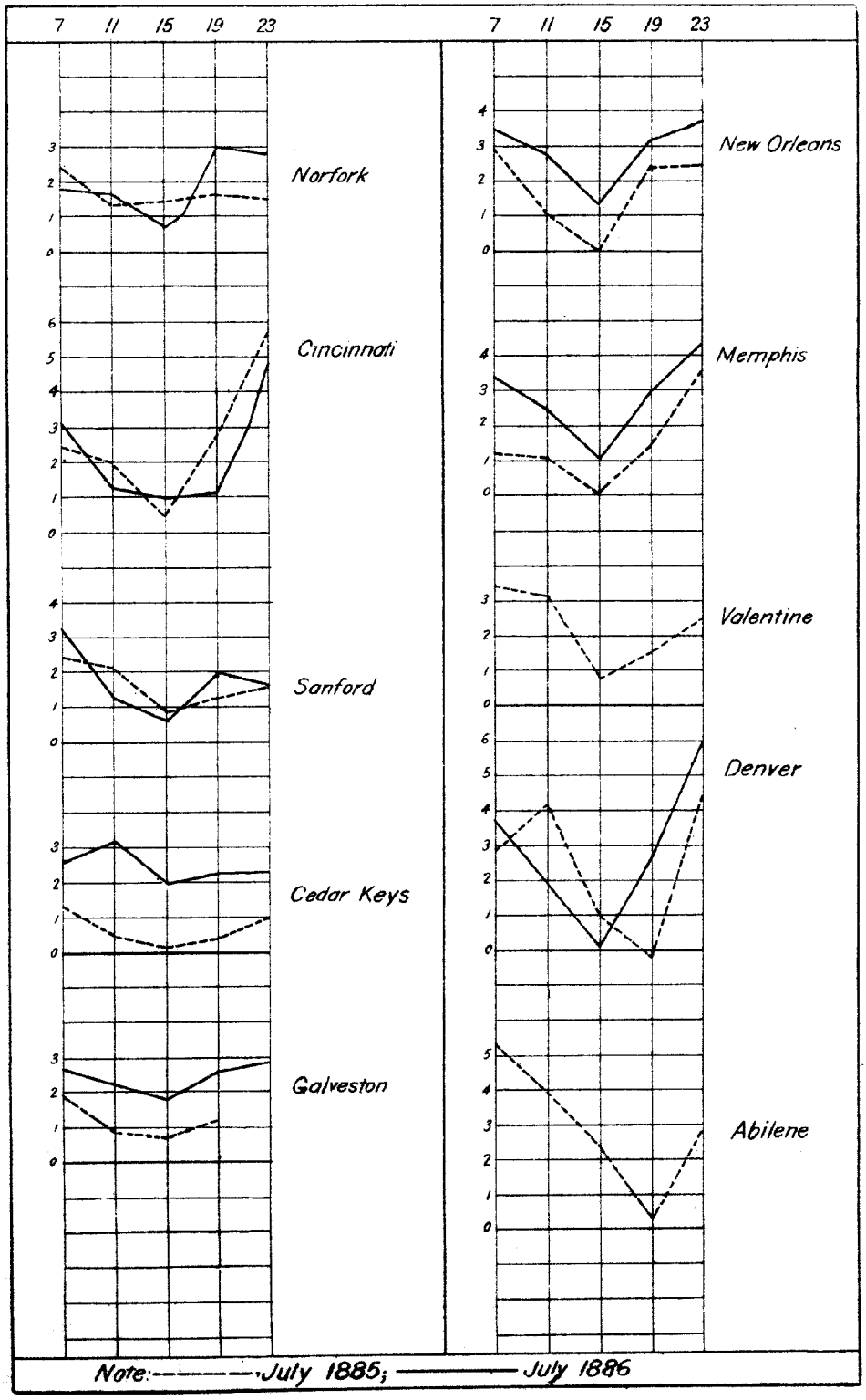
Diagram VII.



Diurnal Range of Moisture.

(Typical Stations showing Minimum in the afternoon.)

Diagram VIII.



Diurnal Range of Moisture.

(Typical Stations showing Maximum in the afternoon.)

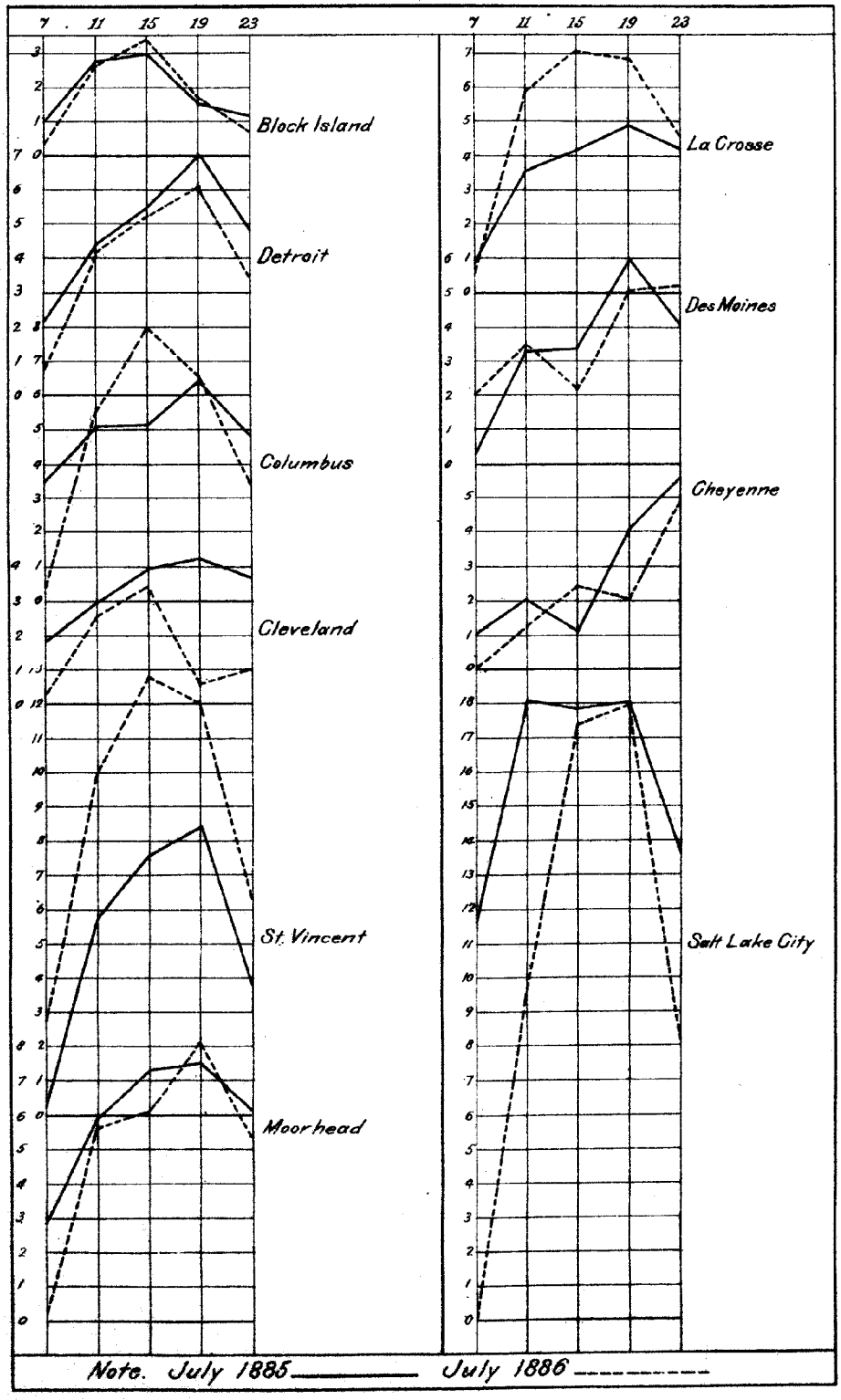



Diagram IX.