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SMITHSONIAN CONTRIBUTIONS TO KNOWLEDGE.
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RESULTS

OF

METEOROLOGICAL OBSERVATIONS

MADE AT BRUNSWICK, MAINE, BETWEEN 1807 AND 1859.

BY

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PROFESSOR IN BOWDOIN COLLEGE.

REDUCED AND DISCUSSED,

AT THE EXPENSE OF THE SMITHSONIAN INSTITUTION,

BY

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(Illustrated with 8 small diagrams.)

INTRODUCTION.

BETWEEN the years 1807 and 1859 inclusive, meteorological records were made with great regularity by the late Prof. Parker Cleaveland, of Bowdoin College, at Brunswick, Me., and after his death were given in charge of the Smithsonian Institution for reduction and publication. The observations, though evidently not intended by their author to be of a strictly scientific character, were yet found sufficiently valuable to warrant the expenditure of considerable labor in preparing them for the press. They were accordingly placed in the hands of Mr. Charles A. Schott, who has deduced from them, at the expense of the Smithsonian Institution, the results and conclusions given in the following pages.

Brunswick, Me., is on the Androscoggin River, about twenty-five st. miles N. 40° E. of Portland. The college is in latitude 43° 54′.5 and in longitude 69° 57′.4 west of Greenwich. The ground around Prof. Cleaveland's residence is very nearly 74 feet above high-water mark.

The observations were made three times a day, and (as we are informed by a member of the family) at the hours 7 A. M., 1 P. M., and 6 P. M. The observer was frequently assisted by his brother, particularly during the latter years. The records relate to the following subjects: indications of the thermometer and barometer, direction of the wind, state of the weather, amount of rain and snow, character of clouds, occurrence of thunderstorms, fogs, frost and hail, earthquakes, auroras, etc.

The regular series of observations commences with November, 1807; and is complete with exception of the record of the year 1853. The barometric observations were found of less value for scientific purposes for want of a recorded temperature of the mercury; this, however, was nearly uniform, since the instrument was suspended in a room, heated in winter.

JOSEPH HENRY,
Secretary S. I.

SMITHSONIAN INSTITUTION,
March, 1867.

RESULTS

OF THE

METEOROLOGICAL OBSERVATIONS MADE AT BRUNSWICK, MAINE.

ATMOSPHERIC TEMPERATURE.

The temperature of the air was observed three times a day, at the hours 7 A. M., 1 P. M., and 6 P. M., between November, 1807, and December, 1859, inclusive. The record of the year 1853 is missing. Otherwise there are but a few omissions. The record of the period August, 1856, to May, 1857, is in many places damaged by fire, though mean values, which were written on slips of paper, are preserved in many instances. Table I contains the daily mean values of the temperature *uncorrected* for diurnal variation, and expressed in degrees of Fahrenheit's scale. When but one or two observations were found recorded in a day, the missing numbers were supplied by interpolation; this had judiciously been done by Prof. Hopkins by paying attention to the diurnal variation as well as to the readings of the days preceding and following at the hour required; these cases, however, are not numerous.[1] When no observations are recorded for several days in succession, not exceeding six, however, the omission was supplied by simple interpolation; all numbers thus obtained are distinguished in the table by brackets ( ). A few other defects, extending over a month and fraction of a month, were remedied by the insertion of the daily means resulting from the whole series of over 50 years; these means are inclosed within rectangular brackets [ ].

Daily maxima and minima of temperature are recorded for January, February, and March, 1807, and again between November, 1807, and January, 1818; this last record is rather irregular. The instrument used was a Sykes' thermometer, exposed on the northern side of the building, five feet from the ground. The locality was at first bare of vegetation, but in the course of time shrubbery and trees grew up.

[1] The daily and monthly means were made out by Prof. Hopkins, who had also commenced transcribing monthly maxima and minima, and collected statistical information respecting wind, weather, and rain.

TABLE I.—MEAN DAILY TEMPERATURE (uncorrected).

Mean Temperature in November.

Day of month.	1807.	1808.	1809.	1810.	1811.	1812.	1813.	1814.	1815.	1816.	1817.	1818.	1819.	1820.
1	37°.0	39°.3	39°.0	24°.0	49°.3	48°.3	35°.0	40°.2	41°.0	44°.6	44°.2	55°.0	35°.5	41°.7
2	37.8	46.0	42.8	25.7	44.8	44.0	36.2	34.7	45.8	43.3	31.8	47.2	48.9	42.3
3	44.2	43.2	54.0	25.8	43.8	47.5	40.0	32.5	45.2	52.7	32.8	39.3	48.3	44.0
4	45.0	36.2	34.5	23.5	39.8	39.0	46.3	37.8	43.7	55.7	31.2	41.3	46.2	43.2
5	47.3	36.7	32.5	31.7	38.8	52.0	41.8	41 0	50.5	55.1	36.0	44.3	41.7	40.7
6	41.3	41.6	27.2	38.7	43.5	40.8	40.4	43.5	49.3	50.7	39.5	49.4	36.2	41.1
7	42.4	34.2	36.3	35.5	47.2	33.8	42.3	39.7	44.3	46.3	54.1	58.7	45.7	37.9
8	38.1	35.3	23.0	31.5	48.8	37.2	43.3	40.8	29.2	48.3	44.8	50.7	33.7	39.0
9	41.0	40.3	27.7	34.3	51.7	35.2	45.7	40.0	43.3	47.7	47.2	42.2	33.8	42.8
10	33.3	54.7	40.5	35.7	46.4	43.8	55.7	45.5	55.8	35.8	57.0	43.3	39.0	25.3
11	32.3	36.2	33.5	45.8	37.5	43.2	57.0	45.3	35.5	33.2	54.3	43.0	36.9	25.0
12	49.0	34.6	21.0	39.7	36.5	38.3	36.8	37.7	24.5	32.3	56.2	40.5	47.5	21.0
13	33.5	42.3	30.6	42.2	42.2	33.7	35.0	51.2	25.2	31.2	44.3	39.5	42.3	26.0
14	24.0	39.8	36.5	47.3	42.0	37.3	32.7	52.7	30.7	34.7	36.5	42.2	29.8	31.3
15	27.3	36.1	35.5	53.7	37.2	34.5	29.0	39.5	34.0	45.2	41.3	54.7	33.2	28.0
16	30.3	37.5	32.4	51.0	36.2	37.3	33.4	36.7	32.7	37.2	39.3	50.5	31.7	36.0
17	21.8	40.8	29.5	35.8	49.0	34.7	31.7	49.2	39.8	47.0	30.0	41.7	45.0	27.2
18	25.2	32.4	37.5	30.0	30.5	31.7	30.3	50.3	34.2	54.2	35.2	38.4	41.7	34.3
19	41.8	29.2	30.2	44.0	33.8	29.3	45.7	43.7	37.6	56.2	37.2	34.7	43.2	40.2
20	34.2	28.8	25.9	51.7	22.1	27.0	42.0	37.2	39.7	55.7	33.3	33.3	35.7	36.2
21	30.7	35.2	23.3	32.3	32.2	33.2	38.0	38.3	41.7	40.7	30.8	35.7	40.7	41.2
22	36.0	38.2	24.2	32.5	38.0	29.2	33.7	33.0	42.2	23.3	27.2	36.3	31.0	36.8
23	30.2	38.4	19.5	27.7	34.9	34.8	42.6	39.8	39.0	30.0	27.8	34.8	30.5	38.8
24	32.0	31.5	19.3	24.0	38.7	48.3	40.7	37.0	34.0	30.7	16.2	34.2	32.3	40.5
25	28.3	25.5	27.8	32.2	24.1	26.3	48.0	26.7	40.0	27.3	23.0	29.3	40.5	46.7
26	30.0	21.8	33.8	36.0	21.2	26.5	40.7	30.8	30.7	17.5	29.1	44.5	37.7	42.2
27	41.5	24.8	36.0	48.7	32.0	41.5	35.3	30.8	28.3	33.8	33.1	36.1	40.8	15.8
28	46.3	27.0	30.2	38.0	38.8	32.7	32 2	31.2	37.2	19.5	31.7	38.8	32.1	15.8
29	32.8	29.5	27.5	33.0	32.0	39.3	28.8	19.5	41.3	21.0	37.2	41.8	28.6	21.5
30	29.2	38.9	22.0	38.8	40.2	29.8	26.8	30.9	44.8	35.8	38.0	31.2	32.5	13.5
Mean,	35.46	35.87	31.12	36.36	38.43	37.01	38.90	38.56	38.73	39.55	37.34	41.79	38.12	33.88

Day of month.	1821.	1822.	1823.	1824.	1825.	1826.	1827.	1828.	1829.	1830.	1831.	1832.	1833.	1834.
1	46.5	38.8	41.0	19.1	49.7	51.0	36.0	49.0	36.7	58.0	47.7	44.7	33.7	34.7
2	38.7	33.1	42.7	21.2	53.3	58.7	33.0	50.3	43.0	51.2	52.0	56.0	45.0	36.7
3	40.5	33.3	31.2	18.8	39 3	44.0	41.3	51.7	44.7	45.7	46.7	46.7	34.7	35.0
4	50.8	30.7	37.7	23.7	41.3	28.7	35.0	54.7	46.7	51.8	45.3	46.5	25.7	42.5
5	41.3	36.3	33.3	31.5	33.0	26.7	36.0	55.7	42.3	49.0	49.3	51.0	30.5	48.0
6	39.0	38.3	24.7	42.7	42.3	33.0	21.7	49.7	38.0	50.3	42.7	40.3	37.3	41.7
7	48.3	41.0	30.9	37.3	51.3	48.0	27.7	44.7	40.7	51.3	44.3	43.8	42.7	38.0
8	45.7	42.8	25.8	35.2	49.7	39.7	30.0	50.3	41.7	54.3	41.0	32.3	47.3	39.0
9	38.3	36.5	27.5	32.0	49.0	31.7	33.3	37.3	41.3	54.0	42.7	30.7	57.8	39.3
10	45.8	35.8	35.3	36.3	36.7	48.3	18.0	36.7	50.3	48.3	44.7	46.0	51.3	50.3
11	38.2	44.7	31.3	36.2	31.3	33.0	20.0	45.0	36.0	47.0	55.0	48.7	46.0	39.0
12	48.7	51.3	28.0	26.0	29.0	39.7	43.7	32.0	33.7	48.3	47.7	35.7	55.0	40.7
13	38.0	37.5	29.6	21.7	31.3	26.7	54.7	25.7	30.3	47.3	46.3	45.3	43.0	31.7
14	42.2	40.8	24.1	35.2	52.7	27.3	35.7	27.7	38.0	46.0	44.5	30.7	43.3	48.0
15	35.8	42.8	32.7	36.7	36.3	34.0	30.3	31.7	38.3	51.0	45.7	21.0	54.5	24.7
16	33.3	35.2	20.3	35.4	39.3	34.7	29.3	28.0	51.0	56.0	46.0	30.3	38.3	27.3
17	35.7	39.0	15.6	39.2	41.0	55.3	28.0	30.0	54.0	55.0	44.0	42.7	34.0	25.2
18	36.5	30.0	21.1	28.5	31.3	56.0	28.7	38.1	55.0	54.3	47.7	48.3	35.3	37.0
19	35.7	42.3	23.0	27.3	13.7	28.7	28.7	26.3	52.7	44.7	43.7	49.5	34.7	38.3
20	33.7	37.7	(29.8)	34.8	30.0	27.3	28.7	42.3	29.3	46.3	42.0	45.3	24.0	42.0
21	33.2	35.7	36.7	32.3	30.5	26.3	25.3	34.3	33.7	38.3	36.0	27.7	28.0	39.3
22	32.5	29.7	36.4	36.0	28.7	22.0	27.3	35.7	32.0	42.7	30.7	29.7	42.0	36.7
23	38.7	34.2	27.8	42.7	15.0	23.0	26.0	40.0	49.3	38.8	41.7	39.7	45.0	44.3
24	31.7	28.5	27.3	29.2	32.7	27.3	23.3	30.0	22.3	36.0	38.7	35.5	39.5	38.2
25	39.5	25.2	24.7	31.8	27.0	23.7	20.0	32.0	21.7	34.0	38.0	32.3	34.2	36.7
26	30.8	32.3	36.0	30.5	33.3	43.3	9.0	32.0	38.0	37.0	34.3	41.7	31.0	30.7
27	24.8	31.3	35.7	43.3	25.3	52.3	28.0	27.0	35.3	37.0	32.0	43.7	28.7	29.0
28	23.7	37.5	22.7	26.0	36.0	29.7	33.3	39.7	26.7	39.0	31.7	38.3	27.7	35.7
29	23.7	40.6	12.0	27.3	32.3	28.0	35.7	41.7	36.7	29.2	29.3	39.7	26.3	42.7
30	21.2	44.7	9.0	22.8	33.0	29.3	44.0	36.3	38.7	23.1	23.0	24.7	24.5	43.3
Mean,	37.06	36.92	28.44	31.35	35.68	35.91	30.72	38.20	39.27	45.78	41.80	39.58	38.01	37.83

TABLE I.—*Continued.* Mean Temperature in November (continued).

Day of month.	1835.	1836.	1837.	1838.	1839.	1840.	1841.	1842.	1843.	1844.	1845.	1846.	1847.
1	35°.3	29°.7	46°.7	29°.7	51°.7	52°.0	58°.3	47°.3	31°.3	39°.3	50°.7	36°.3	49°.3
2	39.3	39.0	44.3	45.8	48.7	47.3	58.3	42.7	47.7	42.7	51.0	44.3	48.5
3	49.0	37.7	44.3	51.7	41.8	47.0	48.7	40.7	36.0	41.2	55.0	50.2	51.5
4	50.7	39.0	44.3	56.6	37.5	49.5	44.0	43.3	31.0	44.2	59.0	52.0	52.0
5	61.7	36.3	50.7	58.5	37.7	47.0	46.3	46.3	30.3	35.0	52.7	46.0	46.0
6	41.7	37.3	52.7	51.7	45.8	51.7	42.0	45.7	31.3	36.3	41.3	51.7	39.7
7	35.0	37.3	44.3	46.4	45.7	48.0	43.3	47.7	29.3	36.7	43.8	43.0	37.3
8	47.7	35.3	45.0	53.7	43.7	49.2	37.3	37.7	30.7	40.8	46.0	48.0	43.2
9	50.0	36.3	45.3	50.7	38.5	57.0	37.0	40.3	31.0	39.8	49.3	44.8	44.3
10	42.3	46.0	44.3	35.3	39.6	51.3	35.3	45.0	31.7	35.7	42.3	47.0	45.3
11	42.7	45.0	41.0	32.2	42.5	49.0	38.7	40.0	34.3	36.0	38.3	46.7	37.3
12	41.3	48.3	42.7	41.8	42.2	51.2	37.3	37.0	31.7	39.0	34.5	48.0	37.3
13	31.3	48.0	39.3	52.7	44.7	47.5	38.3	36.0	25.0	44.3	33.7	42.3	38.3
14	34.7	39.7	30.3	56.7	50.3	43.0	39.0	41.3	26.7	34.3	46.3	40.3	34.7
15	42.0	40.7	33.3	42.2	59.5	49.3	39.0	43.3	23.7	32.3	37.3	42.0	35.0
16	54.7	40.7	28.0	46.1	49.7	41.7	33.3	37.3	37.3	38.3	40.7	44.8	33.0
17	45.3	38.7	38.7	40.3	53.3	39.0	32.2	38.7	41.0	39.2	40.8	41.2	39.3
18	44.3	28.7	43.0	38.2	56.8	39.3	31.7	49.7	45.3	43.3	44.5	39.7	44.3
19	42.3	27.0	44.3	38.7	41.5	37.0	37.7	35.0	38.2	27.2	47.2	46.7	36.0
20	49.3	34.0	43.3	36.2	41.2	36.3	32.7	37.7	34.5	30.7	46.5	43.3	29.0
21	44.7	44.3	44.3	35.7	33.3	34.7	34.0	34.3	33.7	33.2	42.7	38.7	37.3
22	35.0	46.7	46.0	41.0	32.8	32.7	38.0	29.3	38.3	39.3	33.0	38.7	36.2
23	16.7	39.0	46.0	27.3	32.3	34.0	42.3	26.7	38.3	41.0	48.0	42.7	37.0
24	22.0	32.0	47.3	16.5	43.0	39.3	39.3	34.3	37.3	33.3	28.3	31.7	52.0
25	25.0	21.7	45.0	19.5	59.0	40.7	36.3	35.0	35.7	17.0	25.7	29.0	53.3
26	25.3	25.7	28.7	21.7	27.9	36.3	31.0	33.0	33.5	20.2	30.0	23.0	44.8
27	10.0	27.0	33.0	32.0	36.0	31.0	30.0	34.0	21.7	20.7	52.3	32.2	29.7
28	27.0	33.0	29.3	36.0	38.6	24.3	24.0	19.7	29.2	13.0	24.0	36.0	27.0
29	26.0	26.3	45.7	21.6	40.8	38.7	24.0	22.0	26.5	17.7	17.2	33.0	19.0
30	10.7	25.3	47.1	42.0	41.7	49.0	30.0	26.3	11.8	24.5	24.7	31.5	11.8
Mean,	37.44	36.17	41.96	39.94	43.25	43.46	37.98	37.58	32.47	33.87	40.89	41.13	38.98

Day of month.	1848.	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.	Means.
1	45.2	33.2	43.7	45.0	42.7	- -	61.0	48.3	39.0	43.0	51.7	38.3	42.5
2	41.0	38.7	47.8	47.7	50.3	- -	48.3	50.3	49.0	42.3	46.3	38.7	44.0
3	40.5	46.3	49.3	47.3	48.8	- -	46.7	40.3	54.0	40.3	39.7	31.7	42.8
4	39.5	46.7	52.3	35.3	41.2	- -	38.7	40.0	52.7	34.7	36.7	31.7	41.9
5	45.2	42.0	47.0	35.7	43.7	- -	23.7	35.3	36.7	35.3	44.0	36.7	41.8
6	41.3	44.7	54.8	31.3	34.3	- -	31.3	42.0	27.3	52.0	41.3	37.7	
7	37.5	51.3	40.2	31.3	37.3	- -	46.7	46.0	38.7	44.7	39.7	30.0	
8	30.3	47.7	38.2	38.7	38.8	- -	37.0	47.3	49.3	40.7	42.7	39.7	
9	35.3	48.8	40.7	40.3	35.0	- -	23.0	41.7	40.7	47.7	41.3	44.0	
10	21.3	47.0	38.0	30.3	31.8	- -	31.3	42.0	30.7	51.3	39.3	43.0	
11	20.7	44.0	45.7	26.7	33.7	- -	48.7	45.0	31.0	34.3	28.0	37.0	
12	29.8	47.3	41.3	24.7	37.0	- -	52.7	43.0	34.7	38.7	24.7	29.7	
13	27.0	48.3	36.7	29.3	39.2	- -	55.7	43.8	35.7	47.0	28.3	48.0	
14	27.8	49.7	34.3	26.7	32.2	- -	50.0	41.3	34.3	23.0	27.3	35.0	
15	38.7	39.2	40.7	34.3	27.7	- -	36.3	45.0	30.0	24.7	25.0	31.7	
16	36.2	37.3	45.3	29.7	35.0	- -	38.3	50.3	34.7	32.7	25.3	34.0	
17	42.7	41.7	43.0	28.3	35.7	- -	36.0	29.3	(35.0)	38.0	35.0	42.3	
18	33.7	40.7	40.3	30.7	37.5	- -	44.0	28.7	[38.1]	37.7	42.3	48.0	38.9
19	28.2	43.7	40.0	27.3	32.8	- -	38.0	29.0	[36.5]	46.0	36.7	49.7	37.4
20	32.5	40.2	33.2	30.8	31.0	- -	31.0	19.7	[34.7]	35.0	29.7	42.3	35.6
21	32.3	43.7	34.2	34.2	28.7	- -	30.0	22.7	[34.4]	23.3	34.3	21.7	34.3
22	34.7	39.7	33.8	40.7	27.0	- -	30.7	22.7	[33.1]	30.7	35.7	34.3	34.0
23	31.7	46.7	27.0	33.8	32.0	- -	33.7	22.7	[33.7]	39.7	30.3	28.7	34.7
24	35.0	43.5	29.0	40.3	21.7	- -	37.0	22.0	[31.9]	24.0	37.3	29.0	32.8
25	45.8	43.7	33.0	31.7	37.0	- -	52.0	28.0	[31.4]	13.0	30.3	23.3	32.3
26	38.3	52.5	34.0	30.7	39.2	- -	43.7	42.7	[31.5]	15.3	31.7	37.7	32.5
27	28.0	41.5	34.7	30.3	48.8	- -	37.0	30.3	[31.9]	28.3	31.0	30.0	33.0
28	24.3	35.0	32.3	30.3	35.8	- -	32.0	40.3	[30.4]	33.7	31.7	31.0	31.3
29	37.3	37.7	34.3	34.3	32.7	- -	33.0	27.3	[30.0]	40.0	30.7	28.7	30.8
30	47.3	37.0	37.3	27.0	31.3	- -	38.3	25.0	[30.0]	35.0	22.0	34.7	31.0
Mean,	34.97	43.31	39.41	33.59	35.99	- -	39.52	36.40	36.03[1]	35.73	34.67	35.60	

[1] Values within [ ] equal mean of 51 years, less 0°.9 to bring out the monthly mean.

TABLE I.—*Continued.* Mean Temperature in December.

Day of month.	1807.	1808.	1809.	1810.	1811.	1812.	1813.	1814.	1815.	1816.	1817.	1818.	1819.	1820.
1	31°.7	34°.2	22°.0	31°.5	39°.3	29°.2	45°.3	29°.6	16°.3	28°.7	35°.5	27°.4	36°.9	15°.5
2	36.0	33.7	36.5	26.7	36.4	27.0	35.8	30.8	14.2	11.7	35.2	27.0	35.6	18.8
3	46.2	35.8	35.2	25.1	32.7	22.2	19.5	26.3	31.5	9.3	36.0	27.2	20.8	31.3
4	31.2	46.3	33.4	30.3	37.5	17.8	32.2	20.3	40.1	15.3	24.7	25.8	27.7	28.7
5	26.5	29.2	37.5	28.3	38.8	43.3	29.8	23.0	22.7	22.0	20.8	29.9	18.2	31.8
6	30.3	17.8	42.7	31.3	50.3	31.5	38.7	17.1	24.5	30.2	22.7	47.2	27.0	33.5
7	23.9	11.5	50.3	31.5	41.9	25.2	36.8	21.5	37.8	36.8	18.7	32.3	34.3	20.8
8	21.3	8.9	31.0	30.7	39 8	31.5	36.2	22.2	16.2	39.3	18.8	15.8	41.3	30.7
9	34.2	16.8	33.7	25.3	27.5	31.5	35.4	17.8	13.3	14.3	33.0	35.8	45.0	25.2
10	35.2	29.2	35.8	32.3	23.3	23.3	29.7	14.3	6.8	13.8	30.7	24.8	22.3	20.7
11	35.7	28.7	31.8	21.0	32.5	19.6	25.5	21.8	10.3	19.8	18.7	22.4	19.7	8.0
12	31.5	38.7	29.8	18.7	33.3	16.0	23.8	29.0	30.7	34.7	17.9	21.7	23.5	9.5
13	31.4	25.2	30.6	18.8	24.5	30.8	26.7	23.3	24.8	37.8	22.2	17.2	24.7	9.1
14	35.7	13.2	36.7	20.8	13.8	28.8	30.6	17.5	19.5	33.7	33.3	22.2	29.5	23.7
15	32.5	17.9	31.2	12.1	9.7	23.3	28.5	22.3	26.3	18.0	38.2	17.3	34.7	28.0
16	24.7	18.7	21.3	31.0	26.7	19.7	24.1	28.0	28.5	8.3	20.2	22.0	41.4	7.5
17	20.8	16.3	23.3	16.0	25.2	21.8	35.8	33.5	32.2	10.5	24.2	2.5	33.7	10.7
18	36.9	16.0	18.7	7.1	35.8	27.3	30.0	22.5	28.4	24.8	27.5	6.2	26.8	18.0
19	24.3	45.3	28.8	22.2	36.0	34.5	30.0	24.3	20.7	14.5	31.0	11.8	27.7	26.8
20	10.3	50.2	37.3	26.7	9.0	20.7	21.2	7.2	15.0	13.3	24.3	23.3	39.7	35.7
21	27.3	27.7	27.5	22.8	15.7	15.5	8.3	14.3	20.8	17.7	13.2	32.3	35.0	27.0
22	29.7	27.3	35.0	32.3	25.9	14.7	20.3	25.4	20.0	6.2	8.3	24.0	33.2	17.3
23	22.9	37.2	16.2	22.1	32.0	24.2	29.0	33.9	27.7	23.0	14.9	9.7	37.3	2.3
24	20.2	35.7	13.0	19.8	11.3	32.3	28.5	28.4	39.7	31.7	24.4	15.7	33.7	7.2
25	11.8	15.2	41.0	25.8	10.5	15.4	9.7	7.1	28.0	36.2	40.8	21.3	11.8	9.0
26	16.3	15.5	43.3	16.7	24.1	2.7	9.0	0.2	21.3	39.5	29.2	25.0	14.8	2.0
27	32.1	19.8	38.8	11.7	23.8	7.8	10.7	16.5	18.7	39.7	25.2	9.0	12.5	6.3
28	32.7	23.8	22.8	33.8	13.8	17.5	29.0	16.8	17.5	31.7	34.2	22.0	23.0	2.5
29	30.5	28.8	20.2	42.2	17.0	27.8	30.3	25.2	15.0	32.2	36.0	25.0	8.0	18.8
30	29.2	20.8	14.7	35.8	25.7	34.5	29.2	30.2	16.8	17.3	32.9	28.0	2.3	23.0
31	31.9	28.7	18.8	21.1	27.0	24.0	19.7	33.0	21.5	23.6	35.5	29.2	10.7	20.2
Mean,	28.55	26.23	30.29	24.88	27.11	23.92	27.00	22.03	22.80	23.75	26.71	22.62	26.84	18.37

Day of month.	1821.	1822.	1823.	1824.	1825.	1826.	1827.	1828.	1829.	1830.	1831.	1832.	1833.	1834.
1	14.3	58.3	(15.5)	22.8	43.7	42.7	34.7	26.7	39.7	34.0	25.0	21.5	39.0	38.0
2	30.3	31.3	(22.0)	39.7	44.0	25.0	37.3	37.7	44.7	36.0	14.3	22.3	38.7	40.3
3	38.8	24.7	(28.5)	42.0	40.3	13.7	26.7	41.7	26.0	42.7	18.0	30.3	39.0	35.0
4	36.7	15.0	35.0	37.0	32.3	20.0	26.7	44.0	14.7	50.3	17.3	39.5	31.7	26.0
5	36.8	25.0	35.8	13.0	30.0	14.7	24.0	32.3	37.0	43.3	15.7	21.0	38.3	33.0
6	27.5	17.7	26.3	30.3	21.3	34.0	23.3	39.7	37.3	30.7	20.3	25.7	32.8	44.3
7	29.7	15.0	37.7	32.0	18.3	41.3	40.7	33.3	42.0	32.3	15.3	23.0	28.0	39.0
8	32.0	32.2	18.3	27.0	16.7	40.7	33.0	38.0	45.7	33.3	10.3	42.2	31.0	31.3
9	36.8	26.7	13.0	24.7	44.0	48.7	27.7	42.5	29.7	38.2	19.3	41.2	45.3	26.7
10	23.5	36.3	18.6	26.8	14.7	53.0	28.0	37.8	23.7	38.0	16.3	36.7	38.0	14.7
11	26.0	25.5	24.3	23.7	18.7	35.3	34.3	37.3	31.0	35.3	20.0	33.0	28.0	33.3
12	18.0	24.7	21.7	19.7	10.3	31.3	27.0	38.0	48.0	29.2	19.3	32.0	25.0	16.7
13	25.3	21.3	24.7	38.3	—12.0	30.7	21.3	37.7	33.3	30.5	-14.0	16.0	26.7	30.0
14	24.0	33.7	22.5	29.0	18.3	24.0	42.0	45.5	34.7	29.7	13.7	23.0	23.0	10.7
15	15.7	25.8	26.3	16.3	17.7	26.7	39.7	29.0	45.0	51.0	10.3	22.8	27.7	4.7
16	5.7	8.2	25.0	16.0	37.0	32.0	20.0	31.7	35.3	34.7	15.3	24.7	26.2	22.3
17	25.3	29.0	27.0	17.0	48.3	38.7	19.0	41.7	28.0	25.3	24.3	33.8	31.8	6.3
18	32.3	11.7	19.4	40.3	47.7	28.3	11.3	12.3	21.7	23.5	2.7	40.3	30.7	18.7
19	19.3	37.3	(28.9)	38.0	37.3	19.0	15.3	7.0	30.0	29.3	14.8	29.7	26.3	25.7
20	9.3	26.3	38.3	34.7	34.0	15.7	14.0	25.3	32.0	30.7	12.7	18.8	25.7	30.3
21	28.8	19.3	23.2	32.0	21.2	23.0	13.3	23.7	45.7	28.6	28.5	14.5	26.5	15.0
22	27.3	18.7	12.3	31.7	9.0	22.3	7.3	6.0	21.0	11.5	—3.7	18.3	32.7	11.7
23	13.7	3.3	28.7	14.7	6.0	11.0	6.0	31.8	28.0	14.0	9.0	12.8	26.7	24.0
24	14.0	11.7	29.5	21.3	20.0	6.3	12.0	25.8	41.7	25.0	33.3	20.7	30.2	19.0
25	21.0	16.0	17.3	31.0	40.3	—1.0	31.0	32.2	49.7	47.3	26.7	32.7	29.7	19.3
26	16.8	18.7	10.0	23.3	34.3	22.7	10.0	25.2	42.0	44.7	11.8	20.7	31.3	6.3
27	16.3	17.0	16.4	28.0	14.0	30.7	13.7	25.7	33.7	39.2	15.7	22.7	24.7	16.0
28	25 0	17.8	30.7	22.0	31.0	2.7	18.0	21.7	41.3	40.7	11.2	19.8	16.3	12.7
29	—0.7	17.7	26.5	32.7	31.7	—2.7	20.7	30.3	38.3	36.3	19.3	20.0	20.7	14.8
30	0.5	15.0	27.7	32.7	27.3	2.7	15.0	31.3	40.0	35.7	20.3	8.0	15.3	23.0
31	15.3	10.7	36.3	32.3	36.7	13.3	25.3	11.0	42.7	43.5	7.3	38.0	37.3	24.3
Mean,	22.42	22.30	24.75	28.07	26.91	24.08	23.17	30.40	35.58	34.32	16.08	26.00	29.92	23.00

Table I.—*Continued.* Mean Temperature in December (continued).

Day of month.	1835.	1836.	1837..	1838.	1839.	1840.	1841.	1842.	1843.	1844.	1845.	1846.	1847.
1	16°.3	31°.0	44°.0	39°.0	43°.3	25°.0	24°.7	32°.0	19°.0	32°.0	34°.3	26°.7	31°.2
2	4.7	17.0	45.7	44.3	42.8	25.8	32.0	23.7	28.7	21.2	22.7	23.3	48.8
3	19.3	24.3	46.0	36.2	40.6	34.7	31.0	33.3	24.2	16.7	12.5	36.0	39.3
4	29.3	30.0	41.0	26.3	47.7	19.3	44.7	31.7	28.3	30.8	16.3	31.8	29.2
5	32.3	41.7	37.0	45.3	45.3	19.0	37.3	35.7	33.0	32.3	31.3	26.7	30.5
6	7.8	35.7	32.7	36.3	47.5	15.3	30.0	23.0	12.7	28.7	16.0	17.0	31.2
7	4.8	17.7	38.0	35.0	46.3	30.7	28.0	22.3	25.0	40.3	12.5	17.7	22.7
8	11.7	19.7	41.7	43.8	44.0	38.0	26.7	28.0	24.0	18.8	20.3	38.0	28.3
9	22.3	25.0	30.7	19.8	50.6	39.7	41.7	25.0	24.3	18.7	29.7	34.7	41.7
10	15.3	44.7	28.0	22.0	46.7	45.7	40.7	25.7	26.2	23.8	20.7	23.7	51.3
11	12.3	43.0	35.0	27.0	42.7	32.0	44.0	25.7	30.7	9.7	—2.2	26.7	52.8
12	24.3	38.0	29.0	39.0	47.7	30.0	38.7	21.7	24.7	22.3	1.0	22.3	34.7
13	29.3	39.3	28.3	14.1	45.2	46.7	32.0	14.0	9.0	22.0	5.5	17.8	45.2
14	33.7	45.0	24.3	33.8	42.3	43.0	41.7	24.7	21.8	31.0	27.2	19.7	43.2
15	8.0	18.5	22.3	36.9	41.0	40.0	38.7	26.7	32.2	27.7	34.5	14.8	44.0
16	—7.0	17.3	21.3	19.2	39.0	45.0	36.7	32.0	24.0	18.8	29.0	17.2	19.5
17	3.3	22.7	19.3	19.5	32.8	33.7	22.3	22.3	17.0	8.7	25.2	15.5	25.0
18	6.5	28.2	43.0	33.2	22.7	23.0	25.0	21.0	21 3	6.7	35.7	27.7	19.2
19	10.7	17.7	37.3	23.7	26.0	30.7	18.5	12.7	25.2	9.7	35.8	28.7	26.8
20	24.7	23.7	23.3	19.2	23.3	29.7	14.7	15.7	28.2	7.2	21.2	27.2	21.3
21	37.0	44.7	19.7	29.0	26.7	30.7	15.3	27.3	27.7	6.8	24.7	15.5	5.8
22	29.7	17.0	11.3	36.5	24.7	22.2	14.0	43.3	28.3	27.3	11.8	17.7	8.3
23	21.3	12.7	21.3	37.7	32.6	20.3	11.0	20.7	24.2	40.3	8.7	18.5	15.7
24	18.3	25.7	37.0	10.8	38.8	21.7	42.7	7.3	30 0	26.7	9.3	14.3	25.7
25	38.7	19.3	39.0	23.7	36.3	10.5	28.3	20.0	30.7	27.0	19.3	29.8	22.8
26	40.0	41.7	39.0	36.7	35.7	7.7	17.0	28.0	24.0	37.0	19.3	16.8	13.7
27	37.7	13.7	34.0	18.0	35.3	22.4	21.0	31.0	25.2	33.8	14.7	28.8	4.3
28	18.3	6.3	38.3	15.0	41.7	25.3	29.7	20.0	30.3	20.2	25.5	31.7	16.7
29	18.0	22.7	35.0	40.7	36.3	31.0	32.0	9.7	29.3	12.6	24.5	15.0	25.8
30	29.3	1.3	41.7	13.2	20.1	33.7	32.7	32.3	26.7	25.3	30.7	13.3	38.8
31	27.3	—1.7	43.3	10.2	18.3	31.3	33.0	26.0	33.3	29.0	15.2	29.3	43.2
Means,	20.18	25.27	33.15	28.49	37.54	29.15	29.84	24.59	25.45	23.00	20.42	23.37	29.25

Day of month.	1848.	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.	Means.
1	32.3	40.0	35.8	25.2	36.7	- -	19.3	32.0	22.5	42.3	10.7	38.7	31.0
2	42.0	18.7	30.3	25.0	36.0	- -	18.7	41.7	23.0	30.0	23.7	44.3	
3	38.5	28.7	26.3	25.3	37.8	- -	18.0	41.3	29.0	33.3	34.0	16.0	
4	33.5	28.3	33.3	29.3	42.0	- -	35.3	36.0	21.0	21.7	18.7	6.3	
5	34.7	30.7	35.8	22.0	43.0	- -	15.7	29.0	19.3	17.3	18.0	24.3	
6	25.7	30.7	31.5	17.3	43.3	- -	19.0	28.3	- -	15.7	26.7	31.3	
7	20.0	20.7	21.0	20.7	43.8	- -	28.0	34.0	- -	31.0	18.0	40.3	
8	35.7	20.7	21.7	30.7	50.0	- -	18.7	30.7	- -	33.0	30.7	25.7	
9	36.3	18.0	25.8	26.0	38.7	- -	14.3	29.0	- -	28.0	15.0	5.0	
10	30.0	34.2	28.2	23.0	44.3	- -	35.7	35.3	- -	33.7	12.3	18.3	
11	35.2	20.3	19.3	6.8	34.0	- -	35.7	23.3	- -	14.5	27.7	13.3	
12	28.7	21.2	31.7	12.3	37.0	- -	15.3	15.3	- -	14.7	10.0	20.7	
13	32.7	25.2	10.5	25.8	38.3	- -	18.0	21.0	- -	29.3	13.7	2.0	
14	41.0	22.3	15.3	8.0	20.7	- -	37.0	24.3	- -	35.3	32.3	5 0	
15	41.3	21.8	25.0	13.5	13.2	- -	35.3	25 3	- -	25.3	35.3	18.7	
16	28.2	38.7	27.0	21.7	18.8	- -	38.3	37.7	- -	29.3	29.0	12.3	
17	38.3	38.3	31.3	1.0	30.0	- -	13.8	33.3	- -	31.3	21.0	14.0	
18	36.3	20.7	14.0	3.5	29.8	- -	15.3	26.3	- -	41.0	3.0	26.7	
19	42.3	13.3	3.7	11.0	19.5	- -	5.7	24.0	- -	33.3	5.3	29.0	
20	30.3	32.0	18.3	24.7	33.5	- -	—1.6	18.7	- -	18.3	28.0	30.0	
21	21.0	33.0	13.2	14.0	19.7	- -	9.7	22 3	- -	18.0	22.0	27.0	
22	4.0	17.2	13.3	5.3	5.0	- -	—7 3	37.7	- -	34.7	27.3	23 0	
23	9.0	28.7	9.0	10.7	18.3	- -	—4.2	41.0	- -	24.7	12.3	21.7	
24	12.5	26.3	6.0	14.7	33.7	- -	19.0	36.0	- -	28.0	10.3	17.3	
25	33.8	23.5	14.0	9.5	33.7	- -	31.3	14.2	- -	10.0	8.0	12.0	
26	26.8	3.0	19.3	0.0	27.8	- -	38.7	18.3	- -	8.7	13.7	10.3	
27	12.3	17.2	25.3	—0.3	22.7	- -	38 3	13.3	- -	7.0	30.3	12.0	
28	27.7	15.0	23.3	35.7	37.5	- -	30.0	20.3	- -	25.3	21.7	—0.7	
29	27.3	22.0	11.3	40.7	30.5	- -	34.3	4.0	- -	20.3	6 3	—1.3	
30	30.3	21.3	5.3	33.3	20.3	- -	16.0	15 7	- -	22.3	—4.7	7.7	
31	24.3	14.7	5.7	38.3	11.2	- -	20.3	12.3	- -	26.3	14.7	17.3	
Mean,	29.20	24.06	20.38	18.54	30.67		21.34	26.53	21 14[1]	25.28	18.55	18.33	

[1] This mean was found preserved in the record, like that of the preceding month.

TABLE I.—*Continued.* Mean Temperature in January.

Day of month.	1808.	1809.	1810.	1811.	1812.	1813.	1814.	1815.	1816.	1817.	1818.	1819.	1820.	1821.
1	12°.1	26°.0	19°.6	12°.4	34°.8	23°.5	22°.3	27°.3	22°.8	30°.3	27°.7	38°.3	13°.5	3°.2
2	5.8	24.5	17.7	28.0	43.2	36.2	24.2	31.7	20.7	35.5	27.7	33.7	5.7	8.5
3	10.3	16.5	20.3	14.2	32.0	36.7	3.0	37.5	16.2	27.7	31.4	21.7	9.8	9.5
4	7.9	7.0	37.8	9.8	35.2	26.3	—0.2	22.3	12.8	42.7	25.5	25.3	21.3	13.3
5	9.2	9.7	29.7	27.0	33.7	23.7	7.2	18.5	16.2	17.8	16.9	10.3	21.7	8.2
6	14.7	17.7	29.0	32.3	30.3	23.2	8.2	17.7	24.3	19.0	22.5	21.3	10.5	12.3
7	16.2	24.3	35.3	41.7	33.3	31.5	25.5	6.0	20.3	19.8	35.6	15.0	12.3	15.2
8	15.5	24.5	11.8	36.3	32.1	1.6	14.5	16.7	10.5	16.0	21.0	6.7	12.0	11.8
9	17.3	8.5	26.8	34.7	14.8	7.3	15.8	29.5	3.5	24.7	16.5	25.7	10.0	16.3
10	6.0	25.0	26.9	26.3	12.0	17.0	18.3	27.7	7.0	33.0	21.0	39.7	18.0	23.3
11	16.2	19.6	41.3	21.3	16.0	11.4	29.7	35.3	2.5	28.1	11.0	35.3	21.3	11.3
12	31.8	18.3	16.0	26.8	10.0	26.0	33.0	17.8	11.5	11.6	16.7	32.2	22.7	18.5
13	18.8	0.2	21.3	11.3	16.0	31.3	24.2	7.8	8.5	—2.2	14.8	21.2	12.7	21.8
14	9.3	—1.2	28.3	9.4	10.0	7.0	16.0	14.2	10.5	3.7	22.5	0.0	21.0	9.7
15	8.7	8.0	30.2	10.5	25.3	5.8	23.5	19.7	2.5	1.2	24.0	6.3	23.0	15.8
16	8.6	15.6	30.2	20.2	—4.8	13.5	26.8	19.3	14.0	10.0	27.0	24.3	19.0	18.8
17	31.3	14.2	31.8	29.8	—6.7	31.8	27.3	24.8	43.7	15.2	26.6	26.7	17.0	6.3
18	43.3	14.8	34.8	1.5	—9.7	18.8	28.3	18.2	35.3	39.2	(26.1)	41.3	19.0	5.0
19	32.0	19.9	—8.7	13.0	—5.8	28.2	28.8	27.5	30.5	4.5	27.5	38.0	16.7	11.0
20	16.2	32.8	—7.5	35.2	—3.3	18.8	23.7	36.3	26.7	9.8	22.7	28.3	15.3	17.5
21	21.5	19.8	—2.1	25.1	1.3	25.9	18.2	31.3	30.2	16.3	9.5	26.3	11.7	25.2
22	30.0	16.3	7.4	23.6	—4.8	16.0	9.0	18.5	34.7	10.7	27.0	36.7	16.7	[19.2]
23	37.2	27.5	17.2	2.4	15.5	19.2	14.3	19.3	31.8	10.0	2.3	39.7	19.3	[18.5]
24	35.8	19.4	12.3	1.0	9.6	3.3	32.3	17.8	36.8	21.3	5.7	41.3	13.3	[18.6]
25	15.8	14.2	14.8	9.7	21.5	22.7	30.8	21.3	23.3	23.0	8.9	30.3	14.3	[21.2]
26	19.4	14.7	9.2	16.8	36.8	14.2	26.2	17.0	12.2	23.8	18.7	31.0	9.3	[23.2]
27	40.2	18.8	11.3	19.7	30.2	4.5	19.7	—1.2	17.0	5.5	27.3	33.3	21.7	[22 3]
28	21.3	16.2	13.8	19.2	14.3	10.7	29.2	5.2	22.0	—4.9	27.0	30.7	14.0	[21.6]
29	13.9	19.8	3.0	23.5	10.2	19.7	19.0	3.7	26.3	—0.8	26.3	2.3	28.3	[21.3]
30	19.0	24.2	6.9	32.0	25.3	—9.1	23.0	7.4	25.3	2.7	—1.3	31.3	31.3	[20.6]
31	28.3	23.2	15.0	33.8	29.0	6.2	—0.8	—12.3	22.5	6.5	3.5	8.3	25.0	[20.1]
Mean,	19.82	17.42	18.78	20.91	17.33	17.84	20.03	18.84	20.07	16.18	19.98	25.89	17.12	15.78

Day of month.	1822.	1823.	1824.	1825.	1826.	1827.	1828.	1829.	1830.	1831.	1832.	1833.	1834.	1835.
1	14.2	2.0	11.3	32.0	35.3	33.0	17.7	22.0	20.7	46.7	18.3	43.3	34.3	12.7
2	35.8	22.7	11.3	25.0	33.0	21.3	31.3	5.5	21.3	32.0	10.0	31.7	26.0	9.3
3	13.0	23.0	16.3	8.0	29.7	18.7	41.0	—7.7	31.7	32.0	17.0	36.2	30.0	—0.3
4	2.3	12.0	25.8	3.7	28.0	13.7	26.0	—7.3	41.0	38.7	7.3	48.0	13.7	—5.3
5	—5.3	3.7	27.3	9.7	0.0	3.3	34.7	0.0	29.0	50.2	26.3	46.3	16.0	6.3
6	7.0	2.3	36.3	36.0	3.0	22.7	32.7	10.5	27.3	31.8	30.2	43.7	12.0	0.7
7	5.0	—1.8	20.0	4.7	22.3	18.7	37.7	30.8	28.7	32.3	21.0	26.0	12.5	3.0
8	25.7	12.0	23.7	5.3	35.0	19.7	23.7	19.7	28.3	22.7	20.0	22.7	18.3	16.5
9	25.0	13.7	25.5	14.3	39.7	18.3	14.3	28.0	22.3	16.7	42.0	31.0	23.0	20.5
10	—3.3	33.0	36.8	11.7	44.3	27.7	16.7	1.0	39.0	14.0	34.8	30.3	27.3	17.3
11	—9.7	7.7	19.7	17.0	42.3	26.7	30.7	—4.3	4.7	22.7	34.0	13.0	12.0	20.7
12	25.3	4.7	25.3	15.3	27.0	25.3	37.7	9.0	0.0	24.7	16.0	11.8	24.7	24.0
13	18.3	2.7	31.7	17.7	19.7	23.7	39.0	16.3	4.3	7.5	24.3	23.7	25.7	29.7
14	—6.7	—4.3	33.3	27.7	28.0	21.3	27.7	31.0	20.3	15.0	27.3	26.0	22.0	35.3
15	14.3	9.4	9.7	37.7	35.3	23.0	25.3	41.7	28.0	16.3	35.3	4.5	12.0	42.3
16	6.7	18.0	19.3	24.3	30.7	22.7	14.7	36.7	30.7	26.3	42.7	39.7	14.7	42.0
17	—4.3	17.8	15.8	33.0	22.7	3.8	24.7	38.0	40.3	23.3	38.2	—1.5	28.3	39.5
18	14.3	25.0	13.2	17.3	17.0	—2 5	23.2	32.0	16.0	17.7	42.0	24.7	43.2	29.5
19	30.0	39.8	14.8	17.3	13.0	1.0	17.7	34.0	13.0	22.0	46.5	—10.2	25.5	22.7
20	35.7	31.7	14.0	18.7	17.0	—1.3	23.3	27.7	36.3	9.3	40.0	22.0	32.7	27.7
21	31.5	33.2	15.3	18.3	20.0	2.3	5.0	30.0	13.3	11.7	35.0	41.0	9.7	29.3
22	41.0	30.8	8.3	9.7	14.3	7.0	7.3	27.8	18.3	15.3	19.3	39.8	4.0	38.3
23	8.3	31.0	5.3	4.7	20.3	15.0	10.7	29.3	27.7	14.0	18.0	35.5	2.3	36.0
24	—5.0	14.3	3.3	9.0	29.2	14.3	12.0	30.3	4.3	11.0	39.3	36.3	10.0	22.7
25	—0.7	22.5	15.3	17.7	21.7	16.3	22.5	15.3	15.0	10.0	38.0	31.5	8.0	26.7
26	11.7	33.8	29.5	29.0	5.0	25.3	37.7	25.7	8.0	21.7	4.8	20.2	33.3	39.7
27	31.0	33.5	23.6	30.3	7.2	34.7	25.7	26.0	14.0	22.0	—0.5	18.0	15.0	38.7
28	24.7	34.7	16.3	25.3	29.0	40.0	33.3	26.3	9.7	17.3	4.3	23.3	11.0	36.0
29	34.3	27.0	22.9	33.0	23.7	27.3	25.7	14.7	1.0	23.7	19.0	10.3	7.0	34.3
30	21.3	17.8	27.8	20.0	6.8	19.0	18.3	7.7	2.0	19.7	26.0	24.7	22.7	31.3
31	14.8	22.2	24.3	16.7	—15.9	19.7	31.5	7.7	1.7	22.7	36.3	13.7	31.7	46.3
Mean,	14.75	18.58	20.12	19.03	22.07	18.12	24.83	19.61	19.56	22.28	26.23	26.04	19.63	24.94

TABLE I.—*Continued.* Mean Temperature in January (continued).

Day of month.	1836.	1837.	1838.	1839.	1840.	1841.	1842.	1843.	1844.	1845.	1846.	1847.	1848.
1	27°.7	11°.3	44°.3	13°.0	13°.7	26°.7	14°.7	11°.0	32°.3	29°.0	10°.8	37°.3	42°.3
2	33.7	19.3	44.0	21.8	14.1	30.3	37.7	7.3	29.3	22.0	36.3	27.7	39.2
3	24.3	11.3	53.3	39.2	12.7	14.7	4.7	21.2	21.0	15.8	35.3	32.0	30.2
4	19.7	3.7	41.0	37.5	18.4	7.3	10.7	8.0	29.0	30.7	24.2	26.0	34.8
5	28.0	5.3	44.7	33.2	26.7	6.5	12.0	16.3	13.3	31.8	24.3	40.8	22.0
6	20.3	30.7	46.7	28.9	29 2	34.0	10.0	28.7	17.0	13.2	25.2	33.5	14.7
7	24.7	31.3	46.3	39.4	31.3	44.7	39.0	34.0	15.8	18.0	30.7	32.3	3.0
8	20.8	27.3	48.2	43.1	26.7	47.7	21.3	45.3	8.7	25.0	29.0	19.3	7.0
9	21.0	20.0	32.7	22.5	34.2	37.3	35.0	48.0	—0.2	29.5	27.3	15.7	36.3
10	35.7	18.0	34.8	43.2	37.5	28.3	30.5	44.3	5.3	27.2	13.0	22.3	—3.8
11	40.7	28.3	17.0	44.0	25.0	31.0	27.0	45.0	11.3	22.8	17.3	15.0	—2.5
12	42.7	29.0	25.5	45.5	17.0	34.7	26.0	41.0	10.5	22.7	16.3	11.3	10.0
13	39.8	16.3	33.7	30.9	25.5	31.0	3.0	40.0	33.0	14.0	19.7	18.0	17.8
14	38.0	5.3	36.3	31.1	21.3	29.3	25.3	37.0	14.0	7.3	19.0	23.3	37.0
15	27.3	6.7	41.3	13.7	18.3	27.0	32.3	31.0	8.0	7.3	27.3	28.5	44.2
16	10.3	4.7	37.0	22.6	5.0	26.3	11.7	21.7	12.3	19.3	30.2	37.0	37.3
17	15.7	11.7	49.7	28.6	10.7	33.8	26.7	16.3	35.5	20.0	14.0	6.0	34.3
18	17.0	17.7	32.7	38.9	5.3	25.3	36.7	33.3	29.8	13.3	1.0	9.2	26.2
19	21.0	20.3	30.8	44.7	25.8	13.7	33.3	39.0	11.0	5.0	3.5	22.0	6.7
20	20.3	20.0	25.7	16.0	32.6	23.0	32.7	46.0	1.7	16.3	10.3	7.0	15.8
21	13.0	19.7	26.8	26.8	33.8	31.4	45.7	39.3	2.0	21.0	19.5	10.7	35.2
22	42.7	31.0	22.3	12.2	17.8	30.3	26.7	43.0	5.7	26.0	4.7	2.0	19.0
23	18.7	23.0	29.7	17.0	21.3	22.3	9.0	34.3	20.5	24.0	18.2	20.8	19.7
24	13.7	12.3	37.7	4 3	21.8	31.7	6.0	36.3	29.5	30.5	20.0	31.2	11.5
25	23.7	1.7	41.7	33.3	16.7	36.0	25.0	25.7	5.3	44.7	33.3	15.0	33.0
26	15.3	—1.7	47.7	50.5	16.0	39.3	32.0	24.3	—7.3	30.3	33.8	17.3	35.7
27	15.0	10.0	41.0	42.0	17.2	43.0	31.0	27.3	—6.3	27.7	14.7	18.0	34.0
28	12.3	37.7	40.8	28.8	19.0	39.0	22.3	31.7	—5.3	31.0	23.7	10.0	32.3
29	6.3	27.7	31.8	21.2	34.0	31.7	39.3	22.3	—0.2	35.7	17.7	12.3	33.3
30	28.3	34.0	12 0	25.3	39.2	33.7	41.7	22.7	1.8	19.7	35.7	22.0	32.8
31	33.7	36 0	15.7	22.3	32.2	32.0	43.0	33.7	—0.2	3.3	30.7	8.2	22.8
Mean,	24.24	18.92	35.89	29.73	22.58	29.64	25.53	30.84	12.39	22.07	21.52	20.38	24.58

Day of month.	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.		Means.
1	17.3	12.2	15.0	31.7	- -	26 8	- -	11.0	- -	29.7	34.0		
2	1.5	15.7	2.0	22.7	- -	23.2	- -	10.7	- -	25.3	21.3		
3	5.5	14.2	13.2	17.3	- -	17.3	- -	24.7	- -	22.0	3.0		
4	7.7	22.3	5.3	24.8	- -	32.7	- -	12.3	22.7	26.0	8.3		
5	9.8	23.3	—1.0	30.2	- -	37.5	- -	—1.7	11.0	29.7	27.0		
6	20.5	14.0	9.0	30.8	- -	35.0	- -	9.0	0.3	2.3	25.3		
7	15.3	14.2	11.2	26.0	- -	9.0	- -	2.9	8.0	8.0	31.3		
8	12.3	22.2	13.0	14.0	- -	13.7	- -	23.0	2.0	1.0	15.7		
9	17.0	15.3	18.0	16.3	- -	1.8	- -	—1.7	12.3	19.0	—8.3		
10	7.2	18.0	31.7	28.7	- -	1.7	- -	2.3	17.0	27.0	—17.0		
11	—0.2	14.3	32.5	31.2	- -	13.2	- -	13.3	17.3	32.0	—20 7		
12	6.2	36.8	28.0	23.8	- -	37.0	- -	12 3	9.3	36.0	—8.7		
13	27.3	19.0	27.2	9.7	- -	38.0	- -	22.0	15.3	21.3	5.7		
14	39.7	10.5	28.8	12.8	- -	30.3	- -	23.3	13.7	27.0	13.0		
15	28.0	20.8	35.0	21.3	- -	21.0	- -	23.5	7.0	26.3	26.3		
16	25.7	22.7	34.0	—6.8	- -	17.5	- -	23.0	7.0	39.7	25.7		
17	33.3	24.7	38.0	0.0	- -	28.2	- -	28.3	20.0	30.3	22.3		
18	—0.9	33.7	18.0	1.5	- -	16.2	- -	24.3	—11.3	21.7	11.3		
19	4.3	27.3	6.3	—0.3	- -	17.7	- -	20.3	6.7	22.7	24.0		
20	14.2	24.8	21.7	—7.3	- -	19.5	- -	10.3	13.7	28.3	30.3		
21	26.0	20.5	22.3	10.5	- -	22.8	- -	11.7	24.0	36.3	39.0		
22	2.0	31.7	13.3	4.7	- -	5.7	- -	17.0	16.7	22.0	38.7		19.2
23	19.2	32.5	16.7	10.7	- -	6.0	- -	18.0	—18.3	22.3	6.3		18.5
24	29.0	17.5	29.7	20.5	- -	6.0	- -	15.0	—8.0	25.7	7.7		18.6
25	36.5	38.0	26.8	24.8	- -	—6.8	- -	—0.7	9.3	38.0	26.3		21.2
26	39.2	32.7	24.0	35.1	- -	4.7	- -	11.7	10.3	43.0	30.0		23.2
27	17.0	32.7	14.0	13.8	- -	18.3	- -	21.0	35.7	43.3	24.0		22.3
28	13.3	32.2	12.0	25.3	- -	2.3	- -	12.3	34.3	29.0	23.3		21.6
29	26.3	27.3	38.0	37.0	- -	—7.3	- -	23.0	36.0	28.0	23.0		21.3
30	23.7	18.0	—4.0	28.2	- -	1.7	- -	23.0	29.3	31.3	26.3		20.6
31	2.5	13.0	—8.3	14.5	- -	32.7	- -	14.3	14.7	15.3	12.3		20.1
Mean,	16.68	22.64	18.48	17.85	- -	16.86	- -	14.81	13.75	26.12	17.00		

TABLE I.—*Continued.* Mean Temperature in February.

Day of month.	1808.	1809.	1810.	1811.	1812.	1813.	1814.	1815.	1816.	1817.	1818.	1819.	18 0.	1821.
1	40°.0	18°.3	20°.0	32°.8	28°.0	25°.2	15°.3	17°.2	33°.8	4°.0	5°.7	11°.3	—6°.0	47°.5
2	32.7	27.3	9.0	27.4	25.0	9.2	40.2	22.2	24.2	16.0	12.7	29.3	1.3	30.8
3	20.2	3.2	9.0	25.0	34.3	9.8	28 7	19.7	21.5	21.3	21.7	31.3	7.7	32.8
4	35.2	2.4	18.4	24.7	37.3	21.5	0.3	22.5	22.5	5.5	34.3	35.7	12.0	26.4
5	33.2	4.3	30.0	29.0	29.8	34.5	—0.3	17.0	23.2	—4.5	33.0	34.0	4.7	16.3
6	33.3	15.5	18.8	22.5	4.5	31.8	22.5	18.0	14.7	9.7	18.7	20.0	35.7	13.3
7	30.8	15.0	21.5	27.0	30.8	38.2	15.2	17.8	28.5	27.7	16.1	22.3	37.0	31.7
8	27.5	2.7	29.4	28.1	44.3	39.3	30.5	12.0	7.3	25.8	29.0	39.0	28.0	18.5
9	30.4	3.6	27.3	26.3	31.3	34.8	14.3	20.5	—0.8	19.5	6.3	46.7	14.3	24.7
10	30.3	3.1	—1.7	28.0	29.5	34.3	21.5	16.7	8.7	28.5	— 5.3	48.7	12.3	36.0
11	33.7	8.2	11.0	29.3	20.7	31.5	33.2	17.0	21.7	3.8	—2.7	38.0	26.5	30.8
12	34.2	7.2	32.5	23.2	7.0	31.3	21.7	20.3	38.7	2.8	4.2	23.3	30.3	36.2
13	36.0	17.2	28.0	37.7	13.0	32.3	22.7	13.2	13.5	5.5	11.4	14.0	42.0	43.0
14	35.0	25.6	16.8	22.7	24.3	18.0	24.2	8.7	5.0	—2.3	28.3	23.3	38.0	26.3
15	27.3	16.5	20.2	26.3	37.0	26.8	26.8	21.0	—1.3	—2.2	20.5	36.3	40.7	29.7
16	13.8	12.7	30.8	19.0	14.3	13.9	28.3	24.0	8.5	4.8	—1.9	35.7	40.0	18.3
17	11.8	12.3	28.2	21.2	13.3	19.2	39.0	22.9	20.3	9.5	5.2	30.0	40.7	31.5
18	13.8	35.9	32.6	16.3	28.2	22.3	45.0	10.5	27.0	20.8	25.3	13.3	41.0	23.4
19	9.6	24.7	42.5	17.7	23.0	8.7	35.3	19.7	30.3	23.3	13.2	23.8	19.3	32.2
20	10.8	17.0	41.3	13.7	12.8	4.8	35.5	19.5	33.7	27.3	14.7	30.5	28.3	42.2
21	24.8	20.5	38.7	8.7	12.3	16.7	30.8	34.7	27.0	31.0	38.2	34.2	27.0	34.5
22	30.7	31.3	28.3	6.8	24.2	33.7	30.3	20.0	31.8	40.0	13.8	31.3	28.3	28.5
23	20.3	19.3	27.3	8.7	14.2	22.5	30.3	11.0	33.0	33.7	17.0	31.0	36.0	22.0
24	21.5	12.5	33.3	10.5	5.8	26.5	39.8	13.5	28.5	22.8	15.3	19.3	30.8	16.8
25	20.0	23.2	37.5	25.3	5.8	35.7	35.8	27.3	37.8	18.3	29.0	27.5	36.3	17.7
26	17.9	23.3	40.0	36.0	29.5	7.6	26.0	33.0	36.0	16.2	8.5	31.3	40.0	28.9
27	27.3	25.3	23.3	35.6	4.2	10.0	27 3	27.2	27.0	14.3	16 7	35.3	43.3	18.7
28	33.7	25.6	18.7	41.5	9.3	17.7	29.8	36.8	37.0	28.1	43.7	31.0	41.3	21.1
29	43.5				7.0				40.3				25.7	
Mean,	27.08	16.13	25.48	23.94	20.74	23.50	26.79	20.14	23.43	16.20	16.85	29.56	27.68	27.85

Day of month.	1822.	1823.	1824.	1825.	1826.	1827.	1828.	1829.	1830.	1831.	1832.	1833.	1834.	1835.
1	17.3	11.3	7.9	23.7	—13.8	22.3	28.8	7.3	9.3	27.3	22.0	16.7	32.0	28.7
2	17.3	8.1	2.0	14.0	1.3	21.7	35.0	16.3	13.3	30.7	31.0	10.8	30.3	16.7
3	18.0	14.4	11.7	14.0	20.0	33.3	39.7	22.7	13.0	23.0	39.0	12.8	28.3	3.3
4	29.0	21.4	27.7	3.0	13.0	10.0	38.8	13.7	20.3	36.7	34.2	16.0	39.3	—2.0
5	18.0	8.8	—13.3	13.3	27.7	13.0	32.5	9.3	5.7	20.3	10.8	17.0	33.7	9.0
6	25.0	3.2	9.7	32.3	34.3	15.0	35.2	17.3	1.0	23.5	6.8	25.0	25.0	32.0
7	4.7	2.7	19.7	39.7	28.7	22.0	42.2	23.3	—0.7	23.3	19.7	21.0	6.0	29.7
8	5.3	6.2	27.0	5.3	35.9	28.7	31.0	31.7	12.0	20.7	16.2	14.2	8.0	6.0
9	22.6	13.1	23.0	6.0	35.0	11.7	38.5	36.7	15.0	20.7	8.7	24.3	18.3	12.7
10	17.8	16.5	31.2	25.7	35.7	19.3	37.5	24.7	30.3	19.5	19.8	34.3	28.0	10.3
11	9.8	26.7	43.7	23.3	41.0	11.0	21.0	23.7	36.0	22.8	22.2	16.3	37.0	13.0
12	14.1	26.8	29.7	32.3	24.3	—0.9	9.3	13.7	6.7	18.5	44.0	23.0	8.3	21.3
13	11.2	23.7	9.3	23.3	17.5	20.3	25.7	10.3	10.3	19.3	34.8	19.7	20.0	29.7
14	8.2	20.2	26.3	23.0	18.3	20.0	18.7	11.7	6.7	20.7	28.0	27.5	32.0	26.3
15	12.3	25.7	28.5	28.3	11.0	7.0	21.0	24.3	4.0	23.0	36.0	19.2	37.8	8.3
16	21.3	15.3	30.5	32.0	10.7	42.3	36.3	23.0	14.7	33.7	10.8	22.7	44.0	20.7
17	39.8	0.3	31.2	25.3	27.3	31.3	35.7	26.0	25.0	41.3	10.7	31.3	31.7	28.7
18	25.9	19.5	29.0	38.3	21.7	31.7	43.0	18.3	30.7	18.3	24.3	42.0	30.7	33.3
19	23.1	0.0	14.3	17.0	19.3	18.7	44.7	18.7	33.3	37.0	28.0	37.0	39.7	35 0
20	23.2	6.5	29.3	3.7	20.3	9.0	39.7	16.7	43.7	28.0	34.0	37.3	43.0	29.0
21	38.2	24.3	34.0	17.7	32.3	29.3	43.7	17.0	41.7	14.3	25.7	15.5	36.5	36.7
22	37.6	29.0	24.4	31.3	29.7	31.7	22.3	22.0	44.0	36.0	18.7	32.0	39.7	42.3
23	18.5	17.5	16.7	29.7	22.3	22.3	20.3	10.3	37.0	34.3	37.0	26.7	37.3	35.7
24	27.2	9.7	16.0	27.0	29.7	18.7	31.7	18.7	36.0	15.3	4.3	9.0	40.7	27.3
25	16.6	23.3	14.3	35.7	27.0	33.7	28.3	29.0	40.3	22.7	12.5	12.0	31.3	33.7
26	22.0	20.3	24.8	23.0	42.7	41.7	31.0	30.3	40.3	31.3	30.3	11.4	26.8	26.7
27	33.2	29.0	36.3	19.7	32.0	41.0	42.0	17.0	35.3	38.3	25.0	36.7	25.3	15.7
28	37.5	7.3	27.3	27.7	27.3	40.7	35.3	22.7	21.7	40.3	39.2	10.5	34.3	13.3
29			23.3				31.7				39.3			
Mean,	21.24	15.39	21.92	22.69	24.18	23.10	32.42	19.87	22.18	26.25	24.59	22.27	30.18	21.92

Table I.—*Continued.* Mean Temperature in February (continued).

Day of month.	1836.	1837.	1838.	1839.	1840.	1841.	1842.	1843.	1844.	1845.	1846.	1847.	1848.
1	23°.0	37°.3	26°.3	21°.1	29°.0	25°.7	31°.3	35°.3	13°.5	0°.0	3°.8	6°.7	27°.3
2	—6.7	29.7	20.3	25.2	23.7	19.0	32.0	21.7	24.7	—2.2	23.8	19.0	31.7
3	3.3	9.3	23.3	29.3	20.0	32.7	44.3	13.0	25.7	5.7	32.3	36.1	33.3
4	0.7	23.0	23.5	21.2	13.8	20.7	48.7	22.7	18.7	2.0	32.5	31.7	35.7
5	8.7	28.7	20.0	11.8	14.2	27.7	42.0	26.7	21.8	16.3	35.5	22.0	30.7
6	9.7	37.3	26.0	15.2	36.0	27.7	33.0	34.3	27.8	17.7	25.2	34.3	26.2
7	9.7	37.0	27.0	8.5	48.3	32.0	37.7	21.0	25.7	8.7	29.3	29.7	27.0
8	29.3	37.0	37.7	38.4	44.0	28.7	31.3	14.0	27.5	7.0	18.7	32.3	19.3
9	29.3	33.3	34.0	19.7	45.4	27.7	8.0	11.7	16.0	15.7	2.7	38.8	16.7
10	28.7	35.7	31.9	15.2	45.7	33.0	19.3	5.3	3.0	18.7	3.8	33.3	18.3
11	22.0	36.3	24.9	24.7	40.8	29.4	36.0	32.0	12.3	19.0	9.5	31.0	6.3
12	17.7	37.7	28.5	23.9	38.2	15.7	40.3	26.7	11.5	35.7	10.3	19.3	11.7
13	27.5	17.7	36.0	28.0	43.7	21.0	35.7	19.3	19.7	2.7	11.3	14.5	24.0
14	21.3	21.3	35.3	37.0	29.7	12.0	38.0	12.3	33.3	6.3	14.0	15.2	23.3
15	9.7	42.7	19.7	46.5	41.7	16.0	11.3	13.7	15.8	27.0	9.5	22.2	25.7
16	2.3	40.0	20.0	47.0	23.3	23.0	34.0	11.0	24.7	29.7	12.7	6.3	27.7
17	8.3	14.0	10.7	40.9	37 3	23.0	23.0	10.0	26.8	33.5	15.7	21.3	23.3
18	7.2	17.3	19.7	35.9	36.0	12.7	25.7	8.0	7.2	32.7	10.0	20.8	24.7
19	6.7	27.0	22.3	32.0	48.7	31.0	43.7	14.3	23.7	30.3	10.7	18.8	27.7
20	26.2	39.3	18.2	41.7	51.0	20.7	20.7	30.3	29.3	37.7	18.0	20.7	32.0
21	38.7	41.7	20.0	44.8	50.7	41.0	27.0	20.0	28.3	38.7	28.2	8.0	38.0
22	40.5	40.0	26.2	45.7	45.7	25.7	26.3	25.0	36.7	41.3	24.0	14.0	38.0
23	36.3	33.0	27.3	41.1	49.7	33.7	28.7	12.0	24.7	34.8	22.7	13.0	38.3
24	41.0	40.3	25.7	46.4	41.8	9.0	35.7	10.0	8.0	40.0	18.3	11.8	25.3
25	32.7	36.7	17.3	42.3	32.0	24.0	18.3	19.7	19.0	36.7	15.0	16.3	14.3
26	14.2	32.3	9.9	44.2	40.2	34.0	25.3	27.3	21.0	36.3	5.3	17.3	14.2
27	15.7	38.0	20.5	44.8	35.5	37.0	33.0	22.3	28.3	35.0	4.0	24.7	26.3
28	12.3	33.0	31.3	44.0	41.3	40.7	33.7	30.3	31.3	25.7	10.7	35.0	9.3
29	18.7				41.7				34.0				30.6
Mean,	18.43	32.02	24.42	32.73	37.59	25.85	30.84	19.64	22.07	22.59	16.34	21.93	25.06

Day of month.	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.		Means.
1	10.5	33.7	4.7	15.7	- -	36.5	16.0	9.0	44.6	16.3	18.0		
2	19.2	18.5	22.0	25.2	- -	34.3	14.3	14.7	26.0	32.3	9.7		
3	19.3	25.0	21.3	17.0	- -	9.5	20.0	4.0	17.6	37.0	12.0		
4	19.0	2.7	25.3	20.5	- -	0.3	9 3	3.7	36.0	36.7	28.7		
5	24.2	—2.2	30.0	37.2	- -	—3.0	—5.0	11.0	26.0	23.7	26.0		
6	3.5	2.0	13.7	32.8	- -	6.0	—13.7	14.7	38.3	20.0	23.0		
7	13.8	16.3	—1.0	39.0	- -	5.0	—10.0	20.7	44.7	25.7	16.7		
8	10.3	26.8	—7.2	19.0	- -	13.0	9.0	21.7	47.7	26.3	13.7		
9	18.8	39.7	—0.3	27.3	- -	35.8	12.0	14.7	30.3	21.3	32.0		
10	2.7	43.0	28.2	34.3	- -	30.8	16.0	6.0	27.3	32.0	24.0		
11	10.0	34.3	38.5	41.3	- -	3.8	20.3	26.0	9.0	2.3	4.3		
12	1.8	25.8	14.8	35.2	- -	12.3	16.7	37.7	0.7	5.3	12.7		
13	6.2	25.7	17.7	17.0	- -	22.3	20.3	—3.7	38.7	14.7	11.3		
14	6.3	30.0	37.3	14.7	- -	32.3	28.0	3.0	42.7	16.7	18.0		
15	4.8	37.0	42.3	13.7	- -	30.8	40.3	9.0	43.3	20.3	23.0		
16	—0.8	19.2	33.3	31.7	- -	34.8	41.3	23.7	41.3	16.7	29.7		
17	7.5	24.2	24.0	12.0	- -	17.5	35.7	23.0	45.0	11.3	28.0		
18	7.2	31.8	31.3	10.3	- -	21.7	36.7	12.7	54.7	14.0	30.0		
19	3.2	38.0	24.7	—0.7	- -	17.3	36.3	17.3	31.7	12.0	36.0		
20	8.0	26.7	34.3	7.3	- -	4.7	37.3	23.0	24.7	14.7	36.0		
21	14.0	37.0	33.3	16.7	- -	13.3	36.3	30.0	31.7	29.0	22.0		
22	24.3	20.3	27.3	31.0	- -	23.0	35.7	28.7	32.0	19.7	21.7		
23	32.8	18.3	34.3	34.0	- -	22.3	31.7	34.0	32.7	6.7	29.0		
24	37.0	29.0	37.7	38.3	- -	13.7	3.7	22.3	39.3	14.3	33.7		
25	33.7	38.7	37.7	40.7	- -	3.3	6.3	23.0	51.3	32.0	13.7		
26	33.7	41.7	30.2	31.7	- -	20.7	11.3	26.0	26.7	27.7	2.0		
27	29.7	34.3	31.0	18.7	- -	27.3	12.3	24.0	18.0	27.3	23.3		
28	32.2	20.7	38.3	28.3	- -	19.0	15.7	23.3	31.3	40.7	36.3		
29				24.0	- -			25.0					
Means,	15.46	26.36	25.17	24.61	- -	18.17	19.07	18.21	33.33	21.32	21.94		

TABLE I.—*Continued.* Mean Temperature in March.

Day of month.	1808.	1809.	1810.	1811.	1812.	1813.	1814.	1815.	1816.	1817.	1818.	1819.	1820.	1821.
1	40°.1	39°.8	29°.0	41°.7	10°.5	25°.2	22°.7	38°.3	36°.3	19°.2	49°.7	38°.7	28°.3	35°.5
2	27.2	21.7	31.0	33.6	6 8	28.0	30.0	38.7	34.3	22.3	44.8	27.2	17.0	28.0
3	32.8	16.7	22.7	25.3	10.3	20.0	27.2	41.2	39.3	19.7	37.5	17.7	14.7	27.2
4	40.9	17.1	35.6	33.2	12.3	33.0	11 8	38.8	23.5	36.3	33.7	31.7	19.7	21.3
5	46.4	39.3	30.0	37.3	31.8	32.0	7.0	44.7	30.8	35.7	29.3	29.7	41.3	18.2
6	20.3	25.7	17.0	30.0	30.0	3.7	10.3	46.7	29.8	35.8	12.5	31.3	36.3	18.5
7	19.0	15.8	18.3	25.5	17.7	14.0	31.3	33.5	29.3	42.0	10.8	12.8	24.7	26.5
8	27.2	33.5	30.7	24.9	18.2	21.7	37.7	29.7	17.5	28.3	24.8	15.0	17.0	25.6
9	34.8	22.0	37.0	37.7	25.2	21.7	39.5	35.5	13.6	33.3	35.0	22.3	21.7	29.0
10	38.3	31.0	32.8	35.7	24.0	26.2	37.3	36.8	26.7	35.8	31.8	26.0	34.7	43.5
11	34.8	7.3	31.7	35.7	35.2	37.8	34.5	40.0	26.0	28.5	35.0	27.0	21.0	31.7
12	21.8	30.7	31.2	38.5	24.2	20.2	36.3	40.3	31.3	17.6	40.7	36.7	18.2	33.3
13	26.2	18.7	30.0	42.5	17.7	26.3	20.8	33.3	28.7	19.8	46.5	35.3	34.0	38.7
14	29.8	13.7	36.8	38.1	18.2	17.7	20.0	35.0	39.2	22.5	45.8	17.7	35.8	41.2
15	25.3	30.8	26.7	41.3	19.7	22.2	28.8	38.0	17.5	28.2	42.0	18.3	33.7	38.7
16	35.5	35.7	20.5	44.5	31.0	24.5	36.0	27.2	24.5	27.5	30.8	25.2	35.0	40.3
17	34.2	[35.6]	23.3	41.8	34.7	34.3	29.8	22.7	19.3	28.3	26.3	27.3	32.7	37.5
18	34.1	[33.5]	29.7	35.0	21.3	37.7	38.5	(26.2)	6.3	35.3	28.0	26.0	33.5	15.3
19	38.3	[33.5]	30.8	37.2	16.8	33.5	37.3	29.7	14.6	20.0	30.6	31.0	34.6	9.7
20	32.1	[35.1]	37.3	44.1	23.0	28.5	32.2	17.5	23.5	18.2	38.7	35.5	39.5	23.4
21	34.1	[33.7]	36.5	45.7	34.2	24.0	25.0	13.2	32.1	32.8	39.3	26.7	34.8	40.8
22	34.1	[32.2]	36.0	35.3	38.5	28.0	26.8	16.1	20.8	36.8	39.7	24.7	30.1	31.2
23	41.8	[35.7]	37.0	49.7	31.2	42.0	24.0	26.7	23.7	37.8	37.3	36.0	28.1	35.8
24	39.6	[37.0]	38.0	50.5	29.5	25.5	24.5	36.2	35.3	37.0	42.8	36.0	47.2	37.7
25	40.6	[35.2]	36.5	40.5	28.0	13.3	24.5	36.5	31.7	43.3	41.9	32.2	48.7	33.2
26	38.2	[35.6]	33.3	33.0	40.2	21.0	31.8	25.3	38.2	30.2	28.6	35.0	46.9	36.9
27	47.8	[35.1]	38.8	32.7	41.7	30.7	49.0	34.5	39.3	29.7	31.5	23.2	41.3	36.4
28	34.2	20.8	41.5	31.9	37.8	38.4	40.0	39.5	39.7	35.3	31.2	17.7	43.3	22.7
29	30.2	34.7	37.3	33.3	33.3	42.3	38.2	29.3	22.8	33.0	32.8	26.8	34.4	29.0
30	40.6	26.4	27.7	38.0	34.0	39.2	43.7	32.2	25.5	36.2	41.7	33.2	25.3	30.9
31	37.2	36.7	29.5	36.8	34.5	38.7	47.7	33.3	38.6	39.1	42.3	36.6	28.0	41.8
Mean,	34.11	29.04	31.39	37.12	26.18	27.45	30.46	32.79	27.73	30.50	34.97	27.76	31.65	30.98

Day of month.	1822.	1823.	1824.	1825.	1826.	1827.	1828.	1829.	1830.	1831.	1832.	1833.	1834.	1835.
1	45.0	9.7	13.3	38.0	29.3	30.7	19.3	20.6	17.7	43.3	18.7	8.7	38.3	14.7
2	43.1	19.0	14.7	38.7	33.3	27.7	33.3	25.0	23.7	42.7	22.5	17.0	31.7	16.7
3	42.7	6.7	31.3	41.0	33.0	12.7	39.0	23.7	25.0	44.0	45.7	4.3	20.5	15.3
4	40.3	3.0	38.7	39.0	33.0	14.0	38.3	40.0	39.3	44 0	35.3	10.0	22.3	22.7
5	38.9	29.5	40.3	37.0	37.5	20.7	28.7	42.0	32.7	48.0	38.0	10.0	42.0	24.0
6	45.7	41.7	33.7	40.3	38.2	30.7	32.3	21.7	42.3	41.3	37.3	15.7	45.7	27.3
7	32.0	30.5	41.7	40.3	29.3	39.7	33.3	21.7	46.3	42.0	27.7	13.7	39.7	29.3
8	19.8	27.5	40.0	39.3	30.3	33.0	22.7	24.3	41.3	26.7	24.0	33.8	42.8	32.7
9	17.7	30.5	30.7	40.0	37.3	36.7	37.7	32.3	20.7	30.0	31.2	38.3	28.3	29.7
10	26.9	18.0	29.7	35.3	36.8	41.0	41.3	38.0	36.0	37.0	48.3	28.7	22.3	33.3
11	34.3	20.4	31.9	30.7	35.5	35.3	35.7	40.3	39.7	37.0	41.0	30.7	40.0	37.0
12	37.0	30.5	(33.9)	38.7	29.3	40.5	37.0	34.7	28.7	43.7	42.2	41.0	42.7	34.0
13	22.7	25.6	35.8	43.3	33.0	45.0	38.7	40.0	39.3	42.0	48.3	34.7	30.7	45.0
14	25.8	26.5	32.7	38.3	28.0	29.7	37.7	19.3	46.0	38.3	21.7	27.3	29.0	39.0
15	31.5	31.7	32.3	41.3	31.0	31.0	26.7	17.3	27.0	39.0	23.0	42.0	35.0	43.7
16	36.8	22.3	20.3	42.3	37.7	32.7	29.0	24.3	31.0	45.3	38.5	32.0	36.3	47.7
17	33.7	30.7	27.0	41.0	23.3	33.0	31.3	33.7	42.0	38.0	38.3	33.0	38.7	34.0
18	38.8	31.8	26.3	41.0	18.7	35.7	37.3	31.7	44.7	27.7	24.0	40.0	43.0	22.3
19	30.4	36.3	28.7	37.0	28.3	45.0	41.2	36.0	38.2	37.0	23.0	46.3	47.0	33.3
20	38.2	30.7	34.0	49.3	36.0	30.0	40.3	36.0	41.0	31.3	32.0	45.3	44.7	36.0
21	34.3	27.7	16.7	31.0	37.7	27.0	38.7	37.0	40.7	28.7	41.7	46.2	39.3	38.0
22	32.2	24.3	(23.2)	26.3	39.0	38.0	25.7	29.3	47.3	44.3	26.3	49.8	23.7	20.8
23	35.1	34.8	29.9	34.0	42.0	42.0	37.7	34.0	27.3	47.7	36.5	48.3	32.7	23.7
24	33.5	49.7	34.7	40.7	43.3	28.0	36.3	38.7	37.3	50.2	45.3	41.3	35.7	25.7
25	35.3	31.7	37.3	30.0	37.3	30.7	43.3	36.0	35.3	49.7	47.8	43.8	38.0	22.7
26	41.5	33.3	37.8	32.0	35.3	46.3	40.3	31.7	33.0	47.0	46.3	44.7	29.0	34.8
27	36.0	41.3	38.1	30.0	31.3	51.3	39.0	41.0	36.0	38.0	28.8	33.3	24.3	45.0
28	42.0	36.0	38.7	29.3	36.3	53.0	50.7	49.0	41.7	42.5	31.3	29.3	37.0	33.7
29	32.5	39.7	40.5	32.7	40.0	30.0	43.0	51.3	43.7	41.3	33.7	33.5	49.0	33.7
30	30.5	36.5	42.7	40.7	25.7	31.0	42.0	48.0	43.3	50.0	37.5	38.7	20.3	35.3
31	31.8	30.6	39.5	41.3	27.3	35.3	44.3	43.0	43.0	51.5	48.0	45.7	24.0	42.0
Mean,	34.38	28.65	32.13	37.42	33.37	34.09	36.19	33.59	36.48	40.92	34.94	32.48	34.84	31.70

TABLE I.—*Continued.* Mean Temperature in March (continued).

Day of month.	1836.	1837.	1838.	1839.	1840.	1841.	1842.	1843.	1844.	1845.	1846.	1847.	1848.
1	36°.3	12°.3	34°.8	42°.5	39°.2	45°.3	36°.0	30°.3	37°.0	25°.5	6°.3	20°.7	17°.0
2	22.3	12.7	30.2	45.2	46.7	42.3	42.7	22.7	38.3	29.3	11.0	18.0	14.0
3	15.0	20.7	34.0	22.0	43.0	42.3	46.7	18.0	39.0	37.7	18.8	20.7	21.0
4	29.0	25.7	39.5	18.3	47.7	33.7	46.0	19.7	27.7	29.6	33.0	26.7	20.7
5	38.0	28.0	37.5	22.7	47.7	21.0	36.0	23.0	17.3	35.3	37.7	28.7	25.0
6	23.8	28.7	46.7	28.8	42.3	26.7	30.7	23.0	28.0	35.3	27.7	27.5	19.7
7	25.7	43.3	42.0	43.2	33.2	42.3	33.7	22.7	26.3	33.3	23.2	25.5	27.7
8	28.7	44.0	41.0	41.7	32.7	34.7	33.3	27.7	34.7	33.7	29.0	37.0	40.7
9	26.0	46.3	36.3	45.3	43.3	33.3	44.7	29.3	41.3	36.5	34.8	27.3	43 0
10	40.0	45.7	39.2	34.0	39.5	34.6	37.7	30.0	30.0	31.3	25.3	26.3	28.7
11	40.0	45.3	49.8	30.8	28.0	32.3	32.0	36.7	34.0	23.3	29.3	22.0	26.0
12	19.2	44.3	48.3	43.8	28.0	24.3	22.0	34.7	35.0	23.0	38.0	19.7	25.5
13	19.3	52.0	41.1	44.7	33.5	33.3	30.3	34.7	40.7	34.7	46.0	20.8	39.7
14	38.0	53.0	45.2	47.5	31.7	34.0	34.0	32.3	39.0	32.3	43.0	25.3	19.0
15	30.3	38.0	50.8	37.2	35.0	23.0	35.0	34.3	27.0	31.7	37.0	26.3	12.2
16	24.5	40.3	50.3	43.5	40.7	23.0	35.3	31.7	32.3	22.0	32.0	19.7	7.3
17	29.0	35.3	44.7	40.8	42.7	22.3	45.7	35.0	33.3	17.3	34.2	20.0	21.0
18	35.3	49.7	39.7	42.0	42.0	31.0	43.3	38.0	36.0	26.3	30.7	26.3	25.3
19	22.2	40.0	40.3	41.3	46.3	45.3	48.3	36.3	24.7	20.7	38.5	31.0	24.0
20	24.9	31.7	47.0	31.0	44.8	50.7	43.3	36.0	33.3	28.0	50.7	30.7	39.1
21	27.3	38.7	47.0	40.3	42.6	43.7	36.7	28.3	33.3	21.3	42.5	41.3	45.7
22	33.0	42.3	40.8	41.7	32.0	39.0	32.7	26.0	23.3	26.3	39.0	23.7	39.7
23	38.3	53.0	48.3	45.3	34.3	41.3	30.7	26.3	24.5	34.3	36.3	29.0	30.0
24	31.7	46.7	51.0	44.3	34.5	39.7	31.7	32.3	30.7	41.3	38.0	35.3	29.0
25	36.3	47.7	40.0	39.9	37.3	41.0	35.0	32.0	36.7	33.0	36.3	37.3	34.0
26	32.7	46.3	41.7	39.5	34.0	43.7	34.3	29.0	38.0	30.0	40.3	38.3	40.3
27	39.3	45.3	36.0	55.0	45.7	49.7	42.0	33.3	21.0	43.0	42.0	39.0	35.3
28	42.7	48.7	34.3	46.8	51.0	45.3	37.3	39.0	31.0	36.8	42.0	22.7	38.0
29	35.2	48.3	46.0	41.1	52.7	33.0	37.7	34.0	37.3	35.3	40.3	22.3	43.3
30	40.0	34.3	45.0	38.3	50.3	24.7	41.3	33.7	20.3	43.0	40.0	22.7	43.0
31	42.3	39.0	41.8	42.7	50.7	26.3	36.7	35.7	22.0	41.7	40.0	26.0	44.7
Mean,	31.17	39.58	42.27	39.40	40.44	35.58	37.18	30.50	31.39	31.39	34.29	27.08	29.64

Day of month.	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.		Means.
1	37.3	34.7	21.7	23.7	- -	29.2	22.0	27.0	19.3	41.7	12.7		28 4
2	23.8	29.5	34.7	20.3	- -	37.3	24.7	24.0	17.3	31.7	10.0		27.6
3	16.8	12.3	31.3	12.3	- -	31.3	36.0	20.7	25.3	20.7	13.3		
4	18.7	12.3	28.7	20.0	- -	39.2	29.0	19.7	36.0	19.0	28.3		
5	19.3	15.3	37.2	28.0	- -	34.0	36.0	23.0	32.7	15.3	26.7		
6	22.3	35.8	40 2	28.0	- -	26.3	42.0	26.0	36.3	13.3	34.0		
7	32.0	38.0	39.7	29.0	-	26.0	22.3	19.7	22.3	13.7	29.7		
8	32.0	35.7	24.7	30.8	- -	31.0	23.3	24.3	19.7	20.3	22.7		
9	32.0	29.5	28.7	40.0	- -	37.3	29.0	6.7	27.7	24.7	29.7		
10	26.0	21.8	28.3	39.0	- -	39.0	22.3	—2.0	22.3	24.3	24.3		
11	26.8	28.0	32.0	38.3	- -	36.7	30.3	13.3	18.7	26.7	28.7		
12	29.0	25.7	18.7	41.7	- -	33.0	30.3	6.3	29.7	27.3	41.0		
13	35.7	34.3	15.5	45.7	- -	47.3	29.7	22.7	22.3	24.7	42.7		
14	31.2	45.3	17.7	35.3	- -	34.0	22.7	27.7	38.7	31.0	39.0		
15	34.0	42.7	41.3	41.3	- -	34.7	26.7	32.7	33.0	39.3	41.3		
16	37.7	32.8	26.7	39.0	- -	42.7	37.7	31.7	42.7	42.0	36.7		
17	39.0	30.3	26.7	35.7	- -	35.7	34.0	30.3	43.3	44.3	36.7		35.6
18	40.5	32.0	30.0	37.0	- -	17.0	37.7	33.7	39.7	48.7	38.3		33.5
19	28.3	19.7	32.3	40.3	- -	18.3	29.0	27.7	45.0	38.7	42.3		33.5
20	38.7	23.0	36.7	27.3	- -	22.3	35.3	39.0	40.7	36.7	29.7		35.1
21	44.3	27.3	40.3	24.0	- -	17.3	27.3	32.7	34.7	43.0	35.0		33.7
22	32.3	33.3	37.3	36.0	- -	19.7	23.7	35.3	33.0	35.0	32.7		32.2
23	28.7	32.7	35.7	29.3	- -	34.7	25.3	34.3	37.3	28.7	35.7		35.7
24	36.0	33.7	36.0	36.3	- -	35.7	38.0	31.7	45.0	33.3	37.0		37.0
25	35.7	29.3	34.7	40.3	- -	22.0	20.3	32.3	44.7	36.0	32.7		35.2
26	39.7	32.0	31.0	42.0	- -	20.3	36.3	31.7	43.0	34.0	36.3		35.6
27	39.3	34.7	43.3	40.7	- -	20.3	33.7	32.7	45.0	38.7	42.3		35.1
28	39.3	34.0	42.7	42.0	- -	20.3	24.3	20.7	45.0	39.7	39.3		
29	44.3	37.0	36.7	31.0	- -	21.7	31.0	23.3	45.0	46.0	41.7		
30	50.7	36.5	40.8	26.3	- -	26.0	39.3	28.0	41.3	44.7	39.3		
31	52.3	38.7	44.0	37.0	- -	33.5	40.7	25.3	46.3	43.7	36.0		
Mean,	33.77	30.58	32.74	33.57	- -	29.83	30.33	25.18	34.61	32.47	32.16		

TABLE I.—*Continued.* Mean Temperature in April.

Day of month.	1808.	1809.	1810.	1811.	1812.	1813.	1814.	1815.	1816.	1817.	1818.	1819.	1820.	1821.
1	41°.7	47°.0	33°.0	36°.8	36°.0	35°.3	43°.0	33°.5	42°.3	40°.3	37°.0	26°.7	36°.2	35°.2
2	42.7	42.0	37.0	29.1	39.7	31.9	45.3	28.7	38.3	44.7	38.3	35.7	29.7	37.8
3	42.2	39.0	33.5	37.8	40.5	39.8	43.0	34.0	32.2	44.7	38.0	43.0	24.6	30.7
4	43.2	44.3	34.7	43.7	37.7	36.2	41.5	37.8	37.5	38.8	41.9	42.7	29.8	30.3
5	40.2	34.3	39.3	39.3	39.2	40.0	46.3	41.8	42.5	37.2	32.0	43.8	34.9	36.4
6	43.3	37.4	39.8	41.7	38.5	45.7	46.9	37.5	45.0	38.3	38.0	39.2	37.3	38.1
7	42.7	35.9	51.3	36.3	34.7	43.2	39.7	42.7	38.2	37.8	44.2	31.9	33.4	44.7
8	36.8	30.8	42.5	43.0	38.3	44.5	41.3	36.0	39.6	41.3	39.3	39.6	42.5	43.5
9	39.0	32.1	34.3	43.5	36.0	39.3	42.7	39.0	48.7	39.3	40.2	33.4	36.7	38.3
10	35.7	35.2	40.2	45.7	43.2	53.3	44.7	40.8	28.8	45.2	41.0	32.7	33.2	38.8
11	36.3	43.2	44.0	41.7	47.7	36.2	47.0	42.0	29.8	32.9	45.2	37.2	39.7	39.7
12	40.2	39.7	47.2	40.5	34.8	35.5	41.3	44.5	34.0	37.5	48.6	41.9	43.2	34.3
13	47.0	37.7	38.3	39.7	35.2	38.3	41.0	48.2	40.3	43.0	43.0	48.3	43.2	40.7
14	48.7	38.3	49.0	52.7	38.8	53.7	44.7	33.4	41.7	45.3	43.1	47.8	42.0	47.9
15	45.7	41.3	50.3	49.2	42.5	48.0	38.8	35.0	35.2	42.0	45.7	50.3	44.1	45.5
16	41.9	43.2	47.7	52.0	44.7	41.7	43.8	45.7	35.8	44.5	37.4	47.0	39.8	36.5
17	42.6	49.2	44.7	56.5	45.3	42.7	45.2	42.0	38.7	51.2	46.8	43.7	47.8	37.2
18	45.3	56.3	52.0	57.5	55.8	42.5	39.3	45.0	39.7	34.0	38.7	34.2	55.7	36.2
19	53.7	44.0	55.8	53.9	52.7	46.3	42.8	42.0	39.3	33.0	44.4	32.8	58.9	40.8
20	53.8	43.8	56.2	50.3	49.5	50.3	38.9	47.7	44.5	41.2	41.1	41.7	58.2	45.8
21	50.5	51.0	53 3	49.7	42.3	51.7	42.5	47.0	44.0	42.7	40.8	49.0	57.8	45.0
22	46.8	53.7	45.5	42.4	39 2	45.5	46.3	44.8	42.3	39.8	40.6	46.7	44.3	44.7
23	46.1	51.8	45.2	44.8	46.3	43.2	44.2	39.3	47.2	49.7	43.7	47.7	54.8	47.7
24	42.9	53.3	47.0	43.6	42.2	38.8	34.0	43.3	47.5	38.3	49.0	45.8	47.5	49.7
25	48.3	45.0	57.3	47.0	48.7	44.0	34.7	40.0	49.7	39.8	51.7	47.0	52.5	45.5
26	42.8	43.3	54.2	48.2	47.2	53.2	66.2	53.2	51.0	42.3	54.2	39.0	48.3	47.8
27	54.0	40.3	49.3	52.5	46.7	56.6	62.5	62.8	49.8	49.0	50.0	40.5	45.8	48.0
28	54.3	38.7	55.2	49.8	41.3	51.0	52.3	52.7	57.3	48.7	45.8	47.3	51.0	45.3
29	62.3	46.5	49.3	51.2	43.8	43.7	47.2	40.6	52.7	49.8	48.5	56.0	50.5	48.7
30	51.6	51.0	49.0	49.8	43.0	45.0	52.8	43.5	63.2	52.0	47.5	58.7	50.2	52.1
Mean,	45.40	42.98	45.87	45.66	42.36	43.90	44.67	42.15	42.56	42.16	43.18	42.37	43.78	41.76

Day of month.	1822.	1823.	1824.	1825.	1826.	1827.	1828.	1829.	1830.	1831.	1832.	1833.	1834.	1835.
1	39.6	43.7	35.0	40.3	40.3	34.3	39.3	47.0	50.3	49.7	49.8	51.0	41.0	4[illegible].7
2	31.0	41.8	43.3	39.3	41.0	52.3	39.7	39.7	47.7	49.0	37.3	49.3	47.0	47.3
3	39.8	40.0	44.3	36.3	38.7	61.7	45.7	44.3	47.7	44.7	40.5	48.7	43.7	44.7
4	35.7	29.7	48.0	44.3	49.3	58.0	37.0	41.7	44.5	46.7	32.7	45.7	41.3	37.3
5	35.5	26.3	43.1	44.4	41.6	63.3	41.3	45.3	43.3	48.0	30.3	47.7	41.0	38.7
6	31.3	38.0	44.7	48.7	36.2	58.7	39.0	42.5	45.3	48.0	30.3	49.7	47.3	42.8
7	38.7	45.3	36.0	49.0	37.2	49.3	35.7	42.3	44.3	54.0	39.0	50.0	45.5	41.0
8	43.3	45.0	37.7	46.7	38.7	46.0	41.3	45.7	46.3	41.5	27.3	46.7	49.3	47.3
9	33.2	36.1	42.7	48.7	43.3	46.0	41.3	45.7	52.0	44.6	27.3	48.7	51.7	54.0
10	34.2	31.7	42.3	60.0	31.5	56.0	48.7	39.3	52.8	42.7	41.0	48.3	46.0	47.3
11	42.2	31.0	41.7	52.0	21.3	60.3	44.0	48.7	41.0	47.3	44.3	44.3	50.8	44.3
12	39.6	30.7	43.2	42.0	24.0	54.3	41.0	46.3	45.0	35.0	49.0	42.0	61.0	45.3
13	37.2	40.3	(42.3)	47.7	38.3	53.3	34.3	46.0	41.3	42.7	54.0	41.5	61.7	44.7
14	36.7	39.3	41.3	39.3	41.7	55.3	37.7	49.3	46.0	43.8	43.7	47.7	51.3	38.7
15	38.2	35.3	40.7	56.7	54.0	46.7	41.3	49.8	54.8	56.0	42.8	33.7	67.2	35.7
16	38.2	44.3	40.7	65.3	40.7	48.0	45.7	48.3	57.7	48.0	41.0	39.7	56.7	42.3
17	40.6	47.3	(41.8)	61.0	46.3	42.3	45.0	58.0	55.7	48.0	38.3	41.3	55.3	35.0
18	41.2	52.3	(42.8)	61.7	51.0	36.0	47.7	50.7	51.0	55.7	44.7	51.0	45.3	31.3
19	39.7	43.7	(44.0)	57.0	48.2	34.7	48.3	46.7	68.0	58.0	45.3	46.0	44.7	39.7
20	40.0	48.0	45.0	43.7	48.0	36.0	38.7	48.3	69.7	54.0	38.8	63.0	49.7	46.7
21	40.7	44.5	48.3	36.0	48.0	48.3	42.3	52.7	71.3	48.7	45.0	52.0	49.7	45.0
22	41.3	36.7	46.7	48.3	41.0	54.3	42.7	49.3	77.3	48.8	42.8	50.0	43.8	48.7
23	37.0	45.7	(47.3)	58.3	39.7	43.3	45.0	53.3	64.3	48.0	35.0	39.7	39.3	44.7
24	43.1	38.3	48.0	53.7	43.2	40.7	44.3	44.7	45.0	55.0	40.8	38.7	40.7	44.0
25	45.2	41.4	49.0	61.7	46.3	45.3	44.7	45.7	42.3	46.0	47.7	45.7	37.7	46.3
26	49.2	53.0	52.7	65.3	49.3	45.0	39.7	41.7	57.3	49.7	62.2	44.7	40.7	46.5
27	44.3	40.7	49.0	68.7	51.0	47.0	40.0	46.7	49.3	56.0	62.3	47.0	41.7	51.3
28	49.3	42.7	47.0	56.3	46.7	53.0	52.7	47.7	56.7	46.3	40.3	55.0	48.3	41.7
29	54.2	43.0	48.3	50.7	44.0	46.0	55.0	52.0	58.7	44.3	46.7	69.7	48.0	47.7
30	54.7	42.8	47.7	57.7	47.7	40.0	53.3	47.3	66.0	52.7	48.0	66.3	50.7	50.7
Mean,	40.49	40.62	44.16	51.35	42.27	48.52	43.08	46.89	53.09	48.46	42.44	48.14	47.93	43.97

TABLE I.—*Continued.* Mean Temperature in April (continued).

Day of month.	1836.	1837.	1838.	1839.	1840.	1841.	1842.	1843.	1844.	1845.	1846.	1847.	1848.
1	47°.7	44°.7	42°.5	47°.7	47°.7	41°.0	25°.3	37°.7	26°.3	43°.0	36°.0	23°.7	43°.8
2	45.3	42.0	42.0	45.7	43.3	41.0	41.7	29.7	31.7	39.3	38.3	33.7	35.3
3	41.7	46.0	42.8	42.7	48.2	37.0	52.0	35.0	33.0	32.7	40.7	36.3	33.7
4	43.3	42.7	49.8	54.8	51.0	45.0	37.3	32.7	53.7	35.0	36.0	37.7	38.7
5	35.3	45.7	50.5	52.7	49.5	47.0	34.7	39.3	43.0	29.7	44.3	39.7	42.7
6	34.3	51.0	52.2	50.3	43.3	40.9	43.0	41.3	41.7	32.3	50.0	39.7	39.3
7	37.7	51.3	49.2	64.7	37.0	42.0	48.3	43.3	43.3	37.3	48.3	36.0	37.3
8	41.7	50.3	47.8	47.9	40.3	42.3	38.0	46.0	48.0	33.7	49.7	43.3	43.0
9	49.0	51.3	52.0	41.0	43.3	42.3	41.3	48.0	53.3	33.2	39.0	41.7	49.0
10	43.3	51.0	52.5	51.4	51.0	35.3	42.7	42.7	55.0	35.0	42.3	36.0	47.3
11	31.0	54.0	45.2	60.0	55.7	39.0	51.3	44.0	50.0	37.0	49.5	30.3	46.7
12	27.0	57.3	46.2	53.3	53.0	37.7	43.0	43.3	46.0	34 0	43.7	32.3	44.0
13	36.0	51.7	52.3	45.7	54.2	31.8	44.0	45.7	58.0	35.7	39.3	36.3	39.7
14	41.0	48.0	37.7	43.0	52.7	41.0	41.0	53.3	64.0	41.8	38.0	40.7	42.2
15	43.3	55.3	40.7	43.7	57.4	42.7	44.3	51.7	53.3	43.3	37.3	41.0	49.3
16	43.3	44.7	34.0	47.8	54.7	42.2	45.3	53.3	46.7	38.2	39.3	34.0	49.3
17	43.3	50.0	44.0	49.3	59.0	45.0	43.3	46.3	48.7	38.7	47.7	35.3	44.0
18	47.3	53.7	47.0	48.7	61.0	48.7	44.7	47.3	36.7	44.7	50.7	31.7	37.3
19	50.7	48.7	51.0	62.3	54.3	36.8	41.3	48.3	36.7	43.5	51.8	32.3	35.0
20	44.7	51.7	45.2	46.8	54.3	41.7	48.3	47.7	50.7	36.7	48.0	45.7	40.7
21	50.3	48.7	44.7	46.4	48.7	42.0	51.3	52.3	52.0	48.3	53.7	41.7	46.3
22	39.3	47.7	50.8	51.8	50.8	46.3	62.7	51.0	56.3	56.3	47.3	50.7	52.7
23	40.7	53.3	40.2	58.2	65.0	45.7	52.0	47.0	47.7	50.7	56.0	37.3	48.0
24	46.0	54.3	38.8	60.0	68.0	58.0	51.3	50.0	50.3	54.3	55.7	38.0	50.0
25	35.3	49.7	44.9	61.5	66.7	42.0	54.0	51.3	53.3	51.3	39.7	40.0	44.3
26	42.7	59.7	42.1	58.3	64.3	47.7	45.0	53.7	54.0	42.0	47.6	49.0	48.0
27	51.0	61.3	59.3	64.2	48.5	46.7	45.7	48.7	41.5	43.0	56.0	45.3	48.0
28	47.7	61.7	59.3	53.2	52.5	49.3	49.3	52.0	51.3	51.0	54.7	35.8	50.3
29	43.0	61.7	58.3	55.0	52.7	55.3	47.0	46.0	50.3	44.0	53.0	36.7	46.7
30	52.7	57.0	53.0	51.0	62.7	43.3	48.3	49.7	47.3	47.3	47.0	44.7	49.2
Mean,	42.52	51.53	47.19	51.96	53.02	43.23	45.25	45.94	47.46	41.10	46.02	38.22	44.06

Day of month.	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.		Means.
1	34.0	42.3	41.3	38.0	- -	37.0	41.0	31.0	52.7	45.0	35.0		39.9
2	30.7	45.3	36.7	34.7	- -	31.7	19.0	32.0	22.7	45.3	36.0		38.6
3	40.0	47.0	43.0	31.7	- -	25.3	26.0	38.3	31.7	52.3	37.0		
4	51.8	33.3	42.7	35.0	- -	32.3	32.0	43.7	41.3	44.3	33.7		
5	45.7	31.0	40.3	33.7	- -	40.0	42.7	44.7	50.0	48.7	28.0		
6	42.7	33.7	45.8	33.3	- -	46 7	42.3	41.0	53.7	45.3	30.7		
7	44.3	38.0	46.7	38.3	- -	40.0	37.7	44 7	40.7	31.3	38.7		
8	49.0	43.7	43.7	39.3	- -	34.7	37.7	48.3	41.0	40.7	42.0		
9	43.7	25.7	44.5	38.0	- -	37.3	40.3	45.7	48.0	40.7	37.7		
10	38.0	29.7	47.3	42.8	- -	38.3	42.0	44.3	45.0	46.0	33.3		
11	41.3	34.0	38.7	43.0	- -	37.0	41.3	39.3	55.3	41.0	33.3		
12	42.3	35.0	33.2	39.3	- -	34.7	39.7	43.3	49.3	42.0	37.0		
13	43.3	38.3	36.0	38.0	- -	36.7	39.7	28.7	51.7	44.0	43.0		
14	35.3	33.5	38.0	41.0	- -	31.3	36.3	41.0	46.7	44.0	37.3		
15	25.0	28.7	48.3	33.5	- -	33.3	47.0	48.3	47.0	52.0	38.7		
16	26.8	28.7	38.3	36.7	- -	33.3	45.7	41.7	42.7	55.7	36.7		
17	36.3	29.0	40.0	43.0	- -	35.7	49.0	48.3	39.7	48.7	39.7		
18	37.0	30.7	36.7	40.8	- -	35.3	53 3	45.7	47.3	48.0	40.7		
19	38.3	37.7	38.0	42.7	- -	42.7	50.0	43.7	48.3	44.7	43.3		
20	42.0	41.3	36.0	40.7	- -	43.3	45.3	41.7	47.3	47.7	43.3		
21	38.3	43.0	40.0	43.0	- -	42.7	47.7	39.7	43.3	37.7	43.3		
22	39.0	43.7	47.7	43.2	- -	42.7	48.0	45.3	46.0	47.3	44.3		
23	41.0	49.0	51.7	46.7	- -	45.0	46.7	48.3	48.3	44.3	43.0		
24	47.3	39.0	49.0	45.8	- -	42.0	54.7	52.3	54.7	47.7	44.0		
25	42.3	48.7	48.0	47.0	- -	42.7	50.7	52.3	51.3	45.7	44.0		
26	43.3	57.0	48.7	49.7	- -	46.3	42.0	44.3	49.3	42.3	39.0		
27	37.5	51.8	50.7	47.3	- -	49.0	43.0	49.7	48.0	39.0	44.0		
28	42.7	53.3	46.3	43.3	- -	42.7	38.3	49.3	50.7	40.3	42.7		
29	49.0	53.7	49.3	47.2	- -	40.0	38.0	51.3	46.3	49.7	46.7		
30	44.3	55.3	49.0	47.7	- -	49.0	43.7	49.7	46.0	46.3	51.7		
Mean,	40.42	40.03	43.18	40.81	- -	38.95	42.02	43.92	46.20	44.92	39.25		

TABLE I.—*Continued.* Mean Temperature in May.

Day of month.	1808.	1809.	1810.	1811.	1812.	1813.	1814.	1815.	1816	1817.	1818.	1819.	1820.	1821.
1	59°.2	48°.0	58°.7	43°.3	44°.0	47°.5	54°.3	48°.7	59°.3	58°.0	53°.4	59°.5	60°.2	56°.7
2	53.9	51.0	54.7	47.7	43.7	45.7	45.8	45.0	42.8	58.3	55.3	47.7	49.3	60.0
3	55.6	52.7	49.5	53.5	40.0	42.3	38.7	39.2	56.3	57.7	51.6	60.8	46.8	53.5
4	55.5	50.5	50.7	53.0	38.0	43.6	48.8	43.3	44.2	46.3	47.6	65.5	55.8	51.3
5	55.0	45.6	48.6	56.5	37.2	51.5	48.8	51.7	44.8	47.0	49.0	62.3	51.3	38.6
6	52.5	56.3	46.7	57.8	44.5	49.0	49.2	49.8	54.5	53.2	53.2	56.3	55.7	39.5
7	52.8	53.3	42.6	61.2	44.8	47.5	47.5	46.7	53.5	57.7	52.0	49.7	56.2	51.3
8	43.7	50.2	50.0	56.2	49.5	40.6	53.2	37.8	50.2	57.0	55.5	53.5	54.7	57.3
9	49.1	51.3	52.0	54.7	47.3	46.8	52.5	49.2	45.2	55.0	57.4	52.6	48.8	59.3
10	49.6	49.2	53.5	50.0	47.8	54.3	49.9	50.3	48.3	52.2	56.7	51.8	57.8	54.1
11	50.7	49.3	52.0	51.8	46.3	52.2	53.8	52.5	52.2	58.0	56.3	49.3	65.5	50.0
12	45.1	50.3	50.8	59.2	48.5	50.0	54.5	54.7	46.0	50.0	50.3	48.7	55.8	60.7
13	47.5	46.7	53.2	51.8	54.8	46.7	54.5	53.8	53.3	41.7	56.4	50.7	55.7	59.8
14	49.4	48.0	49.0	52.3	52.3	45.0	51.8	45.2	46.5	49.5	57.3	50.7	55.5	57.2
15	53.6	47.3	50.0	52.8	51.0	45.0	47.7	47.8	43.4	48.8	58.7	57.3	60.2	56.1
16	55.3	52.0	50.3	59.0	44.8	48.7	47.3	54.0	51.3	45.0	56.3	56.3	55.3	61.8
17	46.1	54.3	49.0	53.5	52.7	54.8	55.2	51.2	46.0	51.0	55.1	50.2	51.7	59.7
18	49.6	59.6	55.3	54.5	39.7	47.5	59.0	53.7	46.3	49.5	59.2	52.3	50.4	53.0
19	50.9	63.1	59.7	57.7	46.7	42.8	64.8	39.3	54.7	55.5	48.4	50.7	53.1	55.3
20	61.4	63.3	57.3	51.0	51.5	49.0	62.7	45.8	60.5	50.3	47.4	53.7	51.6	52.7
21	53.3	62.7	53.7	50.8	51.4	54.4	56.7	56.7	59.9	59.0	52.5	62.7	56.9	57.3
22	48.8	58.3	56.7	57.7	48.2	52.6	61.3	61.7	63.0	55.5	55.7	54.2	58.7	53.0
23	56.0	62.5	57.5	59.5	55.0	54.2	60.8	59.3	44.2	57.8	58.2	56.5	67.9	56.6
24	54.0	61.0	62.9	54.1	55.0	60.3	60.2	57.7	48.0	62.3	70.0	50.2	60.6	59.2
25	46.5	67.0	68.3	55.6	56.7	64.6	69.2	62.3	51.5	59.7	74.2	52.6	53.1	59.0
26	48.7	61.0	67.8	61.0	55.3	52.5	72.5	61.3	(52.6)	54.8	71.5	50.2	45.7	55.2
27	55.3	56.7	66.7	62.7	49.7	55.8	65.2	59.7	(53.7)	47.7	70.8	43.7	50.5	61.3
28	54.3	54.8	71.8	52.3	50.7	54.3	62.2	61.3	(54.8)	46.0	66.5	52.7	53.0	73.3
29	52.3	51.0	64.3	52.8	60.0	61.7	64.5	63.3	(55.9)	49.5	70.2	59.5	57.5	62.5
30	62.5	59.7	56.7	51.9	62.1	62.0	54.5	62.7	(57.0)	47.7	72.2	59.0	54.1	66.9
31	64.1	61.7	55.8	57.8	60.0	63.3	53.0	56.7	(58.0)	46.9	66.7	59.0	53.5	66.5
Mean,	52.65	54.79	55.36	54.69	49.32	51.16	55.50	52.36	51.54	52.50	58.23	54.17	54.93	56.73

Day of month.	1822.	1823.	1824.	1825.	1826.	1827.	1828.	1829.	1830.	1831.	1832.	1833.	1834.	1835.
1	53.3	42.2	48.7	50.3	37.3	35.3	56.3	56.0	58.0	53.3	42.3	57.0	53.7	48.3
2	58.3	33.3	49.3	43.0	52.0	38.3	53.7	58.7	59.0	57.0	46.2	58.7	53.7	50.3
3	53.5	56.7	50.7	46.0	50.3	47.0	53.3	51.3	62.5	60.3	53.0	50.7	55.3	53.0
4	45.8	51.7	60.3	51.7	71.0	60.3	63.0	46.3	67.7	54.0	46.0	54.0	56.7	50.7
5	48.3	36.7	66.0	48.7	48.0	54.7	57.7	59.3	67.7	52.2	49.8	52.3	51.0	45.7
6	48 2	37.3	62.7	54.7	56.3	56.3	55.7	69.3	64.7	52.7	50.3	53.3	43.7	46.3
7	51.2	52.5	54.0	59.0	56.3	52.3	61.3	61.3	56.7	56.7	48.0	64.7	45.3	52.2
8	52.3	38.3	59.7	54.7	52.7	52.7	55.0	57.7	54.3	54.7	53.7	68.0	55.7	48.3
9	49.9	41.3	56.0	51.0	55.7	57.7	60.7	64.0	49.7	55.3	62.7	59.2	53.7	50.0
10	50.3	43.0	46.0	61.7	58.7	57.7	57.0	52.3	51.7	46.7	57.5	49.0	49.3	54.3
11	52.7	47.7	47.3	55.7	56.3	41.3	55.0	59.0	55.7	52.7	55.7	53.0	51.0	58.3
12	55.0	51.7	47.0	65.7	57.0	39.7	55.3	54.7	66.0	64.0	65.2	60.3	51.3	59.7
13	57.2	53.7	54.7	64.3	77.3	47.0	62.0	51.3	59.3	61.3	61.8	61.7	49.0	50.3
14	59.3	45.3	46.3	60.3	74.0	55.3	55.7	59.3	59.7	63.5	63.3	57.0	47.7	48.7
15	59.2	53.7	48.7	56.7	79.0	55.0	56.3	61.7	60.0	61.7	66.3	63.7	42.7	46.0
16	55.3	58.3	52.0	54.0	86.2	59.3	53.2	62.0	58.7	61.3	67.0	62.0	49.3	49.0
17	57.8	49.0	48.0	56.3	79.7	64.0	60.7	61.7	57.0	63.3	62.0	63.3	52.0	49.7
18	59.2	59.7	51.7	62.3	58.7	61.0	61.3	(63.8)	56.3	63.0	59.3	69.3	60.7	54.7
19	59.3	63.3	51.7	62.3	51.0	53.7	60.5	(65.7)	62.7	58.8	51.3	68.0	74.7	61.3
20	59.3	66.3	50.7	60.3	50.0	60.0	50.0	(67.9)	64.3	52.0	49.7	47.7	61.3	70.3
21	58.4	67.3	43.3	67.8	66.0	51.3	48.0	(69.9)	57.7	59.7	50.3	53.3	62.0	56.7
22	60.0	51.2	54.7	65.7	66.3	51.0	47.7	(72.1)	55.8	64.7	46.7	67.7	62.7	54.7
23	68.2	52.7	60.3	65.7	62.0	45.7	67.3	(73.8)	(56.1)	67.0	47.3	62.3	46.0	56.0
24	60.7	52.7	55.3	69.7	58.3	55.0	59.7	75.7	56.5	56.3	48.0	59.7	55.3	62.3
25	53.8	52.7	54.3	69.7	68.0	63.0	61.7	77.2	56.3	56.3	44.8	62.0	59.0	68.0
26	56.5	47.3	46.7	62.3	67.2	68.3	59.0	71.3	59.2	60.3	48.8	56.3	56.0	69.7
27	60.7	51.0	56.3	61.7	58.2	72.7	56.3	70.3	62.6	55.0	46.3	61.7	59.3	65.0
28	73.3	49.7	64.0	55.0	49.0	69.3	58.2	72.5	63.9	64.8	55.0	64.0	56.0	61.7
29	68.0	55.5	56.3	67.0	54.0	58.0	63.0	53.8	64.7	71.0	63.5	61.7	50.3	59.3
30	63.4	56.8	57.0	69.0	63.7	55.7	63 0	58.6	63.6	74.0	58.0	59.7	50.7	69.8
31	63.9	49.3	57.5	67.3	(68.2)	61.0	55.0	62.0	59.6	77.0	60.7	63.3	54.3	63.7
Mean,	57.18	50.57	53.46	59.36	60.91	54.81	57.49	62.59	59.59	59.70	54.21	59.51	53.84	55.91

TABLE I.—*Continued.* Mean Temperature in May (continued).

Day of month.	1836.	1837.	1838.	1839.	1840.	1841.	1842.	1843.	1844.	1845.	1846.	1847.	1848.
1	67°.0	43°.3	57°.7	59°.3	64°.2	49°.0	54°.3	45°.7	55°.7	53°.5	55°.3	43°.2	53°.3
2	66.0	60.0	62.3	62.2	60.3	53.3	51.3	49.3	59.3	51.3	53.0	47.0	49.3
3	51.0	66.0	50.9	61.3	64.3	43.3	49.3	54.3	61.3	56.0	56.7	45.0	46.3
4	49.7	51.3	50.8	47.7	54.0	42.7	56.3	50.7	53.3	57.3	55.5	46.0	57.7
5	49.3	50.0	47.7	54.3	46.3	49.7	56.7	43.0	56.3	54.7	60.0	53.0	53.0
6	48.7	51.0	53.2	56.3	57.0	46.0	60.7	52.0	58.2	50.0	51.3	54.0	49.8
7	57.3	51.0	57.0	45.7	54.7	53.3	46.0	56.7	58.3	51.0	52.7	50.7	57.3
8	53.7	54.3	61.3	50.3	55.0	54.3	54.0	57.0	56.8	40.0	53.3	53.5	61.7
9	55.0	54.3	60.7	60.6	52.0	55.0	46.7	56.7	59.3	45.3	56.0	65.3	54.7
10	60.0	50.3	55.9	56.3	54.3	53.5	51.7	53.0	48.7	46.0	56.3	59.3	53.0
11	68.3	68.3	53.3	56.2	54.7	48.8	56.0	53.0	48.0	69.5	48.8	63.5	47.7
12	63.3	64.3	59.3	56.0	58.0	48.0	51.7	58.7	57.3	70.8	50.0	52.3	48.3
13	37.0	56.3	60.3	59.7	60.2	50.0	52.0	55.3	54.7	59.0	50.7	49.0	58.3
14	43.7	67.7	64.2	58.8	64.7	50.3	50.3	55.0	51.0	60.3	58.0	57.3	54.3
15	54.3	58.3	69.0	67.0	59.0	50.7	57.0	62.0	54.7	60.3	61.0	56.3	55.0
16	62.0	54.7	67.2	59.7	63.7	53.3	55.7	72.7	61.7	42.0	63.0	59.3	59.0
17	72.3	57.3	67.2	64.7	70.0	49.3	56.0	62.0	55.0	44.5	65.3	56.7	58.3
18	70.3	63.3	51.3	64.0	82.2	46.0	63.7	56.7	47.2	49.7	59.0	47.7	69.0
19	63.0	57.7	54.0	69.3	67.1	49.7	57.3	62.3	52.0	58.2	42.3	53.0	68.8
20	56.7	62.7	66.7	69.0	64.1	57.0	52.0	63.3	49.7	56.3	49.7	57.3	69.7
21	57.3	71.0	67.7	62.7	65.3	63.0	55.3	62.7	52.5	59.3	45.7	54.0	55.8
22	50.0	63.0	62.7	61.7	65.3	64.7	59.3	65.0	50.0	57.2	52.3	48.5	49.2
23	30.0	63.7	72.0	60.3	63.7	60.0	62.0	60.3	55.0	55.0	55.3	60.2	57.3
24	33.0	66.0	68.7	54.0	66.7	71.3	58.0	54.3	62.7	49.7	59.0	54.8	49.0
25	46.7	60.0	67.7	59.3	68.3	68.7	60.3	56.7	50.3	49.8	58.3	54.0	56.7
26	44.3	58.3	62.3	68.0	71.3	60.0	59.7	57.0	47.0	48.0	63.2	55.3	63.3
27	46.0	60.7	64.3	66.8	79.7	66.2	57.3	57.7	52.0	58.0	53.0	58.0	55.3
28	49.3	59.0	65.7	65.3	83.3	62.7	58.0	54.0	58.3	61.7	52.7	62.7	57.7
29	66.7	63.0	69.0	62.5	73.7	62.7	59.7	59.7	63.3	53.0	51.7	56.3	54.3
30	59.0	70.7	65.8	63.2	68.3	60.0	54.0	54.3	59.3	47.7	50.0	55.5	57.3
31	58.8	68.7	74.0	64.7	67.3	60.0	61.0	54.7	55.7	48.7	50.8	56.8	55.3
Mean,	54.51	59.57	61.61	60.26	63.80	54.92	55.58	56.65	54.95	53.67	54.52	54.37	56.00

Day of month.	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.		Means.
1	63.0	52.7	45.0	46.3	- -	48.0	43.3	51.7	49.3	53.0	47.7		51.9
2	44.5	43.7	47.0	48.3	- -	58.3	49.3	43.7	49.0	53.3	55.3		51.6
3	44.0	46.7	47.5	46.5	- -	52.7	48.0	45.0	61.7	45.3	50.3		
4	53.7	44.0	51.7	47.3	- -	45.0	49.0	43.0	49.7	53.7	52.3		
5	47.7	44.7	41.8	58.0	- -	50.7	56.3	42.3	53.3	59.0	56.7		
6	45.5	43.0	41.0	61.5	- -	32.0	55.7	51.7	59.3	55.7	56.0		
7	51.2	55.0	44.7	63.0	- -	38.0	47.0	47.7	56.0	58.0	63.3		
8	52.0	52.0	49.0	63.0	- -	48.3	53.3	48.0	57.3	58.0	69.7		
9	49.3	45.3	48.7	60.0	- -	54.7	45.7	42.3	60.0	55.0	45.0		
10	51.5	46.7	55.0	59.7	- -	58.3	47.0	43.0	60.7	56.7	45.3		
11	51.0	46.3	53.7	54.3	- -	59.0	51.3	42.7	46.0	52.0	42.7		
12	51.7	49.0	52.2	50.0	- -	56.7	51.7	55.3	47.3	55.0	44.7		
13	57.0	58.3	58.3	51.0	- -	60.0	53.7	48.3	54.7	55.3	55.0		
14	52.0	50.8	64.7	44.3	- -	52.3	55.0	47.0	56.7	52.0	50.7		
15	46.7	49.7	56.3	55.0	- -	60.3	55.3	53.3	50.7	54.3	51.0		55.4
16	52.2	52.7	53.3	56.8	- -	63.0	63.0	57.0	52.0	50.3	48.3		56.6
17	51.0	57.7	51.3	56.3	- -	60.7	56.3	54.0	49.3	51.0	51.7		56.3
18	51.7	50.0	55.0	55.5	- -	57.0	56.3	58.3	53.3	51.3	53.3		56.5
19	56.0	50.3	53.3	54.7	- -	61.3	57.0	53.0	53.7	54.3	52.0		56.6
20	63.0	51.3	50.0	54.7	- -	58.5	55.0	59.7	49.7	48.3	56.0		56.6
21	57.8	50.0	58.5	54.3	- -	62.3	42.3	55.3	49.0	42.0	47.3		56.7
22	49.2	52.7	56.3	64.3	- -	59.0	43.3	58.3	60.6	50.0	51.7		56.9
23	58.3	54.7	59.7	66.7	- -	57.2	47.3	63.0	62.3	58.7	52.0		58.3
24	42.3	52.0	56.7	52.8	- -	58.3	54.7	53.3	69.7	60.0	56.3		57.7
25	51.5	51.0	57.5	57.8	- -	59.0	62.0	51.0	70.0	54.0	61.3		59.2
26	56.3	49.7	59.0	50.3	- -	60.0	48.7	46.0	66.7	58.0	57.3		57.8
27	63.0	55.0	66.7	52.3	- -	64.7	55.0	54.0	58.0	61.0	61.3		58.9
28	56.8	50.5	64.7	57.7	- -	66.3	58.7	53.7	62.0	51.3	58.0		59.5
29	61.8	54.0	49.0	54.3	- -	62.7	57.0	55.3	60.7	55.3	57.7		59.5
30	61.5	49.3	51.7	60.3	- -	64.7	62.3	50.7	63.7	53.0	53.7		59.3
31	52.0	55.3	56.0	56.3	- -	51.2	64.0	45.3	59.7	57.0	52.3		59.0
Mean,	53.09	50.45	53.39	55.28	- -	56.13	53.05	50.74	56.62	53.84	53.42		

TABLE I.—*Continued.* Mean Temperature in June.

Day of month.	1808.	1809.	1810.	1811.	1812.	1813.	1814.	1815.	1816.	1817.	1818.	1819.	1820.	1821.
1	50°.5	50°.8	58°.6	64°.8	61°.9	60°.5	59°.3	51°.2	59°.0	51°.2	58°.2	54°.7	60°.7	57°.3
2	64.2	52.3	64.3	72.3	60.3	(62.1)	61.7	60.0	62.3	56.3	65.8	62.8	67.5	59.2
3	66.4	57.7	62.2	64.7	53.7	63.3	61.2	57.8	63.3	56.6	70.7	63.3	68.7	66.0
4	61.2	61.2	66.3	59.5	50.7	65.9	64.5	63.0	48.5	59.9	68.3	68.5	65.9	70.4
5	84.0	57.6	57.8	56.4	61.5	65.5	61.7	54.8	63.0	57.0	66.3	74.7	62.0	72.6
6	77.2	59.6	56.5	57.7	64.8	62.5	55.0	51.3	44.8	63.7	67.1	73.8	60.3	78.7
7	58.7	56.9	53.8	59.7	61.5	61.9	55.7	55.0	43.5	58.7	67.4	70.7	61 2	74.7
8	60.7	59.1	53.2	53.3	62.3	63.0	56.8	57.3	43.5	56.2	51.3	68.5	63.2	64.8
9	65.8	56.8	47.7	57.0	67.7	65.8	60.0	62.7	47.3	54.9	58.8	68.6	56.3	63.0
10	68.3	57.5	50.8	58.2	57.2	63.3	59.7	61.7	48.2	61.3	62.6	69.2	54.2	67.5
11	67.2	56.0	54.3	60.3	53.9	57.5	63.3	67.3	51.2	59.8	70.3	60.3	58.5	67.2
12	64.2	65.1	62.8	63.0	58.7	59.8	66.3	70.0	54.4	60.3	71.1	57.8	57.3	65.0
13	58.5	67.7	61.1	59.7	54.3	54.9	68.0	65.8	57.7	63.2	69.6	61.3	61.2	65.2
14	52.1	66.3	66.0	59.3	56.3	63.7	62.8	60.0	51.5	65.8	59.9	69.5	67.3	57.7
15	64.8	66.0	66.0	70.2	63.7	61.7	69.0	65.0	55.0	54.7	67.2	70.0	65.6	57.7
16	62.5	68.8	69.5	72.7	59.0	60.2	70.0	66.2	58.3	50.8	65.3	66.7	66.2	66.2
17	70.4	63.2	69.5	68.5	59.3	63.5	60.3	71.3	59.3	57.3	63.0	75.5	65.0	68.0
18	50.8	58.7	63.3	59.5	59.2	71.0	65.2	65.7	58.8	61.3	60.2	74.7	61.5	67.5
19	59.2	70.1	65.0	59.2	67.0	61.7	68.0	59.7	69.8	60.6	66.2	75.7	69.5	68.7
20	50.7	66.2	69.3	70.3	64.0	61.8	65.8	71.7	59.7	66.0	69.1	61.5	74.7	71.7
21	58.1	69.3	66.0	74.8	62.0	55.2	64.3	70.3	67.0	69.8	77.0	67.3	84.5	70.7
22	61.7	57.0	65.8	78.6	63.0	58.7	64.5	74.0	79.2	69.2	73.3	70.2	84.3	71.3
23	68.8	69.7	65.0	67.5	65.3	59.8	57.5	66.3	77.0	66.4	71.0	67.3	78.2	71.0
24	61.7	78.8	70.7	59.0	62.7	65.0	59.2	62.7	82.7	63.3	71.7	60.8	66.5	81.7
25	69.7	71.8	73.1	64.7	60.8	59.3	56.2	67.3	58.8	64.6	77.8	63.5	64.4	81.2
26	73.1	69.6	68.3	69.0	64.5	59.0	63.0	66.2	59.8	62.5	75.8	64.2	66.3	77.2
27	72.1	67.8	67.4	65.0	57.8	63.3	62.7	68.0	56.3	57.3	76.2	73.5	65.3	67.8
28	65.3	71.6	70.3	56.5	64.3	71.7	63.8	71.0	66.3	63.3	79.8	73.7	69.0	69.0
29	65.9	65.7	70.8	60.7	61.7	64.8	67.8	74.3	58.3	58.7	79.0	71.1	70.0	70 5
30	66.4	63.2	71.2	65.2	60.0	69.5	67.2	70.2	60.7	49.7	77.7	65.0	74.0	75.0
Mean,	64.00	63.45	63.56	63.57	60.64	62.53	62.68	64.26	58.84	60.00	68.58	67.51	66.31	68.80

Day of month.	1822.	1823.	1824.	1825.	1826.	1827.	1828.	1829.	1830.	1831.	1832.	1833.	1834.	1835.
1	62.7	(53.1)	83.5	68.0	72.7	52.3	58.0	53.7	58.7	82.0	62.0	70.7	63.0	68.0
2	63.7	(57.2)	69.0	64.7	71.3	61.0	61.3	58.0	65.0	73.3	56.0	53.3	63.0	71.0
3	65.7	61.0	62.7	66.3	77.0	66.7	58.7	61.7	67.7	65.0	46.3	55.7	57.0	66.0
4	61.0	59.3	61.3	61.7	69.7	73.3	56.7	69.0	66.6	68.0	53.3	58.0	64.3	68.7
5	57.7	67.8	63.7	58.3	59.0	74.7	60.0	74.3	65.7	72.8	54.7	64.3	59.3	70.2
6	62.0	66.5	72.3	64.5	65.0	76.3	70.0	66.7	59.2	74.3	57.2	64.0	63.7	67.0
7	59.0	61.8	66.3	75.0	71.3	73.0	68.7	68.3	62.7	72.3	59.2	61.7	59.7	60.3
8	64.3	56.2	62.0	82.3	74.3	72.7	75.0	67.3	62.7	71.5	55.7	58.0	69.3	63.0
9	67.5	53.0	60.3	82.3	77.8	70.0	62.3	68.7	68.0	73.3	56.3	52.3	71.3	72.8
10	71.4	50.7	60.7	88.0	74.7	60.0	63.3	67.7	62.7	80.0	56.3	55.7	71.3	60.3
11	67.7	56.0	61.0	84.0	72.8	63.7	58.0	67.7	65.2	75.3	62.2	59.0	65.3	62.3
12	67.7	57.0	58.0	62.5	59.0	75.0	63.3	67.0	66.6	73.0	72.7	62.7	63.3	57.0
13	55.3	61.3	57.7	61.7	58.7	68.7	65.3	67.0	65.0	74.7	63.7	64.7	63.3	77.0
14	58.2	65.3	52.0	67.0	72.0	64.0	76.3	71.0	69.3	76.7	65.7	69.7	60.3	65.7
15	61.7	59.3	54.3	67.7	72.3	53.7	73.3	75.0	73.2	70.0	71.0	68.0	63.3	62.3
16	78.7	62.0	52.3	69.3	64.7	56.0	72.7	73.0	72.7	65.7	63.3	69.0	58.7	63.0
17	64.3	74.0	61.7	69.3	72.3	65.0	69.0	73.3	66.0	71.0	72.0	64.3	63.3	64.7
18	59.0	74.7	66.0	65.7	73.0	61.7	76.3	76.3	63.8	77.3	64.0	64.3	56.3	65.3
19	58.3	82.0	63.3	69.7	71.3	67.7	75.3	70.7	67.7	75.3	59.3	64.0	61.0	67.3
20	62.0	60.0	58.0	72.7	69.3	62.7	73.3	69.3	58.0	79.2	62.3	59.7	66.3	61.0
21	66.1	51.0	59.0	75.3	63.3	60.7	74.0	68.3	60.2	73.7	69.3	63.0	64.7	60.0
22	68.1	56.4	58.0	71.8	66.0	61.0	71.7	65.7	62.3	72.3	73.3	65.7	67.3	59.7
23	68.0	61.1	61.3	68.0	61.3	58.0	71.7	65.3	65.7	62.0	75.2	68.0	72.3	60.0
24	64.0	61.1	63.3	70.7	61.3	66.0	82.3	67.7	68.0	63.0	66.7	58.7	65.0	67.2
25	60.0	67.0	72.0	57.3	68.0	63.7	68.3	63.3	71.3	69.0	62.8	55.0	68.7	70.3
26	69.8	67.7	71.7	63.3	69.0	61.3	62.7	71.3	75.0	66.7	67.3	62.3	71.0	69.8
27	67.7	63.0	73.7	70.3	73.0	56.3	73.0	72.3	65.7	66.7	68.7	60.7	66.3	63.7
28	68.5	69.0	69.0	69.3	73.0	68.7	74.3	65.0	70.0	69.0	70.3	67.0	68.7	64.0
29	74.5	66.2	72.3	72.7	72.3	72.3	77.0	64.3	72.3	71.7	66.2	69.7	58.7	68.3
30	66 0	66.3	74.0	74.7	73.3	74.3	71.7	64.0	70.0	76.3	71.3	73.7	63.0	65.3
Mean,	64.68	62.22	64.00	69.79	69.30	65.34	68.78	67.76	66.21	72.05	63.47	62.75	64.32	65.36

TABLE I.—*Continued.* Mean Temperature in June (continued).

Day of month.	1836.	1837.	1838.	1839.	1840.	1841.	1842.	1843.	1844.	1845.	1846.	1847.	1848.
1	62°.5	65°.7	74°.3	57°.0	57°.8	58°.3	59°.0	51°.7	61°.0	63°.0	60°.8	52°.0	47°.7
2	64.0	74.3	62.2	57.7	61.5	64.0	62.3	51.7	64.7	64.0	64.2	62.0	58.7
3	61.0	63.3	70.0	62.0	58.7	58.3	61.3	55.0	57.0	67.0	69.0	60.2	63.5
4	65.7	74.0	71.5	66.3	68.0	65.3	65.0	57.3	60.0	72.7	72.3	56.3	61.0
5	65.3	72.7	64.3	58.2	73.3	67.0	69.3	61.0	60.0	66.5	69.7	60.3	62.8
6	67.7	76.0	73.7	60.2	72.7	64.7	60.7	53.0	59.0	63.0	64.2	61.3	56.0
7	66.3	78.3	64.0	71.5	69.3	70.3	54.7	58.0	64.0	61.3	61.7	64.3	56.7
8	69.0	72.7	73.3	76.7	72.3	76.7	61.2	60.3	56.3	65.3	61.7	63.8	57.2
9	75.7	74.0	75.7	73.7	76.0	61.7	56.0	55.0	55.7	79.5	63.3	57.2	54.0
10	66.7	56.3	80.1	75.6	79.0	71.3	61.0	65.7	59.7	76.0	67.3	63.0	61.3
11	69.0	65.7	84.7	73.3	83.7	68.3	45.7	56.3	53.0	64.7	69.0	63.3	67.3
12	72.0	71.3	88.3	59.7	83.5	69.0	56.3	63.3	56.7	64.3	63.0	62.3	50.0
13	67.3	71.7	88.0	63.0	67.7	67.3	61.0	63.3	55.3	71.3	61.5	62.3	50.7
14	66.0	69.3	78.5	69.1	70.0	70.0	69.3	63.7	58.3	62.0	67.7	65.7	61.5
15	67.0	70.0	80.2	72.0	68.7	64.0	64.7	60.7	59.7	62.0	76.3	51.0	65.8
16	63.0	70.3	84.7	62.0	69.3	67.7	67.0	57.0	65.7	66.0	63.7	62.5	70.3
17	57.3	60.7	81.3	69.0	70.3	70.0	71.7	61.3	70.3	61.8	64.0	64.7	65.0
18	59.0	68.7	73.7	72.8	73.2	70.0	49.7	65.0	69.3	62.0	71.3	64.0	66.7
19	67.3	74.7	71.0	67.7	67.0	62.7	68.0	63.8	69.5	63.8	60.8	59.3	72.2
20	65.0	68.0	72.0	71.8	67.0	58.3	71.7	74.0	74.0	64.0	58.7	55.7	65.3
21	61.7	71.3	77.0	65.7	67.7	70.0	69.0	73.7	62.0	64.5	50.7	52.7	68.3
22	54.3	63.0	78.0	64.7	75.4	69.3	72.7	77.7	61.3	61.5	53.2	60.5	71.3
23	59.3	81.0	75.0	69.7	74.0	75.0	65.7	69.7	69.7	64.7	57.5	64.2	69.0
24	61.0	68.7	67.7	69.3	78.7	74.7	64.7	66.3	73.0	73.3	61.7	70.3	71.7
25	60.3	77.7	66.8	72.3	69.7	69.3	63.7	72.0	73.3	62.7	62.3	78.3	63.7
26	65.0	72.3	74.7	74.2	73.0	65.3	65.7	67.3	79.0	65.5	59.7	77.0	68.2
27	58.7	76.3	74.5	75.9	67.0	75.7	66.0	77.0	69.7	62.8	58.3	79.7	65.7
28	74.3	76.0	70.0	68.0	74.3	74.0	59.0	76.0	68.3	61.0	73.3	70.7	69.0
29	67.7	72.3	76.3	74.3	79.0	78.0	64.0	75.7	64.4	63.0	70.7	63.7	67.7
30	66.3	79.3	71.2	72.7	78.0	78.7	68.7	73.0	63.3	54.3	69.3	67.2	63.7
Mean,	64.86	71.18	74.75	68.19	71.55	68.50	63.84	64.17	63.77	65.14	64.22	63.18	63.06

Day of month.	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.		Means.
1	55.0	54.3	55.8	59.2	- -	58.0	64.0	58.7	61.0	58.0	51.3		59.9
2	61.0	59.0	54.7	61.7	- -	61.3	63.3	63.7	68.0	62.7	59.3		62.4
3	64.8	57.7	57.3	62.3	- -	60.3	60.7	68.3	64.7	67.7	57.0		62.3
4	63.5	59.0	60.0	61.0	- -	61.0	57.0	64.3	64.7	65.3	47.0		63.1
5	58.3	61.2	58.7	55.5	- -	69.7	60.7	57.7	62.7	72.0	43.3		63.7
6	60.7	68.7	63.3	60.5	- -	65.0	62.7	55.3	61.0	67.7	52.7		63.8
7	61.7	69.0	50.3	60.2	- -	57.8	57.7	54.0	59.7	68.7	56.7		62.5
8	56.3	71.3	50.0	59.7	- -	55.8	59.0	61.7	64.0	75.0	51.0		
9	61.8	71.7	49.7	63.3	- -	67.3	60.7	62.0	64.0	67.0	50.3		
10	61.0	53.7	61.2	63.0	- -	60.7	57.7	67.7	66.3	60.7	51.3		
11	60.5	54.0	61.3	58.8	- -	64.3	62.3	71.0	66.3	69.0	51.0		
12	58.3	65.3	63.0	59.0	- -	67.7	57.3	63.7	68.0	60.3	53.0		
13	61.0	69.0	63.0	62.3	- -	68.3	60.7	61.7	67.7	50.7	51.3		
14	62.7	73.3	61.2	64.0	- -	70.8	60.7	63.3	65.3	56.7	64.7		
15	64.7	64.0	55.3	68.7	- -	67.7	58.3	67.7	62.7	51.7	66.3		
16	74.7	58.2	55.3	81.0	- -	63.2	64.7	64.0	60.7	60.0	67.0		
17	64.7	63.3	56.3	73.7	- -	61.0	62.0	68.0	61.0	63.7	62.0		
18	72.0	72.7	66.0	63.0	- -	63.7	59.3	70.0	53.7	73.3	63.7		
19	78.7	77.3	66.2	67.0	- -	75.0	59.7	62.7	54.3	69.3	64.3		
20	80.3	82.7	70.3	67.3	- -	73.0	56.0	64.0	62.7	69.0	59.7		
21	76.3	72.7	70.7	66.3	- -	64.0	65.3	76.0	65.3	69.7	53.7		
22	82.7	66.7	64.7	60.5	- -	63.8	66.3	80.3	63.7	68.7	58.3		
23	80.7	60.0	59.0	64.3	- -	55.7	70.3	64.7	62.3	72.7	61.0		
24	75.3	69.0	53.5	65.5	- -	65.2	69.3	62.0	61.7	71.3	63.3		
25	72.7	63.7	63.3	60.0	- -	67.0	67.7	60.3	69.0	72.0	61.7		
26	68.7	63.7	64.0	67.3	- -	61.7	68.3	73.7	69.0	69.3	65.0		
27	67.3	68.3	67.3	69.5	- -	66.7	71.0	71.7	67.0	71.7	69.0		
28	62.0	69.3	65.2	67.3	- -	65.0	72.0	67.2	65.0	75.3	68.3		
29	56.7	64.7	71.7	70.5	- -	67.3	78.7	81.7	68.7	72.0	76.3		
30	64.3	72.7	71.7	71.7	- -	63.7	78.3	73.0	61.7	70.7	63.3		
Mean,	66.27	65.87	61.00	64.47	- -	64.38	63.72	65.99	63.65	66.72	58.77		

March, 1867.

TABLE I.—*Continued.* Mean Temperature in July.

Day of month.	1808.	1809.	1810.	1811.	1812.	1813.	1814.	1815.	1816	1817.	1818.	1819.	1820.	1821.
1	77°.3	63°.2	64°.2	58°.7	60°.2	72°.7	70°.7	68°.8	61°.0	62°.0	68°.8	68°.2	74°.7	69°.8
2	59.3	66.6	62.5	70.7	60.5	71.8	71.5	74.2	65.6	67.0	71.5	69.8	68.7	71.2
3	61.2	60.7	66.6	81.5	70.2	70.3	66.7	68.0	64.8	69.3	63.5	64.2	73.0	65.3
4	59.8	60.3	62.2	80.3	74.0	69.3	71.7	66.2	61.3	64.2	65.8	66.3	75.8	62.8
5	70.2	58.8	69.3	79.7	72.0	73.7	69.1	65.6	69.0	68.2	68.1	61.7	89.5	62.8
6	65.2	60.5	67.3	83.7	66.8	63.7	65.3	65.5	63.3	67.7	73.2	66.9	81.2	61.7
7	68.8	66.0	71.1	67.7	68.7	66.7	62.8	66.0	57.2	68.8	69.7	66.3	82.0	62.2
8	67.3	61.9	66.0	62.4	62.0	71.0	63.2	72.7	60.2	66.9	75.2	72.2	78.3	60.5
9	63.1	62.3	66.0	64.5	56.1	70.0	65.7	68.8	58.7	65.3	79.5	74.3	74.2	65.3
10	71.5	62.1	65.3	63.2	60.3	66.7	66.5	74.8	65.2	62.7	73.7	81.2	75.7	61.0
11	66.1	65.8	64.2	59.6	56.2	65.0	59.8	78.0	62.7	64.0	82.8	78.7	76.3	61.3
12	75.4	(63.6)	73.2	57.7	62.2	65.0	60.5	73.7	69.5	71.8	82.3	74.3	73.3	67.3
13	69.2	60.8	66.2	65.2	65.3	63.7	59.3	80.2	69.0	69.0	75.8	69.2	80.2	67.2
14	69.8	67.7	62.6	67.5	70.3	64.0	72.5	72.0	66.7	64.1	74.7	72.3	75.3	69.3
15	67.2	69.7	62.3	67.0	63.8	64.5	74.3	68.7	65.3	66.0	65.6	71.2	69.0	70.3
16	74.4	64.3	61.3	70.5	64.2	66.0	73.2	64.3	65.8	68.3	69.4	69.3	75.5	70.5
17	76.0	63.5	59.0	67.3	63.7	65.7	71.2	73.2	67.7	72.0	74.2	75.3	75.0	68.7
18	74.0	53.6	60.0	68.0	64.2	62.0	68.0	74.0	65.2	78.3	73.4	74.2	73.8	72.8
19	63.5	56.2	66.7	68.0	67.7	64.2	65.5	74.2	64.3	79.0	69.8	67.0	75.8	69.3
20	62.8	54.8	69.2	69.7	70.7	70.8	63.0	77.2	69.2	77.3	66.1	71.0	73.7	69.2
21	67.6	64.8	68.7	72.0	66.3	70.3	61.5	78.7	70.0	66.3	54.4	69.9	69.2	70.7
22	71.8	64.4	67.3	72.8	64.7	66.2	66.7	72.7	67.7	59.8	72.1	70.8	74.2	70.7
23	76.1	66.5	61.0	66.0	66.5	64.3	67.7	72.0	64.8	68.7	74.3	74.4	72.8	70.7
24	67.1	61.3	66.3	63.2	66.3	67.3	67.8	71.7	67.5	64.0	72.1	75.2	72.8	68.2
25	62.4	61.2	68.3	65.7	66.8	73.0	71.0	72.0	66.0	66.3	68.7	75.0	78.0	69.7
26	63.6	66.8	67.5	65.7	69.2	65.2	67.0	62.7	68.5	68.5	72.0	74.3	78.7	71.3
27	70.1	59.7	62.8	71.7	66.9	64.7	65.3	63.3	67.3	69.3	69.2	66.2	78.0	72.3
28	69.8	64.8	66.2	64.3	70.2	67.0	70.8	70.7	62.7	67.7	75.3	69.3	82.3	72.5
29	68.4	64.7	64.3	64.2	65.0	71.8	69.8	78.7	64.2	72.7	73.3	76.7	82.0	65.0
30	61.8	65.7	66.7	78.2	59.3	70.0	71.0	74.0	65.5	66.6	72.9	79.8	85.7	75.8
31	72.1	68.5	71.7	74.2	67.5	68.2	71.7	72.2	66.8	66.7	72.6	84.0	86.5	87.7
Mean,	68.35	62.93	65.89	68.72	65.41	67.57	67.36	71.44	65.24	68.00	71.62	71.92	76.83	68.49

Day of month.	1822.	1823.	1824.	1825.	1826.	1827.	1828.	1829.	1830.	1831.	1832.	1833.	1834.	1835.
1	78.8	79.0	73.3	71.0	74.7	75.7	75.7	65.8	73.3	76.0	80.0	76.0	64.3	59.0
2	73.6	82.2	73.3	70.7	75.3	80.3	68.7	68.0	73.3	77.0	78.2	73.5	69.3	68.7
3	65.4	75.9	74.0	73.0	79.7	68.7	69.3	66.3	64.3	83.7	79.7	73.5	68.0	74.3
4	71.8	71.5	66.0	77.0	73.7	78.7	72.3	66.0	70.7	82.0	71.3	72.3	72.7	74.7
5	71.5	73.6	69.3	72.3	75.3	76.7	76.0	56.0	68.3	82.0	69.2	73.0	74.3	74.7
6	74.7	62.4	77.0	73.0	74.7	73.3	77.0	69.3	73.8	78.2	74.3	72.0	73.7	70.8
7	79.8	80.5	73.3	70.3	79.7	72.3	75.7	72.5	71.7	77.0	61.8	72.7	74.3	70.3
8	57.3	66.9	70.7	76.0	79.7	71.3	79.2	72.3	63.5	74.3	57.5	75.3	81.0	66.2
9	(59.5)	79.0	79.0	76.0	74.3	77.3	72.0	69.3	68.3	74.3	56.2	72.0	82.7	69.0
10	68.3	72.5	68.3	83.7	81.0	73.0	69.7	69.7	70.1	64.0	59.3	70.3	77.7	65.7
11	65.3	72.0	66.0	89.3	87.5	77.3	70.7	70.7	73.3	61.3	57.0	70.7	74.0	69.3
12	62.3	77.7	70.3	85.6	89.3	72.0	68.7	72.3	70.0	69.3	59.8	73.3	74.3	72.3
13	74.3	78.7	71.7	77.3	84.3	78.7	72.7	68.0	71.7	67.7	59.7	74.3	76.0	78.7
14	71.3	72.3	75.0	75.3	74.3	78.3	68.0	72.7	76.0	65.3	64.0	75.3	73.3	80.3
15	70.7	69.4	77.0	79.7	68.0	81.3	68.0	82.3	73.7	70.0	67.0	75.8	76.7	78.0
16	70.8	66.0	67.0	76.0	60.8	80.0	69.3	76.3	83.7	69.7	67.3	71.0	79.7	66.7
17	70.8	68.3	68.7	79.2	71.0	77.7	72.0	76.0	85.3	69.3	66.7	68.7	77.7	73.3
18	82.0	63.3	67.3	72.0	74.0	75.7	74.3	75.7	86.7	70.0	68.7	69.0	68.0	70.3
19	75.1	64.3	70.7	81.7	72.3	79.0	69.0	67.7	78.3	78.7	75.0	68.2	68.7	74.0
20	78.6	59.4	77.0	85.7	73.0	80.0	74.7	71.0	79.7	74.3	74.7	69.0	69.7	77.0
21	75.7	65.0	69.3	86.2	73.0	70.7	74.3	76.0	86.2	79.0	59.0	68.3	70.0	74.5
22	72.3	74.1	79.3	81.8	75.0	62.3	73.0	81.0	86.5	74.7	67.0	80.3	74.7	72.7
23	70.3	67.1	70.7	65.3	74.7	61.3	75.7	76.0	73.0	76.3	67.7	70.3	76.7	77.3
24	71.8	66.2	70.7	80.3	77.7	65.3	78.0	69.7	68.3	80.3	67.2	77.7	72.7	79.0
25	68.6	72.3	69.0	77.3	74.7	65.0	80.0	68.8	67.3	77.0	65.2	68.7	79.3	77.3
26	62.0	65.0	77.2	70.5	74.0	52.0	75.3	70.7	60.7	70.7	67.7	70.3	81.7	70.3
27	64.0	68.8	77.7	70.7	76.3	66.7	77.3	72.0	58.7	72.3	69.3	77.0	75.0	69.3
28	63.3	77.7	69.0	72.5	71.0	72.3	73.0	71.0	61.0	73.3	71.2	68.7	70.3	71.0
29	68.2	70.7	70.0	78.3	71.3	71.0	67.7	74.3	63.3	75.3	68.7	68.7	75.0	65.7
30	68.8	77.0	76.0	70.8	74.8	73.0	70.0	74.1	70.3	72.7	67.7	64.7	67.7	75.3
31	67.0	71.0	72.0	67.7	75.5	73.3	72.0	78.7	70.7	80.0	70.0	67.0	66.7	69.7
Mean,	70.13	71.29	72.11	76.42	75.50	72.91	72.83	71.62	72.26	74.06	67.35	71.86	73.67	72.10

TABLE I.—*Continued.* Mean Temperature in July (continued).

Day of month.	1836.	1837.	1838.	1839.	1840.	1841.	1842.	1843.	1844.	1845.	1846.	1847.	1848.
1	71°.7	75°.7	74°.3	73°.5	78°.7	76°.0	72°.0	68°.7	61°.0	52°.7	66°.0	69°.2	61°.3
2	72.3	76.0	75.0	76.3	74.3	68.7	78.0	71.3	74.7	62.5	70.7	70.3	63.5
3	64.7	68.3	83.0	75.8	73.7	66.0	73.7	60.7	70.7	59.5	67.0	70.0	59.2
4	63.3	73.0	87.7	79.3	73.3	68.0	76.3	64.7	59.7	67.7	67.3	73.3	65.3
5	77.3	73.3	81.7	71.2	77.7	70.3	71.7	62.3	63.3	69.0	73.2	77.0	63.3
6	78.3	74.3	80.3	74.2	78.5	70.3	73.3	63.0	65.3	74.7	76.3	77.5	61.0
7	81.0	76.3	78.3	71.3	75.3	74.7	65.3	63.0	62.3	77.0	72.0	79.8	58.3
8	82.7	77.3	78.2	73.3	81.2	68.0	71.7	66.7	64.7	76.3	70.3	77.0	62.7
9	77.7	71.0	87.2	74.3	77.0	69.3	67.7	67.0	66.0	66.7	73.7	81.7	62.3
10	67.0	70.3	83.2	77.0	76.3	68.7	67.7	68.0	68.0	66.3	77.3	78.0	64.0
11	68.7	76.0	88.3	76.7	78.3	67.0	70.7	66.3	64.7	74.5	84.3	74.5	73.7
12	67.7	73.0	81.3	74.3	75.7	67.3	71.7	65.7	60.0	73.3	81.7	76.3	73.7
13	71.3	73.0	74.0	73.3	77.7	71.7	78.3	67.7	66.3	64.3	68.7	72.8	73.2
14	71.3	80.3	76.8	75.7	82.0	72.0	77.3	65.7	67.3	69.3	66.3	67.7	71.7
15	65.3	80.0	85.0	76.7	84.7	75.7	78.7	66.7	71.0	71.7	64.7	67.3	68.0
16	65.7	75.3	83.5	76.2	85.7	74.0	75.3	67.3	64.0	76.3	66.3	69.7	66.7
17	65.7	75.7	76.7	78.3	87.0	69.3	77.3	65.7	73.0	72.5	65.7	71.3	64.3
18	69.0	78.0	76.3	80.1	84.0	71.7	78.3	68.7	71.7	70.7	68.0	73.3	70.7
19	75.0	79.0	78.0	81.7	82.0	71.0	77.0	69.7	67.5	65.3	67.3	70.3	71.3
20	77.7	82.7	70.0	84.3	73.3	72.3	82.0	59.7	69.7	70.7	71.0	77.0	73.7
21	75.7	75.3	72.0	77.5	76.0	74.0	68.0	66.3	70.5	75.5	72.0	77.7	74.0
22	70.0	72.0	74.0	78.8	76.0	80.0	67.3	72.7	66.7	72.0	74.3	79.2	71.7
23	70.3	74.3	76.7	80.3	79.3	74.0	72.0	77.3	77.7	70.3	69.3	74.8	66.7
24	70.0	70.7	74.7	79.7	73.3	71.0	79.3	71.0	68.7	65.3	74.7	73.3	67.7
25	70.0	71.7	70.2	78.4	75.0	71.3	65.3	62.7	56.7	64.0	57.7	72.8	66.7
26	66.7	74.0	79.0	79.2	72.7	69.0	70.0	65.0	65.3	67.8	63.0	66.3	73.7
27	71.0	74.3	79.2	75.9	79.7	70.0	71.7	72.7	64.0	62.5	66.7	62.0	68.3
28	70.0	73.0	83.7	75.5	75.3	68.0	70.3	68.3	65.7	65.3	74.0	62.3	70.7
29	68.9	72.7	89.4	77.7	79.8	65.0	74.7	79.0	67.7	67.0	67.7	63.0	69.3
30	63.7	76.0	85.5	78.2	78.3	72.0	74.7	63.0	67.5	66.3	73.7	63.0	68.7
31	69.0	69.0	76.0	72.7	78.0	70.3	57.0	66.7	68.3	70.3	72.3	63.5	62.7
Mean,	70.92	74.57	79.45	76.69	78.07	70.86	72.72	67.19	66.76	68.63	70.42	72.00	67.35

Day of month.	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.		Means.
1	63.3	65.3	69.0	66.0	- -	68.3	77.3	64.7	59.0	63.0	58.3		69.1
2	61.0	62.0	71.5	63.3	- -	70.7	76.0	66.7	59.3	70.0	61.3		70.2
3	60.0	60.3	69.3	62.0	- -	80.7	74.7	65.0	60.7	68.7	66.0		
4	64.3	67.3	56.7	73.7	- -	80.3	72.7	71.3	61.7	69.3	57.0		
5	66.3	74.7	63.7	72.0	- -	82.2	72.0	63.3	66.3	65.0	61.0		
6	68.3	75.0	69.5	67.3	- -	72.3	72.0	65.3	64.3	69.0	63.3		
7	71.7	68.3	65.0	66.7	- -	74.3	67.0	63.3	74.7	73.3	61.7		
8	72.7	66.7	62.0	69.8	- -	73.7	64.7	65.3	64.3	81.0	68.7		
9	72.3	68.0	61.8	75.3	- -	73.0	64.3	55.7	66.0	69.7	70.3		
10	71.7	70.0	68.7	81.3	- -	70.3	65.3	65.0	69.7	70.3	73.3		
11	81.3	67.3	72.0	71.5	- -	69.0	67.7	69.3	71.3	75.3	71.0		
12	81.3	72.7	70.7	75.0	- -	65.7	71.0	63.0	77.7	56.3	77.3		
13	84.3	67.0	68.3	67.3	- -	66.0	71.0	72.3	74.7	65.7	78.3		
14	69.7	68.3	66.7	71.7	- -	65.7	69.0	75.0	71.7	74.3	70.7		
15	62.7	71.0	66.7	72.0	- -	65.3	72.7	73.0	73.7	68.7	68.7		
16	64.8	72.7	71.3	70.8	- -	70.3	72.7	75.0	70.7	69.3	68.7		
17	67.0	72.3	74.3	67.3	- -	68.7	82.7	76.0	66.0	72.3	74.7		
18	69.5	71.3	74.7	66.5	- -	74.8	77.7	73.7	71.0	73.3	71.7		
19	70.0	71.0	72.0	68.3	- -	74.2	83.7	71.7	72.0	67.7	69.7		
20	72.7	67.3	72.0	71.7	- -	77.0	70.7	68.7	72.0	71.7	71.0		
21	69.0	73.2	73.7	76.2	- -	75.7	67.7	66.7	72.7	72.7	61.0		
22	73.7	76.7	72.3	79.2	- -	75.0	63.3	64.3	72.3	70.0	64.0		
23	73.3	76.7	74.3	72.5	- -	74.3	68.0	71.3	61.3	64.0	63.0		
24	69.0	73.3	73.3	69.7	- -	77.0	70.0	76.7	63.7	52.3	65.0		
25	67.7	74.3	73.7	69.8	- -	73.0	74.7	82.7	68.3	62.7	62.3		
26	66.3	61.0	73.3	64.0	- -	75.0	76.0	81.3	71.3	64.7	63.3		
27	76.7	64.3	71.0	69.7	- -	72.0	69.7	83.0	73.3	67.7	63.0		
28	72.7	65.2	66.0	65.3	- -	69.0	66.6	81.3	72.3	66.0	69.0		
29	71.0	70.7	59.0	72.0	- -	70.0	70.7	77.3	70.0	71.3	69.7		
30	70.7	74.0	59.8	69.8	- -	75.0	73.3	74.0	66.3	69.7	68.0		
31	72.3	72.8	64.8	72.2	- -	73.2	73.0	75.0	65.7	72.3	65.0		
Mean,	70.30	69.69	68.62	70.32	- -	72.72	71.48	70.87	68.52	68.62	66.94		

TABLE I.—*Continued.* Mean Temperature in August.

Day of month.	1808.	1809.	1810.	1811.	1812.	1813.	1814.	1815.	1816.	1817.	1818.	1819.	1820.	1821.
1	67°.9	66°.0	69°.2	61°.2	66°.0	72°.5	66°.0	76°.0	70°.3	66°.5	72°.5	85°.0	84°.5	83°.3
2	68.6	66.2	63.5	62.3	69.0	75.3	63.7	67.0	72.3	67.3	71.8	78.0	72.7	80.0
3	67.9	64.8	64.3	69.2	68.0	75.2	65.8	68.3	70.0	68.3	68.1	76.7	69.0	77.4
4	78.3	70.2	65.0	71.5	66.0	75.7	63.3	65.3	63.7	73.7	72.8	70.7	72.3	76.7
5	59.7	68.3	62.7	68.0	69.2	76.0	65.3	67.0	63.8	71.3	75.5	69.7	75.0	77.0
6	63.7	69.1	62.3	60.3	70.0	69.0	63.2	61.8	69.7	64.3	67.3	74.0	70.8	66.2
7	64.5	73.6	64.3	65.5	68.8	72.7	68.0	66.2	70.3	66.7	64.5	74.0	70.8	62.2
8	65.2	73.3	67.3	59.3	68.8	74.5	66.2	65.7	66.3	67.3	76.3	77.2	73.2	62.0
9	63.7	63.7	70.0	58.6	72.3	74.3	66.3	65.0	67.3	71.7	70.0	72.3	75.8	57.3
10	65.3	60.2	71.7	59.5	67.3	69.7	69.2	65.8	68.3	69.5	70.2	73.7	81.2	75.5
11	73.3	62.8	72.3	68.2	58.2	63.3	65.8	61.0	70.3	67.3	72.0	73.3	75.0	83.5
12	68.8	65.8	73.8	65.5	61.0	60.2	73.7	56.0	71.7	59.2	76.3	76.3	77.8	62.7
13	67.5	64.9	67.0	69.2	57.7	65.8	72.2	57.0	72.0	70.0	72.0	76.3	76.5	65.8
14	68.8	67.6	64.3	66.2	58.5	66.0	68.2	64.7	65.7	72.2	71.5	78.0	72.7	81.7
15	59.4	69.5	63.2	65.8	64.5	73.0	59.2	68.5	64.3	74.3	69.3	66.0	71.0	85.5
16	58.0	68.2	62.7	70.3	67.2	68.8	70.2	66.8	74.6	68.2	69.0	68.4	67.0	84.7
17	55.3	65.7	64.8	70.4	59.3	67.5	72.0	67.5	72.8	68.8	60.6	60.9	62.8	83.8
18	64.2	69.2	71.0	74.8	61.7	63.8	66.8	68.6	74.3	78.0	64.5	68.4	66.8	72.3
19	62.7	63.5	66.5	75.7	65.5	63.3	70.0	69.0	75.5	64.3	67.5	67.7	67.3	76.7
20	58.9	69.3	53.5	81.0	71.7	68.3	70.8	66.2	68.2	61.5	69.5	76.0	65.7	73.0
21	61.3	63.8	65.7	81.2	66.2	69.0	59.8	67.0	56.7	64.3	70.3	79.0	62.0	71.0
22	62.5	66.7	66.7	74.8	64.5	64.3	58.4	64.5	58.7	70.2	72.0	72.8	65.2	69.0
23	66.2	(66.5)	69.7	69.8	66.5	69.3	59.2	65.3	60.8	62.3	67.5	68.3	67.8	57.3
24	66.2	(66.2)	71.0	65.2	65.5	68.7	60.0	64.7	64.5	56.7	69.0	60.9	70.2	60.8
25	76.4	(65.9)	69.0	68.7	69.3	63.3	64.3	58.7	59.7	59.5	68.8	63.7	67.0	58.7
26	71.6	65.6	71.7	66.0	65.3	61.9	55.2	64.7	57.8	61.0	68.5	61.7	67.8	63.0
27	67.3	64.2	70.7	66.8	61.8	64.7	57.7	71.3	63.7	65.5	68.8	63.7	69.7	66.3
28	57.2	72.6	69.8	63.3	61.3	67.3	55.3	67.8	56.7	61.0	65.5	60.0	66.5	64.3
29	61.3	65.2	70.7	65.3	69.0	69.5	64.3	65.2	60.0	65.3	72.3	67.8	66.0	61.8
30	61.3	64.7	69.3	71.6	67.3	67.5	68.0	70.7	61.5	65.7	66.7	62.3	69.0	69.0
31	59.2	66.5	58.5	71.5	53.8	74.2	67.0	64.2	59.2	64.0	66.4	64.3	72.3	73.0
Mean,	64.91	66.75	66.84	67.97	65.24	68.85	65.06	65.72	66.14	66.64	69.26	70.55	70.61	71.05

Day of month.	1822.	1823.	1824.	1825.	1826.	1827.	1828.	1829.	1830.	1831.	1832.	1833.	1834.	1835.
1	66.7	(70.8)	68.8	70.7	70.0	73.0	71.3	66.3	67.0	74.0	72.7	69.0	68.7	75.7
2	69.3	70.9	70.3	70.3	66.7	75.3	73.3	69.7	70.3	75.0	72.3	61.7	71.7	65.3
3	75.0	72.0	70.0	69.0	64.3	78.0	71.0	70.7	71.0	72.0	74.7	66.3	73.3	63.3
4	72.1	71.3	69.3	70.7	67.3	79.3	74.0	73.7	70.3	69.0	75.7	74.0	77.7	56.3
5	72.0	69.7	69.3	76.0	69.0	75.7	74.7	77.0	63.0	68.0	72.0	71.0	78.3	65.0
6	60.6	(71.3)	68.3	76.0	64.3	84.3	68.3	74.7	69.2	69.0	72.7	68.0	78.3	68.0
7	62.0	73.3	69.3	70.7	75.0	74.7	68.3	78.3	73.0	70.0	71.3	74.3	81.3	65.3
8	56.2	81.0	67.0	82.3	71.0	74.3	72.0	78.0	73.3	71.0	76.5	68.0	70.0	66.3
9	67.6	71.0	65.3	75.0	76.0	70.7	72.3	75.5	73.0	67.3	73.5	57.0	66.7	75.7
10	70.3	68.7	66.0	71.0	73.3	67.0	72.7	77.0	76.3	78.3	71.7	65.3	67.0	75.0
11	77.3	61.2	64.7	66.3	67.7	73.0	72.3	65.3	72.3	73.7	70.0	71.3	73.7	74.0
12	77.0	73.2	63.3	67.7	69.7	66.3	72.7	70.7	73.8	76.3	70.3	70.3	76.0	75.0
13	70.7	73.7	61.0	70.0	66.3	66.3	73.0	74.3	66.7	77.3	72.8	70.0	68.3	72.3
14	69.0	65.8	60.7	79.7	67.0	62.7	72.0	71.3	70.7	77.7	78.3	72.3	64.0	72.0
15	62.5	66.2	69.7	72.3	71.0	62.7	71.0	71.3	74.2	79.3	79.5	68.0	66.7	66.7
16	68.6	67.3	69.7	72.7	70.5	67.0	68.7	68.0	73.5	73.7	69.5	70.0	64.7	65.0
17	67.3	67.4	74.0	69.3	73.7	64.3	67.3	65.7	71.7	73.3	61.3	66.3	67.0	71.7
18	62.2	64.8	71.3	60.0	77.3	69.7	71.3	66.0	71.8	77.3	64.3	65.7	70.0	73.3
19	67.3	65.0	77.7	62.3	75.7	74.0	64.0	71.0	71.0	73.3	58.7	68.0	63.7	70.7
20	69.2	73.7	65.3	53.3	78.0	78.0	63.0	73.3	75.0	79.7	69.3	69.0	59.3	64.3
21	65.0	74.3	70.3	54.3	77.0	72.0	62.0	76.0	69.7	81.7	66.0	69.0	63.7	64.3
22	(64.9)	63.5	67.7	57.0	78.7	63.3	65.7	69.7	67.8	80.0	67.0	69.7	67.7	66.3
23	64.5	60.3	71.3	67.7	69.7	63.3	70.0	73.7	67.3	72.7	72.3	65.7	71.7	66.7
24	64.5	62.1	[67.6]	67.3	74.3	63.7	77.3	73.0	70.7	72.7	67.5	63.7	74·7	65.7
25	68.3	64.9	[67.2]	72.3	76.0	61.0	79.3	73.3	60.8	74.7	55.7	74.7	64.7	67.7
26	67.7	70.9	[66.5]	64.3	69.7	67.3	76.2	66.7	62.3	76.3	64.0	68.3	66.0	63.7
27	63.2	74.0	[66.5]	57.7	70.0	59.7	73.0	66.2	70.0	71.3	66.3	67.0	60.7	71.7
28	63.6	76.5	[65.4]	61.3	69.7	57.7	71.3	66.0	74.3	61.7	68.3	59.3	63.0	70.3
29	67.5	70.0	[66.1]	61.3	75.3	60.3	75.3	69.3	72.3	61.0	68.8	57.2	63.0	72.3
30	60.1	69.1	[66.4]	64.0	74.0	55.3	73.3	71.7	70.7	70.3	68.3	64.0	63.3	72.3
31	62.3	76.8	[66.3]	60.5	62.0	64.0	71.0	73.7	68.0	68.0	65.7	66.3	64.5	70.0
Mean,	66.91	69.70	67.82	67.53	71.30	68.60	71.21	71.52	70.61	73.08	69.58	67.43	68.68	68.77

TABLE I.—*Continued.* Mean Temperature in August (continued).

Day of month.	1836.	1837.	1838.	1839.	1840.	1841.	1842.	1843.	1844.	1845.	1846.	1847.	1848.
1	72°.3	79°.7	75°.3	76°.3	75°.7	68°.7	59°.0	65°.3	64°.7	68°.0	77°.0	72°.7	72°.0
2	68.7	78.3	77.3	74.7	78.3	74.7	63.3	67.0	73.8	69.0	71.7	69.0	70.0
3	66.7	80.7	78.4	73.8	80.0	74.3	68.0	70.3	68.8	68.7	70.0	70.7	70.0
4	69.7	78.0	80.8	71.5	78.0	80.7	65.7	71.3	69.3	68.0	68.7	70.3	67.5
5	65.0	69.7	84.7	77.0	80.7	80.7	71.3	67.7	68.0	71.7	82.5	70.7	65.7
6	67.3	73.3	76.3	78.5	73.3	73.0	75.3	67.3	71.0	70.2	82.3	60.0	68.0
7	69.3	69.7	76.0	77.7	76.2	70.7	73.3	67.0	66.8	70.7	72.3	60.2	71.3
8	73.3	82.0	81.0	77.4	73.3	73.7	70.3	74.0	68.2	75.7	69.0	64.0	74.3
9	60.7	71.3	77.8	77.8	76.0	73.0	73.0	74.3	68.3	76.3	72.3	63.2	73.2
10	62.3	66.7	76.3	71.0	76.3	76.0	74.0	72.3	73.7	74.7	70.7	69.7	73.7
11	65.3	68.7	74.7	73.7	78.3	70.0	72.0	65.7	65.7	72.3	65.3	73.2	74.3
12	61.8	69.3	78.7	72.0	80.3	72.3	73.0	65.7	64.0	70.8	66.3	74.8	71.7
13	63.0	65.7	77.0	73.2	77.0	74.7	65.3	71.3	64.7	71.3	75.7	71.7	71.3
14	63.3	70.0	68.7	74.1	76.3	68.0	68.0	68.3	66.3	74.0	78.0	71.2	74.3
15	70.3	74.0	72.0	73.7	76.0	68.0	73.0	73.0	68.3	69.7	69.3	67.7	75.0
16	70.7	75.3	73.0	70.0	72.3	67.0	70 7	67.0	66.7	70.0	74.3	66.0	72.7
17	68.0	76.0	74.5	69.7	74.7	74.7	72.3	67.3	69.7	66.0	75.5	72.3	72.3
18	67.7	75.0	69.5	69.8	76.0	74.3	70.0	73.0	72.0	68.2	63.7	71.0	62.3
19	66.7	79.7	70.0	76.8	76.7	73.3	71.3	72.7	66.3	71.0	60.7	66.7	63.2
20	63.7	73.3	69.3	83.0	84.8	76.7	74.0	68.0	71.3	69.7	58.3	64.3	60.0
21	59.7	63.7	74.0	85.7	81.0	75.3	68.3	64.0	61.3	72.7	63.7	68.0	61.7
22	65.7	67.3	79.3	82.0	80.7	71.3	70.3	64.3	59.0	76.0	68.0	69.0	61.7
23	59.3	66.0	84.4	82.0	84.7	67.3	69.3	72.0	57.0	68.0	73.7	62.5	60.8
24	58.7	61.7	85.0	79.5	79.0	66.3	69.0	73.0	58.7	75.2	62.0	65.0	64.3
25	67.7	64.3	79.7	76.6	70.5	63.3	71.0	70.3	62.7	68.3	64.5	66.0	59.3
26	66.7	63.0	70.3	79.7	74.3	71.3	74.0	69.7	65.3	69.7	63.0	65.0	64.7
27	72.0	71.7	67.7	78.7	77.7	71.3	75.3	76.0	61.3	56.3	65.0	64.5	61.2
28	75.3	71.3	70.0	74.3	71.3	75.0	69.7	69.7	67.0	58.3	69.7	65.7	64.0
29	71.0	70.7	69.7	64.5	75.3	72.0	68.3	67.3	63.0	56.7	66.3	67.0	66.0
30	63.7	64.7	68.3	61.3	76.0	67.3	62.0	71.7	66.0	62.0	71.7	69.3	73.0
31	65.0	68.7	66.5	61.3	75.0	61.0	66.3	69.0	68.7	62.3	70.9	69.8	72.7
Mean,	66.45	71.27	75.06	74.76	76.95	71.81	69.90	69.52	66.36	69.08	69.55	67.77	68.13

Day of month.	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.		Means.
1	66.3	70.0	63.7	70.0	- -	74.0	74.0	74.3	62.7	70.0	63.3		69.1
2	67.0	69.7	67.3	67.0	- -	80.3	71.0	71.3	65.3	67.3	66.3		
3	68.5	72.7	70.3	67.0	- -	72.3	70.0	70.3	66.7	63.0	71.3		
4	67.7	72.7	62.7	67.7	- -	73.0	71.7	70.3	69.3	62.7	67.0		
5	70.7	73.3	65.0	58.2	- -	73.3	66.7	68.3	63.0	67.3	74.0		
6	67.0	75.2	69.5	62.8	- -	74.3	70.7	62.4	66.3	76.7	69.3		
7	71.7	76.0	68.3	66.0	- -	66.7	70.7	66.3	67.0	71.0	70.7		
8	70.3	67.0	73.3	69.0	- -	67.0	58.3	68.3	67.3	69.0	69.0		
9	67.8	69.0	68.0	69.2	- -	70.3	64.3	67.0	64.0	65.3	69.0		
10	66.0	67.0	67.3	66.8	- -	68.3	63.7	69.7	65.7	65.0	67.0		
11	61.5	64.0	66.7	66.0	- -	69.7	63.3	68.3	62.0	68.3	66.3		
12	60.3	65.0	71.0	66.0	- -	69.3	63.0	70.3	62.7	69.0	66.7		
13	64.5	69.5	67.7	68.7	- -	73.3	65.3	69.0	63.7	71.3	65.7		
14	67.3	64.3	67.0	70.5	- -	66.0	67.7	69.7	73.3	70.7	72.3		
15	67.7	62.7	64.3	69.8	- -	64.7	65.7	69.0	71.7	64.7	65.0		
16	67.7	60.3	62.3	63.7	- -	66.7	70.7	69.7	61.7	70.3	67.0		
17	70.3	59.3	66 0	66.7	- -	66.3	71.3	66.7	58.3	68.0	61.0		
18	68.7	56.0	60.7	68.3	- -	66.0	65.7	65.3	58.7	70.7	64.7		
19	70.8	61.7	62.3	71.0	- -	65.7	60.7	68.3	59.3	66.3	67.0		
20	69.3	62.0	62.0	68.3	- -	69.3	59.7	61.0	61.3	63.0	63.3		
21	68.7	67.3	63.0	64.5	- -	68.3	61.3	54.7	63.7	65.7	62.0		
22	72.7	68.0	62.0	64.3	- -	71.7	63.7	65.7	61.0	70.0	65.7		
23	62.0	71.5	72.7	67.2	- -	63.3	64.3	68.0	63.0	57.0	65.3		
24	65.3	72.0	72.0	67.8	- -	67.0	72.3	66.0	62.7	63.7	65.0		67.6
25	74.3	67.0	69.0	69.3	- -	68.7	67.3	64.0	61.3	65.3	63.0		67.2
26	75.3	69.7	60.3	65.2	- -	59.0	63.3	55.3	65.3	65.3	65.3		66.5
27	71.7	65.7	62.3	70.2	- -	60.7	56.3	59.3	64.3	61.3	63.0		66.5
28	72.3	58.7	59.0	71.7	- -	59.7	55.3	62.3	59.3	64.0	56.7		65.4
29	71.7	66.0	62.7	68.7	- -	59.0	54.7	60.3	63.3	67.7	55.3		66.1
30	72.3	67.0	64.7	58.8	- -	63.0	56.7	63.7	61.3	67.0	55.7		66.4
31	67.3	64.7	69.7	64.3	- -	70.7	54.3	65.0	64.0	68.3	61.7		66.3
Mean,	68.55	66.92	65.89	66.92	- -	67.99	64.63	66.13	63.84	66.93	65.32		

TABLE I.—*Continued.* Mean Temperature in September.

Day of month.	1808.	1809.	1810.	1811.	1812.	1813.	1814.	1815.	1816.	1817.	1818.	1819.	18 0.	1821.
1	69°.9	63°.0	57°.7	71°.8	54°.2	64°.8	66°.3	58°.0	55°.7	61°.0	69°.3	66°.3	68°.2	67°.7
2	62.1	66.8	62.6	71.2	62.8	70.7	70.7	61.5	63.0	68.2	69.0	77.0	69.2	69.5
3	67.8	63.5	66.3	65.7	71.8	72.3	72.8	64.7	69.8	67.0	68.0	80.7	61.0	71.8
4	70.0	63.5	71.7	76.0	60.3	67.8	70.3	50.7	64.5	69.2	65.0	75.3	68.8	64.3
5	72.8	61.3	62.3	76.5	59.8	68.3	52.8	55.2	61.1	73.0	69.0	67.6	69.7	66.0
6	68.6	[65.1]	68.0	65.7	62.0	59.2	49.1	56.0	68.0	67.2	67.3	66.7	73.3	60.0
7	66.4	[64.0]	61.2	58.7	59.5	61.2	59.5	[64.0]	63.7	62.5	67.0	65.8	68.7	59.3
8	60.7	[62.7]	60.3	55.0	60.5	59.5	64.5	[62.7]	63.3	60.3	62.0	69.0	70.0	69.3
9	55.2	[64.0]	54.7	56.8	63.3	63.7	58.5	[64.0]	67.7	64.7	54.7	71.3	73 5	70.5
10	60.8	[63.1]	62.3	56.7	61.3	71.5	56.4	[63.1]	58.7	[63.1]	62.5	61.5	81.2	66.5
11	65.3	[63.0]	67.0	62.3	55.3	70.5	66.3	[63.0]	53.0	[63.0]	64.2	63.7	74.3	59.7
12	57.8	[62.1]	63.8	67.2	66.5	74.7	57.5	[62.1]	54.5	[62.1]	56.8	64.7	68.2	55.0
13	56.2	[61.3]	68.3	65.7	68.3	75.7	51.5	[61.3]	52.5	[61.3]	57.3	66.0	65.0	60.2
14	(57.9)	[59.4]	67.3	68.0	59.3	68.3	47.0	[59.4]	55.0	[59.4]	59.1	61.2	65.3	59.5
15	59.7	52.7	56.7	58.3	59.8	62.3	61.0	[59.9]	58.5	[59.9]	60.0	56.3	63.2	53.8
16	59.5	49.2	53.0	64.7	55.8	62.2	57.5	[58.9]	63.2	[58.9]	61.0	54.8	62.8	57.5
17	67.1	52.8	52.5	58.7	56.0	62.7	62.7	[58.9]	61.2	[58.9]	59.0	56.5	64.8	58.2
18	70.0	52.8	54.3	66.5	61.8	63.5	63.0	[61.0]	58.7	[61.0]	62.3	61.0	67.3	59.5
19	71.2	59.3	59.7	66.3	51.7	62.0	52.8	[60.6]	59.5	[60.6]	62.7	62.8	50.0	54.3
20	63.3	66.0	62.3	52.0	49.8	64.9	56.5	[60.1]	60.8	[60.1]	63.7	53.1	47.3	50.3
21	46.8	61.5	66.7	50.3	46.7	60.3	62.4	[58.1]	52.7	[58.1]	57.0	49.5	45.0	62.2
22	44.3	57.3	60.2	48.9	48.0	52.0	58.7	[55.4]	55.8	[55.4]	59.3	53.2	45.7	54.3
23	51.5	62.3	53.3	56.3	48.7	57.6	62.2	[56.3]	58.6	[56.3]	55.7	59.7	43.8	55.8
24	57.0	59.7	53.7	50.7	49.8	58.8	55.6	[56.5]	59.7	[56.5]	56.3	65.2	49.8	51.7
25	57.3	55.3	57.2	62.8	53.3	57.9	57.2	[56.7]	49.5	[56.7]	67.2	61.7	55.8	62.3
26	49.2	49.7	61.1	55.0	50.7	55.3	48.2	[55.3]	43.2	[55.3]	53.8	59.6	43.7	42.5
27	41.6	48.8	59.3	46.1	54.7	50.0	48.7	[55.1]	41.7	60.3	53.3	57.7	49.7	43.7
28	41.6	52.0	63.7	58.3	45.0	49.9	44.1	[56.0]	48.7	54.7	51.7	65.3	53.5	53.0
29	53.2	47.7	65.7	60.0	45.2	47.8	53.2	[54.9]	54.3	48.2	52.3	65.0	58.5	61.7
30	60.5	58.0	72.7	46.3	54.2	52.8	55.7	[55.5]	61.7	40.8	55.8	62.1	63.7	63.3
Mean,	59.17	58.93	61.69	60.63	56.54	62.26	58.08	58.83	57.93	60.12	60.74	63.33	61.34	59.45

Day of month.	1822.	1823.	1824.	1825.	1826.	1827.	1828.	1829.	1830.	1831.	1832.	1833.	1834.	1835.
1	66.4	(74.0)	- -	58.6	56.0	63.0	74.3	68.0	61.3	68.3	58.0	63.7	64.3	64.7
2	68.7	(70.9)	- -	59.3	57.0	65.7	76.0	70.0	59.3	67.3	65.3	60.3	66.7	60.0
3	70.6	68.3	- -	52.0	67.7	65.7	70.3	59.0	58.0	69.3	65.0	55.0	71 3	65.7
4	69.6	69.6	- -	52.3	74.0	66.3	68.0	60.0	61.7	64.3	59.0	56.7	76.0	67.7
5	64.6	67.2	- -	59.7	73.3	55.7	69.3	61.0	58.7	63.0	65.3	67.3	75.3	73.3
6	60.5	72.1	- -	52.7	68.3	59.3	64.7	58.3	61.2	70.8	59.3	67.0	75.7	64.0
7	63.8	64.8	- -	56.3	62.0	55.3	64.3	63.7	57.7	68.0	60.9	67.3	67.8	65.7
8	66.5	57.0	- -	56.3	63.7	53.0	61.0	58.7	60.3	68.7	63.0	63.3	61.7	56.7
9	68.9	59.1	- -	60.0	57.0	66.7	56.3	56.3	66.0	75.8	61.0	63.0	70.0	63.7
10	72.6	59.6	- -	57.3	60.5	65.3	56.2	57.3	67.7	70.3	57.3	63.7	66.0	62.3
11	74.5	60.2	- -	47.3	72.0	63.3	55.7	57.7	68.3	70.3	63.3	61.7	55.0	64.3
12	66.7	59.8	- -	50.0	69.7	53.3	58.7	59.7	60.0	69.7	64.7	50.3	50.0	58.7
13	70.5	60.7	- -	67.3	65.0	51.7	59.0	60.3	62.5	63.0	54.0	51.0	51.7	60.7
14	64.3	60.3	- -	56.3	68.0	53.0	57.0	60.3	55.3	64.7	54.2	52.7	56.3	56.7
15	66.2	60.9	- -	58.3	62.0	60.0	57.7	59.7	56.0	60.0	61.3	59.7	64.0	54.3
16	62.6	57.3	- -	61.7	52.7	59.0	56.2	51.0	54.3	59.7	71.7	52.7	64.7	53.0
17	52.4	61.3	- -	58.3	53.0	60.0	56.7	54.0	52.5	57.7	60.7	55.0	67.0	51.3
18	51.8	70.3	- -	60.3	60.1	59.5	59.3	54.7	50.7	62.7	64.7	60.0	71.3	56.3
19	55.7	64.6	- -	60.3	63.3	54.7	59.7	54.3	53.0	59.7	71.2	73.0	70.3	57.0
20	63.8	56.3	- -	51.3	58.2	55.0	63.3	57.0	56.7	64.7	66.5	65.7	71.3	59.7
21	64.7	50.3	- -	55.0	54.3	58.0	58.2	64.0	54.3	58.7	61.7	62.0	66.5	63.3
22	47.8	42.4	- -	56.7	60.7	59.7	59.0	50.7	60.0	55.7	62.7	57.7	68.3	59.7
23	45.7	44.1	- -	58.0	52.3	65.0	64.0	55.3	61.0	64.0	58.8	55.0	63.0	56.7
24	43.0	49.7	- -	60.0	48.1	62.8	65.0	51.3	63.0	68.0	53.0	58.3	61.3	54.3
25	45.0	53.6	- -	51.3	48.0	61.7	66.5	52.7	62.0	63.3	58.5	62.3	61.0	55.7
26	67.0	53.9	- -	40.3	53.3	62.0	60.7	54.7	62.0	63.7	57.7	64.0	60.5	53.0
27	68.1	55.1	- -	47.3	61.7	56.2	57.0	49.7	62.7	66.0	60.3	61.0	66.0	54.7
28	69.0	52.7	- -	43.0	66.7	54.3	57.3	58.7	65.5	64.3	60.8	56.3	56.3	56.3
29	67.1	40.3	- -	43.7	63.5	53.3	56.0	52.7	60.7	57.3	64.5	61.0	45.3	58.0
30	69.0	49.0	- -	44.7	54.3	60.7	55.7	54.7	56.3	56.3	68.3	64.2	47.7	49.0
Mean,	62.91	58.85	- -	54.52	60.88	59.31	61.43	57.67	59.63	64.50	61.76	60.36	63.75	59.21

Table I.—*Continued.* Mean Temperature in September (continued).

Day of month.	1836.	1837.	1838.	1839.	1840.	1841.	1842.	1843.	1844.	1845.	1846.	1847.	1848.
1	67°.7	65°.7	65°.5	64°.3	75°.5	63°.3	68°.7	58°.0	65°.7	59°.7	73°.0	67°.7	65°.3
2	65.0	63.7	65.3	74.7	70.3	68.0	76.0	67.0	64.3	64.7	71.3	66.8	66.3
3	61.3	70.3	60.5	75.7	72.0	71.3	74.0	74.0	67.3	70.2	66.7	67.3	66.0
4	69.7	67.3	64.0	74.5	71.7	70.3	63.3	76.0	62.2	66.7	71.0	76.3	68.0
5	60.0	71.3	75.5	72.8	70.0	63.7	62.7	67.7	57.0	64.0	75.3	70.8	67.7
6	49.0	69.3	67.7	73.0	68.0	65.7	59.7	65.7	63.3	62.7	80.0	70.2	66.7
7	47.0	70.0	78.3	71.7	71.0	71.3	60.3	63.0	66.8	61.3	72.7	60.3	60.5
8	55.7	69.3	68.0	71.2	72.5	63.3	59.7	60.3	65.7	55.3	74.3	60.8	61.0
9	57.0	74.0	67.0	70.9	73.7	65.0	59.3	55.7	64.3	54.0	58.0	68.5	61.7
10	51.2	73.3	73.3	76.9	76.7	65.3	57.3	52.0	70.3	55.7	55.0	58.0	62.0
11	45.0	75.3	69.3	65.2	67.2	64.3	56.7	52.3	61.3	55.7	61.3	56.0	63.2
12	62.3	67.0	65.8	66.0	65.2	68.3	64.0	49.0	63.3	57.7	73.5	62.0	56.5
13	60.7	62.0	63.8	65.3	63.2	64.7	59.7	51.7	64.0	55.0	73.0	61.3	51.0
14	69.7	65.0	65.2	67.0	64.3	66.7	55.0	52.0	62.3	53.0	68.0	62.3	53.8
15	72.0	66.7	72.2	63.3	68.3	63.3	57.7	57.7	68.7	61.2	60.5	59.3	60.7
16	58.7	66.7	65.4	72.1	70.0	60.0	58.0	66.7	69.7	53.3	56.0	55.7	51.0
17	60.7	67.0	63.8	76.7	69.7	61.7	58.7	63.7	62.0	52.0	57.0	52.8	48.7
18	65.3	67.3	66.7	71.0	72.3	65.3	57.7	71.3	64.3	63.3	60.7	56.3	48.3
19	70.7	68.3	67.3	73.0	71.3	59.7	61.0	67.3	66.7	61.7	60.5	56.0	52.3
20	81.0	65.7	67.1	68.7	65.7	62.3	56.7	57.0	68.0	57.5	63.3	54.3	57.3
21	62.3	55.3	65.0	70.2	64.8	66.7	55.7	73.7	67.3	55.0	59.5	55.3	58.7
22	61.3	63.3	71.3	70.3	55.7	61.3	48.3	54.3	53.0	49.0	53.2	56.8	45.3
23	64.3	62.3	72.2	71.0	60.7	68.7	49.0	56.0	50.3	48.0	53.0	58.8	45.7
24	64.3	61.3	59.5	62.0	64.0	69.0	48.0	66.0	50.3	48.5	62.3	54.8	52.8
25	55.7	63.3	55.7	68.0	60.3	69.3	56.0	52.0	56.7	51.5	52.7	54.8	49.0
26	54.0	69.3	60.0	61.3	61.0	64.7	56.7	56.0	50.3	50.5	57.7	48.2	45.3
27	59.3	67.0	60.0	63.3	68.5	62.7	57.3	44.7	48.7	56.0	50.7	53.7	42.2
28	49.0	72.3	69.0	54.7	67.0	61.0	62.7	47.7	40.3	56.0	51.3	56.7	45.5
29	44.7	61.7	69.0	55.2	63.3	63.3	55.3	53.7	42.7	59.0	53.3	59.5	52.2
30	38.3	62.3	71.9	49.3	64.7	49.0	52.7	55.0	52.0	59.7	59.7	48.7	62.3
Means,	59.43	66.78	66.85	67.99	67.62	64.65	58.92	59.57	60.30	57.25	62.72	59.68	56.22

Day of month.	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.		Means.
1	65.7	69.7	64.7	67.0	- -	64.7	62.0	56.0	58.3	70.3	57.7		64.6
2	60.7	70.3	56.0	71.8	- -	63.7	65.3	57.7	64.3	68.3	59.3		
3	60.0	68.0	57.0	70.0	- -	67.0	62.0	60.0	71.0	66.7	55.3		
4	57.0	67.7	62.0	66.8	- -	65.7	56 3	60.7	70.3	70.3	56.7		
5	65.0	65.0	62.3	70.2	- -	69.3	60.3	67.7	68.0	70.3	57.7		
6	69.0	69.0	70.3	66.2	- -	75.0	63.3	68.0	59.7	66.3	55.0		65.1
7	67.3	70.2	71.3	68.0	- -	74.3	61.7	62.7	51.3	66.0	54.0		64.0
8	56.3	59.3	71.3	71.7	- -	60.3	72.7	60.0	51.7	72.0	55.0		62.7
9	58.5	63.5	71.0	73.5	- -	63.3	77.3	66.3	60.3	75.3	55.7		64.0
10	58.5	61.0	66.3	63.3	- -	53.3	65.3	66.7	62.7	69.3	56.3		63.1
11	59.3	63.5	77.0	60.7	- -	52.0	68.0	70.0	73.3	68.7	61.0		63.0
12	60.3	53.2	72.0	65.2	- -	58.8	73.7	64.0	62.7	65.3	66.3		62.1
13	65.3	53.8	69.7	62.7	- -	56.3	68.3	63.0	62.7	58.0	63.3		61.3
14	61.3	53.2	50.7	54.5	- -	55.7	52.3	61.7	66.7	59.0	47.3		59.4
15	64.0	55.8	49.0	56.3	- -	60.7	52.3	59.0	66.3	58.0	40.7		59.9
16	57.2	56.8	54.0	55.5	- -	52.0	63.7	61.3	53.7	65.0	46.7		58.9
17	69.0	54.2	53.3	55.7	- -	53.7	69.7	52.0	55.0	64.3	52.3		58.9
18	58.0	54.7	58.0	58.3	- -	57.7	57.7	66.3	51.7	55.7	55.7		61.0
19	50.0	60.8	63.3	58.5	- -	64.0	45.3	[63.2]	49.0	56.0	56.7		60.6
20	51.8	61.3	64.7	64.0	- -	54.3	46.7	[62.7]	52.7	62.0	61.7		60.1
21	52.3	56.7	62.3	57.7	- -	42.3	53.3	[60.7]	47.0	71.0	47.0		58.1
22	56.0	59.7	47.7	62.2	- -	47.0	57.0	[58.0]	49.0	54.7	46.7		55.4
23	58.7	62.5	46.3	56.7	- -	51.3	53.3	[58.9]	50.7	49.3	48.0		56.3
24	55.3	62.2	47.7	54.3	- -	58.3	51.3	[57.1]	54.7	49.0	52.7		56.5
25	57.3	54.8	41.0	50.7	- -	58.3	54.7	[59.3]	56.0	50.3	59.0		56.7
26	63.7	47.2	49.3	54.7	- -	61.7	55.0	[57.9]	56.7	48.7	60.0		55.3
27	52.5	47.0	55.7	47.0	- -	64.0	60.0	[57.7]	56.0	51.0	56.3		55.1
28	57.5	59.7	61.7	47.8	- -	64.7	50.7	[58.6]	61.0	50.7	60.3		56.0
29	59.2	47.7	63.7	48.7	- -	49.7	49.7	52.7	43.3	52.7	53.7		54.9
30	50.0	50.7	64.0	42.8	- -	44.3	48.7	57.3	42.0	64.3	51.7		55.5
Mean,	59.22	59.30	60.11	60.08	- -	58.77	59.25	60.95	57.58	61.61	54.98		

TABLE I.—*Continued.* Mean Temperature in October.

Day of month.	1808.	1809.	1810.	1811.	1812.	1813.	1814.	1815.	1816.	1817.	1818.	1819.	1820.	1821.
1	58°.5	64°.7	72°.2	41°.4	63°.7	52°.7	56°.8	[55°.5]	60°.0	42°.0	54°.2	61°.8	50°.3	(63°.0)
2	61.7	60.0	56.1	46.0	61.5	53.7	63.7	[55.5]	58.8	47.8	56.0	54.7	56.0	(62.8)
3	49.6	62.3	52.8	56.5	64.2	52.9	59.3	[55.9]	55.8	46.8	55.5	49.3	59.5	(62.5)
4	46.3	65.5	63.7	52.3	62.0	54.3	60.2	[54.9]	44.3	53.7	58.0	46.1	64.5	62.2
5	50.1	65.7	66.0	53.8	56.0	47.3	54.5	49.3	44.0	54.7	54.3	52.6	60.5	(63.1)
6	48.0	69.5	62.7	50.8	47.3	40.8	49.8	57.5	43.3	51.0	56.0	63.8	60.7	64.0
7	44.7	60.9	56.1	52.7	46.2	47.7	43.8	48.3	40.0	59.3	49.2	67.3	51.3	(62.0)
8	43.5	50.8	52.2	58.9	51.7	51.5	39.3	55.2	49.3	52.2	54.0	63.0	46.3	(60.0)
9	45.0	64.7	51.8	68.7	45.8	55.7	39.0	55.2	53.8	46.7	58.8	59.3	47.0	(58.0)
10	53.1	72.3	47.7	51.7	45.3	49.5	53.7	50.3	46.5	42.8	57.8	57.5	46.3	56.0
11	57.6	59.3	42.2	60.7	42.3	47.3	51.7	57.8	48.8	41.2	62.2	50.5	49.2	40.7
12	57.3	45.2	38.7	59.2	43.7	42.8	58.4	59.5	46.3	50.3	62.3	44.8	51.0	44.7
13	56.3	53.5	42.7	56.7	36.2	43.2	58.6	51.3	46.0	58.2	55.3	43.1	45.3	59.5
14	44.1	60.2	54.2	57.8	39.5	43.7	52.3	49.7	54.3	48.3	45.7	38.3	52.2	45.2
15	44.8	57.2	52.3	44.5	53.2	43.0	63.0	44.3	57.8	48.1	55.6	53.2	53.5	44.0
16	41.2	46.0	54.7	52.3	49.2	52.5	42.6	41.9	60.0	41.4	55.2	56.0	55.5	48.2
17	55.8	50.2	47.3	47.7	47.0	55.8	40.2	52.0	55.2	37.2	51.8	55.0	48.7	41.7
18	40.8	43.2	37.7	43.7	41.7	56.0	46.0	49.5	42.0	42.3	52.0	41.0	43.1	33.0
19	30.5	46.7	39.3	59.6	44.8	44.8	50.4	46.5	51.2	36.0	48.3	40.0	51.2	31.5
20	43.6	43.3	46.0	64.0	36.7	36.2	48.0	45.8	47.3	39.7	53.0	49.8	52.3	36.8
21	44.8	41.2	50.2	36.3	53.8	35.3	44.2	48.7	50.7	35.8	59.7	46.7	48.0	48.0
22	39.2	45.8	55.5	42.5	40.8	36.7	46.3	48.5	54.8	50.8	42.3	44.8	39.8	40.0
23	48.3	48.7	33.7	58.6	40.8	42.0	40.3	45.8	55.0	55.3	34.3	38.1	42.7	33.0
24	44.3	51.2	34.0	37.7	44.2	47.2	39.7	41.0	49.1	54.5	42.2	49.8	46.0	33.3
25	37.6	44.2	31.0	31.9	44.7	55.7	39.3	44.0	46.8	41.0	52.5	46.2	40.3	31.2
26	48.2	44.0	44.7	37.0	53.0	58.8	48.7	39.7	55.3	32.7	52.9	40.7	39.0	39.5
27	44.0	44.5	46.8	37.5	46.2	61.0	55.5	41.0	46.2	42.7	45.2	40.5	31.8	51.5
28	31.3	46.3	48.0	44.9	42.2	55.8	56.3	31.3	43.3	42.0	41.7	39.9	32.0	50.3
29	34.2	48.8	52.8	45.3	48.7	56.0	51.2	35.8	47.3	30.0	36.9	45.4	35.8	45.2
30	29.5	56.0	37.5	35.5	43.3	51.0	48.9	42.7	46.2	32.2	39.0	47.0	34.3	48.2
31	29.2	45.4	28.7	47.0	53.0	42.5	46.3	32.5	46.2	38.0	42.8	36.3	38.8	35.8
Mean,	45.16	53.46	48.35	49.46	48.22	48.88	49.94	47.97	49.97	44.99	51.12	49.10	47.51	48.22

Day of month.	1822.	1823.	1824.	1825.	1826.	1827.	1828.	1829.	1830.	1831.	1832.	1833.	1834.	1835.
1	46.5	45.0	65.3	60.7	56.4	63.0	56.0	47.7	59 3	50.7	69.3	52.7	59.0	52.3
2	50.0	(53.1)	67.0	64.0	54.1	60.0	39.3	50.3	59.0	64.0	59.3	61.2	66.3	57.0
3	47.3	61.2	69.0	66.0	60.0	60.3	58.7	55.3	56.0	70.0	59.0	59.0	61.0	54.3
4	45.7	58.3	69.7	73.0	48.7	59.3	56.3	59.0	46.0	58.3	59.0	51.0	58.8	51.3
5	38.7	62.8	63.7	71.7	53.7	61.0	58.0	47.0	53.7	55.0	55.5	48.3	53.0	55.7
6	55.8	47.7	69.0	71.0	61.7	53.3	54.7	50.3	54.3	55.5	56.5	54.7	49.7	63.0
7	54.7	41.5	63.0	75.5	59.7	45.0	51.7	51.0	42.0	53.0	54.7	61.3	51.3	57.3
8	57.7	47.3	59.7	49.7	48.3	48.0	59.0	51.7	42.3	53.7	58.0	61.7	60.3	53.0
9	59.8	57.0	59.3	48.0	43.0	52.3	60.3	51.7	47.0	62.0	54.7	58.7	59.0	49.0
10	52.8	48.7	[52.0]	55.8	41.0	62.0	54.0	49.7	42.7	56.7	58.8	56.7	46.7	46.0
11	59.5	39.7	[50.9]	63.2	38.7	48.3	57.0	54.0	54.5	45.3	63.3	42.7	42.5	49.0
12	56.8	34.3	[50.5]	43.2	51.0	49.7	48.7	48.0	56.0	44.3	55 7	43.7	55.7	42.3
13	58.1	42.5	[51.6]	50.8	53.3	54.7	46.7	49.7	55.0	46.0	56.0	59.7	61.3	48.7
14	55.7	39.2	[49.7]	52.7	49.7	48.0	43.7	54.0	60.3	51.3	52.7	48.0	41.3	54.3
15	39.6	37.3	[49.1]	56.3	42.8	52.7	36.3	57.3	61.0	50.7	43.0	49.7	38.7	54.3
16	44.3	47.7	[48.3]	51.0	51.0	43.3	34.0	52.0	57.7	50.7	49.2	50.7	39.2	54.7
17	48.2	57.8	[49.5]	38.7	55.3	36.0	37.3	54.3	50.2	66.0	60.0	50.0	53.3	54.0
18	43.6	39.7	[47.9]	39.3	46.0	45.3	45.2	54.0	47.7	58.3	64.3	55.7	58.2	57.3
19	55.2	38.2	[48.3]	37.7	50.3	46.7	35.0	54.0	51.3	59.3	52.3	44.3	63.3	63.7
20	65.2	33.7	[47.4]	(39.7)	48.7	52.3	33.7	49.7	52.5	52.7	58.3	42.7	48.0	60.7
21	53.1	49.3	[46.1]	41.7	48.3	48.3	43.3	35.7	53.7	47.7	56.7	44.3	43.0	57.7
22	46.7	46.7	[45.8]	39.0	48.0	46.7	51.0	36.7	51.7	58.3	45.3	49.7	42.0	59.7
23	47.3	40.3	[45.5]	31.3	43.3	58.3	48.7	39.7	50.7	62.7	55.0	47.8	45.8	51.7
24	34.7	44.7	[46.6]	31.3	36.3	53.3	47.3	55.3	48.0	65.4	47.3	51.3	39.7	54.0
25	37.1	36.7	[44.0]	30.3	27.8	43.7	47.7	57.0	41.7	56.3	50.0	54.0	34.7	40.0
26	38.3	37.0	[44.3]	39.7	42.7	35.0	46.3	64.3	38.3	51.0	38.5	49.5	35.4	45.3
27	33.3	42.0	[44.2]	40.0	30.0	35.7	41.0	49.7	49.2	57.3	44.7	48.7	36.7	46.0
28	32.7	44.5	[43.9]	57.0	41.0	36.7	51.3	40.3	51.0	46.0	44.3	45.0	40.5	55.7
29	35.6	43.7	[45.1]	47.7	58.0	46.7	44.3	38.7	46.7	45.3	46.7	41.8	40.0	56.3
30	41.4	39.5	[44.4]	35.7	46.0	53.3	36.7	47.3	54.3	(46.1)	47.2	37.0	36.0	56.7
31	41.7	35.0	[42.3]	39.7	36.0	33.0	46.7	42.7	57.0	46.9	47.5	34.7	37.0	46.7
Mean,	47.64	44.89	52.36	49.71	47.44	49.42	48.07	49.94	51.96	54.40	53.61	50.19	48.30	53.15

TABLE I.—*Continued.* Mean Temperature in October (continued).

Day of month.	1836.	1837.	1838.	1839.	1840.	1841.	1842.	1843.	1844.	1845.	1846.	1847.	1848.
1	45°.7	66°.3	73°.2	55°.0	56°.7	49°.3	54°.0	50°.3	43°.3	63°.0	55°.2	48°.0	66°.0
2	60.3	68.0	66.8	56.1	60.3	49.3	59.0	56.0	41.3	57.3	44.8	50.8	41.7
3	53.0	54.7	64.7	62.1	69.0	49.0	52.3	52.7	52.5	57.0	48.0	51.9	44.0
4	48.7	46.7	55.8	58.5	58.5	43.7	51.0	47.3	56.3	57.7	47.5	52.3	48.3
5	41.5	52.3	66.3	48.9	61.0	50.7	47.3	47.0	54.0	60.3	49.7	57.0	55.7
6	49.0	57.7	65.5	48.4	66.3	51.7	48.7	49.7	50.3	51.0	57.7	59.5	52.3
7	50.3	53.3	57.3	57.0	62.3	52.0	50.0	52.3	43.3	49.0	53.3	55.0	49.7
8	45.0	55.7	49.7	64.7	57.8	51.3	55.0	49.7	46.7	55.7	63.7	53.7	48.3
9	44.7	60.0	51.3	64.5	61.0	50.3	63.0	55.7	56.3	54.7	59.5	53.0	42.5
10	39.3	62.0	57.3	65.3	51.0	51.3	51.3	53.7	53.3	56.7	45.0	45.7	52.5
11	37.7	67.7	64.0	57.7	57.3	50.7	51.7	50.7	46.8	57.3	42.3	43.0	40.3
12	42.0	62.7	57.3	55.5	61.3	56.0	54.0	47.7	42.3	62.0	47.7	41.3	46.5
13	45.7	49.7	54.3	63.7	52.7	48.7	49.3	52.3	42.0	55.7	57.3	52.7	42.0
14	52.3	48.7	52.7	58.3	63.0	46.0	48.3	46.3	50.3	49.0	58.0	42.3	39.8
15	60.7	54.7	50.6	59.8	56.0	46.3	54.3	41.7	49.0	49.0	49.3	42.0	47.7
16	38.3	54.0	52.3	59.3	49.3	46.0	52.0	49.7	51.2	37.2	51.7	39.2	47.8
17	49.3	52.7	50.3	59.7	47.2	44.7	55.3	46.7	45.0	40.0	53.0	51.7	59.3
18	38.7	64.3	47.3	64.7	48.3	45.8	51.0	43.3	55.0	43.3	38.1	51.2	51.7
19	44.0	64.3	46.3	62.0	58.7	45.7	44.3	44.0	55.0	51.7	38.3	48.0	51.3
20	55.3	56.7	57.3	45.9	66.5	44.0	42.7	52.4	42.3	40.7	37.7	42.5	49.7
21	39.0	51.3	55.7	40.3	59.0	46.0	40.0	52.7	39.0	34.5	44.3	43.0	43.3
22	40.7	52.3	53.3	46.0	59.8	43.3	49.7	37.0	45.3	29.0	36.7	42.0	41.5
23	41.3	57.3	50.0	50.2	56.5	41.2	46.3	36.7	43.7	34.3	32.0	42.7	43.0
24	51.3	65.3	52.0	60.0	50.3	48.0	46.3	42.7	44.7	41.0	36.0	57.7	42.0
25	32.3	58.7	51.0	57.2	47.3	38.3	59.0	42.3	51.7	37.3	39.0	36.7	45.2
26	35.3	64.3	50.7	55.3	43.0	37.3	54.7	38.7	57.0	40.3	33.3	33.7	42.0
27	34.0	63.0	51.7	61.0	40.3	39.0	42.7	35.3	50.0	44.7	52.7	25.3	42.3
28	32.7	51.3	46.0	62.3	49.0	44.7	43.7	42.7	31.0	50.7	42.3	29.7	42.0
29	42.3	45.0	46.2	58.3	58.5	52.3	46.7	37.3	39.0	53.0	37.3	40.3	51.1
30	35.0	42.3	41.5	45.7	66.3	58.0	38.7	40.7	43.3	52.5	31.3	40.0	54.3
31	29.3	44.3	37.3	48.2	59.0	55.3	40.7	34.3	40.3	42.0	34.0	44.0	50.3
Mean,	43.68	56.35	54.06	56.50	56.57	47.72	49.77	46.10	47.14	48.63	45.70	45.77	47.57

Day of month.	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.		Means.
1	44.3	50.5	53.3	48.0	- -	49.7	57.0	57.0	43.0	62.7	58.0		55.5
2	45.0	51.7	51.7	56.3	- -	55.0	59.7	50.3	46.7	51.0	54.7		55.5
3	47.3	49.7	55.6	48.2	- -	55.3	58.7	53.0	48.7	54.0	48.7		55.9
4	48.0	53.2	52.7	55.3	- -	59.0	58.7	50.0	46.7	62.7	60.0		54.9
5	45.0	50.3	51.0	54.2	- -	52.0	59.7	46.7	46.0	58.7	55.7		
6	46.7	55.3	53.3	46.7	- -	47.3	58.7	62.0	53.0	52.3	52.7		
7	39.8	43.7	55.7	54.0	- -	53.7	56.0	56.0	52.7	51.0	46.3		
8	45.5	38.0	60.0	50.3	- -	57.7	47.7	51.0	45.7	46.7	38.7		
9	44.2	53.5	61.0	51.2	- -	57.3	45.3	59.0	49.0	46.7	38.7		
10	47.7	51.7	60.0	51.3	- -	56.7	47.3	67.0	45.7	47.3	36.3		52.0
11	47.8	53.2	60.0	54.8	- -	49.3	48.0	62.3	44.0	46.3	42.0		50.9
12	47.8	57.8	60.3	54.7	- -	54.3	52.3	48.0	47.7	47.7	45.0		50.5
13	48.3	47.3	63.7	52.0	- -	57.0	53.0	52.0	54.3	49.0	50.0		51.6
14	39.0	45.0	60.0	46.0	- -	53.3	49.7	37.7	56.3	55.0	49.7		49.7
15	43.5	50.5	53.0	35.3	- -	42.7	48.7	37.0	53.7	53.3	40.7		49.1
16	50.3	53.3	51.3	39.3	- -	43.7	49.3	40.7	55.7	46.0	36.0		48.3
17	56.7	53.7	46.0	37.0	- -	41.0	47.0	42.7	51.0	49.0	48.7		49.5
18	53.5	53.2	48.0	44.2	- -	43.7	45.3	[49.0]	47.0	51.0	52.0		47.9
19	44.3	61.0	49.0	49.5	- -	42.3	45.3	[49.5]	51.7	58.0	38.7		48.3
20	42.5	50.0	52.0	46.0	- -	37.0	51.7	[48.5]	41.3	56.0	30.3		47.4
21	42.7	45.7	52.3	44.0	- -	42.0	57.3	[47.3]	40.3	48.7	31.0		46.1
22	48.7	48.3	57.3	48.5	- -	43.3	56.7	[46.9]	30.0	49.0	38.0		45.8
23	54.3	52.7	45.7	45.7	- -	42.3	48.7	[46.7]	36.3	52.7	37.0		45.5
24	45.7	59.0	43.7	56.0	- -	42.7	47.3	[47.7]	44.0	50.7	33.7		46.6
25	42.8	60.0	47.7	53.3	- -	44.7	47.3	[45.2]	47.7	40.0	31.7		44.0
26	38.3	59.0	48.0	37.7	- -	49.7	39.0	[45.4]	51.0	41.3	28.0		44.3
27	49.7	54.7	39.7	38.3	- -	49.3	43.7	[45.4]	40.7	52.0	25.0		44.2
28	47.3	44.0	37.7	46.7	- -	50.7	42.3	[45.0]	32.0	50.3	38.7		43.9
29	55.2	38.5	44.0	52.0	- -	53.0	39.3	45.3	39.7	40.3	35.7		45.1
30	50.3	37.8	52.7	46.7	- -	59.3	43.7	46.7	40.7	51.3	32.7		44.4
31	38.9	41.3	49.7	44.0	- -	58.0	39.0	40.0	42.7	56.0	38.3		42.3
Mean,	46.49	50.44	52.13	47.97	- -	49.78	49.77	49.08	45.93	50.84	41.68		

April, 1867.

In addition to Table I we have the following observed maxima and minima for each day in January, February, and March, 1807, from which we can deduce the daily mean temperatures by adding to each mean in January —°.3, in February —°.2, and in March —°.2, corrections which follow from the Toronto and Montreal series.

TABLE II.—Observed Daily extreme Temperature, and deduced Daily Mean Values, for January, February, and March, 1807.

Day of month.	January.			February.			March.		
	Maximum.	Minimum.	Mean corr'd.	Maximum.	Minimum.	Mean corr'd.	Maximum.	Minimum.	Mean corr'd.
1	—8°.5	10°.3	0°.6	33°.5	46°.0	39°.5	18°.0	45°.0	31°.3
2	—2.2	22.0	9.6	14.5	33.5	23.8	16.0	33.0	24.3
3	9.7	18.7	13.9	19.0	24.0	21.3	6.0	33.0	19.3
4	0.2	14.5	7.0	6.0	22.0	13.8	15.5	33.5	24.3
5	15.7	34.5	24.8	—10.0	16.0	2.8	16.0	43.5	29.5
6	28.5	38.5	33.2	—6.0	20.5	7.0	11.0	39.0	24.8
7	30.8	36.2	33.2	3.0	16.0	9.3	16.0	38.0	26.8
8	22.5	28.0	24.9	—12.0	7.0	—2.7	20.0	45.0	32.3
9	—1.5	26.0	12.0	—18.5	21.5	1.3	33.0	36.0	34.3
10	20.0	30.0	24.7	2.0	30.0	15.8	33.0	49.0	40.8
11	25.7	34.5	29.8	1.0	33.0	16.8	30.0	45.0	37.3
12	16.5	22.3	19.1	22.0	42.0	31.8	22.5	45.0	33.5
13	—4.7	17.5	6.1	11.0	35.0	22.8	16.5	45.0	30.5
14	—7.3	10.5	1.3	34.0	43.0	38.3	24.0	47.0	35.3
15	—2.2	28.8	13.0	34.0	42.0	37.8	19.0	40.0	29.3
16	19.8	23.0	21.1	—5.0	19.0	6.8	4.5	47.0	25.5
17	—3.3	32.3	14.2	—11.0	16.0	2.3	21.0	45.0	32.8
18	20.5	32.3	26.1	11.5	33.0	22.0	20.0	47.0	33.5
19	5.5	16.5	10.7	33.0	44.0	38.3	17.0	45.0	30.8
20	—19.0	19.5	0.0	11.0	23.0	16.8	15.0	45.0	29.8
21	—5.5	23.5	8.7	9.0	15.5	12.0	20.0	46.0	32.8
22	—20.3	6.5	—7.2	11.0	34.0	22.3	23.0	44.0	33.3
23	—30.0	24.0	—3.3	13.8	39.0	26.2	17.0	33.0	24.8
24	11.0	26.5	18.5	15.8	40.0	27.7	7.5	40.0	23.5
25	7.8	23.5	15.4	27.5	38.0	32.5	15.0	34.0	24.3
26	—13.5	—4.5	—9.3	25.0	35.5	29.8	27.0	44.0	35.3
27	—29.7	9.5	—10.4	11.0	33.0	21.8	25.0	50.0	37.3
28	—1.5	35.0	16.5	5.0	34.0	19.3	26.0	50.0	37.8
29	33.5	42.0	37.5				20.0	46.0	32.8
30	16.2	35.8	25.7				24.0	50.0	36.8
31	3.5	35.0	19.0				20.0	30.0	24.8
Mean,			14.08			19.90			30.63

The above daily means have a somewhat smaller weight than the daily means of Table I.

Correction for Diurnal Inequality to the Values of Table I.

The correction to be applied to the observed mean temperature at 7 A. M., 1 and 6 P. M., in order to produce the mean temperature of the day as it would result from 24 or hourly observations, can be found with sufficient accuracy from the observed hourly variations at Toronto and Montreal as given by Prof. Guyot in the Smithsonian miscellaneous collection of tables. These two localities are subject very nearly to the same thermal influences as Brunswick; this is indicated by their geographical latitude and by the isotherms for summer and winter. Taking the mean correction, resulting from the two tables at Toronto (by Prof. Dove and Capt. Lefroy) and Montreal, we obtain the following values for each month, expressed in degrees of Fahr. scale.

TABLE OF CORRECTIONS FOR DIURNAL INEQUALITY.

	Correction.		Correction.		Correction.
January . .	—0°.67	May	—2°.79	September . .	—2°.19
February . .	—0.67	June . . .	—2.97	October . .	—1.50
March . . .	—1.35	July	—3.30	November . .	—0.75
April . . .	—1.90	August . . .	—2.99	December . .	—0.56
				Year	—1.79

Applying these corrections to the monthly mean values of Table I, and adding also the three values of Table II, we form the following Table III of resulting mean monthly temperatures.

TABLE III.—RESULTING MEAN MONTHLY TEMPERATURES OBSERVED AT BRUNSWICK, ME.

Year.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.
1807	14°.08	19°.90	30°.63	- - -	- - -	- - -	- - -	- - -	- - -	- - -	34°.71	27°.99
1808	19.15	26.41	32.76	43°.50	49°.86	61°.03	65°.05	61°.92	56°.98	43°.66	35.12	25.67
1809	16.75	15.46	27.69	41.08	52.00	60.48	59.63	63.76	56.74	51.96	30.37	29.73
1810	18.11	24.81	30.04	43.97	52.57	60.59	62.59	63.85	59.50	46.85	35.61	24.32
1811	20.24	23.27	35.77	43.76	51.90	60.60	65.42	64.98	58.44	47.96	37.68	26.55
1812	16.66	20.07	24.83	40.46	46.53	57.67	62.11	62.25	54.35	46.72	36.26	23.36
1813	17.17	22.83	26.10	42.00	48.37	59.56	64.27	65.86	60.07	47.38	38.15	26.44
1814	19.36	26.12	29.11	42.77	52.71	59.71	64.06	62.07	55.89	48.44	37.81	21.47
1815	18.17	19.47	31.44	40.25	49.57	61.29	68.14	62.73	56.64	46.47	37.98	22.24
1816	19.40	22.76	26.38	40.66	48.75	55.87	61.94	63.15	55.74	48.47	38.80	23.19
1817	15.51	15.53	29.15	40.26	49.71	57.03	64.70	63.65	57.93	43.49	36.59	26.15
1818	19.31	16.18	33.62	41.28	55.44	65.61	68.32	66.27	58.55	49.62	41.04	22.06
1819	25.22	28.89	26.41	40.47	51.38	64.54	68.62	67.56	61.14	47.60	37.37	26.28
1820	16.45	27.01	30.30	41.88	52.14	63.34	73.53	67.62	59.15	46.01	33.13	17.81
1821	15.11	27.18	29.63	39.86	53.94	65.83	65.19	68.06	57.26	46.72	36.31	21.86
1822	14.08	20.57	33.03	38.59	54.39	61.71	66.83	63.92	60.72	46.14	36.17	21.74
1823	17.91	14.72	27.30	38.72	47.78	59.25	67.99	66.71	56.66	43.39	27.69	24.19
1824	19.45	21.25	30.78	42.26	50.67	61.03	68.81	64.83	- - -	50.86	30.60	27.51
1825	18.36	22.02	36.07	49.45	56.57	66.82	73.12	64.54	52.33	48.21	34.93	26.35
1826	21.40	23.51	32.02	40.37	58.12	66.33	72.20	68.31	58.69	45.94	35.16	23.52
1827	17.45	22.43	32.74	46.62	52.02	62.37	69.61	65.61	57.12	47.92	29.97	22.61
1828	24.16	31.75	34.84	41.18	54.70	65.81	69.53	68.22	59.24	46.57	37.45	29.84
1829	18.94	19.20	32.24	44.99	59.80	64.79	68.32	68.53	55.48	48.44	38.52	35.02
1830	18.89	21.51	35.13	51.19	56.80	63.24	68.96	67.62	57.44	50.46	45 03	33.76
1831	21.61	25.58	39.57	46.56	56.91	69.08	70.76	70.09	62.31	52.90	41.05	15.52
1832	25.56	23.92	33.59	40.54	51.42	60.50	64.05	66.59	59.57	52.11	38.83	25.44
1833	25.37	21.60	31.13	46.24	56.72	59.78	68.56	64.44	58.17	48.69	37.26	29.36
1834	18.96	29.51	33.49	46.03	51.05	61.35	70.37	65.69	61.56	46.80	37.08	22.44
1835	24.27	21.25	30.35	42.07	53.12	62.39	68.80	65.78	57.02	51.65	36.69	19.62
1836	23.57	17.76	29.82	40.62	51.72	61.89	67.62	63.46	57.24	42.18	35.42	24.71
1837	18.25	31.35	38.23	49.63	56.78	68.21	71.27	68.28	64.59	54.83	41.21	32.59
1838	35.22	23.75	40.92	45.29	58.82	71.78	76.15	72.07	64.66	52.56	39.19	27.93
1839	29.06	32.06	38.05	50.06	57.47	65.22	73.39	71.77	65.80	55.00	42.50	36.98
1840	21.91	36.92	39.09	51.12	61.01	68.58	74.77	73.96	65.43	55.07	42.71	28.59
1841	28.97	25.18	34.23	41.33	52.13	65.53	67.56	68.82	62.46	46.22	37.23	29.28
1842	24.86	30.17	35.83	43.35	52.79	60.87	69.42	66.91	56.73	48.27	36.83	24.03
1843	30.17	18.97	29.15	44.04	53.86	61.20	63.89	66.53	57.38	44.60	31.72	24.89
1844	11.72	21.40	30.04	45.56	52.16	60.80	63.46	63.37	58.11	45.64	33.12	22.44
1845	21.40	21.92	30.04	39.20	50.88	62.17	65.33	66.09	55.06	47.13	40.14	19.86
1846	20.85	15.67	32.94	44.12	51.73	61.25	67.12	66.56	60.53	44.20	40.38	22.81
1847	19.71	21.26	25.73	36.32	51.58	60.21	68.70	64.78	57.49	44.27	38.23	28.69
1848	23.91	24.39	28.29	42.16	53.21	60.09	64.05	65.14	54.03	46.07	34.22	28.64
1849	16.01	14.79	32.42	38.52	50.30	63.30	67.00	65.56	57.03	44.99	42.56	23.50
1850	21.97	25.69	29.23	38.13	47.66	62.90	66.39	63.93	57.11	48.94	38.66	19.82
1851	17.81	24.50	31.39	41.28	50.60	58.03	65.32	62.90	57.92	50.63	32.84	17.98
1852	17.18	23.94	32.22	38.91	52.49	61.50	67.02	63.93	57.89	46.47	35.24	30.11
1853	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
1854	16.19	17.50	28.48	37.05	53.34	61.41	69.42	65.00	56.58	48.28	38.77	20.78
1855	- - -	18.40	28.98	40.12	50.26	60.75	68.18	61.64	57.06	48.27	35.65	25.97
1856	14.14	17.54	23.83	42.02	47.95	63.02	67.57	63.14	58.76	47.58	35.28	20.58
1857	13.08	32.66	33.26	44.30	53.83	60.68	65.22	60.85	55.39	44.43	34.98	24.72
1858	25.45	20.65	31.12	43.02	51.05	63.75	65.32	63.94	59.42	49 34	33.92	17.99
1859	16.33	21.27	30.81	37.35	50.63	55.80	63.64	62.33	52.79	40.18	34.85	17.77
Means,	20.10	22.93	31.54	42.56	52.69	62.29	67.44	65.60	58.28	47.78	36.71	24.86

TABLE IV CONTAINS THE MONTHLY AVERAGE VALUES OF THE OBSERVED TEMPERATURES AT THE HOURS 7 A. M., 1 P. M., AND 6 P. M.

Numbers within brackets do not comprise a full month.

Year.	January.			February.			March.			April.		
	7 A. M.	1 P. M.	6 P. M.	7 A. M.	1 P. M.	6 P. M.	7 A. M.	1 P. M.	6 P. M.	7 A. M.	1 P. M.	6 P. M.
1807	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1808	13°.9	24°.8	20°.8	21°.6	31°.9	27°.5	28°.8	38°.1	35°.1	39°.3	50°.9	45°.8
1809	10.1	23.4	18.7	9.4	22.0	17.5	[19.4	29.7	18.5]	37.7	49.8	41.7
1810	11.5	24.3	20.4	18.0	31.6	26.8	26.5	37.2	30.5	40.2	53.7	43.7
1811	15.1	25.9	21.5	18.1	29.4	24.2	32.5	42.6	36.4	39.7	53.2	43.9
1812	11.3	22.3	18.4	13.9	25.8	22.5	17.3	33.2	28.3	35.5	49.3	42.2
1813	11.7	22.3	19.6	16.2	29.5	24.9	19.1	33.7	29.5	35.8	50.9	44.9
1814	12.6	26.5	21.1	20.0	32.5	27.5	24.3	36.4	30.7	38.8	51.5	43.6
1815	12.4	24.1	19.9	10.6	27.3	22.5	28.3	37.3	32.7	38.0	48.0	40.4
1816	11.8	26.5	21.9	17.1	29.1	24.0	21.5	33.3	28.4	37.6	49.2	40.9
1817	9.2	21.5	17.9	7.1	22.4	18.8	24.5	37.0	30.0	37.9	48.3	40.3
1818	14.2	25.1	20.6	7.7	26.8	16.1	26.9	43.0	35.1	39.3	49.2	41.0
1819	17.6	34.1	26.0	21.1	38.1	29.4	22.2	36.0	25.1	37.5	48.0	41.6
1820	6.8	25.8	18.5	20.2	35.3	27.4	27.5	36.9	30.6	39.7	50.5	41.2
1821	[7.5	18.0	15.0]	23.2	31.8	28.6	27.0	36.1	29.5	38.6	47.0	39.7
1822	7.9	19.6	16.7	12.4	27.3	24.0	27.4	40.5	35.3	37.0	44.8	39.6
1823	11.9	24.0	19.8	7.7	22.2	16.3	21.3	34.9	29.8	35.3	46.6	40.0
1824	14.3	25.3	20.7	17.4	25.9	22.4	26.3	38.4	31.6	40.2	49.6	42.6
1825	13.6	22.4	21.0	16.0	27.4	24.6	33.2	40.6	38.5	44.4	57.7	51.9
1826	16.6	26.7	22.9	16.3	29.8	26.5	28.1	37.9	34.1	38.0	47.0	41.8
1827	12.0	22.8	19.5	16.8	28.4	24.1	26.9	41.0	34.5	42.7	53.4	49.4
1828	18.7	30.3	25.4	27.4	36.6	33.3	30.0	42.9	35.7	37.8	48.0	43.4
1829	14.5	24.5	19.8	11.8	26.0	21.7	27.9	39.1	33.7	43.3	53.2	44.1
1830	14.6	24.7	19.4	16.7	27.9	22.0	30.5	42.5	36.5	47.7	59.3	52.2
1831	17.0	26.3	23.5	20.3	31.9	26.5	35.9	46.9	39.9	45.0	53.2	47.2
1832	19.4	31.3	27.7	19.1	29.1	25.6	29.4	39.0	36.4	38.9	47.7	40.9
1833	22.1	29.6	26.4	14.8	27.3	24.9	27.0	36.8	33.5	44.4	53.9	46.3
1834	12.5	24.6	21.7	23.1	36.7	30.7	29.3	40.0	35.3	43.6	54.5	45.8
1835	18.0	30.3	26.7	15.6	26.9	23.2	24.6	37.4	33.1	40.0	48.8	43.1
1836	18.8	28.3	25.6	9.8	24.7	20.8	22.3	38.9	32.4	37.3	48.4	41.9
1837	11.3	24.3	21.2	26.5	36.9	32.7	32.3	46.9	39.5	45.9	56 7	52.0
1838	31.6	39.7	36.4	17.4	29.9	25.9	36.3	48.3	42.2	41.6	53.0	47.0
1839	24.4	34.7	30.1	26.9	37.7	33.6	34.5	44.1	39.6	45.3	58.4	52.1
1840	15.9	27.7	24.1	32.4	42.5	37.7	35.0	45.9	40.4	48.4	58.7	52.0
1841	25.0	33.8	30.2	17.5	32.0	28.1	27.7	43.4	35.7	40.0	47.9	41.7
1842	19.0	30.5	27.1	26.1	34.9	31.5	32.1	41.8	37.6	40.6	51.0	44.2
1843	24.9	36.1	31.5	13.1	24.7	21.1	23.6	36.4	31.5	41.6	52.4	43.8
1844	5.2	16.6	15.4	12.2	28.7	25.3	25.6	36.2	32.4	40.2	54.8	47.3
1845	17.0	26.2	23.0	15.6	27.7	24.4	24.8	37.4	31.9	37.4	46.2	39.7
1846	15.1	26.4	23.0	9.4	21.4	18.3	28.2	39.3	35.4	39.2	53.0	45.8
1847	14.5	25.2	21.4	14.5	27.0	24.3	20.1	32.3	28.8	33.0	43.6	37.9
1848	19.7	28.3	25.7	17.9	30.1	27.3	22.4	35.5	31.0	37.7	50.2	44.3
1849	9.9	21.9	18.3	7.4	21.7	17.4	27.8	39.0	34.2	35.0	46.4	39.9
1850	16.5	27.6	23.8	19.3	31.9	27.9	23.8	36.8	31.1	34.4	45.8	39.9
1851	11.7	23.7	19.9	18.5	31.1	25.9	26.8	38.5	32.9	38.4	48.0	43.2
1852	11.8	22.9	18.9	16.9	30.9	26.0	26.6	40.2	33.8	35.9	45.3	41.3
1853	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1854	10.4	22.1	18.0	11.2	23.2	20.1	23.3	36.2	29.9	33.6	45.6	37.6
1855	- -	- -	- -	13.3	23.6	20.3	22.7	37.2	31.0	35.9	49.2	41.0
1856	6.1	21.2	17.2	10.2	24.6	19.9	15.1	33.2	27.3	37.7	51.2	42.9
1857	6.4	18.7	16.2	27.5	38.4	34.1	26.9	42.7	34.2	40.7	53.1	44.8
1858	19.5	31.4	27.4	12.6	28.2	23.1	25.5	38.4	33.5	39.2	51.9	43.7
1859	11.1	21.9	18.0	14.2	29.1	22.5	25.4	40.0	32.8	33.5	45.8	38.4
Means,	14.5	25.9		16.7	29.4		26.5	38.8		39.3	50.5	

TABLE IV.—*Continued.*

Year.	May.			June.			July.			August.		
	7 A. M.	1 P. M.	6 P. M.	7 A. M.	1 P. M.	6 P. M.	7 A. M.	1 P. M.	6 P. M.	7 A. M.	1 P. M.	6 P. M.
1807	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1808	48°.5	58°.5	51°.0	58°.7	71°.4	61°.4	62°.6	76°.7	65°.7	57°.3	73°.4	63°.9
1809	49.2	62.3	52.9	56.6	70.2	63.6	54.0	72.4	62.0	58.3	74.9	67.1
1810	49.2	64.2	52.5	56.0	73.4	61.3	58.0	74.9	64.3	60.5	74.0	65.6
1811	49.2	62.0	52.6	56.7	72.6	61.3	63.6	76.3	66.6	62.0	75.8	66.2
1812	43.4	57.2	47.4	53.9	68.6	59.4	58.3	74.1	63.8	58.4	73.5	64.0
1813	44.0	60.2	49.2	54.9	72.2	60.3	60.7	76.7	65.2	58.6	80.4	67.4
1814	49.0	63.1	54.4	55.6	72.4	60.0	60.5	77.0	64.6	58.0	73.1	63.9
1815	48.2	59.3	49.6	61.1	72.1	59.6	67.9	79.0	67.5	62.0	72.4	62.4
1816	[46.3	57.5	48.0]	53.7	66.7	56.0	62.3	72.4	60.9	61.4	73.6	63.3
1817	47.7	61.0	49.0	55.5	66.6	57.6	65.6	75.2	63.3	62.4	73.2	64.4
1818	54.2	66.2	54.3	64.4	75.9	65.4	66.2	81.4	67.1	64.0	76.9	66.7
1819	49.3	59.4	53.8	63.8	75.2	63.5	70.0	77.6	68.2	67.6	76.4	67.6
1820	51.9	62.3	50.6	63.7	74.0	61.2	72.6	84.5	73.4	66.2	77.8	67.8
1821	52.1	62.4	55.7	64.5	73.8	68.1	65.6	74.3	65.7	66.5	77.0	69.5
1822	52.6	65.6	53.3	60.9	72.7	60.5	67.3	77.2	66.0	63.1	74.1	63.5
1823	45.5	57.2	49.1	57.5	69.6	59.6	68.6	76.3	69.0	65.5	77.0	66.6
1824	49.6	59.1	51.6	59.4	70.3	62.4	66.4	81.6	68.4	[63.2	75.2	66.0]
1825	53.6	63.5	60.9	65.9	73.4	70.1	71.3	82.1	76.0	62.6	72.8	67.2
1826	55.1	69.0	58.5	63.4	76.2	68 3	68.4	83.8	74.2	66.4	76.9	70.6
1827	48.9	62.0	53.6	59.8	70.4	65.9	68.8	78.9	71.0	63.0	74.7	68.1
1828	53.8	62.8	55.9	65.1	74.7	66.6	68.4	80.3	70.0	66.0	80.4	67.3
1829	57.3	71.6	58.8	65.3	73.2	64.8	67.6	79.6	67.9	67.5	79.0	68.0
1830	55.6	65.8	57.4	63.8	72.9	61.8	70.2	79.3	67.3	66.8	77.0	68.1
1831	55.9	66.2	57.0	68.6	79.4	68.2	71.4	81.1	69.6	68.0	80.5	70.6
1832	50.9	60.3	51.6	59.5	70.9	59.5	63.9	74.2	63.9	64.5	77.4	66.9
1833	55.3	66.5	56.7	60.3	68.2	59.8	68.1	79.2	68.4	62.6	74.4	65.3
1834	51.2	59.6	50.7	61.6	70.6	60.7	69.3	81.9	69.7	64.1	75.5	66.5
1835	50.8	63.2	53.8	62.3	71.0	62.9	68.0	79.2	69.3	63.6	76.3	66.5
1836	49.6	60.3	53.6	60.8	70.7	63.1	67.3	77.1	68.3	60.7	74.3	64.3
1837	53.9	66.1	58.7	66.3	78.3	69.0	70.3	81.5	72.0	66.1	78.4	69.3
1838	56.8	67.4	60.6	70.7	82.2	71.4	74.5	86.6	77.3	69.2	82.5	73.4
1839	55.9	67.2	57.5	64.3	74.6	65.7	72.5	83.4	74.2	69.7	82.5	72.2
1840	60.2	72.1	59.1	67.1	78.8	68.7	73.9	86.2	74.1	72.8	85.7	72.3
1841	51.0	61.4	52.4	64.6	75.5	65.4	67.1	78.3	67.2	66.0	80.9	68.5
1842	51.4	62.3	53.0	60.1	70.7	60.7	68.6	80.9	68.7	65.5	77.2	67.0
1843	52.4	63.5	54.1	59.9	70.6	62.0	63.1	74.1	64.3	63.6	77.6	67.3
1844	50.4	60.7	53.9	60.1	69.7	61.6	62.4	73.3	64.5	62.0	71.9	65.1
1845	48.8	60.5	51.7	60.4	71.7	63.3	64.1	74.9	66.9	63.5	75.9	67.8
1846	49.7	61.1	52.8	59.0	71.4	62.2	64.9	77.5	68.8	63.3	77.3	68.0
1847	48.1	61.2	53.9	58.7	69.5	61.4	66.4	79.7	69.8	62.0	74.3	67.1
1848	51.7	61.2	55.1	59.2	69.3	60.7	63.3	73.7	65.1	62.3	75.1	67.0
1849	47.1	60.9	51.2	61.1	74.0	63.7	65.2	78.0	67.6	63.7	74.7	67.2
1850	46.7	55.9	48.8	61.0	73.2	63.4	65.8	75.8	67.4	61.4	73.4	66.0
1851	46.9	60.9	52.4	56.5	66.9	59.5	64.8	74.4	66.6	59.5	73.8	64.4
1852	49.8	62.3	53.6	60.2	71.0	62.3	65.1	77.2	68.7	61.3	73.6	65.9
1853	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1854	50.6	64.3	53.5	59.7	72.0	61.4	68.0	80.0	70.2	60.6	76.3	67.1
1855	47.7	60.4	51.1	59.8	70.3	61.0	68.7	77.3	68.6	58.4	71.8	63.7
1856	46.4	57.2	48.7	61.5	73.9	62.6	66.4	78.2	68.1	61.4	72.8	64.1
1857	53.0	64.4	52.1	59.1	71.7	60.1	63.9	77.3	64.4	58.0	70.6	62.9
1858	48.3	63.0	50.2	62.7	75.2	62.3	64.1	76.0	65.7	61.6	74.5	64.7
1859	47.8	62.1	50.6	53.9	66.3	56.1	61.8	75.0	64.1	58.9	74.1	62.9
Means,	50.6	62.4		60.8	72.3		66.2	78.1		63.2	75.9	

TABLE IV.—*Continued.*

Year.	September.			October.			November.			December.		
	7 A. M.	1 P. M.	6 P. M.	7 A. M.	1 P. M.	6 P. M.	7 A. M.	1 P. M.	6 P. M.	7 A. M.	1 P. M.	6 P. M.
1807	- -	- -	- -	- -	- -	- -	31°.6	39° 7	35°.0	23°.6	33°.4	28°.6
1808	50°.4	68°.9	58°.2	38°.9	51°.0	45°.5	30.7	40.6	36.2	21.8	30.0	26.8
1809	[50.0	65.3	56.4]	46.0	61.8	52.6	26.5	35.7	31.1	27.1	33.2	30.5
1810	53.4	70.3	61.4	41.5	55.5	48.2	32.9	40.3	35.7	19.6	30.2	24.9
1811	52.9	69.6	59.4	43.0	55.6	49.6	34.2	43.1	37.9	22.8	31.3	27.2
1812	46.0	65.8	57.8	41.9	53.9	48.8	32.6	42.2	36.2	17.3	28.9	25.6
1813	53 9	71.0	61.9	43.5	54.1	48.9	33.6	43.3	39.8	22.6	31.4	27.2
1814	49.8	65.6	58.7	42.8	56.4	50.6	33.5	42.8	39.4	15.9	26.9	23.4
1815	- -	- -	- -	[41.4	52.6	46.4]	33.5	43.2	39.4	14.9	28.6	25.0
1816	50.6	66.3	56.8	43.0	56.6	50.3	34.4	44.4	40.0	16.0	29.6	25.6
1817	[56.4	69.6	59.0]	38.2	51.0	45.7	32.1	42.0	38.0	21.5	31.2	27.5
1818	54.8	68.3	59.1	43.3	58.5	51.5	37.6	46.4	41.5	15.2	29.6	23.1
1819	59.7	69.6	60.7	43.8	55.1	48.4	35.8	40.8	37.8	22.0	31.5	27.1
1820	56.9	68.5	58.6	41.6	54.3	46.7	29.2	38.9	33.6	12.4	23.5	19.2
1821	55.4	64.4	58.6	[37.4	49.9	45.6]	32.8	40.8	37.6	16.9	26.9	23.5
1822	58.3	68.7	61.7	40.7	53.5	48.9	31.6	40.8	38.3	16.8	27.5	22.7
1823	51.7	67.0	57.9	41.0	49.1	44.6	23.6	32.6	29.2	19.1	29.6	25.5
1824	- -	- -	- -	- -	- -	- -	26.7	35.0	32.4	23.3	31.4	29.4
1825	49.6	58.8	55.1	43.5	54.9	50.7	28.7	40.9	37.5	22.8	30.6	27.4
1826	56.2	66.5	60.0	42.4	53.0	46.9	29.0	41.2	37.5	19.1	28.2	25.0
1827	53.6	66.3	58.0	43.8	55.1	49.3	27.1	34.3	30.9	17.1	28.7	23.7
1828	57.4	68.7	58.2	42.3	55.8	46.1	33.3	43.0	38.2	24.4	36.3	30.5
1829	51.2	65.3	56.5	44.1	56.4	49.3	35.7	43.2	38.8	31.3	39.5	35.9
1830	53.6	67.8	57.5	46.0	59.0	50.9	41.7	49.7	46.1	30.5	37.9	34.4
1831	59.5	70.6	63.4	48.1	60.5	54.6	37.8	45.7	41.9	9.2	21.1	18.0
1832	56.0	69.0	60.2	47.6	59.5	53.8	34.6	44.9	39.3	21.7	29.5	26.7
1833	56.1	66.4	58.6	44.5	55.4	50.3	31.8	42.9	39.3	24.7	33.7	31.4
1834	57.9	70.9	62.6	43.3	53.3	48.4	31.6	43.3	38.6	18.7	27.3	23.1
1835	53.1	65.0	59.5	46.7	59.7	53.1	31.5	42.4	38 3	14.4	24.6	21.4
1836	53.4	66.9	58.0	37.7	50.7	42.8	31.5	41.5	35.5	20.3	29.8	25.8
1837	61.9	74.2	64.3	50.6	63.2	55.2	38.3	45.6	41.4	27.2	37.7	34.6
1838	60.0	74.0	66.5	48.9	60.1	53.2	34.5	44.7	40.6	22.3	33.6	29.6
1839	62.4	74.9	66.6	50.5	64.3	54.7	38.0	48.8	43.0	33.4	41.1	38.1
1840	61.9	74.6	66.4	50.2	62.8	56.7	38.8	47.4	44.2	23.9	33.6	29.9
1841	59.1	71.3	63.5	41.7	54.4	47.1	34.3	41.8	37.8	25.2	33.9	30.5
1842	53.9	64.4	58.5	42.6	56.5	50.2	32.9	42.1	37.7	19.4	29.1	25.2
1843	52.6	66.5	59.5	41.0	50.8	46.5	27.5	37.0	33.0	20.6	29.9	25.8
1844	52.6	68.0	60.3	40.6	52.9	47.9	29.1	38.3	34.2	17.0	27.1	24.9
1845	51.3	62.8	57.6	41.4	54.7	49.8	36.3	45.2	41.2	16.0	23.6	21.6
1846	56.0	71.1	61.1	40.3	51.5	45.3	35.7	46.3	41.5	18.8	26.8	24.4
1847	54.5	65.1	59.4	39.2	51.9	45.9	34.6	43.3	39.0	24.4	33.3	29.9
1848	50.7	62.4	55.6	40.7	53.3	48.7	29.2	40.2	35.5	25.3	32.7	29.6
1849	52.7	65.9	59.1	40.8	51.9	46.8	37.4	47.9	44.6	19.1	28.4	24.7
1850	53.6	65.1	59.3	44.2	56.1	51.0	33.7	44.3	40.2	13.9	25.2	22.1
1851	51.5	68.6	60.2	44.7	59.6	52.1	28.7	38.2	33.9	12.2	23.3	20.2
1852	54.4	65.5	60.4	43.0	53.4	47.6	31.0	40.5	36.0	26.0	35.3	30.8
1853	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1854	51.3	66.5	58.5	43.4	55.9	50.1	34.7	44.6	39.3	15.4	26.4	22.3
1855	51.6	66.7	59.5	44.7	55.8	48.9	30.8	41.4	37.0	20.8	31.1	27.7
1856	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1857	50.0	65.5	57.2	38.4	53.3	46.2	29.6	41.3	36.2	19.9	29.6	26.4
1858	55.1	69.0	60.8	43.5	59.2	50.0	28.4	40.5	35.1	12.1	23.3	20.3
1859	48.3	62.8	53.8	34.9	48.9	41.2	29.8	41.5	35.4	11.7	24.1	19.2
Means,	54.2	67.6		42.9	55.4		32.6	42.1		20.2	30.0	

Diurnal Range of Temperature.

The monthly mean value of the diurnal range may be obtained from the observed differences at 7 A. M. and at 1 P. M. by multiplication with a factor derived from the two Toronto series (reductions by Prof. Dove and Capt. Lefroy) and the Montreal series of hourly observations given in the meteorological and physical tables by Prof. Guyot, Smithsonian Miscellaneous Collection.

	Observed difference.	Factor.	Diurnal range.		Observed difference.	Factor.	Diurnal range.
January	11°.4	1.2	13°.7	July	11°.9	1.7	20°.2
February	12.7	1.2	15.2	August	12.7	1.5	19.1
March	12.3	1.3	16.0	September	13.4	1.3	17.4
April	11.2	1.4	15.7	October	12.5	1.2	15.0
May	11.8	1.5	17.7	November	9.5	1.2	11.4
June	11.5	1.6	18.4	December	9.8	1.2	11.8
Mean annual value of diurnal range			16°.0.				

The diurnal fluctuation reaches a maximum value in July, range 20°.2, and attains a minimum value in November, range 11°.4.[1]

Annual Fluctuation of the Temperature.

The monthly mean temperatures (from 51 years), given in Table III, furnish the following average values for the seasons and year; to these were added for comparison the corresponding values from a series extending over 22 years, observed at Fort Preble, near Portland (latitude 43° 39′, longitude 70° 13′), taken from the Army Meteorological Register, 1855. It will be seen that the agreement in the observed temperatures is quite close.

	Brunswick.	Fort Preble.
Mean temperature of spring	42°.26 Fahr.	42°.77 Fahr.
" " of summer	65.11	65.91
" " of autumn	47.59	48.16
" " of winter	22.63	24.70
" " of year	44.40	45.38

Principally on account of the generalization of results from various stations and the necessity of contracting the bulky material of meteorology into a more manageable form, the periodic fluctuations are now generally expressed in Bessel's circular function.[2] A strict application of these formulæ demands, for the annual fluctuation, months of equal length; the resulting mean temperatures of the calendar months require, therefore, a correction for inequality.

The length of the tropical year is 365.25 days, hence the length of an average month 30.44 days. For complete quadriennia, or for a long series of years, we have the following simple rule: Cast into February .56 of the last day of January, then include with February the first and .62 of the second of March, with March the first and .06 of the second of April, with April the first and .50 of the second of

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[1] These values for diurnal range perhaps are too large, and should be considered only as approximations; possibly the thermometer may have been influenced by radiation.

[2] See U. S. Coast Survey Report for 1862, Appendix No. 22.

May, with May .94 of the first of June, with June the first and .37 of the second of July, with July .81 of the first of August, with August .25 of the first of September, with September .69 of the first of October, with October .13 of the first of November, and with November .56 of the first of December.[1] It is generally easy to obtain a sufficiently approximated value for the mean temperature on the days for which it is required.

	Observed temperature.	Corr'n to average month.	Corrected temperature.		Observed temperature.	Corr'n to average month.	Corrected temperature.
January	20°.10	°.00	20°.10	July	67°.44	—°.04	67°.40
February	22.93	+.22	23.15	August	65.60	—.10	65.50
March	31.54	+.45	31.99	September	58.28	—.11	58.17
April	42.56	+.57	43.13	October	47.78	—.20	47.58
May	52.69	+.27	52.96	November	36.71	—.15	36.56
June	62.29	+.37	62.66	December	24.86	—.11	24.75

The corrections found for Brunswick appear to conform to average values, in quantity and sign, to what we might expect in our latitudes.

Using the monthly means in the last column we form the equation:—

$$T = +44°.50 + 23°.15\ sin\ (\theta + 248°\ 45') + 0°.88\ sin\ (2\theta + 258°\ 00') + 0.79\ sin\ (3\theta + 225\ \ ) + 0.11\ sin\ (4\theta + 333\ \ )$$

with a probable error of a single monthly representation of $\pm 0°.17$. The angle θ counts from January first at the rate of 30° a month (or 59′.2 a day). The numerical quantities in (T) indicate a normal character of the annual fluctuation.

COMPARISON OF OBSERVED AND COMPUTED TEMPERATURES.

	Observed.	Computed.	Difference		Observed.	Computed.	Difference
January	20°.10	19°.92	+°.18	July	67°.40	67°.52	—°.12
February	23.15	23.19	—.04	August	65.50	65.55	—.05
March	31.99	32.15	—.16	September	58.17	57.93	+.24
April	43.13	42.88	+.25	October	47.58	47.92	—.34
May	52.96	53.27	—.31	November	36.56	36.19	+.37
June	62.66	62.40	+.26	December	24.75	25.08	—.33

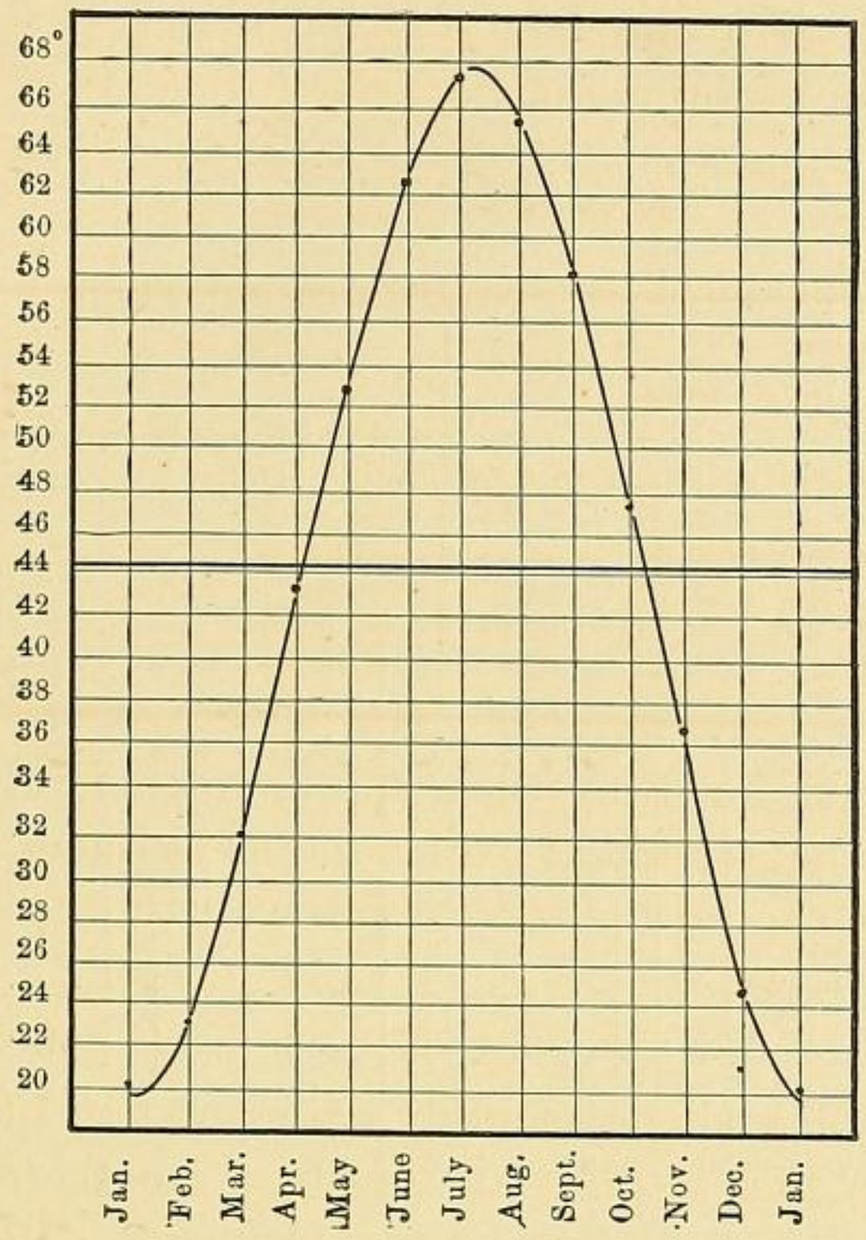
[1] The reader may be referred to an interesting paper on this subject, by De Forrest, in the May number of Silliman's Journal for 1866. See also his improved results in the September number of the same journal. If we have to deal with single years, either common or leap, the correction to refer the results to an average year and average month may be taken from the following table giving the number of days and fractions to be added or subtracted from each calendar month. The signification of the signs will be readily understood by examining that of January in connection with the rule given in the text.

	For common years.	For leap years.		For common years.	For leap years.
January	— .56	— .56 days.	July	+1.06	+ .06 days.
February	+1.87	+ .87	August	+ .50	— .50
March	+1.31	+ .31	September	+ .94	— .06
April	+1.75	+ .75	October	+ .38	— .62
May	+1.18	+ .18	November	+ .81	— .19
June	+1.62	+ .62	December	+ .25	— .75

It is, however, hardly worth while to apply corrections to results by a single year, the mean values from four years even are yet quite irregular. The numbers given in my reduction of Dr. I. I. Hayes' Arctic temperatures refer to the calendar year.

These results are laid down in the following diagram:—

Annual fluctuation of the temperature.



On the average, from 52 years of observations, the hottest day[1] falls on July 22d, or 31 days after the summer solstice, temperature + 67°.7; the coldest day falls on January 18th, or 28 days after the winter solstice, temperature + 19°.9 Fahr. The days when the average annual temperature is reached are April 20th and October 24th.

Table V contains the observed greatest and least monthly mean values from the whole series of observations, taken from Table I and corrected for diurnal fluctuation.

TABLE V.—OBSERVED EXTREMES MONTHLY MEANS.

	Least.	Greatest.	Range.		Least.	Greatest.	Range.
January	+11°.72	+35°.22	23°.50	July	+59°.63	+76°.15	16°.52
February	14.72	36.92	22.20	August	60.85	73.96	13.11
March	23.83	40.92	17.09	September . . .	52.33	65.80	13.47
April	36.32	51.19	14 87	October	40.18	55.07	14.89
May	46.53	61.01	14.48	November . . .	27.69	45.03	17.34
June	55.80	71.78	15.98	December . . .	15.52	36.98	21.46

The figures in the last column show quite plainly the general law of a greater variability in the temperature during the winter than during summer. In the cold-

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[1] Maxima and minima are most conveniently computed by the formula $0 = 23.15\ cos\ (\theta + 248° 45') + 1.76\ cos\ (2\theta + 258°) + 2.37\ cos\ (3\theta + 225°) + 0.44\ cos\ (4\theta + 333°)$ obtained by differentiating he formula in the text.

April, 1867.

est month the monthly means have a range of $23\frac{1}{2}°$, which is reduced in the third month of summer to 13°. In connection with this it appears also that the representation of the monthly means by a circular function is generally better for the summer than for the winter seasons.

Extreme Temperatures observed.

Between the limits already stated, comprising about ten years, we have a daily record of the extreme temperatures by means of a maximum and minimum thermometer; the following tables exhibit the observed extreme lowest temperature and the observed extreme highest temperature in each month.

TABLE VI.—LOWEST TEMPERATURE OBSERVED IN EACH MONTH.

Year.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.
1807	—30°	—18°	+ 4°	--	--	--	--	--	--	--	+ 8°	— 4°
1808	—10	—15	+ 4	+19°	+28°	+36°	+46°	+37°	+23°	+ 9°	+12	— 6
1809	— 8	—17	—15	+20	--	--	--	--	--	+23	+ 1	0
1810	—13	—18	— 6	+15	+25	+36	+44	+43	+32	+14	+ 6	— 9
1811	—12	—15	+ 5	+17	+24	+37	+46	+42	+33	+21	+10	— 1
1812	—28	—24	—19	+16	+23	+42	+43	+37	+28	+20	+10	—10
1813	—25	—17	—12	+19	+21	+39	+43	+44	+37	+16	+13	— 7
1814	—23	—21	—17	+18	+31	+37	+39	+39	+26	+17	+ 5	—19
1815	—26	—15	— 1	+10	+24	+40	+41	+39	--	+20	+11	— 8
1816	—17	—16	— 9	+11	+25	+30	+33	+35	+25	+23	0	— 8
1817	—23	—23	— 7	+17	+22	+27	+42	+40	--	+16	+10	— 1
Mean,	—20	—18	— 7	+16	+25	+36	+42	+40	+29	+18	+ 8	— 7

TABLE VII.—HIGHEST TEMPERATURE OBSERVED IN EACH MONTH.

1807	38°	46°	50°	--	--	--	--	--	--	--	53°	50°
1808	47	51	62	78°	89°	97°	102°	96°	96°	67°	61	60
1809	42	41	51	72	--	--	--	--	--	88	51	50
1810	42	51	52	75	88	90	89	86	83	84	61	46
1811	41	45	57	72	79	93	98	95	87	77	57	53
1812	46	47	52	70	78	83	87	85	85	76	55	51
1813	42	49	56	67	76	84	92	94	89	66	61	47
1814	42	49	63	82	94	85	90	86	85	74	56	42
1815	44	42	51	77	79	86	92	94	--	69	63	46
1816	48	47	50	81	82	96	82	88	80	76	61	50
1817	44	48	53	65	78	84	92	90	--	67	63	44
Mean,	43	47	54	74	82	89	92	90	86	74	58	49
Monthly range,	63	65	61	58	57	53	50	50	57	56	50	56

The monthly numbers in the two preceding tables appeared so regular that mean values could be set down; these will advantageously compare with similar quantities at other stations. Average monthly range 56°.

The total range of temperature experienced at Brunswick is very considerable[1]—not less than 132° Fahr. The lowest temperature recorded is —30°, and the highest 102°.

[1] At the three Arctic stations, Port Foulke, Van Rensselaer Harbor, and Port Kennedy, the extreme range was respectively 108°, 117°, and 105° Fahr.

Relation between Temperature and the Direction of the Wind.

The method of reduction is briefly as follows: By means of the formula (T) the temperature for each day of the year was computed and referred to the mean of three daily observations, as recorded, by applying the correction for diurnal fluctuation with the sign reversed. The temperature thus computed was subtracted from the observed temperature of each day during which the wind has not changed its direction; a + sign indicates an elevating, a — sign a depressing effect. Separate entries were made for each season and for each of the eight principal directions of the wind. It was not possible to secure a sufficient number of observations for some of the cardinal points; for these we must content ourselves with annual mean results. 1128 observations (days) were employed in bringing out the following tabular results:[1]—

EFFECT OF THE DIRECTION OF THE WIND UPON THE TEMPERATURE IN DIFFERENT SEASONS, AND FOR THE YEAR.

Direction.	Winter.	Spring.	Summer.	Autumn.	Year.
N.	—1°.6	(—2°.5)	(—4°.2)	—7°.0	—3°.1
N. E.	—2.4	—6.5	(—7.8)	—2.3	—3.8
E.	+ - -	— - -	— - -	(+2.2)	- - - -
S. E.	+ - -	—2.9	—5.9	(+5.4)	- - - -
S.	+ - -	+ - -	(—0.6)	+ - -	+2.4
S. W. . . .	+5.3	+2.2	—1.5	+4.5	+2.6
W.	—1.1	—0.7	+2.9	+1.8	+0.7
N. W. . . .	—5.7	—6.2	—2.3	—4.2	—4.6

The most permanent and conspicuous effect upon the temperature, at all seasons, is that of the N. W. wind, its depressing influence is 4°.6 Fahr. on the average. N. and N. E. winds likewise lower the temperature throughout the year by 3°.1 and 3°.8, respectively. The S. W. wind, on the contrary, elevates the temperature above its normal value; its annual mean effect is 2°.6. During summer, however, this same wind slightly depresses the temperature. S. and W. winds, upon the yearly average, also elevate the temperature, though their effect may be different in different seasons.

Relation between Temperature and Summer Rains.

If we compare the mean daily temperature on rainy days (days with three entries of rain, or at least two entries of rain and one of fog or haze), with their respective normal temperature, we shall find a marked effect during the summer months (June, July, and August). On 87 days of comparison the temperature was almost invariably lower, the average amount of depression being 6°.5 Fahr.

Relation between Temperature and Precipitation in Winter.

During winter we find the effect reversed; on 283 days of either snow, sleet, or rain, during December, January, and February, the temperature was found higher than the normal value, on the average by 4°.3 Fahr. During rainy days in winter,

[1] Figures within brackets depend upon a small number of observations.

this temperature difference was considerably greater than during days of snow, as it should be, from physical considerations.

Mean Annual Temperature and Secular Change.

The mean annual temperature of a place is one of the principal meteorological constants to be determined; by means of these values the annual isothermal lines may be drawn and the important question of a secular or periodical change may be investigated.

The annual means in Table VIII are made out directly from Table III; they are the average values of the monthly means. The few blanks in Table III were supplied by the substitution of the respective average monthly mean, as given at the bottom of the table; the annual mean was then taken as usual. The average for the year 1853 was obtained by interpolation from 8 months of observation at Fort Preble, and comparing the same with the monthly means from 22 years of observations as given in the Army Meteorological Register. The average for 1853 is but an approximate value.

TABLE VIII.—OBSERVED ANNUAL MEAN TEMPERATURE AT BRUNSWICK, ME.

Year.	0	1	2	3	4	5	6	7	8	9
1800	- - -	- - -	- - -	- - -	- - -	- - -	- - -	43°.66	43°.43	42°.14
1810	43°.57	44°.71	40°.94	43°.18	43°.29	42°.87	42°.09	41.64	44.78	45.46
1820	44.03	43.91	43.06	41.03	43.86	45.73	45.46	43.87	46.94	46.19
1830	47.50	47.66	45.17	45.61	45.36	44.42	43.00	49.60	50.69	51.45
1840	51.60	46.58	45.84	43.87	42.32	43.27	44.01	43.08	43.70	43.00
1850	43.37	42.60	43.91	44.53	42.73	42.95	41.78	43.62	43.75	40.31

The mean temperature from 52 years of observation is 44°.40 Fahr. according to the above table; reduced to the level of the sea it becomes 44°.60 nearly. The lowest observed annual mean, 40°.31, occurred in 1859, and the highest observed annual mean, 51°.60, occurred in 1840; range 11°.29, which is rather larger than the usual amount.

The numbers in Table IX are obtained by subtracting the average annual temperature from the mean of each year; a positive sign indicates a temperature above the normal value, a negative sign the reverse.

TABLE IX.—FLUCTUATION OF THE ANNUAL MEAN TEMPERATURE.

Year.	0	1	2	3	4	5	6	7	8	9
1800	- - -	- - -	- - -	- - -	- - -	- - -	- - -	— .74	— .97	—2.26
1810	— .83	+ .31	—3.46	—1.22	—1.11	—1.53	—2.31	—2.76	+ .38	+1.06
1820	— .37	— .49	—1.24	—3.37	— .54	+1.33	+1.06	— .53	+2.54	+1.79
1830	+3.10	+3.26	+ .77	+1.21	+ .96	+ .02	—1.40	+5.20	+6.29	+7.05
1840	+7.20	+2.18	+1.44	— .53	—2.08	—1.13	— .39	—1.32	— .70	—1.40
1850	—1.03	—1.80	— .49	+ .13	—1.67	—1.45	—2.62	— .78	— .65	—4.09

These numbers show the usual irregular fluctuations, though on a somewhat enlarged scale. A rough comparison with a number of other stations, treated in the same way and taken from the Army Meteorological Register, indicate a general conformity of the march of the annual mean temperatures, excepting, however, the

hot years culminating with 1840, where our record may possibly be defective. The results for these years (1837, '38, '39, '40) should, therefore, be used with caution, as the thermometer may have been affected with radiation.

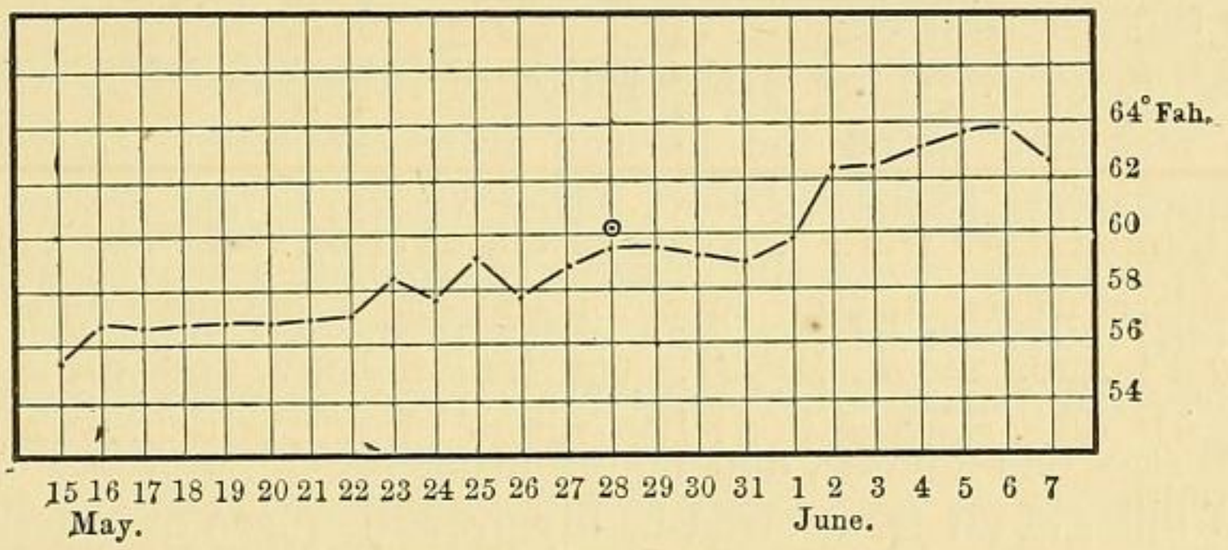
The numbers of Table IX are directly available for the study of the secular change of the temperature, and if made out for a great number of localities cannot fail to lead to valuable results.

That the temperature has remained sensibly the same for the period during which the observations were made, we can infer from the fact that between 1807 and 1832 inclusive, the mean annual temperature was 44°.1, and between 1833 and 1859 inclusive it was 44°.7, the difference 0°.6 $\pm$ 0°.5, with a probable error of the same magnitude, is too insignificant to point to any change in the climate.

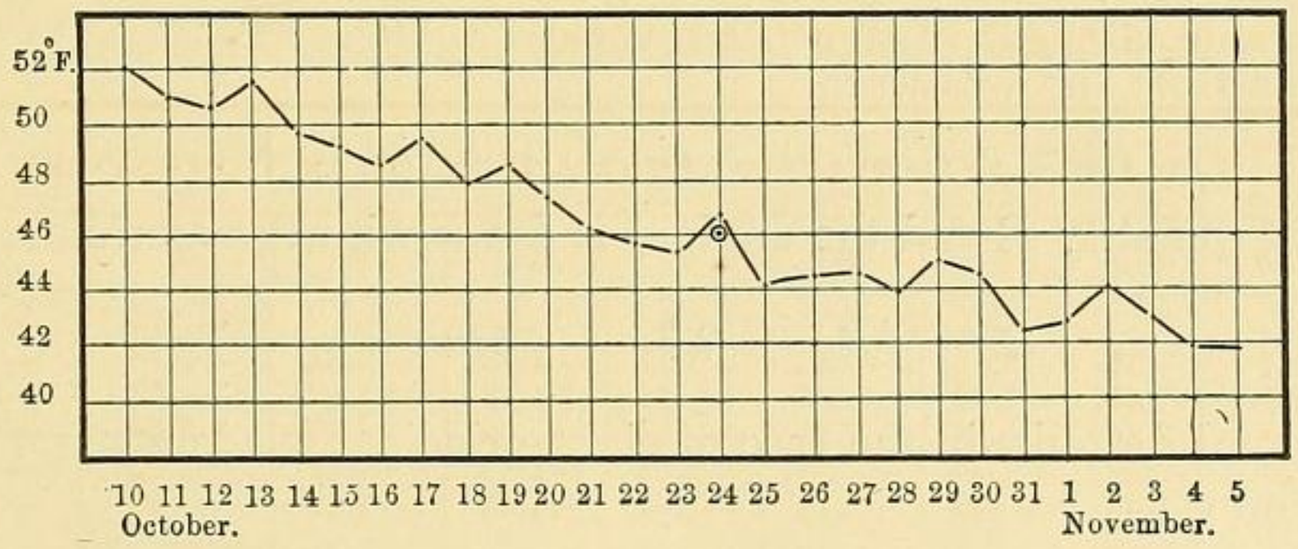
Supposed Anomalies in the Annual Fluctuation of the Temperature.

It has been supposed[1] that about the end of May there was a cold period and about the end of October a warm period, forming apparently anomalies in the regular march of the annual fluctuation. To test this supposition the daily means from 51 years of observations were made out (*vide* Table I), and laid down graphically on the two annexed diagrams, which cover, in time, the periods named above. These diagrams show the daily irregularity which even from so long a series amounts to $\pm$ 0°.8 in the daily mean.

Mean daily temperature from fifty one years of observation.



Mean daily temperature from fifty one years of observation.



The dots surrounded by a small circle indicate the temperature as computed by the formula for the annual fluctuation and corrected for diurnal inequality.

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[1] Dr. Wilson, of Geneva, N. Y., was led to suppose, from twelve years of observation at that place, that a cold period occurred about the end of May, and a warm one about the end of October.

From an inspection of the zigzag lines we can infer that no such exceptions to the regularity of the annual fluctuation occur (at Brunswick, Me.) as has been supposed. The temperature on May 30, 31, and June 1 is indeed somewhat depressed; but not sufficiently so, when compared with its probable error, to make sure of the existence of an exceptional cold period. The October curve is quite regular in its descent.

DIRECTION OF THE WIND.

The three observations taken each day, at morning, noon, and evening, though not at equal intervals, are yet sufficient to give, by their combination, a tolerably reliable daily mean. There are but a few omissions in the record between November, 1807, and December, 1859, in consequence of which the monthly number of observations does not come fully up to the true sum. Occasional blanks, in some cases, undoubtedly refer to calms, of which, however, there is no special mention. The direction of the wind is supposed to be given with reference to the true meridian;[1] and the horizon is supposed to be divided in eight principal directions, the nearest of which, to that of the wind, is recorded. The force of the wind is not stated; the resulting directions will therefore be given under the hypothesis of equal velocity.

The general formulæ for the reduction of observations of direction and force of the wind, are the following:—

Let θ_1 θ_2 θ_3 . . . . be the angles which the direction of the wind makes with the meridian reckoned round the horizon, from the south westwards to 360°, a direction corresponding to that of the rotation of the winds in the northern hemisphere, and v_1 v_2 v_3 . . . the respective velocities which may be supposed expressed in (st.) miles per hour. The observations are supposed to be made at equal intervals. Adding up all velocity numbers referring to the same wind during a given period (say one month), and representing these quantities by s_1 s_2 s_3 . . . ., the number of miles of air transferred bodily over the place of observation by winds *from* the southward is expressed by the formula

$$R_s = s_1 \cos\theta_1 + s_2 \cos\theta_2 + s_3 \cos\theta_3 + \ldots .$$

and for winds *from* the westward

$$R_w = s_1 \sin\theta_1 + s_2 \sin\theta_2 + s_3 \sin\theta_3 + \ldots .$$

The resulting quantity R and the angle ψ it forms with the meridian, are found by

$$R = \sqrt{R_s^2 + R_w^2} \qquad \tan\psi = \frac{R_w}{R_s}.$$

These general formulæ in the case of eight principal winds assume the following convenient form:—

$$R_s = (S - N) + (S\,W - N\,E)\sqrt{\tfrac{1}{2}} - (N\,W - S\,E)\sqrt{\tfrac{1}{2}}$$
$$R_w = (W - E) + (S\,W - N\,E)\sqrt{\tfrac{1}{2}} + (N\,W - S\,E)\sqrt{\tfrac{1}{2}}$$

---

[1] The magnetic declination of the needle is nearly $11\frac{1}{2}°$ W. for the middle period of the series of observations.

Where the letters S, $S\,W$, W, etc., represent the *sum* of all velocity numbers, expressed in miles per hour, during the given period, or the quantity of air moved in the directions S, $S\,W$, W, etc., respectively. R_s represents the total quantity of air transported *to the northward*, and R_w the quantity transferred *to the eastward*. These formulæ for practical application may be used under the following form:—

$$\text{Let } S—N = a \qquad S\,W—N\,E = c$$
$$W—E = b \qquad N\,W—S\,E = d$$

Then

$$R_s = R\ cos\ \psi = a + 0.707\ (c—d)$$
$$R_w = R\ sin\ \psi = b + 0.707\ (c+d)$$

Since R_s, R_w, R, represent the quantity of air passed over during the given period in the direction $0°$ $90°$ $\psi°$ respectively, we must, in order to find the average velocity for any resulting direction, divide by n, or by the number of observations during that period; we have consequently:—

$$V_s = \frac{R_s}{n} \qquad V_w = \frac{R_w}{n} \qquad \text{and } V = \frac{R.}{n}$$

A particle of air which has left the place of observation at the commencement of the period, of a day for instance, will be found at its close in a direction $180° + \psi$, and at a distance of R miles, equal to a movement with an average velocity of $\frac{R}{n}$; this supposes an equal and parallel motion of all particles passing over; the length of the path described by each can be found by summation of all the v's during the period.

In the present case the above formulæ become simplified for want of recorded velocities which may all be put equal unity, consequently the summations will give at once the relative frequency with which each wind occurred during a given period.

Owing to the great variability in the observed directions of the wind, periods less than a month are not suitable for combination.

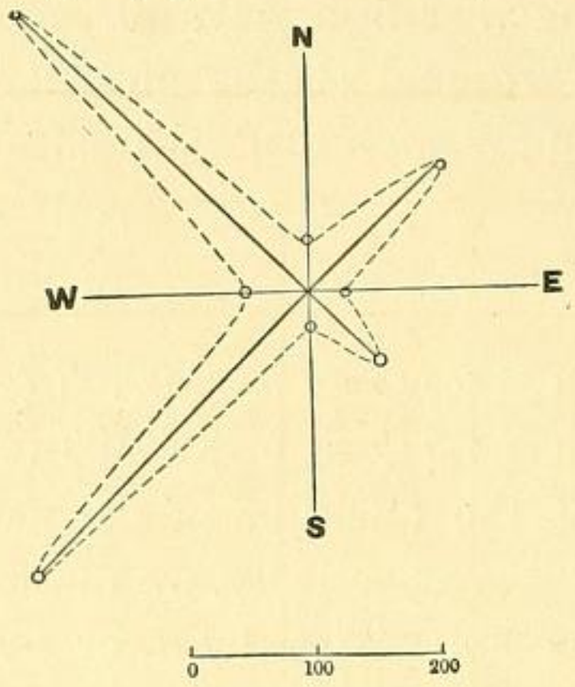
The following Table X contains 54,097 observations arranged for each month according to eight directions.

TABLE X.—RELATIVE FREQUENCY OF EACH WIND RECORDED DURING 50½ YEARS, THREE TIMES A DAY.

	S.	N.	W.	E.	S. W.	N. E.	N. W.	S. E.	No. of years.
January . . .	42	253	254	91	912	1071	1717	161	50
February . . .	63	214	247	92	930	817	1646	178	51
March . . .	109	194	221	153	1188	646	1768	372	51
April . . .	160	183	185	171	1312	645	1409	447	51
May	206	149	116	268	1619	565	1064	620	51
June . . .	194	141	163	149	1797	395	1118	533	51
July	236	136	251	111	2154	297	1127	378	51
August . . .	166	136	246	110	2049	352	1139	437	51
September . .	138	136	193	116	1645	448	1260	297	48
October . . .	147	177	275	106	1351	575	1484	337	49
November . .	67	229	297	113	931	813	1821	249	51
December . . .	39	250	301	83	921	1107	1782	136	51
Year	1567	2198	2749	1563	16809	7731	17335	4145	
Proportional number in 1000 winds .	29	40	51	29	311	143	320	77	

These proportional numbers are represented in the annexed diagram.

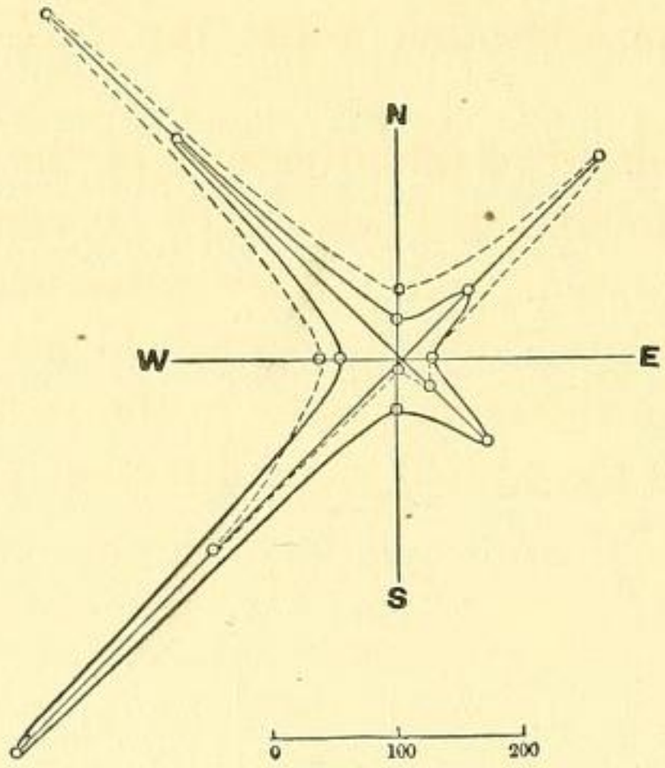
Relative Frequency of each Wind throughout the Year.



The following diagram shows the variation in the relative frequency of the winds during summer (June, July, August), and winter (December, January, February).

The proportional numbers for these seasons are the following:—

Relative numbers.	S.	N.	W.	E.	S. W.	N. E.	N. W.	S. E.
Summer . .	43	30	48	27	434	76	245	97
Winter . .	11	54	60	20	208	225	387	35



Full curve for summer, dotted curve for winter.

The proportional number for each wind indicates the predominance of the N. W. and the S. W. winds on the average during the year, of the S. W. wind in summer and of the N. W. in winter. The least frequent winds are from the S. and E.; from the E. in summer, and from the S. in winter. The numbers in the general table also indicate that the transition in the direction of the wind is gradual during the annual fluctuation.

The characteristic fluctuation for the two seasons is the *decrease* of the S. W. wind to less than one-half its amount from summer to winter, and the *increase* of

the N. E. wind to three times its amount from summer to winter; the increase of the N. W. wind in winter is of less amount.

The following Table XI contains the resulting direction of the wind for each month, season, and during the year from over 50 years of observations

Table XI.—Resulting Direction of the Wind.

	$\downarrow$	$\frac{R}{n}$		$\downarrow$	$\frac{R}{n}$
January	S. 141° W.	0.406	July	S. 66° W.	0.462
February	131	0.403	August	68	0.426
March	116	0.344	September	84	0.381
April	101	0.263	October	101	0.349
May	62	0.222	November	131	0.404
June	66	0.346	December	140	0.421
Spring	S. 97° W.	0.257	Autumn	S. 106° W.	0.356
Summer	67	0.411	Winter	136	0.413
			Year	S. 102° W.	0.320

The average annual direction of the wind is 12° north of west, or W. by N. very nearly. The change from month to month appears quite regular; the extreme variation between the direction in January and July is 75°; in January the average direction is 51° N. of W. and in July 24° S. of W. The transition from 101° to 62° in April and May is rather sudden.

The numbers in the last column show the average length of the resultant; they indicate that in spring the neutralizing effect of opposing winds is at a maximum, and in winter at a minimum; in other words, the winds are more steady in winter than in spring.

If we bring out the resultant of the directions of the wind observed during each year we shall obtain the following Table XII. It contains the number of times each wind blew during the year, and in a few cases where the record was wanting during a month, an interpolated value is given, which is found by taking the mean of the number of winds in the same month in the years preceding and following. The tenth column exhibits the annual mean direction $\downarrow$.

April, 1867.

Year.	S.	N.	W.	E.	S. W.	N. E.	N. W.	S. E.	ψ	Alternate means.	Differences from mean.
1808	80	60	88	57	202	128	303	137	103°		
1809	87	59	43	38	259	152	308	83	103	104°	+ 3°
1810	87	67	78	41	218	149	289	106	105	106	+ 5
1811	88	91	57	32	240	139	303	72	110	107	+ 6
1812	57	71	70	55	277	118	304	82	102	101	+ 0
1813	92	69	65	26	306	109	314	79	91	95	— 6
1814	57	52	100	27	310	109	340	81	95	94	— 7
1815	72	41	57	32	301	142	324	86	95	95	— 6
1816	51	45	49	38	329	120	341	70	96	93	— 8
1817	70	45	51	24	367	174	266	76	85	93	— 8
1818	36	70	51	39	329	153	301	65	104	105	+ 4
1819	26	71	222	65	125	130	351	62	125	121	+20
1820	21	65	94	30	127	171	458	92	130	129	+28
1821	10	67	67	17	180	151	510	51	132	126	+25
1822	20	37	55	17	320	160	382	41	110	114	+13
1823	21	38	34	26	373	230	284	62	105	109	+ 8
1824	8	12	15	9	343	235	392	71	117	117	+16
1825	0	5	3	0	240	177	593	73	128	123	+22
1826	0	6	3	5	289	144	537	104	117	120	+19
1827	1	9	2	2	324	172	524	58	117	114	+13
1828	2	10	5	2	379	136	461	93	103	110	+ 9
1829	7	11	23	6	271	116	577	60	118	112	+11
1830	9	40	20	9	358	182	380	90	108	106	+ 5
1831	16	38	45	37	442	119	335	53	89	96	— 5
1832	8	68	28	52	398	120	338	72	98	99	— 2
1833	6	50	9	36	341	124	446	77	111	104	+ 3
1834	19	32	28	18	404	140	363	65	95	105	+ 4
1835	11	46	50	31	307	190	380	57	119	107	+ 6
1836	8	28	30	25	399	178	321	82	96	102	+ 1
1837	12	39	33	25	411	149	350	65	96	95	— 6
1838	14	41	38	28	427	139	307	86	93	92	— 9
1839	40	47	62	46	347	184	241	107	87	86	—15
1840	48	54	75	30	423	153	225	74	77	83	—18
1841	25	49	43	48	328	178	266	138	90	87	—14
1842	45	43	43	43	333	118	330	134	93	92	— 9
1843	33	61	29	45	327	130	340	116	92	89	—12
1844	38	28	51	31	378	177	260	120	79	89	—12
1845	46	31	20	19	352	154	348	116	92	89	—12
1846	33	40	29	27	366	160	321	98	94	91	—10
1847	19	44	47	36	400	143	281	103	84	90	—11
1848	23	47	66	39	377	151	311	57	97	94	— 7
1849	36	42	85	63	345	155	293	59	97	96	— 5
1850	30	44	98	59	346	147	290	67	95	94	— 7
1851	22	38	84	45	404	148	295	57	90	92	— 9
1852	26	51	91	44	359	137	272	71	92	90	—11
1853	—	—	—	—	—	—	—	—	—	86	—15
1854	27	40	65	18	429	169	243	82	81	86	—15
1855	20	48	99	25	374	188	270	64	97	91	—10
1856	25	29	95	44	344	132	307	106	89	90	—11
1857	10	28	69	66	401	152	270	99	83	88	—13
1858	23	13	80	33	335	165	350	93	98	91	—10
1859	10	3	31	3	456	196	298	84	84		

In the values of the annual mean direction we notice some kind of progression or periodicity to exhibit which columns eleven and twelve were added. The column headed "alternate means" is introduced to smooth down the irregularities in ψ; after the alternate means were written down the mean of the two numbers in the same horizontal line were taken. The mean value found from summation of the numbers in the columns for each wind is 101°, and subtracting this from each alternate mean the numbers in the last column result. They show a shifting of the wind from a more northerly direction (than the average) about 1820 or 1825 to a more southerly direction about 1840 or 1853, the resultant during the former years being 126°, and during the latter years 85° nearly, amount of variation 41°. This secular fluctuation is therefore less in amount than the annual fluctuation. The phenomenon deserves further study and confirmation from series of observations at other stations to enable us to recognize the reality and character of this movement.

ATMOSPHERIC PRECIPITATION.

Table XIII contains the number of days on which rain or snow fell on each month; days on which thunder-showers occurred were counted in. When rain and snow are registered on the same day such days were counted as rainy and snowy days alternately. Sleet was counted in with snow. Dashes indicate no observations.

TABLE XIII.—NUMBER OF DAYS OF RAIN AND SNOW.

Year.	Jan.		Feb.		March.		April.		May.		June.		July.		August.		Sept.		Oct.		Nov.		Dec.		Agr'g'te for year.	
	r.	s.	r.	s.	r.	s.	r.	s.	r.	s.	r.	s.	r.	s.	r.	s.	r.	s.	r.	s.	r.	s.	r.	s.	r.	s.
1807	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6	7	4	5	—	—
1808	3	7	2	8	2	5	10	1	9	0	8	0	13	0	6	0	7	2	8	1	5	2	6	7	69	33
1809	1	6	1	7	4	6	4	2	8	0	10	0	9	0	8	0	7	0	7	0	4	5	11	2	74	28
1810	1	13	1	2	3	9	6	3	10	0	8	0	8	0	12	0	7	0	7	1	7	3	2	8	72	39
1811	3	10	1	7	1	3	5	0	13	0	10	0	7	0	10	0	6	0	9	0	13	0	3	6	81	26
1812	2	8	4	11	0	7	5	2	10	0	15	0	12	0	13	0	5	0	9	0	5	5	2	9	82	42
1813	3	8	0	7	4	11	9	0	9	0	5	0	7	0	9	0	6	0	13	0	4	3	2	4	71	33
1814	1	8	2	9	0	8	7	0	16	0	7	0	10	0	11	0	7	0	3	0	7	3	0	8	71	36
1815	3	5	0	8	5	6	5	6	10	2	9	0	6	0	10	0	–	–	7	0	6	1	4	3	—	—
1816	1	5	4	8	2	7	5	1	10	0	7	1	5	0	8	0	4	0	7	1	7	4	2	1	62	28
1817	3	7	1	6	0	6	6	1	5	0	11	0	9	0	6	0	–	–	5	1	4	3	5	6	—	—
1818	4	4	0	5	3	4	7	6	9	0	7	0	9	0	3	0	10	0	0	0	5	2	0	8	57	29
1819	3	7	1	7	2	11	4	2	13	0	8	0	6	0	4	0	5	0	5	1	4	1	3	7	58	36
1820	0	11	4	6	2	7	1	2	14	0	3	0	4	0	5	0	5	0	10	0	4	3	0	10	52	39
1821	0	3	1	12	4	4	4	3	7	1	11	0	6	0	10	0	11	0	6	1	9	5	2	10	71	39
1822	0	8	1	10	2	6	7	6	6	0	11	0	10	0	7	0	6	0	4	1	8	1	3	5	65	37
1823	0	12	0	10	2	12	7	2	10	2	8	0	11	0	8	0	5	0	10	1	4	4	6	7	71	50
1824	4	9	4	8	2	8	10	0	5	0	10	0	5	0	8	0	–	–	–	–	4	4	4	5	—	—
1825	1	8	0	9	4	3	2	0	5	1	11	0	5	0	6	0	6	0	6	0	3	4	9	3	58	28
1826	5	8	3	6	11	4	6	2	8	0	10	0	6	0	13	0	6	0	8	0	12	3	6	6	94	29
1827	3	10	2	6	7	2	14	0	11	0	13	0	6	0	8	0	7	0	11	0	6	4	2	9	90	31
1828	3	8	8	3	2	6	7	3	15	0	9	0	13	0	7	0	10	0	7	0	12	7	2	6	95	33
1829	3	11	2	6	3	6	8	2	9	1	2	0	5	0	4	0	7	0	5	0	15	3	7	4	70	33
1830	2	11	0	6	8	4	2	0	7	0	9	0	8	0	8	0	9	0	4	0	10	1	6	4	73	26
1831	1	3	2	4	5	4	7	1	8	0	8	0	6	0	5	0	5	0	7	0	3	3	1	9	58	24
1832	4	8	2	9	4	3	3	4	10	0	6	0	4	0	8	0	5	0	7	0	5	1	4	4	62	29
1833	2	6	1	9	1	7	5	1	10	0	8	0	10	0	9	0	8	0	7	1	4	3	2	3	67	30
1834	1	6	2	2	4	4	5	0	9	0	7	0	3	0	3	0	4	0	4	2	5	2	2	7	49	23
1835	5	4	1	8	2	7	8	1	5	0	8	0	8	0	7	0	4	0	3	0	4	5	3	7	58	32
1836	2	8	1	7	1	5	6	1	5	1	3	0	4	0	6	0	4	0	6	0	4	4	3	3	45	29
1837	1	8	3	6	4	3	5	2	8	0	3	0	7	0	3	0	5	0	5	1	3	3	1	4	48	27
1838	7	4	0	5	0	5	6	0	10	0	5	0	6	0	4	0	4	0	9	1	4	0	1	4	56	19
1839	4	7	2	4	6	3	10	0	8	0	8	0	10	0	5	0	4	0	3	0	5	4	2	3	67	21
1840	1	6	2	1	3	6	5	1	3	1	5	0	3	0	6	0	5	0	6	1	4	4	1	8	44	28
1841	3	4	0	5	3	2	6	2	8	1	4	0	6	0	5	0	6	0	6	0	7	3	5	3	59	20
1842	3	4	6	5	2	9	5	3	9	0	8	0	11	0	4	0	9	0	5	0	6	2	2	8	70	31
1843	4	4	1	7	1	8	6	3	5	0	7	0	6	0	7	0	2	0	8	0	5	2	0	8	52	32
1844	1	7	0	7	9	4	3	0	9	0	4	0	6	0	6	0	4	0	11	0	5	1	5	5	63	24
1845	3	11	3	4	3	4	2	4	6	1	4	0	9	0	5	0	7	0	7	0	12	1	5	6	66	31
1846	1	10	0	5	5	3	4	1	11	0	4	0	8	0	5	0	2	0	6	1	5	2	3	4	54	26
1847	4	5	1	7	4	5	6	4	6	0	10	0	4	0	6	0	10	0	5	0	6	1	6	6	68	28
1848	4	3	0	8	3	6	5	0	15	0	8	0	8	0	7	0	11	0	7	0	2	2	4	7	74	26
1849	2	4	0	8	6	4	4	3	7	0	6	0	3	0	8	0	7	0	7	0	6	0	2	10	58	29
1850	3	8	2	3	1	7	2	3	13	0	7	0	7	0	5	0	7	0	6	1	4	1	2	9	59	32
1851	2	7	7	5	2	6	10	1	9	0	8	0	11	0	6	0	4	0	6	1	3	4	3	5	71	29
1852	1	13	2	4	5	6	5	4	6	0	8	0	5	0	5	0	6	0	6	1	3	3	5	4	57	35
1853	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	—	—
1854	1	10	1	7	1	5	5	2	7	0	4	0	3	0	2	0	3	0	3	0	6	2	3	5	39	31
1855	–	–	2	6	1	2	5	0	4	0	7	0	8	0	5	0	2	0	9	0	2	3	1	6	—	—
1856	0	8	0	6	0	5	6	0	9	0	4	0	5	0	7	0	7	0	2	0	4	1	2	5	46	25
1857	0	8	2	5	1	6	6	2	7	0	6	0	5	0	7	0	4	0	8	0	4	1	5	3	55	25
1858	2	4	0	4	2	6	4	4	7	0	6	0	11	0	7	0	3	0	8	0	1	5	1	3	52	26
1859	2	5	1	5	5	5	3	2	7	0	6	0	3	0	5	0	5	0	3	0	4	2	1	9	45	28
Yearly average,	2.3	7.2	1.7	6.3	3.1	5.6	5.6	1.8	8.6	0.2	7.3	0.0	7.1	0.0	6.7	0.0	5.9	0.0	6.4	0.4	5.6	2.8	3.2	5.8	64	30

From the above table we deduce the following results:—

Least number of days (1.7) on which rain fell in February, greatest number (8.6) in May; greatest number of days (7.2) on which snow fell in January; snow fell as late as June 8th (in 1816), and as early as September 26th (in 1808). On the average snow falls on a day in May once in five years, and on a day in October once every other year.

The average number of rainy days in a year is 64, varying between 39 and 95; the average number of snowy days in a year is 30, varying between 19 and 50. In a longer series these extremes may reach one-half and double their normal value.

Table XIV contains the amount of rain and snow collected during each month; the latter was reduced to its equivalent in water by taking one-tenth of the observed depth in inches.

TABLE XIV.—AMOUNT OF RAIN AND SNOW FALLEN (in inches).

	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Aggregate for year.
1808	- - -	- - -	- - -	3.03	6.85	4.51	4.69	5.69	3.43	4.12	3.58	7.34	- - -
1809	3.20	2-15	2.90	0.05	2.93	3.60	5.45	2.48	5.31	2.15	7.18	4.91	42.31
1810	0.20	0.30	5.40	2.20	2.09	2.78	2.99	3.58	1.38	1.40	4.57	1.20	28.09
1811	0.50	4.50	- - -	- - -	4.30	2.00	4.00	3.61	0.51	2.61	7.72	1.30	- - -
1812	1.95	3.00	0.90	4.91	4.50	6.72	5.02	3.69	1.00	4.58	2.84	1.60	40.71
1813	2.90	2.15	5.08	2.80	2.74	2.98	3.28	2.14	0.67	6.08	6.07	0.55	37.44
1814	0.60	1.50	2.50	4.93	11.40	3.60	3.45	7.31	5.07	0.54	3.95	3.35	48.20
1815	2.37	1.85	1.16	2.76	1.80	4.75	1.49	3.02	- - -	1.22	1.62	2.35	- - -
1816	3.24	2.41	0.63	1.20	4.15	1.41	1.60	2.13	0.30	5.99	5.49	- - -	- - -
1817	5.75	4.10	1.95	1.94	0.52	5.09	2.16	3.35	- - -	2.55	4.70	4.15	- - -
1818	4.40	1.40	3.60	1.20	5.80	1.37	2.98	0.16	5.07	0.00	0.20	0.20	26.38
1819	- - -	1.80	5.00	2.20	- - -	- - -	- - -	- - -	- - -	- - -	0.30	- - -	- - -
1820	- - -	- - -	0.30	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.90	1.05	- - -
1821	0.50	2.10	1.60	0.60	- - -	- - -	- - -	- - -	- - -	- - -	- - -	3.10	- - -
1822	0.40	1.70	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.60	- - -
1823	1.90	3.70	3.80	0.60	- - -	- - -	- - -	- - -	- - -	- - -	- - -	2.80	- - -
1838	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.90	- - -
1839	2.45	4.90	6.08	6.19	4.06	4.32	8.43	7.04	2.18	1.02	4.10	3.42	54.19
1840	0.91	2.25	1.81	6.00	2.10	2.83	1.70	5.82	2.34	1.71	4.45	4.20	36.12
1841	4.20	1.40	4.40	9.15	3.27	1.85	1.80	0.52	7.60	2.00	3.99	8.00	48.18
1842	3.82	5.69	5.48	3.75	2.64	3.00	5.21	5.73	4.88	0.71	6.04	8.03	54.98
1843	4.15	7.28	7.75	9.02	3.83	3.92	3.26	12.21	0.88	7.30	5.23	2.10	66.93
1844	3.85	0.80	7.98	0.28	5.13	2.83	2.06	4.24	2.93	7.58	4.76	7.88	50.32
1845	8.06	3.57	3.13	2.66	6.53	2.26	8.67	4.41	3.85	4.86	17.75	9.89	75.64
1846	5.54	1.80	11.28	2.09	1.88	2.67	4.58	2.05	1.40	1.95	3.85	4.37	43.46
1847	5.95	5.60	2.40	5.07	3.14	6.64	2.75	6.63	5.49	4.77	5.78	6.95	61.17
1848	5.93	2.24	6.12	1.53	10.03	3.75	4.20	3.33	6.34	7.67	3.48	4.75	59.37
1849	1.85	1.40	4.15	3.50	2.70	3.62	1.72	7.82	2.40	3.40	3.65	3.10	39.31
1850	3.43	1.73	3.38	5.00	17.57	4.99	2.72	4.37	2.93	4.74	2.62	3.96	57.44
1851	3.89	2.74	0.80	6.01	2.37	4.80	4.78	0.97	2.11	9.34	5.89	3.67	47.37
1852	3.06	6.90	3.69	7.83	1.20	3.15	2.97	6.03	2.90	3.23	7.23	7.08	55.27
1853	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
1854	2.75	4.87	2.70	0.65	8.86	5.66	3.45	0.28	2.53	1.30	10.19	2.90	46.14
1855	5.68	0.50	0.50	2.75	2.78	4.57	4.37	4.80	1.40	9.73	3.40	4.10	44.58
1856	2.50	0.50	1.30	1.72	3.40	2.05	3.07	6.32	2.55	3.59	2.05	3.73	32.78
1857	3.10	2.60	4.90	5.29	3.43	3.45	2.40	5.78	0.70	5.05	2.08	4.10	42.88
1858	4.30	2.08	1.80	3.67	5.52	1.95	6.41	7.76	3.79	3.09	3.32	1.85	45.54
1859	3.60	2.10	8.15	2.70	3.59	7.35	1.35	2.12	5.89	1.75	4.45	5.39	48.44
Monthly average,	3.24	2.75	3.72	3.44	4.55	3.69	3.65	4.37	3.03	3.74	4.65	3.85	44.68
Years,	33	34	33	33	31	31	31	31	29	31	33	35	32

Average total precipitation during year, 44.68 inches; least quantity observed for any one year, 26 inches; and greatest quantity observed, 76 inches.

From the annual amounts set out in the above table a probable uncertainty of $\sqrt{\frac{.455\ \Sigma\Delta^2}{n\ (n-1)}} = \pm$ 1.5 inches in the average annual amount may be deduced.

The maximum amount of rain in any one day was 8.25 inches on November 4, 1845; the next heaviest fall of rain occurred on August 11th, 1843, of 7.70 inches; on the 27th of May, 1850, 7.10 inches fell.

On the 10th of March, 1819, 30 inches of snow fell; on December 28th, 1848, 20 inches; in 1809, January 30th, 1811, February 4th, and 1823, September 17th, 18 inches of snow are recorded during a day.

The probable uncertainty of the annual average value from a series extending over 32 years is yet sufficiently large to mask the annual fluctuation to an extent which renders it difficult to recognize the maxima and minima with certainty. We may here use with advantage the results of two stations in the same hyetal region, given in the Army Meteorological Register (Washington, 1855). At Fort Preble, near Portland, the mean annual precipitation from a series of eight and a half years is 45.25 inches, and at Fort Constitution, near Portsmouth, from a series of thirteen years, 35.57 inches. We find that the annual fluctuation attains two maxima and two minima, the former in May and November, the latter in February or March and in September. The November maximum of precipitation and the February or March minimum are the most prominent features.

On the average there are 64 rainy days and 30 snowy days each year, or 94 days of precipitation, being 1 in 4 nearly. The average amount of water for a day is $\frac{44.68}{94} = 0.48$ inches. The corresponding monthly means are contained in the following table:—

	From Table XIII.	From Table XIV.	Average in one day.		From Table XIII.	From Table XIV.	Average in one day.
January . . .	9d.5	3in.2	0in.33	July	7d.1	3in.6	0in.51
February . . .	8.0	2.7	0.34	August	6.7	4.4	0.65
March	8.7	3.7	0.42	September . . .	5.9	3.0	0.51
April	7.4	3.4	0.46	October	6.8	3.7	0.54
May	8.8	4.5	0.51	November . . .	8.4	4.6	0.55
June	7.3	3.7	0.51	December . . .	9.0	3.8	0.42

The heaviest rains therefore fall in August, the lightest in January and February, epochs at which the air's capacity for vapor is greatest and least.

Relation of Rain (or Snow) to the Direction of the Wind.

To ascertain the dependence of rain (or snow) on the direction of the wind, the latter was tabulated for each rainy day and classified according to seasons. Such days only were used on which rain[1] (or snow) is recorded morning, noon, and evening, except for summer, when days with two consecutive entries of rain were included in order to obtain the requisite number of cases. The total number of directions thus classified on such rainy days during 51 years is 2756, of which occurred in spring 662, in summer 545, in autumn 596, and in winter 953.

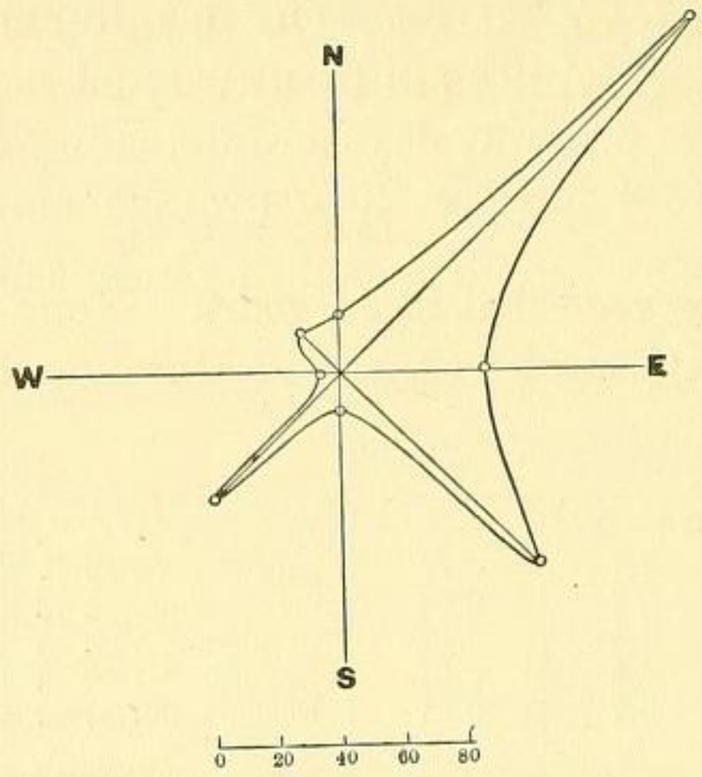
[1] Days with two entries of rain (or snow) and the third entry of sleet, hail, mist, or fog were also included.

Expressed in percentage for each season, the relative numbers of occurrence of rainy days for each of the eight principal directions was found as follows:—

TABLE XV.—SHOWING THE DEPENDENCE OF RAIN ON THE DIRECTION OF THE WIND IN EACH SEASON AND FOR THE YEAR.

Season.	S.	S. W.	W.	N. W.	N.	N. E.	E.	S. E.
Spring . . .	3	10	1	4	3	37	15	27
Summer . . .	5	22	2	3	3	21	12	32
Autumn . . .	3	13	1	4	5	41	12	21
Winter . . .	2	11	2	6	7	58	6	8
Year (sum) .	13	56	6	17	18	157	45	88

This table shows that it may rain (or snow) in each season with any one of the eight winds; that the greatest number of rainy days (or snowy days) on the average during the year, and also for three seasons, occur with N. E. wind, and the least number of rainy days, for each season and for the year occur with W. wind. The wet and dry winds, therefore, blow from N. E. and W. respectively. The wet and dry quarters of the compass are well exhibited by the annexed diagram for the annual mean values.



The N. E. wind in winter is most constantly accompanied by rain (or snow); in summer the S. E. wind surpasses the N. E. and S. W. in precipitation; in winter, however, the S. E. wind becomes indifferent.

The position of the place of observation with respect to the ocean sufficiently accounts for the characteristic shape of the graphical illustration.

Thunderstorms.

Number and Distribution during the Year.

The number of storms accompanied by lightning and thunder, recorded during 51 years, is 472, or nearly 9 a year.

They are distributed over the several months as follows:—

January . . .	1	April	13	July	130	October . . .	23
February . .	0	May	48	August . . .	107	November . .	8
March . . .	6	June	90	September . .	44	December . .	2

The maximum number occurs in the warmest month; in February none occurred. The aggregate number in summer is 327, and the aggregate number in winter 3.

Fog.

The total number of fogs recorded during 51 years is 1135, or 22 in a year on the average. Their distribution, expressed in number of days, over the several months, is as follows:—

	Aggregate.	Average for a year.		Aggregate.	Average for a year.
January . .	47	0.9	July . . .	164	3.2
February . .	31	0.6	August . . .	168	3.3
March . . .	54	1.1	September . .	139	2.7
April . . .	73	1.4	October . .	105	2.1
May . . .	97	1.9	November . .	63	1.2
June . . .	160	3.1	December . .	34	0.7

The maximum number occurs in summer, the minimum in winter.

Frost.

July is the only month in which no frost is recorded. Frost occurred as late as June 19th, and as early as August 3d. On the average the spring frosts cease after the first week in June, and the fall frosts may be expected after the first week in September.

Hail.

There are 34 hail storms recorded in 51 years. None occurred in July, August, and September. They were most frequent in March and December, as seen in the following table:—

January	4	July	0
February	2	August	0
March	8	September	0
April	3	October	2
May	3	November	3
June	1	December	8

STATE OF THE WEATHER.

The weather was recorded three times a day, the entries being fair, cloudy, or variable. If we sum up and take the mean, by months, of all fair, all cloudy, and all variable days, we find the results from a series of 51 years as follows:—

	Average number of				Average number of		
	Fair days.	Cloudy days.	Variable days.		Fair days.	Cloudy days.	Variable days.
January . .	12.8	9.0	9.2	August . .	15.6	5.5	9.9
February . .	11.7	7.1	9.5	September .	14.8	5.7	9.5
March . .	13.6	7.1	10.3	October . .	14.1	7.2	9.7
April . .	13.5	7.0	9.5	November . .	11.4	9.3	9.3
May . . .	12.7	7.7	10.6	December . .	12.3	9.0	9.7
June . . .	13.6	6.1	10.3				
July . . .	15.7	5.0	10.3	Year . .	161.8	85.7	117.8

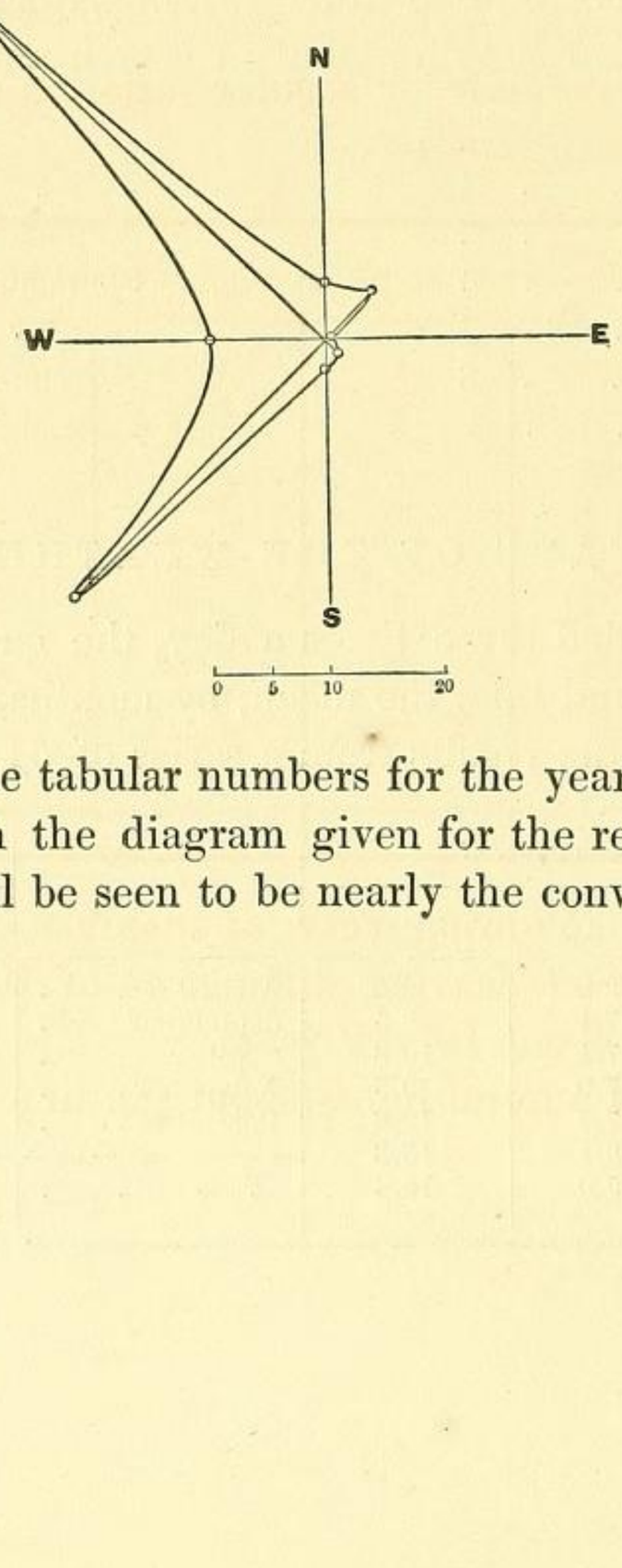
The greatest number of fair days (every second one), and the least number of cloudy days (every sixth one), occur in July; the least number of fair days (every third one nearly), and the greatest number of cloudy days (every third one nearly) occur in November; the variable days in each month differ but little from their average value (every third day nearly) throughout the year.

The dependence of rainy (or cloudy weather on the direction of the wind has already been stated; the relation of fair weather to the wind has been made out in the same manner from 4085 fair days between 1807 and 1814, and between 1850 and 1855.

TABLE XVI.—Showing the Dependence of Fair Weather on the Direction of the Wind for the half year April to September inclusive, for the half year October to March inclusive, and for the whole year.

Season.	S.	S. W.	W.	N. W.	N.	N. E.	E.	S. E.
April—September . . .	5	42	8	32	4	5	1	3
October—March . . .	2	20	11	52	5	7	1	2
Year	3	31	10	42	5	6	1	2

Thus in every hundred fair days, during the half year including winter, there are 42 with S. W. wind; and in every hundred fair days, during the half year including summer, there are 52 with N. W. wind. There is but one day in a hundred when fair weather is accompanied with E. wind.



In the above diagram the tabular numbers for the year have been thrown into a curve. Comparing it with the diagram given for the relation of rainy or cloudy weather to the wind, it will be seen to be nearly the converse of it.

MISCELLANEOUS PHENOMENA.

Earthquakes.

Seven earthquakes were found recorded during 51 years, between 1807 and 1859. There is no record of the year 1853. The dates are as follows:—

1808.	June	26th	$2^h\ 51^m$ A. M.
1814.	November	28th	$7^h\ 15^m$ P. M.
1817.	May	22d	$3^h\ 10^m$ (not stated whether A. M. or P. M.)
1823.	March	7th	1 (about) (" " ")
1828.	July	25th	$6^h\ 30^m$ A. M.
1828.	August	14th	10^h (about) (not stated whether A. M. or P. M.)
1829.	August	26th	$9^h\ 15^m$ P. M.

Aurora Borealis.

During the same period (51 years) as above, there were observed 86 auroras. That this is the total number which occurred may well be doubted, and they include probably only the brighter exhibitions. In their monthly occurrence they group themselves about the equinoxial months, especially about the autumnal equinox.

Distribution of Auroras during the Year.

January	4	July	0
February	10	August	6
March	10	September	18
April	6	October	17
May	1	November	8
June	1	December	5

That there exists also a periodic or secular variation appears with sufficient distinctness from the following figures:—

Table XVII.—Number of Auroras observed each Year.

1807	2	1820	1	1833	3	1846	—
1808	12	1821	—	1834	—	1847	—
1809	—	1822	—	1835	1	1848	6
1810	—	1823	—	1836	2	1849	1
1811	—	1824	—	1837	2	1850	—
1812	—	1825	—	1838	8	1851	—
1813	—	1826	—	1839	6	1852	—
1814	3	1827	6	1840	3	1853	—
1815	2	1828	1	1841	—	1854	—
1816	—	1829	6	1842	—	1855	—
1817	1	1830	8	1843	—	1856	—
1818	6	1831	2	1844	—	1857	1
1819	3	1832	—	1845	—	1858	—
						1859	—

We have therefore the following years of maxima of auroral displays: 1808, 1818, 1830, 1838, 1848, 1857, leaving differences of 10, 12, 8, 10, and 9 years. This indicates a period of about 10 ± 2 years.

The greater frequency of auroral lights about the time of the equinoxes, and the

maximum frequency about the autumnal equinox has long been known, the discovery of one or two distinct periods in the secular change is of more recent date; the shorter of these periods is expressed in the above numbers.[1]

---

[1] After writing the above paper Dr. R. Wolf's "Mitheilungen über die Sonnenflecken," No. XIX was received; according to the investigations of Herr Fritz and of Dr. Wolf the two periods of the aurora borealis, from observations in the middle latitudes, are 55.6 years for the great period, and 11.11 years for the subordinate cycle. For comparison with the results given in the text, the years of auroral maxima and minima since 1788, according to Fritz and Wolf, are appended:—

Maxima.	Minima.
1788 principal	
	1796
1804	
	1811 principal
1816	
	1825
1830	
	1834
1839	
	1842
1848 principal	
	1856
1859	

It will be observed that the years of maxima observed at Brunswick accord, as well as can be expected from a single locality, with these general results. The reader is also referred to Prof. Loomis' account of the aurora borealis in the annual report of the Smithsonian Institution for 1865, p. 208, and especially to the table p. 228.

APPENDIX.

MONTHLY EXTREMES OF THE ATMOSPHERIC PRESSURE.

THE only use which it is proposed to make of the barometric record is to exhibit the monthly extreme values, together with their annual variation. Supposing the temperature of the room in which the instrument was suspended to have remained above the freezing point, a reduction to it was applied to the readings of the barometer by means of the indications of the external thermometer.

TABLE XVIII CONTAINS THE MONTHLY EXTREME READINGS OF THE BAROMETER (REFERRED TO 32° FAHR.) EXPRESSED IN INCHES.

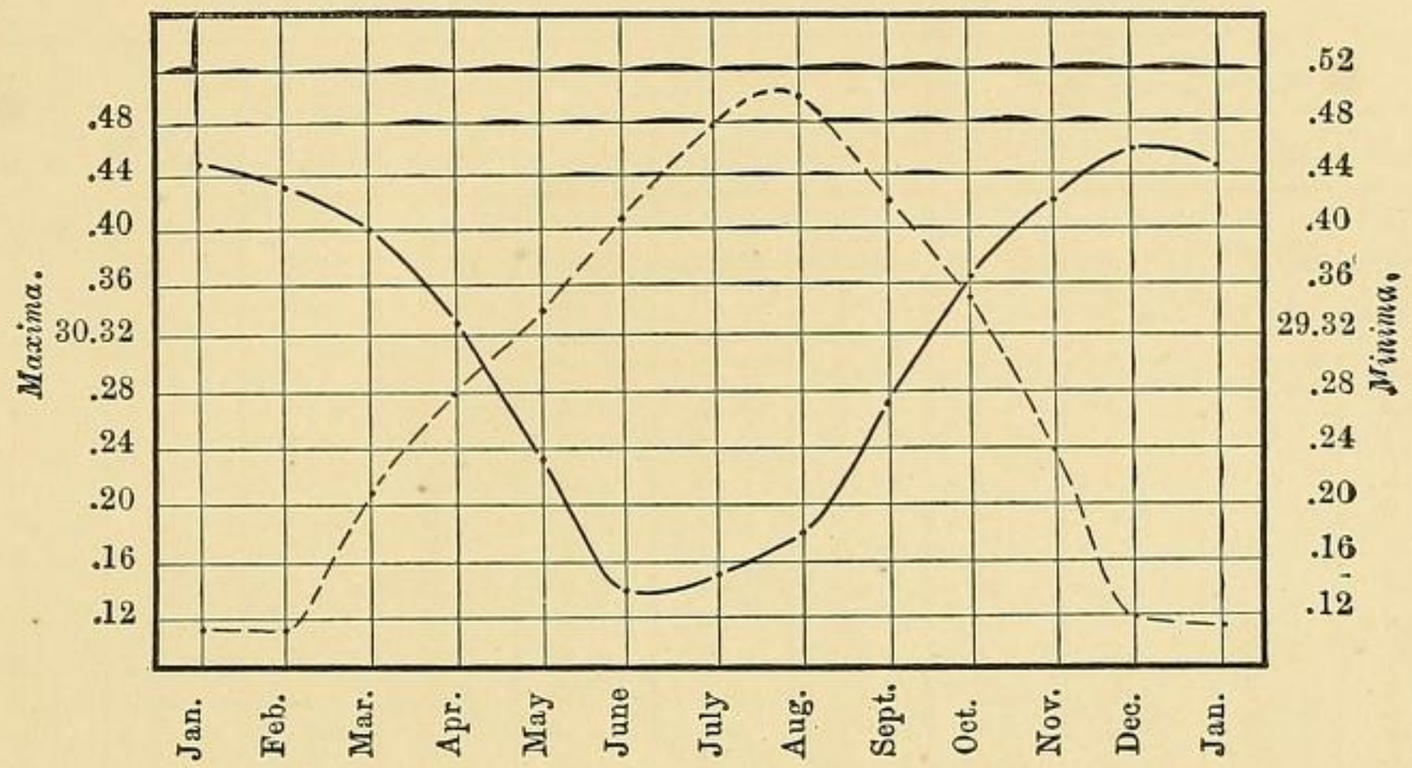
Year.	January.		February.		March.		April.		May.		June.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1807	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1808	30.4	29.3	30.5	29.0	30.5	29.3	30.4	29.4	30.2	29.4	30.2	29.6
1809	.2	28.9	.4	28.6	.4	.5	.3	.5	.2	.4	.3	.7
1810	.5	29.2	.3	29.5	.3	.2	.4	.4	.2	.4	.2	.6
1811	.6	.5	.3	.1	.7	.3	.3	.5	.4	.3	.3	.5
1812	.5	.2	.4	.2	.4	.6	.4	.5	.2	.3	.0	.5
1813	.5	.2	.5	.2	.5	.4	.5	.4	.3	.6	.2	.6
1814	.2	28.9	.5	28.7	.2	.0	.3	.1	.2	.2	.2	.4
1815	.3	29.0	.5	29.3	.4	.1	.3	.3	.0	.4	.0	.4
1816	.5	.2	.4	28.8	.5	.1	.2	.2	.2	.3	.2	.1
1817	.3	28.9	.2	.6	.4	.4	.3	.3	.3	.5	.2	.1
1818	.4	29.2	.4	29.2	.6	.4	.0	.0	.1	28.9	.1	.4
1819	.8	.2	.4	28.9	.3	28.7	.2	.3	.2	29.1	.1	.4
1820	.2	.3	.5	29.0	.3	29.0	.3	.2	.1	.2	.0	.5
1821	- -	- -	.4	28.6	.1	28.7	.4	.1	.0	.3	29.9	.3
1822	.3	28.8	.4	29.0	.4	29.2	.2	.1	.1	.2	30.2	.3
1823	.6	29.0	.4	28.9	.5	.1	.8	- -	.5	.2	.2	.2
1824	.4	.0	.6	29.2	.7	.5	.1	.3	.2	28.9	.2	.2
1825	.5	.3	.5	.3	.2	.3	.4	.3	.2	29.5	29.9	.4
1826	.3	.1	.5	.0	.6	.4	.5	.4	.2	.4	30.1	.4
1827	.3	28.8	.6	.0	.5	.0	.4	.0	.2	.3	.2	.5
1828	.5	29.3	.5	.2	.5	.2	- -	.5	.4	.3	.3	.5
1829	.5	.3	.2	28.8	.2	.2	.3	.3	.4	.5	.3	28.9
1830	.5	.4	.6	29.3	.6	.0	.4	- -	.3	6	.1	29.3
1831	.3	.2	.6	.0	.3	.0	.1	28.9	.3	.2	.2	.6
1832	.6	.0	.6	.6	.4	.3	.2	29.4	.5	.2	.1	.5
1833	.5	.1	.2	.2	.5	.4	.4	.4	.3	.5	.1	.3
1834	.5	.1	.5	.5	.4	.6	.7	.3	.3	.5	.1	.3
1835	.4	.1	.6	.4	.6	.1	.2	.3	.3	.4	.3	.3
1836	.4	.3	.4	.0	.3	.3	.4	.3	.7	.4	.2	.6
1837	.0	.0	.2	28.7	.9	.3	.1	.0	.2	.4	.1	.4
1838	.4	.1	.1	29.3	.4	.3	.1	.3	.0	.5	.2	.4
1839	.8	.1	.3	.4	.5	.2	.3	.2	.2	.3	.0	.4
1840	.3	.0	.5	.4	.2	.2	.5	.3	.3	.3	.1	.4
1841	.7	.2	.1	.2	.4	.0	.4	28.9	.1	.0	.1	.5
1842	.4	.1	.5	28.7	.2	.4	.2	29.3	.2	.4	.4	.6
1843	.6	.0	.4	29.2	.2	.0	.2	.2	.3	.5	.2	.4
1844	.3	28.9	.2	.4	.4	.2	.7	.7	.2	.3	.2	.6
1845	.4	29.3	.5	.0	.3	.2	.3	.3	.4	.5	.0	.5
1846	.4	.3	.3	.2	.3	.3	.5	.4	.1	.2	.3	.5
1847	.4	28.6	.4	.0	.4	28.7	.3	.4	.1	.5	.1	.2
1848	.5	29.0	.3	28.9	.2	29.4	.5	.3	.1	.1	29.9	.4
1849	.5	.3	.7	29.3	.9	.4	.4	.3	.4	.4	30.2	.5
1850	.5	.2	.5	.0	.2	.1	.1	.1	.2	.3	.2	.6
1851	.5	28.8	.8	.3	.4	.3	.4	.4	.2	.3	.2	.5
1852	.4	29.1	.5	.2	.5	.1	.0	.0	.2	.5	.2	.3
1853	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1854	.5	.3	.7	.2	.3	.0	.5	.5	.2	.4	.0	.5
1855	- -	- -	.3	.4	.1	.3	.7	.4	.1	.5	.0	.2
1856	.5	.4	.2	28.8	.1	.1	.3	.5	.2	.3	.3	.5
1857	.5	.2	.8	29.4	.3	.3	.3	.1	.3	.5	29.9	.3
1858	.7	.4	.3	.3	.4	.1	.2	.4	.3	.3	30.0	.6
1859	.6	.4	.7	- -	.4	.4	.1	.3	.2	.5	.3	.3
Means,	30.45	29.11	30.43	29.11	30.40	29.21	30.33	29.28	30.23	29.34	30.14	29.41

TABLE XVIII.—*Continued.*

Year.	July.		August.		September.		October.		November.		December.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1807	- -	- -	- -	- -	- -	- -	- -	- -	30.2	29.3	30.4	29.1
1808	30.1	29.5	30.3	29.6	30.3	29.5	30.5	29.7	.4	.2	.4	28.7
1809	.2	.6	.2	.6	.1	.6	.4	.6	.5	.5	.6	29.2
1810	.1	.6	.1	.5	.3	.6	.4	.4	.4	.4	.5	.3
1811	.3	.7	.3	.8	.3	.5	.6	.5	.6	.4	.4	.0
1812	.2	.7	.2	.5	.3	.5	.4	.2	.5	.1	.4	28.9
1813	.1	.3	.2	.4	.3	.4	.3	.2	.4	.4	.3	29.0
1814	.0	.3	.2	.5	.1	.3	.2	.2	.5	.4	.3	.3
1815	.0	.4	.1	.4	- -	- -	.1	.0	.4	.2	.3	.1
1816	.0	.4	.2	.3	.4	.4	.1	.1	.3	.4	.5	.3
1817	.2	.4	.1	.5	- -	- -	.5	.0	.2	.2	.5	.2
1818	.0	.4	.1	.5	.1	.4	.2	.2	.3	.3	.2	.0
1819	.2	.5	.2	.6	.2	.2	.2	.2	.5	.1	.3	.2
1820	.1	.2	.1	.2	- -	- -	.4	.1	.3	.0	.3	.1
1821	.2	.4	.2	- -	- -	- -	- -	- -	- -	.1	.4	- -
1822	.4	.5	.2	.5	.3	.4	.3	.3	.5	.4	.5	.3
1823	.3	.3	.3	.4	.5	.5	.1	.0	.3	.3	.9	.3
1824	.7	.4	.2	.3	- -	- -	- -	- -	.4	.3	.5	.0
1825	.1	.6	.3	.3	.2	.3	.5	.4	.6	.3	.5	.3
1826	.1	.5	.2	.6	.2	.5	.4	.3	.4	.3	.2	.1
1827	.1	.5	.3	.7	.4	.6	.3	.3	.5	28.7	.5	.1
1828	.0	.5	.1	.5	.2	.5	.4	.6	.5	29.0	.3	.4
1829	.2	.5	.2	.5	.3	.5	.7	.7	.4	.3	.7	.2
1830	.3	.5	.1	.6	.3	.5	.3	.6	.4	.5	.5	.1
1831	.3	- -	.3	.7	.2	.3	.4	.6	.3	.0	31.0	.0
1832	.0	.4	.1	.6	.2	.6	.4	.5	.4	.4	30.4	28.8
1833	.1	.5	.1	.5	.1	.5	.4	.0	.5	.2	.5	29.4
1834	.1	.6	.2	.4	.5	.5	.4	.5	.6	.4	.5	.0
1835	.2	.4	.1	.5	.4	.4	.8	.4	.4	.3	.4	.2
1836	.1	.5	.2	.5	.4	.5	.4	.3	.4	.2	.5	.0
1837	.0	.4	.4	.4	.3	.4	.4	.6	.4	.4	.4	.0
1838	.1	.6	.2	.4	.2	.5	.2	.5	.8	.5	.6	.1
1839	.2	.6	.2	.4	.2	.4	.6	.7	.5	.3	.2	.2
1840	.2	.5	.2	.6	.2	.4	.4	.3	.4	.4	.6	.4
1841	.2	.6	.2	.9	.3	.4	.3	.1	.4	.1	.6	.0
1842	.1	.6	.3	.6	.1	.3	.4	.4	.3	28.9	.5	.1
1843	.3	·6	.3	.6	.3	.6	.1	.3	.4	29.4	.4	.2
1844	.1	.5	.1	.5	.3	.2	.5	.4	.2	.2	.5	28.9
1845	.0	.4	.2	.5	.2	.3	.4	.6	.5	28.6	.5	29.1
1846	.4	.5	.1	.5	.4	.4	.7	.3	.7	.7	.3	.2
1847	.1	.6	.2	.4	.2	.5	.6	.1	.5	29.4	.4	.0
1848	.1	.4	.2	.5	.1	.2	.5	.4	.4	.3	.4	.4
1849	.2	.5	.0	.5	.3	.3	.2	.3	.3	.5	.4	.0
1850	.1	.4	.1	.3	.1	.4	.1	.2	.3	.2	.3	.2
1851	.1	.3	.2	.6	.3	.7	.7	.5	.5	.1	.5	.3
1852	.2	.3	.2	.7	.5	.4	.2	.5	.4	.3	.5	.3
1853	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1854	.1	.6	.2	.6	.4	.3	.4	.2	.3	.3	.6	28.8
1855	.1	.6	.1	.3	.2	.4	.2	.5	.4	.3	.4	29.1
1856	.1	.5	.0	.4	.1	.5	.3	.5	.4	- -	- -	- -
1857	.1	.6	.1	.4	.3	.6	.4	.3	.5	.3	.4	.1
1858	.0	.5	.2	.5	.4	.1	.5	.3	.3	.4	.5	.0
1859	.1	.5	.1	.6	.3	.0	.2	.4	.5	.2	.6	.3
Means,	30.15	29.48	30.18	29.50	30.27	29.42	30.37	29.35	30.42	29.24	30.46	29.12

The monthly average values at the bottom of the table, derived from nearly 50 years of observation, show a very regular annual progression, which is exhibited in the following diagram.

Barometric monthly extremes.



The barometric maxima reach their greatest value (30.46 inches) in December, and their least value (30.14) in June; the barometric minima reach their highest value (29.50) in August, and their lowest value (29.11) in January and February. These epochs, it will be noticed, correspond to the times of the extreme values of the temperature in its annual variation.

The regularity in the annual progression of the barometric monthly extremes is further exhibited by the following values of the average monthly means (mean of highest and lowest readings), and of the monthly range.

	Average.	Range.		Average.	Range.
January . . .	$29^{in}.78$	$1^{in}.34$	July	$29^{in}.81$	$0^{in}.67$
February . . .	.77	1.32	August . . .	.84	0.68
March	.80	1.19	September . . .	.84	0.85
April	.80	1.05	October . . .	.86	1.02
May	.79	0.89	November . . .	.83	1.18
June	.78	0.73	December . . .	.79	1.34

The average pressure for the year is 29.81 inches, which is probably very near the mean value of the atmospheric pressure at Brunswick; reduced to the sea level it becomes 29.90 inches.

The monthly range of the greatest and lowest value is a maximum (1.34 inches) at the period of the greatest cold, and a minimum (0.67 inches) at the period of the greatest heat of the year. It appears that the range in January is just double that of July.

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