The month has been marked by an absence of violent storms, unusually high temperature, and scant rainfall, and great number of warm, clear, or fair days. The weather was very favorable for both the agriculturist and horticulturist.

Temperature (in degrees Fahr.).—The mean temperature for the month was higher than the normal temperature for February in all sections of the state, ranging from 6 above the normal at Newport to a normal temperature at Bandon; both places being on the immediate coast. In the interior region it ranged from 5 above the normal at The Dalles to 2 above at Roseburg. Ashland reports the highest maximum temperature, 69, on the 26th, and Fort Klamath the lowest minimum, on the 29th.

January was a very cold month, while February, however, was the reverse. The mean temperature of the state was 41.5.

Precipitation, including melted snow (in inches).—The precipitation was most markedly below the normal in all sections; the deficiency ranging from 6.85 at Bandon to 0.90 at Lakeview.

For the season from July 1st, 1887, to March 1st, 1888, the precipitation is below the normal in all sections except at Astoria, where it is 2.46 above the normal. The deficiency of the season ranges from 9.34 at Bandon to 1.60 at Eola. Comparatively speaking, the greatest deficiency in the seasonal precipitation is in extreme southern Oregon, where much deficiency can least be stood in the annual or seasonal precipitation. At Portland there is a deficiency in the seasonal precipitation of 18 per cent., at Bandon 20 per cent., at Eola 5 per cent., at Roseburg 10 per cent., at Ashland 36 per cent., and at Lakeview 46 per cent.

The "Pennsylvania State Weather Service," report prepared under the direction of the Franklin Institute, Philadelphia, by Sergeant T. F. Townsend, Signal Corps:

The mean temperature for February for the state was 28°.4, which is about 1° below the normal. Fayette, Alleghany, and Philadelphia report the highest monthly means, and Wayne, Sullivan, Warren, and Erie the lowest. The warmest period of the month prevailed on the 14th and 20th. Uniontown reports 63°; Pittsburg, 61°; Indiana, 61°; and Greensburg, 60°. The cold wave of the 10th was general throughout the state, and the following low temperatures were reported: Dyberry, —31°; Columbus, —25°; Blooming Grove, —22°; Tionesta, —19°; Bernice, —19°; Wysox, —18°.5; Philipsburg, —18°; Scranton, —17; Eagle's Mere, —16°; and Clarion, —16°. In some localities the lowest temperatures noted occurred on the 16th.

The average precipitation, including rain and melted snow, was 2.50 inches, which is from a half to one inch below the normal. The total precipitation in eastern Pennsylvania was nearly double that in the western portion. Wellsborough reports 4.54 inches; West Chester, 4.97 inches; Quakertown, 4.26 inches; and Bernice, 4.46 inches, while Philipsburg had but 0.89 inch, and Washington, 0.91 inch.

The "South Carolina Weather Service," Hon. A. P. Butler, Com'r of Agriculture for South Carolina, Columbia, director:

The areas of low barometer which prevailed in the Southern States on the 3d, 4th, 18th, 21st, 22d, 23d, and 24th brought with them rain; from the 19th to the 24th were six days of threatening and rainy weather, during which the major part of the monthly precipitation occurred. A heavy rainfall was reported on the 11th. Aside from these we had the average number of clear and fair days. Average rainfall for the month, 4.83 inches, exceeding the means of February, 1887, by nearly one and a half inches. The greatest amount of precipitation occurred in the northern counties.

The mean temperature of the state was 49°.9, 2°.7 lower than for the same month last year. The maximum temperature was observed at most of the stations throughout the state on the 18th and 20th, and the minimum temperature on the 28th.

The following is an extract from the report of the "Meteorological Department of the State (Tennessee) Board of Health," prepared under direction of J. D. Plunket, M. D., President of the State Board of Health, by H. C. Bate, Signal Corps, Assistant, Nashville:

The month of February was characterized by a large percentage of cloudiness, high winds, and disagreeable weather generally.

The mean temperature was 44°.5, slightly above the mean of the past five years. It was about 5° lower than the February mean of last year, but was 8° higher than that of 1886, and nearly 11° higher than that of 1885. The highest temperature was 71°, recorded at various stations on the 17th, 18th, and 19th, and was the lowest February maximum during the last five years except that of 1886, which was 70°. The lowest temperature was 4°, recorded on the 28th. With the exception of last year it was the highest February minimum during the past five years, the lowest during that time being in 1886, when the remarkable and perhaps unprecedented record of —22° was reported. The minimum reported last year was 20°, making a difference of 42° in the February minimums of the two years. The mean daily range was slightly less than the normal of five years.

The mean rainfall was 3.45 inches, nearly two inches less than the February mean of the past five years, the greatest during that period being 8.45 inches in 1884, and 8.03 inches last year, and the least, 2.39 inches in 1885. Of this amount the eastern division received an average of about four inches, the middle division about three and a half inches, and the western division about two and a half inches. The greatest monthly rainfall was 5.34 inches, reported at Andersonville, and the least was 1.90 inch, reported at Milan. The greatest rainfall in twenty-four consecutive hours was 2 inches, reported on the 9th at Fostoria. The days of greatest rainfall were the 3d, 7th, 10th, 11th, 19th, and 24th, and of these the greatest fall occurred on the 19th. Most of the rains during the month were general, though comparatively light, only a few stations reporting over one inch of daily rainfall. On the 26th and 27th there were falls of sleet and snow; the greatest depth reported for the month was 3.52 inches, at Cookeville. Slight falls of snow and sleet were reported during the first decade at a few stations. Frosts were reported at various stations on nineteen days, the 3d, 4th, 5th, 7th, 8th, 19th, 20th, 23d, 24th, and 25th being the days on which none was reported. Most of these were heavy or killing.

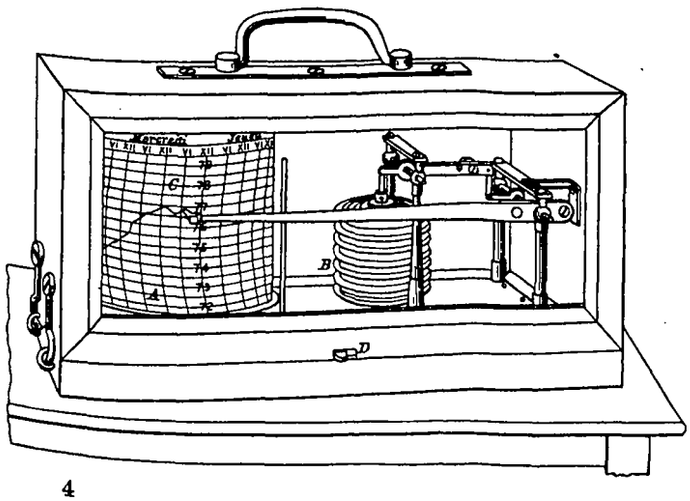
The feature of the month was the thunder-storm of the 19th, which prevailed with greater or less severity throughout the western and middle portions of the state and a small portion of the eastern division. It was quite severe in the northern portion of the western division, and the northwestern portion of the middle division, and extended into southwestern Kentucky, where it was very severe.

NOTES AND EXTRACTS.

The following descriptions of self-registering instruments are published in compliance with frequent requests for information concerning suitable instruments for making a continuous record of atmospheric pressure and temperature:

RICHARD'S SELF-REGISTERING BAROMETER.

Fig. 1.



The "Richard" self-registering aneroid barometer, shown in Fig. 1, consists of a cylinder, *A*, on which the recording paper is wound, revolving once a week by means of a clock-work contained inside; a series of metallic boxes, *B*, eight in number, screwed together and exhausted of air; a compound lever, by means of which the motion of top of metallic boxes is transmitted, magnified about forty times, to the marking pen, *C*.

The essential part of the barometer is the aneroid chamber or shell, made of two thin sheets of metal, soldered at the edges, and exhausted of air. The two thin sheets thus tending to approach by the atmospheric pressure are kept apart by the opposing action of a spring within, formed of two discs of steel in contact at their ends.

Each shell thus formed is flattened slightly when the external pressure increases and swells out when the pressure diminishes.

Each of the shells has a projecting piece on each base in the axis; the piece on one side is a screw, having a thread cut on it, the other is a nut. The shells are made into a vertical column by screwing the one on the other. The lower base of column being fixed, the upper end rises and falls with every variation in the atmospheric pressure, by a quantity which is the sum of the displacements of each elementary shell. As far as vacuum is concerned the shells are independent of each other.

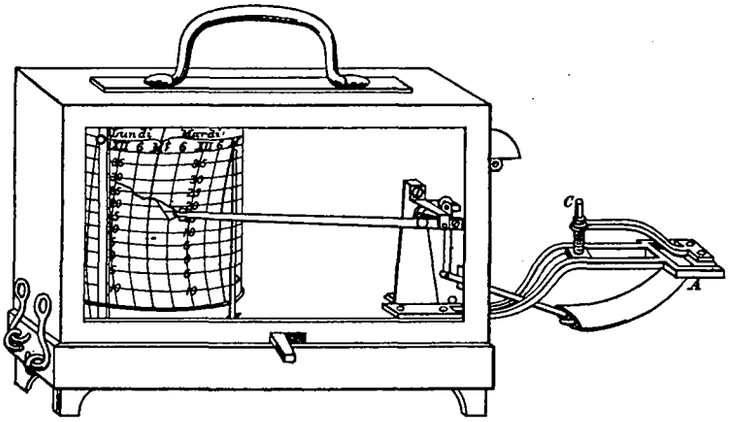
The instrument is compensated for temperature. This is accomplished by leaving a sufficient quantity of air in one of the shells, ascertained by experiment when the instrument is made, so that with a rise of temperature the tendency of the barometer to register too low on account of the expansion of the levers and other parts is counteracted by the increased pressure of the air in the shell. The instrument, however, should be kept at a uniform temperature.

RICHARD'S SELF-REGISTERING THERMOMETER.

The "Richard" self-registering thermometer, shown in Fig. 2, has many parts similar to the self-registering aneroid. The essential or thermometric part is the copper bulb, *A*, filled with alcohol.

As the temperature changes, increasing or diminishing the volume of alcohol, the curvature of this crescent-shaped bulb changes. The motion of the free end is transmitted by a compound lever to the marking pen. When the instrument is set up or the sheet renewed, which should be once a week, at 9 a. m. Monday morning, the same as in the case of the barometer, the pen should be made to register the same as the dry thermometer, within 1° or thereabout. This adjustment is made by means of the nut at *c*, turning it so as to raise or lower the pen.

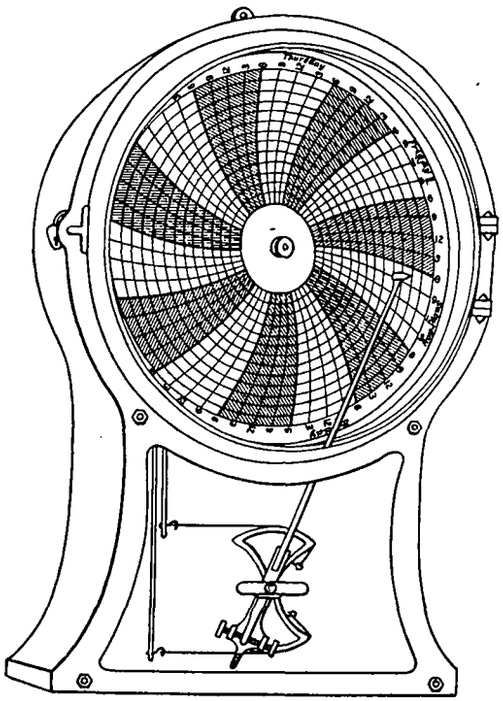
Fig.2.



DRAPER'S SELF-REGISTERING THERMOMETER.

This is a metallic thermometer (see Fig. 3). Strips of steel and brass about twelve inches long are soldered throughout their length. The difference in their expansions causes changes in the curvature of the strip, one end of which is fixed. The movements of the other end, by a suitable device, produce a motion of the registering pen. There are two of these compound strips, so arranged as to curve in opposite directions as the temperature changes. They act on opposite sides of the pivot of marking pen. This is for the purpose of insuring greater accuracy in the record at times when the temperature is changing from rising to falling, or the reverse.

Fig.3.



The record being a line traced on a disk, has the advantage over such as make tracings on a cylinder, that the record for a whole week can be seen without inconvenience. The disk holding record paper is made to revolve by an accurate clock-work once in a week. The indications of the instrument are trustworthy to within two degrees Fahrenheit.

Monthly and annual precipitation, in inches and hundredths, at Saint Louis, Mo., from observations furnished by Dr. Geo. Englemann.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
1838 ...	3.72	1.25	1.51	3.36	4.68	3.73	3.13	4.48	0.06	3.06	2.09	0.44	31.51
1839 ...	2.21	2.50	2.59	5.46	7.93	7.26	5.71	2.89	2.45	3.96	2.48	2.00	47.44
1840 ...	1.80	1.38	2.10	3.31	4.58	6.27	2.36	7.15	3.96	6.30	1.73	0.71	41.65
1841 ...	0.84	0.88	4.99	3.85	2.38	1.67	3.09	5.63	3.22	6.81	5.44	3.93	42.73
1842 ...	0.45	3.90	2.22	3.49	3.22	5.12	1.76	2.64	2.17	2.57	2.38	2.39	32.31
1843 ...	2.34	1.90	3.49	4.87	4.15	3.95	2.49	1.32	2.19	1.55	4.82	1.72	34.79
1844 ...	3.36	1.73	4.84	3.86	11.26	6.85	8.13	0.45	0.30	2.25	1.17	1.61	50.91
1845 ...	1.83	1.07	3.18	2.28	4.42	10.01	4.75	6.23	1.03	1.16	1.10	0.93	37.99
1846 ...	2.98	1.27	1.27	4.84	3.75	5.21	0.84	4.73	4.84	2.71	2.11	10.90	45.45
1847 ...	2.12	3.58	2.28	3.98	4.36	8.61	5.37	0.90	3.26	8.74	8.63	0.89	52.72
1848 ...	1.86	2.27	6.61	3.16	8.10	17.07	5.37	9.74	1.12	2.41	1.91	5.74	65.36
1849 ...	4.18	0.56	2.70	2.64	2.71	6.46	9.40	5.15	5.81	2.17	2.11	1.82	45.71
1850 ...	1.94	4.10	5.63	7.68	7.47	1.47	4.83	2.10	3.74	2.71	6.24	2.59	50.50
1851 ...	0.61	6.74	3.14	4.70	2.83	6.19	5.77	8.97	0.49	1.51	1.99	3.90	46.84
1852 ...	0.99	2.12	7.67	2.28	5.19	10.25	3.36	1.60	1.47	5.26	3.29	3.48	46.96
1853 ...	0.52	1.67	0.79	3.24	3.64	3.23	4.10	5.48	4.67	0.96	1.51	1.08	30.89
1854 ...	1.18	3.11	7.49	7.60	6.30	3.21	0.92	1.80	1.44	4.15	1.94	1.49	40.63
1855 ...	4.66	0.70	2.89	2.65	7.46	4.27	5.17	6.53	3.89	3.89	5.16	3.10	50.37
1856 ...	1.03	3.64	1.06	6.35	3.03	1.24	4.61	6.82	3.51	2.10	4.90	4.29	42.58
1857 ...	0.41	7.74	1.80	1.72	4.81	3.71	2.82	4.15	3.18	3.02	3.80	1.87	39.03
1858 ...	3.42	2.12	3.96	6.07	10.64	6.69	8.03	2.87	3.86	7.73	4.92	8.52	68.83
1859 ...	2.32	5.35	7.32	4.89	6.60	11.02	5.54	2.93	4.44	1.80	5.43	3.76	61.40
1860 ...	1.80	2.60	1.16	2.03	2.29	6.58	2.97	2.96	2.11	1.58	1.63	2.08	29.79
1861 ...	1.16	2.01	7.38	3.18	4.39	4.96	2.04	3.44	4.14	2.85	1.39	1.09	38.03
1862 ...	4.01	0.80	4.11	4.82	2.51	2.85	3.61	1.32	6.27	3.73	3.59	6.38	44.00
1863 ...	4.11	3.99	3.02	1.55	2.68	3.16	2.51	6.93	1.56	4.76	2.15	4.03	40.45
1864 ...	2.74	0.82	1.71	5.58	3.90	0.41	3.60	4.91	2.82	3.15	5.25	2.72	37.61
1865 ...	0.87	3.75	8.61	3.31	5.66	5.21	7.94	1.96	2.60	3.33	0.00	3.63	46.87
1866 ...	4.16	2.24	2.80	1.56	2.24	5.59	3.67	5.16	10.53	2.01	1.37	1.87	43.20
1867 ...	2.28	4.81	2.37	0.53	8.26	5.64	3.71	2.29	0.17	1.31	2.74	3.65	37.76
1868 ...	1.71	0.55	7.66	7.08	3.96	1.58	2.03	8.53	5.25	2.11	2.04	3.09	45.59
1869 ...	2.02	2.49	4.24	4.61	3.60	6.25	2.49	5.51	1.70	3.42	7.48	3.16	46.97
1870 ...	.....	.....	.....	.....	2.73	1.38	1.59	6.55	1.14	3.35	1.94	2.76	.....
1871 ...	3.60	2.64	1.14	0.25	3.40	2.87	1.14	3.00	0.02	1.75	1.21	0.85	21.87
1872 ...	0.79	1.69	1.70	2.85	6.57	4.38	5.03	0.56	2.84	0.29	1.89	1.76	30.35
1873 ...	3.58	1.44	2.07	5.29	4.45	6.89	6.18	0.04	2.38	2.62	1.39	4.43	40.76
1874 ...	2.47	2.23	3.75	2.80	3.48	2.00	5.30	4.01	2.33	0.84	2.37	1.45	33.03
1875 ...	0.54	2.61	3.28	2.80	4.55	10.09	10.00	2.54	0.33	1.30	0.91	2.28	41.23
1876 ...	4.44	2.92	6.79	2.11	2.84	5.76	5.78	5.55	7.32	1.54*	1.55	0.19	46.79
1877 ...	1.41	0.63	4.07	2.43	2.59	8.50	2.37	3.17	2.20	4.16	3.06	2.61	37.20
1878 ...	2.44	1.85	2.50	6.17	4.88	1.88	2.59	5.79	3.61	3.07	0.20*	3.03	38.01
1879 ...	1.65	1.38	1.81	2.62	0.96	3.83	1.85	2.23	1.34	0.43	4.05	3.15	25.30
1880 ...	3.27	2.60	3.10	3.22	2.70	1.13	.....	.....	.....	.....	.....	1.77	.....
1881 ...	0.39	5.41	2.06	2.73	4.34	.....	.....	.....	.....	.....	.....	.....	.....
Mean.	2.19	2.54	3.60	3.72	4.60	5.22	4.14	4.07	2.90	2.96	2.89	2.86	41.69

* Probably incomplete.

Monthly and annual precipitation, in inches and hundredths, at Hopkinton, Iowa, from observations made by Mr. Theodore Marks.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
1877 ...	.....	.....	.....	.....	.....	6.50	2.30	5.69	2.35	4.20	2.85	2.25	.....
1878 ...	0.65	0.80	1.98	3.40	4.55	5.39	2.32	2.70	10.85	3.59	0.43	1.21	37.87
1879 ...	0.40	1.02	1.46	1.40	3.35	5.15	4.40	6.85	3.25	0.95	5.90	2.17	36.30
1880 ...	2.30	1.04	2.43	3.45	4.80	8.15	7.80	8.95	7.82	0.54	2.32	1.50	51.10
1881 ...	0.70	3.22	2.23	0.83	2.25	9.00	6.10	1.87	8.05	6.67	2.65	1.65	42.22
1882 ...	1.60	1.47	2.75	4.98	5.42	3.53	1.76	3.75	2.79	4.60	1.85	1.85	36.35
1883 ...	1.60	1.48	0.90	1.17	7.65	4.90	7.80	0.96	2.17	4.89	2.20	1.95	37.67
1884 ...	0.63	1.25	3.30	2.23	4.41	4.05	3.70	3.62	6.76	2.97	1.36	3.50	37.78
1885 ...	1.45	0.70	0.20	4.22	3.40	6.61	5.92	9.52	4.39	1.90	0.47	2.75	41.53
1886 ...	3.80	1.25	1.85	2.04	5.60	0.97	0.76	0.34	4.43	6.05	1.00	0.85	28.94
1887 ...	2.30	2.65	2.25	1.05	1.45	1.90	3.05	4.29	8.45	2.25	1.20	2.15	32.97
Mean..	1.54	1.49	1.93	2.48	4.29	5.10	4.17	4.41	5.57	3.51	2.02	2.26	38.27

Precipitation, in inches and hundredths, by months and years, at Fort Sanders, Wyoming.

Lat. 41° 16′ N., Long. 105° 32′ W.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
1869...	0.88	0.58	0.30	0.65	2.05	2.65	0.27	1.77	0.65	0.38	0.56	0.03	10.77
1870 ...	0.06	0.65	0.72	3.63	1.10	0.87	0.62	0.87	1.36	0.04	0.00	0.16	10.08
1871 ...	0.14	0.62	0.13	1.22	0.55	0.05	1.62	0.00	0.40	0.68	2.00	0.75	8.16
1872 ...	0.50	0.70	0.69	2.45	2.28	2.05	2.95	3.05	1.30	0.60	0.60	0.60	17.77
1873 ...	0.95	0.90	0.73	1.03	1.95	1.25	2.70	2.10	0.70	1.53	0.40	0.90	15.14
1874 ...	0.50	0.20	0.85	0.45	0.87	1.76	3.07	0.72	1.31	1.49	0.09	0.29	11.60
1875 ...	3.53	0.58	1.00	0.33	0.15	0.05	1.80	2.05	0.85	0.51	1.15	0.14	10.14
1876 ...	0.13	0.61	1.11	0.32	2.36	0.16	0.89	0.66	0.43	0.98	2.27	1.05	8.97
1877 ...	1.95	0.00	0.57	1.13	0.56	1.53	2.56	0.46	1.91	1.70	0.09	0.86	13.32
1878 ...	0.12	1.26	0.34	0.10?	2.80	4.90	1.75	4.90	.....	.....	.....	.....	.....
Mean.	0.88	0.61	0.64	1.13	1.47	1.53	1.82	1.66	0.99	0.88	0.78	0.53	12.92

AVERAGE DATE OF LAST KILLING FROST AT SIGNAL SERVICE STATIONS.

The accompanying chart, number v, shows, in graphic form, the average date on which the last killing frost occurs from the Rocky Mountains eastward to the Atlantic coast. This chart has been deduced from observations of the Signal Service since the opening of the various stations, many of which have a record of fourteen years. The chart being a deduction of observations made in past years, has a certain predictive value, since a considerable number of the frosts, as will appear from the following table, occur within ten days of the time shown by the chart, either earlier or later. The greatest uncertainty as to the date of the last frost occurs, as might be expected, at stations near the sea and in low latitudes.

This table shows (1) the number of years of observation from which the data is drawn; (2) the average date of last killing frost; (3) the earliest date on which the last killing frost occurred; (4) the last date on which the last killing frost has occurred; (5) the extreme period of time between which the earliest and last frosts have been noted; (6) the percentage of times where the last killing frost has not been more than ten days earlier or later than the average date:

Station.	Number of years.	Average date of last killing frost.	Earliest occurrence of last killing frost.	Latest occurrence of last killing frost.	Extreme departure, days.	Departures of ten days or less, %.
Eastport, Me	14	Apr. 30	Apr. 3, '77	June 19, '75	50	64
Portland, Me	14	Apr. 13	Mar. 24, '83	Apr. 30, '74	17	71
Boston, Mass	14	Apr. 20	Mar. 26, '78	May 3, '74 '82	13	64
Block Island, R. I	7	Mar. 31	Mar. 8, '77	Apr. 7, '81	7	71
New Haven, Conn	14	Apr. 28	Mar. 3, '80	May 30, '84	32	43
New London, Conn	14	Apr. 19	Mar. 10, '78	May 24, '79	35	21
Albany, N. Y	14	Apr. 23	Apr. 1, '84	May 14, '78	21	36
New York City	14	Apr. 12	Mar. 24, '86	May 20, '74	38	57
Philadelphia, Pa	14	Apr. 5	Mar. 2, '87	Apr. 29, '74	24	64
Atlantic City, N. J	14	Apr. 10	Feb. 27, '82	Apr. 29, '74	19	36
Barnegat, N. J	12	Apr. 13	Jan. 15, '82	May 14, '78	31	50
Cape May, N. J	12	Apr. 8	Mar. 9, '83	May 3, '82	25	58
Sandy Hook, N. J	13	Apr. 7	Feb. 27, '82	Apr. 30, '74	23	69
Delaware Breakwater, Del	5	Apr. 8	Mar. 31, '84	Apr. 12, '80 '82	4	100
Baltimore, Md	14	Apr. 9	Mar. 16, '85	May 3, '82	24	36
Washington City	14	Apr. 6	Mar. 1, '83	Apr. 29, '74	23	43
Cape Henry, Va	13	Mar. 19	Feb. 5, '80-2	Apr. 19, '75	31	46
Chincoteague, Va	8	Apr. 9	Mar. 18, '86	Apr. 20, '87	11	62
Lynchburg, Va	14	Apr. 11	Mar. 10, '84	May 3, '82	22	64
Norfolk, Va	14	Mar. 28	Feb. 26, '82	Apr. 20, '87	23	29
Charlotte, N. C	9	Apr. 5	Mar. 10, '84	May 3, '79	28	33
Hatteras, N. C	7	Feb. 27	Jan. 4, '82	Apr. 5, '81	37	29
Kitty Hawk, N. C	12	Mar. 16	Jan. 18, '78	Apr. 19, '75	34	25
Fort Macon, N. C	6	Mar. 20	Feb. 25, '82	Apr. 6, '81	17	50
Smithville, N. C	11	Mar. 10	Feb. 1, '82	Apr. 6, '81	25	27
Wilmington, N. C	14	Mar. 13	Jan. 23, '82	Apr. 19, '75	37	43
Charleston, S. C	14	Feb. 23	Jan. 4, '82	Apr. 2, '81 '87	38	7
Augusta, Ga	14	Mar. 16	Feb. 6, '82	Apr. 14, '85	29	21
Savannah, Ga	13	Feb. 26	Jan. 4, '82	Apr. 13, '85	46	8
Jacksonville, Fla	13	Feb. 17	Dec. 18, '80	Mar. 23, '83	34	8
Cedar Keys, Fla	7	Jan. 18	Dec. 7, '87	Feb. 11, '85	24	29
Sanford, Fla	3	Jan. 30	Jan. 2, '87	Feb. 6, '86	7	67
Atlanta, Ga	9	Mar. 22	Feb. 2, '82	Apr. 8, '86	17	33
Pensacola, Fla	8	Mar. 3	Dec. 27, '80	Apr. 6, '86	34	25
Mobile, Ala	14	Feb. 22	Dec. 27, '80	Apr. 2, '81	39	14
Montgomery, Ala	14	Mar. 6	Feb. 2, '82	Apr. 5, '81	30	36
Vicksburg, Miss	14	Feb. 23	Jan. 16, '74	Apr. 2, '81	38	36
New Orleans, La	12	Jan. 17	Nov. 26, '81	Feb. 12, '78	26	58
Shreveport, La	14	Feb. 25	Jan. 12, '87	Mar. 31, '86	34	29
Fort Smith, Ark	5	Mar. 27	Mar. 9, '84	Apr. 5, '87	9	80
Little Rock, Ark	8	Mar. 27	Feb. 22, '82	Apr. 14, '81	18	50
Galveston, Tex	11	Jan. 30	Dec. 26, '79	Feb. 22, '81	23	9
Indianola, Tex	11	Feb. 14	Nov. 30, '77	Apr. 14, '81	59	27
Palestine, Tex	5	Mar. 25	Mar. 9, '84	Mar. 30, '86	5	80
San Antonio, Tex	8	Feb. 22	Dec. 7, '78	Apr. 14, '81	51	25
Brownsville, Tex	9	Jan. 21	Dec. 26, '79	Feb. 18, '83	28	11
Rio Grande City, Tex	8	Jan. 27	Dec. 16, '81	Mar. 1, '84	33	0
Chattanooga, Tenn	9	Mar. 24	Jan. 25, '80	Apr. 8, '86	15	33
Knoxville, Tenn	14	Apr. 11	Mar. 25 '74 '82	Apr. 25, '83	14	64
Memphis, Tenn	14	Mar. 26	Feb. 26, '74	Apr. 16, '82	21	50
Nashville, Tenn	14	Apr. 1	Feb. 2, '82	Apr. 17, '75	16	57
Louisville, Ky	14	Apr. 7	Mar. 10, '84	Apr. 24, '87	17	57
Greencastle, Ind	2	Apr. 6	Apr. 4, '85	Apr. 8, '86	2	100
Indianapolis, Ind	14	Apr. 19	Apr. 1, '76	May 13, '78	24	36
Cincinnati, Ohio	14	Apr. 21	Mar. 10, '84	May 22, '83	31	64
Columbus, Ohio	9	Apr. 18	Apr. 7, '81	May 1, '82	13	56
Pittsburg, Pa	14	Apr. 26	Mar. 30, '87	May 17, '83	21	50
Buffalo, N. Y	14	Apr. 25	Mar. 30, '78	May 8, '79	13	50
Oswego, N. Y	14	Apr. 21	Mar. 26, '78	May 16, '85	25	43
Rochester, N. Y	14	May 3	Apr. 11, '86	May 17, '83	14	71
Erie, Pa	14	Apr. 24	Mar. 26, '78	May 7, '74	13	57
Cleveland, Ohio	14	Apr. 23	Mar. 26, '78	May 17. '75 '83	24	43

Average date of last killing frost, &c.—Continued.

Stations.	Number of years.	Average date of last killing frost.	Earliest occurrence of last killing frost.	Latest occurrence of last killing frost.	Extreme departures, days.	Departures of ten days or less, %.
Sandusky, Ohio	9	Apr. 15	Mar. 26, '78	May 23, '79	38	56
Toledo, Ohio	14	Apr. 19	Feb. 24, '86	May 24, '82	35	29
Detroit, Mich	14	Apr. 30	Apr. 1, '87	May 14, '80	14	64
Alpena, Mich	14	May 10	Apr. 5, '86	June 29, '85	50	64
Escanaba, Mich	14	May 14	Apr. 24, '83	June 29, '85	46	57
Grand Haven, Mich	14	Apr. 29	Mar. 2, '82	June 10, '85	42	57
Mackinaw City, Mich	5	May 13	Apr. 29, '84	June 8, '86	26	40
Marquette, Mich	14	May 21	Apr. 30, '80	June 11, '82	21	43
Port Huron, Mich	13	May 4	Apr. 9, '86	May 29, '84	25	62
Chicago, Ill	14	Apr. 26	Apr. 2, '84	May 25, '82	29	43
Milwaukee, Wis	14	Apr. 29	Mar. 29, '78	May 21, '83	22	57
Duluth, Minn	14	May 7	Apr. 7, '86-7	June 8, '85	32	64
Saint Paul, Minn	14	Apr. 28	Apr. 6, '78	May 23, '82	25	57
La Crosse, Wis	14	May 1	Apr. 7, '86	May 23, '82	22	36
Davenport, Iowa	14	Apr. 27	Mar. 28, '78	May 22, '82-3	25	43
Des Moines, Iowa	9	Apr. 14	Mar. 15, '82	May 9, '85	25	44
Dubuque, Iowa	13	May 1	Mar. 20, '78	May 23, '82	22	62
Keokuk, Iowa	14	Apr. 11	Mar. 4, '78	May 2, '75	21	64
Cairo, Ill	14	Apr. 5	Feb. 28, '78	May 8, '85	33	27
Springfield, Ill	8	Apr. 20	Mar. 23, '86	May 22, '83	32	25
Saint Louis, Mo	14	Apr. 3	Feb. 27, '78	May 2, '75	29	36
Lamar, Mo	3	May 1	Apr. 6, '86	May 8, '85	7	33
Leavenworth, Kans	14	Apr. 6	Mar. 16, '82	May 1, '75	25	64
Omaha, Nebr	14	Apr. 15	Mar. 28, '78	May 7, '85	22	50
Valentine, Nebr	2	May 1	Apr. 29, '86	May 3, '86	2	100
Fort Bennett, Dak	5	May 7	Apr. 1, '81	May 22, '82	15	40
Huron, Dak	6	May 17	Apr. 25, '87	June 22, '85	36	17
Yankton, Dak	14	May 3	Apr. 5, '81	May 23, '82	20	57
Moorhead, Minn	7	May 24	May 2, '81-4	June 8, '85	15	29
Saint Vincent, Minn	7	June 1	Apr. 29, '81	June 8, '85	7	71
Bismarck, Dak	13	May 11	Apr. 29, '80	June 3, '75	23	69
Fort Buford, Dak	9	May 15	Apr. 28, '81	June 2, '83	18	56
Fort Totten, Dak	3	May 26	May 15, '86	June 4, '87	9	67
Fort Assinaboine, Mont	7	May 17	May 4, '84	June 1, '83	15	71
Fort Benton, Mont	9	May 14	Apr. 4, '86	June 22, '81	39	22
Fort Custer, Mont	8	May 10	Apr. 13, '81	May 23, '82	13	38
Helena, Mont	8	May 17	Apr. 13, '81	June 9, '80	23	50
Fort Maginnis, Mont	3	May 12	Apr. 23, '87	May 14, '86	2	67
Poplar River, Mont	5	May 12	May 2, '86	May 16, '87	4	80
Fort Shaw, Mont	7	May 13	May 4, '86	May 21, '84	8	100
Deadwood, Dak	10	May 17	Apr. 17, '79	June 16, '85	30	40
Cheyenne, Wyo	14	May 23	Apr. 26, '87	June 19, '76	27	50
North Plate, Nebr	13	Apr. 29	Mar. 6, '86	May 12, '85	13	62
Denver, Colo	14	May 5	Mar. 29, '81	May 26, '83	21	71
Las Animas, Colo	6	Apr. 30	Apr. 23, '82	May 6, '84	6	100
Concordia, Kans	2	Apr. 15	Apr. 7, '86	Apr. 23, '87	8	100
Dodge City, Kans	13	Apr. 21	Apr. 4, '78	May 2, '84	11	69
Fort Elliott, Tex	8	Apr. 18	Mar. 10, '82	Apr. 30, '80	12	50
Fort Sill, Ind. T	10	Mar. 22	Feb. 5, '82	Apr. 6, '86	15	40
Abilene, Tex	2	Mar. 16	Feb. 24, '87	Apr. 5, '86	20	.....
Fort Concho, Tex	8	Mar. 21	Mar. 4, '78	Apr. 9, '80	19	62
Fort Davis, Tex	10	Apr. 7	Mar. 21, '81	Apr. 22, '84	15	70
Fort Stockton, Tex	9	Mar. 25	Feb. 11, '85	Apr. 21, '84	27	22
Fort Stanton, N. Mex	2	Apr. 26	Apr. 17, '86	May 5, '87	9	100

Rainfall (in inches and hundredths) at Hanover, Grafton Co., N. H., from observations made at Dartmouth College.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
1834	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.30	2.00	.....
1835	1.90	0.70	2.23	2.99	3.31	4.86	2.99	4.22	1.80	2.42	2.21	1.61	31.24
1836	3.85	6.25	2.09	2.29	3.71	3.06	2.17	1.92	1.67	3.41	3.14	3.74	37.30
1837	3.57	2.98	1.57	2.80	5.93	3.89	4.33	2.14	1.33	2.81	2.61	1.55	35.51
1838	2.63	1.65	1.82	1.42	4.95	7.27	1.78	4.19	4.05	3.93	3.90	2.75	40.34
1839	2.20	1.35	1.53	1.39	2.26	5.42	4.29	2.03	3.05	1.01	2.47	5.05	32.05
1840	2.00	2.57	4.74	6.00	3.06	3.29	3.05	2.33	7.03	3.53	4.20	3.28	45.08
1841	6.76	1.80	3.56	5.45	1.91	2.54	2.62	2.26	4.24	1.19	2.54	4.31	39.18
1842	1.32	4.28	3.43	2.82	4.31	2.90	4.74	5.45	5.28	3.51	4.65	3.98	46.67
1843	3.50	4.50	4.24	5.24	3.90	5.92	2.76	9.00	2.05	7.59	4.50	2.65	55.85
1844	3.85	2.10	4.34	1.28	3.64	3.84	9.98	6.28	2.18	8.19	1.86	4.14	46.66
1845	4.45	3.90	3.50	3.84	1.83	1.67	1.88	3.37	3.13	2.25	4.90	3.61	38.33
1846	2.48	2.55	2.82	1.67	4.77	4.38	3.37	1.73	4.11	2.66	3.67	3.52	37.73
1847	5.10	2.46	3.22	2.55	3.84	4.47	3.78	4.62	3.74	5.65	1.65	4.80	45.88
1848	3.30	2.65	2.90	1.83	6.65	2.11	6.55	5.51	3.15	5.64	3.32	4.87	48.48
1849	0.75	1.70	2.55	1.35	3.60	3.35	1.60	9.46	1.67	5.86	4.25	2.06	38.20
1850	2.00	1.68	1.20	4.33	7.37	3.54	4.18	2.86	1.83	4.87	2.18	4.27	40.31
1851	9.75	3.28	4.85	2.72	2.66	2.55	4.75	1.28	1.80	7.94	4.94	3.75	50.27
1852	1.52	2.15	3.02	4.87	0.55	4.89	3.76	2.56	2.37	2.41	3.95	3.60	35.65
1853	0.31	4.70	1.92	2.03	5.81	1.75	1.88	3.20	4.87	3.98	4.42	2.62	37.49
1854	2.88	2.77	2.13	4.14	3.46	3.92	1.24	0.12	5.32	2.46	3.58	2.11	34.13
1856	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.33	.....
1862	.....	.....	.....	.....	.....	.....	.....	.....	0.94	2.30	.....	.....	.....
1863	.....	.....	0.45	.....	1.06	1.49	7.02	5.86	1.81	1.44	1.68	2.75	.....
1864	1.80	0.75	1.28	1.83	1.82	0.73	0.51	.....	2.61	3.68	3.42	1.79	.....
1865	.....	0.50	.....	3.00	1.40	3.30	1.17	.....	2.13	2.82	2.08	.....	.....
1866	.....	.....	.....	1.59	1.56	2.97	1.49	.....	3.41	3.24	1.89	0.68	.....
1867	1.35	1.35	1.14	.....	3.71	4.04	1.28	4.61	1.89	3.27	1.35	.....	.....
1868	1.70	0.65	2.42	2.44	6.44	5.43	1.35	3.94	6.46	1.00	.....	1.45	.....
1869	2.05	1.44	4.53	3.45	2.54	3.46	2.67	.....	6.13	9.29	0.86	1.79	.....
1870	5.81	3.45	2.25	2.90	2.53	3.17	1.82	1.13	1.68	3.50	1.59	1.15	30.98
1871	0.45	0.32	2.64	1.63	2.86	2.16	1.20	.....	1.32	1.89	2.14	2.49	.....
Mean	2.97	2.39	2.68	2.14	3.50	3.53	2.94	3.75	3.10	3.79	2.89	2.85	36.53

Monthly and annual mean temperatures, in degrees Fahr., at Portsmouth, Scioto Co., Ohio, from observations furnished by D. B. Cotton, M. D.

Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
1830 ...	34.6	37.9	49.0	59.5	62.4	70.8	77.0	76.0	68.5	60.9	50.7	36.9	57.0
1831 ...	24.4	32.2	47.2	55.6	61.1	71.6	73.2	71.3	64.3	57.1	42.6	22.9	52.0
1832 ...	31.8	41.7	45.4	54.6	62.5	69.2	72.4	68.7	62.0	56.2	45.7	38.0	54.0
1833 ...	38.5	39.6	43.6	57.9	68.3	70.1	75.8	69.6	68.5	51.8	43.9	39.0	55.6
1834 ...	34.8	46.2	48.7	58.1	63.2	74.1	79.1	77.3	65.4	54.5	46.0	39.3	57.2
1835 ...	36.9	27.6	42.4	52.9	66.0	72.1	74.1	71.9	62.6	58.6	48.4	38.2	54.3
1836 ...	35.6	34.3	40.5	56.9	67.8	70.8	74.9	72.7	70.8	52.1	42.1	36.4	54.6
1837 ...	34.8	41.0	45.4	50.2	63.5	69.7	75.8	73.6	66.8	57.3	50.2	40.3	55.7
1838 ...	40.6	26.5	46.8	51.2	50.8	73.6	78.8	78.2	66.1	50.2	39.1	29.3	53.1
1839 ...	37.9	37.2	44.8	58.8	67.8	70.3	76.7	73.4	62.7	60.5	39.0	33.1	55.2
1840 ...	28.3	43.2	48.3	59.0	64.7	72.1	75.0	74.9	62.7	55.8	42.4	34.1	55.0
1841 ...	32.7	34.3	45.1	52.9	62.5	76.6	77.7	74.5	69.3	52.0	45.9	38.4	55.2
1842 ...	41.4	40.8	56.3	61.7	63.4	68.0	74.7	71.4	69.5	59.0	40.0	38.9	57.1
1843 ...	41.4	31.2	33.0	55.0	63.6	72.0	77.2	73.8	72.9	52.7	44.9	38.7	54.7
1844 ...	34.3	39.5	47.6	66.1	69.2	73.5	80.1	75.0	69.0	54.8	48.2	39.1	58.0
1845 ...	42.0	43.5	48.2	64.0	64.4	74.6	78.9	77.7	68.8	55.0	45.1	29.8	57.7
1846 ...	39.3	37.3	48.4	60.5	68.4	71.4	76.3	78.0	73.7	56.1	50.2	44.2	58.6
1847 ...	37.4	41.5	45.1	59.9	65.2	71.3	76.0	73.2	67.2	56.1	48.2	39.8	56.7
1848 ...	41.6	39.8	46.4	57.1	68.7	72.4	74.8	74.4	64.0	56.5	44.3	46.5	57.2
1849 ...	34.5	34.3	50.6	55.9	66.5	77.7	76.4	76.4	69.1	55.8	51.9	36.5	57.1
1850 ...	39.4	39.3	43.9	53.3	61.5	75.2	81.8	78.4	69.3	56.1	42.6	38.7	56.6
1851 ...	38.6	47.2	49.5	56.4	68.1	73.2	79.0	76.4	72.1	56.7	44.7	32.6	57.9
1852 ...	29.7	41.0	49.3	53.2	67.8	71.6	79.1	74.4	68.7	62.6	45.0	43.0	57.1
1853 ...	37.6	38.8	45.7	56.4	65.8	79.2	77.9	76.7	70.1	53.1	50.2	35.6	57.3
1854 ...	34.7	42.5	48.3	55.3	68.1	75.3	83.0	81.3	77.9	62.7	44.9	38.1	59.3
1855 ...	37.0	29.0	41.2	60.1	66.4	70.7	79.2	76.2	74.2	56.0	52.1	44.1	57.2
1856 ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	31.3	.....
1857 ...	22.2	46.6	42.5	46.6	60.3	71.0	74.3	74.6	70.6	53.9	40.9	43.3	53.9
1858 ...	44.5	30.7	44.5	58.1	64.4	74.5	77.6	76.4	68.2	61.9	44.0	44.5	57.4
1859 ...	32.9	40.1	51.0	53.7	69.3	72.1	78.3	73.4	66.8	52.6	46.6	31.1	55.7
1860 ...	36.9	37.7	46.8	57.9	69.0	71.0	77.3	73.7	65.3	57.8	42.0	33.2	55.7
1861 ...	35.2	40.5	44.8	56.4	61.4	73.7	71.7	74.3	64.8	55.4	43.5	37.4	54.9
1862 ...	37.1	36.5	43.5	54.9	66.0	71.2	78.2	77.6	71.4	57.4	44.8	40.5	56.6
1863 ...	39.5	40.4	42.0	54.0	72.3	69.7	75.7	74.3	63.9	52.9	45.8	39.9	55.7
1864 ...	32.9	38.3	42.7	52.3	63.8	69.6	78.2	75.8	67.8	51.5	47.3	36.9	54.8
1865 ...	29.7	38.6	49.1	57.7	62.6	73.2	73.5	70.6	71.2	53.9	43.2	39.0	55.2
1866 ...	33.0	34.2	43.0	59.9	60.8	71.9	77.2	67.2	65.5	56.6	44.2	31.6	53.8
1867 ...	24.7	40.7	39.1	57.1	59.7	75.5	76.8	73.8	70.6	55.5	45.9	35.5	54.6
1868 ...	29.4	33.9	50.0	52.0	61.5	71.2	79.9	72.0	63.8	54.5	43.6	31.7	53.6
1869 ...	38.3	38.9	40.1	52.5	61.4	68.8	74.2	75.1	66.5	47.3	39.9	37.1	53.3
1870 ...	37.5	35.4	39.6	53.7	66.9	72.1	77.1	75.0	69.5	58.1	45.4	28.3	54.9
1871 ...	37.7	38.7	51.7	60.3	65.6	75.2	75.2	76.5	65.0	52.2	35.8	32.0	55.5
1872 ...	30.5	32.3	37.2	57.5	66.6	72.8	77.6	76.2	66.1	53.2	40.9	26.2	53.1
1873 ...	30.2	34.4	39.8	52.6	65.3	75.0	76.6	72.9	68.5	51.6	43.4	43.4	54.5
1874 ...	39.2	41.3	46.8	52.0	68.4	78.2	77.7	75.2	71.0	57.1	45.8	41.6	57.9
1875 ...	29.2	31.4	45.2	53.6	66.8	74.5	78.9	74.5	66.8	54.2	46.6	48.4	55.8
1876 ...	44.6	40.7	45.9	57.7	68.8	76.0	79.3	77.8	68.2	50.7	43.0	26.2	56.6
1877 ...	33.4	42.5	42.9	58.2	63.8	74.3	78.8	76.1	68.9	60.0	47.4	47.4	57.8
1878 ...	37.4	40.8	52.9	53.6	65.0	71.1	82.9	78.8	65.0	56.7	46.9	31.1	56.8
1879 ...	32.3	37.1	48.0	56.3	69.3	74.7	81.6	73.8	64.9	63.9	48.7	44.6	57.9
1880 ...	50.1	43.6	46.8	58.8	71.6	75.5	76.8	76.6	66.6	55.4	39.8	30.7	57.7
1881 ...	31.6	34.4	40.0	50.8	67.1	71.0	77.5	75.2	73.9	60.9	44.8	41.1	55.7
1882 ...	34.8	42.6	47.4	51.6	59.9	69.0	74.8	71.2	66.1	58.6	43.1	33.3	54.4
1883 ...	30.4	38.7	38.3	55.0	61.1	69.7	73.2	69.8	64.6	57.5	46.6	36.4	53.4
1884 ...	23.3	40.9	42.5	51.6	62.0	71.1	72.2	71.5	69.3	58.1	42.4	33.9	53.2
1885 ...	29.2	26.1	35.0	52.6	62.0	69.0	75.3	71.8	63.6	51.5	41.7	35.8	51.1
1886 ...	27.7	32.3	42.6	55.3	64.5	68.8	72.8	71.8	66.9	53.5	42.5	30.4	52.4
1887 ...	33.0	42.0	42.3	52.5	67.8	71.4	78.0	72.2	65.2	51.6	42.5	35.6	54.5
Mean..	35.1	37.9	45.0	57.5	65.1	72.5	76.9	74.4	67.8	55.7	44.7	36.2	55.7

Rainfall, in inches and hundredths, at Portsmouth, Scioto Co., Ohio, from observations furnished by D. B. Cotton, M. D.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
1830 ...	1.10	1.40	6.00	1.10	2.50	3.80	0.30	0.90	2.90	0.10	4.10	0.10	24.30
1831 ...	0.30	1.80	3.90	1.00	3.30	6.60	9.40	4.70	2.70	3.40	0.40	1.90	39.40
1832 ...	3.00	4.00	1.80	5.80	2.20	2.30	4.50	7.30	3.30	3.20	2.00	6.20	45.60
1833 ...	2.65	3.20	2.05	1.40	3.10	7.00	3.10	0.30	3.10	3.10	2.80	3.55	35.35
1834 ...	6.70	1.60	2.60	2.20	1.20	4.10	1.40	1.05	1.40	3.70	4.30	3.20	33.45
1835 ...	2.50	1.50	1.90	3.00	2.90	2.60	2.90	2.60	2.80	3.60	6.10	2.10	34.50
1836 ...	1.30	3.15	4.20	3.10	6.80	2.70	3.10	6.00	3.80	2.00	2.20	2.20	40.55
1837 ...	0.96	3.65	2.50	1.10	4.70	8.60	8.20	3.90	5.90	4.80	1.70	3.28	49.29
1838 ...	1.50	3.20	3.20	4.50	5.10	5.12	5.00	1.80	1.10	3.50	3.10	1.60	38.72
1839 ...	2.20	1.90	2.60	2.22	3.12	3.00	0.60	1.10	4.91	0.30	2.90	0.97	25.82
1840 ...	2.02	2.75	2.34	5.50	6.40	10.66	1.35	3.15	2.20	3.30	0.30	2.12	42.09
1841 ...	5.04	1.70	3.52	5.62	6.30	2.42	4.00	2.70	2.52	5.20	5.50	3.42	47.94
1842 ...	4.30	3.04	2.94	4.20	6.02	8.20	3.14	2.21	0.90	1.20	3.85	2.32	42.32
1843 ...	3.54	1.22	3.47	6.00	4.04	6.38	6.70	2.85	5.07	4.74	5.20	2.37	51.58
1844 ...	2.92	0.20	2.57	1.64	5.21	4.00	4.60	4.00	2.80	3.00	2.60	0.64	34.18
1845 ...	1.94	1.60	2.24	1.30	5.10	5.85	2.92	5.30	3.80	3.00	3.80	3.20	40.05
1846 ...	3.25	1.51	4.25	4.31	5.06	3.81	3.25	5.44	2.00	0.69	6.38	5.44	45.39
1847 ...	2.65	2.62	5.55	1.12	3.12	3.06	4.19	2.06	4.94	6.19	1.50	11.10	48.30
1848 ...	3.91	2.38	2.75	0.25	6.81	3.25	6.94	5.06	0.25	2.56	1.50	5.48	41.14
1849 ...	4.38	3.76	5.38	1.44	2.00	3.50	8.75	2.50	0.50	4.25	1.75	5.05	43.26
1850 ...	8.22	3.56	8.06	3.69	3.81	3.62	4.00	8.00	0.75	2.62	2.75	8.12	57.20
1851 ...	0.50	6.70	1.50	1.69	3.75	2.50	3.00	2.12	[2.75]	1.31	2.15	3.00	[30.97
1852 ...	2.00	4.12	3.75	5.56	2.44	6.19	1.12	2.88	1.88	1.56	2.62	5.50	39.62
1853 ...	1.32	4.08	1.50	5.19	1.00	2.00	1.50	1.88	3.00	5.12	1.75	0.40	28.74
1854 ...	7.25	2.69	4.75	2.00	0.25	1.00	2.00	1.50	0.56	3.56	3.19	2.58	31.33
1855 ...	0.75	0.20	3.00	1.25	2.94	7.31	4.94	7.44	4.56	9.81	2.81	[3.50]	[45.51
1856 ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.80	.....
1857 ...	0.95	0.75	.....	0.15	1.00	2.12	3.62	1.00	0.25	2.00	.....	.....	.....
1858 ...	.....	0.35	0.20	.....	.....	5.75	2.69	2.44	0.44	1.81	1.64	5.75	.....
1859 ...	2.33	7.20	3.09	8.34	1.43	4.21	1.22	6.70	1.29	2.32	2.09	6.15	46.37
1860 ...	3.94	1.05	1.01	4.24	3.59	1.90	3.96	2.57	3.18	1.58	4.64	2.25	33.91
1861 ...	3.10	2.60	1.81	5.35	5.99	2.15	1.40	5.45	3.19	3.40	5.86	1.64	41.94
1862 ...	7.41	4.48	4.98	6.15	1.56	3.34	1.81	2.50	1.16	1.50	2.26	2.80	39.95
1863 ...	6.42	3.48	4.43	2.02	1.37	1.76	4.32	4.15	1.52	3.16	2.14	2.24	37.01
1864 ...	2.32	1.45	2.69	2.26	3.29	2.94	1.00	4.11	2.35	3.05	5.62	4.69	35.77
1865 ...	2.65	3.55	5.90	3.95	10.59	4.30	6.17	2.00	6.03	1.15	1.15	6.53	53.97
1866 ...	4.61	3.02	3.69	2.82	1.33	2.93	4.72	2.82	9.29	3.41	4.82	1.51	44.97
1867 ...	3.23	5.96	7.11	1.37	4.64	1.46	4.34	4.32	0.72	5.57	2.10	4.47	45.29
1868 ...	1.81	0.95	3.83	4.71	6.26	4.40	2.97	4.45	9.00	1.64	1.85	3.20	45.07
1869 ...	2.82	2.52	4.57	4.22	3.86	4.70	4.20	2.21	3.48	2.28	3.82	3.16	41.84
1870 ...	4.92	3.68	3.87	3.48	1.34	3.17	7.54	4.95	0.75	2.99	2.18	2.04	40.91
1871 ...	2.57	3.96	2.50	2.69	1.80	2.59	3.66	2.26	1.32	2.59	2.02	2.70	30.66
1872 ...	0.78	2.25	1.14	8.37	3.08	1.89	6.10	1.81	1.32	1.20	1.18	2.01	31.13
1873 ...	1.60	4.87	3.01	1.97	4.75	3.48	7.12	4.98	2.58	4.95	1.94	4.94	46.19
1874 ...	4.63	3.71	2.62	5.38	1.18	3.46	6.22	1.94	2.50	0.24	3.64	2.80	38.32
1875 ...	2.12	1.52	5.36	1.99	3.50	5.81	8.76	3.28	1.73	2.26	5.06	4.33	45.72
1876 ...	4.25	2.47	4.45	2.53	1.00	3.69	6.75	3.54	5.60	1.82	3.67	1.45	41.22
1877 ...	5.16	0.36	5.16	2.59	1.97	3.60	5.11	1.39	2.20	1.79	2.44	3.24	35.01
1878 ...	2.96	1.36	3.90	1.37	1.96	2.39	1.42	2.92	2.73	2.06	3.16	3.66	29.89
1879 ...	3.19	2.73	3.29	0.42	3.14	4.31	1.25	4.79	2.41	1.49	1.53	7.01	35.56
1880 ...	4.05	5.80	4.56	5.94	2.03	4.65	2.85	5.54	3.99	2.90	3.05	3.62	48.98
1881 ...	4.32	2.41	3.82	3.23	1.76	3.60	3.80	2.05	2.45	4.47	3.70	5.17	40.79
1882 ...	8.82	6.28	4.19	3.09	8.49	6.85	3.44	6.69	3.66	1.72	1.30	1.68	56.21
1883 ...	3.54	8.03	3.40	4.50	3.59	4.15	4.13	0.82	1.46	6.47	3.08	5.36	48.53
1884 ...	5.34	6.11	5.55	3.90	4.90	3.47	2.45	1.35	1.87	1.22	1.46	4.70	42.32
1885 ...	6.41	2.41	1.02	4.04	3.72	2.39	2.12	5.52	2.40	3.70	1.71	1.85	37.29
1886 ...	3.70	1.82	3.88	3.28	5.22	6.75	3.82	3.98	3.99	1.25	5.22	2.42	45.33
1887 ...	2.84	9.28	1.94	6.01	1.76	3.46	4.12	1.75	2.09	0.72	2.47	4.24	40.68
Mean..	3.38	3.05	3.49	3.33	3.56	4.06	3.93	3.39	2.76	2.85	2.93	3.50	40.23

Monthly and annual mean temperatures, in degrees Fahr., at Palermo, Oswego Co., N. Y., from observations furnished by E. B. Bartlett.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
1860 ...	25.3	25.0	33.9	41.7	59.8	68.6	62.3	67.6	57.6	50.0	39.6	24.4	46.3
1861 ...	19.8	26.6	28.8	43.8	51.4	65.2	68.6	66.9	59.9	49.2	36.9	30.5	45.6
1862 ...	22.3	23.4	29.7	42.4	59.9	63.1	69.1	69.2	59.0	50.9	37.6	29.1	46.3
1863 ...	29.4	22.9	25.3	43.0	56.9	62.4	71.3	69.4	57.2	50.5	38.1	22.4	45.7
1864 ...	22.2	24.6	28.5	40.6	58.9	65.0	76.6	69.3	57.7	44.2	35.7	25.0	45.7
1865 ...	15.1	20.0	33.5	45.2	54.9	68.1	65.9	66.6	64.7	42.8	36.2	28.0	45.0
1866 ...	18.5	21.5	26.1	46.1	49.7	63.4	71.2	62.1	56.2	48.5	37.1	23.4	43.6
1867 ...	14.6	26.6	26.7	41.0	47.5	68.0	69.3	69.5	59.7	48.2	36.6	19.2	43.9
1868 ...	16.2	14.9	30.5	37.3	54.0	65.7	75.1	69.2	57.7	43.4	34.4	20.0	43.2
1869 ...	24.5	22.2	23.2	40.9	53.8	62.7	63.4	65.7	61.7	43.1	32.2	27.1	43.4
1870 ...	27.1	20.2	25.4	46.9	58.5	71.6	72.8	69.6	61.9	50.0	36.3	24.9	47.1
1871 ...	20.0	22.2	35.9	44.3	55.3	65.7	65.2	68.7	54.6	49.7	29.6	20.9	44.3
1872 ...	19.7	19.4	19.0	41.1	53.6	65.9	71.8	71.2	60.6	45.5	33.3	17.6	43.2
1873 ...	18.4	19.8	25.8	38.2	54.0	67.8	69.6	66.1	58.2	46.3	26.8	27.4	43.2
1874 ...	24.6	20.7	27.5	32.4	54.7	64.5	69.6	64.1	62.9	46.8	34.0	24.8	43.9
1875 ...	16.3	12.7	24.8	37.4	54.2	65.4	67.3	66.4	55.3	43.9	29.6	26.6	41.6
1876 ...	28.3	23.2	24.7	40.1	55.1	66.6	70.4	70.0	58.4	44.7	38.4	17.7	44.8
1877 ...	18.2	27.2	25.6	42.5	54.1	65.8	70.2	71.6	62.1	49.2	37.5	31.0	46.3
1878 ...	22.6	27.6	38.1	50.0	54.2	63.8	74.4	69.4	63.2	48.6	37.9	24.2	47.8
1879 ...	17.7	16.8	27.9	39.2	55.9	61.4	69.7	65.5	56.0	53.9	33.4	22.7	43.3
1880 ...	29.4	24.1	26.4	42.5	60.7	64.8	67.7	65.2	60.6	44.6	28.8	16.8	44.3
1881 ...	12.8	17.5	28.5	38.0	59.2	61.5	67.9	68.2	65.1	46.9	34.3	32.1	44.3
1882 ...	20.3	26.4	29.6	33.6	49.8	62.4	67.5	66.6	58.1	49.0	33.6	23.7	43.4
1883 ...	14.9	19.9	19.4	38.5	51.8	65.2	64.8	63.0	54.5	44.9	36.4	23.6	41.4
1884 ...	14.1	23.8	26.6	38.3	52.4	65.1	62.9	66.1	62.0	47.8	33.6	23.5	43.0
1885 ...	17.7	9.8	17.1	38.0	54.0	61.1	67.5	11.6	56.4	46.1	36.7	25.6	41.0
1886 ...	17.5	19.6	28.2	46.4	52.6	61.7	65.7	65.3	54.9	47.3	34.8	19.3	42.8
1887 ...	17.0	20.9	23.0	38.9	60.9	64.8	72.6	63.5	54.7	41.9	33.1	25.4	43.1
Mean..	20.2	21.7	27.6	41.0	54.9	65.3	69.1	63.5	59.0	47.1	34.7	24.2	44.1

Rainfall, in inches and hundredths, at Palermo, N. Y., from observations furnished by E. B. Bartlett.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
1860 ...	2.60	3.40	3.30	2.00	2.50	6.80	2.90	2.60	4.70	4.70	5.20	4.20	44.90
1861 ...	3.20	3.30	4.90	4.20	4.10	3.30	3.80	3.60	4.10	4.60	4.50	4.20	47.80
1862 ...	3.30	3.70	5.40	2.90	3.10	3.00	5.50	2.40	3.50	7.90	3.70	2.60	47.00
1863 ...	3.60	2.70	2.90	6.20	5.10	2.30	4.20	5.30	2.50	3.50	4.30	5.60	48.20
1864 ...	4.60	3.00	2.90	4.50	6.50	0.70	1.10	6.40	2.70	6.00	5.90	5.10	49.40
1865 ...	3.40	2.30	5.10	2.70	3.30	8.80	3.00	1.10	4.20	5.60	3.35	3.10	45.95
1866 ...	1.56	7.20	2.35	2.90	2.70	4.80	2.80	0.41	7.30	4.30	6.60	6.05	48.97
1867 ...	4.70	2.50	2.95	2.70	6.90	1.60	2.40	1.60	2.30	1.00	1.40	3.00	33.05
1868 ...	4.50	2.90	2.60	1.50	2.60	2.80	0.70	2.70	4.10	1.40	6.25	6.80	38.85
1869 ...	1.50	3.90	1.90	1.30	3.10	3.00	4.70	2.60	3.80	5.10	2.00	2.90	35.80
1870 ...	4.30	4.10	3.80	1.10	0.30	0.70	3.70	0.50	3.75	2.20	3.00	3.10	30.55
1871 ...	2.70	1.70	2.61	2.80	0.60	2.10	1.40	5.20	1.20	1.20	3.20	4.20	28.91
1872 ...	1.70	1.30	2.50	1.10	1.50	3.30	3.70	1.10	3.30	6.30	3.30	2.40	31.50
1873 ...	3.10	1.85	6.10	1.03	1.40	0.80	6.10	2.30	2.90	5.70	3.50	4.80	39.58
1874 ...	6.50	3.40	2.40	4.10	1.80	4.80	6.60	0.60	3.20	3.40	3.90	1.60	42.30
1875 ...	0.30	2.41	3.40	1.50	1.30	3.20	1.90	1.60	4.20	3.10	3.60	3.50	30.01
1876 ...	4.10	5.40	3.50	2.60	1.10	2.90	3.60	1.00	4.40	3.60	3.50	4.91	40.61
1877 ...	3.50	0.10	2.70	1.70	0.40	2.50	4.90	2.54	2.60	3.00	3.71	3.30	30.95
1878 ...	3.60	2.30	2.52	3.00	3.20	3.20	2.70	5.50	1.60	5.35	4.05	7.95	44.97
1879 ...	3.10	4.89	1.75	0.26	1.79	3.49	3.10	2.36	1.57	1.15	4.38	3.34	31.18
1880 ...	2.21	2.49	1.82	1.66	2.57	2.12	3.54	3.82	1.04	2.87	5.75	1.88	31.77
1881 ...	2.69	3.34	2.75	0.88	1.48	2.04	2.35	1.99	1.34	3.81	1.82	5.40	29.89
1882 ...	2.95	2.50	4.22	1.67	2.58	2.92	0.64	2.82	1.85	0.30	1.01	3.51	26.97
1883 ...	2.95	3.01	1.27	1.16	5.87	4.21	3.17	1.29	1.83	1.80	3.57	2.63	32.76
1884 ...	0.16	3.60	3.23	0.68	1.28	1.27	1.62	2.19	1.91	2.65	2.18	3.42	24.19
1885 ...	3.41	2.55	0.68	1.00	2.29	2.92	3.85	2.98	3.99	3.12	2.50	3.93	33.22
1886 ...	3.90	2.36	1.68	2.13	1.07	3.44	1.83	2.30	3.70	1.85	4.31	2.97	31.54
1887 ...	5.39	2.03	1.08	1.12	1.87	2.27	2.65	1.91	2.33	1.93	3.25	2.45	28.28
Mean..	3.20	3.01	2.94	2.16	2.58	3.04	3.16	2.52	3.07	3.48	3.70	3.89	36.75

Monthly and annual mean temperature, in degrees Fahr., and rainfall, in inches and hundredths, at Marengo, McHenry Co., Ill., from observations furnished by John W. James and O. P. Rogers.

TEMPERATURE.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
1856	11.2	19.0	29.5	52.2	57.0	73.9	75.3	69.0	62.2	51.8	35.0	16.9	46.1
1857	8.2	28.8	29.3	36.4	53.5	67.7	77.6	69.1	64.3	48.9	30.9	32.6	45.6
1858	33.1	18.3	38.7	45.7	55.6	72.9	74.0	72.1	64.3	51.8	33.1	26.9	48.9
1859	24.1	26.2	38.7	39.9	58.9	63.7	73.3	69.5	61.0	46.9	37.6	16.7	46.4
1860	22.6	25.5	38.8	43.5	56.9	64.0	71.0	66.6	57.5	48.5	33.0	20.8	45.7
1861	20.5	27.8	32.7	47.4	51.8	64.7	66.4	68.0	60.6	49.1	32.4	30.1	46.0
1862	18.8	19.6	32.1	41.7	55.4	62.1	71.4	70.5	62.8	50.1	33.5	29.9	45.6
1863	28.2	25.8	31.3	48.2	60.8	65.0	69.3	69.9	60.1	43.0	36.3	27.5	47.1
1864	17.8	26.3	32.3	43.9	60.8	69.7	72.6	71.2	62.2	44.6	34.5	17.6	46.1
1865	17.1	28.4	40.6	45.9	58.4	68.5	65.6	67.8	68.4	47.6	40.3	18.8	47.3
1866	19.5	20.7	28.8	48.7	54.8	66.5	75.1	65.7	57.2	50.8	37.3	21.7	45.6
1867	15.5	25.8	24.5	46.6	49.8	71.4	70.4	73.4	63.4	51.8	38.4	23.6	46.2
1868	13.6	19.6	38.5	41.4	58.3	67.4	80.2	66.5	56.8	41.6	37.7	19.5	45.1
1869	27.2	25.3	27.1	45.4	55.3	64.7	68.4	69.4	60.3	38.6	30.0	24.3	44.7
1870	20.9	23.3	29.3	49.8	63.6	69.8	74.2	68.6	64.6	50.2	37.8	22.5	47.9
1871	22.5	23.4	36.4	48.1	60.0	66.3	70.2	69.4	57.2	50.5	30.4	16.1	45.9
1872	18.2	21.8	23.8	45.7	57.2	68.9	71.6	69.7	60.8	47.3	26.7	11.8	43.6
1873	13.1	17.3	29.7	41.6	54.3	71.5	69.6	70.2	58.5	43.9	27.6	25.8	43.6
1874	20.2	23.2	30.8	35.5	58.6	69.0	73.5	70.3	63.2	48.9	32.3	23.4	45.7
1875	5.5	4.7	25.8	40.8	56.2	64.5	68.6	65.0	56.8	42.6	30.1	30.6	40.9
1876	25.5	24.9	27.8	44.5	58.1	66.2	71.7	70.9	58.0	44.3	32.8	11.1	44.6
1877	12.3	30.3	.....	43.9	57.4	64.3	71.1	68.8	63.3	49.9	33.0	37.7	.....
1878	24.8	30.7	41.7	50.6	53.7	64.0	73.7	70.4	62.4	46.1	36.2	15.4	47.5
1879	12.9	18.7	34.0	44.8	56.9	64.9	75.0	68.3	57.1	56.0	34.4	20.7	45.5
1880	33.2	26.9	32.0	45.7	63.7	68.7	70.3	70.2	58.2	45.9	24.1	15.7	46.2
1881	10.2	17.0	26.9	38.9	64.4	64.3	72.5	72.9	65.2	51.4	33.2	30.5	45.6
1882	20.6	32.4	33.8	43.7	50.9	63.7	65.5	68.6	60.6	53.1	30.6	19.4	45.7
1883	8.2	15.4	26.6	44.9	52.4	65.1	69.5	65.6	56.8	46.1	35.5	23.2	42.4
1884	9.8	20.5	29.2	43.7	57.0	66.1	67.4	65.8	65.2	51.5	32.8	19.4	44.0
1885	8.8	7.7	24.8	42.2	54.4	64.7	71.8	64.1	59.8	44.8	35.8	23.2	41.8
1886	12.4	19.9	30.2	47.4	57.9	65.5	70.9	69.6	60.9	51.6	31.3	15.4	44.4
1887	11.1	21.6	28.8	47.0	62.9	69.0	75.1	68.1	59.3	43.2	32.6	22.2	45.1
Means.	17.7	22.4	31.6	44.6	57.2	66.8	71.6	68.9	60.9	47.9	33.5	22.2	45.4

RAINFALL.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
1850	2.59	0.50	2.83	2.81	2.90	7.42	7.15	15.73	2.58	3.30	3.30	1.94	53.05
1851	2.16	3.43	0.55	3.35	15.46	5.52	5.51	9.85	3.40	3.41	1.63	2.63	56.90
1852	3.39	0.84	6.75	5.99	4.75	2.18	3.49	1.01	2.91	4.98	2.43	3.30	42.02
1853	1.25	2.85	2.00	5.68	4.37	4.85	8.10	1.68	6.14	0.50	6.85	1.10	45.37
1854	1.15	1.60	1.85	0.60	.....	.....	.....	.....	.....	.....	.....	.....	.....
1855	.....	.....	.....	.....	1.74	4.60	3.09	1.38	2.31	2.80	1.60	1.95	.....
1856	0.60	3.95	0.50	4.04	3.92	2.54	2.10	2.92	2.61	2.09	2.97	3.18	31.42
1857	1.14	5.29	4.88	2.70	3.45	4.70	2.26	6.53	4.32	2.02	0.44	0.28	38.01
1858	1.95	0.10	2.99	3.40	7.64	8.00	3.71	7.53	5.81	3.43	4.17	1.54	50.27
1859	1.24	2.06	6.06	2.82	2.93	2.08	1.90	0.97	3.95	0.70	4.33	0.75	29.79
1860	1.43	0.90	1.05	2.05	4.58	4.67	3.26	1.59	5.22	1.54	1.69	1.87	29.85
1861	1.20	1.74	2.95	3.95	4.49	2.15	3.64	4.56	6.38	2.61	1.22	1.68	36.57
1862	2.18	6.00	1.53	3.29	1.95	3.54	9.99	4.04	5.90	1.31	0.08	1.30	41.11
1863	3.13	1.04	2.01	1.70	3.46	0.41	2.27	2.52	1.56	3.06	1.85	2.56	25.57
1864	0.45	0.15	1.25	1.63	2.75	1.30	6.37	1.13	1.57	2.28	2.27	2.76	23.91
1865	0.45	6.00	2.62	2.93	0.88	4.39	3.78	9.13	3.59	1.98	0.72	0.74	37.21
1866	0.54	0.70	1.72	2.58	2.61	3.98	5.10	8.09	7.91	2.20	0.59	3.84	39.86
1867	2.20	0.62	1.00	1.80	4.98	4.72	4.72	3.41	1.48	0.29	1.68	1.03	27.93
1868	1.57	0.75	4.40	6.20	4.93	9.17	1.15	4.79	5.65	1.20	3.93	1.04	44.78
1869	2.11	2.68	1.76	2.43	4.80	9.68	5.39	4.96	2.59	0.88	2.50	2.71	42.49
1870	2.28	0.59	4.43	1.51	0.54	0.99	4.66	3.79	5.36	3.14	0.69	1.50	29.48
1871	2.82	1.30	2.23	2.05	2.32	5.17	1.04	3.07	0.68	2.97	2.25	1.93	27.83
1872	0.45	0.42	2.78	3.47	3.41	3.18	4.38	3.31	8.89	0.62	1.47	0.93	33.31
1873	2.14	0.33	1.56	2.40	5.23	2.59	2.61	1.98	2.34	2.21	1.55	3.42	28.36
1874	3.76	0.95	1.93	2.02	2.04	2.96	1.09	2.75	2.58	2.31	1.48	0.48	24.35
1875	1.38	1.95	1.01	2.33	3.28	5.26	4.24	2.14	7.29	2.76	0.72	2.32	34.68
1876	5.96	5.26	7.23	5.97	5.64	7.14	5.13	4.79	6.40	5.24	8.38	5.67	72.81
1877	1.72	0.03	5.53	2.81	0.93	4.83	1.96	3.60	0.21	6.57	2.90	3.38	34.47
1878	0.85	1.33	2.72	2.89	4.25	2.46	4.73	3.52	1.46	4.71	1.05	2.46	32.44
1879	0.85	1.54	1.15	2.30	4.97	4.81	5.68	1.96	1.20	1.38	5.30	1.47	32.61
1880	4.14	1.62	1.40	3.10	2.68	5.28	2.68	4.24	4.02	2.37	1.01	0.75	33.29
1881	1.54	5.28	6.48	0.98	3.10	5.62	5.88	1.01	5.47	6.81	2.36	2.69	47.22
1882	1.57	2.15	4.58	3.29	3.59	4.42	3.63	2.08	2.36	4.17	1.52	2.00	35.36
1883	2.18	4.61	0.89	2.00	6.18	3.92	2.94	1.17	2.04	4.28	4.03	1.67	35.91
1884	0.80	2.20	1.51	2.85	2.56	4.22	4.19	3.36	4.34	3.85	1.79	3.28	34.95
1885	2.32	1.92	0.29	3.97	1.72	5.80	2.07	6.80	3.86	2.57	2.09	2.37	35.78
1886	3.60	1.61	3.68	3.76	3.13	1.89	0.81	5.85	2.25	2.55	0.98	1.13	31.24
1887	3.59	4.82	1.01	1.55	0.95	1.23	2.70	4.85	4.61	2.75	1.87	3.31	33.24
Mean..	1.96	2.14	2.68	2.95	3.76	4.26	3.88	4.11	3.84	2.75	2.32	2.08	36.73

Monthly and annual mean temperatures, in degrees Fahr., at Hanover, Grafton Co., N. H., from observations made at Dartmouth College.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
1834	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	32.0	18.5	.....
1835	17.6	16.2	27.5	37.6	50.3	61.5	67.7	62.6	53.2	48.9	31.0	12.9	40.6
1836	19.3	10.9	23.0	36.9	53.7	61.2	68.5	61.0	57.0	38.6	30.9	20.2	40.1
1837	10.6	18.5	26.2	38.4	49.6	62.0	63.5	62.9	54.9	41.7	32.3	21.5	40.2
1838	26.5	12.3	32.8	34.2	52.1	65.6	69.5	64.4	57.9	42.1	29.3	16.0	41.9
1839	16.6	24.7	30.2	43.9	55.5	57.9	67.7	64.4	57.1	42.3	31.8	23.4	43.0
1840	8.8	27.2	29.6	45.0	56.8	62.2	68.6	68.3	55.6	44.6	33.0	20.0	43.3
1841	24.6	18.8	27.7	39.0	52.5	66.0	66.5	67.4	62.3	42.0	33.5	25.3	43.8
1842	19.1	27.1	34.9	42.6	51.1	59.8	66.4	64.8	52.9	42.6	31.7	19.6	42.7
1843	25.7	11.6	23.9	42.3	53.5	61.9	64.5	69.5	57.9	42.0	30.6	24.6	42.3
1844	7.9	19.6	31.1	46.3	55.8	62.8	62.3	64.8	56.6	44.1	32.8	22.9	42.2
1845	19.3	22.0	31.7	39.5	51.3	61.9	66.8	66.4	53.9	46.1	36.9	14.0	42.5
1846	18.1	13.1	30.5	43.4	53.2	62.7	67.1	70.5	63.4	44.3	39.1	22.0	44.0

Monthly and annual mean temperatures, &c.—Continued.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
1847	18.4	14.8	25.1	36.7	55.8	63.5	68.3	66.8	57.3	43.5	38.8	31.2	43.4
1848	20.2	17.7	29.7	43.4	59.1	64.4	66.8	66.1	53.9	44.7	32.0	28.6	43.9
1849	13.1	11.8	30.8	36.7	51.4	63.5	66.7	64.6	55.4	43.4	41.6	19.4	41.5
1850	20.9	21.6	27.7	37.6	49.2	64.9	69.5	65.3	37.0	45.6	35.3	16.3	40.9
1851	17.7	21.4	32.5	41.1	53.2	60.6	66.9	64.9	56.7	44.5	28.1	15.1	41.9
1852	7.5	19.7	28.7	39.7	55.3	64.4	67.8	63.0	57.2	45.2	35.0	27.2	42.6
1853	19.2	20.8	31.4	41.8	55.2	65.0	65.6	66.1	56.9	.....	.....	.....	.....
1856	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14.9	.....
1857	.....	.....	26.9	38.5	52.7	60.8	69.8	.....	56.3	44.8	38.9	.....	.....
1858	21.1	15.0	26.9	40.5	51.3	64.9	65.3	.....	57.9	46.8	29.0	18.7	.....
1859	20.2	19.8	31.7	39.3	56.4	61.1	65.9	.....	55.9	40.9	29.6	.....	.....
1860	23.5	15.3	33.5	40.4	56.1	63.4	65.3	65.8	54.9	45.7	39.4	16.3	43.3
1861	17.7	23.3	28.5	42.4	50.9	64.5	69.0	65.4	57.4	47.4	33.6	23.3	43.6
1862	16.6	17.1	28.8	39.6	56.1	62.0	66.5	66.6	59.6	47.5	35.8	.....	.....
1863	.....	.....	22.2	42.3	.....	61.9	69.9	67.1	56.1	47.8	38.9	21.5	.....
1864	20.3	23.5	30.2	41.6	58.0	65.1	70.6	.....	55.2	50.1	36.3	23.8	.....
1865	18.2	19.5	38.8	45.9	57.4	70.2	66.6	.....	61.9	43.4	37.0	.....	.....
1866	.....	.....	27.4	45.8	52.7	65.9	73.4	.....	56.8	46.2	36.2	22.1	.....
1867	11.3	26.3	30.9	40.3	51.9	68.0	56.5	.....	56.9	45.0	31.6	16.1	.....
1868	14.9	11.8	31.0	38.5	55.1	65.6	77.4	.....	54.2	42.2	31.4	18.3	.....
1869	17.3	21.1	20.7	38.3	54.2	62.5	66.9	.....	60.9	43.9	31.7	23.4	.....
1870	2.55	19.2	25.5	44.7	55.7	70.7	72.4	69.0	58.9	47.7	35.5	23.9	45.7
1871	16.0	20.3	35.6	43.7	55.1	64.2	66.8	.....	52.5	47.4	28.3	18.2	.....
Mean..	17.9	18.7	29.2	40.8	53.9	63.6	67.4	65.7	56.3	44.6	33.8	20.6	42.7

Rainfall, in inches and hundredths, at Philadelphia, Pa., from observations furnished by Dr. Swift, Dr. Conrad H. Eachers, Prof. J. A. Kirkpatrick, J. M. Green, J. M. Foltz, W. Johnson, D. Harlau, Dr. A. D. Bache, S. Maulsby, and the Signal Service.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
1825	0.84	3.26	4.63	0.83	1.72	3.59	2.05	3.70	2.61	1.25	1.36	3.72	29.57
1826	1.11	2.13	5.80	3.87	0.19	4.65	3.68	2.75	2.00	5.83	1.85	1.28	35.14
1827	2.86	3.55	1.23	2.83	2.50	2.09	2.97	5.75	0.79	5.91	4.87	3.26	38.50
1828	2.05	2.75	3.35	3.82	3.49	2.69	5.33	1.51	4.62	1.39	6.71	0.26	37.97
1829	5.37	3.75	2.87	4.99	2.68	3.44	4.35	4.61	2.01	2.30	3.97	1.51	41.85
1830	1.63	2.06	4.12	1.81	3.75	5.99	4.07	3.87	2.93	4.31	5.35	5.18	45.07
1831	6.02	2.44	3.17	5.20	1.07	3.56	4.17	5.39	5.33	4.51	1.88	1.20	43.94
1832	4.58	2.66	1.90	2.98	5.40	1.55	2.62	5.09	1.40	3.41	2.59	5.09	39.87
1833	3.97	1.24	2.22	0.70	5.88	5.28	4.15	3.39	3.82	10.05	2.18	5.67	48.55
1834	2.49	2.22	2.02	2.83	3.52	3.99	4.35	0.62	3.57	3.29	3.01	2.33	34.24
1835	2.75	1.81	3.83	4.33	1.99	6.27	6.55	2.05	2.63	1.22	3.19	2.68	39.30
1836	7.62	2.99	1.75	3.47	2.28	7.31	2.91	1.97	1.82	3.59	3.34	3.61	42.66
1837	2.50	3.58	3.76	2.83	4.86	2.83	5.89	4.06	2.28	0.66	3.23	2.56	39.04
1838	2.20	2.19	3.17	3.59	3.58	6.60	2.38	2.78	9.52	4.90	3.35	1.04	45.30
1839	5.04	3.42	1.50	1.51	6.07	3.92	2.52	4.64	2.92	2.83	3.10	6.26	43.73
1840	1.84	3.01	2.63	6.83	2.69	5.95	4.54	5.55	2.50	5.73	2.49	3.65	47.41
1841	7.84	1.39	5.82	6.46	3.27	3.11	3.28	9.10	1.90	3.20	4.22	5.92	55.51
1842	1.36	4.27	2.84	5.31	5.87	3.19	11.81	3.79	1.27	1.72	3.49	3.66	48.58
1843	1.44	2.54	4.42	4.72	2.05	1.69	4.54	9.26	4.86	3.22	4.18	4.04	46.96
1844	4.05	1.45	4.43	1.35	3.09	3.35	5.28	2.40	4.03	5.02	2.95	2.75	40.15
1845	3.76	4.74	2.41	2.58	1.60	3.73	2.76	7.30	2.16	2.53	2.50	3.96	40.03
1846	4.63	3.33	4.60	2.11	3.44	3.30	4.60	4.27	0.25	2.44	7.97	3.44	44.38
1847	4.73	4.60	4.70	0.59	1.57	3.30	2.77	3.18	8.07	3.08	2.84	5.78	45.21
1848	2.03	1.44	2.76	1.54	4.90	4.43	3.28	1.71	1.80	3.75	2.34	5.01	34.99
1849	0.73	2.61	5.47	1.75	4.00	2.20	2.93	6.98	1.40	5.59	2.60	5.84	42.10
1850	4.77	2.87	4.75	2.67	6.50	2.03	5.97	8.33	7.73	1.09	3.32	4.51	54.54
1851	1.23	3.11	3.48	4.57	4.82	3.44	2.52	2.55	1.13	3.02	3.36	2.27	35.50
1852	2.01	2.71	4.27	6.44	3.03	4.03	4.05	4.40	1.29	2.27	6.06	5.17	45.74
1853	1.84	4.44	2.46	3.38	5.17	1.05	8.63	3.08	4.46	3.47	2.32	2.16	42.46
1854	2.32	4.20	1.63	8.14	7.30	3.44	3.84	0.92	4.88	1.92	3.46	3.18	45.23
1855	2.60	2.48	1.98	2.15	3.03	8.01	6.59	3.24	4.13	3.42	2.02	5.01	44.66
1856	3.37	1.13	2.04	3.15	2.33	1.68	1.13	5.18	5.70	1.30	2.89	3.62	33.52
1857	2.99	2.06	1.74	7.36	6.97	8.21	3.49	7.77	1.17	3.97	1.44	5.85	53.02
1858	2.64	1.95	0.86	4.79	5.25	4.36	1.23	4.48	1.29	1.79	4.86	5.46	38.96
1859	5.52	3.53	6.60	5.18	1.73	5.51	3.96	4.18	7.54	3.60	3.40	3.73	54.48
1860	3.18	2.61	1.76	3.73	3.80	3.30	1.17	8.28	5.30	5.59	6.53	3.65	48.90
1861	3.81	2.06	3.55	3.73	6.47	4.34	2.91	3.10	4.39	3.80	3.30	1.76	43.22
1862	4.50	3.89	3.25	4.48	2.19	5.55	4.42	2.07	4.29	3.63	3.83	2.48	44.58
1863	4.70	3.82	6.38	7.29	4.79	4.05	5.69	1.44	0.98	2.66	2.96	4.87	49.63
1864	1.86	0.82	4.34	4.02	8.80	2.12	2.97	1.65	6.23	1.57	3.70	4.16	42.24
1865	2.80	4.01	3.70	2.62	6.17	3.66	2.55	3.37	7.27	3.20	4.13	5.64	49.12
1866	2.89	6.64	2.04	2.92	4.63	3.39	2.51	2.57	7.46	3.54	1.47	3.52	43.58
1867	1.93	4.82	5.67	1.36	7.07	10.95	3.03	16.84	1.85	4.02	1.93	1.82	61.29
1868	2.26	2.59	3.80	5.35	7.42	2.74	2.64	3.07	7.01	3.35	3.23	3.48	46.94
1869	3.37	4.12	5.36	2.26	3.71	5.21	2.30	0.70	3.10	4.38	4.35	4.35	43.21
1870	4.01	2.56	4.52	5.41	5.24	2.54	3.50	5.98	1.60	4.11	1.97	2.13	43.57
1871	2.87	2.48	5.77	1.98	2.92	4.51	6.17	5.58	0.65	3.89	4.09	1.57	42.48
1872	1.49	1.12	3.67	2.60	3.15	4.29	9.20	7.81	3.66	5.20	3.43	2.74	48.36
1873	5.84	4.75	2.05	3.51	5.83	0.90	5.00	11.49	3.63	5.80	5.10	1.38	55.28
1874	4.58	2.46	2.16	9.76	2.75	2.96	2.25	5.65	6.01	2.87	2.32	2.48	46.25
1875	2.83	3.20	3.10	2.83	1.36	4.13	3.63	6.42	2.53	1.42	5.40	3.37	40.22
1876	1.52	5.03	6.71	2.16	4.45	2.29	5.71	0.98	8.77	1.06	7.31	1.40	47.39
1877	2.62	0.84	3.40	2.66	1.10	5.22	5.53	0.66	2.74	6.52	5.14	0.83	37.26
1878	3.94	1.64	2.89	2.55	3.29	3.66	4.35	3.83	0.96	2.04	2.19	3.19	34.53
1879	2.73	1.19	2.28	4.21	1.22	6.77	3.62	7.13	1.12	0.41	1.38	4.69	36.75
1880	1.51	2.43	3.53	2.43	0.54	1.67	7.74	5.09	1.10	1.74	1.75	4.05	33.58
1881	3.66	4.76	3.83	0.61	2.71	3.87	0.96	1.18	0.94	3.04	2.02	2.63	30.21
1882	4.57	4.22	3.57	2.12	5.06	1.90	1.37	6.40	12.09	1.32	0.99	1.97	45.58
1883	4.13	5.04	2.02	2.44	1.91	5.91	1.78	3.40	4.24	4.20	1.34	2.76	39.17
1884	5.46	5.70	4.70	1.63	3.39	3.00	3.83	4.30	0.20	1.54	2.31	3.28	39.34
1885	2.92	2.79	0.69	2.54	3.76	0.74	2.39	6.80	1.17	3.33	3.35	2.87	33.35
1886	3.69	4.62	3.17	2.70	4.50	2.86	4.23	1.38	1.20	1.89	3.91	3.09	37.24
1887	3.23	4.43	2.59	2.00	0.62	6.81	7.14	2.31	4.92	1.68	1.38	5.06	42.17
Mean..	3.25	3.06	3.42	3.47	3.75	3.95	4.03	4.44	3.51	3.26	3.32	3.43	42.91