

VI.—*The Meteorology of Edinburgh.* By ROBERT C. MOSSMAN, F.R.S.E.,
F.R. Met. Soc. (With Four Plates.)

(Read 1st March 1897.)

PART II.

PRELIMINARY.

The first part of this paper was communicated to the Society on June 1, 1896, and published in the *Transactions* (vol. xxxviii. part iii., No. 20, pp. 681–755), the data there discussed being mean values of the climatic elements for each day in the year.

In the present paper an attempt will be made to focus the results deduced from an examination and reduction of the various meteorological registers kept in Edinburgh from 1731 to 1736 and from 1764 to the present time, with special reference to secular and other weather changes.

The condensed results of a number of minor papers dealing with subjects which have, in many cases, formed part of the daily routine of observation during the last ten years have also been included. Attention may also be called to the list of remarkable atmospheric occurrences, such as phenomenal gales, snow-storms, auroras, etc., which is contained in the appendix. In presenting this paper my warm thanks must be expressed to Dr BUCHAN, from whom I received invaluable advice when points of difficulty arose in the reduction of the observations.

Barometric Pressure.

The preparation of Table I., showing the mean monthly and annual air pressure since 1769, has been a work of considerable labour. This was more especially the case with the observations taken prior to the establishment of the Scottish Meteorological Society in 1856. During the last forty years these observations have been examined and checked by the Secretary, who further tested the instruments at the Society's stations. The errors of the barometers were thus known and allowed for in the calculation of the monthly means, while any accidental displacement of the mercury or other injury was at once apparent on comparing the returns with those made at stations in the vicinity of Edinburgh. The values for the period 1856 to 1896 were accordingly extracted from the *Journals* of the Scottish Meteorological Society, and entered in the table, any blanks in the observations being made good from the records of contiguous stations by interpolation and differentiation. No such easy method of dealing with the older observations presented itself,

as the values from 1769 to 1853 were, with the exception of those taken by PLAYFAIR* from 1794 to 1799, entirely unreduced and uncorrected. There were thus the accumulated data of eighty years awaiting discussion. As the work of reduction proceeded, it became evident from the numerous anomalies and discrepancies disclosed by an inspection of the monthly means, that the preparation of monthly isobaric charts for Scotland must be attempted for the greater part of the first fifty years covered by the investigation, with a view to the elimination of discordances. In this connection the numerous manuscript observations kept at various places in Scotland, and kindly lent by the Royal Society of Edinburgh and the Scottish Meteorological Society, proved of the highest value. I have specially to thank Dr BUCHAN for placing a large mass of material at my disposal.

The following are the additional stations whose data were utilised in the preparation of the monthly isobaric charts, the values for Edinburgh being calculated from Registers III., IV., VI., VII., X., XI., XIV., XVI., XVII., XVIII.†

Kept at.	Years.	Hours of Observation.	Remarks.
Selkirk,	1769-1780	?	The means were collected by Hoy and are contained in his MS. registers.
Kirkcaldy,	1775-1778	8 A.M. and noon.	Means calculated from MS.
Branxholm,	1774-1783	...	<i>Trans. Roy. Soc. Edin.</i> , vol. i. p. 204.
Glendoich,	{ 1783-1801 } 1810-1816 }	9 A.M.	Means calculated from MS.
Gordon Castle, . . .	1781-1827	8 A.M.	<i>Jour. Scot. Met. Soc.</i> , vol. v. p. 73.
Dunfermline,	1799-1826	9 A.M.	Means calculated from MS.
Carlisle,	1801-1824	8 A.M., 1 P.M. and 9 P.M.	<i>Trans. Roy. Soc. Edin.</i> , vol. xi. p. 429.
Kinfauns Castle,	1811-1834	8 A.M. and 10 P.M.	Means calculated from MS.
Lasswade,	1828-1843	8 A.M. and 10 P.M.	Means calculated from MS.
Dollar,	1836-1842	9.15 A.M. and 8.30 P.M.	Means calculated from MS.
Aberdeen,	1829-1841	8 A.M. and 9 P.M.	From Abstracts given in <i>Aberdeen Journal</i> .

Much labour was expended in ascertaining approximately the instrumental error of the above instruments, and in their reduction to 32° and sea-level, the height above the sea being known in each case. The values from the above stations were then entered month by month, on small maps of Scotland. The entries include the following:—

1. The mean barometric pressure corrected and reduced to sea-level, and corrected for instrumental errors.
2. The rise or fall of pressure from the previous month.
3. The rise or fall of pressure from the corresponding month of the previous year.
4. The prevailing wind at Edinburgh and such places as observed the wind direction.

The monthly means had also corrections applied to them so as to bring them to the

* *Trans. Roy. Soc. Edin.*, vols. iv. p. 213, and v. p. 193.

+ *Trans. Roy. Soc. Edin.*, vol. xxxviii. pp. 682-683.

mean of Edinburgh, on the assumption that the distribution of pressure over the country was normal. These corrections were obtained from Dr BUCHAN's paper on "The Mean Atmospheric Pressure of the British Isles."* Although but little weight was attached to the values thus corrected, they were of much interest when viewed in connection with anomalies in the barometric gradients over the country. Maps were prepared for a period of thirty-seven years, viz., from 1781 to 1817. It was not necessary to adopt this tedious process after 1817, as from that date the instruments were on the FORTIN principle, and carefully observed. From an examination of the results thus graphically shown by the data delineated on the maps, the elimination of errors was rendered comparatively easy. I believe that the means thus obtained give a close approximation to the average pressure for the period under discussion. The observations utilised from 1817 to 1856 were the following:—From 1817 to 1826 the means were computed from the Calton Hill Observatory, where daily readings were taken at 8 A.M. and 10 P.M. These were printed monthly *in extenso* in the *Scots Magazine* for the years to which they refer. ADIE's observations given in the *Edinburgh Journal of Science* were adopted for the period 1827 to 1832, while the Royal Society's observations were employed from January 1833 to October 1834, and again from 1839 to 1852, the hiatus being filled in from a register kept at Lasswade, six miles S.E. of Edinburgh. The Lasswade means were calculated from 1828 to 1843, so as to allow of the determination of the instrumental correction by comparison with Edinburgh. Means were also computed for part of this period from the Dollar register, which furnished an additional check. The hours of observation were, at Lasswade, 8 A.M. and 10 P.M., and at Dollar, 9.15 A.M. and 8.30 P.M. The observations at the rooms of the Royal Society from 1839 to 1852 were taken at 10 A.M., and were deficient on Sundays and holidays. It was, therefore, necessary to interpolate values for the missing days. The height of the barometer for these days was found from the contemporaneous registers kept by ALEX. ADIE till 1850 and continued for some years thereafter at his place of business. As the Royal Society observations were made only once a day, it was necessary to reduce ADIE's 10 A.M. and 10 P.M. readings, in order to obtain corrections to be applied so as to bring the former series to the mean of 10 A.M. and 10 P.M. This was accordingly done. The reason ADIE's observations were not utilised for the actual means is that there was no attached thermometer. The readings could not, therefore, be reduced to 32°. The means for 1853 to 1856 were obtained from Sir Henry James's abstracts taken in Edinburgh by the Royal Engineers. From 1856 down to the present time the 9 A.M. and 9 P.M. observations made at the Edinburgh stations of the Scottish Meteorological Society have, as already stated, been employed. Every effort has been made to make the results comparable by reducing or otherwise correcting the means to those of 9 A.M. and 9 P.M. For many years the hours were 8 A.M. and 10 P.M., or 10 A.M. and 10 P.M.; observations taken at these hours differ

* *Jour. Met. Soc.*, vol. vi, pp. 14-18.

† Abstracts from Meteorological Observations taken at the stations of the Royal Engineers.

but little from readings taken at 9 A.M. and 9 P.M. so that no corrections were made. With reference to the monthly means from 1769 to 1816, it was not considered desirable to attempt any reduction to 9 A.M. and 9 P.M., as the hours of observation could not be ascertained for some periods. The limit of error arising from this disturbing factor must be small, as the Edinburgh observations were checked against the isobars drawn month by month for the E. of Scotland. In any case, the departure from the true mean due to this deficiency would not exceed 0·012 inch.

Table I. shows the means of each month and year reduced to 32° and mean sea-level, as well as decadal and monthly means for the whole period, viz., 1770 to 1896. The annual mean was 29·858 inches, being highest (29·962 inches) in 1864 and lowest (29·706 inches) in 1789, showing a difference of 0·256 inch in the annual means. The highest monthly mean was that of May, which is 29·940 inches, and the lowest that of December, which is 29·800 inches, there being thus a difference of 0·140 inch between the highest and lowest monthly means. It is to be observed that the average pressure of November is practically the same as that of December, the difference being only 0·001 inch.

The highest mean pressure of any month was 30·361 inches in March 1840, and the lowest was 29·186 inches in January 1791, the difference being 1·175 inch. The month showing the greatest range among the means is February, the highest mean being 30·337 inches, in 1891, and the lowest 29·202 inches, in 1776, a difference of 1·135 inches. The least variation is in July, the highest mean being 30·153, in 1825, and the lowest, 29·633 inches, in 1798, a difference of 0·520 inch.

The absolutely highest barometric pressure during the 127 years under review was 31·071 inches, at 9 A.M. on January 9, 1896, and the lowest 27·451 inches, at 10 P.M. on January 26, 1884, giving a difference of 3·620 inches. The highest and lowest pressures are given for each month since 1840 in Tables II. and III. Table IV. gives the extreme range of pressure during the last fifty-seven years, for each month. The greatest monthly range was 3·035 inches in January 1884, and the lowest 0·515 in July 1852. The mean monthly range is greatest (1·611 inch) in January and least (0·935 inch) in June and July. It is to be observed that the differences between the values given in Tables II. and III. do not always agree with the values in Table IV. This is due to the entry in the former tables of extra readings taken during periods of high and low pressure, whereas the table of monthly range has been compiled from the bi-diurnal observations taken at 9 A.M. and 9 P.M. The results given in Tables I. to IV. are further summarised in Table V., while Table VI. shows all the sea-level pressures above 30·90 inches or below 28·20 inches experienced in Edinburgh from 1770 to 1896.

Mean Temperature of the Air.

Table VII. shows the mean temperature of the air in shade, 4 feet above grass, and at a height of 250 feet above mean sea-level, from 1764 to 1896. From 1764 to June 1781 the values given are those taken by Hoy at Hawkhill House, St Andrew Square,

the Pleasance, and, for a short time, at Mertown. They have been reduced and otherwise corrected to the mean of the maximum and minimum by Dr BUCHAN, so that it was only necessary to correct them to a height of 250 feet by applying a reduction equal to 1° for each 270 feet. After having the small correction of $0^{\circ}6$ applied they were entered in the table.

Considerable labour was involved in the reduction of the observations taken from June 1781 to December 1821. It will, therefore, be necessary to go into the processes involved in the reduction of the earlier registers with some degree of elaboration. The best observations throughout this period are undoubtedly those made by ADIE in Merchant Court from 1795 to June 1805, the hours being 8 A.M. and 8 P.M.

The uncorrected values for the months and the years are given by FORBES. They have been brought to the mean of the maximum and minimum by applying the corrections given in the first part of this inquiry.* The corrections there given were tested by a number of methods, but the values were so accordant that it was decided not to make any alteration. A comparison of the *Edinburgh Advertiser* 8 A.M. and 8 P.M. readings from 1795 to 1804 with ADIE's corrected mean values gave the following plus corrections, which were applied to the *Edinburgh Advertiser* record from 1787 to 1806.

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
$0^{\circ}9$	$1^{\circ}4$	$1^{\circ}8$	$2^{\circ}1$	$2^{\circ}2$	$2^{\circ}2$	$2^{\circ}0$	$1^{\circ}5$	$1^{\circ}0$	$0^{\circ}5$	$0^{\circ}4$	$0^{\circ}6$

Some change was made in the exposure of the instruments in 1806, the corrections applied from that time till 1821 being those already given.† The means for the period 1787 to 1831 have been computed, and are given in Table VIII. Another change took place in the instruments or their exposure in 1824, but a fresh table of corrections was not made, as the observations were not utilised after 1821.

Another register is available for the period 1785 to 1816, the temperatures taken "before sunrise" and "at noon" being given *in extenso*, in the *Edinburgh Magazine* and afterwards in the *Scots Magazine*. The station was at Duddingston, near the foot of Arthur's Seat, from 1785 to January 1793, "within one mile of the Castle of Edinburgh" from 1793 to May 1798, and then at Barnton, three and a half miles west of Edinburgh, till 1816. The means have been computed and are given in Tables IX. and X. The averages utilised for the calculation of mean temperatures are those taken before sunrise, some little doubt attaching to the noon observations, especially in hot, sunny weather. The corrections were obtained by a comparison with ADIE's and the *Edinburgh Advertiser* records, the latter being the values for the five years 1788 to 1792. The corrections thus obtained were applied to the observations at Duddingston from 1785 to January 1793. The observations taken within one mile of the Castle from February 1793 to May 1798 were corrected by means of a comparison with ADIE for the three years 1795 to 1797, and those taken at Barnton till 1816 from a comparison with ADIE for the five years 1800 to 1804.

* *Trans. Roy. Soc. Edin.*, vol. xxxviii. p. 686.

† *Trans.*, vol. xxxviii. p. 687.

The following are the plus corrections for each series :—

Years.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1785-1793	°	°	°	°	°	°	°	°	°	°	°	°
February	1·6	3·3	4·6	6·6	6·6	6·8	6·3	6·1	5·1	3·9	2·0	1·6
1793-1798	2·0	3·3	4·6	3·9	3·8	4·1	4·9	5·1	4·3	2·9	1·6	1·8
May	1·2	2·0	3·2	4·5	5·5	6·0	6·8	6·8	5·7	3·7	1·9	1·3
1798-1816												

A register was kept in Edinburgh by Mr GEORGE WATERSTON from 1799 to 1850 (see Table XI.). The hours of observation were 8 A.M., 2 P.M., and 10 P.M. They have been utilised from 1806 to 1820, and were corrected by comparing them with ADIE's mean temperatures for the ten years 1821-30. The following are the monthly corrections obtained after smoothing the curve :—

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
- 2°·2	- 1°·8	- 1°·5	- 1°·6	- 2°·0	- 2°·2	- 2°·5	- 2°·3	- 2°·2	- 2°·0	- 2°·2	- 2°·4

From June 1781 to December 1784 no observations are known to have been made in Edinburgh. It was therefore necessary to interpolate from the records of contiguous stations. A register was kept at Branxholm from 1775 to 1783, the results being given in vol. I. of the *Trans. Roy. Soc. Edin.* A comparison of the means there given with Hoy's corrected values from 1775 to June 1781 gave the following smoothed corrections which were applied to the observations made from June 1781 to December 1783, as follows :—

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
+ 3°·9	+ 3°·0	+ 2°·7	+ 2°·1	+ 1°·8	+ 1°·5	+ 2°·2	+ 2°·4	+ 1°·6	+ 2°·2	+ 3°·4	+ 3°·6

A register was kept at Glendoich from May 1783 to 1817, from which means (see Table XII.) have been calculated from May 1783 to 1794, the corrections to Edinburgh mean temperature being obtained by a comparison with the *Edinburgh Advertiser* means from 1788 to 1793, thus :—

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
- 0°·7	- 0°·6	- 0°·6	- 0°·6	- 0°·6	- 0°·9	- 1°·0	- 1°·5	- 1°·4	- 1°·3	- 0°·9	- 0°·6

The corrected means from all these sources having been obtained, final means were calculated from them. For example, from 1799 to 1804 the means given in Table VII. are the average of the corrected means deduced from ADIE's and the *Edinburgh Advertiser* 8 A.M. and 8 P.M. observations, along with the Barnton observations, all being brought to the mean of the maximum and minimum by the corrections already given. The results are remarkably accordant in the majority of cases. FORBES' adopted temperatures were utilised as a check from 1805 to 1820. The Kinfauns Castle record was further brought to the mean of the Edinburgh record for the period 1813 to 1821 by a comparison

with ADIE's for the five years 1822 to 1826. These two last-mentioned registers not being deduced from observations taken in the city, were only employed as a check on the other registers.

The means from 1822 to 1896 given in Table VII. were derived from the following sources. From 1822 to 1850 ADIE's mean temperature values, as reduced by FORBES, were employed, but the means were recomputed from 1824 to 1831 and from 1840 to 1850. During the latter period some blanks were made good by interpolating from WATERSTON's register. The means for these years will accordingly be found to differ in some months from those given in FORBES' paper. From October 1849 to January 1853 the means were obtained from a record kept by ALEX. ADIE & SONS. From February 1853 to 1855 the observations taken by the Royal Engineers were utilised, while from 1856 the returns from the Edinburgh stations of the Scottish Meteorological Society were employed.

The station was in Melbourne Place from May 1858 to December 1861.* The returns from this station are too high, owing to radiation from the surrounding buildings. They have accordingly been corrected by the smoothed values calculated from the data given in the under-mentioned report.† The corrections which are all minus, have been severally ascertained for the maximum, minimum, and mean temperatures, as follows:—

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Maximum, .	°	°	°	°	°	°	°	°	°	°	°	°
Maximum, .	2·9	3·0	2·3	2·5	2·5	3·2	3·3	3·5	3·1	2·7	2·5	3·0
Minimum, .	2·5	2·4	2·3	2·5	2·5	2·5	2·5	2·5	2·7	2·6	2·6	2·5
Mean, . .	2·7	2·7	2·3	2·5	2·5	2·8	2·9	3·0	2·9	2·6	2·5	2·8

With regard to the observations of the past thirty-five years, for a few months interpolations had to be made from Leith or Inveresk. When this was found necessary the values were corrected for height.

The mean temperature for the period is $46^{\circ}8$, or reduced to sea-level, $47^{\circ}7$, the correction being 1° for every 276 feet. The highest mean annual temperature was $49^{\circ}6$ in the years 1779 and 1846, and the lowest $43^{\circ}8$ in 1879, giving a range in the annual means of $5^{\circ}8$. The warmest month was July 1779, with a mean temperature of $65^{\circ}2$ or $6^{\circ}6$ above the average, and the coldest month January 1814, the mean being $26^{\circ}5$ or $10^{\circ}3$ below the average, the extreme range in the monthly means being $38^{\circ}7$.

The following table shows the highest and lowest mean monthly temperatures during the last 133 years:—

* In part 1 of the paper it was erroneously stated that the observations were made at this station from 1853 to 1856.
† (See *Quarterly Report of the Meteorological Society of Scotland*, for the quarter ending 31st March 1862, p. 7.)

Month.	Highest.	Year.	Lowest.	Year.	Range.
January,	43·8	1796	26·5	1814	17·3
February,	47·2	1779	29·8	1838	17·4
March,	46·5	{ 1779 1841 }	34·2	1785	12·3
April,	49·8	{ 1792 1798 }	38·9	1837	10·9
May,	55·8	1833	45·1	1810	10·7
June,	61·9	1846	51·5	1860	10·4
July,	65·2	1779	54·4	1879	10·8
August,	63·7	1779	52·6	1830	11·1
September,	59·5	1846	48·2	1807	11·3
October,	52·7	1831	42·0	1817	10·7
November,	46·7	1818	34·0	1807	12·7
December,	47·8	1843	31·0	1878	16·8
Year,	49·6	{ 1779 1846 }	43·8	1879	5·8

The mean warmest month is July, 58°·6, and the coldest January, 36°·8, the range being 21°·8.

In the years 1854 and 1857 the mean temperature was above the average in each month, while it was below the average in each month in the years 1816 and 1879, both of these years being most disastrous from an agricultural point of view. The longest spell of cold was from April 1859 to January 1861, only one month in this period, viz., May 1860 having a mean temperature in excess of the average. The coldest five year period was from 1812 to 1816, and the warmest from 1777 to 1781, the excess or defect of temperature being the same in each case, viz., 1°·2.

Table XIII. shows the extremes in the mean and absolute daily temperature. The table is incomplete from 1770 to 1821. For this period the values given are (1) the extreme maximum and minimum temperatures observed by HOY at Hawkhill from 1770 to 1776, the observations being made several times a day from 8 A.M. to midnight; (2) the observations taken from 1785 to 1798 were "near the foot of Arthur's Seat" or "near the Castle," the hours of observation being "before sunrise" and "at noon"; (3) the lowest and highest mean daily temperature from 1795 to 1804 taken by ADIE at 8 A.M. and 8 P.M., and corrected to mean temperatures; (4) the absolute minimum temperatures from 1803 to 1821 given in the *Edinburgh Advertiser* register. From 1822 to 1896 the observations were taken first by ADIE till 1850, and under the auspices of the Scottish Meteorological Society from 1856 to 1896. The hiatus from 1851 to 1855 was made good from records kept by ADIE & SON and the Royal Engineers. During the last seventy-five years the highest mean temperature of any day was 75°·5 on August 5, 1868, and the lowest 12°·4 on December 24, 1860, showing an extreme range of 63°·1 between the mean temperatures deduced from the average of the daily maximum and minimum readings. The earliest date of highest mean temperature was May 19 in the year 1888, and the latest date September 2 in the year 1824.

The corresponding dates for the lowest mean daily temperature were November 22, 1880, and March 26, 1872. The range between the extreme daily temperatures was greatest $56^{\circ}0$ in 1826 and least $34^{\circ}5$ in 1883. The absolute maximum temperature in the seventy-five years under review was $87^{\circ}7$ on August 5, 1868, and the lowest $5^{\circ}0$, this value being recorded on January 31, 1845, January 29, 1848, and December 24, 1860, the latter observation being taken at Marchhall, which is within 200 yards of the place where observations are now made. The extreme range in the shade temperature was $82^{\circ}7$. The earliest date at which the maximum temperature occurred was April 30 in the year 1862, and the latest, September 25 in 1895, the next latest being on September 8, 1890. The extreme dates on which the absolute minimum took place were November 7, 1868, and March 24, 1834. The annual range was greatest, 77° , in 1826 and 1848, and least, 48° , in 1862. The lowest absolute maximum was $70^{\circ}0$ on April 30, 1862, and the highest minimum, $24^{\circ}5$, on December 28, 1863.

Tables XIV. to XXIV. give the reduction of nearly all the temperature observations taken in Edinburgh.

Table XIV. shows the highest mean daily temperature in each month from 1857 to 1896, Table XV. gives the lowest mean temperature, and Table XVI. the range. Table XVII. shows the greatest daily range of temperature during this period.

Table XVIII. gives a general synopsis of the thermometric observations from 1840 to 1896. Table XIX. summarises some of the data contained in the above tables.

Table XX. gives all the instances of a maximum temperature below $25^{\circ}1$ and of a minimum temperature above $60^{\circ}9$.

Tables XXI. to XXIV. give the results of the reduction of ADIE's observations taken at Canaan Cottage. The original observations are given *in extenso* in the *Edinburgh Journal of Science*. Table XXI. shows the average maximum, minimum, and mean, temperatures, and the mean daily range of temperature.

Table XXII. gives the extreme shade temperatures and the extreme range of temperature.

Table XXIII. gives the highest night minimum and lowest day maximum, and Table XXIV. the extremes in the mean daily temperatures. The date of the occurrence is given in each instance.

Temperature Variability 1840 to 1896.

The mean daily variability of temperature is given in Table XXV. In the calculation of the values, the mean temperature was assumed to be the arithmetical mean of the daily maxima and minima. The calculation of the variability of temperature consists in extracting the difference between the day to day values. Thus, if the mean temperatures of two successive days were respectively 60° and 55° , the difference, viz., 5° , would represent the variability. Table XXVI. summarises the data given in Table XXV., along with some additional particulars.

The mean annual variability of temperature is $2^{\circ}85$, being highest, $3^{\circ}24$, in January and lowest, $2^{\circ}52$, in July, thus showing a difference of $0^{\circ}72$. The greatest variability was $3^{\circ}38$ in 1843, and the least $2^{\circ}50$ in 1860, the range in the annual means being less than 1 degree. The greatest variability of any month was $4^{\circ}9$ for November 1847, while the low value of $1^{\circ}6$ was recorded in the Julys of 1853 and 1854, the Augusts of 1858 and 1860, and in September 1861. The greatest daily rise of temperature occurred on March 17, 1892, whose mean temperature was $15^{\circ}1$ higher than that of the 16. August 29, 1869, on the other hand, was $15^{\circ}5$ colder than the previous day. The daily observations for fifty-seven years were gone over, each rise or fall of 10° or more in the mean temperatures being extracted. The number of such cases was 230, viz., 129 rises and 101 falls (see Table XXVI.). The greatest number was 14 in 1843, and the least 1 in 1857, 1859, 1861, 1862, 1883, and 1891. In six of the years there was no fall of 10° , and in four of the years no rise of 10° . The greatest number of 10° rises was in 1843 and 1845, when nine cases were recorded, while the maximum number of 10° falls, viz., six, occurred in 1880. As the variability of temperature at stations on the Continent is as a rule calculated from observations taken at stated hours, and not from the mean of the maximum and minimum, Table XXVII. has been prepared. This Table gives the mean daily temperature variability for the hours of 9 A.M. and 9 P.M. which are then compared with the values deduced by taking the daily means of the maximum and minimum. Table XXVIII. shows the means deduced from the 8 A.M. observations taken by HOY at Hawkhill House, and Kirkcaldy, while corresponding values for the period 1731 to 1736 are discussed in another section. It has been shown that the variability of temperature is subject to a diurnal range,* but unfortunately the Edinburgh records are sadly defective in data from which hourly values could be calculated for this or any other climatic element, with the single exception of sunshine.

Rainfall.

Table XXIX. shows the monthly and annual rainfall in Edinburgh for 120 years and six months. The values from 1770–76 were taken by HOY at Hawkhill. Mr HOY was also the observer during 1780 and the first half of 1781 when he removed to Gordon Castle. From 1785 to 1794 the observations were deduced from the *Edinburgh Magazine* record, the gauge being at Duddingston till January 1793, and thereafter “within one mile of the Castle.” The values from 1795 to 1805 and from 1822 to 1850 are those taken by Mr ADIE, and given by FORBES in his *Climate of Edinburgh*. The late Mr LESLIE commenced his long series of rainfall observations in 1850, the station being Charlotte Square, where the record is still continued. The returns from this station have been utilised for the period 1851–96.

From 1805 to 1821 rainfall was not systematically observed at any one station during the whole period; but values have been obtained from measurements made at the Royal Observatory, and at other places in Edinburgh. I am indebted

* *Jour. Scot. Met. Soc.*, vol. x. p. 150.

to Mr G. J. SYMONS, F.R.S., for copies of some of the earlier rainfall observations. When no observations were available for the City, the Barnton register was utilised. It is to be particularly observed that the process adopted of dovetailing one rainfall record into the other introduces a slight element of error, the precipitation, as a whole, increasing the nearer the station is to the high grounds surrounding Arthur's Seat, the Blackford Hill, and the Pentlands (see *Jour. Scot. Met. Soc.*, vol. x. p. 16).* The records, however, approximate closely to the mean rainfall of Charlotte Square, as shown by the observations taken there during the last forty-five years.

The mean annual rainfall is 25.86 inches, the wettest year being 1872, with a rainfall of 38.96 inches, and the driest, 1826 (the year of the short crop), with a downfall of only 15.27 inches. These amounts are respectively 51 per cent. above, and 41 per cent. below the mean. The wettest month is July; the mean daily fall being .091 inch, and the driest month March, the average being .049 inch.

The wettest month was September 1785 with a rainfall of 10.69 inches, and the driest March 1781 with a rainfall of .03 inch. The mean annual number of days with 0.01 inch or more of rain, taking the observations of the last twenty years (1877-96), is 190, distributed throughout the year as follows:—

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
16	14	15	14	14	14	18	19	16	17	17	16

The greatest number of days with rain in the period 1856-96 was twenty-nine in July 1882, and the least, two for March 1856.

Droughts and Heavy Rains.

Since the year 1770, as already stated in last section, rainfall observations have been taken in Edinburgh or its immediate vicinity without a break, there being always one or more rain-gauges at work in different parts of the city. During thirty-four years, however, viz., from 1777-79, 1781-83, 1817-23, and from 1833-55, the rainfall measurements were only made weekly or monthly. Waterston for a year or two gave the amounts recorded during great falls, but they have not been utilised. The material available for examination in connection with this inquiry was thus restricted to the ninety-two years during each of which the gauge was examined daily, and the amount, if any, measured. The period under discussion ends with 1895.

Before stating the more prominent results of an investigation into droughts it seems desirable to give an answer to the question, "What is a drought?" Mr SYMONS, our greatest authority on rainfall matters, has solved the problem by dividing droughts into two classes, viz., absolute and partial. He defines the former as periods of more than fourteen consecutive days absolutely without rain, and the latter as periods of more than twenty-eight consecutive days, the aggregate rainfall of which does not exceed one-hundredth of an inch per day. The examination has been confined in the present

* The mean annual rainfall for the twenty-five years, 1866-90, at various places in Edinburgh was as follows:—Charlotte Square, 26.71 inches; Cumin Place, 30.13 inches; Blacket Place, 29.86 inches; and Napier Road, 28.97 inches.

instance to the former class, viz., absolute droughts. The total number of these during the ninety-two years under review was 65. Their distribution throughout the year (as will be seen on looking at Table) is somewhat irregular, June having the greatest number with 10, closely followed by February and March with 9 each. The minimum is reached in Autumn, November having only 2, and October 3. The secondary minimum in April and May is of interest as is the sharp drop after July. We may state that the droughts have been entered to those months in which they commenced.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Number of Droughts,	3	9	9	5	4	10	7	3	5	3	2	5	65
Mean duration, days,	20	18	20	19	21	18	19	18	19	17	16	18	18.6

As regards individual years, the greatest number of droughts observed was three in 1786, 1825, 1829 and 1867, while none occurred from February 1787 to July 1795, a period of eight years and three months. A recent instance of a long spell without one was from August 1876 to May 1884, or seven years and nine months. The longest period without rain occurred in 1786, when none fell for thirty-three days, viz., between May 24 and June 25. The water supply in Edinburgh fell short during this year, the community being put to much inconvenience thereby. Other long spells without rain were from March 13 to April 11, 1825, and from June 24 to July 22, 1869, periods of thirty and twenty-nine days respectively. Of the sixty-five droughts recorded, sixteen exceeded twenty days while four lasted a month. Nearly all the dry periods occurred in early spring. Only on one occasion during the three months October to December did a drought last for a longer time than seventeen days. As to the atmospheric causes concurring in such long dry periods, little can be said. We know that droughts are due to the unwonted prevalence and persistence of anti-cyclonic systems over Western Europe, but to say more than this would be to enter on the ground of pure speculation.

With regard to heavy rains, all falls of an inch or more in the twenty-four hours were extracted for the ninety-two years under consideration (see Table XXXI.). An inch a day in this part of the country is looked on as a heavy rainfall, being equivalent to 101 tons or 22,623 gallons of water per acre. The total number of cases as will be seen from the following Table was 165, giving an average of very nearly two per

Month.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Falls of 1.00 inch or more,	7	6	5	6	15	12	21	33	20	18	15	7	165

annum. The heavy falls were distributed among the years in a most capricious manner. For instance, there were eight such rains in the year 1808, while 1809 and 1877 had seven each. On the other hand not a single case was observed from September 1884 to August 1889. The number of heavy falls during thunderstorms was one in May, two in June, ten in July, and four in August. It would thus appear that in Edinburgh, at any

rate, thunderstorm rains usually fall short of an inch. August stands out prominently for its rainstorms with thirty-three falls exceeding an inch. The period known as the Lammas Floods shows to what an extent these heavy downpours have obtruded themselves upon public notice, and that long before the days of rain-gauges. July comes second to August with twenty-one cases, while February and April have only six each and March but five. It is of interest to note that two of the six heavy rains in February occurred within a week. The seasonal distribution was spring, twenty-seven cases ; summer, sixty-six ; autumn, fifty-three ; and winter, twenty. From an examination of the daily weather reports it was seen that the majority of notable downpours took place during the passage of small shallow depressions moving slowly eastwards. Sometimes the depression remained almost stationary for days. Enormous quantities of rain were then precipitated, 7 inches, for example, falling in five days during August 1877. In a few cases, principally in winter, the rain was general over the country, but as a rule the western parts of the country were not affected by the cyclonic storms which gave the heavy rains on the east coast. The general direction of the wind during the rainstorm was noted, the percentage frequency being as follows, viz. :—

N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
5	15	32	9	3	9	21	6

The maximum number of cases took place with winds from the east, a well marked secondary maximum being observed with winds from the west. If we weigh the observations so as to allow for the relative frequency of the winds during the ninety-two years, we obtain quite a different windrose, as it is called. The overwhelming preponderance of sea-winds during the occurrence of heavy rains now becomes apparent, while the secondary maximum with west winds—a maximum due to the frequency with which these winds blow—vanishes. Thus, approximately, in 1,000 days of wind there will be ten rains exceeding an inch with a north-east wind, and nine with an east wind, while only two cases may be expected with a south wind. The values for the other winds are N. 6, S.E. 6, S.W. 3, W. 3, N.W. 4. The comparative infrequency of heavy rains with south-east winds is doubtless due to the fact that they have been deprived of much of their moisture by the Lammermoors over which they had previously passed. In Aberdeenshire, as shown by Dr BUCHAN, the south winds blow against the cold slopes of the Grampians with the result that there they are by far the wettest. Mr SYMONS has stated that there is no part of the British Isles, however dry, where 4 inches of rain may not fall in twenty-four hours. The Edinburgh record bears this statement out, for although there are only three rains exceeding 3 inches in the ninety-two years, yet one was above 4 inches, no less a quantity than 4·20 inches having fallen on December 9th, 1787. On that occasion there was a great flood in Leith Harbour, greater than ever remembered. The flood was as high at low water as at ordinary full tide. Much damage was done to the shipping, while several casualties involving loss of life were reported from Leith and other parts of the country. It cannot be too strongly urged

on observers to have rain-gauges capable of holding at least 4 inches of rain, otherwise important facts of interest to meteorologists and engineers alike will be irretrievably lost. The following are the maximum daily rainfalls noted in each month during the period under review.

Month.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Rainfall, .	1.59	1.80	1.55	1.71	1.50	1.54	2.95	2.56	3.80	2.50	2.89	4.20
Date, .	10/1809	3/1809	16/1891	5/1808	14/1795	26/1874	13/1879	18/1797	24/1785	5/1775	18/1795	9/1787

Direction of the Wind.

Table XXXII. shows the number of days on which each wind prevailed, from June 1731 to May 1736, and from 1764 to 1896; for the months and the year. From 1764 to 1769 the only values available are the summaries of east and west wind prepared by Hoy. The former includes observations from N., N.E., E., and S.E., the latter those from S., S.W., W., and N.W. As 50 per cent. of the winds in Edinburgh are from the S.W. and W., and 25 per cent. from N.E. and E., it follows that the above method of reducing the wind observations to the two principal directions gives a close approximation to the truth. The registers employed are those utilised in the preparation of daily values.* From 1781 till the commencement of WATERSTON's observations in their complete form in 1805, the direction of the wind was not systematically observed. It was therefore necessary to interpolate from the Glendoich and Dunfermline registers, which in some measure help to supply the deficiency. Table XXXIII. shows the mean percentage frequency of the winds for the months and the year for the 133 years 1764–1896. The mean values for 100 years are given in Part I., and are herewith compared with the longer record.

Percentage Frequency.

	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm or W.
133 Years, .	4	7	18	5	5	15	35	7	4
100 Years, .	4	7	16	7	6	17	32	7	4

The means for the two periods are thus essentially the same. The observations were made twice a day during nearly the whole of the 133 years.

In their reduction the values were resolved to eight points by counting N.N.E., for example, along with N.; S.S.E. along with S.; E.N.E. along with E., and so on. This was done in order to make the observations taken prior to 1856 comparable with those given in the *Scottish Meteorological Society's Journal* during the last forty years.

* *Trans. Roy. Soc. Edin.*, vol. xxxviii. p. 691.

A disturbing element is introduced owing to some observers entering calms and variable winds, whilst others always give a direction, which in still weather was probably the point from which the wind last blew. Tables XXXIV. and XXXV. were accordingly prepared so as to make the results as uniform as possible. In these tables the percentage frequency was resolved to two directions as described above, calms being eliminated.

Looking at Table XXXV., it will be seen that the years with the greatest percentage of west wind were 1854, 1887 and 1798, with values of 79·1 per cent., 77·8 per cent., and 76·2 per cent. respectively.

The effect of wind upon the temperature of the air is very apparent. Thus, in 1854 the mean temperature was above the average in every month, and in 1798 in ten months. In 1887 the excess was not so noticeable. The years with the greatest percentage of east wind were 1768, 47·5 per cent.; 1829, 47·3 per cent.; and 1816, 46·0 per cent.; the prevalence of polar winds, as was to be expected, resulting in a marked fall of temperature during these years.

Mean Relative Humidity.

The mean relative humidity has been determined from the bi-daily observations made with the dry and wet bulb thermometer, the hours of observation being 9 A.M. and 9 P.M. The period under discussion is the thirty-five years 1862–1896. The mean

Mean Relative Humidity, 1862–1896.

Month.	Mean.	Highest.	Year.	Lowest.	Year.	Range.
	%	%		%		%
January, . . .	86·8	96	1879	81	{ 1895 1896	15
February, . . .	86·4	97	1879	78	1895	19
March, . . .	84·1	96	{ 1871 1879	77	1868	19
April, . . .	80·5	93	1872	73	{ 1868 1896	20
May,	78·1	92	1872	72	1881	20
June,	77·4	94	1875	67	1884	27
July,	79·1	85	1870	74	{ 1869 1878	11
August,	81·5	90	1877	74	1869	16
September, . . .	82·6	92	1875	74	1869	18
October,	85·8	92	1882	80	{ 1867 1892	12
November, . . .	86·8	94	{ 1876 1881	78	1869	16
December, . . .	86·4	92	1876	83	1867	9
Year,	83·0	97	{ February 1879	67	{ June 1884	30

annual humidity is 83 (Saturation = 100). The air is driest in June, which has a mean humidity of 77·4 per cent., and dampest in January and November with 86·8 per cent., the range being thus 9·4 per cent. As regards individual months, the dampest was

February 1879 with a mean humidity of 97, the driest being June 1884 with a humidity of 67. In June 1878 the mean humidity was 69, but in no other month did the mean fall below 70. The month showing the greatest difference between the means is June, the highest being 94 per cent. in 1875, and the lowest 67 per cent. in 1884, the difference being 27, and the month of least difference, December, the highest being 92 per cent. in 1876 and the lowest 83 per cent. in 1867, the difference being only 9 per cent. A completely saturated atmosphere is of rare occurrence, not more than two or three cases occurring on an average in the year, while in some years no such high value was attained. During the past six years a RICHARD hair hygrometer has furnished a continuous record, the lowest value thus registered being 18 per cent. on February 8th, 1895. An examination of the hygrograms shows that a humidity below 35 per cent. is of very rare occurrence, even with the shade temperature over 80°.

Thunderstorms. (See Table XXXVI.)

During the period 1770–1896, 811 thunderstorms were observed in Edinburgh, or at the rate of six per annum. Of these, 34 took place in winter, 145 in spring, 549 in summer, and 83 in autumn. The months of greatest frequency were June with 169, July with 229, and August with 151; on the other hand, November and December had only 7 each, while February had 10, and March 11. During the six months, April to September, 741 thunderstorms were observed, being 91 per cent. of the whole. Thunderstorms begin to diminish after the Lammas floods, few being observed after the 13th of August. The absolute minimum covered the nineteen days ending with December 5th without a single thunderstorm during the 127 years. Lightning without thunder is comparatively rare; the average annual number of days being only one. Sheet lightning rises to a maximum in September, there being 18 cases in that month during the period under review. A secondary maximum occurs in December. The winter thunderstorms and other electrical phenomena are no doubt associated with deep cyclonic systems;—the explanation being that in the winter months, ‘warm, moist, ascending, and cold, dry descending currents are most frequently brought into close proximity during the great Atlantic storms of the season.’* The diurnal distribution of thunderstorms is well marked (see Table XXXVII.), 64 per cent. being observed during the six hours ending with 5 P.M.; the maximum taking place in the two hours ending 3 P.M.; and the minimum in the early morning hours. Lightning without thunder, on the other hand, is essentially a nocturnal phenomenon, nearly all the cases taking place in the five hours ending with 11 P.M. Thunderstorms appear to diminish at 1 P.M.; this being doubtless due to the loose way in which certain observers use the word noon. Entries of thunderstorms at noon have all been put down as having occurred in the hour ending noon, whereas half of such entries should have been entered to one o'clock. It was not until the investigation was completed that this anomalous result presented itself.

The mean annual number of thunderstorms, as already remarked, is six, the year with

* *Ency. Brit.*, Art. ‘Meteorology,’ Buchan.

the greatest number being 1872, when twenty were experienced. During that year pressure was lower and the rainfall greater than in any other year, with perhaps the exception of 1789. Only one thunderstorm was recorded in the years 1773, 1780, 1784, 1796, and 1801. During comparatively recent years, 1844, 1851, 1859, and 1865 had two, but there is no record of a year without any. The months with the greatest number of thunderstorms were August 1831, and July 1893, which had eight each.

Thunderstorms appear to be on the increase, the mean number from 1770 to 1809 being 4·5 per annum. In the forty years ending with 1849, the number rose to 6·3 per annum, while during the period 1850 to 1889 a further increase to 9 per annum was recorded. During the six years ending with 1895, the mean annual number was ten. The increase can hardly be accounted for by the assumption that the early observers systematically neglected to record this meteor. Only for about twenty years are we dependent on one weather register for our information.

The annual totals have been smoothed by BLOXAM'S method, taking continuous sets of five. The results were projected on a chart which was originally prepared in connection with a paper on "Sunspots and Auroras." On comparing the two curves, little of a definite nature can be made out, it being very doubtful whether thunderstorms are phenomena of a fortuitous nature or are in some way connected with sunspots. There is some reason to think thunderstorms are subject to a long cycle, a wave crest of which we have lately passed. The wave shows distinct minima in 1802 and 1864, and maxima in 1829 and 1882.

With the view of ascertaining the damage done by thunderstorms to life and property, every instance of a severe storm was examined, the newspaper reports for the days characterised by disturbances of an exceptional nature being extracted. The result of the inquiry is, that damage to property took place in thirteen thunderstorms, twenty-six people in all being injured, and only two killed. Of the very severe thunderstorms, seven occurred in June, three in July, two in August, and one in January, the latter occurring on January 26, 1792, when George Watson's Hospital was struck.

The worst storm on record appears to have been that of July 22, 1873, when an observer of the Scottish Meteorological Society counted in one hour 680 flashes of lightning with their accompanying thunder-claps. This gives a rate of fully eleven per minute.

During recent years, the severest storm experienced was that of August 12, 1884, when the Earl of Lauderdale was killed. For notices of these storms see Appendix.

Snow.

Table XXXVIII. gives the number of days on which snow fell for each month, and the year from 1770 to 1896. Values are also given showing the results grouped by winters, with date of first and last snowfall. The total number of days on which snow fell was 2664, giving an average of 21 per annum. The snowiest year was 1782

(the black auchty-twa), with forty-seven entries, closely followed by 1838 with forty-six days, and 1814 with forty-five days. On the other hand, snow fell on only three days in 1856, the number being below ten in eleven years. Grouping the results by winters, a slightly different arrangement obtains, the snowiest being the winter of 1836-37 with forty-nine days, while the winter of 1850-51 had but two snowfalls. With the exception of a little sleet on September 23, 1893, no snow fell in the months of June, July, August and September.

The greatest number of cases in each month is as follows :—

	Jan.	Feb.	Mar.	Apr.	May.	Oct.	Nov.	Dec.
Number,	15	14	16	10	5	4	7	13
	...	1772
	...	1795
Year,	1823	1855	1812	1837	1802	1895	1807	1874

The snowiest month was thus March, 1812, with sixteen days on which snow fell.

The earliest date of first snow was October 1 (see Table XXXIX.) in the year 1817, and the latest January 31, in the winters of 1850-51 and 1857-58. The latest date of last snowfall was May 30, 1808, and the earliest January 17, 1853. The mean date of first snowfall is November 22, and the mean date of latest fall, April 10.

Hail.

Table XL. shows the number of times hail fell during the 127 years 1770-1896, for each month and the year. The mean annual number of days with hail is ten, the maximum being thirty-two days in 1824, and the minimum one day in 1848. The greatest number of days in each month is shown in the following Table :—

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Year,	1809	1795	...
	1820	1801	...
	1805	1889	1821	...
Year,	1808	1843	1824	1803	1894	1895	1891	1891	1889	1819	1824	1784
Number,	7	5	9	9	7	4	3	2	3	4	4	7

Hail does not seem to be associated with thunderstorms, few cases being observed in summer.

Gales.

Table XLI., showing the number of gales, must be looked on as a tolerable approximation to the truth. As the entries depend on personal and not instrumental observation, the results are not strictly comparable. The greatest number of gales was seventy-two in 1818, and the least number, five in 1856. The mean annual number is twenty-nine.

Fog or Mist.

This is also an unsatisfactory Table (No. XLII.), although every effort has been made to eliminate entries of "haze" by comparing the Edinburgh records with those from contiguous stations. The foggiest year was 1808, with thirty-eight entries, while in 1784 no fog was reported.

Auroras.

Table XLIII. shows the number of auroras observed in Edinburgh from 1773 to 1781, and from 1800 to 1896.

I have to thank PROFESSOR COPELAND for permission to examine the records of the Edinburgh Royal Observatory from 1862 to 1894. Many notices have also been obtained from the published records of that institution.

The year of maximum auroral frequency was 1871, with twenty-one auroras, closely followed by 1870 with nineteen notices. The maximum observed in one month was six in March 1871.

Lightning.

Table XLIV. shows the number of cases of lightning without thunder recorded from 1807 to 1835, and from 1868 to 1896. During the other years this phenomenon was not systematically recorded, as there are only about a dozen entries. The greatest number of cases was six in 1818 and 1884. The maximum in any month was three in February 1818, and again in September 1884. Sheet lightning is a comparatively common occurrence in winter, being frequently seen during severe gales, especially when accompanied by a low barometer.

Hourly Sunshine Values.

Table XLV. shows the distribution of bright sunshine throughout the day for the months, seasons, and the year. The results are derived from the records of a Campbell-

Stokes sunshine recorder, which occupies a good exposure at my meteorological station in the south side of Edinburgh. The hourly values have been tabulated for the six years ending with July 1896, the means given in the Table being for this period. Looking at the seasonal values, it will be seen that about four per cent. more sunshine is recorded after noon than before it, except in winter, when the afternoon hours are sunnier than the forenoon by nearly ten per cent. There is little doubt that the relatively greater clearness of the afternoons in winter is due to the prevalence of fog and haze during the morning hours. It will be observed that there is a well-marked seasonal swing in the hour characterised by the greatest amount of sunshine, which approximates closely to the time of highest mean temperature. Attention may also be drawn to the slow rate at which the sky clears in summer, compared with other seasons of the year. Thus in April, the mean amount of sunshine for the hours ending 7 A.M. and 11 A.M. is 8·7 hours and 13·1 hours, respectively, while in June the corresponding values are 9·2 hours and 10·4 hours. This is probably due to the condensation accompanying the strong ascending currents so prevalent during summer.

In Table XLVI. the number of days with different percentages of sunshine is shown for the six years ending with July 1896. It will be seen from the maximum values that on practically cloudless days in summer at least ten per cent. of the possible sunshine is lost, owing to haze at the horizon; while in winter the amount so lost is about 25 per cent. Days with from 1 to 10 per cent. of the possible sunshine are the most frequent at all seasons of the year, sunless days excepted. The latter are at a maximum in winter when no sunshine is recorded in 42 per cent. of the cases.

Rainband Observations.

Observations of the thickness of the rainband in the spectrum of sunlight have been made three or four times a day since August 1887. The hours of observation were 9 A.M., noon, 3 P.M., and 6 P.M., the latter observation being dispensed with in the winter owing to lack of sunlight. The instrument employed was a direct vision spectroscope, which was pointed to the N.W. at an angle of from 40° to 50° . The scale was an arbitrary one, ranging from 0 to 6. The rainband was compared with the lines B, b, and F, to which values corresponding to 1, 2, and 3 were given. The following are the means for the ten years ending July 1896 :—

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1·14	0·92	1·14	0·98	1·15	1·18	1·28	1·27	1·10	1·14	1·12	1·12	1·13

There is little doubt that the rainband spectroscope is a valuable auxiliary to the ordinary instruments for forecasting weather. The following Table gives certain particulars for the days on which rainband observations were made during the three years 1888–90 :—

Rainband.	Days.	Rain fell Days.	Per cent. of Cases followed by Rain within 24 Hours.
0·0	44	9	20
0·5	146	44	27
1·0	347	146	42
1·5	256	143	56
2·0	123	93	76
2·5 and upwards	66	60	91

It will be seen that there is a regular rise in the frequency of rainfall with an increasing rainband. The principal drawback to the forecasting value of these spectroscopic indications lies in the fact that nearly two-thirds of the readings are normal. It will be seen on reference to the Table that the chances of rain or no rain, with values corresponding to 1·0 and 1·5 on our mental scale, are pretty evenly balanced. Under such circumstances the observer must turn to his other instruments for guidance in framing his prognostications. Many cases occurred during the ten years under review when a thick rainband was observed with a clear sky, and a thin one with a cloudy sky, the accompanying weather being wet in the one case and dry in the other. One point specially noticed is that days on which hail fell are characterised by low rainband values, while the same may be said regarding days with snow. An elaborate investigation into the whole subject was commenced some time ago, but it has not been found possible to include the results in this paper.

Solar and Terrestrial Radiation.

The following tabular statement shows the more prominent results deduced from the reduction of the daily observations taken in the south side of Edinburgh during the nine years 1888–96. The solar radiation thermometer is at a height of four feet above the ground, and the terrestrial radiation at a height of a quarter of an inch over short grass.

It will be seen that solar radiation is at a maximum in May, and at a minimum in December; while terrestrial radiation is at a maximum in November, and at a minimum in June. The greatest excess of sun over shade temperature occurred on March 27, 1892, viz., 76°·8; while on May 22, 1890, the grass minimum fell 12°·6 below the minimum in shade. A few cases have been observed when slight inversions of the normal condition of affairs took place, the air at the time being nearly saturated and the sky densely overcast. The maximum excesses of sun over shade were observed in spring or early summer on days when showers and bright sunshine alternated.

	Black Bulb in Vacuo.				Bright Bulb on Grass.			
			Excess over Shade Max.				Minus difference from Shade.	
	Maximum.	Mean.	Mean.	Greatest.	Minimum.	Mean.	Mean.	Greatest.
January, . . .	84·5	56·1	13·8	45·2	7·5	29·4	4·3	10·7
February, . . .	103·3	70·3	26·7	61·4	7·0	29·3	3·8	10·6
March, . . .	115·0	84·6	38·5	76·8	17·3	30·6	4·1	12·2
April, . . .	129·0	96·6	44·3	65·7	20·0	33·9	4·2	12·0
May, . . .	133·0	107·5	48·5	67·7	27·2	39·5	3·8	12·6
June, . . .	139·3	111·1	47·7	71·0	31·3	45·2	2·8	11·1
July, . . .	137·9	111·2	46·6	69·5	34·3	47·8	2·6	8·5
August, . . .	134·0	111·0	46·6	67·2	33·3	47·7	3·3	8·9
September, . . .	126·5	99·5	39·1	60·4	28·1	43·4	4·2	8·8
October, . . .	112·5	82·3	30·1	52·9	21·2	36·0	4·6	10·2
November, . . .	103·5	64·9	17·4	48·9	19·3	33·4	4·8	9·7
December, . . .	82·0	51·8	8·6	32·0	8·7	30·2	4·5	12·4
Year, . . .	139·3	87·2	34·2	76·8	7·0	37·2	3·9	12·6

Reduction of the Observations taken in Edinburgh, from June 1731 to May 1736.—
(The observations are given in extenso in *Medical Essays and Observations*, vol. i. to v. Edin., 1748, 3rd ed.)

This register seems to have been kept with much care and regularity. The observations were made twice a day, the first nearly always at 9 A.M., the second between 2 and 7 P.M., but as a rule either at 4 or 5 P.M. The observations made include readings of pressure, humidity, temperature, wind direction and force, and a condensed state of the weather at the time. The daily rainfall was also measured from June 1731 to May 1735. The observations, it may be remarked, are adapted to the Julian or old style.

Pressure.

The barometer is described as a simple portable one, with a tube about a fourth of an inch in diameter. The scale was probably of wood. The instrument was kept in a chamber at a height of 270 feet above the level of the sea, the height being determined experimentally by carrying the instrument to the sea-shore during an anti-cyclonic period. The values given in the Table below have been corrected and reduced to 32° and sea-level. There was no attached thermometer, but a mean value of 60° was assumed, and the corrections for reducing observations made with instruments having wooden scales applied.* The values may be looked upon as tolerable approximations. The mean annual pressure was 29·877 inches. The highest mean pressure was 30·204 inches in May 1733, and the lowest 29·530 inches in January 1736, showing a range of 0·674 inches between the mean monthly pressures.

* Simmond's Meteorological Tables, p. 23.

Mean Pressure, 5 Years.

Jan. Ins.	Feb. Ins.	Mar. Ins.	Apr. Ins.	May Ins.	June. Ins.	July. Ins.	Aug. Ins.	Sept. Ins.	Oct. Ins.	Nov. Ins.	Dec. Ins.	Year. Ins.
29.813	29.743	29.778	29.944	29.967	30.021	29.923	29.913	29.840	29.876	29.961	29.749	29.877

Temperature.

The thermometer was placed along with the hygrometer in a perforated case freely exposed to the air on the outside of a window facing north. As the observer says, "neither the sun, or rain, nor the fire and company in the chamber can have any bad effect on the instruments within it, and the air has open free access to them."* The instrument was filled with alcohol, and graduated into inches and tenths. "The freezing point is at 8 inches and 2 tenths, and the heat of a man in health raises the spirit to 22 inches 2 tenths." The conversion of the values to Fahrenheit's scale is thus rendered an easy matter, as a change of 14.0 inches in the reading of the thermometer is equivalent to an alteration in temperature of 66°.6, the normal blood heat being 98°.6. The highest temperature recorded during the five years under consideration was 78° at 6 P.M. on June 30, 1734 (New Style), and the lowest, 19°.5 at 9 A.M. on January 8, 1732 (New Style), thus giving an extreme range of 58°.5 at the hours of observation. The following are the highest and lowest temperatures recorded during the five years.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Highest, .	51.5	50.5	64.5	64.5	70.5	78.0	73.5	76.0	64.5	62.5	49.5	54.0
Lowest, .	22.0	22.5	28.0	33.5	36.5	41.5	49.5	48.5	40.0	31.5	27.0	19.5
Range, .	29.5	28.0	36.5	31.0	34.0	36.5	24.0	27.5	24.5	31.0	22.5	34.5

In the reduction of the observations, for the purpose of obtaining mean monthly values, the morning reading was alone employed. The 9 A.M. values were accordingly extracted and averaged, Table XLVII. containing the corrected means for the five years.

Table XLVIII. contains the observations brought to the mean of the maximum and minimum, the corrections being found from a comparison of the 9 A.M. readings with the mean temperature deduced from the average of the maxima and minima, for the years 1888-1896. The following are the monthly corrections thus obtained after smoothing the curve :—

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
+ 0°.6	+ 0°.8	+ 0°.7	- 0°.0	- 0°.4	- 0°.2	- 0°.0	+ 0°.2	+ 0°.3	+ 0°.3	+ 0°.4	+ 0°.3	+ 0°.2

* *Medical Essays*, vol. i. p. 8.

The mean annual temperature for the period was $47^{\circ}0$, being highest, $59^{\circ}9$, in July and lowest, $36^{\circ}8$, in January, a difference of $23^{\circ}1$ between the mean monthly averages. The warmest month during the five years was July 1734, $61^{\circ}8$, and the coldest, February 1736, $33^{\circ}6$, showing a range in the mean monthly temperatures of $28^{\circ}2$.

Rainfall. (Table XLIX.)

The rainfall was measured from June 1731 to May 1735. The gauge was 28 inches in diameter, and was placed on the top of a garden wall. Precautions were taken to prevent loss through evaporation, and the measurements were made, as a rule, every day.

The wettest month was March 1735, with 5·38 inches, and the driest, May 1733, with only 0·08 inch of rain.

Variability of Temperature. (Table L.)

The mean daily temperature variability has been determined from the observations made at 9 A.M. The average for the period was $3^{\circ}4$, being greatest, $5^{\circ}3$, in October 1731, and least, $2^{\circ}3$, in September 1733. The mean varied from $4^{\circ}0$ in December to $3^{\circ}1$ in May.

Humidity.

The hygrometer, or rather hygroscope, consisted of a piece of whip-cord with a plummet appended. The cord was alternately baked in an oven and saturated with moisture, before the scale was graduated. The operation was repeated four times until the difference in the length of the cord when fully dried to its length when saturated with moisture was constant at 4·5 inches. The point of greatest dryness on the scale was fixed at five-tenths of an inch, the scale extending to five inches, which was the point indicated in a completely saturated atmosphere. The instrument was inclosed in the perforated case containing the thermometer. Although this method of observation is crude, it may be of interest to give the results, as affording a tolerable approximation to the seasonal distribution of this element of climate. The mean annual humidity on this scale was 2·11, being at a maximum in December, viz., 2·47 inches, and at a minimum in May, viz., 1·70 inches. The seasonal variation in humidity was, therefore, virtually the same as during the last thirty-five years.

Wind Direction.

The number of days the wind blew from the eight principal points of the compass is shown in Table XXXII. which summarise the results of all the wind observations taken in Edinburgh. During the five years under review, the mean percentage frequency was

N. 5, N.E. 8, E. 12, S.E. 9, S. 9, S.W. 20, W. 28, N.W. 9. The wind vane on the steeple of St Giles' Cathedral was the instrument employed in the determination of the direction.

Gales.

In addition to the direction the force of the wind is also given. The scale ranged from 0 to 4. The days on which the force was entered as 3 or above were picked out for the five years. The total was 154, equal to an annual average of 31. Their distribution throughout the year is shown in the following table :—

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
13	33	19	9	12	1	6	4	14	12	15	16

Fog or Mist.

The total number of fogs recorded was 57, an average of 11 per annum. They were distributed throughout the year as follows :—

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
6	0	7	11	0	3	1	2	5	3	11	8

The cold weather fogs of winter and those associated with the easterly winds of spring manifest themselves very clearly during the period under review.

Thermal Windrose.

The mean temperature of the winds is given in Table LII., the observations utilised being those taken at 9 A.M. The 8 A.M. observations taken by Hoy at Hawkhill for seven years, 1770–1776, have also been analysed with reference to the temperature of the various winds (see Table LIII.). The values given in the Tables refer to the months and the seasons, and it may be pointed out that the latter means are not the averages of the months comprised in the season but have been derived by taking the gross totals and dividing by the number of days, which gives the true average temperature of the wind. A comparison of the seasonal values derived from these old registers with similar means calculated from the 9 A.M. and 9 P.M. observations from July 1887 to June 1894 * gives the following results :—

	Spring.		Summer.		Autumn.		Winter.	
	Coldest.	Warmest.	Coldest.	Warmest.	Coldest.	Warmest.	Coldest.	Warmest.
1731–36	°	°	°	°	°	°	°	°
	N.W. 43°0	S.W. 48°8	N.E. 55°0	S. 61°0	N.W. 40°3	E. 46°8	N. 32°0	S.W. 40°8
1770–76	N.W. 38°9	S.W. 46°4	N. 55°7	S. 59°4	N.W. 42°6	N.E. 49°8	N. 33°4	S.W. 39°2
1887–94	N. 40°9	S.W. 47°2	E. 52°7	S.W. 58°6	N. 42°3	S.W. 50°5	N. 33°7	S.W. 43°3

* *Trans.*, vol. xxxviii. p. 750.

Hence the relative temperature of the winds has not appreciably changed during the last 160 years. The results are very accordant except the direction of the warmest point in Autumn, which was respectively E. from 1731-36, and N.E. from 1770-1776, while it was S.W. from 1887 to 1894. I incline to the belief that the unusual warmth of the sea winds during the earlier years is to be accounted for by the undue prevalence of anti-cyclonic weather in these months. It is evident that when we are calculating the mean temperature of a wind from a few values that the result will largely depend on the type of weather which predominated during the time the wind in question prevailed.

The number of observations tabulated in the calculation of the windrose from 1731 to 1736 was 1,826, from 1770 to 1776, 2,557 were employed, while during the seven years ending June 1894, 5,114 were utilised, so that it is evident that the latter average gives the closest approximation.

An inspection of the thermal windroses for the three periods will reveal many points of similarity (see Plate IV.).

Hygrometric Windrose (Table LIV.).

The mean relative humidity of the winds has been already determined from the 9 A.M. and 9 P.M. readings of the dry and wet bulb thermometer for the seven years ending June 1894. Values have been calculated for the five years 1731-36 with a view of ascertaining whether any change has taken place in the humidity recorded with the various winds. We cannot compare the actual means, but the following Table showing the dampest and driest directions for the four seasons may be of interest :—

	Spring.		Summer.		Autumn.		Winter.	
	Dampest.	Driest.	Dampest.	Driest.	Dampest.	Driest.	Dampest.	Driest.
1731-36	E.	N.W.	N.E.	S.	S.E.	N.W.	N.E.	N.W.
1887-94	E.	{ N.W. N.	{ N.E. E.	N.W.	{ N.E. E. S.E.	{ S.W. N.W.	{ E. S.E.	S.W.

There has, therefore, been no change of any importance in the wind with which our greatest and least humidities are experienced. Taking the mean annual values, the dampest wind from 1731-36 was N.E., and the driest N.W., while during recent years the points were E. and N.W. respectively. Sea winds were thus damp, and land winds dry, a result entirely in accordance with recent observations (see Plate IV.).

General Results.

An examination of the facts apparent from a comparison of the reduced values for the five years 1731-1736 with observations taken during recent years, shows conclusively that no appreciable alteration has taken place in the climate of the east of Scotland

* *Trans. Roy. Soc. Edin.*, vol. xxxviii. p. 751.

during at least the last 165 years. The seasonal distribution of pressure, temperature, wind and rain is the same now as at the beginning of the eighteenth century, and so far as we can ascertain there has been no change in the annual means of the more prominent elements of climate, while the prevalent weather of special months does not appear to have altered in the slightest. These conclusions are entirely in accordance with what we should expect. As is well known, the climate of a place is largely determined by the prevailing winds; these in turn are simply the result of the distribution of the weight of the earth's atmosphere over the globe. The latter is determined by the position and extent of the land and water surfaces, and as these have not materially altered within the last 200 years it may fairly be assumed that the circulation of the air and the climatic results springing therefrom are practically unchanged. Local influences, more especially drainage and deforesting, produce slight changes in climate; but so far as Edinburgh is concerned no alteration appears to have taken place during the last century and a half.

Does the Weather Move in Cycles?

Tables of continuous five year averages of the more important climatic elements have been calculated with the primary object of giving an answer to this question. The method adopted was as follows:—The mean temperature of the five Januarys 1764–68 was calculated and found to be $1^{\circ}7$ below the normal temperature of the month; the difference, $1^{\circ}7$ was accordingly entered in Table LV. opposite the year 1766 which is the middle year of the series. Then the mean of the five Januarys 1765–69 was similarly ascertained, and entered in the Table opposite 1767, and so on for each of the 129 groups of five year periods embraced in the 133 Januarys, means above the normal being entered in heavy and those below it in italic type. The eleven months and the year were similarly dealt with. The data discussed comprise temperature, pressure, wind direction, and rain (see Tables LV. to LVIII.). With regard to rainfall, the inquiry has been extended back to the year 1766 by differentiating during the missing years from registers kept at Peebles, Dumfries, and Branxholm. For copies of these registers I am indebted to Mr G. J. SYMONS, F.R.S. The hiatus thus completed comprises the years 1766–1769, 1777–79, July 1781 to Dec. 1784. The Peebles register was employed during most of this period, the rainfall of that spot approximating closely to the mean rainfall of Edinburgh during years which are common to both series. The mean monthly rainfalls for the period 1766–1896 were then ascertained, and the percentage of excess or defect calculated for each of the five year groups. Similar values were computed showing the percentage excess or defect of east and west winds. The winds were resolved to these two points by including S., S.W., W., and N.W. winds under west, and N., N.E., E., and S.E. winds under east. During some years calms were entered; these were, however, eliminated from the discussion. It is not necessary to give the table showing the percentage excess or defect of east winds as they are simply the converse of west winds.

The annual values of the non-instrumental phenomena during the last 127 years, 1770-1896, have also been discussed (Table LIX.). The results are graphically shown along with other data on Plate III., the monthly departures of pressure, temperature, wind, and rain being shown on Plates I. to III.

It may be here mentioned that we do not at present intend to discuss at any length or with any degree of elaboration the peculiarities, resemblances, and contrasts shown by an inspection of the diagrams, but merely to point out some of the more prominent features.

Dr BUCHAN, in the results of an investigation into the mean temperature of the N.E. of Scotland,* says :—“The tendency of types of high and low temperature to be prolonged through terms of years, very unequal as regards duration, is shown, both as regards the months and the year, in a manner so decidedly as to suggest no appearance of a temperature cycle.” I have only to add in this connection that the above remark is equally applicable to pressure, wind, and rain, as well as to the non-instrumental phenomena. The most casual glance at the diagrams will establish the truth of this assertion. There is, apparently, no periodicity in the recurrence of weather. If such a period could be found weather-forecasting would be a very simple matter, as it would only be necessary to have observations over one of the periods. Our weather, as is well known, is the result of the distribution of cyclonic and anti-cyclonic areas over western Europe and the adjacent parts of the Atlantic. The average path pursued by, and rate of motion of these areas, are known, but they are subject to many irregularities. In winter, for example, the normal condition of pressure in our immediate vicinity is low to the N. and W., and high to the S. and E. The result of this pressure distribution is a predominance of warm equatorial winds, the atmospheric flow being from the Atlantic Ocean towards the interior of the Eurasian continent. In some winters, however, as in that of 1895, the normal distribution of pressure is reversed, with the result that the whole wind system of Europe passes from N.E. to S.W., the prevailing winds being therefore from the N. and E. Little or nothing is at present known regarding the causes concurring in the production of these weather anomalies. All that can be done in the meantime is to steadily accumulate and reduce observations.

The following is a condensed abstract of the prominent weather conditions prevailing during the past 133 years, the time under discussion being divided when possible into periods of twenty years.

1766 to 1780.—This period was characterised by low pressure, there being also a great depression of temperature till 1776. The cold was pretty evenly partitioned throughout the months and the seasons, a noticeable feature, however, being the mildness of the Decembers. From 1777 to the end of this period very warm weather prevailed which culminated in 1779. Rainfall was above the average during the time, the excess being largely brought about by the wetness of the autumns and winters. After 1770, equatorial winds predominated. Snowfall was about normal, but hail,

* *Jour. Scot. Met. Soc.*, vol. ix. p. 227.

thunderstorms, and fog, were distinctly below the average. Gales were slightly in excess during the years of low pressure.

1781 to 1800.—Pressure was above the mean till 1787, and then below the normal as a whole. Temperature was low during the period of high barometer, but thereafter much above the average. Speaking broadly, the temperature was below the normal from October to March, and above it during the other half of the year, the exceptional warmth of the summers being a striking feature. The unusual depression of temperature during some of the Marches and the Decembers is also of interest, the cold being brought about by the unusual excess of polar winds during these months. During most of the period rainfall was in excess. There was a marked deficit of westerly winds till about 1794. Snowstorms were frequent. Hail was just the average, and thunderstorms, gales, and fog, very much below their normal frequency.

1801 to 1820.—The weather of this period was characterised by a low barometer, a low mean temperature, a deficiency of rainfall, and a marked deficiency of westerly winds. Warm summers continued to prevail till about 1808, but thereafter the depression of temperature manifested itself in a prominent degree throughout the months and the seasons. In the heart of this great cold occurred some of the worst harvests of the century. The outstanding feature of the meteorology of the period under review was, however, the frequency of hyperborean storms of the first order, these snowstorms being of a severity, extent, and duration which have not been equalled since. Hail was above, but thunderstorms on the whole below, the average. Gales were greatly above the normal, while fogs were rare, except from 1805 to 1811.

1821 to 1840.—The characteristic features of this period were a rather high pressure, normal rainfall, and excess of temperature. West winds were above the normal from 1820 to 1826 and from 1831 to 1836. Snowstorms show a decided excess from 1836 to 1840, during which time polar winds prevailed with a low temperature. Pressure was also low, and rainfall above the average during the time. With regard to the non-instrumental phenomena, hail, thunderstorms, gales, and fog, were all above their average frequency.

1840 to 1860.—Low pressure prevailed with a very high temperature and small rainfall. The wet Junes and dry Aprils, Septembers, and Decembers, are striking features of the meteorology of this period. West winds show a marked excess after 1848. Snow and hail storms were infrequent; thunderstorms about the average; and fog much in excess of the normal. Gales were of common occurrence till 1850.

1861 to 1880.—Pressure was above the average with but few and unimportant interruptions. Temperature was below the average from 1861 to 1866, and after 1876. During most of the time cold summers prevailed, the winters on the whole being mild. Rainfall was much above the average. West winds were greatly in excess during the first cold period, but in defect during the second spell of low temperature. Snowstorms were on the whole infrequent. Thunderstorms show an enormous excess after 1868

with a slight dip during the time of maximum cold. Gales were below, but fog much above the normal.

1881 to 1894.—Pressure was much above the normal ; the mean temperature, however, being just about the average during the ten years ending 1890, when the warm winters were balanced by the cold summers. A drought prevailed during most of the time. West winds were in excess, thunderstorms much above average, and gales above the normal till 1888. During most of the time fog was uncommon.

Frost Days.

Table LX. shows the number of times the minimum temperature in shade fell to or below 32° in each month during eighty-one years ; the data from 1802 to 1823 were obtained from the *Edinburgh Advertiser* record, while ADIE's observations were utilised from 1824 to 1831 and from 1840 to 1851. The values from 1857 to 1896 are from the observations taken by the Edinburgh observers of the Scottish Meteorological Society. The total number of frosts recorded was 5294, equal to an average of 65 per annum. The annual number varied from 108 in 1879 to 33 in 1822. The maximum in one month was 29 in January 1814.

Table LXI. shows the values grouped according to winters, with date of first and last frost. The maximum number of frosts was in the winter of 1878-79 with 116 cases, and the minimum in the winter of 1821-22 with 28 cases. The mean date of first frost is October 23, and the mean date of last frost, April 26. The earliest date of first frost was September 22 in 1844, and the latest December 4 in 1811. The latest date of last frost was June 8, 1814, and the earliest March 12, 1874.

Table LXII. shows the values for each day in the year.

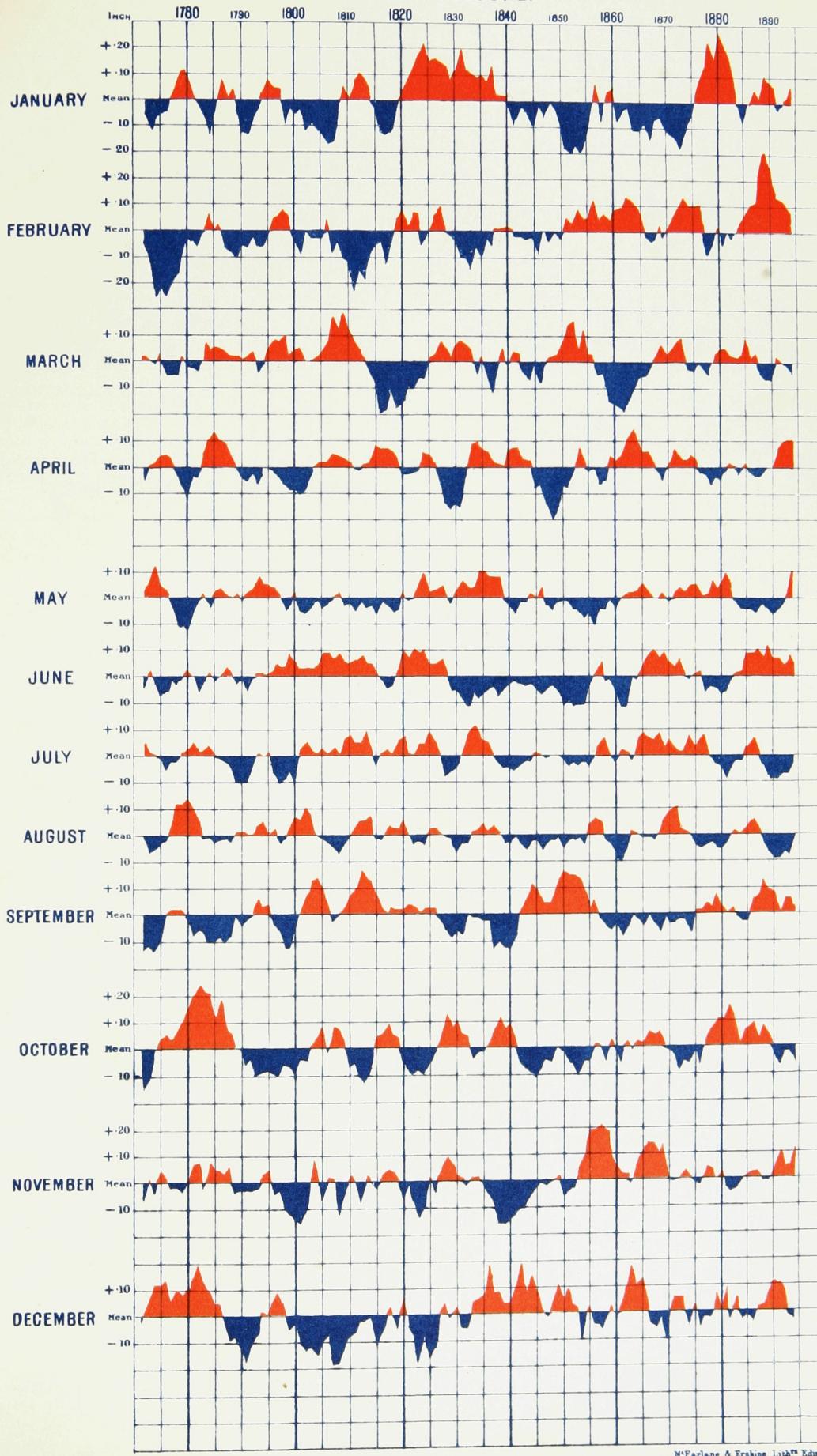
Table LXIII. shows the number of times the minimum temperature fell to 20° or below. The total number of cases was 239, equal to an average of 3 per annum. The greatest number in any year was 19 in 1881, while there were twenty-two years without any. The maximum in one month was 14 in January 1814, closely followed by January 1881 with 13 instances. The earliest date was October 15, 1824 with a minimum of $20^{\circ}0$, and the latest April 2, 1831, when the temperature fell to $17^{\circ}0$.

R. C. MOSSMAN ON THE METEOROLOGY OF EDINBURGH.

PLATE I.—SHOWING THE DEPARTURE FROM THE AVERAGE.

NOTE.—THE RED INDICATES AN EXCESS AND THE BLUE A DEFECT.

PRESSURE.

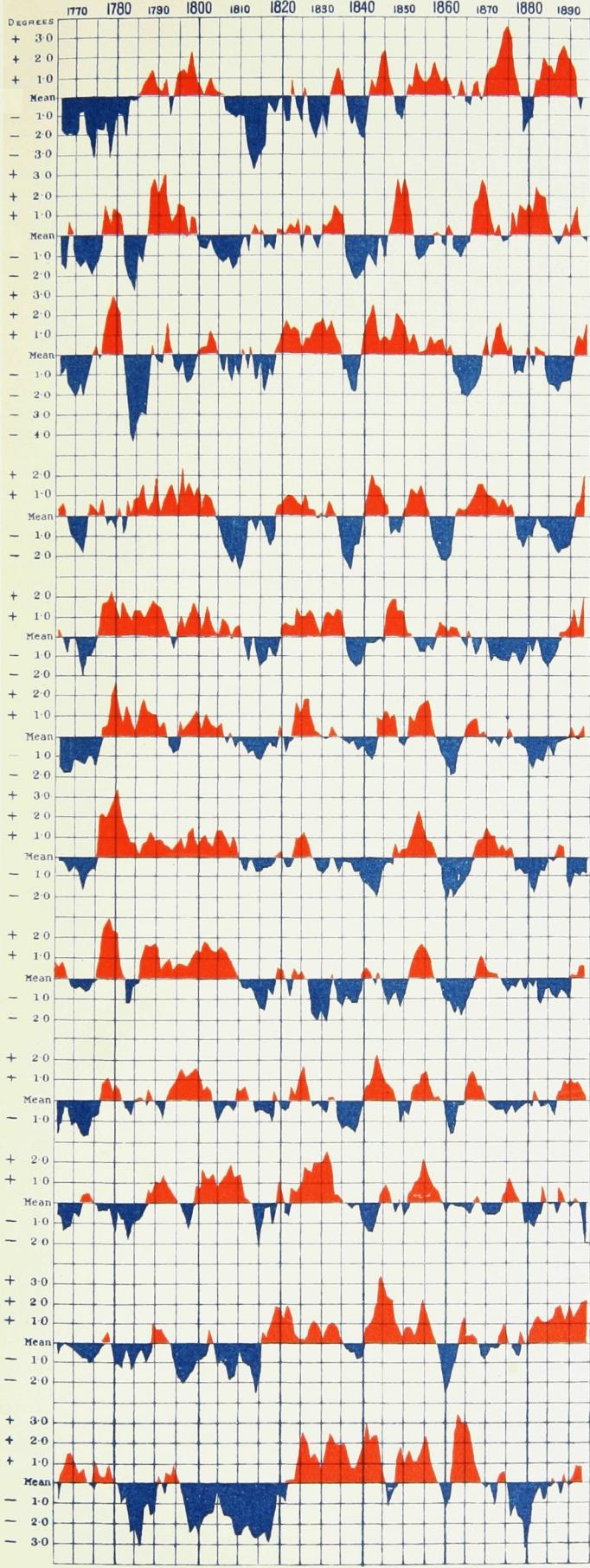


R. C. MOSSMAN ON THE METEOROLOGY OF EDINBURGH.
 PLATE II.—SHOWING THE DEPARTURE FROM THE AVERAGE.

NOTE.—THE RED INDICATES AN EXCESS AND THE BLUE A DEFECT.

TEMPERATURE.

JANUARY



FEBRUARY

MARCH

APRIL

MAY

JUNE

JULY

AUGUST

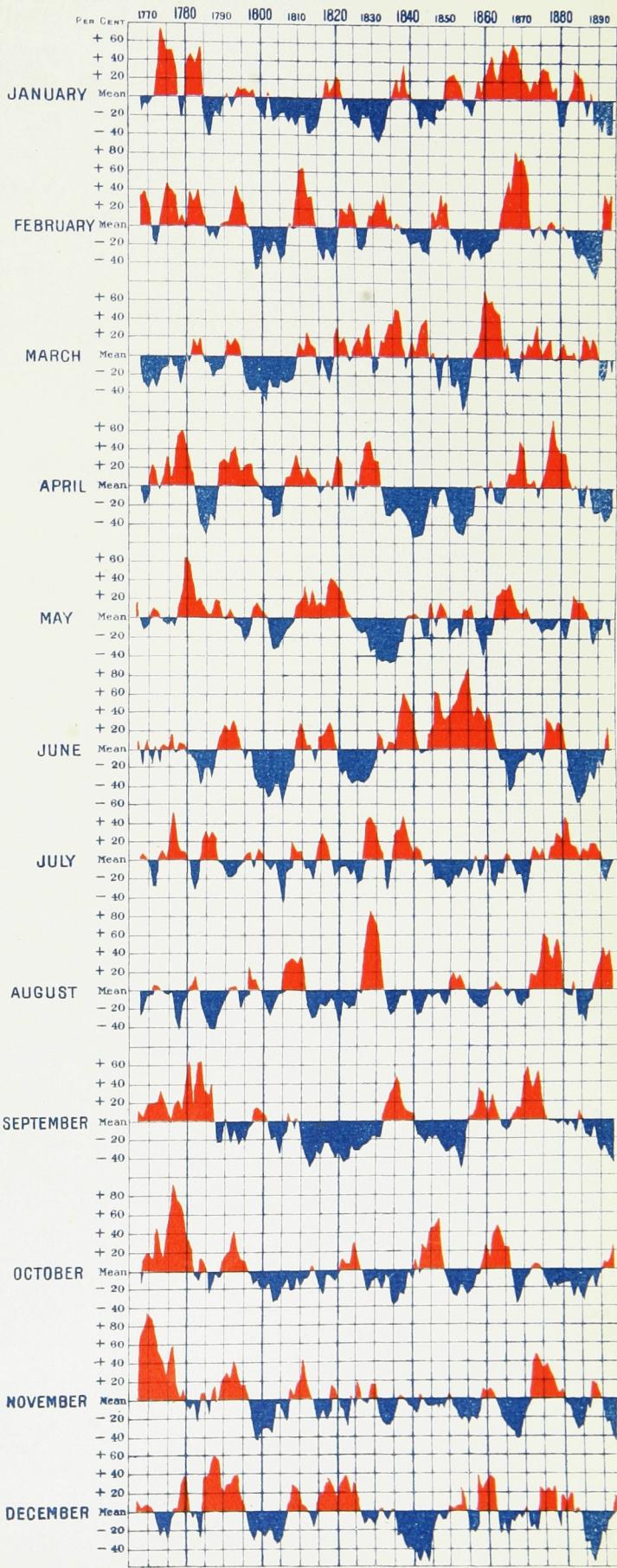
SEPTEMBER

OCTOBER

NOVEMBER

DECEMBER

RAIN.

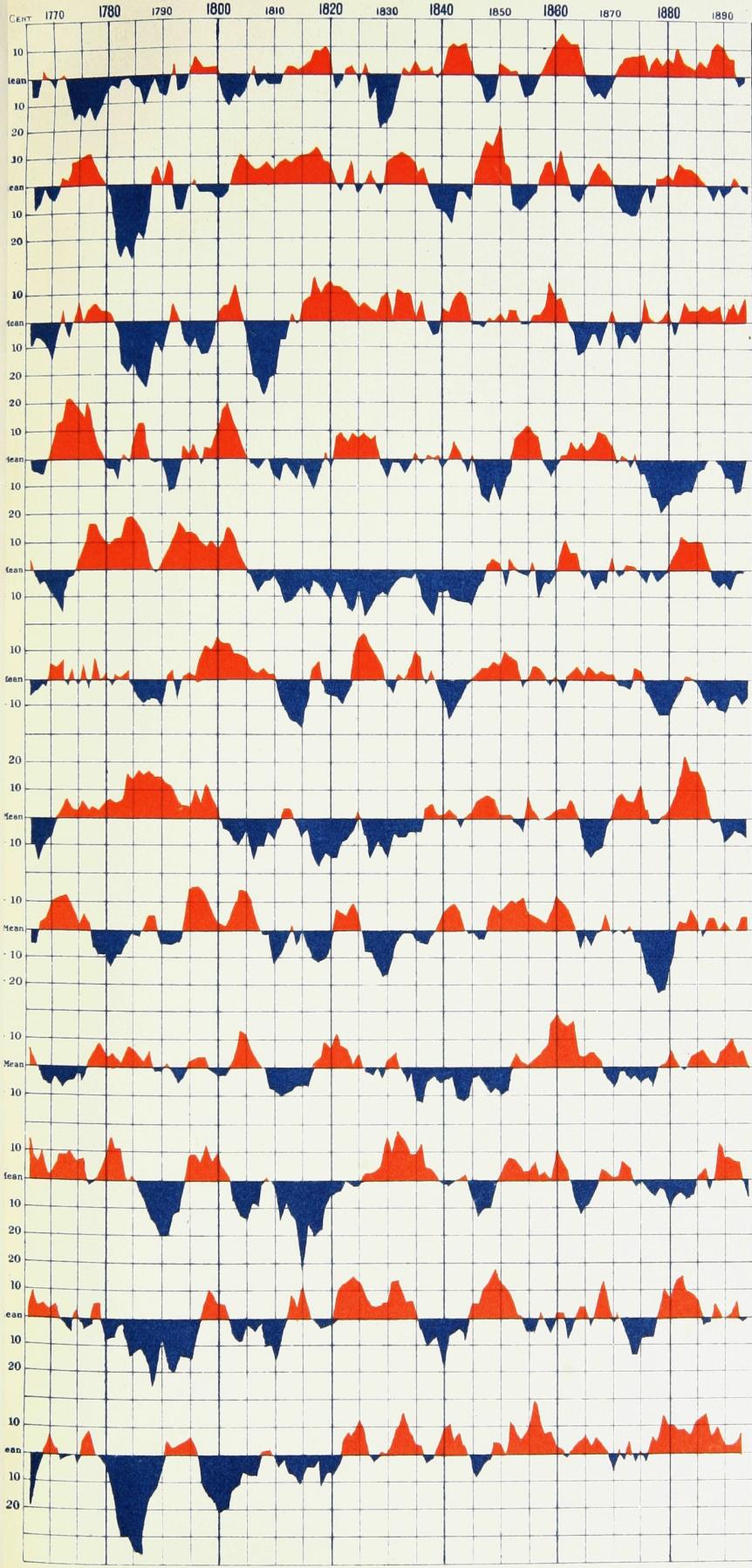


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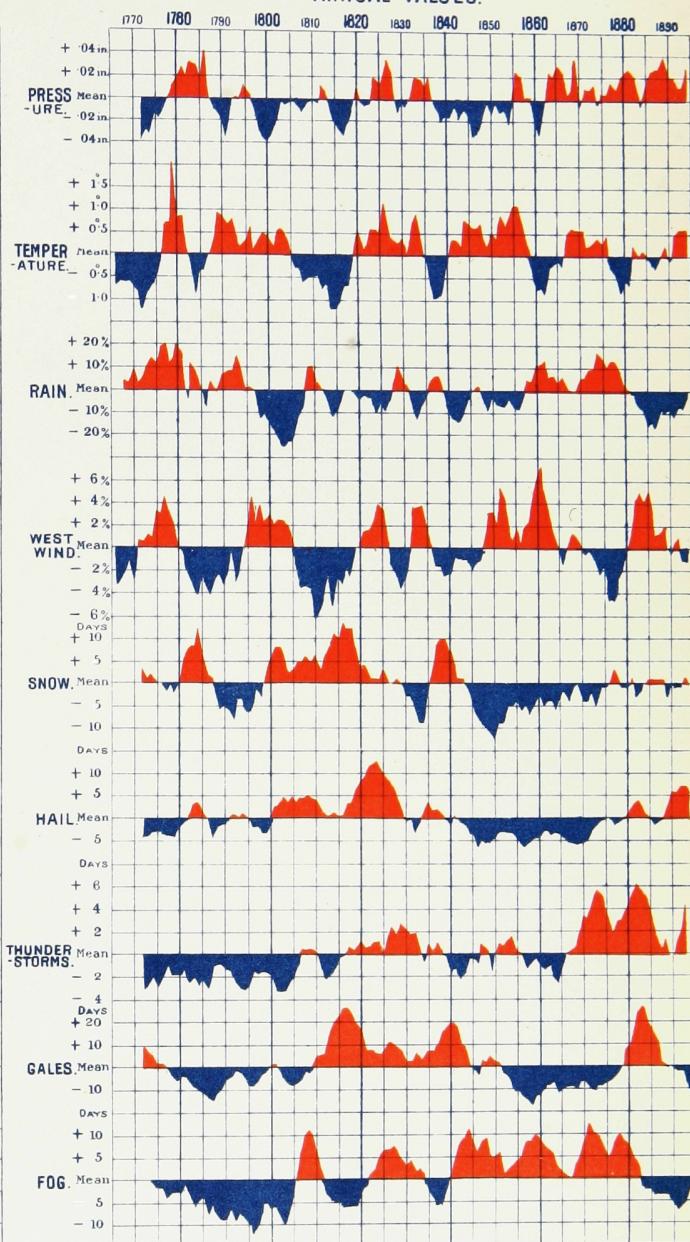
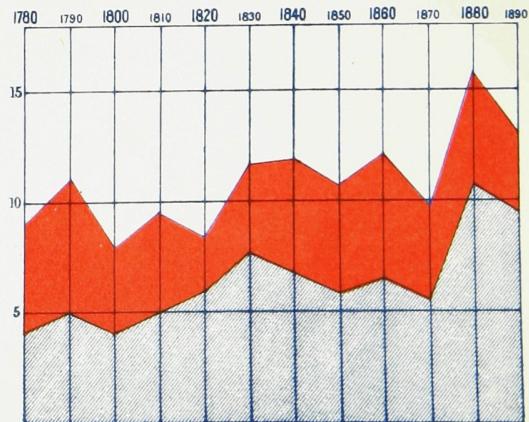
PLATE III.—SHOWING THE DEPARTURE FROM THE AVERAGE.

NOTE—THE RED INDICATES AN EXCESS AND THE BLUE A DEFECT

WEST WIND.

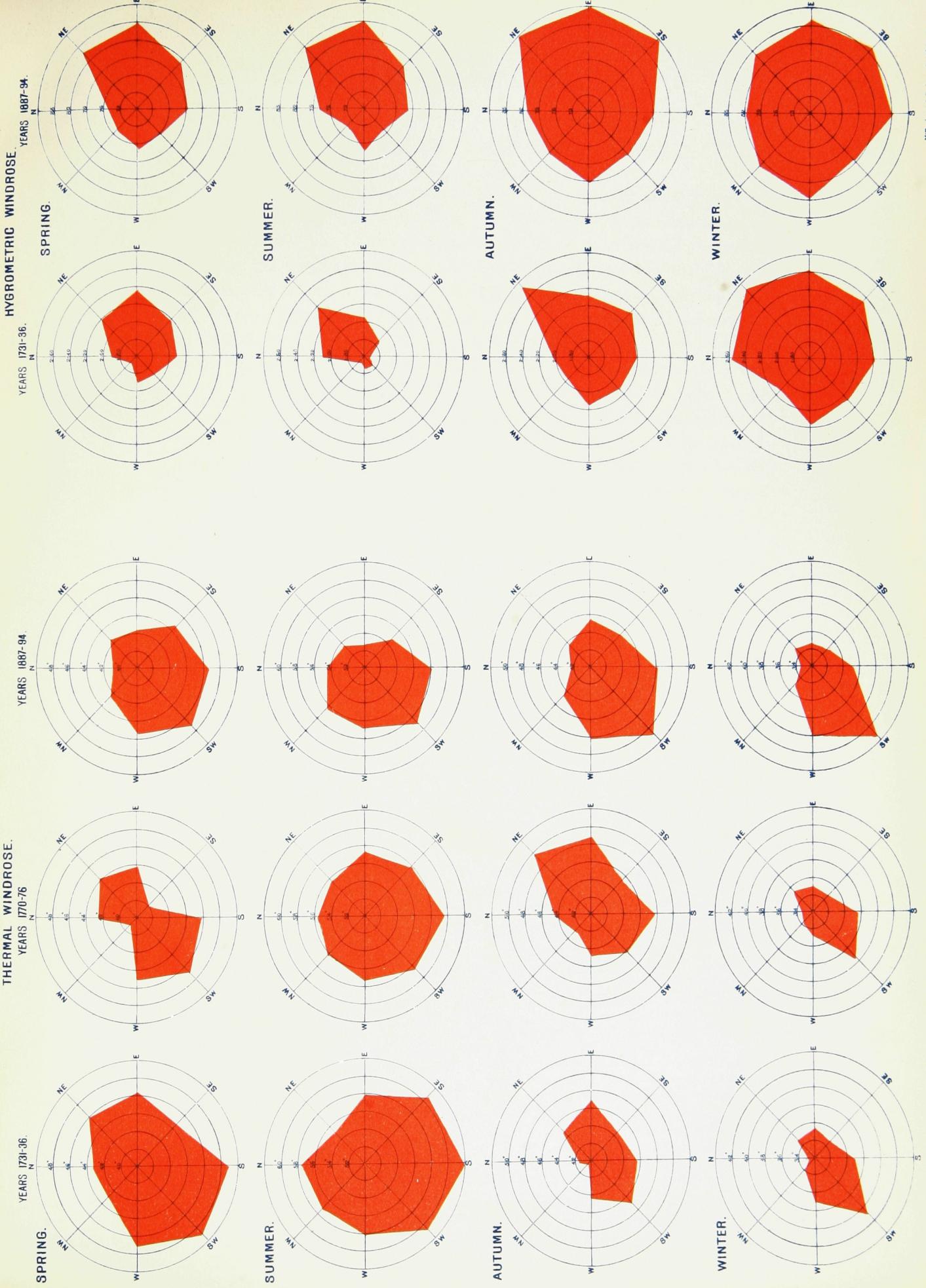


ANNUAL VALUES.

THUNDER-STORMS BY DECADES.
RED, LONDON. BLUE, EDINBURGH.

R. C. MOSSMAN ON THE METEOROLOGY OF EDINBURGH.

PLATE IV.—SHOWING THE THERMAL AND HYGROMETRIC WINDROSES IN EDINBURGH.



APPENDIX OF REMARKABLE ATMOSPHERIC PHENOMENA.

The appended catalogue of phenomenal atmospheric occurrences in Edinburgh has been compiled from a variety of sources. Some of the notices prior to 1740 have been obtained from such works as CHAMBERS' *Domestic Annals*, Low's *Natural Phenomena and Chronology of the Seasons*, and SHORT's *General Chronological History of the Air*. The method generally adopted, subsequent to 1764, was to examine the manuscript notes of the various Edinburgh observers, extract anything of interest, and go to the newspapers for further particulars. Copious extracts were made from such papers as the *Caledonian Mercury*, *Scots Magazine*, *Edinburgh Magazine*, *Edinburgh Advertiser*, and *Scotsman*. Condensed abstracts were then prepared and entered in the catalogue. The primary object in compiling this list is to place on record the more noteworthy and remarkable atmospheric occurrences. In this way, should any apparently unwonted phenomenon occur, we shall at once be able to form an opinion as to whether it is unprecedented or otherwise. In dealing with such a long period it would be sanguine to imagine that every occurrence of a phenomenal nature has been brought to light. If any omissions come to the reader's notice, I should be much obliged for a reference. Care has been taken to avoid giving facts that are readily apparent from an inspection of the various tables scattered throughout the paper.

Year.	Phenomenon.	REMARKS.
1575 and 1582	Drought	MARTLAND informs us that in these years there was such scarcity of water that the Magistrates strictly prohibited all the brewers from drawing any out of the town wells, "but to fetch what they had occasion for from the South Loch or Meadows."
1595	Snow	March 10. Commenced "ane horrible tempest of snaw, whilk lay upon the ground till the 14[th] of April thereafter."
1595	Dearth	Dearth owing to failure of the harvest.
1596	Storms	July 1 to August 6. Severe gales; no less than sixty-six ships lost at Leith.
1598	Eclipse	February 17. Total eclipse of sun between 9 and 10 A.M.
1609	Storm	January 5. Severe storm; people lifted off the ground by the violence of the wind.
1614-15	Frost	Very intense frost. "In February the Tay was frozen over so strongly as to admit of passage for both man and horse."
1615	Snow	March 2. A great snowstorm; all communication stopped throughout the country.
1624-25	Frost	Hard frost from Martinmas 1624, which lasted till February 23, 1625.
1625	Storm	March 28-30. Severe storm; many vessels lost at Leith.
1625	Rains	Heavy rains prevailed from the middle of May till the end of June, doing serious injury to the crops.
1627	Rains	July. Great falls of rain.
1633	Snow	February 7. "There began a great storm of snow, with horrible high winds." The ordinary ebb and flow of the tide interrupted for twenty-four hours at Leith and other places on the East Coast.
1634-35	Frost and Storms	The winter is described as "the most tempestuous and stormy that has been seen in Scotland these sixty years past." Snow lay from the 9th of December to the 9th of March, the fall being particularly heavy from January 26 to February 16.

Year.	Phenomenon.	REMARKS.
1652	Total Solar Eclipse	March 29. Eclipse observed between 8 and 11 A.M., the sky being perfectly clear. This day was long known as "Mirk Monday."
1652	Hot summer	September. Very hot summer and plentiful harvest.
1655	Storms	February. Severe and protracted storms, followed by a frost which continued till April.
1655	Rains	August very wet, threatening the crops with destruction.
1655	Storm	December 10. Great gale from N.E.; many ships lost and much damage on land.
1659	Thunderstorm	September 1. Great thunderstorm with very heavy rain. Sixteen mills on the Water of Leith were destroyed.
1664	Comet	December. Remarkable comet, "in the head the breadth of ane reasonable man's hand, and sprang out in the tail the length of five or six ells."
1667	Drought	Severe in summer; grass burned up.
1668	Storm	October. Violent storm; many ships lost.
1673	Rains	Very wet summer.
1674	Snowstorm	February 20 to March 4. Great fall of snow, long remembered as the "Thirteen Drifty Days."
1675	Frost	December 18. Great cold; "the most aged never remembered the like." Ale froze.
1681	Drought	From March to June 24. Severe drought, with continuance of searching easterly winds.
1683-84	Frost	Severe frost from November to March.
1684	Snow	Gale at end of October with snow and thunder.
1698	Cold Spring	An "unkindly cold and winter-like spring;" great want of food and seed; sheep and cattle died in great numbers.
1709	Dearth	May. There was at this time a dearth of victual in Scotland.
1715	Eclipse	April 22. Total eclipse of the sun at 9 A.M. The darkness lasted over three minutes.
1717	Thunderstorm	June 10. Severe thunderstorm. A man and woman were killed instantaneously, and a gentleman so severely scorched that he died in a few hours.
1722	Gale	September 1. A high wind shook the crops in the Lothians, doing particular damage to the pease.
1723	Drought	Summer remarkably dry and sultry, with little wind.
1732	Snow	May 1. A great fall of snow.
1732	Frost	May 2. Ice so strong as to bear man and horse. Lambs succumbed to the excessive cold.
1732	Gale and Lightning.	September 10. Violent hurricane of wind and rain between 5 and 6 P.M. Very vivid lightning, "so that it appeared as if the whole horizon had been in a flame (which continued for about four minutes); the like has not been seen here in the memory of the oldest man living."— <i>Caledonian Mercury</i> .
1736	Gale	November 12. Great gale from N.W.
1736	Frost	November 12-18. "Frost so severe that in 24 hours after it began persons were walking on the lake."
1736	Aurora	November 13. Brilliant aurora.
1738	Frost	In December 1738 and January and February 1739, very severe frost. Snow lay deep on the ground for six weeks.
1740	Hurricane	January 14. Hurricane from W.S.W. commenced at 1 A.M. accompanied with lightning. Sheet lead torn from roof of St Giles' Cathedral, and blown like paper through the air. Great damage to property; many chimneys blown down, and streets strewn with tiles and slates. Trees which had stood at Penicuik for 200 years blown to the ground.
1740	Snowstorm	May 4. Great quantity of snow.
1744	Thunderstorm	August 13. Severe thunderstorm; several people and cattle stunned; very heavy rain and hail fell, flooding streets and cellars. The steeple of Liberton church was struck by lightning, and in the east end of the church a smooth round hole was made in one of the windows by a hailstone, some of which were nearly 2 inches in diameter.

Year.	Phenomenon.	REMARKS.
1765	Snowstorm	January 24. Severe snowstorm ; many lives lost in the Border counties.
1767	Thunderstorm	January 3. Thunderstorm from 9 P.M. continued till early morning of 4th.
1768	Snowstorm	January 2. Great fall of snow, with thunder and lightning late on evening of 2nd and morning of 3rd.
1768	Sudden Thaw	January 14. "Owing to a sudden thawing of the ice on the Water of Leith, it came down in great quantities into the harbour and did much damage to vessels there."
1768	Thunderstorm	July 30. Severe thunderstorm at 11 A.M. lasting one and a half hours. Royal Infirmary struck, the glass in four windows being broken. Three men injured.
1769	Aurora	October 24. Red aurora seen in south at 8 P.M.
1769	Comet	Well observed in August.
1773	Hurricane	January 20. Severe W.S.W. gale, blowing a perfect hurricane between 3 and 5 A.M. A stack of chimneys on the west gable of a house situated in Gosford's Close, Lawnmarket, fell and killed three persons. A whole range of the heavy stone balustrade of the (then) New Bridge was fairly shifted from its position, carried down to the foot pavement in a regular order, and most of the stones broken.
1773	Aurora	July 26.
1773	Aurora	September 11.
1774	Aurora	March 3, 14.
1774	Aurora	August 10.
1774	Aurora	November 13 and 14.
1774	Aurora	December 25.
1775	Aurora	February 21.
1776	Frost	Very severe frost all January. Ice on lochs 12 to 16 inches thick at beginning of February. On January 31 it is recorded that on this morning, at Hawkhill House, the milk froze in milking the cow.
1776	Aurora	March 28.
1776	Aurora	April 16, 20.
1778	Aurora	February 25.
1778	Aurora	March 31.
1778	Aurora	April 15.
1778	Aurora	October 13, 14, 19.
1779	Aurora	February 10, 13, 14, 15.
1779	Aurora	March 24, 25.
1779	Aurora	April 8, 9, 22.
1779	Aurora	July 15.
1780	Aurora	February 29.
1780	Aurora	November 19, 22, 23.
1780	Aurora	December 19.
1781	Aurora	April 25.
1783	Thunderstorms	July 2 and 10. Very severe.
1784-85	Protracted cold	"A meteorological correspondent assures us from observation, that from the 18th of October 1784 till the present time, which is a period of 143 days, there have been only 26 in which the thermometer has not been from 1 to 18 degrees and a half below the freezing point, which is a more constant succession of cold weather than has been known in this climate. Last year there were 89 days of frost, and in the year 1779 there were 84 ; in 1763 there were 94 days of frost, and in the celebrated winter of 1739 there were only 103, which are 12 fewer than in the present winter."— <i>Edinburgh Magazine</i> .
1786	Thunderstorm	July 26. Great storm from 3 to 7 P.M., with heavy rain and hail.
1786	Earthquake	August 11. Slight shock in Edinburgh and Leith ; severe in other places.
1787	Rainstorm	December 9. Great rainstorm, 4·20 inches falling within 24 hours. Much damage done in Leith harbour.
1789	Earthquake	September 30. Slight shock.

Year.	Phenomenon.	REMARKS.
1791	Gale	January 13. Heavy gale of wind from 4 to 5.30 A.M., attended with rain and flashes of very vivid lightning from the S.W.
1792	Lightning	January 20. A flash of lightning came down the chimney into the porter's room in Watson's Hospital, doing slight damage.
1795	Great frost	January 20-27. Continued snowstorm. Mail coaches delayed. February 9. In the High Street a woman was dangerously wounded on the head owing to a huge mass of snow falling off the roof of one of the houses. February 11. Very heavy snowfall; so deep was the snow that the hackney coaches were frequently obliged to draw with four horses. Mail coaches snowed up. February 12. The snow lies excessively deep in the streets of Edinburgh and in the neighbourhood. Three hundred soldiers and labourers employed by the Magistrates to clear the roads to the coal-hills. February 14. A gentle thaw commences, with the thermometer from 34 to 40 degrees; this, however, is soon again succeeded by frost. Frost broke up on 3rd of March, having lasted 53 days.
1795	Gale and rainstorm	November 18. Severe N.E. gale with great rainstorm, supposed to have been the worst for 30 years. About 10 A.M. the Water of Leith rose to such a height that the low grounds adjacent to it were submerged; bridge at Bonnington Mills swept away; ground floors of houses in back of Canongate, Cowgate, etc., submerged; roads impassable. Meadow near Hope Place like large lake. P.M., snow.
1796	Storm	January 23. Severe storm from S.S.W. that blew down trees and un-roofed houses.
1796	Lunar rainbow	December 27. This evening, about five minutes before ten o'clock, there was observed in the neighbourhood of Edinburgh a most beautiful prismatic rainbow of considerable extent, in the north-west quarter of the horizon, directly opposite to the moon, then two days past full, and shining very dazzlingly from the south-east through cold, stormy, flying clouds or showers. This phenomenon, which is believed to be a very unusual one, continued with little alteration for more than five minutes, differing nothing in appearance from a faint <i>solar</i> rainbow, the red, yellow, and green colours, and even a shade of the blue or purple being distinctly marked, without any resemblance whatever to an Aurora Borealis.
1797	Thunderstorm	July 14. Sharp thunderstorm; "a flash of lightning darted down the chimney and entered a room on the ground floor of a house in the Water of Leith village near this city." A girl eleven years of age was burnt in a severe manner. A number of copper and iron articles which were near the chimney changed colour.
1799	Snowstorm	February 9. This day "was remarkable for the most violent storm of wind and snow that is remembered in this country."—PLAYFAIR.
1799	Cold summer	The period from the 20th of March to the 20th October was characterised by a great depression of temperature, so much so that the harvest was not generally got in till the end of November, and in high grounds till nearly the end of December.
1800	Snowstorm	January 2. Heavy fall of snow accompanied by a strong gale from the S.E. Snow lying from 2 to 3 feet in depth. Great damage on east coast; many vessels lost. It was computed that 80 seamen belonging to the port of Aberdeen alone perished on this occasion.
1800	Frost	February 7 to 14. Severe frost; the new basin at Leith was nearly covered with ice. Severe snowstorms in England, the London mail due on the 14th not arriving till Wednesday the 17th.
1801	Rainstorm	September 4. Exceedingly heavy shower of rain at 7 P.M. "The heaviest shower in my remembrance."—WATERSTON.
1801	Earthquake	September 7. Slight shock of earthquake felt in Edinburgh at 6 A.M. Beds, tables, chairs, etc., shook violently in some houses. The motion was from N. to S.

Year.	Phenomenon.	REMARKS.
1801	Meteor	December 5. A little before midnight, a large meteor, with a globular head and a long tail, was seen, the whole atmosphere being surrounded with a blaze of light, so that the smallest object could have been picked up on the streets. It was seen for about two seconds.
1801	Aurora	December 5. Very fine red and violet aurora. "During the evening a whizzing kind of noise was heard in the air, exactly similar to the sound which always accompanies the electric spark from the glass cylinder to the conductor. During the time when the coruscations were most vivid, the top of St Giles' steeple seemed to emit rays of light in all directions (St Elmo's Fire?), in every respect similar to a glass jar when surcharged with the electric fluid."
1803	Gales	From January 8 to 10 a severe gale blew, doing much damage to the shipping along the east coast.
1806	Thunderstorm	August 9. A storm, exceeding in violence perhaps anything in remembrance, was experienced at Edinburgh and the neighbourhood. The thunder and lightning continued, without intermission, from 2 o'clock in the afternoon till past 8 o'clock in the evening. The lightning was forked and extremely vivid, and the peals of thunder tremendously loud. The rain fell in torrents, and continued to fall till 5 o'clock on Sunday morning. The storm was preceded by a heavy gust of wind, which seemed to darken the atmosphere by the quantity of dust it hurled into the air. The morning was very sultry, and the thermometer stood at 73° in the shade. During the storm a most violent squall of wind arose from the south-west, which overset and sunk a pleasure boat, belonging to a gentleman in South Queensferry, then near the island of Inchcolm. The owner of the boat, his servant, a skipper, and two tradesmen, all residing in Queensferry, were on board, and all unfortunately perished. On Sunday different boats and expresses were despatched from Queensferry in quest of them. The Ferry Custom-house boat found one of the oars, the water ballast-box, and two deals, used as tables. A vessel off St Abb's Head had her mast shivered. WATERSTON describes this as "one of the worst storms in my remembrance."
1807	Gale	September 6. Strong northerly gale with very heavy rain. Much corn swept away in vicinity of Edinburgh.
1807	Comet	October 4. Comet observed. It continued visible till the beginning of November.
1807	Frost	November. An exceptionally cold month, mean temperature 34°. "The quantity of snow fallen and the number of frosty days this month, as also the circumstance of the Clyde being frozen at Glasgow, and the Tweed at Kelso, are said to be unprecedented in the memory of the oldest inhabitant so early as November."—WATERSTON.
1808	Snow	April 8 and 22. Heavy snowfall, the depth in Edinburgh being over half-a-foot.
1808	Thunderstorm and hail	May 7. The hailstones to-day were of uncommon size, some being half-an-inch in circumference.
1808	Great heat	July 13–15. Very hot, the thermometer varying from 76° to 86° in the shade. In London the temperature rose to 100°.
1808	Snow and meteor	October 14. Heavy snow fell in morning to the depth of 6 inches. At 7.30 P.M. a meteor passed over the city.
1808	Gale	October 21. Heavy S.W. gale. Building at foot of the Mound containing model panorama of the Battle of Trafalgar blown down.
1808	High tides	November 17–20. The tides at Leith were of uncommon height. Tides equally great are on record, but four successive tides of such height and impetus no one recollects to have observed.
1808	Snow	Dec. 23, 24. Heavy snowfall; depth on the average being 9 inches.
1809	Great cold	January . By the end of December, the large quantity of snow which had fallen in that month had disappeared from off the ground. The wind, however, remained chiefly at E. and N.E. On 2nd January, the cold

Year.	Phenomenon.	REMARKS.
1809	Great cold— <i>contd.</i>	<p>became pretty severe, and it continued so for several succeeding days, accompanied with much drifting snow, and some hail. On the 7th, the wind veering for some time towards the south, a gentle thaw commenced. This continued till the 12th, when frost again set in. The quantity of snow near Edinburgh, was, at this time, nothing to what occurred to the north of the Forth. Between Queensferry and Kinross, it lay from 6 to 10 feet deep for many days. On Wednesday the 18th, in the evening, the frost became exceedingly intense, the mercury in Fahrenheit's thermometer falling as low as 11° or 21° below the freezing point in the neighbourhood of this city. At Foxhall, about eight miles west from Edinburgh, in a window exposed to the current of air from the N.E., it was observed as low as 6°, or 26° below the freezing point. During the three following days, the thermometer indicated from 22° to 28°. Sunday the 22nd was one of the coldest days in the remembrance of the present generation. At 8 o'clock in the morning, in this city, the mercury stood at 11°. A little way from town it was observed at 8°. In Queen Street, exposed to the north, it was as low as 6°. In the evening it was perhaps still colder; for, at Foxhall, it was noticed as low as 5°, or 27° below the freezing point. The large basin of the new harbour at Leith, though filled with salt water, was so completely frozen over, that the sailors could pass from ship to ship upon the ice. From the 22nd to the 25th, the thermometer varied from 15° to 25°.</p> <p>January 26. The intensity of the cold began this day to abate. Snow fell copiously, drifting in some places to the depth of many feet. The ice on the lakes in this neighbourhood has been observed to be from 18 to 22 inches thick.</p> <p>January 27. In the morning the mercury rose 15° above the freezing point; and a breeze springing up from the S.W., the snow began to disappear rapidly.</p> <p>January 29. "Squalls from S.W., accompanied with heavy showers of rain, have produced so rapid a solution of the immense quantity of snow which covered the high grounds, that all the meadows are flooded, and the level parts of the country around Edinburgh appear as if spotted with small lakes."—NEILL.</p>
1809	Snow	<p>May 29. A heavy fall of snow and hail has rendered the whole country around Edinburgh quite white. The snow and hail continuing at intervals on the 30th and 31st, in some places, to the south of this, lay on the ground a foot and a half deep.</p>
1809	Thunderstorm	<p>August 3. At half past 7 P.M. a thunderstorm passed over Leith and Edinburgh. The lightning killed a boy at the former place.</p>
1809	Meteor	<p>August 11. At half past 9 P.M. a meteor was seen in the north-west. It appeared about the same time at Glasgow.</p>
1809	Thunderstorm	<p>August 13. Violent thunderstorm with torrents of rain at 1 P.M. Streets inundated, and part of a garden wall at the west end of Queen Street washed away.</p>
1810	Snowstorm	<p>January 15. On this day a heavy fall of snow came on. On the following morning the depth around Edinburgh was 18 inches. So much has not fallen in such a short space of time for fourteen years past, since the remarkable winter of 1795. The fall was but local, extending little beyond Dunbar to the S. and Glasgow to the W. Thick fog on the 20th, which covered trees and shrubs with beautiful frost crystals.</p>
1810	Snow	<p>May 4-7. A good deal of snow and hail has fallen, with the wind from E. and N.E.</p>
1810	Meteor	<p>August 28. A few minutes past 12 P.M. a very brilliant meteor appeared here, in the S.W., and rapidly proceeded in a north-easterly direction. Its apparent size and shape were those of a large tun or hogshead. It had stripes or bands of bright light along its sides, which continued a short way beyond the ball, and formed a sort of fringed tail. No noise was heard.</p>

Year.	Phenomenon.	REMARKS.
1810	Gale and lightning	December 20. After a rapid thaw and change of wind, at half past 10 P.M., with a strong south-westerly gale, and heavy showers of rain, there occurred a great deal of lightning. It continued with little intermission for several hours. No thunder was heard.
1811	Snow and frost	April 7 and 8. Intense frost, with showers of hail and snow, and a strong gale from N.W., continued for these two days. The mercury in the thermometer was several times at 24° , and once as low as 20° , or 12° below the freezing point. Vegetation had been proceeding rapidly, and has thus met with a very severe check.
1811	Thunderstorm	On the afternoon of the 8th June, a thunder-cloud passed over the south side of the city of Edinburgh, making frequent discharges of electric matter into the earth. A house situated in Fountainbridge Street, at the head of the Lothian Road, unfortunately became the conductor of one of these discharges. The fluid penetrated one of the chimneys shattering many large stones, and projecting some of them violently to a distance. The fluid passed through several apartments in the house, conducted chiefly by the bell wires, which it twisted, melted, and oxidated in its progress. The gilding on a picture-frame was partly converted into a purple oxide; and a large oil-painting was completely disfigured, the oil and colours having undergone chemical changes. A maid-servant was slightly struck by the fluid, as appeared from arborescent marks on one of her shoulders, and at the same time she was severely scorched by her clothes catching fire.
1811	Thunderstorm	June 25. This morning, another thunder cloud passed in the vicinity of this city, making very frequent discharges. A labouring man, going to his work at Craigmyle quarry, a little before 6 o'clock, was suddenly and forcibly thrown to the ground, where he lay stunned for some time.
1811	Comet	August 30. A faint, nebulous comet was seen this evening, which continued to grow in brightness till about November 8, when it was of great magnitude and brilliancy.
1811	Tides	October 31. Exceptionally high tide at Leith; much damage done.
1811	High tides	On the night between Friday the 1st and Saturday the 2nd of November the waters of the North Sea rose to a very unusual height. The rise exceeded 20 feet in the Firth of Forth.
1812	Protracted Snow-storm	March 19. Early on the morning of the 19th a sudden and heavy fall of snow took place. In about three hours it lay near a foot thick all around Edinburgh. All kinds of country labour were therefore completely stopped.
		March 21. A strong gale from N.E., with continued snow, has rendered most of the roads in this neighbourhood impassable. In many places the snow, where drifted, lies 8 feet deep on the roads, hiding hedges and walls from the view. The mail-coaches could no longer make their way, even with six horses. In the valleys about Arthur's Seat hills, the snow, in some hollows, is from 15 to 20 feet deep.
		March 22. The London mail came into and left town this day on horseback, the roads being so blocked up by snow as to be totally impassable to coaches.
		March 23. The snow ceased; but this evening an intense frost set in, the mercury in Fahrenheit's thermometer falling to 23° , or 9° below freezing point.
		March 26. The severe frost still continues, the mercury at 8 this morning standing at 24° , and having been observed, more early, as low as 21° , or 11° below freezing.
		"Even now (27th March) all the lakes and pools are thickly frozen over, and to see boys skating on the North Loch ditches, on Good Friday, is perhaps rather a novelty."—NEILL.
1812	High Tide	October 21. Very high tide at Leith. Streets inundated.
1812	Snow and Frost	December 10. Heavy fall of snow, followed by intense cold. On the 12th, in the evening, the mercury in Fahrenheit's thermometer stood at $13\frac{1}{2}^{\circ}$, or $18\frac{1}{2}^{\circ}$ below the freezing point.

Year.	Phenomenon.	REMARKS.
1813	Drought	September. This month and the last have seldom been surpassed for dryness, sunshine, and warmth. During a period of ten weeks only two rainy days occurred.
1814	Great Frost	On Sunday, 2d January, there was a good deal of rain, but towards evening the atmosphere became clear, accompanied by such intense cold during the night that next morning boys were venturing on the ice which covered the mill-pond at Canonmills. The snow soon after began to fall, and it lay on the open fields about Edinburgh nearly 16 inches deep on an average; where drifted, it was from 3 to 6 feet in depth. The cold was very great, the temperature ranging from 17° to 22° , but at 8 A.M. of the 15th January it was, at Canonmills, as low as $10^{\circ}5$, while during the early morning it had, in the New Town, fallen as low as 9° . On the 18th, at 8 A.M., a reading of 11° was recorded, and it had at the same time been observed 3° lower in the neighbourhood. At Glasgow it is stated to have fallen to -5° .
1814	Heat	The Firth of Forth was nearly covered with floating ice from Queensferry upwards. From the interstices which remained free the vapour ascending from the water became suddenly condensed, producing the appearance of smoke rising from the surface, exactly as is described to happen in Hudson's Bay and West Greenland, at the edges of the ice. Many birds were benumbed with the cold, and easily surprised and caught. The frost continued unabated till the 24th of January, when a gentle thaw commenced. The ice in the vicinity of Edinburgh varied from 7 inches in the large lochs to over a foot on the rivers. During February, alternate frosts and thaws succeeded each other, but the ice which covered the lakes on the 3rd of January did not wholly disappear till the 24th of February, having thus lasted 52 days. The effect of the severe weather was to delay the London mails considerably,—the one on the 13th, due at 7 A.M., not arriving till past 5 P.M. On the 14th and 15th it was also much behind time. From the 17th to the 21st it was one day later, and all the other mails, except from Glasgow, were also one or two days behind. The London mails due on the 22nd, 23rd, 24th, and 25th did not reach Edinburgh till the evening of the 26th, a circumstance unprecedented, there never before having been more than three London mails due at one time. Two still remained due on the 27th, and there was always one behind till after the 31st. Much damage was done to bridges, etc., on the breaking-up of the ice on the Esk and other places.
1814	Aurora	August 25. The shade temperature at the Calton Hill observatory rose to 84° at 2 P.M.
1814	Lunar Rainbow	September 11. Very bright aurora. So bright was the light that it was possible to read a book of a large type.
1814	Aurora	September 15. Fine lunar rainbow.
1814	Frost	September 11. At 7.30 P.M. a column of light was observed stretching along the northern hemisphere from S.W. to N.E., in appearance not unlike the Milky Way.
1815	Snow and Frost	November 20. Sharp frost. During the following night the temperature fell to 21° . Next morning the margins of the lochs around Edinburgh were covered with skaters.
1815	Gale	A severe storm of snow and frost continued from the 20th of January to the end of month.
1815	Aurora	January 27 and 28. Severe E.N.E. gale with very high tide at Leith. Solid masonry on the pier broken down by the huge waves.
1815	Thunderstorm	September 26. Aurora.
1816	Snow	November 24. Thunderstorm with hail.
1816	Earthquake	April 18. Heavy snowstorm.
1816	Aurora	August 13. Slight shock at 11 P.M.
		September 24. Brilliant aurora, assuming the form of a vast luminous arch of purple or red colours. Slight tremulous motions of the light were seen at intervals. The arch extended from N.E. to S.W.

Year.	Phenomenon.	REMARKS.
1817	Aurora	February 8. Brilliant aurora.
1817	Thunderstorm	February 16.
1817	Thunderstorm	June 10. Severe thunderstorm, with torrents of rain and hail from 11 to 12 o'clock. The lightning struck several buildings, including Messrs Ballantine & Co.'s printing office, and a hat factory adjoining. Several people injured.
1817	Thunderstorm	August 26. Severe thunderstorm with heavy rain. The water flowing down the Cowgate for some time presented the appearance of a rapid river. The parapet of the Earl of Moray's pleasure ground was undermined, nearly 30 yards of it giving way.
1817	Lunar rainbow	August 31.
1818	Gale	January 12. Severe gale. Lead stripped off the dome of St George's church, and several other buildings injured.
1818	Gale	January 14 and 15. Another heavy gale from S.W. to N.W. Turret and other ornaments upon the tower of Bishop Sandford's chapel at West end of Princes Street blown down.
1819	Comet	July 1. A very large comet seen, described as "not much inferior in magnitude and brilliancy to the celebrated comet of 1811."
1819	Snow	December 9 and 10. Snow 6 inches deep.
1819	Snow	December 28 and 29. Heavy snowstorm; a foot in depth where not drifted.
1820	Solar eclipse	January 7. "Great eclipse of the sun; weather so thick, hardly visible here. I had some distinct glimpses of it, however, after two o'clock, half-an-hour past the middle of the eclipse."—WATERSTON.
1820	Snow	January 16. Snow 9 inches deep.
1820	Snowstorm	January 19. Snow 18 inches deep, but 2 to 3 feet in drifts.
1820	Gale	January 22. Heavy gale. A caravan weighing about six tons and containing several wild animals blown over at Wombell's menagerie on the Mound.
1821	Gale	November 4. "On the morning of the 4th we had a most severe gale from the N.E., which did great damage to the shipping on the east coast of Scotland."—WATERSTON.
1822	Thunderstorm	July 21. Severe thunderstorm, accompanied by heavy showers of pieces of clear ice. House in Gibb's Entry, Nicolson Street, struck. Lower parts of town flooded.
1822	Gale	September 11. Severe S.W. gale; much damage at sea.
1822	Aurora	November 7. Beautiful auroral arch to north.
1822	Aurora	November 8. Brilliant aurora.
1823	Snow	January 12–27. Heavy snow showers almost every day. Depth on 23rd nearly a foot. "We have had a longer continuance of snow on the ground this month than at any time since January 1814."—WATERSTON.
1823	Snowstorm	February 1–4. Great snowstorm from E.N.E., the heaviest since 1795. During the first week hardly any mails arrived in Edinburgh. On the 9th no less than twenty-two mails were due at the Post Office, six of these London. Hundreds of men had to be employed clearing the roads, the snow where not drifted averaging two feet in depth.
1823	Lunar eclipse	July 23. Total eclipse of the moon.
1824	Gale	October 9–13. Severe gale from N.E. About 150 vessels stranded or lost on the eastern coasts of Scotland and England.
1824	Gale	December 29. Heavy S.W. gale in Edinburgh; blew down house walls, trees, etc.
1825	Thunder	January 2. Some thunder in the morning.
1825	Rapid barometric fall	January 18. Barometer fell an inch in about 10 hours.
1825	Rapid barometric rise	February 6. In twelve hours the barometer rose something more than an inch.
1825	Aurora	March 19. Very fine aurora. (See <i>Edin. Phil. Jour.</i> , vol. xiii. pp. 178–179.)
1825	Snow	May 27. Snow and sleet. Pentland hills white on the 28th.

Year.	Phenomenon.	REMARKS.
1825	Drought	July. Very warm and dry ; slight showers on the 1st and 15th. "The river Tay hardly ever remembered lower than it has been this month."—WATERSTON.
1825	Aurora	August 17. Aurora seen at 10 P.M.
1825	Aurora	September 11. Aurora at 10 P.M., just after a thunderstorm.
1825	Aurora	October 7. Aurora in the evening, observed synchronously in the north of Scotland.
1825	Aurora	November 3 and 4, that of the 4th being of great beauty.
1825	Meteor	November 14. At 8 P.M. a large meteor was seen to pass from E. to W. through a space equal to 25°. It left a luminous trail behind.
1826	Gale	February 13. Severe S.S.W. gale.
1826	Aurora	March 29. Brilliant aurora.
1826	Heat	June 24–30. "Hotter than any seven successive days in my remembrance."—WATERSTON.
1826	Early harvest	July. Cutting began in the Edinburgh district about the 10th, and by the 29th many fields were cleared. "Harvest mostly finished by middle of August, about the time it usually commences in a tolerably early season."—WATERSTON.
1826	Thunderstorm	August 27. Thunderstorm with very heavy rain.
1826	Dearth	September. "Owing to the sudden rise and acknowledged deficiency of the oats, barley, and peas crops, Government, by an extraordinary Order of Council, have allowed the importation of these articles, the quarterly average struck immediately before not allowing the ports to open. Even hay from Holland has been imported into different parts."—WATERSTON.
1826	Double crop	October. "It is rather remarkable this season that in more than one place two distinct crops of barley have come to maturity over the same ground in succession, one after the other."—WATERSTON.
1826	Snowstorm	November 25 and 26. Dreadful storm of wind and snow from the N.N.W. Several vessels lost. From thirty to forty people perished in different parts of the country, and many thousand sheep.
1827	Aurora	January 9. Aurora.
1827	Snowstorm	March 3–4. Great snowstorm. Snow fell to the depth of nearly 4 feet in 24 hours, with strong east wind ; many lives lost both on land and sea.
1827	Snowstorm	April 23 and 24. Snow fell to the depth of nearly 2 feet, with stormy east wind.
1827	Aurora	September 25. Remarkable aurora.
1827	Gale	October 22–23. Severe gale with very high sea at Leith, doing damage to the harbour.
1827	Eclipse	November 3. Lunar eclipse.
1827	Thunderstorm	December 15. Thunderstorm.
1828	Aurora	September 15. Aurora.
1828	Aurora	September 29. Bright aurora.
1828	Lightning	December 31. A great deal of lightning.
1829	Snow	January 24. Snow fell to the depth of a foot.
1829	Aurora	February 18. Brilliant aurora.
1829	Aurora	April 19. Bright aurora.
1829	Rainfall	July. A very wet month, rainfall 6½ inches, half of which fell on the 4th and 5th, when the precipitation amounted to 3·80 inches.
1829	Thunderstorm	July 30. Severe thunderstorm with very heavy rain.
1829	Rainfall	August. Wettest month for many years. WATERSTON gives the rainfall as 8·75 inches. The rain exceeded an inch on the following days :—3rd, 1·90 inch ; 4th, 1·40 inch ; 19th, 1·11 inch ; 22nd, 1·11 inch ; and 27th, 1·12 inch.
1829	Aurora	August 19, 20 and 26. Bright aurora.
1829	Lunar eclipse	September 2. Eclipse of the moon, nearly total.
1829	Aurora	September 25. Bright aurora.
1829	Gale	October 13 and 14. Severe gale from the N.E. Several vessels stranded or lost on the east coast, and a very high tide at Leith. 2·50 inches of rain fell.
1829	Gale	November 25. E.N.E. gale, many ships lost.

Year.	Phenomenon.	REMARKS.
1829	Aurora	October 6. Luminous auroral arch.
1829	Aurora	October 22. Bright aurora.
1829	Thunder	November 4. Thunder.
1829	Aurora	November 11. Bright aurora.
1829	Aurora	December 12. Bright aurora.
1831	Aurora	January 7. Bright aurora at 7 P.M.
1831	Aurora	January 11. "Bright aurora at 11 P.M. when I observed it northward and to enlighten St Giles' spire most beautifully. This aurora was seen in Paris."—GAIRDNER.
1831	Aurora	March 4. Aurora to northward.
1831	Aurora	March 7. Serpentine Aurora.
1831	Aurora	March 11-12. At 10 P.M. a tint of light as if the rising moon waning N.W. Zenith in one mass from the horizon, and at 4 A.M. on the 12th streamers were seen to dart up beyond the height of St Giles' in same direction.
1831	Rainstorm	July 15. "Between 3 and 5 o'clock one of the heaviest rains ever experienced in this country."—GAIRDNER.
1832	Thunderstorm	June 13. Alarming thunderstorm, several houses struck and people injured.
1832	Rain	October 8. Heavy rain, 2·2 inches, with strong N.E. wind.
1832	Rain	October 12. Two inches of rain, wind N.E.
1833	Gale	February 20. Severe N.E. gale, many vessels lost. Four or five fishing boats with several men lost in the Firth of Forth.
1833	Aurora	March 17. "At 8 P.M. it was said there was a glowing aurora in the zenith which lasted only 10 or 15 minutes."—GAIRDNER.
1833	Rain	June 11. Two inches of rain.
1833	Aurora	August 18. Bright aurora.
1833	Gale	August 30. Violent N.E. gale; much damage done to the ripe grain by shaking.
1833	Aurora	September 18. Bright aurora.
1833	Aurora	October 12. Splendid aurora.
1833	Lightning	December 2. Lightning to N.W. at midnight.
1833	Thunderstorm	December 6. "At 4 A.M. I was awoke with thunder and lightning with wind."—GAIRDNER.
1833	Lunar Eclipse	December 26. Total eclipse of the moon.
1834	Thunderstorm	January 18. Thunderstorm.
1834	Lightning	January 23. Very squally, with lightning.
1834	High Tide	October 4. The water in Leith dock rose to within a foot of the edge of the quay, and presented the novel spectacle of vessels lying to appearance almost out of the water. Some houses in Baltic Street flooded.
1834	Aurora	October 6. Bright aurora.
1834	Aurora	December 22. Bright aurora.
1835	Storm	January 19. Storm from N.E. did much damage along coast.
1835	Aurora	February 7. At 7 P.M. splendid aurora to N. and W. consisting of two oval amphitheatres. At 8 P.M. it began to blow and rain.
1835	Comet	October 10. HALLEY's comet distinctly visible in the Great Bear.
1835	Aurora	November 18. Bright aurora N.W. to S.E. at 9.30 P.M.
1836	Gale	January 21 to 23. Severe gale; several persons injured through falling masonry.
1836	Gale and Lightning	January 27 to 29. Severe gale with lightning. Some damage done to the Presbytery Hall, North St David Street, and other buildings.
1836	Thunderstorm	January 30. Thunderstorm.
1836	Storm	March 17. Violent storm, with hail and sleet.
1836	Thunderstorm	July 5. Violent thunderstorm, attended with damage to crops and loss of life in many places. Continued from 10 A.M. to 8 P.M.
1836	Snowstorm	October 28. Snow fell this evening to the depth of 4 or 5 inches. Hard frost continued till the 31st. "Such an early appearance of winter has not been observed for many years, probably since 1782. Harvest has been much protracted, and in some places oats are hardly ripe yet."—WATERSTON.

Year.	Phenomenon.	REMARKS.
1836	Aurora	October 18. Remarkable aurora ; bright red and white.
1837	Gale	February 19. Violent S.W. gale. Thunder in the evening.
1837	Snowstorm	Mar. 11. Six inches of snow fell.
1837	Rainstorm	August 2 to 4. "More than 3 inches of rain fell."—WATERSTON.
1837	Aurora	October 6. Bright aurora.
1837	Aurora	October 18. Reddish aurora.
1837	Lunar Eclipse	October 13. Total eclipse of moon.
1838	Frost	In January and February the frost was very hard. WATERSTON says with reference to January, "We have had a longer continuance of frost and snow than any month since February 1823."
1838	Rainstorm	September 6. Two inches of rain.
1839	Ice Accidents	January 18. Skating at Duddingston ; three people drowned by the ice giving way.
1839	Aurora	January 14, 16, 19. Bright aurora.
1839	Aurora	September 3 and 4. Bright aurora.
1839	Aurora	October 13. Bright aurora.
1839	Earthquake	October 23. At 10.15 P.M. a sharp shock of earthquake was felt. It was accompanied with no noise and lasted about four seconds.
1841	Aurora	December 14. Bright aurora.
1842	Aurora	February 11. Bright aurora.
1843	Gale	July 3. Severe gale from W.; fruit trees and bushes stripped, and the wall fruit which was fast ripening destroyed. "So wild a tempest has not been experienced at this season for at least twenty years."
1843	Thunderstorm	July 5. Violent thunderstorm ; house struck in Lothian Road.
1843	Storm	October 11. Violent storm from the E. did much damage.
1843	Storm	October 28. Severe storm from E. ; very injurious to shipping.
1845	Gale	January 25. Severe S.W. gale.
1845	Rainstorm	October 3. Severe rainstorm.
1846	Thunderstorm	June 22. Severe thunderstorm.
1846	Thunderstorm	July 5. Severe thunderstorm.
1846	Gale	November 20. Stormy S.E. gale.
1847	Aurora	September 27. Brilliant aurora.
1849	Meteor	December 18. Bright meteor.
1851	Snow	June 1. Pentland Hills covered with fresh snow.
1852	Aurora	February 18. Fine aurora at 10 P.M.
1852	Aurora	February 19. At 10.30 P.M. aurora over the whole sky, all shooting up to a point very nearly to the true pole, and of red and green colours.
1852	Thunderstorm	December 24. Gale of wind with lightning and thunder, from 4 to 5 A.M. (25th).
1854	Comet	March 29. Brilliant comet in the west this evening.
1854	Thunderstorm	May 9. Thunderstorm with very large hail.
1858	Thunderstorm	June 17. Severe thunderstorm with torrents of rain. A portion of the new road from St Leonards to Duddingston gave way at a point about 200 yards to the east of Samson's Ribs. The lightning struck a house in the Pleasance.
1859	Aurora	August 29. Most brilliant purple aurora australis at 1 A.M.
1860	Storm	October 3. Severe storm ; windows of the Church of Scotland Normal School blown in. Scaffolding at a church under repair blown away. Gable end of an old house blown in. Three large trees were blown down in the Meadows and had their trunks broken across, twisted and shattered remarkably. Wind veered from W.S.W. to W.N.W.
1860	Great Frost	December 22 to 28. Great cold prevailed during this period, mean temperature being only 20°.3. The following are the maximum, minimum and mean temperatures for the week :—

Year.	Phenomenon.	REMARKS.			
		Dec.	Max. °	Min. °	Mean. °
1860	Great Frost—continued				
		22	30·1	21·5	25·8
		23	30·0	21·6	25·8
		24	19·8	5·0	12·4
		25	19·0	13·0	16·0
		26	23·0	8·8	15·9
		27	26·7	19·8	23·4
		28	29·2	17·0	23·1
			25·4	15·2	20·3
1861	Rainstorm	Dense fog prevailed with few interruptions. See <i>Jour. Scot. Met. Soc.</i> for quarter ending 30th December 1860, pp. 6–14.			
1862	Gale	September 23. Great rainstorm; 2·40 inches of rain fell in two hours.			
1862	Aurora	October 14. Very severe gale in morning.			
1862	Aurora	November 17. Aurora in N.W.			
1863	Storm	December 24. Aurora in W.			
1863	Aurora	February 4. Great storm all day with thunder, lightning, and hail.			
1863	Aurora	April 15. Aurora in N.			
1863	Aurora	May 8. Aurora in N.W.			
1863	Aurora	November 5. Aurora near horizon.			
1864	Gale	December 9. Aurora in S. extending from horizon to zenith.			
1864	Gale	October 22. Strong gale with heavy rain. Several buildings damaged, including St Mary's Roman Catholic Chapel, Broughton Street. The Water of Leith higher than it had been for seven or eight years.			
1866	Meteor	February 13. Severe storm of wind and rain. Much damage to property.			
		November 13. At 2 h. 53 m. (Sidereal time) a very bright meteor descended from near the zenith in a N.W. direction, at an angle of 75° to the horizon.			
1867	Aurora	January 11. Aurora in N.W.			
1867	Aurora	February 8. Aurora in N.W.			
1867	Darkness	September 10. A very dark cloud passed between 11 and 12 noon, so dark that gas had to be lighted.			
1867	Aurora	October 2. Aurora in N.W.			
1867	Aurora	October 29. Aurora in N.W. near horizon.			
1868	Lightning	January 15. Lightning from 7 to 8 P.M.			
1868	Hurricane	January 24 (Windy Friday). Great storm of wind reaching the force of a tropical hurricane from 1 to 4 P.M. Gable in Duke Street blown down, cabs overturned, etc. "Many buildings much damaged, 21 instances of injured masonry being reported, the first at 12.15 and the last at 4.30 P.M. In the hour ending 2.20 P.M. nine of the 21 buildings were damaged."—(See <i>Scot. Met. Soc. Jour.</i> , vol. ii. pp. 169–180.)			
1868	Thunderstorm	February 1. Thunderstorm at 8 A.M.			
1868	Aurora	April 27. Aurora between 10 and 11 P.M.			
1868	Aurora	October 19. Bright aurora in N.W.			
1868	Thunderstorm	November 4. Thunderstorm with hail.			
1869	Lightning	March 1. Lightning from 7 to 10 P.M. with small snow.			
1869	Aurora	May 13. Very beautiful aurora; radiating from the zenith towards the horizon in all directions.			
1869	Storm	June 15. Severe gale from N.E. At 11 A.M. the wind, which was S.S.E., of a sudden chopped round to the N.E., and without warning blew a violent gale. A tremendous sea was raised on the east coast, many shipwrecks occurring with serious loss of life.			
1870	Snow	February 25. Very heavy snowfall; depth 13½ inches where not drifted.			
1870	Snowstorm	February 27. Severe snowstorm, drifts forming in the streets to the depth of 3 to 4 feet, while the average depth where not drifted was 20 inches.			

Year.	Phenomenon.	REMARKS.
1870	Aurora	August 28. Low circular arc to N.N.W.
1870	Aurora	August 29. Low circular arc to N.W.
1870	Aurora	September 3. Low arc to N.N.W.
1870	Aurora	September 24. Auroral light, sky clouded
1870	Aurora	September 25. Auroral light, sky clouded.
1870	Aurora	October 14. Low arc to N.N.W. with transverse streamers shooting from N. to S. over all the sky.
1870	Aurora	October 20. Red and green aurora chiefly to N.E.
1870	Aurora	October 25. Grand aurora, red, green and blue over all the sky.
1871	Aurora	February 12 Transverse band, S. and S.E. of zenith, occasionally red and radiating.
1871	Aurora	March 9. Low auroral arch N., 10° W.
1871	Aurora	March 14. Auroral gleam to N.W.
1871	Aurora	March 16. Auroral arch to N.W.
1871	Aurora	March 17. Auroral arch to N.N.W.
1871	Aurora	March 27. Auroral arch, low to N.W.
1871	Aurora	March 28. Auroral arch, low to N.W.
1871	Aurora	April 9. General auroral light through sky heavily clouded ; said to have been a red aurora elsewhere.
1871	Aurora	April 12. Upward shooting beams of aurora N. to N.W.
1871	Aurora	April 20. Long low arc of auroral glow to N.W.
1871	Aurora	April 28. Elliptical arches, low to N.W. and N.
1871	Aurora	May 8. Long low auroral arc N. and N.W.
1871	Aurora	August 6. Midnight auroral arc to the N.W. ; mean rising to N.E.
1871	Aurora	August 21. Auroral arc, bright and large from W., round by N.W. to N. and N.N.E. ; a few dark clouds in front.
1871	Aurora	September 7. Auroral lights N. and N.W., in upward shooting beams.
1871	Aurora	October 14. Auroral light to the N.W. amongst clouds.
1872	Gale	January 1. Severe gale. Property damaged and many people injured.
1872	Thunderstorm	October 30. A thunderstorm of unusual violence from 5 to 6 P.M., with heavy rain and hail causing much flooding.
1873	Thunderstorm	March 14. Thunder and lightning at 8 P.M.
1873	Thunderstorm	July 22. Very severe thunderstorm. An observer of the Scottish Meteorological Society counted in one hour 680 flashes of lightning with their accompanying thunderclaps. This gives a rate of fully 11 per minute.
1874	Thunderstorm	June 25. Thunderstorm from 11.35 A.M. to 12.35 P.M. No less than 81 flashes of lightning were observed, of which 43 were seen in the first 26 minutes.
1874	Gale	October 21. Worst gale since the hurricane of January 1868. Much damage done to property all over the city. Several people injured.
1874	Thunderstorm	December 30. Snow showers, with thunder and lightning at 10.45 P.M.
1876	Mock Suns	May 10. Solar halo and mock suns seen.
1877	Great Rainfall	August 18 to 22. Very heavy and continuous rain with east (N.E. to S.E.) winds, 7.07 inches fell in the five days, the amounts for each of the days being as follows, 18th, 1.54 inch ; 19th, 0.89 inch ; 20th, 1.88 inch ; 21st, 1.96 inch ; 22nd, 0.80 inch. The Water of Leith overflowed its banks, houses in Warriston Crescent being flooded to the depth of 7 feet. All over the town extensive inundations took place in low-lying situations.
1878	Thunderstorm	June 27. Severe thunderstorm ; the lightning struck several buildings.
1878-79	Frost	Very cold winter ; skating and curling carried on at Duddingston uninterruptedly for 12 weeks.
1879	Gale	March 4. Severe gale ; several buildings damaged, and people injured.
1879	Gale and Rain	July 13. N.E. gale and heavy rain, no less a quantity than 2.95 inches falling within the 24 hours. Flooding throughout the town.
1879	Gale	December 28. Heavy gale ; Tay Bridge blown down.
1879-80	Frost	Skating for eight weeks on Duddingston Loch.
1880	Lunar Rainbow	January 1. Fine lunar rainbow between 11 o'clock and midnight, the colours being well defined.

Year.	Phenomenon.	REMARKS.
1880-81	Frost	During this winter there was skating and curling at Duddingston for thirteen weeks.
1881	Fog	January 4. Very dense fog. At night objects could hardly be distinguished at a few yards distance. Vehicular traffic much impeded.
1881	Snow	January 17 and 21. Heavy snowstorms. Traffic seriously deranged.
1881	Rain	August 10. A quarter of an inch of rain fell in 15 minutes.
1881	Storm	October 14. Severe N.E. gale; occasioned much damage of property as well as lamentable loss of life.
1881	Gale	November 15 to 22. Continued gale; numerous casualties.
1881	Meteor	November 15. Brilliant meteor at 5.52 P.M.
1882	Gale	January 5. Severe gale. An unusually large amount of damage done to property throughout the city. Several people injured. March 9. Thunderstorm at 4 P.M.
1882	Thunderstorm	December 5. Heavy east gale with snow. Tramway service suspended.
1882	Gale and Snow-storm	
1883	Gale	January 24. Strong east gale; average velocity of wind 56·6 miles per hour, rising to 70 miles an hour in gusts. Several buildings damaged.
1884	Low Pressure	January 26. Barometer fell to 27·451 inches at 10 P.M., being the lowest recorded since the commencement of pressure observations in 1769. The fluctuations previous to this great depression were remarkable, the following being the corrected readings, 9 A.M. of the 21st, 30·243; 5 P.M. of the 23rd, 28·466; 4 P.M. of the 24th, 29·583; 10 P.M. of the 26th, 27·451; and 11 P.M. of the 28th, 29·598 inches.
1884	Thunderstorm	August 12. Thunderstorm of tropical severity for several hours. The storm was general over the country. Very heavy rain fell.
1884	Gale	February 10. Severe gale "from 5 to 5.20 P.M. the gusts exceeded in force any previous storm here."—BLACKWOOD.
1885	Meteor	April 15. Intensely blue meteor in east at 10.20 P.M.
1885	Meteors	November 27. Grand meteoric shower. A modest computation would be 50 per minute from 5 to 8 P.M. when it reached its maximum.
1886	Thunderstorm	January 16 and 17. Thunderstorm both days, a very unusual circumstance at this season.
1886	Snowstorm	March 2. Severe snowstorm from E. Trains blocked on east coast. On March 4th there were taken out of Edinburgh 1434 cart-loads of snow.
1886	Low Pressure	December 8. Barometer at 32° and sea-level fell to 27·651 inches at 7.30 P.M., having fallen 1·52 inch since 10 P.M. of the previous day.
1887	Heat and Drought	June. A very dry and hot month. No rain after 14th.
1887	Thunderstorm	September 2. At 10 A.M. during a thunderstorm 0·29 inch of rain fell in fourteen minutes, while on the 4th 0·33 inch of rain fell in ten minutes.
1888	Snowstorm	February 19. Fierce N.E. gale with snow and hail squalls.
1888	Snowstorm	March 15. Snowstorm from E.
1888	Fall of Temperature	March 22. Temperature fell 7° in fifteen minutes at 9 A.M.
1888	Gale	November 16. Heaviest gale experienced for many years. Average velocity of wind from 9 A.M. to noon over 50 miles per hour. Very stormy till the 25th.
1889	Earthquake	January 18. Slight shock of earthquake at 6.50 A.M.
1889	Rise in Pressure	February 4. Barometer rose 1·26 inch in 24 hours.
1890	Lightning	January 5. Lightning at 9.10 P.M.
1890	Mock Sun	September 4. Mock sun at 6.30 P.M.
1890	Sunless Weather	December. The sun only shone for seven hours; four and a half hours being recorded on 1st.
1891	Aurora	March 31. Aurora, single arch, no streamers.
1891	Aurora	November 6. Faint aurora.
1892	Squall	February 1. Severe squall at 7 A.M. Wind veered from S.W. to W. Temperature fell 9° and barometer rose 0·06 inch in three minutes (see <i>Journ. Scot. Met. Soc.</i> , vol. ix. p. 237).
1892	Thunderstorm	February 16. Thunderstorm at 8.33 A.M. with hail.
1892	Aurora	March 1, 2, 3. Aurora.

Year.	Phenomenon.	REMARKS.
1892	Aurora	May 1. Aurora.
1892	Lightning	December 6. Lightning at 10.4 P.M.
1893	Meteor	September 5. Very fine meteor at 11.38 P.M., travelled from S.E. to E.N.E.
1893	Snow and Sleet	September 23. Observer at Blacket Place reports "slight showers of rain and sleet." The report from Leith is "slight snow and hail at 11.5 A.M."
1893	Gale	December 8. Heavy gale from S.W. Average wind velocity from 10 A.M. to 6 P.M. was 44 miles per hour, and that in a somewhat sheltered situation.
1894	Low Temperature	January 6. In the twelve hours ending 9 P.M. the highest temperature recorded was 17°.8.
1894	Increase in Pressure	February 12. The barometer rose 0.31 inch between 4 and 5 A.M.
1894	Rainfall	February. An exceptionally wet, stormy month ; rainfall, 6.81 inches. Thunderstorms occurred on the 24th at 8 A.M., and on the 25th at 3.30 P.M. Lightning was seen on the latter date at 8.5 P.M.
1894	Thunderstorm	March 11. Thunder at times, 2.25 to 3 P.M.
1894	Rise in Temperature	March 29. Temperature rose 30° in six hours ending with noon.
1894	Aurora	May 7. Aurora after 7 P.M. Pale white streamers.
1894	Snow	May 20. Snow and hail. Pentland Hills white to base at 8 P.M.
1894	Rain from a Cloudless Sky	November 16. A shower of rain fell from a cloudless sky at 10.45 P.M.
1895	Frost	January and February. Very severe weather prevailed throughout, with hard frost, but little snow, in the immediate vicinity of Edinburgh (see <i>Jour. Scot. Met. Soc.</i> , vol. x. pp. 163-173).
1895	Lightning	January 24. Lightning at 8.40 P.M.
1895	Cold	February 8. Minimum in shade 11°.9, lowest in February since February 5, 1823.
1895	Aurora	March 13. Aurora in south at 9 P.M. stretching from W. to E.
1895	Rain	June 19. Thunderstorm with heavy rain ; 0.53 inch of rain fell in 39 minutes, of which 0.40 inch fell in 21 minutes.
1895	Rain	August 22. Between 4.15 and 5.7 A.M. 0.86 inch of rain fell.
1895	Snow	October. Snow fell on the 24th, 25th, 26th, and 28th, covering the ground to a depth of 2 inches.

TABLE I.

*Showing the Mean Barometric Pressure of the Air in Edinburgh from 1769 to 1896.
Corrected to 32° and Reduced to Mean Sea-Level.*

NOTE.—During six months the Observations were incomplete. These months are marked with an asterisk.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1769	ins. ?	ins. 29·602*	ins. 29·928	ins. 29·806	ins. 29·959	ins. 29·837	ins. 29·976*	ins. 29·598*	ins. ?	ins. 29·703	ins. 29·616	ins. 29·577	ins. 29·625 29·781
1770	29·977	29·851	29·778	29·734	29·900	29·697	29·943	29·994					
1771	29·691	29·938	29·945	30·021	29·842	30·055	29·881	29·758	29·952	29·632	30·003	29·513	29·853
1772	29·771	29·551	29·637	29·900	30·129	30·006	29·894	29·795	29·784*	29·364*	29·492	29·880	29·767
1773	29·679	29·842	30·144	29·792	29·911	29·905	30·013	29·944	29·565	29·644	29·706	29·734	29·823
1774	29·642	29·640	29·925	29·773	30·022	29·817	29·842	29·845	29·766	30·060	29·944	30·141	29·868
1775	29·758	29·552	29·716	30·040	30·109	29·974	29·794	29·737	29·733	29·757	29·915	29·952	29·836
1776	29·909	29·202	29·854	30·060	30·070	29·798	29·815	29·796	29·855	29·988	29·807	29·865	29·835
1777	29·859	29·719	29·766	30·065	29·784	29·824	29·868	29·886	30·009	29·754	29·836	29·869	29·853
1778	29·710	29·720	29·797	29·779	29·799	29·925	29·837	30·026	30·014	29·704	29·616	29·759	29·807
1779	30·111	29·889	30·021	29·716	29·698	30·076	29·959	30·124	29·859	29·980	29·726	29·746	29·909
1780	29·999	29·702	29·714	29·660	29·827	29·907	29·791	30·107	29·704	29·990	29·936	30·266	29·883
1781	29·977	29·622	30·155	29·861	30·086	29·893	29·950	29·777	29·864	30·121	29·758	29·736	29·900
1782	29·628	29·973	29·627	29·858	29·702	29·942	29·923	29·988	29·878	30·059	29·950	29·985	29·876
1783	29·410	29·659	29·768	30·201	30·009	29·844	29·949	29·888	29·696	29·827	29·932	29·999	29·848
1784	29·941	29·835	29·874	29·695	29·991	29·796	29·841	29·894	29·899	30·202	29·768	29·963	29·892
1785	29·812	30·014	30·252	30·167	29·971	30·087	29·780	29·784	29·747	29·877	29·662	29·977	29·928
1786	29·589	29·878	30·023	30·050	29·862	30·053	30·028	29·826	29·641	30·065	30·039	29·521	29·869
1787	30·123	29·697	29·676	30·007	29·946	29·828	29·771	29·900	29·863	29·696	29·770	29·794	29·839
1788	29·977	29·714	29·734	30·055	30·094	30·058	29·926	29·901	29·830	30·128	29·938	29·994	29·946
1789	29·636	29·420	29·788	29·644	29·839	29·770	29·794	29·918	29·764	29·644	29·673	29·583	29·706
1790	29·949	29·959	30·217	29·934	29·941	29·980	29·660	29·717	29·849	29·816	29·774	29·667	29·872
1791	29·186	29·789	29·990	29·810	29·903	29·877	29·716	29·978	30·068	29·692	29·626	29·542	29·764
1792	29·742	29·920	29·582	29·849	29·893	29·911	29·766	29·898	29·652	29·794	29·865	29·642	29·793
1793	29·916	29·666	29·869	29·967	30·150	29·884	29·970	29·878	29·960	29·811	29·923	29·710	29·892
1794	29·909	29·614	29·871	29·818	29·973	30·075	29·950	29·909	29·874	29·740	29·662	29·937	29·861
1795	30·163	29·756	29·827	29·739	30·135	29·953	30·003	29·866	30·054	29·500	29·818	29·803	29·885
1796	29·434	29·802	30·133	30·092	29·803	29·871	29·645	30·015	29·942	29·769	29·867	29·937	29·859
1797	30·020	30·189	29·881	29·836	29·795	29·909	29·839	29·716	29·702	29·809	29·920	29·603	29·852
1798	29·798	29·938	29·995	29·895	30·074	30·046	29·633	29·985	29·666	29·761	29·550	29·968	29·859
1799	29·904	29·657	29·901	29·716	29·851	30·027	29·745	29·625	29·741	29·695	29·693	30·094	29·804
1800	29·505	29·970	29·926	29·578	29·834	29·974	30·047	30·011	29·720	29·700	29·551	29·586	29·775
1801	29·713	29·718	29·726	29·986	29·891	30·047	29·840	30·115	29·930	29·741	29·673	29·490	29·822
1802	29·878	29·665	29·957	29·865	30·077	29·762	29·754	29·923	29·991	29·684	29·821	29·701	29·840
1803	29·889	29·709	30·042	29·829	29·814	29·970	30·075	29·962	30·082	30·048	29·528	29·601	29·879
1804	29·568	30·088	29·697	29·775	29·808	30·005	29·832	29·854	30·058	29·643	29·961	29·958	29·854
1805	29·654	29·721	29·869	29·910	29·949	29·978	29·901	29·883	29·934	29·984	30·234	29·633	29·888
1806	29·434	29·751	29·845	30·149	30·018	30·081	29·806	29·772	29·972	29·884	29·601	29·364	29·806
1807	29·972	29·621	30·093	29·912	29·888	30·001	29·883	29·863	29·764	29·809	29·533	29·819	29·846
1808	29·684	30·067	30·209	29·847	29·886	29·998	29·990	29·874	29·859	29·654	29·839	29·817	29·893
1809	29·612	29·624	30·098	29·896	29·920	29·915	29·942	29·708	29·729	30·064	29·949	29·399	29·821
1810	30·102	29·796	29·703	29·878	30·017	30·065	29·767	29·830	30·027	29·929	29·541	29·664	29·860
1811	29·901	29·461	30·125	29·764	29·815	29·916	30·056	29·873	30·098	29·613	29·904	29·662	29·849
1812	29·885	29·514	29·817	29·972	29·912	29·951	29·986	30·042	29·960	29·436	29·873	30·071	29·864
1813	30·031	29·556	30·017	29·970	29·789	30·046	29·832	30·036	29·996	29·766	29·668	29·861	29·881
1814	29·736	30·026	29·850	29·840	30·086	30·059	29·941	29·862	30·054	29·760	29·688	29·641	29·879
1815	29·920	29·664	29·576	29·971	29·879	29·889	30·037	29·816	29·886	29·802	29·977	29·747	29·847
1816	29·613	29·840	29·798	29·814	29·870	29·889	29·692	29·912	29·841	29·850	29·754	29·634	29·767
1817	29·629	29·708	29·670	30·298	29·774	29·806	29·737	29·676	29·962	30·058	29·837	29·582	29·814
1818	29·605	29·615	29·471	29·910	30·002	29·967	30·030	30·083	29·757	29·844	29·829	30·070	29·849
1819	29·679	29·627	29·900	29·830	29·978	29·833	29·967	30·025	29·941	29·883	29·808	29·772	29·854
1820	29·955	30·071	29·920	29·947	29·779	29·966	29·972	29·947	29·648	29·921	30·018	29·910	

TABLE I.—*continued.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	
1881	29.920	29.823	29.792	30.028	29.899	29.863	29.750	30.008	30.046	29.666	29.802	29.887	
1882	30.145	30.029	29.794	29.785	30.030	29.820	29.714	29.819	29.857	29.834	29.558	29.628	29.835
1883	29.758	29.866	29.974	30.014	29.927	29.964	29.785	29.857	29.764	29.852	29.632	30.028	29.868
1884	29.794	29.768	29.810	29.872	29.878	30.017	29.943	29.943	29.928	29.950	30.077	29.676	29.888
1885	29.796	29.468	30.010	29.783	29.712	30.000	29.982	29.982	29.723	29.724	29.876	30.037	29.842
1886	29.554	30.090	29.895	29.877	29.893	29.934	29.887	29.887	29.949	29.796	29.792	29.492	29.829
1887	29.809	30.177	30.032	29.984	30.046	30.182	29.921	29.921	29.870	30.039	29.665	29.702	29.946
1888	30.115	30.043	29.631	29.875	29.940	29.981	29.902	29.902	30.141	29.936	29.671	29.807	29.912
1889	30.049	29.830	29.910	29.738	29.823	30.067	29.743	29.743	30.000	29.668	30.082	30.013	29.889
1890	29.602	30.242	29.684	29.816	29.847	29.874	29.800	29.800	30.007	29.950	29.736	30.104	29.872
1891	29.991	30.337	29.758	30.040	29.790	30.084	29.672	29.672	29.822	29.635	29.785	29.738	29.860
1892	29.744	29.776	30.047	30.012	29.926	29.940	29.808	29.808	29.800	29.700	29.921	29.891	29.864
1893	30.007	29.540	30.008	30.192	30.058	29.988	29.928	29.928	29.739	29.730	29.966	29.739	29.902
1894	29.650	29.755	29.813	29.877	29.940	29.971	29.832	29.826	30.229	29.926	29.786	29.854	29.872
1895	29.766	30.162	29.631	29.850	30.116	30.045	29.784	29.765	30.053	29.800	29.784	29.691	29.870
1896	30.222	30.202	29.633	30.054	30.266	29.908	29.868	29.985	29.660	29.702	30.121	29.682	29.942
<i>Decennial Means.</i>													
1771-80	29.813	29.675	29.852	29.881	29.919	29.929	29.870	29.901	29.824	29.787	29.798	29.872	29.843
1781-90	29.804	29.777	29.910	29.947	29.945	29.925	29.862	29.859	29.803	29.944	29.827	29.822	29.869
1791-1800	29.758	29.820	29.898	29.830	29.941	29.953	29.831	29.888	29.837	29.727	29.748	29.782	29.834
1801-10	29.751	29.776	29.924	29.905	29.927	29.982	29.879	29.878	29.934	29.845	29.767	29.645	29.851
1811-20	29.790	29.708	29.814	29.932	29.888	29.922	29.925	29.910	29.944	29.766	29.826	29.806	29.851
1821-30	29.981	29.838	29.859	29.824	29.966	29.991	29.863	29.878	29.843	29.825	29.781	29.728	29.861
1831-40	29.877	29.769	29.884	29.941	30.003	29.864	29.915	29.883	29.818	29.843	29.709	29.857	29.864
1841-50	29.807	29.781	29.856	29.817	29.911	29.891	29.865	29.842	29.943	29.737	29.752	29.853	29.838
1851-60	29.702	29.886	29.865	29.895	29.896	29.866	29.887	29.861	29.919	29.780	29.916	29.776	29.854
1861-70	29.771	29.856	29.810	29.963	29.953	29.970	29.907	29.888	29.831	29.829	29.847	29.852	29.873
1871-80	29.842	29.838	29.888	29.880	29.974	29.912	29.880	29.868	29.874	29.919	29.833	29.819	29.869
1881-90	29.854	29.933	29.853	29.877	29.915	29.974	29.854	29.860	29.925	29.879	29.775	29.829	29.877
1891-96	29.897	29.902	29.815	30.004	30.016	29.989	29.815	29.831	29.884	29.749	29.894	29.766	29.885
Means	29.818	29.813	29.864	29.895	29.940	29.932	29.876	29.875	29.874	29.810	29.801	29.800	29.858
1770-1896													
127 Yrs.													

TABLE II.

Showing the Highest Barometric Pressure in each Month from 1840 to 1896.

At 32° and Mean Sea-Level.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	ins.											
1840	30·415	30·717	30·725	30·407	30·390	30·126	30·815	30·305	30·161	30·618	30·454	30·803
1841	30·318	30·662	30·470	30·297	30·524	30·236	30·206	30·260	30·315	30·282	30·437	30·121
1842	30·567	30·419	30·375	30·427	30·516	30·434	30·357	30·336	30·524	30·551	30·527	30·501
1843	30·408	30·353	30·406	30·397	30·453	30·255	30·274	30·280	30·602	30·383	30·356	30·429
1844	30·515	30·135	30·482	30·376	30·601	30·176	30·190	30·318	30·337	30·332	30·340	30·551
1845	30·284	30·252	30·441	30·582	30·326	30·280	30·364	30·403	30·352	30·417	30·357	30·498
1846	30·504	30·381	30·521	30·277	30·271	30·356	30·187	30·350	30·546	30·300	30·596	30·540
1847	30·560	30·456	30·712	30·188	30·582	30·515	30·426	30·451	30·448	30·349	30·428	30·428
1848	30·599	30·218	30·208	30·128	30·368	30·198	30·471	30·041	30·366	30·372	30·682	30·575
1849	30·166	30·649	30·361	30·377	30·326	30·184	30·426	30·198	30·595	30·440	30·227	30·867
1850	30·499	30·265	30·621	30·490	30·271	30·381	30·222	30·277	30·557	30·416	30·322	30·410
1851	30·190	30·520	30·469	30·237	30·479	30·331	30·267	30·380	30·637	30·404	30·437	30·629
1852	30·190	30·732	30·797	30·377	30·329	29·939	30·232	30·372	30·324	30·417	30·134	30·185
1853	30·301	30·195	30·256	30·287	30·362	30·282	30·116	30·394	30·500	30·972	30·398	30·517
1854	30·179	30·530	30·902	30·514	30·236	30·248	30·271	30·389	30·510	30·511	30·377	30·343
1855	30·658	30·291	30·524	30·513	30·355	30·420	30·188	30·261	30·624	30·131	30·485	30·297
1856	30·595	30·581	30·750	30·453	30·402	30·280	30·250	30·319	30·305	30·586	30·671	30·380
1857	30·430	30·470	30·660	30·262	30·352	30·414	30·284	30·393	30·495	30·406	30·810	30·622
1858	30·693	30·538	30·545	30·395	30·434	30·386	30·262	30·385	30·393	30·586	30·621	30·257
1859	30·740	30·521	30·305	30·303	30·347	30·252	30·286	30·277	30·218	30·106	30·717	30·684
1860	30·255	30·782	30·564	30·524	30·505	30·186	30·319	29·947	30·411	30·295	30·649	30·290
1861	30·374	30·508	30·212	30·536	30·349	30·242	30·005	30·184	30·208	30·373	30·294	30·583
1862	30·448	30·693	30·377	30·467	30·304	30·259	30·203	30·341	30·363	30·521	30·555	30·225
1863	30·546	30·756	30·486	30·287	30·496	30·316	30·616	30·246	30·236	30·356	30·566	30·456
1864	30·726	30·616	30·186	30·536	30·416	30·286	30·416	30·636	30·416	30·556	30·776	30·676
1865	30·176	30·616	30·276	30·536	30·456	30·636	30·436	30·316	30·556	30·286	30·536	30·856
1866	30·486	30·356	30·486	30·616	30·586	30·326	30·376	30·186	30·256	30·616	30·276	30·456
1867	30·216	30·556	30·846	30·216	30·326	30·636	30·356	30·096	30·516	30·316	30·616	30·406
1868	30·356	30·396	30·526	30·386	30·326	30·436	30·486	30·216	30·486	30·166	30·606	30·136
1869	30·326	30·131	30·370	30·540	30·320	30·304	30·216	30·336	30·433	30·334	30·313	30·670
1870	30·656	30·608	30·560	30·440	30·412	30·570	30·305	30·408	30·515	30·620	30·581	30·673
1871	30·394	30·406	30·616	30·221	30·416	30·351	30·021	30·368	30·458	30·448	30·305	30·431
1872	29·926	30·213	30·260	30·432	30·340	30·268	30·188	30·328	30·184	30·354	30·408	29·978
1873	30·282	30·623	30·276	30·508	30·426	30·345	30·122	30·092	30·480	30·484	30·602	30·574
1874	30·507	30·607	30·879	30·427	30·440	30·691	30·256	30·564	30·297	30·513	30·348	30·401
1875	30·570	30·506	30·732	30·576	30·480	30·406	30·406	30·244	30·432	30·208	30·580	30·574
1876	30·677	30·240	30·224	30·426	30·584	30·283	30·456	30·290	30·375	30·390	30·387	30·197
1877	30·496	30·348	30·254	30·410	30·450	30·293	30·150	30·240	30·550	30·627	30·337	30·620
1878	30·624	30·545	30·685	30·280	30·136	30·180	30·436	30·382	30·190	30·269	30·396	30·382
1879	30·504	30·295	30·543	30·339	30·520	30·155	30·044	30·182	30·297	30·570	30·526	30·655
1880	30·650	30·365	30·516	30·546	30·402	30·480	30·246	30·376	30·392	30·454	30·433	30·452
1881	30·773	30·498	30·346	30·305	30·769	30·268	30·138	30·170	30·461	30·496	30·188	30·400
1882	30·866	30·664	30·486	30·596	30·467	30·383	30·375	30·363	30·390	30·670	30·341	30·140
1883	30·538	30·632	30·734	30·690	30·446	30·362	30·304	30·270	30·570	30·468	30·300	30·620
1884	30·547	30·290	30·321	30·272	30·404	30·318	30·189	30·216	30·520	30·736	30·661	30·419
1885	30·433	30·189	30·638	30·242	30·183	30·387	30·441	30·255	30·180	30·455	30·443	30·611
1886	30·146	30·499	30·589	30·402	30·360	30·312	30·282	30·234	30·634	30·549	30·661	30·476
1887	30·451	30·700	30·506	30·598	30·459	30·484	30·356	30·337	30·558	30·595	30·286	30·280
1888	30·691	30·574	30·509	30·332	30·566	30·377	30·055	30·286	30·519	30·511	30·134	30·390
1889	30·580	30·456	30·507	30·038	30·074	30·488	30·447	30·223	30·499	30·388	30·613	30·733
1890	30·250	30·735	30·543	30·278	30·304	30·366	30·220	30·218	30·454	30·450	30·323	30·593
1891	30·795	30·662	30·146	30·429	30·327	30·392	30·407	30·016	30·164	30·751	30·731	30·614
1892	30·411	30·619	30·621	30·457	30·499	30·383	30·384	30·255	30·377	30·379	30·437	30·272
1893	30·485	30·295	30·447	30·653	30·582	30·434	30·221	30·331	30·330	30·376	30·553	30·643
1894	30·759	30·466	30·509	30·424	30·519	30·477	30·342	30·323	30·568	30·497	30·528	30·642
1895	30·675	30·711	30·242	30·408	30·616	30·486	30·230	30·185	30·389	30·558	30·590	30·447
1896	31·071	30·689	30·190	30·450	30·537	30·170	30·325	30·327	30·362	30·543	30·614	30·392

TABLE III.

*Showing the Lowest Barometric Pressure in each Month from 1840 to 1896.
At 32 and Mean Sea-Level.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	ins.											
1840	28°241	28°615	29°589	29°392	29°254	29°300	29°163	28°846	28°928	29°065	28°401	29°105
1841	28°653	29°042	29°020	29°264	28°901	29°162	29°436	29°336	28°835	28°820	28°620	28°825
1842	28°786	28°885	29°037	29°277	28°787	29°154	29°204	29°593	29°295	28°703	28°901	29°029
1843	28°082	28°997	29°349	29°276	29°354	28°913	29°384	29°271	29°698	28°770	28°995	29°513
1844	29°044	28°952	28°798	29°603	29°823	29°480	29°156	29°001	29°615	28°850	28°885	29°490
1845	28°624	29°452	29°048	29°124	29°404	29°109	29°246	29°283	29°026	29°142	28°418	28°500
1846	28°790	29°036	28°870	29°087	29°017	29°216	29°178	29°323	29°303	28°771	28°920	28°963
1847	28°850	29°225	29°239	28°984	29°278	29°329	29°726	29°248	28°635	29°091	28°984	28°439
1848	29°297	28°580	28°585	29°342	29°203	29°269	28°996	29°316	29°485	29°182	28°919	28°810
1849	29°287	28°920	29°349	29°232	29°115	29°487	29°266	29°153	29°217	29°364	29°142	29°407
1850	29°217	28°695	29°589	28°775	29°241	29°251	29°168	29°293	29°323	28°893	28°840	28°755
1851	29°019	29°134	28°999	29°250	29°565	29°465	28°855	29°576	29°131	28°851	29°194	29°449
1852	28°710	28°962	29°389	29°627	29°391	29°231	29°714	29°038	29°226	29°027	28°685	28°051
1853	28°720	29°222	29°504	28°707	29°566	29°200	29°098	28°987	28°832	29°095	29°584	29°584
1854	28°960	29°069	29°526	29°115	28°854	29°306	29°303	29°460	29°516	29°068	28°676	28°682
1855	29°646	29°407	28°751	28°859	29°428	29°145	29°485	29°420	29°332	28°740	29°168	28°884
1856	28°606	29°243	29°916	29°214	29°226	29°486	20°274	29°414	28°963	29°427	29°587	28°884
1857	28°829	29°196	28°474	29°300	29°499	29°324	29°102	29°674	29°899	29°095	28°977	29°246
1858	29°555	29°031	28°985	28°869	29°287	29°666	29°318	29°368	29°449	28°798	28°860	29°020
1859	28°939	29°078	28°920	29°000	29°766	29°582	29°247	29°113	29°227	28°998	28°455	28°846
1860	28°464	28°673	28°602	29°676	29°335	29°102	29°606	28°909	29°236	29°070	28°866	
1861	29°421	28°908	28°852	29°813	29°467	29°625	29°212	29°371	28°903	29°217	29°092	29°091
1862	29°097	29°252	29°003	29°279	29°477	29°169	29°391	29°341	29°519	28°621	29°029	29°339
1863	28°646	29°396	29°216	29°251	29°396	29°466	29°716	29°456	28°786	29°756	29°136	28°926
1864	29°416	29°106	29°086	29°416	29°766	29°716	29°616	29°586	29°536	28°786	28°636	29°546
1865	28°466	29°216	29°156	29°926	29°678	29°836	29°626	29°616	29°756	28°876	28°916	29°046
1866	29°766	29°166	28°866	29°446	29°376	29°436	29°206	29°306	29°216	29°536	29°366	28°846
1867	28°816	28°556	28°916	28°886	29°526	29°486	29°236	29°496	29°486	29°036	29°256	29°096
1868	29°016	29°616	28°796	28°856	29°366	29°656	29°526	29°276	29°066	29°246	28°906	28°446
1869	28°708	28°678	28°910	29°143	29°188	29°450	29°387	29°493	28°940	29°127	29°144	28°331
1870	28°547	29°080	29°186	29°397	29°092	29°517	29°514	29°537	28°854	28°482	28°900	28°833
1871	28°493	29°208	29°192	29°138	29°462	29°474	29°187	29°463	29°345	29°120	29°393	29°180
1872	28°215	29°186	29°125	29°360	28°900	29°288	29°648	29°464	29°086	29°014	28°573	28°716
1873	28°232	28°872	29°080	29°632	29°320	29°424	29°188	29°110	29°306	28°715	28°564	29°146
1874	28°898	28°898	29°316	28°647	29°554	29°632	29°522	29°300	29°207	28°660	28°707	28°720
1875	28°630	29°670	29°447	28°997	29°276	29°074	29°399	29°528	29°180	29°174	29°044	29°069
1876	29°476	28°881	28°260	28°995	29°560	29°371	29°392	29°026	29°229	28°725	29°357	28°497
1877	28°744	29°102	29°178	28°908	28°803	29°220	29°157	29°322	28°930	28°804	28°255	29°056
1878	29°133	29°530	28°892	28°831	29°254	29°286	29°641	29°318	28°988	28°862	29°064	28°823
1879	29°462	28°871	29°320	29°053	29°531	29°410	29°016	28.893	29°126	29°058	29°415	29°075
1880	29°406	28°642	28°761	29°100	29°410	29°480	29°380	29°412	29°501	29°212	28°766	28°802
1881	28°891	28°722	29°008	29°509	29°163	29°282	29°420	28°881	29°456	28°418	28°171	28°604
1882	28°853	28°872	28°990	29°131	29°102	29°300	29°090	29°169	29°004	29°111	28°817	28°957
1883	28°732	28°946	28°875	29°276	29°478	29°450	29°227	29°086	29°070	28°922	28°594	28°757
1884	27°451	28°807	29°050	29°177	28°914	29°530	29°372	29°464	29°287	28°855	29°237	28°874
1885	28°349	28°548	29°223	29°009	29°156	29°208	29°610	29°099	29°033	28°805	28°802	28°891
1886	28°865	28°916	29°054	28°839	29°189	29°471	29°103	29°483	29°361	28°778	29°125	27°651
1887	28°779	29°271	29°075	29°105	29°212	29°680	29°253	29°205	29°025	29°133	28°835	29°069
1888	29°069	29°342	28°859	29°372	29°106	29°502	29°277	29°424	29°681	29°189	28°960	28°975
1889	29°215	28°999	29°081	29°228	29°473	29°705	29°365	29°127	29°453	28°660	28°827	29°078
1890	28°726	29°514	29°049	29°213	29°381	29°307	29°375	29°011	29°340	29°231	28°660	29°323
1891	29°133	29°640	29°038	29°431	29°187	29°534	29°426	28°698	28°801	28°370	28°363	28°558
1892	29°150	28°708	29°188	29°454	29°297	29°258	29°168	29°209	29°221	28°820	29°249	29°145
1893	29°244	28°668	29°272	29°691	29°470	29°244	29°254	29°147	28°796	28°992	28°510	28°569
1894	28°939	28°319	28°789	28°288	29°466	29°561	29°188	29°074	29°885	28°646	28°802	28°121
1895	29°000	29°508	28°643	28°996	29°660	29°517	29°399	29°245	29°249	28°823	28°357	28°789
1896	28°857	29°525	28°299	29°524	29°755	29°399	29°510	29°551	28°821	28°907	29°081	28°769

TABLE IV.

Showing the Monthly Range of Pressure. From Observations made daily at 9 a.m. and 9 p.m.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	
1840	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	
1840	2·174	2·102	1·146	1·015	1·136	0·826	1·152	1·459	1·232	1·553	2·053	1·698	
1841	1·665	1·620	1·459	1·033	1·623	0·774	0·770	0·914	1·480	1·442	1·817	1·296	
1842	1·781	1·584	1·338	1·150	1·729	1·280	1·153	0·743	1·229	1·848	1·626	1·472	
1843	2·326	1·356	1·057	1·121	1·099	1·342	0·890	1·109	0·904	1·613	1·361	0·916	
1844	1·471	1·183	1·684	0·773	0·788	0·696	1·034	1·317	0·722	1·482	1·455	1·061	
1845	1·660	0·801	1·393	1·458	0·922	1·121	1·118	1·120	1·326	1·275	1·944	1·998	
1846	1·714	1·345	1·651	1·190	1·257	1·140	1·109	1·027	1·243	1·509	1·776	1·577	
1847	1·710	1·231	1·473	1·204	1·304	1·186	0·700	1·203	1·813	1·258	1·444	1·949	
1848	1·302	1·638	1·673	0·786	1·160	0·929	1·475	0·725	0·881	1·190	1·683	1·727	
1849	0·879	1·729	1·012	1·145	1·211	0·697	1·160	1·045	1·578	1·076	1·085	1·460	
1850	1·282	1·570	1·082	1·715	1·030	1·130	1·054	0·974	1·234	1·523	1·982	1·625	
1851	1·171	1·393	1·470	0·997	0·914	0·866	1·512	0·804	1·506	1·553	1·243	1·180	
1852	1·420	1·770	1·408	0·750	0·938	0·758	0·515	1·334	1·098	1·390	1·449	2·134	
1853	1·581	0·873	0·742	1·580	0·796	1·082	1·018	1·407	0·648	0·877	0·819	0·933	
1854	1·219	1·461	1·376	1·399	1·382	0·942	0·968	0·929	0·994	1·443	1·703	1·662	
1855	1·007	0·884	1·773	1·654	0·932	1·275	0·705	0·841	1·286	1·391	1·317	1·413	
1856	1·989	1·338	0·834	1·234	1·176	0·794	0·802	0·905	1·342	1·159	1·084	1·568	
1857	1·601	1·174	2·021	1·850	0·853	1·090	0·862	0·719	1·096	1·311	1·833	1·376	
1858	1·138	1·507	1·560	1·526	1·147	0·720	0·889	1·017	0·944	1·788	2·211	1·237	
1859	1·801	1·443	1·285	1·303	0·581	0·670	1·039	1·164	0·991	1·108	2·262	1·838	
1860	1·791	2·109	1·962	1·848	1·170	1·084	0·713	1·038	1·175	1·225	1·577	1·424	
1861	0·953	1·600	1·360	0·723	0·884	0·617	0·793	0·813	1·255	1·156	1·202	1·492	
1862	1·351	1·441	1·361	1·188	0·827	1·090	0·912	1·000	1·044	1·900	1·472	1·150	
1863	1·900	1·360	1·270	1·030	1·100	0·850	0·900	0·790	1·500	1·600	1·430	1·530	
1864	1·310	1·510	1·100	1·120	0·650	0·570	0·800	1·100	0·880	1·770	2·140	1·130	
1865	1·710	1·400	0·920	0·610	0·780	0·800	0·810	0·700	0·800	1·510	1·620	1·810	
1866	1·720	1·190	1·620	1·170	1·210	0·890	1·170	0·880	1·040	1·080	0·910	1·610	
1867	1·400	2·000	1·930	1·330	0·800	1·150	1·120	0·600	1·030	1·280	1·360	1·310	
1868	1·920	1·780	1·730	1·530	0·960	0·780	0·960	0·940	1·420	0·920	1·700	1·690	
1869	1·630	1·460	1·470	1·400	1·150	0·930	0·750	0·860	1·480	1·230	1·110	2·180	
1870	2·030	1·580	1·330	1·200	1·430	1·050	0·770	0·870	1·580	2·130	1·590	1·760	
1871	1·870	1·220	1·410	1·060	0·860	0·830	0·860	1·180	1·110	1·260	0·940	1·190	
1872	1·700	0·990	1·040	1·000	1·270	0·980	0·540	0·864	1·098	1·268	1·798	1·274	
1873	2·023	1·842	1·201	0·878	1·095	0·874	0·608	0·758	1·174	1·674	1·976	1·452	
1874	1·400	1·707	1·512	1·661	0·842	1·050	0·724	1·250	1·015	1·758	1·637	1·658	
1875	1·857	0·847	1·286	1·530	1·024	1·295	1·014	0·664	1·185	1·081	1·392	1·404	
1876	1·170	1·294	1·930	1·416	1·000	0·793	1·031	1·240	1·133	1·591	1·012	1·638	
1877	1·692	1·185	1·019	1·453	1·655	1·031	0·980	0·901	1·142	1·823	1·982	1·586	
1878	1·452	0·962	1·703	1·461	0·900	0·899	0·721	1·058	1·176	1·388	1·261	1·462	
1879	1·036	1·406	1·162	1·264	0·983	0·737	1·019	1·264	1·166	1·693	1·098	1·444	
1880	1·249	1·724	1·715	1·445	0·954	0·963	0·866	0·964	0·986	1·242	1·667	1·610	
1881	1·910	1·772	1·356	0·776	1·605	1·000	0·693	1·444	1·005	2·070	2·017	1·796	
1882	2·022	1·789	1·510	1·473	1·364	1·102	1·254	1·120	1·280	1·579	1·518	1·177	
1883	1·809	1·615	1·768	1·350	0·963	0·850	1·048	1·110	1·360	1·542	1·690	1·736	
1884	3·035	1·445	1·243	1·069	1·469	0·816	0·826	0·682	1·189	1·513	1·377	1·498	
1885	1·916	1·352	1·333	1·131	0·974	1·149	0·818	1·158	1·061	1·583	1·578	1·609	
1886	1·230	1·482	1·453	1·505	1·118	0·829	1·134	0·751	1·227	1·737	1·526	2·565	
1887	1·594	1·414	1·446	1·467	1·213	0·804	1·103	1·132	1·533	1·462	1·743	1·445	
1888	1·622	1·232	1·650	0·960	1·460	0·853	0·778	0·862	0·838	1·322	1·119	1·414	
1889	1·365	1·457	1·476	0·810	0·629	0·783	1·082	1·098	1·046	1·728	1·550	1·655	
1890	1·524	1·198	1·494	1·065	0·923	1·041	0·845	1·140	1·083	1·219	1·502	1·270	
1891	1·614	0·871	1·081	0·998	1·140	0·858	0·980	1·030	1·301	2·327	2·226	1·992	
1892	1·251	1·745	1·347	0·959	1·132	0·921	1·166	0·986	1·158	1·558	1·115	1·114	
1893	1·205	1·607	1·159	0·902	1·107	1·160	0·917	1·126	1·447	1·384	2·048	2·074	
1894	1·754	2·147	1·720	1·038	1·023	0·855	1·114	1·129	0·707	1·835	1·706	2·521	
1895	1·778	1·177	1·579	1·359	0·950	0·959	0·831	0·937	1·140	1·543	1·963	1·616	
1896	2·164	1·164	1·730	0·922	0·768	0·718	0·815	0·776	1·528	1·636	1·563	1·633	
Means	1840-96	1·611	1·437	1·418	1·210	1·077	0·935	0·935	0·999	1·173	1·481	1·566	1·558

TABLE V.
Pressure at 32° and Mean Sea-Level.

Years 1770-1896.	Highest Mean.		Lowest Mean.		Difference.	Range of Pressure. 1840-1896.				Difference.
	Inches.	Year.	Inches.	Year.	Inches.	Greatest.	Year.	Least.	Year.	
January,	30.270	1883	29.196	1791	1.074	3.035	1884	0.879	1849	2.156
February,	30.337	1891	29.202	1776	1.135	2.147	1894	0.801	1845	1.346
March,	30.361	1840	29.401	1836	0.960	2.021	1857	0.742	1853	1.279
April,	30.298	1817	29.529	1829	0.769	1.848	1860	0.750	1852	1.098
May,	30.312	1836	29.698	1779	0.614	1.729	1842	0.581	1859	1.148
June,	30.257	1826	29.628	1852	0.629	1.342	1843	0.570	1864	0.772
July,	30.158	1825	29.633	1798	0.520	1.512	1851	0.515	1852	0.997
August,	30.138	1864	29.571	1860	0.567	1.459	1840	0.600	1867	0.859
September,	30.229	1894	29.525	1839	0.704	1.813	1847	0.648	1862	1.165
October,	30.202	1784	29.436	1812	0.766	2.327	1891	0.877	1853	1.450
November,	30.244	1879	29.422	1877	0.822	2.262	1859	0.814	1853	1.448
December,	30.266	1780	29.318	{ 1821 } { 1868 }	0.948	2.565	1886	0.916	1843	1.649
Year,	29.962	1864	29.706	1789	0.256	3.035	Jan. 1884	0.515	July 1852	2.520

Years 1770-1896.	Highest Pressure. 1840-1896.				Range.	Lowest Pressure. 1840-1896.				Range.
	Maxi-mum.	Year.	Mini-mum.	Year.		Maxi-mum.	Year.	Mini-mum.	Year.	
January,	31.071	1896	29.926	1872	1.145	29.646	1855	27.451	1884	2.195
February,	30.782	1860	30.131	1869	0.652	29.670	1875	28.319	1894	1.351
March,	30.902	1854	30.146	1891	0.756	29.916	1856	28.260	1876	1.656
April,	30.690	1883	30.038	1889	0.652	29.926	1865	28.647	1872	1.279
May,	30.769	1881	30.074	1889	0.695	29.823	1844	28.787	1842	1.036
June,	30.691	1874	29.939	1852	0.752	29.836	1865	28.913	1843	0.923
July,	30.616	1863	30.005	1861	0.611	29.726	1847	28.855	1851	0.871
August,	30.686	1864	29.947	1860	0.739	29.674	1857	28.698	1891	0.976
September,	30.637	1851	30.160	1885	0.477	29.899	1857	28.635	1847	1.264
October,	30.751	1891	29.972	1853	0.779	29.536	1866	28.370	1891	1.166
November,	30.810	1857	30.134	1852	2.676	29.587	1856	28.171	1881	1.476
December,	30.867	1849	29.978	1872	0.889	29.584	1853	27.651	1886	0.933
	Jan. 9 1896	29.926	Jan. 9 1872	1.145	29.926	April 3 1865	27.451	Jan. 26 1884	2.475	

TABLE VI.
High and Low Pressures.

The following Table shows all the sea-level pressures above 30.90 inches or below 28.20 inches during the period 1770-1896.

High Pressure.				Low Pressure.			
Date.		Reading.		Date.		Reading.	
		Inches.					Inches.
1774	November 23,	30.902	1773	January 18,	28.089
1789	January 6,	30.937	1789	January 18,	28.070
1808	February 25,	31.004	1818	March 5,	28.198
1820	January 9,	31.058	1839	January 7,	28.112
1825	January 9,	30.961	1843	January 18,	28.082
1834	December 15,	30.950	1852	December 27,	28.051
1835	January 2,	30.941	1881	November 27,	28.171
1854	March 4,	30.902	1884	January 26,	27.451
1896	January 9,	31.071	1886	December 8,	27.651
				1894	December 22,	28.121

TABLE VII.

Showing the Mean Temperature of the Air in Edinburgh from 1764–1896.

NOTE.—The means where not the average of the maximum and minimum values have been corrected. The height above mean sea-level is 250 feet.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1764, . . .	36·3	38·0	38·7	44·0	52·2	55·6	59·9	57·6	51·0	46·5	38·4	36·1	46·2
1765, . . .	39·8	32·9	40·0	44·5	51·9	53·7	58·5	56·8	51·7	47·2	37·1	35·6	45·8
1766, . . .	34·7	34·5	38·1	45·8	45·8	54·0	58·9	59·5	51·6	46·6	43·0	37·6	45·8
1767, . . .	31·7	41·1	38·9	44·8	48·7	53·1	56·4	59·8	54·6	45·7	43·0	39·3	46·4
1768, . . .	33·2	38·2	40·2	46·5	52·5	54·5	58·3	58·7	51·0	47·0	40·1	39·1	46·5
1769, . . .	35·3	36·6	40·6	45·5	50·4	54·4	60·1	56·3	53·9	45·7	40·1	40·4	46·7
1770, . . .	39·9	41·1	35·8	41·5	47·9	53·3	57·1	58·2	55·1	44·4	38·3	37·6	45·8
1771, . . .	33·8	38·2	36·5	41·7	49·5	54·3	57·4	56·3	51·0	47·2	42·1	41·7	45·8
1772, . . .	32·6	32·6	37·8	42·7	48·6	56·1	58·0	57·4	51·0	49·0	42·4	39·6	45·6
1773, . . .	33·5	36·2	43·0	45·4	47·9	54·0	56·2	58·3	51·3	46·1	39·2	36·5	46·0
1774, . . .	30·1	36·7	38·2	43·6	45·5	54·0	56·8	56·7	52·1	48·7	39·0	37·7	41·9
1775, . . .	38·3	39·9	40·2	47·2	53·0	55·1	59·7	57·5	53·4	45·9	38·5	39·1	47·3
1776, . . .	29·2	36·7	42·1	46·5	49·4	54·3	59·6	56·7	51·5	47·8	41·0	38·1	46·1
1777, . . .	35·4	35·2	40·1	42·6	51·2	58·7	57·5	59·2	55·8	48·8	42·9	38·8	46·9
1778, . . .	37·8	39·5	40·1	44·0	53·1	59·1	61·2	58·7	51·3	42·6	40·8	43·4	47·6
1779, . . .	37·6	47·2	46·5	47·1	51·0	58·1	65·2	63·7	56·0	48·8	40·9	33·1	49·6
1780, . . .	28·4	35·1	44·7	42·0	53·2	57·0	60·7	63·2	57·4	45·9	38·8	39·5	47·2
1781, . . .	36·3	40·3	44·5	47·5	51·9	59·8	60·4	58·6	52·7	48·5	43·4	41·1	48·8
1782, . . .	39·4	34·7	37·8	40·7	47·2	57·2	60·1	56·1	51·4	44·0	35·6	35·9	45·0
1783, . . .	37·1	38·9	37·5	48·5	49·9	54·2	63·2	58·4	53·6	47·2	41·2	37·1	47·2
1784, . . .	32·2	34·8	35·0	41·1	55·4	58·5	58·5	56·4	54·7	46·4	39·7	34·0	45·2
1785, . . .	38·2	32·8	34·2	49·2	50·6	60·7	58·3	54·1	54·3	45·7	43·2	36·1	46·4
1786, . . .	36·0	37·0	35·4	45·1	49·7	57·6	56·4	58·7	51·1	44·0	39·0	36·3	45·5
1787, . . .	40·0	43·8	44·4	43·9	49·7	53·8	60·0	60·0	53·6	48·0	38·0	36·8	47·7
1788, . . .	38·8	37·2	37·4	49·2	50·2	57·2	60·3	58·8	54·4	47·8	42·4	32·2	47·2
1789, . . .	34·6	40·2	34·6	43·8	53·2	56·9	60·9	61·6	55·0	47·6	41·0	43·9	47·8
1790, . . .	39·4	44·7	43·2	42·6	52·8	58·8	59·0	57·8	52·8	48·8	39·9	37·9	48·1
1791, . . .	38·8	39·3	43·9	47·5	52·0	56·9	58·6	58·4	54·7	46·7	41·2	32·7	47·6
1792, . . .	34·8	39·8	40·9	49·8	48·6	58·7	58·4	60·3	51·0	46·2	44·5	37·6	47·1
1793, . . .	37·4	40·1	37·6	40·4	49·5	53·9	60·0	57·8	52·9	51·7	41·0	40·6	46·9
1794, . . .	38·2	43·0	43·2	46·8	50·6	58·4	60·7	56·4	52·2	47·0	40·8	40·2	48·1
1795, . . .	29·9	31·6	37·5	45·2	49·4	52·9	57·6	59·3	57·0	50·8	37·9	42·9	46·0
1796, . . .	43·8	40·5	39·0	48·9	49·0	55·8	57·6	59·5	55·1	44·8	39·2	31·8	47·1
1797, . . .	40·7	43·8	39·5	44·6	52·0	54·4	60·9	58·0	58·8	44·7	38·5	40·0	47·6
1798, . . .	38·4	38·9	40·6	49·8	53·3	60·8	60·6	59·4	54·9	48·2	39·0	35·8	48·3
1799, . . .	37·2	36·2	38·0	41·1	48·5	55·4	58·0	55·9	54·6	45·1	40·3	35·1	45·4
1800, . . .	35·3	36·3	38·5	46·9	51·1	55·5	61·6	59·7	55·1	47·7	40·1	36·2	47·0
1801, . . .	39·1	39·9	42·5	46·3	52·0	57·4	58·9	60·4	56·2	49·4	40·0	34·0	48·0
1802, . . .	36·9	37·8	42·0	46·6	49·0	55·5	56·3	60·1	55·1	49·6	41·5	37·9	47·4
1803, . . .	35·6	37·7	41·9	46·5	50·1	55·6	62·8	59·1	52·5	47·2	39·0	38·5	47·2
1804, . . .	40·2	36·4	38·7	43·0	54·1	59·6	59·1	58·6	51·1	49·4	41·6	36·2	47·3
1805, . . .	37·2	38·9	42·5	46·3	47·9	53·8	59·3	59·4	56·4	46·3	42·1	36·7	47·2
1806, . . .	35·1	36·7	39·3	41·5	50·0	56·6	57·5	58·8	55·5	49·5	42·9	39·9	46·9
1807, . . .	36·3	35·7	39·3	44·7	47·8	55·1	61·0	59·8	48·2	50·6	34·0	35·1	45·6
1808, . . .	35·2	35·5	37·3	41·6	54·3	56·3	62·5	60·4	54·1	43·6	40·1	35·4	46·1
1809, . . .	36·3	38·7	42·5	40·4	52·0	55·1	57·3	57·4	52·8	51·0	39·8	36·6	46·7
1810, . . .	36·8	36·2	36·6	41·5	45·1	55·8	57·2	58·0	55·8	48·4	39·1	35·7	45·8

TABLE VII.—*continued.*

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1811, . .	33·6	37·7	43·5	43·6	52·2	54·8	59·3	56·7	54·8	51·5	43·8	35·9	47·3
1812, . .	36·3	39·4	36·8	40·7	49·0	55·3	57·0	57·2	58·3	47·3	39·8	34·9	45·6
1813, . .	35·6	39·7	43·3	44·8	49·3	55·9	59·3	57·5	53·4	44·3	37·7	37·3	46·5
1814, . .	26·5	35·1	37·7	48·2	47·7	52·9	59·4	57·2	54·4	45·4	38·9	36·6	45·0
1815, . .	33·5	41·6	41·5	45·3	52·0	55·9	58·2	57·8	53·6	47·7	37·6	33·8	46·5
1816, . .	35·4	35·8	36·4	40·9	48·2	53·2	55·7	55·6	50·9	46·3	38·5	35·2	44·3
1817, . .	38·7	40·3	39·6	44·5	45·4	54·7	57·2	54·1	53·8	42·0	41·7	35·6	45·9
1818, . .	37·2	35·5	37·1	40·8	50·3	58·8	60·0	56·5	52·9	52·4	46·7	38·9	47·3
1819, . .	37·7	36·4	42·2	45·0	50·6	54·8	59·5	62·7	53·7	46·4	37·5	33·3	46·7
1820, . .	30·4	40·0	40·9	46·9	50·4	55·0	59·0	56·3	52·2	43·9	41·6	39·1	46·3
1821, . .	39·1	40·2	42·8	48·9	47·6	52·9	57·5	58·7	57·4	50·6	43·0	41·1	48·3
1822, . .	39·0	40·6	43·7	45·5	52·4	59·2	58·0	57·0	50·3	47·8	44·0	36·1	47·8
1823, . .	31·1	34·4	40·5	42·4	51·3	53·3	56·4	55·6	51·9	44·8	44·6	37·3	45·3
1824, . .	39·8	39·0	39·6	45·2	50·1	56·6	59·9	57·2	54·6	45·8	40·8	38·4	47·2
1825, . .	39·1	39·0	41·2	46·6	50·7	56·7	61·4	60·0	56·9	50·1	38·5	39·0	48·3
1826, . .	31·6	41·8	41·8	46·8	51·8	61·4	62·0	61·3	54·6	50·0	38·8	41·0	48·6
1827, . .	35·4	34·0	40·1	45·0	50·8	56·1	58·4	55·2	55·0	50·1	42·8	42·2	47·1
1828, . .	39·4	40·1	42·8	45·2	51·2	56·9	57·6	57·0	54·6	48·4	44·8	43·4	48·4
1829, . .	32·1	38·8	39·6	41·9	51·6	56·3	56·5	54·0	50·3	46·0	39·6	36·0	45·2
1830, . .	34·3	36·0	44·2	46·6	49·8	52·0	57·7	52·6	52·2	48·5	42·6	35·4	46·0
1831, . .	34·7	38·6	42·3	45·0	48·8	58·0	59·4	60·1	55·3	52·7	40·2	41·8	48·1
1832, . .	39·1	40·6	41·8	45·8	48·7	55·9	57·7	57·4	54·0	49·7	41·4	40·6	47·7
1833, . .	34·7	39·5	38·9	44·4	55·8	55·6	58·9	54·6	53·0	48·9	41·8	40·3	47·2
1834, . .	41·4	40·5	43·0	45·0	52·3	56·9	59·3	58·4	54·0	48·8	43·2	42·2	48·7
1835, . .	37·9	39·6	40·6	44·6	49·0	54·3	57·6	59·1	52·2	45·6	42·4	38·8	46·8
1836, . .	38·1	37·2	39·6	42·8	50·9	55·9	56·0	54·9	50·0	45·1	40·0	38·9	45·7
1837, . .	35·0	38·9	34·8	38·9	48·0	56·0	59·6	55·6	51·7	49·2	40·1	41·0	45·7
1838, . .	30·6	29·8	39·1	41·1	46·0	54·5	59·2	56·9	53·5	47·4	37·9	40·5	44·7
1839, . .	35·5	37·8	38·2	43·5	49·1	55·8	58·6	53·4	47·4	42·3	38·1	46·4	
1840, . .	39·2	37·5	40·8	48·4	48·2	55·2	59·9	59·1	51·4	46·3	41·6	36·6	46·7
1841, . .	33·4	37·9	46·5	45·0	52·0	53·5	56·2	57·3	54·6	44·6	39·0	38·9	46·6
1842, . .	35·0	40·0	42·4	46·0	51·7	57·1	56·5	60·7	55·1	45·6	40·9	45·6	48·0
1843, . .	39·4	34·3	42·3	45·6	47·1	52·2	58·9	57·9	57·1	44·9	44·1	47·8	47·6
1844, . .	41·2	36·2	41·4	49·5	48·8	55·0	56·9	55·7	53·1	47·1	43·1	33·0	46·8
1845, . .	36·6	35·4	36·6	45·2	48·1	56·8	54·8	55·7	54·1	49·4	43·6	38·7	46·2
1846, . .	42·1	44·9	43·0	44·7	53·2	61·9	59·3	59·9	59·5	48·1	44·7	34·4	49·6
1847, . .	36·2	35·7	42·0	43·2	50·6	56·0	61·6	57·6	51·5	49·1	45·6	39·6	47·4
1848, . .	33·6	40·4	41·6	43·8	55·5	55·0	59·2	54·1	53·8	46·7	40·2	40·5	47·0
1849, . .	36·8	42·1	42·9	51·0	52·8	56·8	57·1	52·6	45·0	41·6	36·8	46·5	
1850, . .	31·5	41·8	42·4	46·4	48·3	58·1	59·1	56·8	52·4	45·3	42·9	39·7	47·1
1851, . .	40·6	40·8	41·0	43·7	50·4	55·4	56·1	56·6	52·5	50·2	37·3	40·7	47·1
1852, . .	39·0	40·2	40·1	48·6	51·0	54·8	64·0	60·0	54·0	46·3	42·8	42·2	48·6
1853, . .	38·8	33·8	37·8	45·6	49·3	58·2	59·2	57·8	53·7	48·4	43·2	37·0	46·9
1854, . .	36·9	39·9	45·3	46·4	50·9	56·5	59·6	60·5	57·0	47·9	42·0	39·9	48·6
1855, . .	37·5	30·6	37·5	45·2	46·3	57·2	61·6	59·7	54·1	47·5	41·2	37·3	46·3
1856, . .	36·8	41·4	41·1	45·8	48·1	58·8	59·4	58·6	52·7	51·4	42·8	40·4	48·1
1857, . .	37·9	41·1	40·9	44·9	51·2	55·8	60·9	60·7	56·9	51·3	45·6	46·5	49·5
1858, . .	40·6	36·2	40·8	42·9	50·9	55·5	56·9	54·8	44·7	39·5	39·6	46·8	
1859, . .	39·9	39·8	43·3	40·6	49·9	53·6	58·6	57·0	52·8	45·6	38·8	33·3	46·1
1860, . .	34·5	33·6	38·4	40·7	50·6	51·5	57·5	55·0	51·2	46·4	38·5	33·4	44·3
1861, . .	36·3	39·0	41·6	43·8	49·8	54·9	56·6	58·4	53·5	49·5	38·0	37·0	46·5
1862, . .	38·1	40·3	37·4	45·0	50·6	53·4	54·5	56·4	52·6	47·2	36·3	42·4	46·2
1863, . .	38·7	41·2	43·0	44·6	49·4	55·6	58·0	56·0	50·0	46·8	44·1	41·4	47·4
1864, . .	36·0	33·3	37·2	46·3	51·0	54·1	57·0	54·8	53·0	45·4	41·3	39·4	45·7
1865, . .	35·0	33·4	36·6	45·7	50·6	57·0	58·8	56·5	58·1	46·0	41·2	43·2	46·8
1866, . .	40·0	37·6	37·2	42·7	48·0	57·0	58·0	56·2	53·1	49·4	42·1	41·8	46·9
1867, . .	32·8	42·8	37·0	46·4	47·8	56·6	56·2	59·0	54·4	47·1	41·8	40·4	46·9
1868, . .	38·0	43·0	44·0	46·6	53·2	57·4	62·2	59·8	54·7	45·5	39·4	41·4	48·8
1869, . .	40·2	42·4	38·0	47·6	45·5	54·4	60·0	57·1	54·6	47·8	42·0	36·9	47·2
1870, . .	36·5	34·8	39·2	48·8	52·7	57·6	60·8	58·8	55·2	47·1	40·0	35·2	47·2

TABLE VII.—*continued.*

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1871, . .	35·4	41·8	43·3	42·8	50·4	52·7	58·0	59·8	52·6	47·2	38·2	37·7	46·7
1872, . .	38·5	40·6	41·4	44·6	46·4	57·4	59·1	56·9	52·1	45·6	41·4	39·5	47·0
1873, . .	40·6	36·0	39·0	44·7	48·3	54·9	60·0	57·9	52·4	45·3	42·5	42·0	47·0
1874, . .	40·7	39·0	44·6	47·2	46·6	55·6	60·1	56·8	53·9	47·8	41·6	31·8	47·1
1875, . .	40·9	37·4	40·6	46·6	52·4	55·4	57·0	58·6	54·4	47·4	39·9	40·0	47·6
1876, . .	40·4	37·1	38·9	44·4	48·8	55·4	59·2	57·5	52·6	50·4	40·8	40·4	47·2
1877, . .	39·2	41·2	38·4	41·6	46·4	56·6	57·8	55·4	51·1	47·4	43·8	40·0	46·5
1878, . .	38·5	42·4	41·0	46·0	51·4	56·8	61·0	58·8	54·8	48·9	38·0	31·0	47·4
1879, . .	31·2	34·8	37·4	40·6	46·2	52·4	54·4	56·4	52·0	45·6	39·8	34·8	43·8
1880,	37·0	43·2	41·6	45·8	49·6	55·5	57·6	60·8	55·4	44·0	39·4	37·8	47·3
1881,	29·1	35·7	38·5	42·8	51·3	54·8	58·4	55·2	53·8	44·4	46·3	38·7	45·8
1882,	42·0	43·3	44·1	44·1	50·0	54·3	57·8	57·1	57·3	48·4	40·0	33·6	47·2
1883,	39·1	41·2	36·8	45·8	48·8	53·8	56·2	57·5	54·0	47·6	41·6	41·1	47·0
1884,	41·3	40·7	42·3	44·5	49·6	55·0	57·0	58·5	54·8	48·6	41·8	38·0	47·7
1885,	37·0	40·6	40·4	43·7	46·6	54·7	60·0	54·8	52·5	43·8	41·0	39·0	46·2
1886,	34·8	35·2	38·0	42·6	48·1	54·3	58·4	58·1	58·3	50·5	44·8	35·2	46·2
1887,	39·2	39·7	39·2	42·8	49·1	58·5	61·3	58·1	52·6	45·1	39·8	36·8	46·8
1888,	39·3	35·9	36·5	42·8	50·2	51·7	55·2	55·7	52·5	47·9	43·2	41·4	46·0
1889,	39·7	37·4	40·4	42·1	52·0	57·8	58·4	57·2	53·0	46·2	44·0	39·6	47·4
1890,	41·6	37·8	42·8	44·6	51·0	55·1	56·6	57·1	58·3	49·4	41·6	35·3	47·6
1891,	36·8	43·4	38·2	42·8	48·0	55·0	58·9	56·8	56·0	47·8	41·4	39·7	47·1
1892,	36·6	37·4	37·4	43·8	50·8	54·4	55·9	57·2	51·9	48·8	43·1	34·8	45·6
1893,	37·6	39·8	43·9	47·8	54·0	58·6	57·8	61·6	53·6	49·0	40·6	42·0	48·9
1894,	38·0	40·4	44·1	47·6	47·1	54·7	59·0	56·9	52·2	46·4	46·0	40·9	47·8
1895,	31·8	31·2	41·0	46·0	53·0	56·6	57·2	59·4	58·6	44·2	43·4	37·7	46·7
1896,	41·2	42·0	42·4	48·8	54·8	56·7	58·4	56·8	53·3	43·2	42·0	39·0	48·2

Decennial Means.

1764-70, .	35·8	37·5	38·9	44·7	49·9	54·1	58·5	58·1	52·7	46·2	40·0	38·0	46·2
1771-80, .	35·2	37·7	40·9	44·3	50·2	55·6	59·2	58·8	53·1	47·1	39·0	39·2	46·7
1781-90, .	37·2	38·4	38·4	45·2	51·1	57·0	59·7	58·0	53·4	46·8	40·3	37·1	46·9
1791-1800, .	37·4	38·9	40·1	46·1	50·4	55·8	59·4	58·5	54·1	47·3	40·2	37·3	47·1
1801-10, .	36·9	37·2	40·3	44·1	48·2	56·1	59·2	59·2	53·8	48·5	40·0	36·6	46·8
1811-20, .	34·5	38·1	39·9	44·1	49·5	55·1	58·5	57·2	53·3	46·7	40·7	36·1	46·1
1821-30, .	36·1	38·4	41·6	45·4	50·7	56·1	58·5	56·9	53·8	48·2	41·9	39·0	47·2
1831-40, .	36·6	38·0	39·9	43·9	48·7	55·8	58·2	57·3	52·8	48·1	41·1	39·9	46·7
1841-50, .	36·4	38·8	42·1	45·2	50·6	55·9	57·9	57·3	54·4	46·6	42·5	39·5	47·3
1851-60, .	38·2	37·7	40·6	44·4	49·9	56·0	59·2	58·3	54·0	48·0	41·2	39·0	47·2
1861-70, .	37·2	38·8	39·1	45·8	49·9	55·8	58·2	57·3	53·9	47·2	40·7	39·9	47·0
1871-80, .	38·2	39·3	40·6	44·4	48·6	55·2	58·4	57·9	53·1	47·0	40·5	37·5	46·7
1881-90, .	38·3	38·7	39·9	43·7	49·7	55·0	57·9	56·9	54·3	47·2	42·4	37·9	46·8
1891-96, .	37·0	39·0	41·2	46·1	51·3	56·0	57·8	58·1	54·3	45·7	42·8	39·0	47·4
Means.													
1764-1896, .	36·8	38·3	40·3	44·8	49·9	55·7	58·6	57·8	53·6	47·2	40·9	38·3	46·8

TABLE VIII.

Reduction of the "Edinburgh Advertiser" Observations, showing the Mean Temperature deduced from Observations made at 8 a.m. and 8 p.m.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1787	°	°	°	°	°	°	°	°	°	°	°	°	°
1788	38·8	37·2	36·4	47·0	56·8	55·6	59·3	58·4	54·4	46·5	43·0	31·8	47·1
1789	34·6	38·6	33·8	41·5	51·5	54·2	58·6	60·2	53·5	46·3	39·8	42·0	46·2
1790	38·8	42·7	42·2	39·8	50·4	55·9	58·3	56·8	52·2	49·0	39·6	36·5	46·8
1791	37·7	36·5	41·9	44·2	49·4	54·6	56·6	56·1	54·0	46·5	39·9	31·4	45·7
1792	33·9	36·9	38·2	48·4	45·5	50·8	55·8	57·3	50·2	46·1	44·6	37·0	45·4
1793	36·2	39·5	36·0	40·5	48·8	52·3	57·6	55·0	51·2	50·3	40·5	39·7	45·6
1794	37·0	41·1	41·7	46·0	47·6	56·8	58·2	55·4	51·2	45·7	40·5	39·2	46·7
1795	30·2	30·2	36·1	43·0	47·1	51·2	56·1	57·6	54·9	49·8	37·2	40·4	44·5
1796	41·7	37·6	36·7	45·8	47·9	54·3	56·2	59·1	51·6	44·9	38·5	30·5	45·6
1797	38·7	40·9	36·0	41·2	49·6	52·3	58·8	56·8	55·5	44·0	38·4	39·2	46·0
1798	37·6	37·3	38·9	48·2	52·4	57·5	58·5	57·6	53·2	47·6	38·6	35·9	46·9
1799	36·6	34·8	35·8	39·7	46·8	54·3	56·6	55·3	55·6	44·5	39·9	34·8	44·6
1800	34·5	35·4	37·4	45·0	49·8	53·3	59·3	57·6	53·8	47·0	40·5	36·2	45·8
1801	38·5	39·0	41·8	46·1	48·5	55·2	56·8	59·4	55·8	49·6	39·8	33·5	47·0
1802	35·6	36·5	40·3	44·9	47·0	53·8	54·3	58·6	54·0	48·8	41·1	37·8	46·1
1803	34·6	36·2	40·0	45·3	47·3	52·5	60·3	57·2	50·8	46·2	39·0	38·0	45·6
1804	40·1	35·1	37·2	40·8	50·8	57·0	57·1	56·5	55·6	48·5	41·3	35·8	46·3
1805	36·7	36·3	40·8	44·5	45·5	50·8	57·2	58·1	55·1	46·1	42·6	37·8	46·0
1806	35·9	37·0	37·3	41·8	45·7	52·1	51·8	55·2	50·8	46·8	42·0	39·0	44·6
1807	35·2	33·5	33·0	40·3	46·0	50·6	56·6	56·0	54·2	46·5	31·9	34·6	43·2
1808	34·6	33·5	34·7	38·5	52·1	52·7	58·4	57·5	51·5	40·9	38·5	35·2	44·0
1809	29·5	36·2	39·4	37·6	48·6	53·6	55·1	54·8	50·3	49·0	39·3	36·1	44·1
1810	35·4	34·0	33·5	40·8	41·8	51·5	52·9	52·7	49·4	43·8	37·5	34·6	42·3
1811	34·2	35·8	37·5	41·0	49·2	52·8	56·0	53·5	51·3	50·2	42·6	35·5	45·0
1812	34·8	38·5	34·5	38·3	46·8	53·3	55·3	55·6	52·8	46·8	38·7	34·4	44·2
1813	34·8	38·1	41·2	42·5	48·2	54·0	58·2	55·8	53·1	43·1	35·6	35·6	45·0
1814	24·4	33·1	35·3	46·2	45·0	50·3	57·1	54·5	53·8	43·4	37·8	36·1	43·1
1815	32·0	39·2	39·0	42·8	46·3	52·2	52·3	53·8	50·3	45·6	35·0	32·4	43·4
1816	32·9	32·3	33·6	36·2	44·5	49·6	52·0	51·1	47·8	43·0	36·3	33·0	41·0
1817	36·3	37·2	35·8	42·1	41·8	49·8	52·4	51·1	50·8	39·2	43·8	33·1	42·8
1818	34·6	32·9	34·3	38·2	48·3	57·0	58·3	55·0	51·8	51·2	46·1	39·0	45·6
1819	37·4	36·4	40·0	42·9	47·6	52·5	56·4	60·0	52·5	45·8	37·0	32·5	45·1
1820	31·3	37·8	37·7	44·5	48·8	53·0	55·5	55·6	50·8	43·2	41·6	38·2	44·8
1821	36·7	37·0	38·8	42·8	45·0	50·0	55·6	56·0	54·2	47·9	41·8	39·5	45·4
1822	37·2	38·8	39·6	42·8	48·8	55·7	55·5	54·2	49·8	45·9	42·6	35·6	45·5
1823	32·0	32·7	37·2	40·0	47·5	48·5	51·2	51·8	49·0	44·8	43·8	36·9	43·0
1824*	40·5	42·0	40·6	47·6	52·4	58·4	61·2	58·3	56·0	48·2	42·8	40·8	49·1
1825	41·7	42·0	43·8	48·7	53·2	59·8	64·7	62·0	59·1	51·6	41·2	41·7	50·8
1826	38·2	44·7	44·4	48·6	55·0	64·4	65·4	62·8	56·5	51·0	41·8	43·2	51·3
1827	37·6	36·0	39·9	46·8	52·6	57·2	60·0	57·2	55·8	51·2	43·8	43·8	48·5
1828	41·2	40·6	43·4	46·1	52·2	58·8	61·0	59·0	56·4	48·8	46·2	45·4	49·9
1829	35·2	39·4	40·8	42·7	52·6	57·4	58·6	55·6	51·8	47·8	41·6	37·8	46·8
1830	36·3	36·5	45·0	47·0	51·4	53·2	58·8	54·3	52·7	49·3	43·9	37·0	47·1
1831	37·3	39·9	42·6	47·1	51·6	60·8	61·2	61·0	55·6	53·8	41·4	43·6	49·7

* A change was made in the position of the thermometers during this year.

TABLE IX.

*Reduction of the "Edinburgh Magazine" and "Scots Magazine" Registers.
Hour of Observation.—"Before Sunrise."*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.

1785	37.0	30.1	30.5	?	?	?	?	?	?	?	40.7	33.7	?
1786	33.6	33.4	30.1	?	?	?	?	?	?	39.9	36.4	33.7	?
1787	36.6	40.5	39.4	?	?	?	?	?	?	43.7	35.1	33.5	?
1788	36.4	32.4	32.0	42.6	45.9	49.9	53.0	51.6	48.4	44.8	39.5	30.3	42.2
1789	32.2	37.1	29.0	37.4	46.1	50.5	54.9	55.6	50.3	44.5	39.8	43.6	43.4
1790	37.5	42.1	37.9	36.6	46.5	52.6	51.5	51.1	47.2	44.2	37.8	37.2	43.5
1791	37.3	37.4	39.5	42.1	45.7	50.2	52.4	53.2	49.5	42.5	40.0	31.6	43.4
1792	33.3	38.0	37.2	42.4	42.8	47.6	52.6	55.8	45.7	42.0	42.1	36.1	43.0
1793	(35.6)	36.0	33.8	36.2	44.2	49.2	55.4	54.1	49.3	49.7	39.4	39.0	43.5
1794	36.6	40.4	39.4	41.7	47.7	53.8	56.3	50.9	47.9	44.9	39.0	38.8	44.8
1795	26.0	28.5	32.3	41.1	45.4	48.1	51.7	53.4	52.8	48.3	36.2	42.0	42.2
1796	41.9	38.2	35.2	45.2	46.1	50.8	52.2	52.7	50.0	41.7	38.5	31.0	43.6
1797	39.9	42.5	36.8	41.5	48.8	50.7	57.4	54.5	48.5	42.6	36.3	38.2	44.8
1798	37.0	36.1	36.7	45.7	49.2	54.6	53.8	52.5	50.4	44.7	36.5	33.4	44.2
1799	36.0	34.4	35.0	36.2	42.0	48.7	50.7	47.8	47.9	41.4	38.1	34.0	41.0
1800	34.0	34.5	35.0	42.8	45.8	49.7	55.2	53.0	50.2	45.0	38.4	35.0	43.2
1801	38.2	38.1	39.4	40.9	48.2	51.6	53.3	52.2	49.3	45.3	38.4	33.8	44.1
1802	35.3	36.0	38.6	41.1	43.1	48.9	49.0	52.7	48.7	46.1	39.6	36.4	43.0
1803	34.3	35.6	38.5	40.2	44.6	50.0	55.9	52.6	48.0	43.8	36.9	37.3	43.1
1804	38.9	34.6	35.4	38.5	49.0	53.7	51.7	52.2	51.0	45.7	39.1	34.7	43.7
1805	34.9	36.0	37.9	40.4	41.6	47.1	53.0	52.1	49.6	41.6	39.6	36.6	42.5
1806	35.0	35.0	36.5	38.9	45.0	51.1	53.4	52.8	48.7	45.4	41.9	40.7	43.7
1807	35.7	34.8	32.6	35.9	44.0	48.4	52.8	53.0	41.4	46.7	32.7	35.5	41.1
1808	35.1	34.4	35.1	36.7	48.7	53.3	57.2	55.1	46.6	38.5	36.5	34.7	42.7
1809	28.8	36.8	37.3	35.5	45.0	50.4	53.3	52.6	47.3	47.2	37.9	35.7	42.3
1810	35.3	33.3	32.8	39.0	40.0	50.6	51.6	51.7	46.9	42.7	37.6	33.7	41.3
1811	32.9	36.1	36.8	40.7	47.4	(51.9)	54.7	51.6	47.4	47.3	40.3	35.4	43.5
1812	34.7	37.5	34.6	37.2	44.8	53.0	51.0	48.7	47.8	44.8	37.8	34.5	42.2
1813	34.6	39.3	40.4	41.0	46.3	55.1	56.3	50.8	48.8	41.5	37.0	37.5	44.0
1814	26.9	34.8	35.5	44.5	45.4	47.7	56.7	53.0	48.9	41.0	37.9	35.7	42.3
1815	34.4	40.8	39.4	42.0	49.1	51.6	55.3	55.0	48.5	45.6	35.8	34.2	44.3
1816	34.5	34.4	35.5	37.9	44.4	49.3	49.9	49.8	45.4	43.9	37.8	33.2	41.3

TABLE X.

*Reduction of the "Edinburgh Magazine" and "Scots Magazine" Registers.
Hour of Observation—"Noon."*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
	°	°	°	°	°	°	°	°	°	°	°	°	°
1785	?	?	?	57·1	60·0	71·8	69·5	62·2	61·3	51·2	?	?	?
1786	?	?	?	52·0	55·9	63·5	65·3	62·2	55·6	?	?	?	?
1787	?	?	?	47·9	55·8	58·2	62·0	66·1	60·6	55·7	42·1	37·3	?
1788	40·3	38·4	41·0	52·3	60·1	60·8	63·5	66·1	59·1	51·3	45·6	33·6	51·0
1789	35·5	41·4	39·2	49·4	57·0	60·4	65·5	68·7	60·3	51·6	43·9	45·2	51·5
1790	41·4	47·6	49·0	46·1	53·6	59·5	61·1	60·9	55·4	53·1	43·1	38·9	50·8
1791	40·1	41·9	47·9	48·1	56·3	61·0	64·1	63·4	61·0	52·5	44·5	36·3	51·4
1792	37·2	45·2	45·5	52·2	54·0	58·8	61·4	64·8	55·4	49·2	47·9	39·7	50·9
1793	(39·5)	42·3	41·1	46·2	55·5	58·2	64·6	63·1	58·0	53·4	44·1	41·8	50·6
1794	40·7	45·4	49·4	53·6	54·1	63·7	65·0	60·5	55·7	51·6	45·2	42·4	52·3
1795	32·0	34·4	41·6	48·2	53·6	56·6	60·8	62·9	63·3	55·9	43·2	45·6	49·8
1796	46·4	43·0	43·6	56·8	53·7	60·2	60·0	66·8	60·1	51·7	43·3	36·3	51·8
1797	42·9	50·4	47·5	50·8	57·6	58·1	63·7	62·6	59·0	51·6	44·5	42·3	52·6
1798	42·0	44·0	47·5	58·1	62·2	66·1	67·3	64·2	61·3	52·3	42·3	37·4	53·7
1799	40·3	39·2	41·6	44·1	50·2	62·5	61·5	58·9	57·4	50·6	43·6	35·9	48·8
1800	35·9	39·2	43·1	54·0	54·9	61·6	69·5	67·0	60·1	52·6	43·6	38·8	51·7
1801	41·1	43·5	46·9	55·5	58·6	65·9	63·0	69·2	62·8	55·1	44·2	36·9	53·6
1802	38·4	41·8	47·4	53·2	59·7	62·1	60·7	65·2	61·8	53·2	44·0	40·0	52·3
1803	37·3	41·3	46·7	55·8	58·5	62·6	71·6	65·0	62·2	52·8	42·1	39·8	53·0
1804	41·9	41·3	42·5	47·3	58·4	65·3	68·9	64·5	63·5	54·0	43·7	38·1	52·4
1805	38·8	41·6	49·9	53·8	53·4	63·0	67·9	67·6	64·9	54·2	49·1	41·4	53·8
1806	39·3	42·6	46·2	52·2	58·9	65·8	64·0	64·7	61·7	54·5	47·6	44·0	53·5
1807	40·6	42·4	44·9	47·0	54·5	62·3	67·4	65·0	55·6	54·3	41·6	38·7	51·2
1808	38·7	40·9	43·0	47·1	62·5	64·8	70·9	67·5	60·9	49·6	42·7	37·7	52·2
1809	34·7	42·8	47·5	48·5	62·8	64·2	66·5	64·7	60·0	55·7	44·1	39·0	52·5
1810	40·3	41·4	42·9	51·1	55·5	67·5	65·8	64·6	64·2	55·0	43·5	38·5	52·5
1811	37·6	41·8	50·4	51·4	59·9	(68·8)	70·3	65·8	64·8	57·0	50·0	39·5	54·8
1812	39·8	44·4	43·2	48·1	56·5	67·7	66·7	66·1	62·8	54·1	44·2	38·2	52·6
1813	40·8	45·5	50·7	52·9	57·8	71·2	71·6	69·9	63·7	51·8	44·7	41·7	55·2
1814	34·9	42·1	44·6	56·3	58·4	65·9	72·3	67·1	67·3	53·8	44·6	41·0	54·0
1815	39·5	47·0	49·5	56·3	59·9	66·0	69·6	68·7	64·8	55·3	45·1	41·4	55·3
1816	40·7	41·4	43·8	48·3	57·5	65·6	65·1	64·1	58·0	53·7	44·7	39·3	51·8

TABLE XI.

Reduction of Waterston's Register 1800-1850.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1800,
1801,	33·0	34·3	37·3	47·2	50·5	55·0	61·3	60·6	54·0	47·5	40·3	36·7
1802,	39·1	39·7	42·5	47·2	51·0	57·2	57·0	61·5	55·4	49·6	39·0	34·0
1803,	38·6	38·0	42·0	46·6	48·6	56·3	55·8	60·9	53·8	50·0	40·5	38·6
1804,	36·6	37·8	41·7	47·0	50·0	55·6	62·8	59·6	52·0	47·6	38·3	38·4
1805,	39·3	36·2	38·0	42·3	54·1	59·5	59·5	58·3	57·8	50·2	41·0	35·5
1806,	36·8	37·3	43·2	46·4	48·5	54·8	60·8	60·7	57·6	47·3	43·3	38·1
1807,	36·3	37·5	39·8	42·1	51·0	57·8	58·8	60·1	56·7	50·5	44·1	41·3
1808,	37·5	36·5	39·8	45·3	48·8	56·3	62·5	61·1	49·4	51·6	35·2	36·5
1809,	36·4	36·3	37·8	42·1	55·3	57·5	64·0	61·7	55·3	44·6	41·3	36·8
1810,	31·5	39·5	43·0	41·0	53·0	56·3	58·8	58·7	54·0	52·0	41·0	38·0
1811,	38·0	37·0	37·1	45·1	46·1	57·0	58·7	59·3	57·0	49·4	40·3	37·1
1812,	34·8	38·5	44·0	44·3	53·2	57·0	61·8	59·0	57·0	53·5	46·0	38·3
1813,	38·5	41·2	38·3	42·3	51·0	57·5	59·5	58·5	55·5	49·3	42·0	37·3
1814,	38·2	42·5	45·2	46·3	51·0	57·8	61·2	59·5	54·5	46·5	40·5	40·0
1815,	31·5	38·2	39·8	47·0	49·0	55·8	62·8	58·5	56·5	48·5	41·5	39·0
1816,	36·0	42·8	49·8	46·5	53·0	58·0	60·0	60·0	57·0	49·7	40·5	36·5
1817,	37·2	37·2	39·0	42·0	50·0	55·0	57·5	58·0	53·9	50·0	40·8	36·8
1818,	41·0	42·0	41·0	46·3	48·0	57·0	59·0	57·5	55·5	44·0	46·0	37·0
1819,	39·0	38·3	40·0	43·0	52·7	61·0	61·7	59·2	54·6	54·0	48·8	40·0
1820,	39·0	37·0	42·0	46·4	52·8	57·7	61·5	55·0	55·2	48·5	39·5	34·0
1821,	32·5	40·5	43·2	48·0	53·2	57·5	61·0	59·0	53·5	46·7	44·3	41·2
1822,	40·5	40·7	42·8	48·8	49·5	55·6	60·8	59·5	55·0	51·2	44·8	42·5
1823,	41·7	40·8	45·3	48·0	54·3	61·0	60·0	59·5	53·0	49·5	46·3	38·7
1824,	35·6	36·6	42·5	45·3	53·0	55·3	58·5	58·0	54·5	47·3	47·2	40·2
1825,	42·2	41·2	41·0	48·0	51·3	56·7	61·5	58·3	56·2	47·9	42·9	40·2
1826,	41·0	40·8	41·8	48·2	50·7	58·3	61·7	61·2	58·2	50·8	40·3	40·0
1827,	36·0	42·3	40·2	47·5	53·0	63·5	64·9	63·7	56·2	51·1	41·5	43·3
1828,	38·3	36·5	41·5	47·0	53·2	59·0	62·2	60·0	57·0	52·8	44·6	44·1
1829,	41·5	41·5	44·0	46·5	52·6	59·5	60·0	59·0	56·9	53·3	46·3	45·1
1830,	35·6	40·6	41·2	44·5	54·3	59·2	60·0	57·5	52·6	48·5	42·2	37·0
1831,	37·0	38·5	45·8	48·6	52·6	55·3	61·2	56·4	54·0	50·8	44·4	37·3
1832,	37·3	40·5	44·0	46·7	51·5	60·8	62·4	61·2	56·0	54·7	42·0	43·6
1833,	40·2	41·8	43·5	47·6	51·6	58·7	59·2	59·2	56·3	51·2	42·8	41·8
1834,	36·5	41·0	41·2	47·5	57·8	58·5	58·0	56·5	55·3	50·4	48·1	41·0
1835,	42·5	41·0	45·0	46·0	55·0	58·5	60·0	60·0	54·0	50·2	44·5	43·0
1836,	38·0	41·5	41·5	47·0	52·0	57·3	61·0	61·0	53·0	47·0	44·5	40·5
1837,	40·0	37·6	41·0	46·0	53·3	59·0	59·5	58·0	52·7	47·5	41·2	40·7
1838,	37·5	40·0	36·3	42·5	51·5	59·5	62·5	58·6	55·3	52·0	42·7	43·7
1839,	34·0	32·0	40·7	44·6	50·3	56·5	61·5	60·0	55·0	49·0	41·0	42·0
1840,	37·0	38·8	39·5	45·8	51·0	57·5	61·5	57·0	55·5	49·8	45·0	39·5
1841,	40·0	39·0	41·5	50·0	50·5	58·5	60·0	53·0	53·8	48·0	43·8	39·5
1842,	35·5	39·3	46·8	46·5	54·5	56·8	59·0	59·0	56·8	47·0	41·3	40·8
1843,	37·0	41·0	44·0	47·0	54·8	60·0	60·5	63·0	57·0	47·0	42·3	47·3
1844,	40·5	36·0	42·0	48·0	49·0	55·0	62·0	61·5	59·2	46·3	42·0	48·0
1845,	39·8	35·3	40·8	50·8	51·0	58·8	60·3	58·5	55·8	49·3	44·8	35·3
1846,	37·5	35·5	38·0	47·2	52·0	60·0	59·0	59·0	55·0	49·8	44·0	38·8
1847,	43·3	43·5	42·8	46·3	54·0	65·8	63·3	63·0	60·3	50·5	45·2	35·8
1848,	37·5	36·0	43·5	46·0	53·8	60·0	64·0	60·0	52·0	50·3	46·5	40·0
1849,	34·5	40·0	42·0	45·5	56·7	56·0	61·0	58·0	56·0	48·5	41·0	40·8
1850,	38·5	42·0	43·3	44·5	53·0	58·0	61·5	60·0	55·5	47·0	43·8	38·5
1841-49,	34·0	43·0	42·5	48·8	51·0	59·0	60·5
Means,	37·4	38·5	41·5	46·1	51·8	57·9	60·7	59·7	55·3	49·4	42·8	39·6
1800-09,	86·6	37·3	40·5	41·7	51·1	56·6	60·1	60·2	54·6	49·1	40·6	37·4
1810-19,	36·5	38·8	41·0	45·3	50·7	57·4	60·4	59·5	55·7	49·3	42·6	37·6
1820-29,	38·2	40·1	42·0	47·2	52·3	58·6	61·1	59·6	55·3	49·9	44·1	41·2
1830-39,	37·3	38·4	41·4	46·2	52·7	57·8	60·8	58·7	54·7	50·2	43·0	41·3
1840-49,	38·4	37·9	42·5	47·2	52·9	58·9	61·1	60·3	56·1	48·4	43·5	40·5

TABLE XII.

Mean Temperature at Glendoich.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1783 . .	° ?	° ?	° ?	° ?	51·5	53·5	63·0	59·6	53·6	48·3	42·8	37·5
1784 . .	32·0	35·1	35·6	41·9	?	?	?	57·6	55·6	47·2	40·5	33·6
1785 .	38·5	33·0	35·5	49·6	52·6	61·3	62·5	58·9	53·3	47·3	43·5	36·5
1786 .	36·0	37·5	36·3	46·5	50·0	60·0	60·6	59·6	53·0	45·6	40·3	38·2
1787 . .	40·9	42·5	44·5	46·2	52·5	55·5	59·5	60·0	54·6	48·3	42·2	32·0
1788 .	39·3	37·0	37·3	49·0	55·2	55·2	60·2	60·7	55·6	46·6	44·0	33·2
1789 .	31·7	41·0	36·0	44·9	52·5	57·3	60·2	61·7	59·7	48·8	41·5	43·9
1790 .	39·5	45·3	43·6	43·6	53·0	53·2	58·9	58·5	53·6	51·0	38·3	35·6
1791	40·2	40·9	45·0	46·3	52·5	57·3	62·5	59·0	56·0	49·0	40·6	33·3
1792 . .	39·0	41·3	42·2	49·0	51·3	57·6	60·5	60·3	52·7	47·5	40·5	39·7
1793 . .	38·2	39·2	39·0	43·9	49·5	59·6	64·5	58·8	55·8	52·5	48·5	41·9
1794 . .	38·5	42·6	44·3	44·5	55·2	60·2	65·6	59·0	57·6	53·7	42·3	39·7

TABLE XIII.

Showing the Extremes in the Mean and Absolute Daily Temperatures in Edinburgh from 1822 to 1896, by means of the Self-Registering Maximum and Minimum Thermometers in Shade 4 feet above Grass and 250 feet above Mean Sea-Level. For Description of Position of Thermometers from 1770 to 1821 see Page 67.

Year.	Highest Mean Daily Temperature.	Date.	Lowest Mean Daily Temperature.	Date.	Difference or Range.	Absolute Maximum Temperature.	Date.	Absolute Minimum Temperature.	Date.	Difference or Range.
1770	°		°		°	81	Aug. 5	°		°
1771	71	July 24	22	April 15	49	...
1772	75	June 11	12	Feb. 6	63	...
1773	77	Aug. 5	23	Feb. 12	44	...
1774	72	July 23	18	Jan. 12, Dec. 10	54	...
1775	76	June 16	22.5	Jan. 26	53.5	...
1776	76	Aug. 3	11	Jan. 31	65	...
1777
1778
1779
1780
1781
1782
1783
1784
1785	89	June 27	18	Mar. 1	71
1786	81	June 5	11	Jan. 2	70
1787	77	July 4	17	Dec. 27	60
1788	78	June 17	14	Dec. 15	64
1789	81	Aug. 19	17	Jan. 11	64
1790	73	June 22	22	Dec. 1	51
1791	77	July 15	18	Dec. 11	59
1792	77	Aug. 12	22	Jan. 12	55
1793	82	July 14	23	Jan. 16	59
1794	76	July 6	13	Jan. 27	63
1795	69.5	Aug. 12	17.3	Jan. 29	52.2	72	July 6	9	Jan. 29, 31	63
1796	68.7	June 20	18.9	Dec. 24	49.8	79	Aug. 18	16	Dec. 24	63
1797	68.3	July 14	24.4	Nov. 29	43.9	74	May 25, June 14	20	Nov. 24	54
1798	69.7	June 28	21.9	Dec. 28	47.8	73	July 4	14	Dec. 28	59
1799	67.7	June 21, 22	20.4	Dec. 31	47.3	19	Dec. 31	...
1800	70.8	July 24	23.4	Dec. 30	47.4	15	Jan. 1	...
1801	70.0	Aug. 19	25.4	Dec. 19	44.6	21	Jan. 25	...
1802	68.0	Aug. 17	25.3	Jan. 1, 6, 7	42.7	21	Jan. 15	...
1803	77.8	July 18	20.3	Jan. 13	57.5	19	Jan. 13	...
1804	67.0	Sept. 14	21.4	Dec. 31	45.6	17	Jan. 1	...
1805	26	Dec. 10, 12	...
1806	20	Feb. 1	...
1807	14	Dec. 7	...
1808	18	Nov. 27	...
1809	9	Jan. 22	...
1810	16	Feb. 14, 16	...
1811	16	Jan. 29	...
1812	16	Dec. 12	...
1813	19	Nov. 26	...
1814	10	Jan. 16	...
1815	17	Jan. 24, Dec 16	...
1816	18	Feb. 7	...
1817	21	Dec. 22	...
1818	22	Feb. 2	...
1819	16	Dec. 10	...
1820	10	Jan. 17	...
1821	18	Jan. 2	...
1822	65.5	June 5	25.0	Dec. 28, 29	40.5	80	June 13	18	Dec. 28	62
1823	66.0	Aug. 11	19.0	Feb. 5	47.0	75	Aug. 11	11	Feb. 5	64
1824	72.0	Sept. 2	22.5	Dec. 5	49.5	85	Sept. 2	16	Dec. 5	69
1825	70.5	July 14	27.0	Jan. 5 Feb. 4	43.5	83	July 30, 31	19	Nov. 10	64
1826	74.0	June 28	18.0	Jan. 16	56.0	87	June 24, 26	10	Jan. 16	77
1827	63.5	July 16, Sept. 16	19.0	Jan. 3	44.5	77	July 16	14	Jan. 3	63
1828	66.0	June 27	23.0	Jan. 11	43.0	76	Aug. 27	15	Jan. 11	61

TABLE XIII.—*continued.*

Year.	Highest Mean Daily Temperature.	Date.	Lowest Mean Daily Temperature.	Date.	Difference or Range.	Absolute Maximum Temperature.	Date.	Absolute Minimum Temperature.	Date.	Difference or Range.
1829	65·0	Aug. 8	22·5	Jan. 22	42·5	75	July 13	15	Jan. 22, 25	60
1830	68·0	July 26	22·0	Dec. 24	46·0	81	July 28	15	Dec. 25, 26	66
1831	67·0	July 29, 31	26·0	Feb. 4	41·0	76	July 31	19	Feb. 4	57
1832	65·0	Aug. 10	29·5	Jan. 3, 27	35·5	75	Aug. 10	24	Jan. 27	51
1833	67·5	July 28	27·0	Jan. 15	40·5	75	July, 17, 29	23	Jan. 16	52
1834	68·5	Aug. 12	31·0	Feb. 21, Nov. 24	37·5	77	Aug. 12	20	Mar. 24	57
1835	66·5	Aug. 11	28·0	Jan. 20	38·5	77	Aug. 4, 10	22	Jan. 21	55
1836	65·0	June 15	28·0	Dec. 26	37·0	76	June 15	24	Jan. 19	52
1837	64·0	July 6	23·0	Jan. 11	41·0	73	July 10	16	Jan. 12	57
1838	68·5	July 12	18·0	Jan. 21	50·5	84	Sept. 9	13	Feb. 13	71
1839	66·5	June 17	24·0	Feb. 21	42·5	87	June 17	13	Jan. 30	74
1840	67·5	Aug. 21	27·5	Dec. 24	40·0	78	Aug. 9	21	Jan. 30, Feb. 27	57
1841	67·0	Aug. 20	21·5	Jan. 9	45·5	79	June 10	8	Jan. 9	71
1842	68·0	Aug. 13	26·5	Jan. 16	41·5	79	July 23	18	Jan. 16, 17	61
1843	67·0	July 14	24·0	Feb. 15	43·0	77	July 14	16	Feb. 15, 17	61
1844	66·0	July 22, 25	24·5	Feb. 21	41·5	77	Sept. 1	13	Feb. 27	64
1845	69·0	June 12	18·0	Jan. 31	51·0	79	June 12, 13	5	Jan. 31	74
1846	71·5	June 5	25·5	Dec. 25	46·0	84	June 5	16	Dec. 18	68
1847	75·5	July 12	25·5	Feb. 8, 9, Dec. 31	50·0	83	July 14	17	Feb. 8, 9	66
1848	68·5	July 13	17·5	Jan. 29	51·0	82	July 13	5	Jan. 29	77
1849	65·5	July 10	20·0	Jan. 2	45·5	78	June 5	19	Jan. 4, 6	59
1850	68·5	June 24	19·5	Jan. 17	49·0	78	July 23	12	Jan. 18	66
1851	64·5	June 29	29·5	Dec. 3	35·0	75	June 29	23	Dec. 3	52
1852	74·5	July 5, 6	30·5	Feb. 20	44·5	85	July 6	24	Nov. 30	60
1853	63·5	June 23	24·0	Feb. 13	39·5	75·5	June 23	19·0	Feb. 11	56·5
1854	62·5	July 12, 31	21·5	Jan. 2	41·0	75·0	July 12	18·5	Jan. 2	56·5
1855	66·5	July 22	20·5	Feb. 16	46·0	79·5	June 12, Sept. 9	14·5	Feb. 16	65·0
1856	67·5	Aug. 2	23·5	Dec. 3	44·0	81·9	Aug. 2	18·6	Dec. 3	63·3
1857	70·6	June 27	27·2	Jan. 29	43·4	81·6	June 28	20·0	Jan. 29	61·6
1858	68·4	June 16	26·0	Feb. 2	42·4	78·2	June 16	20·5	Mar. 8	57·7
1859	69·1	Aug. 18	23·5	Dec. 19	45·6	78·7	July 12	18·7	Dec. 19	60·0
1860	65·0	July 15	12·4	Dec. 24	53·6	71·7	July 16	8·8*	Dec. 24	62·9
1861	65·5	Aug. 28	25·2	Jan. 8	40·3	71·1	June 14	16·3	Jan. 8	54·8
1862	61·0	July 16, 31	25·5	Mar. 3	36·5	70·0	April 30	22·0	Mar. 3	48·0
1863	66·5	July 10	29·8	Dec. 28	36·7	75·2	July 11, 12	24·5	Dec. 28	50·7
1864	68·0	July 18	22·0	Feb. 24	46·0	79·0	May 18, July 18	18·0	Mar. 10	61·0
1865	65·5	June 8	25·5	Feb. 15, 17	40·0	78·0	June 22	18·0	Feb. 15, 17	60·0
1866	70·0	June 7	26·0	Jan. 11	44·0	82·7	July 12	20·0	Mar. 5	62·7
1867	66·5	July 10	22·0	Jan. 1	44·5	76·7	July 10, Aug. 14	16·0	Jan. 1	60·7
1868	75·5	Aug. 5	28·5	Jan. 10	47·0	87·7	Aug. 5	23·0	Nov. 7	64·7
1869	67·5	July 11	26·5	Dec. 27	41·0	80·7	Aug. 28	20·0	Dec. 2	60·7
1870	72·5	July 24	21·5	Dec. 23	51·0	84·7	July 23	16·0	Dec. 23	58·7
1871	70·0	Aug. 11	28·0	Jan. 28	42·0	79·7	Aug. 11	23·0	Nov. 13	56·7
1872	68·6	July 5	30·5	Mar. 26	38·1	79·7	July 5	23·0	Mar. 26	56·7
1873	71·8	July 21	28·9	Jan. 29	42·9	82·9	July 21	22·2	Feb. 24	60·7
1874	69·2	Aug. 18	23·6	Dec. 29	45·6	81·3	July 18	13·6	Dec. 29	67·7
1875	67·3	Aug. 17	23·2	Jan. 1	44·1	76·8	July 7	14·0	Jan. 1	62·8
1876	70·0	July 16	26·4	Jan. 9	43·4	86·7	July 16	21·3	Feb. 14	65·4
1877	63·8	July 30	26·8	Dec. 25	37·0	72·0	June 14	22·4	Feb. 28	49·6
1878	71·8	June 28	19·2	Dec. 14	52·6	83·7	July 20	9·0	Dec. 14	74·7
1879	67·5	Aug. 12	18·4	Dec. 3	49·1	78·0	Aug. 12	7·5	Dec. 4	70·5
1880	69·8	Aug. 11	26·8	Nov. 22	43·1	77·6	Aug. 11	20·6	Nov. 21	57·0
1881	68·4	July 14	17·1	Jan. 17	51·3	79·2	May 30, 31	9·4	Jan. 17	69·8
1882	67·8	Aug. 12	13·2	Dec. 15	54·6	81·0	Aug. 12	6·4	Dec. 15	74·6
1883	65·1	July 3	30·6	Mar. 23	34·5	75·0	July 3	24·5	Mar. 15	50·5
1884	70·3	Aug. 24	29·0	Nov. 30	41·3	79·9	June 27	23·0	Nov. 30	56·9
1885	71·0	July 26	26·0	Nov. 18 Dec. 7	35·0	82·2	July 24	19·8	Nov. 18	62·4
1886	68·0	July 2	21·4	Jan. 19	46·6	80·7	July 2	12·2	Jan. 19	68·5
1887	69·9	July 8	28·6	Mar. 13	41·3	83·2	June 18	21·0	Feb. 9	72·2
1888	64·5	May 19	28·5	Jan. 19	36·0	76·8	May 19	18·3	Feb. 16	58·5
1889	67·0	Aug. 1	25·8	Feb. 10	41·2	78·4	June 26	20·8	Mar. 4	57·6
1890	67·6	Aug. 5	27·9	Dec. 19	39·7	76·0	Sept. 8	23·2	Dec. 14	52·8
1891	64·6	July 17	28·0	Jan. 18	36·6	79·8	Sept. 12	20·3	Mar. 9	59·5
1892	67·4	June 9	22·6	Dec. 25	44·8	80·1	June 9	14·0	Feb. 19	66·1
1893	72·0	Aug. 15	23·0	Jan. 6	49·0	85·9	June 18	15·0	Jan. 6	70·9
1894	67·2	July 6	21·5	Jan. 6	45·7	77·5	July 6	13·9	Jan. 6	63·6
1895	68·6	Aug. 17	20·3	Feb. 7	48·3	78·3	June 26, Sept. 25	11·9	Feb. 8	66·4
1896	68·2	July 20	30·8	Dec. 1	37·4	78·1	May 11	23·8	Dec. 1	54·3

* At Marchhall, Newington, the temperature fell to 5°.0.

TABLE XIV.

*Showing the Highest Mean Daily Temperature in Edinburgh from 1857 to 1896.
Height above Sea 250 feet.*

NOTE.—The Mean Temperature was assumed to be the mean of the daily maximum and minimum values.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	
1857,	.	49·4	49·4	47·9	55·0	60·7	70·6	67·6	65·6	65·0	57·9	52·2	52·7
1858,	.	48·3	47·2	52·2	55·6	61·5	68·4	63·1	62·7	62·9	54·1	48·7	47·7
1859,	.	45·8	48·9	52·6	57·9	59·8	65·3	68·5	69·1	59·4	60·3	45·5	45·4
1860,	.	45·6	42·2	47·0	50·0	58·0	60·5	65·0	61·5	64·4	53·4	44·6	44·8
1861,	.	50·8	51·0	48·9	50·2	59·0	65·0	60·7	65·5	60·0	59·0	49·0	50·2
1862,	.	45·5	50·4	47·5	57·5	56·5	58·0	61·0	60·5	59·0	59·0	48·5	48·5
1863,	.	46·8	47·5	53·4	50·6	57·5	61·5	66·5	63·0	56·3	52·5	51·8	48·2
1864,	.	46·4	45·0	44·0	58·3	65·7	61·5	68·0	64·0	57·5	51·0	48·5	52·0
1865,	.	45·0	45·5	48·5	54·0	60·0	65·5	64·5	63·0	65·0	56·0	48·5	51·0
1866,	.	49·5	45·5	50·0	51·0	59·0	70·0	70·0	65·0	60·0	57·0	52·0	53·0
1867,	.	48·0	49·0	46·5	52·0	57·0	63·0	66·5	66·5	61·5	57·0	50·0	51·0
1868,	.	49·0	51·5	50·5	55·0	60·5	65·0	69·0	75·5	70·0	53·0	52·0	50·0
1869,	.	48·0	51·5	44·0	57·5	51·0	62·5	67·5	66·0	60·0	59·5	54·0	46·0
1870,	.	42·0	43·0	48·0	57·0	59·0	65·0	72·5	66·0	60·0	56·5	50·0	47·0
1871,	.	42·5	51·2	52·8	47·5	60·5	58·0	61·0	70·0	63·0	58·5	45·5	46·0
1872,	.	48·0	47·5	51·5	54·5	57·6	67·4	68·6	64·2	62·0	55·8	52·0	51·4
1873,	.	50·6	45·6	48·7	52·4	55·0	64·5	71·8	63·0	64·0	53·6	49·5	49·5
1874,	.	45·5	45·5	52·9	60·8	60·4	62·8	69·2	65·6	60·0	56·8	56·5	43·2
1875,	.	49·1	46·8	50·1	56·0	61·0	62·8	65·4	67·3	64·4	57·0	52·8	49·2
1876,	.	49·0	46·7	48·4	57·5	59·0	66·2	70·0	64·6	58·0	61·4	52·2	49·0
1877,	.	45·5	46·8	46·3	50·9	54·2	61·8	63·8	62·5	59·0	58·2	51·2	48·0
1878,	.	46·7	50·9	49·6	55·6	58·2	71·8	68·8	65·4	63·6	59·8	43·6	45·4
1879,	.	41·8	49·8	46·3	47·8	53·2	58·9	64·4	67·5	61·0	53·2	49·2	46·4
1880,	.	51·2	48·4	48·0	53·4	61·1	64·6	62·5	69·8	63·8	55·9	50·6	51·2
1881,	.	45·2	44·3	51·4	53·6	65·4	64·6	68·4	64·3	58·6	57·2	55·4	50·0
1882,	.	49·1	51·8	50·9	52·9	56·8	59·2	64·8	67·8	59·5	54·4	47·9	48·2
1883,	.	46·4	47·6	47·9	53·6	56·6	60·4	65·1	64·4	58·0	56·3	53·2	49·8
1884,	.	50·7	49·2	55·3	51·7	58·9	67·9	66·0	70·3	62·4	53·8	55·6	47·6
1885,	.	48·0	49·4	47·4	56·2	55·2	61·8	71·0	62·0	60·0	49·9	54·1	51·0
1886,	.	49·0	45·0	53·8	53·7	57·8	61·6	68·0	65·4	63·4	61·2	54·6	44·7
1887,	.	50·8	49·0	48·5	50·6	59·2	66·7	69·9	64·2	59·6	53·9	45·9	49·1
1888,	.	51·6	48·0	50·2	50·3	64·5	58·7	62·6	61·4	58·2	60·3	50·8	51·3
1889,	.	47·8	49·9	52·3	52·5	61·5	64·2	65·8	67·0	62·6	51·3	53·2	50·1
1890,	.	49·3	47·5	51·8	51·6	60·0	60·9	62·0	67·6	63·0	59·7	50·2	51·9
1891,	.	46·2	50·8	51·6	50·9	56·9	64·4	64·6	62·8	67·1	58·0	47·8	47·7
1892,	.	50·4	47·2	55·3	53·8	60·6	67·4	64·0	65·5	57·6	53·8	51·0	48·6
1893,	.	47·8	49·2	53·4	58·4	60·6	71·6	63·0	72·0	63·2	60·4	52·6	51·6
1894,	.	48·4	49·3	52·9	55·0	54·6	63·8	67·2	61·6	57·8	56·6	56·7	53·8
1895,	.	37·0	41·4	50·0	55·4	62·8	65·2	63·6	68·6	66·7	57·2	49·2	45·4
1896,	.	48·2	51·0	50·0	55·8	61·5	67·1	68·2	64·1	60·8	58·3	51·0	50·6
Highest,	.	51·6	51·8	55·3	60·8	65·7	71·8	72·5	75·5	70·0	61·4	56·7	53·8
Lowest,	.	37·0	41·4	44·0	47·5	51·0	58·0	60·7	60·5	56·3	49·9	43·6	43·2
Range,	.	14·6	10·4	11·3	13·3	14·7	13·8	11·8	15·0	13·7	11·5	13·1	10·6

TABLE XV.

*Showing the Lowest Mean Daily Temperature in Edinburgh from 1857 to 1896.
Height above Sea 250 feet.*

NOTE.—The mean Temperature was assumed to be the mean of the daily maximum and minimum values.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1857, .	•	•	•	•	•	•	•	•	•	•	•	•
1858, .	27·2	32·7	34·7	37·5	43·2	47·0	54·5	54·4	50·6	44·0	34·2	37·4
1859, .	32·2	26·0	27·8	35·6	42·4	51·8	50·4	51·3	50·2	39·3	32·1	35·9
1860, .	31·7	33·5	36·2	34·9	40·5	47·2	47·0	53·1	49·0	31·4	33·2	23·5
1861, .	27·6	25·1	33·5	36·2	39·5	45·0	52·5	53·1	48·0	38·0	31·8	12·4
1862, .	25·2	33·3	37·8	39·6	37·0	50·1	51·6	53·5	47·4	41·0	30·8	27·0
1863, .	30·4	29·5	25·5	32·5	42·7	49·0	48·1	52·5	45·6	38·0	28·8	36·0
1864, .	31·8	33·8	31·5	38·5	42·2	47·4	50·2	47·0	45·0	38·8	32·8	29·8
1865, .	24·0	22·0	28·4	38·0	41·0	47·2	51·0	48·5	49·0	36·5	35·5	30·5
1866, .	27·0	25·5	32·0	39·0	41·0	47·0	50·5	50·5	51·0	37·0	34·5	37·0
1867, .	26·0	28·5	27·5	36·0	38·0	46·5	50·0	51·0	48·0	41·5	32·0	32·5
1868, .	22·0	23·5	30·5	40·5	38·5	48·5	48·5	53·0	49·0	36·5	35·0	30·5
1869, .	28·5	34·5	34·5	38·0	40·0	52·0	55·0	53·0	46·5	37·0	30·0	30·0
1870, .	28·0	30·5	32·5	35·0	41·0	44·0	53·5	47·5	49·0	33·5	30·0	22·5
1871, .	28·5	25·5	30·0	43·1	42·5	51·0	54·0	50·5	46·5	42·0	34·0	21·5
1872, .	28·0	31·4	32·1	36·5	38·5	47·5	52·5	52·0	41·5	38·5	31·5	29·5
1873, .	31·0	35·0	30·5	36·5	41·5	50·2	54·0	52·9	43·4	39·0	35·6	31·5
1874, .	28·9	29·2	31·6	39·4	38·2	48·8	54·3	51·0	46·2	39·5	34·5	30·5
1875, .	31·5	28·0	31·2	39·1	41·8	51·2	55·0	51·0	47·6	38·5	32·4	23·6
1876, .	23·2	29·6	34·2	41·0	46·6	46·2	52·0	54·4	49·1	40·2	33·2	31·4
1877, .	26·4	29·0	31·3	33·8	41·6	48·2	53·4	52·1	44·8	42·0	31·3	30·9
1878, .	28·8	26·9	29·5	34·8	39·2	52·0	52·3	50·2	46·2	32·5	34·4	26·8
1879, .	27·9	34·6	31·8	36·7	42·9	45·0	54·6	51·8	48·0	36·2	31·8	19·2
1880, .	24·6	27·6	26·6	34·0	38·6	45·8	48·1	51·5	46·4	37·8	29·6	18·4
1881, .	28·7	39·4	37·1	40·8	43·7	48·8	54·2	55·2	48·7	31·6	26·8	27·0
1882, .	17·1	30·0	27·6	34·5	41·2	45·4	53·4	47·6	50·1	34·8	35·3	29·8
1883, .	35·0	34·4	36·2	36·0	42·2	45·0	54·3	51·2	46·5	39·7	34·9	13·2
1884, .	32·8	32·8	30·6	40·2	38·1	48·8	51·1	53·4	45·0	40·6	36·3	33·8
1885, .	31·1	31·0	34·6	39·1	42·0	46·0	51·0	49·6	50·4	37·6	29·0	30·0
1886, .	28·4	31·6	33·8	38·9	38·9	48·6	53·6	45·0	41·8	37·0	26·0	26·0
1887, .	21·4	30·0	27·6	36·8	37·3	44·9	50·2	51·4	45·6	44·5	38·2	27·4
1888, .	29·4	28·8	28·6	37·6	41·7	46·3	52·3	50·2	44·2	35·8	32·4	30·5
1889, .	28·5	28·7	29·5	36·5	42·0	41·2	49·5	51·6	43·2	40·1	34·9	28·6
1890, .	32·3	25·8	29·2	36·9	46·0	52·0	49·5	52·1	44·0	40·0	32·0	31·4
1891, .	30·5	32·5	33·1	38·2	45·0	49·3	51·2	50·7	50·1	36·4	29·2	27·9
1892, .	28·0	37·2	29·0	35·9	41·5	45·6	52·8	51·2	47·2	37·4	32·9	33·4
1893, .	28·7	23·1	29·1	34·7	42·2	44·8	49·6	48·0	46·0	34·3	35·0	22·6
1894, .	23·0	29·7	33·7	38·5	44·7	48·4	52·8	55·0	41·4	36·4	32·8	29·2
1895, .	21·5	33·2	39·0	41·6	41·8	45·1	54·8	49·0	46·1	35·6	36·4	30·8
1896, .	24·6	20·3	32·2	38·8	43·0	48·8	51·2	52·4	51·0	34·2	38·6	28·9
Highest,	35·0	39·4	39·0	43·1	46·6	52·0	55·0	55·2	51·0	44·5	38·6	37·0
Lowest,	17·1	20·3	25·5	32·5	37·0	41·2	47·0	45·0	41·5	31·4	26·0	12·4
Range,	17·9	19·1	13·5	10·6	9·6	10·8	8·0	10·2	9·5	13·1	12·6	24·6

TABLE XVI.

*Showing the Extreme Range in the Mean Daily Temperatures in Edinburgh
from 1857 to 1896.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1857,	.	22.2	16.7	13.2	17.5	23.6	13.1	11.2	14.4	13.9	18.0	15.3
1858,	.	16.1	21.2	24.4	20.0	19.1	16.6	11.7	11.4	12.8	14.8	16.2
1859,	.	14.1	15.4	16.4	23.0	19.3	18.1	21.5	16.0	10.4	28.9	12.3
1860,	.	18.0	17.1	13.5	13.8	18.5	15.5	12.5	8.4	16.4	15.4	12.8
1861,	.	25.6	17.7	11.1	10.6	22.0	14.9	9.1	12.0	12.6	18.0	18.2
1862,	.	15.1	20.9	22.0	25.0	13.8	9.0	12.9	8.0	13.4	21.0	19.7
1863,	.	15.0	13.7	21.9	12.1	15.3	14.1	16.3	16.0	11.8	13.7	19.0
1864,	.	22.4	23.0	15.6	20.8	24.7	14.3	17.0	15.5	8.5	14.5	13.0
1865,	.	18.0	20.0	16.5	15.0	19.0	18.5	14.0	12.5	14.0	19.0	14.0
1866,	.	23.5	17.0	22.5	15.0	21.0	23.5	20.0	14.0	12.0	15.5	20.0
1867,	.	26.0	15.5	16.0	11.5	18.5	14.5	18.0	13.5	12.5	20.5	15.0
1868,	.	20.5	17.0	16.0	17.0	20.5	13.0	14.0	22.5	23.5	16.0	22.0
1869,	.	20.0	21.0	11.5	22.5	10.0	18.5	14.0	18.5	11.5	26.0	24.0
1870,	.	13.5	17.5	18.0	14.0	16.5	14.0	18.5	15.5	13.5	14.5	16.0
1871,	.	14.5	19.8	20.7	11.0	22.0	10.5	11.5	18.0	21.5	20.0	14.0
1872,	.	17.0	12.5	21.0	18.0	16.1	17.2	14.6	11.3	18.6	16.8	16.4
1873,	.	21.7	16.4	17.1	13.0	16.8	15.7	17.5	12.0	17.8	14.1	15.0
1874,	.	14.0	17.5	21.7	21.7	18.6	11.6	14.2	14.6	12.4	18.3	24.1
1875,	.	25.9	17.2	15.9	15.0	14.4	16.6	13.4	12.9	15.3	16.8	19.6
1876,	.	22.6	17.7	17.1	23.7	17.4	18.0	16.0	16.6	12.5	13.2	19.4
1877,	.	16.7	19.9	16.8	16.1	15.0	9.8	11.5	12.3	12.8	25.7	16.8
1878,	.	18.8	16.3	17.8	18.9	15.3	26.8	14.2	13.6	15.6	23.6	11.8
1879,	.	17.2	22.2	19.7	13.8	14.6	13.1	16.3	16.0	14.6	15.4	19.6
1880,	.	22.5	9.0	10.9	12.6	17.4	15.8	8.3	14.6	15.1	24.3	23.8
1881,	.	28.1	14.3	23.8	19.1	24.2	19.2	15.0	16.7	8.5	22.4	20.1
1882,	.	14.1	17.4	14.7	16.9	14.6	14.2	10.8	16.6	13.0	14.7	13.0
1883,	.	13.6	14.8	17.3	13.4	18.5	11.6	14.0	11.0	13.0	15.7	16.9
1884,	.	19.6	18.2	20.7	12.6	16.8	21.9	15.0	12.7	12.0	16.2	26.6
1885,	.	19.6	17.8	13.6	17.3	16.3	13.2	17.4	17.0	18.2	12.9	28.1
1886,	.	27.6	15.0	26.2	16.9	20.5	16.7	17.8	14.0	17.8	16.7	16.4
1887,	.	21.4	20.2	19.9	13.0	17.5	20.5	17.6	14.0	15.4	18.1	13.5
1888,	.	23.1	19.3	20.7	13.8	22.5	17.5	13.1	9.8	15.0	20.2	10.7
1889,	.	15.5	24.1	23.1	15.6	15.5	12.2	16.3	14.9	18.6	11.3	21.2
1890,	.	18.8	15.0	18.7	13.4	15.0	11.6	10.8	16.9	12.9	23.3	21.0
1891,	.	18.2	13.6	22.6	15.0	15.4	18.8	11.8	11.6	19.9	20.6	14.9
1892,	.	21.7	24.1	26.2	19.1	18.4	22.6	14.4	17.5	11.6	19.0	16.0
1893,	.	24.8	19.5	19.7	19.9	15.9	23.2	10.2	17.0	21.8	24.0	19.8
1894,	.	26.9	16.1	13.9	13.4	12.8	18.7	12.4	12.6	11.7	21.0	20.3
1895,	.	12.4	21.1	17.8	16.6	19.8	16.4	12.4	16.2	15.7	23.0	10.6
1896,	.	15.8	20.0	14.2	14.5	16.6	18.5	14.7	12.3	15.2	24.9	20.0
Highest,	.	26.9	24.1	26.2	23.7	24.7	26.8	21.5	22.5	23.5	28.9	28.1
Lowest,	.	12.4	9.0	10.9	10.6	10.0	9.0	8.3	8.0	8.5	11.3	10.6
Range, .	.	14.5	15.1	15.3	13.1	14.7	17.8	13.2	14.5	15.0	17.6	23.2

TABLE XVII.

Showing the Greatest Daily Range of Temperature in each Month from 1857 to 1896.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1857, . .	15.6	16.8	16.9	37.1	24.7	26.6	25.6	21.8	28.3	18.7	16.3	16.3
1858, . .	17.9	17.0	18.3	21.7	21.7	28.1	19.6	19.8	22.7	21.0	15.0	17.1
1859, . .	18.3	20.6	21.2	23.8	25.2	26.0	23.3	25.2	21.2	18.6	16.2	13.9
1860, . .	18.1	15.9	18.0	29.0	28.2	22.0	22.7	26.5	23.3	15.8	19.5	14.8
1861, . .	21.6	17.8	20.7	21.6	27.0	21.0	17.6	15.2	18.0	17.0	18.0	17.5
1862, . .	15.0	12.0	18.0	25.0	22.6	22.4	22.4	20.2	20.0	21.0	16.0	16.5
1863, . .	20.4	23.0	19.8	21.0	23.0	19.0	30.3	21.0	14.7	16.0	18.2	20.5
1864, . .	17.0	15.5	21.0	22.5	31.0	20.0	24.0	22.0	18.0	20.0	18.0	13.0
1865, . .	16.9	15.0	19.0	39.0	19.0	30.0	24.0	20.0	22.0	19.0	18.0	17.0
1866, . .	23.0	16.0	22.0	23.0	36.0	28.0	30.0	22.0	23.0	17.0	17.0	22.0
1867, . .	16.0	15.0	18.0	22.0	26.0	26.0	26.4	21.0	20.0	17.0	17.0	18.0
1868, . .	15.7	17.7	20.7	21.7	26.0	32.0	32.7	26.7	24.7	16.7	16.0	18.7
1869, . .	15.7	16.7	20.7	32.3	34.7	28.3	31.0	28.7	22.7	25.0	20.7	18.7
1870, . .	20.0	15.7	24.7	33.3	22.7	21.7	27.7	31.0	26.7	22.0	18.0	16.0
1871, . .	13.0	14.6	24.0	21.0	30.0	25.3	23.0	26.0	24.0	23.0	21.0	23.0
1872, . .	23.0	19.0	26.0	20.7	20.9	26.8	25.7	18.5	16.0	23.7	26.3	17.7
1873, . .	15.4	16.3	18.9	24.4	21.4	24.5	22.9	20.3	24.3	25.6	25.0	27.0
1874, . .	18.0	20.0	25.9	25.2	23.9	22.5	24.3	27.2	20.6	17.1	17.2	19.9
1875, . .	18.5	14.0	17.1	31.7	22.4	19.9	27.9	18.8	24.5	16.9	18.2	14.9
1876, . .	18.5	12.9	16.8	18.3	28.9	31.6	33.3	27.2	18.4	16.9	12.4	15.7
1877, . .	17.5	16.5	23.6	27.8	24.5	25.2	22.9	25.3	22.1	21.7	23.0	17.0
1878, . .	19.8	15.3	18.6	24.8	26.5	26.6	29.7	25.4	19.2	23.5	16.5	20.5
1879, . .	16.3	15.9	20.8	20.3	24.7	19.0	20.9	21.0	20.3	22.7	19.6	19.8
1880, . .	15.6	16.3	25.7	27.4	23.7	27.4	24.6	23.6	22.6	18.8	22.4	16.9
1881, . .	19.8	17.6	27.6	23.8	30.2	29.4	21.7	27.4	22.2	20.5	21.1	21.1
1882, . .	19.4	18.6	20.5	20.4	22.2	24.0	19.1	20.4	26.0	23.0	16.8	29.0
1883, . .	16.5	17.6	18.9	20.4	23.2	22.8	22.4	23.4	30.0	21.0	16.9	18.6
1884, . .	16.3	16.8	24.3	24.2	30.3	27.7	21.9	24.3	20.8	16.4	18.3	13.5
1885, . .	14.1	17.2	21.7	22.7	23.3	24.6	26.9	24.2	23.0	20.6	22.5	21.0
1886, . .	18.3	18.0	17.4	33.8	29.5	28.5	25.3	23.0	23.0	19.0	19.3	17.0
1887, . .	17.9	23.0	21.2	23.1	25.4	32.6	30.1	24.2	20.4	21.2	16.4	15.6
1888, . .	13.7	20.8	23.4	24.6	27.6	28.8	23.8	22.9	26.0	19.3	13.3	18.6
1889, . .	16.4	19.4	19.4	19.5	27.0	28.1	26.2	29.0	22.0	20.5	18.8	16.2
1890, . .	15.6	17.8	20.2	26.6	26.2	27.4	22.3	21.9	28.2	21.9	19.8	16.0
1891, . .	20.0	23.0	21.0	22.8	32.4	31.6	22.1	21.4	25.4	17.1	19.7	16.8
1892, . .	13.4	18.2	26.0	33.1	26.0	25.3	25.5	24.7	20.0	18.6	19.1	18.8
1893, . .	16.1	17.5	28.0	24.6	23.4	28.5	25.3	25.6	23.5	18.9	19.8	16.0
1894, . .	18.5	17.7	31.4	23.4	26.2	22.9	21.4	19.8	21.0	21.2	13.8	19.2
1895, . .	14.0	20.5	18.2	22.5	26.0	29.3	22.2	20.3	26.0	21.8	18.1	17.5
1896, . .	16.1	18.9	18.8	27.6	33.2	26.0	23.7	22.9	17.9	17.6	14.9	15.3
Greatest, . .	23.0	23.0	31.4	39.0	36.0	32.6	33.3	31.0	30.0	25.6	26.3	29.0

TABLE XIX.

Abstract of Temperature Observations.

	Mean Temperature, 1764-1896.						Extremes, 1840-96.						Daily Mean Temp., 1795-1804, 1821- 1850, 1857-1896.			
	Highest.	Year.	Lowest.	Year.	Range.	Highest.	Date.	Lowest.	Date.	Range.	Highest.	Lowest.	Range.	Highest.	Lowest.	Range.
January, .	43·8	1796	26·5	1814	17·3	59·0	30, 31. 1846	5·0	{ 31. 1845 29. 1848 }	54·0	51·6	16·5	35·1	•	•	•
February, .	47·2	1779	29·8	1838	17·4	64·0	28. 1846	11·9	8. 1895	52·1	55·0	19·0	36·0	•	•	•
March, .	46·5	{ 1779 1845 }	34·2	1785	12·3	68·0	31. 1844	15·0	2. 1881	53·0	62·0	25·0	37·0	•	•	•
April, .	49·8	{ 1792 1798 }	38·9	1837	10·9	76·0	28. 1840	23·0	17. 1849	53·0	60·8	26·5	34·3	•	•	•
May, .	55·8	1833	45·1	1810	10·7	79·2	30, 31. 1881	26·0	9. 1850	53·2	67·0	35·0	32·0	•	•	•
June, .	61·4	1826	51·5	1860	9·9	85·9	18. 1893	32·0	4. 1851	53·9	74·0	41·2	32·8	•	•	•
July, .	65·2	1779	54·4	1879	10·8	86·7	16. 1876	38·0	{ 2. 1848 4. 1851 }	48·7	77·8	47·0	30·8	•	•	•
August,	63·7	1779	52·6	1830	11·1	87·7	5. 1868	35·0	30. 1869	52·7	75·5	45·0	30·5	•	•	•
September, .	59·5	1846	48·2	1807	11·3	81·7	6. 1868	31·0	{ 22. 1844 27. 1847 }	50·7	72·0	35·5	36·5	•	•	•
October,	52·7	1831	42·0	1817	10·7	71·0	14. 1845	24·3	20. 1880	46·7	62·0	29·5	32·5	•	•	•
November, .	46·7	1818	34·0	1807	12·7	62·0	17. 1844	19·8	18. 1885	42·2	56·7	24·0	32·7	•	•	•
December, .	47·8	1843	31·0	1878	16·8	62·0	11. 25. 1843	6·4	15. 1882	55·6	55·0	12·4	43·6	•	•	•
Annual Mean and Extreme,	49·6	{ 1779 1846 }	43·8	1879	5·8	87·7	Aug. 5, 1868	5·0	{ Jan. 31, 1845 Jan. 29, 1848 }	82·7	{ 77·8 July 18, 1803 Dec. 24 1860 }	12·4	65·4	•	•	•

TABLE XX.

Showing the Low Day Maxima (25° or below) and the High Night Minima (61°·0 or above) recorded in Edinburgh from 1840-1896.

Low Day Maxima.					High Night Minima.				
1849	December 28,	.	.	.	25·0	1842	August 13,	.	.
1850	January 17,	.	.	.	25·0	1850	June 24,	.	.
1860	December 24,	.	.	.	19·8	1857	August 20,	.	.
1860	December 25,	.	.	.	19·0	1857	July 13,	.	.
1860	December 26,	.	.	.	23·0	1868	August 5,	.	.
1864	February 24,	.	.	.	24·0	1870	July 24,	.	.
1879	December 3,	.	.	.	25·0	1872	July 4,	.	.
1881	January 16,	.	.	.	25·0	1872	July 21,	.	.
1881	January 17,	.	.	.	24·8	1875	August 17,	.	.
1882	December 13,	.	.	.	24·5	1878	June 28,	.	.
1882	December 15,	.	.	.	20·0	1881	July 14,	.	.
1895	February 7,	.	.	.	24·5	1881	August 11,	.	.
						1890	August 5,	.	.
						1893	June 17,	.	.
						1893	August 16,	.	.
						1896	July 20,	.	.

TABLE XXI.

Reduction of Adie's Observations from 1824-1831, showing the Mean Maximum, Minimum, and Average Temperature, and the Mean Daily Range of Temperature from 1824-1831.

	1824.				1825.			
	Max.	Min.	Mean.	Daily Range.	Max.	Min.	Mean.	Daily Range.
					1826.			
January,	43·6	36·1	39·8	7·5	43·4	34·7	39·1	8·7
February,	43·8	34·3	39·0	10·5	44·5	33·4	39·0	11·1
March,	45·9	33·4	39·6	12·5	48·4	34·0	41·2	14·4
April,	54·9	35·5	45·2	19·4	56·8	36·4	46·6	20·4
May,	60·9	39·3	50·1	21·6	60·4	41·0	50·7	19·4
June,	67·0	46·3	56·6	20·7	67·6	45·8	56·7	21·8
July,	69·8	50·0	59·9	19·8	71·7	51·1	61·4	20·6
August,	66·6	47·8	57·2	18·8	68·6	51·5	60·0	17·1
September,	63·0	46·2	54·6	16·8	65·7	48·1	56·9	17·6
October,	51·9	39·6	45·8	12·3	57·5	42·8	50·1	14·7
November,	46·8	34·7	40·8	13·1	44·6	32·5	38·5	12·1
December,	42·7	34·1	38·4	8·6	42·4	35·6	39·0	6·8
1827.								
January,	35·3	27·8	31·6	7·5	39·8	31·0	35·4	8·8
February,	47·5	36·0	41·8	11·5	38·5	29·4	34·0	9·1
March,	49·5	34·2	41·8	15·3	46·0	34·2	40·1	11·8
April,	55·5	38·0	46·8	17·5	52·6	37·5	45·0	15·1
May,	62·3	41·3	51·8	21·0	58·4	43·2	50·8	15·2
June,	72·2	50·6	61·4	21·6	65·4	46·9	56·1	18·5
July,	72·6	51·4	62·0	21·2	67·8	49·1	58·4	18·7
August,	71·0	51·6	61·3	19·4	62·6	47·9	55·2	14·7
September,	63·7	45·6	54·6	18·1	62·0	48·0	55·0	14·0
October,	58·2	41·7	50·0	16·5	55·7	44·6	50·1	11·1
November,	44·4	33·1	38·8	11·3	48·1	37·5	42·8	10·6
December,	44·8	37·3	41·0	7·5	47·0	37·5	42·2	9·5
1828.								
January,	43·2	35·7	39·4	7·5	36·3	27·9	32·1	8·4
February,	45·2	35·0	40·1	10·2	43·6	34·0	38·8	9·6
March,	49·3	36·4	42·8	12·9	46·2	33·1	39·6	13·1
April,	52·6	37·8	45·2	14·8	48·9	34·9	41·9	14·0
May,	59·3	43·1	51·2	16·2	61·1	42·2	51·6	18·9
June,	64·9	48·9	56·9	16·0	63·8	48·8	56·3	15·0
July,	64·9	50·3	57·6	14·6	63·3	49·7	56·5	13·6
August,	65·3	48·7	57·0	16·6	61·0	47·1	54·0	13·9
September,	61·9	47·2	54·6	14·7	57·9	42·7	50·3	15·2
October,	55·7	41·2	48·4	14·5	52·8	39·1	46·0	13·7
November,	49·3	40·4	44·8	8·9	44·4	34·7	39·6	9·7
December,	47·3	39·4	43·4	7·9	40·2	31·8	36·0	8·4
1830.								
January,	38·3	30·3	34·3	8·0	38·3	31·1	34·7	7·2
February,	41·6	30·5	36·0	11·1	43·7	33·6	38·6	10·1
March,	51·3	37·2	44·2	14·1	48·3	36·6	42·3	11·7
April,	54·7	38·6	46·6	16·1	51·1	38·9	45·0	11·2
May,	55·9	43·6	49·8	12·3	57·5	40·1	48·8	17·4
June,	60·2	43·8	52·0	16·4	65·8	50·3	58·0	15·5
July,	64·9	50·5	57·7	14·4	66·2	52·6	59·4	13·6
August,	59·8	45·5	52·6	14·3	66·2	54·0	60·1	12·2
September,	58·8	45·6	52·2	13·3	61·2	49·4	55·3	11·8
October,	55·4	41·6	48·5	13·8	57·7	47·7	52·7	10·0
November,	47·4	37·7	42·6	9·7	45·2	35·5	40·2	9·7
December,	39·6	31·3	35·4	8·3	46·0	37·7	41·8	8·3
1831.								

TABLE XXII.

Showing the Extreme Temperature from 1824 to 1831, with the Monthly Range of Temperature.

Year.	January.					February.					March.					
	Max.	Date.	Min.	Date.	Range.	Max.	Date.	Min.	Date.	Range.	Max.	Date.	Min.	Date.	Range.	
1824,	.	54	9	23	16	31	51	7	26	15	25	58	19	23	4	35
1825,	.	53	27	23	5	30	52	12	22	5	30	60	27	25	4	35
1826,	.	48	21	10	16	38	54	6	29	18	25	72	10	25	17	47
1827,	.	52	6	14	3	38	52	26	20	{ 16 } { 18 }	32	58	31	18	5	40
1828,	.	53	21	15	11	38	57	26	22	16	35	58	17	26	6	32
1829,	.	44	1	15	{ 22 } { 25 }	29	52	7	23	23	29	57	19	21	15	36
1830,	.	47	4	20	19	27	57	25	17	22	40	64	28	29	5	35
1831,	.	47	3	20	{ 25 } { 26 }	27	55	10	19	4	36	55	27	28	24	27
		April.					May.					June.				
1824,	.	70	21	24	{ 1 } { 15 }	46	73	{ 27 } { 28 }	29	21	44	82	7	37	19	45
1825,	.	67	7	25	19	42	72	18	32	28	40	81	{ 12 } { 16 }	37	6	44
1826,	.	66	21	27	30	39	72	21	28	1	44	87	{ 24 } { 26 }	39	5	48
1827,	.	64	29	27	25	37	69	21	31	{ 11 } { 12 }	38	74	12	39	7	35
1828,	.	65	29	26	7	39	66	15	36	8	30	75	27	42	6	33
1829,	.	56	{ 17 } { 18 }	27	1	29	70	{ 28 } { 29 }	36	2	34	72	20	36	6	36
1830,	.	73	30	17	2	56	64	15	33	14	31	70	30	35	23	35
1831,	.	64	15	27	4	37	70	31	28	8	42	72	2	45	{ 6 } { 7 }	27
		July.					August.					September.				
1824,	.	82	14	37	31	45	71	1	37	22	44	85	2	28	29	57
1825,	.	83	{ 30 } { 31 }	41	8	42	76	20	44	12	32	72	{ 1 } { 16 }	34	23	38
1826,	.	80	..	39	24	41	81	19	44	28	37	71	26	35	15	36
1827,	.	77	16	41	12	36	73	23	38	6	35	73	16	38	20	35
1828,	.	72	{ 3 } { 11 }	42	29	30	76	27	38	{ 16 } { 17 }	38	71	{ 8 } { 25 }	33	14	38
1829,	.	75	13	42	10	33	71	8	36	16	35	65	1	35	{ 16 } { 25 }	30
1830,	.	81	28	40	11	41	68	3	36	27	32	64	27	36	30	28
1831,	.	76	31	44	22	32	74	22	48	18	26	71	4	42	28	29
		October.					November.					December.				
1824,	.	62	1	20	15	42	56	2	26	6	30	52	18	16	5	36
1825,	.	70	3	28	22	42	62	21	19	10	33	53	15	23	31	30
1826,	.	70	{ 20 } { 23 }	29	{ 30 } { 31 }	41	59	1	21	27	38	54	7	24	6	30
1827,	.	67	24	31	29	36	56	13	23	24	33	54	5	24	29	30
1828,	.	66	12	29	18	37	57	21	26	11	31	57	12	32	{ 26 } { 29 }	25
1829,	.	61	11	29	15	32	55	3	23	18	32	54	6	23	27	31
1830,	.	61	20	30	17	31	58	{ 2 } { 3 }	28	24	30	48	16	15	{ 25 } { 26 }	33
1831,	.	67	7	38	28	29	58	1	22	20	36	54	11	29	28	25

TABLE XXIII.

Highest Night Minimum and Lowest Day Maximum.

	1824.				1825.			
	Highest Minimum.	Date.	Lowest Maximum.	Date.	Highest Minimum.	Date.	Lowest Maximum.	Date.
January, . . .	49	10	36	16	46	30	31	5
February, . . .	44	8	39	{ 15 } { 27 }	44	12	31	4
March, . . .	45	20	34	3	47	10	41	16
April, . . .	49	20	39	1	50	15	46	12
May, . . .	49	24	51	20	48	9	47	24
June, . . .	53	23	59	20	58	12	55	19
July, . . .	58	23	57	30	61	14	57	10
August, . . .	54	8	57	21	60	20	63	29
September, . . .	60	3	43	29	56	25	57	14
October, . . .	52	8	43	{ 13 } { 29 }	50	2	42	20
November, . . .	48	17	37	30	41	1	35	{ 10 } { 28 }
December, . . .	49	{ 13 } { 10 }	29	5	43	18	31	31
1826.								
January, . . .	40	21	26	{ 12 } { 16 }	45	29	24	3
February, . . .	45	3	42	{ 18 } { 19 }	37	{ 5 } { 6 }	30	{ 18 } { 19 }
March, . . .	42	1	42	26	47	{ 23 } { 24 }	33	4
April, . . .	47	8	42	27	48	30	36	24
May, . . .	50	15	51	3	51	{ 22 } { 29 }	46	10
June, . . .	66	28	61	5	55	17	56	5
July, . . .	60	{ 5 } { 29 }	55	21	57	25	62	1
August, . . .	61	18	64	12	54	{ 3 } { 10 }	50	16
September, . . .	55	17	54	18	57	17	51	20
October, . . .	52	16	47	28	52	26	46	{ 28 } { 29 }
November, . . .	44	11	34	27	50	{ 13 } { 14 }	35	{ 22 } { 24 }
December, . . .	47	{ 11 } { 29 }	32	5	51	26	35	29
1828.								
January, . . .	48	21	31	{ 11 } { 16 }	38	10	30	22
February, . . .	49	{ 5 } { 27 }	32	14	45	15	32	18
March, . . .	48	13	37	6	45	20	36	13
April, . . .	50	29	42	27	42	15	39	10
May, . . .	49	31	50	{ 7 } { 21 }	49	29	51	6
June, . . .	57	27	53	15	57	3	55	28
July, . . .	57	18	58	14	59	14	54	5
August, . . .	54	20	58	14	59	8	49	13
September, . . .	58	24	55	{ 13 } { 14 }	55	1	51	18
October, . . .	54	13	43	29	48	19	45	31
November, . . .	52	21	38	11	46	12	37	18
December, . . .	47	13	41	28	50	6	30	27

TABLE XXIII.—*continued.*

	1830.				1831.			
	Highest Minimum.	Date.	Lowest Maximum.	Date.	Highest Minimum.	Date.	Lowest Maximum.	Date.
January,	37	26	32	19	41	3	32	{ 16 } { 31 }
February,	48	25	26	6	48	10	30	1
March,	53	29	39	16	44	{ 5 } { 20 }	40	{ 24 } { 25 }
April,	48	28	36	{ 2 } { 3 }	46	27	40	1
May,	52	17	43	9	48	20	43	6
June,	51	29	54	15	55	18	58	6
July,	61	{ 25 } { 26 }	54	12	59	29	59	{ 14 } { 15 }
August,	54	{ 3 } { 4 }	49	28	58	{ 4 } { 6 }	60	28
September,	56	2	52	21	59	4	57	{ 8 } { 9 }
October,	49	20	47	26	57	{ 7 } { 19 }	51	29
November,	51	1	42	30	48	1	33	{ 19 } { 20 }
December,	43	16	27	24	43	{ 13 } { 25 }	35	28

TABLE XXIV.

Mean Daily Temperature.

The mean temperature is the average of the Minimum and Maximum.

	1824.					1825.				
	Highest.	Date.	Lowest.	Date.	Range.	Highest.	Date.	Lowest.	Date.	Range.
January, .	°		°		°	°		°		°
February, .	49°0	26	30°5	16	18°5	48°5	30	27°0	5	21°5
March, .	47°0	8	32°5	15	14°5	48°0	12	27°0	4	21°0
April, .	51°0	18	30°5	4	20°5	50°0	{ 9 } { 27 }	33°5	4	16°5
May, .	58°0	29	31°5	1	26°5	54°0	21	38°0	18	16°0
June, .	59°0	30	40°5	20	18°5	58°5	6	43°0	28	15°5
July, .	64°0	7	50°0	19	14°0	69°5	12	49°0	19	20°5
August, .	67°0	14	50°0	31	17°0	70°5	{ 14 } { 31 }	54°0	{ 9 } { 10 }	16°5
September, .	61°0	26	50°0	22	11°0	68°0	20	54°5	12	13°5
October, .	72°0	2	35°5	29	36°5	62°5	18	49°5	28	13°0
November, .	56°0	1	38°5	15	22°5	60°0	3	37°5	25	22°5
December, .	51°5	17	32°0	30	19°5	49°0	21	27°0	10	22°0
	50°5	13	22°5	5	28°0	46°5	18	27°0	31	19°5
1826.										
1827.										
January, .	44°0	21	18°0	16	26°0	48°0	29	19°0	3	29°0
February, .	47°5	3	35°5	18	12°0	42°5	26	25°0	18	17°5
March, .	62°0	10	35°5	17	26°5	51°0	23	27°5	5	23°5
April, .	53°5	8	37°0	27	16°5	55°5	30	33°0	24	22°5
May, .	58°0	15	42°5	10	15°5	59°0	21	40°5	{ 10 } { 11 }	18°5
June, .	74°0	28	50°0	5	24°0	63°0	10	50°0	3	18°0
July, .	69°5	5	53°0	20	16°5	63°5	16	53°0	12	10°5
August, .	70°5	{ 18 } { 19 }	56°0	12	14°5	61°0	3	49°0	16	12°0
September, .	62°5	17	48°0	15	14°5	63°5	16	44°5	20	19°0
October, .	61°0	23	41°0	28	20°0	57°5	16	38°5	29	19°0
November, .	48°5	1	27°5	27	21°0	53°0	13	29°0	24	24°0
December, .	50°0	11	28°5	5	21°5	52°5	26	29°5	29	23°0
1828.										
1829.										
January, .	50°5	21	28°0	11	27°5	40°5	1	22°5	22	18°0
February, .	52°5	27	30°0	14	22°5	47°5	12	28°0	18	19°5
March, .	53°0	13	31°5	6	21°5	51°0	20	30°0	15	21°0
April, .	57°5	29	38°0	8	19°5	47°0	15	33°5	1	13°5
May, .	57°0	{ 26 } { 31 }	45°5	20	11°5	59°5	29	45°0	2	14°5
June, .	66°0	27	48°0	6	18°0	62°5	3	46°0	6	16°5
July, .	64°0	3	50°5	29	13°5	63°5	14	50°5	5	13°0
August, .	64°5	27	51°5	16	13°0	65°0	8	48°5	13	18°5
September, .	64°5	25	44°0	14	20°5	60°0	1	45°0	16	15°0
October, .	58°5	12	36°0	29	22°5	54°0	19	38°0	23	16°0
November, .	54°5	21	32°0	11	22°5	48°5	3	30°0	18	18°5
December, .	48°5	30	36°5	9	12°0	52°0	6	26°5	27	25°5
1830.										
1831.										
January, .	41°0	4	26°0	19	15°0	44°0	3	26°5	25	17°5
February, .	52°5	25	23°0	6	29°5	51°5	10	26°0	4	25°5
March, .	54°0	26	34°5	16	19°5	48°5	20	34°0	24	14°5
April, .	58°0	28	26°5	2	31°5	52°0	16	39°5	1	12°5
May, .	57°5	17	42°0	9	15°5	58°5	31	36°0	6	22°5
June, .	59°0	28	46°0	19	13°0	62°5	13	55°0	3	7°5
July, .	68°0	26	50°0	11	18°0	67°0	31	53°5	22	13°5
August, .	61°0	3	46°0	28	15°0	64°0	22	55°0	28	9°0
September, .	59°0	2	46°0	21	13°0	65°0	4	50°5	28	14°5
October, .	55°0	20	39°5	30	15°5	60°0	19	45°0	28	15°0
November, .	53°5	1	35°5	24	18°0	53°0	23	27°5	20	25°5
December, .	45°5	16	22°0	24	23°5	46°5	25	32°0	28	14°5

TABLE XXV.

Showing the Mean Daily Variability of Temperature in Edinburgh from 1840–1896.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1840,	.	2·7	2·6	2·5	2·8	2·7	3·5	2·1	3·4	2·4	2·5	2·5	3·1 2·73
1841,	.	4·2	2·1	2·4	2·4	3·7	2·5	2·3	2·7	2·9	3·4	3·0	3·5 2·93
1842,	.	2·5	2·7	3·1	2·3	2·5	2·9	2·6	3·6	3·1	3·8	3·0	3·5 2·97
1843,	.	4·0	3·0	4·5	3·0	2·7	2·3	3·6	3·0	4·2	3·3	4·4	2·5 3·38
1844,	.	3·4	3·1	3·9	3·0	3·3	2·7	2·4	2·6	2·9	3·8	3·0	2·1 3·02
1845,	.	4·1	4·3	4·2	3·1	2·3	2·4	2·7	2·5	3·4	3·1	3·6	3·2 3·24
1846,	.	3·6	2·9	2·9	3·9	3·0	3·1	3·0	2·3	3·1	3·0	3·3	3·7 3·15
1847,	.	3·5	3·4	2·4	2·8	3·2	2·8	2·5	3·6	3·5	3·5	4·9	3·3 3·28
1848,	.	4·4	4·7	2·9	2·7	3·2	2·8	3·0	2·1	3·5	2·6	3·4	3·8 3·26
1849,	.	3·6	3·0	3·8	2·3	2·8	2·4	2·3	3·5	2·9	3·3	3·6	3·0 3·02
1850,	.	4·4	3·3	3·0	2·8	3·1	3·7	2·7	3·2	2·7	3·2	3·5	2·8 3·20
1851,	.	4·4	3·5	2·3	2·4	2·6	2·7	2·2	2·8	2·3	2·9	2·6	3·7 2·87
1852,	.	3·5	3·5	2·7	2·9	2·5	2·6	2·8	2·0	2·3	2·0	2·9	3·5 2·77
1853,	.	2·6	2·4	2·0	2·5	3·1	3·8	1·6	2·1	2·4	2·9	3·9	3·9 2·77
1854,	.	3·1	2·9	2·7	2·4	2·1	2·7	1·6	2·3	2·9	3·5	3·9	3·7 2·82
1855,	.	3·3	1·7	1·7	3·1	3·2	3·4	2·9	2·8	3·7	4·4	2·5	3·7 3·03
1856,	.	2·5	2·7	2·3	2·1	2·1	2·0	2·8	3·1	2·5	2·6	4·0	3·9 2·80
1857,	.	3·2	2·9	2·1	2·5	2·9	3·9	2·5	2·2	2·8	2·0	2·4	2·6 2·67
1858,	.	3·8	2·8	3·3	3·3	2·9	2·6	2·1	1·6	2·7	2·5	2·1	2·2 2·66
1859,	.	2·2	2·6	3·0	2·3	2·5	2·9	3·4	2·2	2·0	2·4	2·5	2·7 2·56
1860,	.	2·9	3·2	2·0	2·0	3·7	2·6	2·6	1·6	1·8	2·5	2·2	2·9 2·50
1861,	.	2·7	2·3	2·3	2·4	2·9	2·6	1·8	2·3	1·6	2·7	3·9	3·1 2·55
1862,	.	2·0	3·0	2·2	4·0	2·4	2·1	3·0	2·3	2·5	3·1	3·1	2·7 2·70
1863,	.	2·8	3·3	3·4	2·8	2·8	1·9	2·7	2·4	2·2	2·1	3·2	3·6 2·77
1864,	.	2·4	2·8	2·2	3·3	2·9	2·2	2·3	2·5	1·9	3·0	2·3	2·8 2·55
1865,	.	2·0	3·1	1·7	3·2	3·3	3·7	2·4	2·3	2·6	2·5	3·0	3·0 2·72
1866,	.	3·9	2·1	3·2	2·5	3·0	3·2	2·6	2·5	2·6	2·1	3·2	4·3 2·93
1867,	.	3·6	2·7	1·9	2·4	2·8	2·4	2·4	2·5	2·0	3·2	3·5	3·8 2·77
1868,	.	3·6	3·3	3·3	2·6	3·3	2·5	3·4	2·8	2·9	2·8	2·9	3·6 3·08
1869,	.	3·5	3·2	2·0	3·6	2·4	2·9	3·5	3·1	2·7	3·4	4·0	3·9 3·18
1870,	.	2·1	2·7	2·6	3·2	2·7	3·1	2·4	2·2	2·6	2·5	2·6	3·5 2·68
1871,	.	2·5	2·8	4·2	3·1	3·3	3·6	2·0	3·0	2·2	3·7	2·6	2·1 2·92
1872,	.	3·4	2·2	3·0	2·4	2·8	2·6	2·6	2·5	2·2	2·6	2·7	3·4 2·70
1873,	.	3·3	2·3	2·7	1·9	2·5	2·6	2·8	2·6	3·5	2·7	2·9	4·0 2·81
1874,	.	3·5	2·6	2·6	3·8	2·3	2·7	2·7	2·4	3·3	3·5	3·9	3·3 3·05
1875,	.	4·3	2·8	2·4	3·0	2·5	2·3	2·4	2·4	2·4	2·2	2·7	2·7 2·68
1876,	.	4·0	3·3	3·1	4·1	2·5	2·8	2·7	2·7	2·4	2·1	3·2	2·8 2·98
1877,	.	3·0	2·9	2·4	3·0	2·2	2·3	2·4	2·0	2·7	4·1	2·9	3·5 2·78
1878,	.	3·2	2·8	2·6	2·3	2·6	2·4	1·9	3·0	2·5	2·5	2·5	3·0 2·61
1879,	.	3·2	2·7	3·4	2·3	3·4	2·5	2·2	2·2	2·3	3·4	3·3	3·8 2·90
1880,	.	2·9	2·2	2·5	2·2	2·5	2·0	2·9	2·6	2·6	3·0	4·3	2·7 2·70
1881,	.	3·3	2·7	3·2	2·3	2·9	2·5	2·7	2·2	1·8	2·3	3·9	3·6 2·79
1882,	.	2·9	3·2	3·6	2·6	2·1	2·0	1·8	2·5	2·2	1·8	2·2	3·9 2·57
1883,	.	3·1	2·4	2·7	2·9	2·5	2·3	2·2	2·6	2·2	2·9	2·3	3·1 2·60
1884,	.	3·2	3·2	3·2	2·2	3·1	3·6	2·3	3·4	2·5	3·0	2·9	3·0 2·97
1885,	.	2·8	2·7	3·5	2·6	2·0	2·5	3·1	3·2	2·7	2·2	3·4	2·7 2·87
1886,	.	3·4	2·4	2·2	2·6	3·8	3·2	2·6	2·5	3·1	2·3	3·7	2·8 2·88
1887,	.	2·7	3·1	2·7	2·7	3·4	3·4	3·1	2·3	2·3	3·6	2·6	2·9 2·90
1888,	.	3·2	2·9	2·6	2·3	3·9	2·7	2·8	2·4	2·3	3·3	2·9	3·6 2·91
1889,	.	3·6	3·3	3·7	2·0	3·4	2·2	2·3	1·9	2·2	2·1	3·6	3·6 2·83
1890,	.	3·3	2·7	3·8	2·4	3·3	2·4	1·9	2·2	2·7	3·9	2·9	2·8 2·86

TABLE XXV.—*continued.*

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1891, . . .	3·1	3·6	3·0	2·1	2·7	2·6	2·4	2·0	2·5	2·4	2·3	3·2	2·76
1892, . . .	2·8	2·9	3·7	2·5	2·7	3·4	2·7	2·8	2·4	2·5	3·7	3·4	2·97
1893, . . .	2·9	2·9	2·4	3·1	2·3	3·2	2·2	2·1	3·1	3·3	3·4	3·5	2·87
1894, . . .	4·4	3·6	2·4	2·7	2·4	2·2	2·1	2·0	1·9	3·1	3·3	3·2	2·78
1895, . . .	2·0	2·9	2·6	2·7	2·7	2·7	2·1	2·4	2·4	3·0	2·7	2·9	2·59
1896, . . .	4·0	3·2	3·0	2·2	2·8	2·6	2·3	2·8	2·7	3·0	3·1	2·8	2·88
Max., . . .	4·4	4·7	4·5	4·1	3·9	3·9	3·6	3·6	4·2	4·4	4·9	4·3	3·38
Min., . . .	2·0	1·7	1·7	1·9	2·0	1·9	1·6	1·6	1·6	1·8	2·1	2·1	2·50
Range, . . .	2·4	3·0	2·8	2·2	1·9	2·0	2·0	2·0	2·6	2·6	2·8	2·2	0·88

Decennial Means.

1841-50, . . .	3·77	3·25	3·31	2·83	2·98	2·76	2·71	2·91	3·22	3·30	3·57	3·14	3·15
1851-60, . . .	3·15	2·82	2·41	2·55	2·76	3·02	2·47	2·27	2·54	2·77	2·90	3·28	2·75
1861-70, . . .	2·86	2·85	2·48	3·00	2·85	2·66	2·65	2·49	2·36	2·74	3·17	3·43	2·79
1871-80, . . .	3·33	2·66	2·89	2·81	2·66	2·58	2·46	2·53	2·61	2·98	3·10	3·13	2·81
1881-90, . . .	3·15	2·86	3·12	2·46	3·04	2·68	2·48	2·52	2·40	2·74	3·04	3·20	2·81
Means, 1840-1896, . . .	3·24	2·91	2·84	2·71	2·83	2·76	2·52	2·54	2·61	2·90	3·14	3·22	2·85

TABLE XXVI.

Variability of Temperature.

	Years 1840-96.											No. of Changes of 10° or more.
	Highest.	Year.	Lowest.	Year.	Range.	Greatest Rise.	Date.	Greatest Fall.	Date.	Rises.	Falls.	Total.
Jan., . . .	°	{ 1848, '50 1851, '94 }	2·0	{ 1862, '65 1895 }	2·4	14·0	{ 26. 1841 30. 1848 }	°	29. 1848	23	8	31
Feb., . . .	4·7	1848	1·7	1855	3·0	14·0	3. 1845	12·5	2. 1843	9	7	16
Mar., . . .	4·5	1843	1·7	1855, '65	2·8	15·1	17. 1892	12·8	1. 1879	11	10	21
Apr., . . .	4·1	1876	1·9	1873	2·2	14·0	26. 1845	13·3	29. 1886	11	11	22
May, . . .	3·9	1888	2·0	1885	1·9	13·0	5. 1841	15·1	5. 1860	15	5	20
June, . . .	3·9	1857	1·9	1863	2·0	10·6	26. 1894	14·2	14. 1884	2	11	13
July, . . .	3·6	1843	1·6	1853, '54	2·0	11·5	21. 1843	13·5	27. 1885	8	5	13
Aug., . . .	3·6	1842	1·6	1858, '60	2·0	12·5	25. 1847	15·5	29. 1869	4	5	9
Sept., . . .	4·2	1843	1·6	1861	2·6	13·5	30. 1843	11·2	28. 1873	7	2	9
Oct., . . .	4·4	1855	1·8	1882	2·6	14·5	18. 1849	12·5	28. 1871	9	10	19
Nov., . . .	4·9	1847	2·1	1858	2·8	13·0	{ 21. 1866 15. 1871 }	13·1	10. 1874	14	17	31
Dec., . . .	4·3	1866	2·1	1871	2·2	14·2	17. 1882	13·4	24. 1860	16	10	26
	3·38	1843	2·50	1860	0·88	15·1	Mar. 17, 1892	15·5	Aug. 19, 1869	129	101	230

TABLE XXVII.

Mean Daily Variability of Temperature in Edinburgh from 1865–1869, from Daily Observations made at 9 a.m. and 9 p.m. and Compared with Means Deduced from the Average of the Max. and Min.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Mean 9 a.m., . . .	◦	◦	◦	◦	◦	◦	◦	◦	◦	◦	◦	◦	◦
,, 9 p.m., . . .	4·5	4·3	3·4	3·4	3·1	3·7	3·3	3·3	2·8	4·4	4·8	4·8	3·83
,, 9 a.m. and 9 p.m., . .	4·2	4·0	3·3	3·4	3·1	3·6	3·3	2·6	3·1	3·9	4·4	4·5	3·62
Mean variability from Max. and Min.	4·4	4·2	3·4	3·4	3·1	3·6	3·3	3·0	3·0	4·1	4·6	4·6	3·7
Difference, . . .	3·3	2·9	2·4	2·9	3·0	2·9	2·9	2·6	2·6	2·8	3·3	3·7	2·9
Smoothed Difference, . . .	-1·1	-1·3	-1·0	-0·5	-0·1	-0·7	-0·4	-0·4	-0·4	-1·3	-1·3	-0·8	-0·8

TABLE XXVIII.

Comparison of Mean Variability of Temperature at Hawkhill (Edinburgh) and Kirkcaldy for the Years 1776–1777. Hour of Observation, 8 a.m.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Hawkhill,	◦	◦	◦	◦	◦	◦	◦	◦	◦	◦	◦	◦	◦
Kirkcaldy,	3·4	3·4	3·8	3·4	2·2	3·4	2·4	2·4	3·3	2·8	4·6	3·7	3·2
Difference,	3·5	3·4	3·8	3·7	2·4	2·9	2·4	2·4	2·5	3·4	4·7	3·9	3·2

TABLE XXIX.

*Showing the Monthly and Annual Rainfall in Edinburgh for 120 Years
and 6 Months.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1770	ins. .73	ins. 1.19	ins. .84	ins. 1.99	ins. 2.44	ins. 2.68	ins. 1.74	ins. 1.34	ins. 3.36	ins. 1.20	ins. 6.78	ins. 3.59	27.88
1771	1.04	1.17	.54	.44	1.38	.48	1.85	3.23	1.74	5.59	3.76	.97	22.19
1772	2.68	1.39	1.68	1.30	2.02	3.00	3.69	2.71	3.26	3.51	5.66	1.28	32.18
1773	3.53	1.15	1.23	3.63	1.83	.87	1.41	1.28	3.68	2.95	3.37	3.91	28.84
1774	2.78	2.02	.86	1.74	3.49	3.87	1.51	4.82	2.93	1.30	2.18	2.69	30.19
1775	4.59	3.01	1.59	.58	1.42	1.21	5.81	2.36	3.82	5.31	3.62	.76	34.07
1776	3.26	2.36	1.46	1.21	.63	2.37	3.08	2.41	2.75	1.73	2.75	2.08	26.09
1777
1778
1779
1780	.72	.88	1.30	3.38	3.15	1.95	1.29	.62	4.65	2.78	1.29	.67	22.68
1781	1.78	2.72	.03	1.43	2.09	2.17
1782
1783
1784
1785	1.50	2.31	.52	.35	.94	1.11	2.72	2.00	10.69	2.82	4.42	1.27	30.65
1786	2.54	1.19	.63	.30	2.40	.22	5.50	1.71	1.24	3.85	2.30	1.53	23.41
1787	.14	1.25	2.12	1.36	4.73	3.22	5.00	1.82	.60	2.46	.83	8.42	31.95
1788	1.03	2.20	1.73	1.78	.86	2.13	2.63	1.17	3.28	.40	1.07	1.15	19.43
1789	4.77	1.02	1.24	1.02	1.15	1.14	2.69	1.53	2.04	3.46	5.21	3.93	29.20
1790	1.96	1.75	.85	2.60	2.42	2.90	2.02	3.13	2.65	2.18	2.49	2.57	27.52
1791	2.36	2.15	.69	2.97	1.82	2.53	1.38	3.40	1.28	3.96	3.49	1.39	27.42
1792	1.40	1.67	2.88	1.37	3.21	5.13	4.09	3.40	3.00	4.30	2.50	4.05	37.00
1793	1.53	2.25	3.14	1.13	1.06	1.48	1.14	2.50	.51	1.52	2.14	2.30	20.70
1794	1.40	2.19	1.00	2.12	1.88	1.07	2.16	1.80	3.14	3.58	4.46	3.92	28.72
1795	2.81	3.37	1.37	3.01	1.20	3.92	2.42	3.62	1.12	4.87	4.58	3.81	36.60
1796	3.28	1.40	.43	1.09	1.43	1.03	2.77	.45	2.21	1.19	1.31	1.06	17.65
1797	1.32	.67	1.20	1.47	1.96	2.18	5.19	4.50	2.99	3.24	1.20	1.26	27.18
1798	1.80	.55	1.52	1.56	1.62	2.53	2.10	2.99	2.28	2.15	2.07	1.41	22.58
1799	.89	1.57	.47	2.15	3.27	.87	2.60	5.66	4.02	1.99	1.79	1.23	26.51
1800	3.26	.49	1.34	2.05	2.50	.53	.40	1.26	2.53	3.33	.98	2.91	21.58
1801	1.75	1.44	.82	.60	1.99	.20	5.25	.88	2.66	1.59	1.06	2.17	20.41
1802	.71	1.87	.69	.73	.86	2.21	4.19	2.13	2.37	2.43	2.09	1.02	21.30
1803	.80	1.56	.74	1.16	1.13	1.35	.86	2.00	1.82	1.00	2.26	1.13	15.81
1804	3.72	.57	2.68	2.04	1.58	1.32	1.86	3.91	.74	2.37	1.92	1.96	24.57
1805	.65	1.58	.67	.64	1.01	1.38	1.48	2.83	2.66	1.33	.38	1.57	16.18
1806	2.66	1.18	.48	.74	2.23	.20	2.74	2.65	.98	1.92	4.47	1.71	21.96
1807	.69	.51	1.26	2.06	1.71	.60	1.29	2.59	4.39	3.68	2.21	1.31	22.30
1808	.72	2.16	.72	2.93	1.92	2.61	5.17	4.83	2.46	2.03	.72	2.80	29.07
1809	2.76	3.16	.21	2.01	2.14	2.98	2.39	5.56	2.94	1.19	1.32	3.24	29.90
1810	1.47	1.34	3.16	1.46	1.84	1.92	3.82	3.14	.22	1.22	4.50	2.82	26.91
1811	1.61	3.30	1.37	1.72	3.35	3.68	2.77	2.12	1.70	3.43	3.90	3.69	32.64
1812	1.47	3.59	3.10	1.10	2.10	2.24	1.34	3.40	1.08	2.82	3.97	.89	27.10
1813	.83	2.26	.25	2.03	3.21	1.44	2.58	.86	1.23	2.94	1.45	1.07	20.15
1814	.86	.63	1.65	2.90	.49	1.41	2.59	2.23	1.30	1.43	3.70	3.10	22.29
1815	1.50	1.46	2.22	.89	3.01	2.29	2.18	1.37	1.90	2.84	.56	1.61	21.83
1816	2.04	1.01	1.07	1.27	2.18	1.91	5.22	2.26	2.96	1.94	.95	2.43	25.24
1817	1.79	1.53	.87	.19	2.44	4.80	3.85	5.25	.85	1.55	2.70	3.66	29.48
1818	2.49	.81	1.76	.60	1.80	2.00	3.40	.70	1.80	1.10	2.60	2.52	21.58
1819	3.50	1.79	.84	3.10	2.32	1.64	1.48	1.93	1.43	3.75	2.35	2.93	27.06
1820	.51	1.22	1.10	.52	4.20	3.40	1.30	2.70	1.21	2.66	1.44	2.41	22.67

TABLE XXIX.—*continued.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1821	ins. 2·50	ins. .54	ins. 2·46	ins. 2·60	ins. 1·85	ins. .61	ins. 1·51	ins. 1·47	ins. 1·58	ins. 1·43	ins. 4·22	ins. 2·94	23·71
1822	1·23	2·50	3·57	1·41	1·80	1·36	4·53	2·36	1·27	2·39	2·12	1·60	26·14
1823	2·23	3·85	.66	1·68	2·35	1·00	4·25	3·87	1·82	3·10	1·07	4·38	30·26
1824	.87	1·70	1·34	.57	.63	2·01	1·58	1·50	1·62	4·73	4·38	3·88	24·81
1825	1·31	.69	.43	1·41	3·25	2·05	.15	1·89	2·85	2·19	3·91	1·99	22·12
1826	.55	1·77	1·33	1·52	1·25	.30	2·31	1·83	1·01	1·38	.76	1·26	15·27
1827	3·33	1·58	4·84	2·74	1·28	1·62	2·27	4·89	1·15	4·97	1·02	2·90	32·59
1828	1·70	.98	1·18	1·42	1·85	.81	4·57	3·43	2·31	.86	3·94	2·18	25·23
1829	2·49	1·61	.32	3·35	.77	2·03	4·48	6·80	1·77	2·53	2·48	1·33	29·96
1830	.95	1·21	1·78	2·28	1·96	2·54	6·57	6·69	3·63	.16	3·13	2·35	33·25
1831	.66	3·88	1·97	1·54	.69	1·41	2·44	4·03	1·55	2·15	2·95	1·26	24·53
1832	.61	1·42	1·29	1·21	1·35	2·89	1·14	3·64	.92	5·53	.95	2·28	23·23
1833	.57	2·53	1·43	1·34	.79	3·48	1·53	1·16	2·37	1·13	.71	3·84	20·88
1834	3·28	.86	1·65	.44	.51	1·45	3·20	1·18	4·50	1·23	1·22	1·52	21·04
1835	1·08	2·48	2·28	.79	2·04	1·02	1·37	1·99	5·43	2·09	2·76	1·89	25·22
1836	4·06	1·62	3·79	1·54	.56	2·50	6·53	2·45	2·81	1·66	3·05	2·46	33·03
1837	1·23	2·14	1·28	1·61	1·53	2·86	4·54	4·13	1·73	2·02	2·03	1·67	26·77
1838	2·47	1·21	2·76	1·78	2·90	5·16	2·45	2·97	4·00	1·55	3·06	.73	31·04
1839	1·76	1·45	1·47	.33	.47	3·91	3·51	1·77	3·09	2·38	1·65	1·66	23·45
1840	3·72	1·58	.43	.19	3·97	2·75	3·46	1·99	2·39	2·01	2·33	.68	25·50
1841	1·23	1·64	.60	1·14	1·14	1·56	3·87	3·64	2·63	4·53	2·28	1·96	26·22
1842	1·01	1·11	3·44	.15	1·45	.97	1·53	1·36	1·45	.98	1·63	1·79	16·87
1843	1·69	1·38	.99	1·87	2·99	2·26	3·59	1·40	.89	4·20	2·20	.34	23·80
1844	1·23	1·72	2·42	.40	.15	2·71	2·39	2·11	2·70	.82	3·92	.87	20·94
1845	1·77	.61	1·67	.40	2·24	3·08	1·72	3·48	1·77	6·14	1·70	2·04	26·62
1846	2·64	1·60	.97	2·88	1·27	3·59	4·17	5·01	3·35	3·60	1·74	.72	31·54
1847	.51	.79	.13	1·25	4·77	1·79	1·37	.91	1·25	3·48	1·64	4·88	22·77
1848	1·26	5·21	2·80	1·06	.60	6·04	1·36	2·00	1·45	4·56	2·42	1·84	30·60
1849	2·84	.97	1·05	1·64	1·66	2·45	2·58	2·31	2·02	1·74	1·50	1·45	22·21
1850	1·62	2·84	.14	.88	3·14	1·18	1·63	2·20	1·83	1·16	2·61	1·21	20·44
1851	2·89	.59	3·30	2·06	.53	2·17	3·00	4·25	1·40	1·02	.91	.66	22·78
1852	3·27	2·01	.63	.43	1·92	2·80	1·90	4·30	2·20	2·18	3·42	6·45	31·51
1853	1·78	1·58	.42	.57	1·10	6·90	2·50	3·32	1·82	3·26	.76	1·62	25·63
1854	3·02	.61	1·01	.34	2·45	3·15	1·85	1·34	.87	1·44	3·04	1·77	20·89
1855	.78	1·24	1·05	.55	1·89	2·48	3·89	2·84	.44	2·60	1·43	1·20	20·34
1856	2·45	2·27	.24	1·93	3·12	2·97	2·00	3·54	5·15	.71	1·42	2·68	28·48
1857	1·53	.45	2·04	1·85	1·69	3·92	1·34	2·26	4·65	1·20	2·35	1·64	24·92
1858	1·47	1·02	1·57	.70	1·63	2·69	3·94	2·20	2·00	4·07	1·60	1·46	24·35
1859	.24	1·44	2·96	2·77	.21	2·06	3·21	.77	1·72	3·44	2·70	2·35	25·97
1860	3·97	1·60	1·74	.56	1·80	3·58	1·21	2·45	3·16	2·85	2·88	7·65	33·45
1861	.75	1·47	2·31	1·46	.73	2·70	3·47	3·65	4·75	2·31	4·00	1·02	28·62
1862	3·83	.90	4·64	1·32	3·71	2·80	2·70	3·70	2·10	3·42	2·00	2·80	33·92
1863	3·44	1·22	.74	2·03	1·61	3·50	.65	3·47	2·65	2·19	1·91	2·22	25·63
1864	1·25	2·14	3·10	1·16	2·13	1·20	2·15	.80	3·40	6·90	1·79	2·07	28·09
1865	2·29	1·70	.99	.30	3·65	.41	3·20	3·41	.55	3·96	1·60	1·59	23·65
1866	2·49	3·50	1·85	1·37	1·50	1·27	3·34	2·73	2·95	1·23	2·71	2·29	27·23
1867	5·62	1·68	1·17	2·71	3·71	2·80	5·68	2·64	1·53	1·50	.74	1·26	31·04
1868	3·61	2·08	1·95	3·28	1·81	.48	.34	4·30	3·27	2·13	1·45	3·87	28·57
1869	2·84	2·67	.79	1·01	2·64	1·74	.73	.76	4·33	1·48	1·42	1·82	22·23
1870	1·68	5·70	1·11	.43	1·31	2·25	1·65	1·29	1·84	1·76	.69	2·40	22·11
1871	1·25	2·41	1·07	4·55	.83	1·90	2·80	2·56	2·55	2·45	2·87	1·63	26·87
1872	3·63	2·02	3·30	1·70	3·46	3·13	3·58	3·28	5·80	3·38	3·60	2·08	38·96
1873	2·32	1·38	1·60	.21	2·70	1·21	2·80	4·53	4·46	3·07	2·47	1·44	28·19
1874	1·74	.70	1·73	.90	1·50	1·60	3·34	4·87	1·75	2·42	3·11	2·10	25·76
1875	2·74	1·17	.90	.67	.75	2·00	3·26	1·13	2·67	2·34	4·92	1·80	24·35
1876	.80	3·42	3·08	3·41	1·01	2·60	1·22	3·40	4·02	2·32	3·64	6·73	35·65
1877	5·17	1·85	1·67	2·98	2·21	1·89	4·57	8·33	1·25	2·50	2·01	1·37	35·80
1878	2·56	.50	.58	1·43	2·71	2·41	.76	4·02	2·80	1·79	2·92	2·22	24·90
1879	1·29	1·78	2·30	2·22	1·74	5·16	5·78	2·44	1·65	.92	1·85	1·39	28·52
1880	.47	1·50	1·54	3·17	.76	1·55	3·40	.40	2·77	3·20	3·35	2·75	24·86

TABLE XXIX.—*continued.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.
1881	1·00	2·80	1·50	1·07	1·65	1·75	3·20	5·65	3·45	1·95	2·40	1·80	28·22
1882	1·20	1·50	2·28	2·50	2·65	2·78	3·73	1·44	1·77	2·65	2·83	4·90	30·23
1883	2·24	1·02	1·07	1·42	.72	1·80	4·25	3·20	2·25	2·03	1·33	1·00	22·33
1884	3·78	1·07	1·60	.80	2·70	.57	4·41	2·30	2·23	1·10	1·30	2·80	24·66
1885	1·13	1·74	1·48	1·87	2·13	.40	.88	2·45	2·40	1·30	1·40	.40	17·58
1886	3·00	1·20	1·70	1·20	4·11	1·48	2·87	.74	2·42	3·58	1·55	2·20	26·05
1887	.60	.93	1·50	1·00	1·70	.29	2·10	1·69	4·21	1·33	3·35	1·10	19·80
1888	1·62	1·35	3·17	1·30	.78	2·53	5·65	1·80	.51	1·10	4·20	.85	24·86
1889	.60	.80	.60	2·50	1·80	1·25	3·66	5·05	.80	3·40	.65	1·20	22·31
1890	3·20	.90	1·28	.70	1·56	2·80	2·27	3·40	2·17	2·49	4·56	1·44	26·77
1891	.49	.13	2·70	.26	1·50	.48	2·67	4·40	4·01	1·73	1·37	4·49	24·23
1892	.90	1·83	1·05	.98	2·69	2·75	1·00	4·52	1·01	3·36	1·34	.98	22·41
1893	.54	2·31	.31	1·52	1·31	1·95	2·50	2·90	1·36	2·80	1·33	2·10	20·93
1894	2·02	6·38	1·23	1·55	2·80	2·65	2·08	3·50	.30	3·00	1·10	1·64	28·25
1895	1·60	.20	2·72	.97	1·00	2·67	4·58	4·37	.82	3·18	2·48	2·13	26·72
1896	.60	.81	1·34	.88	.44	3·24	4·18	1·76	3·75	3·50	.50	2·25	23·35
Max.	5·62	6·38	4·84	4·55	4·77	6·90	6·57	8·33	10·69	6·90	6·78	8·42	38·96
Year.	1867	1894	1827	1871	1847	1853	1830	1877	1785	1864	1770	1787	1872
Min.	.14	.13	.13	.15	.15	.20	.15	.40	.22	.16	.38	.34	15·27
Year.	1787	1891	1781	1842	1844	1801, 1806	1825	1880	1810	1830	1805	1843	1826

Decennial Means.

1770–76													
1780	2·234	1·636	1·185	1·549	2·062	1·939	2·924	2·152	3·335	2·824	3·266	2·487	27·593
1785–90													
1791–00	2·005	1·681	1·404	1·892	1·995	2·127	2·425	2·958	2·308	3·013	2·452	2·334	26·594
1801–10	1·593	1·537	1·133	1·437	1·641	1·477	2·905	3·052	2·124	1·876	2·093	1·973	22·841
1811–20	1·660	1·760	1·423	1·432	2·510	2·481	2·671	2·282	1·546	2·446	2·362	2·431	25·004
1821–30	1·716	1·643	1·791	1·898	1·699	1·433	3·222	3·473	1·901	2·364	2·703	2·481	26·324
1831–40	1·944	1·917	1·835	1·077	1·481	2·743	3·017	2·531	2·879	2·175	2·070	1·799	25·468
1841–50	1·580	1·787	1·421	1·167	1·941	2·563	2·421	2·442	1·934	3·121	2·164	1·660	24·201
1851–60	2·345	1·281	1·496	1·176	1·634	3·272	2·484	2·727	2·341	2·277	2·051	2·748	25·832
1861–70	2·780	2·306	1·865	1·507	2·280	1·915	2·391	2·675	2·737	2·688	1·831	2·134	27·109
1871–80	2·197	1·673	1·777	2·124	1·787	2·345	3·151	3·496	2·972	2·439	3·074	2·351	29·386
1881–90	1·837	1·331	1·618	1·436	1·980	1·565	3·302	2·772	2·221	2·093	2·357	1·769	24·281
1891–96	1·025	1·943	1·558	1·027	1·623	2·290	2·835	3·575	1·875	2·928	1·353	2·286	24·313
Means.	1·950	1·698	1·530	1·494	1·901	2·168	2·815	2·797	2·396	2·517	2·378	2·211	25·855
Mean)													
Daily Fall.)	.063	.061	.049	.050	.061	.072	.091	.090	.080	.081	.079	.071	.071

TABLE XXX.

Absolute Droughts of more than 14 Days.

Year.	Commenced.	Terminated.	Days.	Year.	Commenced.	Terminated.	Days.
1772, . . .	June 20	July 5	15	1829, . . .	February 27	March 17	19
1780, . . .	July 28	August 20	24	"	May 15	June 3	20
1786, . . .	April 14	April 28	15	"	December 30	January 13	15
"	May 24	June 25	33	1830, . . .	September 26	October 20	26
"	October 13	October 29	17	1857, . . .	June 13	June 28	16
1787, . . .	January 5	January 26	24	"	February 6	February 25	20
1795, . . .	July 1	July 20	20	1858, . . .	March 6	March 23	18
1796, . . .	August 10	August 25	16	1861, . . .	April 8	April 26	19
1797, . . .	February 14	March 4	19	"	December 17	January 2, 1362	17
1798, . . .	December 28	January 12, 1799	16	1864, . . .	July 5	July 21	17
1799, . . .	June 6	June 22	17	"	September 27	October 16	20
"	December 6	January 1, 1800	27	1865,	February 9	February 23	15
1800, . . .	March 13	March 30	18	"	March 14	March 28	15
"	July 8	August 1	25	"	June 22	July 6	15
1801, . . .	April 17	May 11	25	1867, . . .	June 15	July 2	18
"	June 8	June 25	18	"	October 29	November 13	16
1803, . . .	March 7	March 22	16	1869, . . .	June 24	July 22	29
1804, . . .	February 12	February 29	18	"	August 16	September 4	20
1805, . . .	May 21	June 4	15	1870, . . .	July 21	August 4	15
1806, . . .	October 4	October 20	17	1871, . . .	March 17	March 31	15
1809, . . .	March 2	March 23	22	1872, . . .	April 2	April 21	20
1810, . . .	September 24	October 9	16	1873, . . .	February 7	February 25	19
1811, . . .	November 18	December 3	16	1875, . . .	April 9	April 26	18
1813, . . .	September 17	October 3	17	1876, . . .	August 11	August 27	17
1814, . . .	January 17	February 1	16	1884, . . .	May 21	June 4	15
1817, . . .	March 31	April 20	21	"	December 21	January 4	15
1824, . . .	January 2	January 20	19	1837, . . .	June 15	July 2	18
1825, . . .	February 10	February 25	16	1889, . . .	June 15	July 2	18
"	March 13	April 11	30	"	November 6	November 21	16
"	July 16	July 31	16	1894, . . .	March 15	March 30	16
1826, . . .	June 12	June 26	15	"	September 6	September 20	15
"	July 22	August 9	19	1895, . . .	February 7	February 22	16
1828, . . .	February 28	March 14	16				

TABLE XXXI.

*Falls of 1 Inch or more of rain in 24 Hours.**Years 1770-1776, 1780-June 1781, 1785-1817, 1824-1831, 1854-96.*

Year.	Date.	Amount.									
		ins.			ins.			ins.			ins.
1770	Nov. 7	2'30	1797	Oct. 20	1'30	1813	May 16	1'02	1874	Jnne 26	1'54
"	" 9	1'06		Dec. 18	1'03	1814	April 24	1'30	"	July 24	1'72
"	" 14	1'20	1798	Jan. 26	1'03	"	July 29	1'50	"	Aug. 14	1'53
1771	Oct. 7	1'49	"	June 20	1'40	"	Nov. 18	1'10	"	Nov. 30	1'32
"	" 26	1'13	1799	May 10	1'05	1815	May 11	1'12	1875	Nov. 7	1'28
"	Nov. 17	1'80	"	June 4	1'00	1816	July 8	1'30	1876	Aug. 31	1'52
1772	Jan. 12	1'07	"	Aug. 17	1'75	1827	April 24	1'30	"	Dec. 31	1'34
"	May 26	1'00	"	Sept. 13	1'70	"	Aug. 16	1'26	1877	Jan. 1	1'00
"	Nov. 1	1'80	"	" 17	2'16	"	Oct. 11	1'66	"	" 30	1'05
1774	May 24	1'40	1800	May 17	1'15	1828	July 12	2'00	"	April 9	1'29
"	Aug. 17	1'20	1801	May 23	1'01	"	Nov. 30	1'60	"	July 17	1'35
"	Dec. 4	1'01	1802	Feb. 19	1'07	1829	April 10	1'18	"	Aug. 18	1'54
1775	July 30	1'13	1803	Aug. 9	1'15	"	July 5	1'09	"	" 20	1'88
"	Sept. 10	1'01	"	" 28	1'12	"	Aug. 3	1'80	"	" 21	1'94
"	Oct. 5	2'50	1804	Oct. 22	1'62	"	" 22	1'29	1878	" 28	1'13
1785	July 31	1'07	"	Nov. 13	1'00	"	" 26	1'00	1879	Mar. 17	1'28
"	Sept. 6	1'36	1806	May 2	1'15	"	Oct. 14	1'05	"	June 21	1'31
"	" 17	3'70	"	Nov. 9	2'25	1830	July 30	1'80	"	July 13	2'95
"	" 24	3'80	1807	Sept. 6	3'51	"	Aug. 15	1'51	1880	April 31	1'56
"	Oct. 13	1'57	1808	April 5	1'71	"	" 27	1'02	"	July 7	1'12
"	Nov. 5	1'46	"	May 6	1'05	"	Sept. 21	1'27	1881	Jan. 29	1'24
1787	May 12	1'44	"	June 8	1'00	1831	Aug. 30	1'07	"	Feb. 13	1'44
"	July 26	1'58	"	July 24	1'55	1854	June 18	1'25	"	Aug. 23	1'80
"	Dec. 9	4'20	"	" 28	1'55	1856	Sept. 8	1'06	"	" 25	1'21
"	" 19	1'05	"	Aug. 4	1'14	1857	June 7	1'25	1882	May 7	1'20
1788	Sept. 21	1'13	"	" 5	1'15	"	Sept. 13	1'40	1884	Aug. 13	1'70
1789	Aug. 29	1'13	"	Oct. 14	1'50	1858	June 17	1'43	"	Sept. 6	1'46
1790	Nov. 24	1'35	1809	Jan. 10	1'59	"	Aug. 30	1'43	1889	Aug. 19	1'41
1791	June 17	1'13	"	Feb. 3	1'80	1859	Nov. 5	1'12	1890	" 12	1'94
"	Aug. 16	1'17	"	June 1	1'00	1861	Sept. 23	2'40	"	Sept. 30	1'19
"	Oct. 22	1'07	"	July 5	1'15	1864	Oct. 20	2'48	1891	Mar. 16	1'55
1792	July 13	1'18	"	Aug. 12	1'14	1864	Oct. 23	1'50	"	Sept. 20	1'94
1794	Sept. 2	1'00	"	Sept. 8	1'20	1865	May 30	1'29	1893	June 22	1'00
"	Oct. 6	1'15	"	" 17	1'40	"	Oct. 18	1'35	1894	Feb. 11	1'03
"	" 10	1'07	1810	Jan. 15	1'25	1866	Sept. 29	1'40	"	" 16	1'47
1795	May 14	1'50	"	Feb. 14	1'10	1867	July 22	1'30	"	Aug. 2	1'24
"	" 15	1'40	"	Mar. 9	1'01	1869	Sept. 12	1'70	1895	July 26	1'63
"	July 23	1'45	"	" 10	1'10	1871	Aug. 21	1'22	"	July 8	1'23
"	Nov. 17	2'63	"	June 19	1'00	1872	May 15	1'01			FROM ADIE.
1797	July 30	2'00	"	Aug. 8	1'10	"	July 27	1'18	1795	Nov. 18	2'89
"	Aug. 18	2'30	"	" 15	1'30	"	Oct. 22	1'07	1797	July 30	2'63
"	Oct. 18	1'66	1812	Mar. 21	1'21	1873	Oct. 1	1'15	"	Aug. 18	2'56

TABLE XXXIII.

Direction of the Wind. Mean Monthly Percentages, 1764-1896.

	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm or Var.		N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm or Var.
Jan.	4·1	4·7	13·1	6·2	5·9	18·5	37·1	7·2	3·2	Aug.	2·6	5·5	17·7	3·8	3·8	14·7	40·8	6·5	4·6
Feb.	4·6	4·8	13·2	6·0	5·0	19·4	36·2	7·8	3·0	Sept.	3·8	5·7	17·3	5·2	5·4	15·2	36·7	6·0	4·7
Mar.	6·4	7·2	17·6	6·0	4·5	14·6	32·0	8·8	2·9	Oct.	3·8	4·5	14·0	7·0	6·2	15·8	38·4	7·1	3·2
April	5·3	10·5	24·6	5·6	3·8	11·1	27·8	8·3	3·0	Nov.	5·2	4·3	13·2	6·0	5·3	16·6	37·6	7·8	4·0
May	3·8	11·0	29·5	5·4	3·6	10·4	27·2	5·9	3·2	Dec.	5·0	4·1	12·8	6·2	5·6	20·0	35·8	6·9	3·5
June	3·7	9·1	24·1	3·9	3·7	12·3	33·2	6·4	3·6	Mean.	4·3	6·5	18·1	5·4	4·7	15·1	35·3	7·1	3·5
July	3·2	6·8	19·6	3·7	4·4	13·9	38·6	6·2	3·6										

TABLE XXXIV.

Percentage Frequency of Wind Direction Decennial Means. East Wind includes N., N.E., E., S.E.; West Wind, S., S.W., W., N.W. Calms and Variables have been excluded.

Year.	January.		February.		March.		April.		May.		June.	
	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.
1764-69, . . .	33·9	66·1	35·9	64·1	42·5	57·5	51·7	48·3	49·5	50·5	46·5	53·5
1770-79, . . .	34·8	65·2	23·2	76·8	40·7	59·3	31·0	69·0	50·0	50·0	43·2	56·8
1780-89, . . .	36·6	63·4	43·0	57·0	51·6	48·4	44·7	55·3	39·6	60·4	45·3	54·7
1790-99, . . .	25·8	74·2	28·7	71·3	40·6	59·4	53·3	46·7	40·7	59·3	38·7	61·3
1800-09, . . .	36·8	63·2	28·7	71·3	44·7	55·3	41·0	59·0	46·8	53·2	34·4	65·6
1810-19, . . .	22·9	77·1	19·9	80·1	33·6	66·4	53·7	46·3	59·4	40·6	45·5	54·5
1820-29, . . .	34·6	65·4	29·6	70·4	32·2	67·8	40·5	59·5	51·9	38·1	40·9	59·1
1830-39, . . .	29·6	70·4	23·6	76·4	32·9	67·1	48·4	51·6	59·6	40·4	40·4	59·6
1840-49, . . .	25·3	74·7	31·9	68·1	34·9	65·1	51·6	48·4	49·2	40·8	44·7	55·3
1850-59, . . .	28·8	71·2	29·3	70·7	34·8	65·2	48·5	51·5	53·9	46·1	36·0	64·0
1860-69, . . .	25·8	74·2	25·0	75·0	39·8	60·2	44·4	55·6	49·3	50·7	39·3	60·7
1870-79, . . .	25·4	74·6	37·8	62·2	40·1	59·9	54·4	45·6	51·5	48·5	46·3	53·7
1880-89, . . .	21·4	78·6	26·8	73·2	35·8	64·2	54·8	45·2	45·7	54·3	48·4	51·6
1890-96, . . .	26·8	73·2	33·7	66·3	30·2	69·8	51·0	49·0	53·9	46·1	48·0	52·0
Means.												
1764-1896, . . .	29·1	70·9	29·5	70·5	38·8	61·7	47·5	52·5	51·4	48·6	42·3	57·7

Year.	July.		August.		September.		October.		November.		December.		Year.	
	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.
1764-69, . . .	43·5	56·5	36·2	63·8	27·8	72·2	25·3	74·7	26·1	73·9	41·5	58·5	38·2	61·8
1770-79, . . .	31·9	68·1	26·3	73·7	36·4	63·6	24·9	75·1	30·3	69·7	24·7	75·3	33·2	66·8
1780-89, . . .	24·0	76·0	34·7	65·3	32·0	68·0	23·0	72·0	33·6	61·4	51·3	48·7	39·1	60·9
1790-99, . . .	26·1	73·9	25·5	74·5	32·7	67·3	26·0	74·0	39·0	61·0	33·9	66·1	34·7	65·3
1800-09, . . .	41·8	58·2	28·1	71·9	22·9	67·1	32·9	67·1	32·5	67·5	34·3	65·7	36·2	63·8
1810-19, . . .	38·1	61·9	37·9	62·1	38·1	61·9	44·2	55·8	31·1	68·9	32·6	67·4	38·2	61·8
1820-29, . . .	46·2	53·8	31·5	68·5	31·9	68·1	31·1	68·9	21·6	78·4	25·2	74·8	35·7	64·3
1830-39, . . .	36·9	63·1	35·1	64·9	36·3	63·7	19·4	80·6	28·5	71·5	24·9	75·1	34·7	65·3
1840-49, . . .	30·9	69·1	27·8	72·2	42·7	57·3	35·4	64·6	26·1	73·9	27·6	72·4	36·5	63·5
1850-59, . . .	34·1	65·9	23·8	76·2	30·9	69·1	25·3	74·7	24·9	75·1	16·4	83·6	32·1	67·9
1860-69, . . .	39·6	60·4	28·1	71·9	24·6	75·4	28·8	71·2	29·8	70·2	25·2	74·8	33·3	66·7
1870-79, . . .	31·3	68·7	40·8	59·2	37·2	62·8	30·1	69·9	35·3	64·7	26·3	73·7	38·0	62·0
1880-89, . . .	27·6	72·4	30·6	69·4	33·3	66·7	34·3	65·7	23·2	76·8	16·8	83·2	33·2	66·8
1890-96, . . .	38·4	61·6	29·1	70·9	30·5	69·5	29·4	70·6	28·4	71·6	30·7	69·3	36·0	64·0
Means.														
1764-1896, . . .	34·6	65·4	31·0	69·0	33·5	66·5	30·3	69·7	29·9	70·1	28·4	71·6	35·6	64·4

TABLE XXXV.

Showing the Mean Annual Percentage Frequency of East (N., N.E., E., S.E.) and West Winds (S., S.W., W., N.W.) from 1764 to 1896.

Year.	Direction.		Year.	Direction.		Year.	Direction.	
	E.	W.		E.	W.		E.	W.
1764	37·4	62·6	1811	35·6	64·4	1858	30·7	69·3
1765	37·8	62·2	1812	45·5	54·5	1859	26·8	73·2
1766	36·3	63·7	1813	38·2	61·8	1860	35·8	64·2
1767	35·9	64·1	1814	38·6	61·4			
1768	47·5	52·5	1815	33·2	66·8			
1769	34·2	65·8	1816	46·0	54·0	1861	27·8	72·2
1770	34·2	65·8	1817	34·2	65·8	1862	27·7	72·3
			1818	40·8	59·2	1863	24·3	75·7
1771	33·2	66·8	1819	32·3	67·7	1864	39·3	60·7
1772	42·0	58·0	1820	37·1	62·9	1865	42·7	57·3
1773	31·3	68·7				1866	37·0	63·0
1774	35·4	64·6	1821	36·2	43·8	1867	34·8	65·2
1775	30·1	69·9	1822	32·8	67·2	1868	30·6	69·4
1776	34·4	65·6	1823	33·5	66·5	1869	31·5	68·5
1777	31·7	68·3	1824	31·8	68·2	1870	37·0	63·0
1778	31·4	68·6	1825	32·6	67·4			
1779	27·5	72·5	1826	28·1	71·9			
1780	35·0	65·0	1827	34·6	65·4	1871	40·3	59·7
			1828	43·2	56·8	1872	38·6	61·4
1781	40·6	59·4	1829	47·3	72·7	1873	33·2	66·8
1782	42·5	57·5	1830	35·5	64·5	1874	30·0	70·0
1783	34·3	65·7				1875	42·4	57·6
1784	39·1	60·9	1831	34·1	65·9	1876	45·7	54·3
1785	38·1	61·9	1832	31·3	68·7	1877	33·3	66·7
1786	42·5	57·5	1833	31·2	68·8	1878	37·8	62·2
1787	38·6	61·4	1834	28·5	71·5	1879	41·7	58·3
1788	38·3	61·7	1835	34·8	65·2	1880	38·4	61·6
1789	41·9	58·1	1836	33·3	66·7			
1790	38·7	66·3	1837	38·0	62·0			
			1838	42·1	57·9	1881	36·0	64·0
1791	37·5	62·5	1839	38·4	61·6	1882	27·2	72·8
1792	43·8	56·2	1840	35·1	64·9	1883	30·6	69·4
1793	33·4	66·6				1884	26·7	73·3
1794	31·0	69·0	1841	36·0	64·0	1885	33·9	66·1
1795	45·5	54·5	1842	36·7	63·3	1886	38·7	61·3
1796	27·3	72·7	1843	34·8	65·2	1887	22·2	77·8
1797	28·5	71·5	1844	39·6	60·4	1888	39·1	60·9
1798	23·8	76·2	1845	36·0	64·0	1889	38·4	61·6
1799	42·2	57·8	1846	36·4	63·6	1890	33·6	66·4
1800	37·8	62·2	1847	39·5	60·5			
			1848	33·2	66·8			
1801	32·9	67·1	1849	37·3	62·7	1891	35·2	64·8
1802	26·5	73·5	1850	29·6	70·4	1892	34·6	65·4
1803	28·0	72·0				1893	33·7	66·3
1804	43·0	57·0	1851	23·3	76·7	1894	36·6	63·4
1805	36·9	63·1	1852	40·4	59·6	1895	42·9	57·1
1806	35·7	64·3	1853	38·6	61·4	1896	35·0	65·0
1807	32·6	67·4	1854	20·9	79·1			
1808	41·8	58·2	1855	36·8	63·2			
1809	48·2	51·8	1856	38·6	61·4	Means.		
1810	37·3	62·7	1857	35·7	64·3	1764-1896.	35·6	64·4

TABLE XXXVI.

Days with Thunderstorms.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1770,	2	1	3
1771,	..	1	1	1	2	2	3
1772,	1	2	1	7
1773,	1	..	1	1
1774,	1	..	1	3
1775,	1	3	1	5
1776,	2	3	1	6
1777,	1	3
1778,	1	3	5
1779,	1	1	2	8
1780,	1	..	1
1781,	1	2	..	3	6
1782,	2	1	3
1783,	4	3	8
1784,	1	..	1
1785,	3	4
1786,	1	2
1787,	3	1	6
1788,	1	1	4
1789,	2	1	10
1790,	1	2	5
1791,	1	2
1792,	2	1	4
1793,	1	2	3
1794,	1	3
1795,	3	3
1796,	1	1
1797,	2	5
1798,	1	4	10
1799,	1	2	4
1800,	1	1	4
1801,	1	1
1802,	1	3
1803,	1	3
1804,	2	4
1805,	2	4
1806,	3	5
1807,	2	5
1808,	1	4	11
1809,	2	2	9
1810,	1	4
1811,	2	1	5
1812,	1	..	3	4
1813,	1	6
1814,	2	2
1815,	1	5
1816,	2	7
1817,	1	10
1818,	..	1	2	7
1819,	2	3
1820,	5	1	8

TABLE XXXVI.—*continued.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1821,	2	...	2	2	6
1822,	.	.	1	2	2	3	5	13
1823,	1	2	1	2	1	4
1824,	3	1	2	3	4
1825,	1	.	.	1	1	1	2	1	3	...	1	10	10
1826,	.	.	.	1	1	1	2	1	6
1827,	2	.	.	.	1	...	4	1	...	8
1828,	1	5	4	5	2	11
1829,	2	2	1	1	1	...	9
1830,	.	.	.	1	...	2	1	1	1	...	6
1831,	1	1	2	8	12
1832,	2	2	1	1	...	1	...	1	6
1833,	2	1	2	8
1834,	4	1	3	1
1835,	1	2	8
1836,	2	1	2	3	1	6
1837,	.	.	1	.	3	...	5	3	...	1	13
1838,	1	3	2	3	4
1839,	1	1	1	3	6
1840,	1	1	1	1	3
1841,	1	.	1	.	3	1	1	5
1842,	.	.	1	.	.	2	1	1	1	6
1843,	2	1	2	5
1844,	1	1	2	2
1845,	1	6	2	3	5
1846,	1	1	2	5
1847,	3	2	2	1	12
1848,	1	1	2	2	5
1849,	2	4	5	3
1850,	1	...	1	1	1	...	11
1851,	.	.	.	1	7	3	1	2
1852,	1	.	.	1	1	6	3	14
1853,	2	.	1	.	1	1	2	3	1	7
1854,	1	.	1	.	1	1	1	1	1	9
1855,	1	1	1	1	6
1856,	4	2	2	1	4
1857,	2	3	1	1	7
1858,	3	1	2	1	6
1859,	2	3	1	1	2
1860,	3	1	1	1	...	2	...	8
1861,	1	...	5	1	...	6
1862,	.	1	.	.	.	1	1	3	1	...	2	...	4
1863,	.	1	.	.	.	1	1	3	1	...	1	...	5
1864,	3	2	2	2	4
1865,	2	2	2	2	2
1866,	1	1	2	2	4
1867,	3	2	2	2	2
1868,	.	.	1	.	1	2	2	2	1	3	...	1	10
1869,	1	1	1	1	1	2	1	...	12
1870,	1	...	1	1	1	1	1	...	4
1871,	1	1	4	3	4	1	3
1872,	.	.	.	1	1	1	4	2	3	4	9
1873,	.	.	.	1	.	1	1	1	2	1	2	...	20
1874,	.	.	.	1	.	1	3	1	4	1	2	...	11
1875,	2	1	3	5	4	1	...	14
1876,	1	2	2	2	1	1	...	6
1877,	2	3	3	3	4	1	...	7
1878,	1	1	4	3	3	1	...	10
1879,	1	...	5	5	1	1	1	...	8
1880,	.	.	.	1	5	1	1	1	...	9

TABLE XXXVI.—*continued.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1881,	1	1	2	...	2	1	1	...	8
1882,	3	...	2	3	7	2	...	1	15
1883,	2	1	1	2	2	2	2	13
1884,	3	...	6	3	2	15
1885,	1	2	1	1	1	...	4
1886, .	2	1	2	1	1	3	11
1887,	3	2	2	7
1888,	1	2	2	5
1889,	1	3	2	3	9
1890,	1	2	...	1	1	1	1	7
1891,	3	2	5
1892, .	1	1	1	...	1	...	1	5
1893,	2	1	1	1	2	8	2	13
1894, .	1	2	1	1	1	2	5	2	15
1895,	4	3	3	5	1	16
1896,	1	...	2	...	1	4
Totals, .	15	10	11	31	103	170	233	154	59	18	7	7	818
1770-1896, .													
Means,	0·12	0·08	0·09	0·24	0·81	1·34	1·83	1·21	0·46	0·14	0·05	0·05	6·44

Decennial Means in Days.

1771-80, .	0·1	0·1	0·3	1·2	1·1	0·7	0·5	0·1	0·1	...	4·2
1781-90,	0·2	0·5	0·7	2·0	0·9	0·6	...	0·1	...	4·9
1791-1800,	0·3	0·5	1·0	1·1	0·6	0·4	...	0·1	...	4·0
1801-10,	0·2	0·7	0·3	1·7	1·8	0·2	4·9
1811-20, .	0·1	0·2	1·3	1·2	1·6	1·1	0·2	5·7
1821-30, .	0·3	...	0·1	0·5	0·8	1·6	2·4	1·1	0·6	0·1	0·2	...	7·7
1831-40,	0·1	...	0·4	0·7	1·4	1·9	1·5	0·4	0·2	0·1	...	6·7
1841-50, .	0·1	...	0·2	...	0·7	1·8	1·3	1·2	0·3	0·1	5·7
1851-60, .	0·4	0·1	...	0·3	1·1	2·1	1·2	0·8	0·2	0·2	0·1	...	6·5
1861-70, .	0·1	0·2	...	0·3	0·7	1·0	1·4	0·7	0·7	0·2	0·1	...	5·4
1871-80,	0·2	0·2	1·0	2·4	3·1	2·2	0·8	0·4	0·1	0·2	10·6
1881-90, .	0·2	...	0·5	0·5	1·2	1·3	2·6	1·5	0·8	0·6	0·1	0·1	9·4

TABLE XXXVII.

Diurnal Distribution of Thunderstorms.

	NUMBER IN HOUR ENDING.																							
	A.M.												P.M.							Mid-night.				
	1	2	3	4	5	6	7	8	9	10	11	Noon.	1	2	3	4	5	6	7	8	9	10	11	
January,	1	1	...	2	...	1	2	1	...	1	...	1	...	1	...	1	
February,	1	1	3	3	1	1	1	1	1	1	
March,	1	1	...	2	4	3	2	1	...	2		
April,	1	5	...	1	8	7	2	1	...	3	4	3	...		
May,	1	1	...	2	5	6	6	9	7	2	4	3	3	1		
June, . . .	1	1	1	1	1	...	2	5	6	6	9	7	2	4	3	3	1	...	1		
July, . . .	2	...	2	2	1	1	1	1	...	3	2	8	3	14	11	11	4	5	5	2	1	3		
August,	1	...	2	1	1	5	7	6	6	6	8	3	2	1	3	1		
September, . . .	1	2	...	1	...	1	5	3	1	1	1		
October,	1	...	1	1	1	1	1	1	1	1		
November,	1	1	1	...	1	...	1	...	1		
December,	1	1	1	...	1	...	1	...	1		
Year, . . .	4	1	3	3	1	3	3	2	6	8	11	31	18	48	41	29	21	14	15	12	10	5	1	5

Lightning without Thunder.

January,	1	1	2	...	1	1
February,	1	1	2	...	2	2
March,	1	1	1	...	1	3
April,	1	1	1	...	1	3
May,	1	1	1	...	1	3
June,	1	1	1	...	1	2	4	...
July,	1	1	1	...	1	2	4	...
August,	1	1	1	...	1	1	2	...
September,	1	1	2	1	1	1	2	...
October,	1	1	1	...	1	1	2	...
November,	1	1	1	...	1	1	2	...
December,	1	1	1	...	1	2	1	...
Year,	1	1	1	2	1	1	1	1	6	4	7	8	13	2

TABLE XXXVIII.—*continued.*

	Jan.	Feb.	Mar.	Apr.	May.	Oct.	Nov.	Dec.	Year.	Winter.	Jan.	Feb.	Mar.	Apr.	May.	Oct.	Nov.	Dec.	Year.	Winter.	
1870	2	12	5	4	9	32	27	1885	1	3	4	...	2	4	14	37	37	
1871	4	3	3	4	2	17	12	1886	13	11	5	2	4	37	18	
1872	1	7	1	2	11	11	1887	7	.	5	2	4	19	27	
1873	2	4	3	...	1	2	12	9	1888	2	6	10	4	1	25	12	
1874	3	2	1	2	13	21	1889	...	6	3	1	1	13	14	
1875	5	4	2	...	4	...	4	5	20	37											
1876	5	9	9	4	1	...	3	5	36	18	1890	...	4	3	3	...	1	2	5	18	20
1877	4	2	3	1	...	1	...	3	13	14	1891	...	9	2	1	...	5	17	34		
1878	3	1	6	1	...	1	...	7	19	34	1892	6	8	10	5	...	1	1	2	33	16
1879	5	8	9	3	1	...	2	3	31	8	1893	5	5	1	1	...	2	3	17	19	
											1894	8	3	1	...	2	...	1	15	28	
											1895	11	7	3	...	4	...	5	30	16	
											1896	1	1	5	...	1	...	2	10	...	
1880	3	2	3	4	12	31		Totals.	623	570	611	207	57	33	173	390	2664	...
1881	7	7	8	1	2	25	7												
1882	...	1	3	...	2	...	2	8	14	32	1770-1896										
1883	3	3	14	...	1	...	5	...	27	15											
1884	5	1	3	...	1	...	1	2	13	13	Means.	4·9	4·5	4·8	1·6	·4	·3	1·4	3·1	21·0	...

Decennial Means.

1770-79	6·4	4·7	5·7	2·0	·5	...	2·0	2·2	21·5		1830-39	4·9	5·1	5·4	2·3	·7	·4	1·0	1·5	21·3
1780-89	5·6	5·0	5·8	1·4	·7	·5	·8	4·1	23·9		1840-49	4·9	4·3	2·8	·9	·1	·3	·9	2·2	16·4
1790-99	4·5	4·5	3·6	·7	·1	...	1·1	3·1	17·6		1850-59	3·4	4·1	3·1	1·0	·6	·1	·6	1·8	14·7
1800-09	5·6	5·2	5·2	3·5	·9	·1	1·8	4·1	26·4		1860-69	3·4	5·2	5·2	·3	·3	...	1·5	2·3	18·2
1810-19	7·0	4·7	7·3	2·8	·4	·5	2·1	5·0	29·8		1870-79	3·5	3·1	4·4	1·5	·2	·4	1·6	4·5	19·2
1820-29	5·7	4·3	4·5	2·1	·2	·2	2·3	2·5	21·8		1880-89	3·8	4·2	6·1	1·0	·5	·2	1·3	3·4	20·5

TABLE XXXIX.

Showing Date of First and Last Snow by Winters.

Year, Winter of.	Earliest Snow.	Latest Snow.	Year, Winter of.	Earliest Snow.	Latest Snow.
1770-71, . .	December 11	April 16	1834-35, . .	January 11, 1835	April 16
1771-72, . .	November 6	" 19	1835-36, . .	December 6	2
1772-73, . .	January 9, 1773	May 5	1836-37, . .	October 27	May 10
1773-74, . .	November 22	March 5	1837-38, . .	December 6	17
1774-75, . .	" 24	" 29	1838-39, . .	October 12	" 14
1775-76, . .	" 12	April 13	1839-40, . .	November 28	March 24
1776-77, . .	" 17	" 25	1840-41, . .	December 15	February 10
1777-78, . .	" 27	March 24	1841-42, . .	November 13	March 26
1778-79, . .	December 30	May 3	1842-43, . .	October 26	April 12
1779-80, . .	November 17	April 7	1843-44, . .	" 17	March 24
1780-81, . .	" 6	May 8	1844-45, . .	December 9	" 17
1781-82, . .	October 30	" 5	1845-46, . .	" 3	21
1782-83, . .	" 20	6	1846-47, . .	November 28	April 1
1783-84, . .	November 13	April 29	1847-48, . .	December 29	February 24
1784-85, . .	October 30	May 17	1848-49, . .	November 8	April 18
1785-86, . .	December 1	April 30	1849-50, . .	" 6	May 4
1786-87, . .	" 17	March 5	1850-51, . .	January 31, 1851	3
1787-88, . .	" 7	April 4	1851-52, . .	November 19	February 3
1788-89,	November 26	" 2	1852-53, . .	October 8	May 10
1789-90,	January 1, 1790	" 13	1853-54, . .	December 13	January 17
1790-91,	November 30	March 13	1854-55, . .	November 24	May 10
1791-92,	December 3	" 31	1855-56, . .	December 5	February 19
1792-93,	November 20	April 18	1856-57, . .	" 29	March 24
1793-94,	January 23, 1794	January 30	1857-58, . .	January 31, 1853	April 3
1794-95,	November 30	May 8	1858-59, . .	November 19	" 21
1795-96,	" 18	March 25	1859-60, . .	December 13	" 9
1796-97,	" 4	" 7	1860-61, . .	November 18	May 8
1797-98,	November 19	" 30	1861-62, . .	" 15	April 14
1798-99,	December 25	April 8	1862-63, . .	" 9	8
1799-00,	" 18	March 12	1863-64, . .	December 3	March 26
1800-01,	November 4	April 12	1864-65, . .	" 16	8
1801-02,	" 21	May 19	1865-66, . .	" 30	May 2
1802-03,	" 12	" 2	1866-67, . .	" 6	March 22
1803-04,	" 14	April 24	1867-68, . .	" 2	April 9
1804-05,	" 27	May 1	1868-69, . .	November 6	March 27
1805-06,	December 1	April 16	1869-70, . .	" 28	26
1806-07,	November 29	" 16	1870-71, . .	" 10	April 20
1807-08,	" 13	" 22	1871-72, . .	" 16	21
1808-09,	October 14	May 30	1872-73, . .	December 18	March 12
1809-10,	December 10	" 6	1873-74, . .	October 22	April 4
1810-11,	November 6	April 9	1874-75, . .	November 11	March 13
1811-12,	December 2	May 7	1875-76, . .	" 25	May 1
1812-13,	November 18	April 28	1876-77, . .	" 8	April 10
1813-14,	" 17	March 23	1877-78, . .	December 7	1
1814-15,	" 9	April 14	1878-79, . .	October 29	May 1
1815-16,	" 16	May 11	1879-80, . .	November 22	January 17
1816-17,	" 8	April 16	1880-81, . .	October 26	March 29
1817-18,	October 1	" 11	1881-82, . .	November 1	21
1818-19,	December 21	" 21	1882-83, . .	" 8	May 8
1819-20,	October 22	" 7	1883-84, . .	" 9	1
1820-21,	December 3	" 26	1884-85, . .	" 30	8
1821-22,	November 3	" 11	1885-86, . .	December 9	April 10
1822-23,	January 1, 1823	" 22	1886-87, . .	" 1	" 6
1823-24,	December 11	" 10	1887-88, . .	November 14	22
1824-25,	October 13	May 27	1888-89, . .	October 4	March 21
1825-26,	November 21	April 28	1889-90, . .	December 11	April 13
1826-27,	" 6	" 25	1890-91, . .	October 26	May 16
1827-28,	" 22	5	1891-92, . .	December 10	April 28
1828-29,	" 10	" 30	1892-93, . .	October 23	16
1829-30,	" 25	3	1893-94, . .	November 13	May 20
1830-31,	December 29	March 25	1894-95, . .	December 29	March 5
1831-32,	November 15	" 24	1895-96, . .	October 24	27
1832-33,	December 14	April 16	1896-97, . .	" 10	April 14
1833-34,	November 8	" 28			

TABLE XXXIX.—*continued.**Decennial Values.*

Winter.	Earliest Snow.			Latest Snow.		
	Date.	Difference from Mean Days.		Date.	Difference from Mean Days.	
		Date.	Difference from Mean Days.		Date.	Difference from Mean Days.
1770-71 to 1779-80,	November 30	6		April 11	1	
1780-81, 1789-90,	" 21	3		" 21	11	
1790-91, 1799-00,	December 7	13		March 25	16	
1800-01, 1809-10,	November 17	7		April 30	20	
1810-11, 1819-20,	" 12	12		" 18	8	
1820-21, 1829-30,	" 21	3		" 22	12	
1830-31, 1839-40,	" 28	4		" 17	7	
1840-41, 1849-50,	" 18	6		March 25	16	
1850-51, 1859-60,	December 11	17		" 28	13	
1860-61, 1869-70,	November 28	4		April 6	4	
1870-71, 1879-80,	" 16	8		" 1	9	
1880-81, 1889-90,	" 14	10		" 14	4	
Mean date,	" 24	...		" 10	...	

NOTE.—Black—days later than average. Italic—days earlier than average.

TABLE XL.

Days with Hail.

Year.	Jan.	Feb.	Mar.	April	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1770,	1	1	2	1	1	6
1771,	1	1	1	...	2
1772,	2	1	1	4
1773,	1	...	2	2	...	1	1	7
1774,	1	...	3	...	1	2	1	8
1775,	1	1	4	1	1	8
1776,	2	...	2	1	2	7
1777,	1	...	2	1	4
1778,	4	1	5
1779,	1	...	2	1	1	5
1780,	1	5	1	7
1781,	1	1	1	2	...	1	6
1782,	3	3	6	2	2	1	1	14
1783,	2	...	4	2	2	2	1	12
1784,	1	3	3	4	1	2	2	7	23
1785,	3	1	1	3	7
1786,	1	1	2	1	1	...	1	1	8
1787,	1	2	2	1	6
1788,	2	2	4
1789,	3	2	5
1790,	1	1	8	1	1	...	1	...	2	2	17
1791,	3	2	1	3	1	10
1792,	1	5	1	1	7
1793,	1	1	3	2	1	1	...	1	...	1	1	...	12
1794,	1	2	1	2	2	1	7
1795,	2	3	4	1	4	...	14
1796,	3	1	1	1	1	1	2	3	1	13
1797,	3	1	4
1798,	1	2	...	1	2	1	...	2
1799,	1	2	...	1	1	7
1800,	1	2	...	1	...	1	5

TABLE XL.—*continued.*

TABLE XL.—*continued.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1861,	1	...	1	...	1	2	...	6
1862,	1	1	3	1	1	1	...	1	4
1863,	1	1	2	1	...	1	...	1	8
1864,	1	1	2	1	1	6
1865,	1	1	3	1	1	3
1866,	...	1	1	...	2	3	1	1	9
1867,	...	1	1	1	...	2
1868,	...	1	2	1	1	...	5
1869,	1	...	1	1	2
1870,	1	2
1871,	...	1	1	1	...	1	1	1	7
1872,	1	1	1	1	3
1873,	2	5	1	1	...	1	1	3	1	9
1874,	1	...	1	...	1	...	1	...	3	1	13
1875,	1	...	2	2	2	...	2	3	7
1876,	1	...	2	2	1	2	1	...	12
1877,	...	1	...	1	1	3	2	...	1	1	1	...	6
1878,	...	1	...	2	1	...	1	...	1	2	1	1	10
1879,	2	1	...	1	...	2	3	1	...	4
1880,	1	2	2	...	1	2	3	...	10
1881,	...	1	3	2	1	1	2	2	1	...	2	1	16
1882,	...	1	...	3	3	1	2	2	3	...	11
1883,	...	2	5	1	1	1	1	...	1	1	...	2	15
1884,	...	1	1	3	4	1	1	...	2	13
1885,	...	2	1	1	5	1	2	1	12
1886,	2	1	1	1	4
1887,	1	1	...	1	2	2	5
1888,	...	1	2	1	1	...	3	1	...	8
1889,	...	3	...	4	2	...	2	2	3	2	16
1890,	2	7	2	...	2	1	1	1	...	1	17
1891,	...	1	3	1	4	...	3	2	1	15
1892,	...	4	4	4	4	...	2	...	1	1	21
1893,	...	2	1	1	...	1	...	1	1	1	7
1894,	...	6	3	1	1	7	1	2	...	1	22
1895,	...	1	...	3	3	2	4	1	...	2	2	...	18
1896,	3	3	1	...	2	9
Totals,	72	98	209	274	176	50	36	30	39	71	85	86	1226
Means,													
1770-1896,	0·6	0·8	1·6	2·2	1·4	0·4	0·3	0·2	0·3	0·6	0·7	0·7	9·7

Decennial Means.

1771-80,	0·2	0·6	0·8	2·0	0·7	0·4	0·2	...	0·2	0·1	0·3	0·2	5·7
1781-90,	0·2	1·0	1·6	2·2	0·9	0·4	0·5	...	0·4	0·7	0·5	0·8	9·2
1791-00,	0·1	0·7	1·4	0·9	1·9	0·4	0·2	0·1	0·3	0·6	1·3	0·2	8·1
1801-10,	1·3	0·6	1·8	4·9	2·2	0·3	0·2	0·3	0·5	0·2	1·1	0·8	14·2
1811-20,	0·4	1·1	2·5	2·6	1·7	0·4	0·1	0·2	0·3	0·7	0·7	0·6	11·3
1821-30,	1·4	1·4	4·0	3·7	2·2	1·0	0·1	0·4	0·5	0·4	1·5	1·4	18·0
1831-40,	0·6	0·6	2·6	2·7	1·1	...	0·2	0·1	0·1	0·3	0·4	0·5	9·2
1841-50,	0·2	0·8	1·3	1·5	0·5	0·1	0·1	0·1	...	0·6	0·4	0·5	6·1
1851-60,	0·4	0·2	0·6	1·0	1·5	0·2	...	0·1	0·1	0·4	0·6	0·4	5·5
1861-70,	0·4	0·5	0·4	1·3	0·7	...	0·3	0·2	0·1	0·2	0·3	0·3	4·7
1871-80,	0·2	0·2	0·6	1·3	1·0	0·7	0·2	0·5	0·6	1·0	1·0	0·8	8·1
1881-90,	0·4	1·1	1·7	1·9	1·8	0·4	0·9	0·5	0·6	1·3	0·2	0·9	11·7

TABLE XLI.

Days with Gales.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1770, . . .	5	8	6	3	1	4	2	3	2	3	6	10	53
1771, . . .	9	1	3	1	9	..	4	1	1	7	4	3	43
1772,	2	..	2	6	3	2	3	4	8	5	35
1773, . . .	11	5	1	2	..	1	..	1	5	..	2	2	29
1774, . . .	1	11	1	5	1	..	4	3	4	6	37
1775, . . .	7	11	5	2	6	4	1	4	40
1776, . . .	1	10	6	3	1	1	1	2	..	2	7	1	33
1777, . . .	3	1	1	1	1	2	..	3	3	1	18
1778, . . .	3	2	4	2	3	3	2	6	25
1779, . . .	6	5	7	5	2	..	1	2	..	1	1	3	34
1780, . . .	1	3	6	2	..	2	2	..	1	3	1	1	22
1781, . . .	2	2	2	3	..	2	2	1	3	1	1	3	22
1782, . . .	5	1	9	1	..	2	2	2	23
1783, . . .	2	3	3	..	3	3	5	..	2	25
1784, . . .	5	3	1	..	1	2	1	1	2	2	18
1785, . . .	4	2	..	2	3	12
1786, . . .	7	3	1	1	3	2	19
1787,	3	4	1	3	..	2	2	15
1788,	1	5	2	5	..	15
1789, . . .	1	4	1	..	2	4	12
1790, . . .	3	4	1	..	1	..	3	6	5	1	30
1791, . . .	13	2	1	..	7	..	2	..	1	1	3	5	26
1792, . . .	1	4	..	2	2	..	1	..	1	4	3	9	32
1793, . . .	1	4	2	4	2	2	3	2	3	21
1794, . . .	6	3	4	2	2	1	1	7	2	26
1795, . . .	1	2	2	1	..	1	1	4	7	3	25
1796, . . .	6	1	1	..	1	2	2	2	2	18
1797, . . .	5	3	1	1	4	2	1	17
1798, . . .	7	7	2	..	2	1	1	1	..	20
1799, . . .	2	4	..	10	1	1	3	5	4	33
1800, . . .	5	..	1	..	5	1	1	5	..	10	6	2	40
1801, . . .	5	4	5	3	2	6	5	32
1802, . . .	3	2	4	2	2	..	1	..	1	..	1	3	22
1803, . . .	1	9	1	2	2	2	4	24
1804, . . .	2	..	1	1	8
1805, . . .	7	5	3	1	2	..	2	1	24
1806, . . .	5	5	1	..	1	4	2	28
1807, . . .	1	1	1	2	3	..	2	..	1	..	4	3	23
1808, . . .	8	1	2	..	4	..	1	2	..	1	6	4	30
1809, . . .	4	6	4	1	1	1	..	30
1810,	2	2	1	2	2	1	4	18
1811, . . .	7	1	4	5	3	..	5	..	3	..	4	3	42
1812, . . .	5	3	5	..	5	..	1	1	..	1	5	6	34
1813, . . .	6	9	4	1	1	2	..	7	7	1	45
1814, . . .	1	5	1	2	..	2	..	1	..	6	3	6	37
1815, . . .	5	5	9	7	2	1	..	7	5	12	57
1816, . . .	6	8	5	5	7	1	..	6	3	5	67
1817, . . .	7	8	12	1	3	2	..	2	8	9	56
1818, . . .	14	8	16	10	2	..	3	2	4	7	72
1819, . . .	10	1	3	..	3	2	..	6	7	1	31
1820, . . .	8	6	2	..	2	6	..	2	3	44

TABLE XLI.—*continued.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1821, . . .	6	1	4	..	1	1	6	3	8	6	36
1822, . . .	4	8	10	1	2	1	..	1	3	6	4	3	42
1823, . . .	1	5	4	1	1	2	..	1	3	4	5	5	30
1824, . . .	4	3	1	2	..	2	..	2	..	5	5	9	32
1825, . . .	9	4	5	2	1	4	4	8	1	36
1826, . . .	5	8	7	3	2	1	1	2	1	36
1827, . . .	12	2	12	6	2	3	..	1	3	3	..	8	51
1828, . . .	8	5	5	4	4	1	7	12	46
1829, . . .	2	2	2	3	3	6	4	4	24
1830, . . .	3	3	10	2	..	2	4	2	7	..	33
1831,	3	5	..	2	1	..	5	..	3	2	4	25
1832, . . .	1	4	5	1	..	3	..	1	7	3	3	4	28
1833, . . .	1	5	9	9	1	2	2	5	8	12	47
1834, . . .	11	3	5	5	..	1	2	2	..	10	2	..	40
1835, . . .	1	3	5	6	2	..	3	3	..	21
1836, . . .	4	5	1	6	..	1	..	2	..	3	5	8	35
1837, . . .	7	7	4	..	2	1	1	1	..	3	4	4	38
1838, . . .	1	4	3	9	..	2	3	4	1	11	6	4	47
1839, . . .	11	10	6	5	..	5	..	3	7	2	1	5	56
1840, . . .	12	4	2	5	2	4	..	3	7	1	3	..	43
1841, . . .	7	2	6	6	2	5	2	7	6	10	53
1842, . . .	4	9	8	..	2	1	..	1	..	2	2	12	47
1843, . . .	8	4	1	4	..	1	2	3	5	8	35
1844, . . .	3	2	4	4	..	3	1	1	..	17
1845, . . .	4	1	4	1	..	1	8	2	9	36
1846, . . .	2	5	4	1	1	..	13
1847, . . .	2	1	3	5	4	5	5	34
1848, . . .	1	6	0	2	..	1	2	7	1	1	23
1849, . . .	11	9	3	2	1	3	1	1	1	36
1850, . . .	1	9	4	3	2	4	23
1851, . . .	4	4	4	..	4	4	..	2	..	5	3	2	34
1852, . . .	11	4	..	1	3	1	1	5	23
1853, . . .	5	1	..	2	..	1	4	3	..	20
1854, . . .	6	3	2	2	..	1	5	1	..	25
1855, . . .	1	..	2	2	8	17
1856, . . .	2	1	4	2	5
1857,	2	2	1	1	1	..	16
1858, . . .	2	2	2	1	1	1	7
1859, . . .	8	2	2	1	1	..	3	1	19
1860,	3	2	10
1861, . . .	3	5	5	1	1	3	3	22
1862, . . .	5	..	2	1	..	1	5	1	..	22
1863, . . .	11	5	2	2	..	1	6	5	1	30
1864, . . .	2	5	2	1	5	2	23
1865, . . .	1	1	1	3	5	12
1866,	6	3
1867, . . .	2	3	4	5	..	26
1868, . . .	6	9	4	3	..	1	..	1	..	2	2	2	36
1869, . . .	4	5	4	3	..	2	4	2	2	23
1870,	2	1	1	1	..	9
1871, . . .	2	2	2	1	2	..	1	5	16
1872, . . .	6	2	1	1	2	2	4	27
1873, . . .	7	..	1	2	1	1	3	20
1874, . . .	3	..	4	3	1	1	1	17
1875, . . .	4	2	1	1	2	3	5	19
1876, . . .	5	2	2	1	3	3	16
1877, . . .	7	3	2	1	..	6	..	2	..	6	3	4	35
1878, . . .	5	3	3	1	..	3	2	1	21
1879, . . .	2	3	6	2	..	3	..	2	..	3	1	6	30
1880, . . .	4	7	2	4	..	3	3	2	4	38

TABLE XLI.—*continued.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1881, . . .	1	4	7	1	2	6	4	7	2	6	11	6	57
1882, . . .	6	2	9	2	4	1	2	3	1	2	3	8	43
1883, . . .	8	8	4	5	5	2	1	2	2	2	10	4	53
1884, . . .	10	9	7	..	4	3	2	..	8	9	8	9	69
1885, . . .	7	11	4	3	2	2	3	2	8	3	2	8	55
1886, . . .	3	..	5	1	..	1	4	4	2	2	22
1887, . . .	8	2	2	..	1	3	1	2	2	3	24
1888, . . .	2	1	6	1	2	1	..	1	..	3	9	2	28
1889, . . .	8	5	2	1	1	1	2	5	25
1890, . . .	12	3	4	3	1	3	1	2	4	3	3	..	39
1891, . . .	7	2	6	..	1	1	7	2	1	4	31
1892, . . .	3	1	..	1	..	1	1	1	3	2	13
1893,	2	4	..	1	1	..	3	4	5	20
1894, . . .	10	7	4	1	3	25
1895,	1	2	1	3	3	11
1896, . . .	1	..	2	2	1	1	..	1	8
Totals, 1770-1896,	578	471	414	233	152	131	107	163	251	356	394	499	3749
Means, . . .	4·5	3·7	3·3	1·8	1·2	1·0	0·8	1·3	2·0	2·8	3·1	3·9	29·4

Decennial Means.

1771-80, .	4·2	4·9	3·6	2·3	2·4	1·0	1·6	1·2	1·5	2·4	3·3	3·2	31·7
1781-90, .	2·9	2·3	1·9	0·7	0·7	0·5	1·0	0·8	1·8	2·0	2·4	2·1	19·1
1791-00, .	4·7	3·0	1·3	2·9	0·6	0·4	0·6	1·1	1·1	3·2	3·8	3·1	25·8
1801-10, .	3·6	3·5	2·0	1·7	1·7	1·2	0·5	0·8	1·0	2·3	2·0	3·6	23·9
1811-20, .	6·9	5·4	6·1	3·3	1·9	2·3	1·0	3·1	3·9	4·0	4·4	6·2	48·5
1821-30, .	5·4	4·1	5·8	1·9	0·8	0·7	0·5	1·3	3·0	3·3	4·9	4·9	36·6
1831-40, .	4·9	4·8	4·1	3·0	1·5	1·2	1·4	2·5	2·7	4·3	3·5	4·1	36·0
1841-50, .	4·3	4·8	3·7	1·8	0·9	1·5	0·6	1·1	1·8	3·1	3·0	5·1	31·7
1851-60, .	3·9	1·9	1·8	0·5	0·6	0·7	0·7	0·5	0·7	2·2	1·1	3·0	17·6
1861-70, .	3·4	3·5	1·5	1·5	0·6	0·4	0·6	0·3	2·0	2·2	1·1	3·5	20·6
1871-80, .	4·5	2·4	2·3	1·5	1·1	0·7	0·5	0·9	1·4	2·1	2·9	3·6	23·9
1881-90, .	6·5	4·5	5·0	1·6	2·1	1·9	1·3	2·1	3·1	3·5	5·2	4·7	41·5

TABLE XLII.

Days with Mist or Fog.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1770,	1	4	2	4	5	3	19
1771,	..	1	..	1	2	2	2	..	2	1	9
1772,	2	1	1	..	4	5	13
1773,	4	1	1	..	1	1	8
1774,	1	8	3	5	..	3	1	..	4	..	25
1775,	1	3	..	6	1	..	1	3	2	20
1776,	1	1	..	2	6
1777,	1	..	1	2	4
1778,	2	1	2	1	2	..	3	1	12
1779,	2	..	3	4	..	2	..	1	11
1780,	2	..	2	1	1	..	1	13	1	2	1	..	25
1781,	1	..	4	2	2	1	10
1782,	1	4	4	5	..	1	..	3
1783,	3	1	..	19
1784,	1	1	3
1785,	2	1	3	7	2	2	11
1786,	4	1	15
1787,	1	1	2	1	2	8
1788,	1	1	1	..	3
1789,	1	6	1	..	1	1	..	10
1790,
1791,	1	3	8	1	8
1792,	6	2	1	..	9
1793,	1	1	1	4	3	11
1794,	..	2	1	1	4
1795,	1	1
1796,	2	3
1797,	5	1	1	7
1798,	1	1
1799,	1	4	4	15
1800,	2	5	..	3	2	2	3	5	1	1	24
1801,	1	2	3
1802,	1	1	2
1803,	1	4	6
1804,	3	2	1	1	13
1805,	1	1	1	7	..	4	1	..	1	18
1806,	3	1	..	4	6	6
1807,	2	..	2	1	..	2	8	..	6	..	1	..	30
1808,	5	4	..	2	..	8	..	10	1	..	38
1809,	6	..	2	..	2	..	2	1	22
1810,	2	..	3	1	3	5	2	1	20
1811,	1	4	..	3	1	..	5	1	..	15
1812,	2	1	4	..	1	..	2	..	3	3	11
1813,	2	4	1	10
1814,	7	2	1	5
1815,	2	6	15
1816,	5	9
1817,	2	9
1818,	2	1	1	..	2	1	..	8
1819,	1	..	2	3	4	1	6
1820,	3	2	1	3	1	15

TABLE XLII.—*continued.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1821,	...	2	1	2	2	3	3	2	3	2	2	...	9
1822,	...	2	...	1	4	...	2	2	1	5	4	7	21
1823,	2	3	6	3	3	1	6	2	1	17
1824,	2	2	5	1	1	...	4	6	3	1	19
1825,	2	2	2	2	1	...	2	3	4	3	20
1826,	2	1	1	1	1	...	5	6	2	6	23
1827,	4	4	5	2	1	1	2	3	2	3	24
1828,	...	7	6	1	1	2	2	1	1	1	2	2	17
1829,	4	3	1	1	1	3	27
1830,	1	1	1	1	3	15
1831,	1	...	4	4	4	...	1	1	...	2	1	...	14
1832,	2	2	1	2	1	2	3	1	3	3	1	...	19
1833,	3	...	1	2	1	1	1	1	3	3	1	...	20
1834,	...	3	1	1	1	2	4	1	2	3	1	1	14
1835,	...	1	3	1	1	...	1	3	...	2	16
1836,	1	2	2	1	3	...	4	10
1837,	1	1	1	1	1	...	4	7
1838,	1	2	1	1	1	1	...	9
1839,	1	...	1	2	2	1	1	1	1	...	5
1840,	1	...	1	7	...	1	1	3	14
1841,	3	...	2	10	1	5	5	2	1	5	1	1	23
1842,	2	1	1	2	6	6	5	1	1	5	1	2	30
1843,	1	1	6	6	3	3	4	2	1	...	30
1844,	8	2	1	3	3	2	2	2	1	19
1845,	2	2	1	1	2	8	8	4	4	3	31
1846,	1	2	3	1	1	...	1	4	3	1	16
1847,	1	...	2	2	3	8	1	...	3	3	...	1	18
1848,	5	3	6	...	4	4	8	8	4	2	32
1849,	1	3	5	...	3	2	3	3	2	2	21
1850,	1	2	3	2	3
1851,	5	2	3	...	2	1	...	1	1	5	11
1852,	2	4	7	2	...	2	...	1	1	1	16
1853,	7	3	...	2	...	2	2	23
1854,	...	10	1	2	4	1	3	...	3	4	2	...	4
1855,	2	1	1	1	2	2	...	5	2	1	4	...	30
1856,	...	3	4	2	3	3	...	2	2	4	1	1	18
1857,	...	2	2	3	2	3	1	...	2	1	9	4	21
1858,	...	1	2	3	1	1	...	3	3	3	26
1859,	...	4	3	2	1	...	4	5	4	20
1860,	...	4	3	...	1	3	5	...	2	4	4	10	28
1861,	4	3	1	1	1	4	2	3	...	5	4	8	31
1862,	2	1	3	2	4	...	1	1	1	1	2	1	15
1863,	2	1	2	3	1	...	2	1	...	2	2	1	16
1864,	...	2	2	2	4	6	2	1	1	2	2	1	20
1865,	...	2	1	2	6	...	1	1	1	1	11
1866,	...	2	6	1	1	1	1	1	9
1867,	2	6	1	1	1	2	3	15
1868,	...	2	1	1	1	1	1	4	33
1869,	2	1	4	2	2	3	1	1	2	2	31
1870,	5	1	4	2	2	3	6	2	5	2	35
1871,	3	1	1	4	...	6	5	2	6	1	3	2	19
1872,	6	1	1	2	2	1	4	1	3	5	2	4	24
1873,	...	2	4	2	3	1	2	4	1	3	2	3	9
1874,	...	3	2	1	2	2	1	1	4	4	1	4	24
1875,	1	1	1	2	3	1	3	4	1	3	3	2	21
1876,	2	...	3	1	9	1	3	4	2	4	5	3	26
1877,	1	2	4	2	1	1	3	4	3	4	3	1	24
1878,	1	2	3	4	2	1	1	4	2	4	3	1	1
1879,	1	3	4	2	1	...	4	3	2	6	5	1	28
1880,	1	5	...	2	1	...	4	4	3	5	5	1	1

TABLE XLII.—*continued.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1881, . . .	3	...	1	2	2	1	...	2	1	2	3	1	18
1882, . . .	3	2	...	1	...	1	2	4	2	15
1883, . . .	1	1	2	1	...	2	1	1	2	3	1	2	16
1884,	1	3	1	2	2	2	...	1	11
1885,	2	...	3	2	3	7
1886, . . .	2	3	2	...	1	1	3	12
1887, . . .	5	1	2	1	1	3	1	1	1	1	16
1888, . . .	2	2	1	...	4	1	10
1889, . . .	1	1	...	2	...	1	2	...	2	9
1890, . . .	1	4	1	...	1	1	8
1891,	2	6	1	1	...	10
1892,	3	...	1	1	...	1	1	7
1893,	1	3	...	2	1	1	3	7
1894,	3	3	...	1	1	3	11
1895, . . .	1	3	1	2	4	2	2	...	4	1	1	3	24
1896, . . .	2	1	5	4	...	2	...	14
Totals, 1770-1896,	168	90	140	155	205	221	145	157	184	176	154	155	1950
Means, . . .	1·3	0·7	1·1	1·2	1·6	1·7	1·1	1·2	1·5	1·4	1·2	1·2	15·2

Decennial Means.

1771-80, .	0·7	0·1	1·8	1·0	1·5	1·1	0·7	2·1	1·6	1·1	1·1	0·5	13·3
1781-90, .	1·1	0·2	0·2	0·4	0·3	1·4	0·7	0·7	0·4	1·6	0·4	0·5	7·9
1791-00, .	1·4	0·5	0·8	0·6	0·4	0·7	0·4	0·4	1·0	0·6	0·9	0·6	8·3
1801-10, .	0·6	0·5	1·9	0·5	2·2	2·6	2·1	1·0	1·7	0·5	0·4	1·3	15·4
1811-20, .	0·7	0·5	0·4	1·6	1·6	2·0	0·9	0·4	0·9	0·6	0·3	0·4	10·3
1821-30, .	1·5	1·0	0·5	1·3	2·3	1·7	1·2	1·3	1·9	2·3	1·5	2·7	19·2
1831-40, .	1·1	0·7	0·8	1·4	2·0	1·5	1·3	0·7	0·8	1·3	0·5	0·7	12·8
1841-50, .	0·9	0·3	1·3	2·8	4·0	2·9	1·6	2·3	3·9	1·0	2·2	0·8	24·0
1851-60, .	2·5	1·5	2·1	0·8	1·2	1·2	0·7	1·1	1·3	1·9	2·9	2·5	19·7
1861-70, .	1·9	1·1	1·3	1·1	1·8	1·3	1·1	1·4	1·6	2·8	1·6	1·6	18·6
1871-80, .	2·2	1·2	1·8	2·3	1·1	2·7	2·2	3·2	1·1	2·3	2·0	2·0	24·1
1881-90, .	1·8	0·7	0·6	0·8	0·9	1·2	0·7	0·5	1·1	1·5	1·1	1·3	12·2

TABLE XLIII.

*Showing the number of Auroras observed in Edinburgh from 1773 to 1781
and from 1800 to 1896.*

NOTE.—During the greater part of the time it is probable that only the brighter displays of this meteor were recorded.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1773,	1	..	1	2
1774,	2	1	2	1	6
1775,	.	..	1	..	2	1
1776,	1	3
1777,
1778,	1	1	1	3	6
1779,	4	2	3	10
1780,	1	1	1
1781,	1	3	1	5
1800,	1	..	1
1801,
1802,
1803,
1804,	1	1
1805,	1	1
1806,
1807,
1808,
1809,
1810,
1811,
1812,	1	..	1
1813,
1814,
1815,
1816,	2
1817,	.	1	1	1	1	..	2
1818,	3	1	1	1	..	3
1819,	1	4
1820,	1	1
1821,
1822,	2	..	3
1823,
1824,	1
1825,	.	..	1	..	1	1	1	..	9
1826,	.	..	3	1	1	3	..	5
1827,	.	..	1	2	5
1828,	2
1829,	4
1830,	1	..	1	1	2	..	11
1831,	4	5
1832,	1	1	1
1833,	1	1	..	3
1834,	1	..	2
1835,	1	..	1
1836,	2	..	4
1837,	1	2	..	1
1838,	1	2	..	1
1839,	1	2	..	9
1840,	.	..	3	1	6

TABLE XLIII.—*continued.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1841,	2	...	1	3	1	1	7
1842,	...	3	...	1	1	5
1843,	2	1	4
1844,
1845,	1	1	1	...	1	1	4
1846,	...	1	2	...	1	...	4
1847,	1	1	2
1848,	3	3	3	...	9
1849,	...	2	1	1	4
1850,	...	1	1
1851,
1852,	...	2	2
1853,
1854,
1855,
1856,
1857,
1858,
1859,	...	1	1	1	1	1	1	6
1860,	...	1	2	4
1861,	1	1
1862,	...	1	2	1	1	1	1	2
1863,	1	1	7
1864,
1865,	1	...	1
1866,	1	...	6
1867,	1	1	1	1	2	1	...	3
1868,	2	...	2	5
1869,	2	4	...	1	19
1870,	2	...	2	...	1	4	5	2	12
1871,	...	1	6	4	1	2	4	2	1	...	21
1872,	...	1	...	1	2	3	...	1	8
1873,	4	3	...	2	1	1	1	...	12
1874,	2	...	1	1	1	1	3	2	...	10
1875,	2	1	1	1	...	4
1876,	...	1	1
1877,	1	2
1878,	1	1
1879,	3	...	1	12
1880,	2	...	3	1	...	3	...	1	2
1881,	1	1	...	2
1882,	...	2	3	...	5
1883,	...	1	1	...	1	2
1884,	1	2	1	1	3
1885,	...	1	...	1	1	1	5
1886,	1	...	1	...	1	1	1	...	1	...	6
1887,	1
1888,	1	1
1889,
1890,
1891,	2	2	2	1	...	7
1892,	3	1	1	1	...	1	...	9
1893,	1	2	...	1	...	3	1	...	2
1894,	...	1	1	3	1	...	8
1895,	...	1	1	3	1	1	7
1896,	1	1
Total,	32	42	47	33	12	1	6	21	43	47	41	17	342
Max. and Year,	4	4	6	4	3	1	3	4	5	4	4	2	21
	1873	1779	1871	1871	1880	1880	1894	1830, 1870	1870	1870	1825	1869	1871

TABLE XLIV.

Showing the number of Days on which Lightning without Thunder was observed from 1807 to 1835, and from 1868 to 1896.

TABLE XLV.

*Bright Sunshine for Hour ending Greenwich Time for Six Years ending
July 1896.*

	A.M.							Noon.	P.M.						
	5	6	7	8	9	10	11		1	2	3	4	5	6	7
	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.
January,	0·8	6·4	7·7	8·4	7·4	4·7	0·6
February,	1·2	4·3	8·9	9·8	9·6	9·8	9·5	5·3	1·6
March,	0·4	3·7	9·2	12·3	13·8	14·0	14·3	13·4	11·9	12·1	8·0	1·8	...
April,	1·0	3·7	7·2	10·2	12·1	13·1	14·9	14·3	13·8	14·1	13·9	11·6	8·5	1·5
May, .	1·1	6·1	8·8	9·6	10·1	12·4	13·4	14·5	14·9	15·6	14·6	14·1	13·7	12·9	9·3
June, .	3·1	7·1	9·2*	9·9	10·3	11·2	10·4	12·2	12·6	12·3	12·7	12·4	12·4	11·9	10·2
July, .	1·9	5·3	6·9	8·5	9·2	9·6	9·5	10·7	11·0	11·3	11·4	10·5	10·2	9·5	7·0
August, .	0·1	1·4	5·3	8·3	11·0	12·3	12·0	12·8	11·9	13·2	12·7	11·8	10·0	7·9	3·5
September,	1·0	5·2	9·6	11·6	12·4	12·8	12·3	13·2	12·3	12·5	10·0	4·3	0·4
October,	0·8	5·0	10·5	12·0	13·2	13·0	13·1	10·8	7·4	2·3
November,	3·3	8·4	9·7	9·3	7·5	6·1	1·1	0·1
December,	0·4	3·2	6·0	7·3	5·8	2·3
Spring, .	1·1	7·1	12·9	20·5	29·5	36·8	40·3	43·4	43·5	42·8	40·6	40·1	33·3	23·2	10·8
Summer, .	5·1	13·8	21·4	26·7	30·5	33·1	31·9	35·7	35·5	36·8	36·8	34·7	32·6	29·3	20·7
Autumn,	1·0	6·0	14·6	25·4	32·8	35·7	35·6	33·8	29·2	21·0	12·4	4·3	0·4
Winter,	1·2	5·5	18·5	23·5	25·3	23·0	16·5	5·9	1·6
Year, .	6·2	20·9	35·3	53·2	74·8	100·8	128·5	138·3	139·9	136·4	123·1	101·7	79·9	56·8	31·9

TABLE XLVI.

Showing the Number of Sunless and Sunny Days in Edinburgh for the Six Years ending July 1896.

Per cent of possible duration.

Month.	Sunless.	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	+80	Max.
January,	83	33	8	19	13	15	12	2	1	...	72
February,	41	39	19	15	15	17	8	11	4	1	82
March,	30	25	20	24	23	13	18	13	15	5	85
April,	22	26	20	13	27	26	19	13	12	2	84
May,	18	30	17	21	21	27	19	9	14	10	87
June,	28	33	17	17	14	26	13	15	8	9	87
July,	22	37	29	24	26	20	10	13	5	...	78
August,	11	38	30	27	22	15	24	13	5	1	82
September,	21	39	19	16	15	17	20	18	13	2	81
October,	29	40	14	21	24	16	24	10	8	...	80
November,	70	29	12	19	12	19	5	10	4	...	72
December,	106	26	11	13	8	9	5	5	3	...	78
Total	481	395	216	229	220	220	177	132	92	30	
Per cent.,	22	18	10	11	10	10	8	6	4	1	

Seasonal Percentages.

	Sunless.	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	+80
Spring,	13	15	10	10	13	12	10	6	8	3
Summer,	11	20	14	12	11	11	9	7	3	2
Autumn,	22	20	8	10	9	10	9	7	4	1
Winter,	42	18	7	9	7	8	5	3	1	...

Departure from Mean of Year.

	Sunless.	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	+80
Spring,	9	3	...	1	3	2	2	...	4	2
Summer,	11	2	4	1	1	1	1	1	1	1
Autumn,	2	2	1	1	...	1	1
Winter,	20	...	3	2	3	2	3	3	3	1

NOTE.—The heavy type indicates an excess, and the italic type a defect.

TABLE XLVII.

Mean Temperature at 9 A.M.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1731, . . .	°	°	°	°	°	°	°	°	°	°	°	°	°
1732, . . .	34·1	42·0	41·7	44·0	49·2	54·5	59·9	55·8	53·5	47·8	39·2	34·4	...
1733, . . .	39·2	40·0	38·9	47·6	52·8	58·2	57·6	54·4	49·5	44·7	36·7	35·5	45·6
1734, . . .	35·6	41·8	44·8	50·0	49·7	58·1	61·8	55·2	50·0	48·7	43·5	43·3	48·0
1735, . . .	36·3	38·7	39·3	47·7	50·6	57·7	59·0	58·0	49·8	46·8	36·9	36·1	47·5
1736, . . .	36·0	32·8	42·0	47·1	50·3
Means, .	36·2	39·1	41·3	47·2	50·4	57·9	59·9	56·2	50·6	45·4	39·7	37·5	46·8

TABLE XLVIII.

Mean Temperature at 9 A.M. Brought to Mean of Max. and Min.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1731, . . .	°	°	°	°	°	°	°	°	°	°	°	°	°
1732, . . .	34·7	42·8	42·4	44·0	48·8	54·3	59·9	56·0	53·8	48·1	39·6	34·7	...
1733, . . .	39·8	40·8	39·6	47·6	52·4	58·0	57·6	54·6	49·8	45·0	37·1	35·8	45·9
1734, . . .	36·2	42·6	45·5	50·0	49·3	57·9	61·8	55·4	50·3	44·0	43·9	43·6	48·3
1735, . . .	36·9	39·5	40·0	47·7	50·2	57·5	59·0	58·2	50·1	47·1	37·8	36·4	47·7
1736, . . .	36·6	33·6	42·7	47·1	49·9
Means, 5 Years, .	36·8	39·9	42·0	47·2	50·0	57·7	59·9	56·5	50·9	45·7	40·1	37·8	47·0

TABLE XLIX.

Rainfall.—Inches.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1731, . . .	°	°	°	°	°	°	°	°	°	°	°	°	°
1732, . . .	1·28	2·41	0·79	3·11	4·62	2·06	1·54	1·86	2·12	1·48	1·42	3·12	?
1733, . . .	1·37	2·52	2·64	0·82	0·08	1·20	3·20	1·62	?	2·52	0·42	3·62	?
1734, . . .	0·59	0·60	2·12	1·01	3·31	2·14	0·64	2·68	1·84	1·08	0·38	3·63	19·76
1735, . . .	3·00	3·51	5·38	1·63	0·72	2·21	0·71	1·28	1·27	1·32	1·61	2·33	18·27

TABLE L.
Mean Variability of Temperature at 9 A.M.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1731, . . .	◦	◦	◦	◦	◦	◦	◦	◦	◦	◦	◦	◦	◦
1732, . . .	3·2	4·5	3·4	3·1	2·8	3·7	2·7	2·9	3·9	5·3	3·6	4·8	3·2
1733, . . .	3·1	3·7	3·6	3·0	3·0	3·1	3·6	3·8	3·3	2·9	3·8	3·6	3·28
1734, . . .	3·5	3·2	3·9	3·6	3·4	3·5	3·3	2·7	3·0	3·1	3·6	3·9	3·42
1735, . . .	3·3	3·0	2·6	3·2	3·1	3·8	3·1	3·8	3·4	3·9	3·8	3·7	3·39
1736, . . .	3·7	3·1	2·8	4·2	3·4
Means, . . .	3·4	3·5	3·3	3·4	3·1	3·8	3·2	3·2	3·2	3·8	3·8	4·0	3·4

TABLE LI.
Mean Humidity.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1731, . . .	◦	◦	◦	◦	◦	◦	◦	◦	◦	◦	◦	◦	◦
1732, . . .	2·62	2·37	1·94	2·27	1·77	2·37	1·77	2·35	1·80	2·06	2·41	2·34	?
1733, . . .	2·14	2·17	2·55	2·10	1·66	1·64	1·90	1·82	1·84	2·45	2·49	2·64	2·15
1734, . . .	2·20	2·02	1·75	1·81	1·60	1·98	1·85	2·02	1·96	2·35	2·24	2·47	2·02
1735, . . .	2·38	2·27	2·56	2·45	1·66	1·76	2·00	1·81	1·96	2·40	2·59	2·77	2·22
1736, . . .	2·54	2·46	2·39	2·11	1·81	?
Means, . . .	2·38	2·26	2·24	2·15	1·70	1·85	1·85	1·95	1·91	2·24	2·36	2·47	2·11

TABLE LII.
Thermal Windrose, June 1731 to May 1736.

	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Monthly Range.
January,	◦	◦	◦	◦	◦	◦	◦	◦	◦
February,	32·3	35·8	34·8	34·2	35·9	38·5	35·7	26·5	12·0
March,	31·7	34·8	33·9	35·9	41·4	42·4	39·1	35·0	10·7
April,	34·2	37·5	40·6	39·4	44·2	44·1	43·6	38·3	10·0
May,	45·1	44·5	44·5	50·7	50·8	50·8	47·8	42·5	8·3
June,	47·4	49·6	51·0	50·2	54·7	54·3	50·7	47·8	7·3
July,	55·5	54·6	58·9	59·0	65·3	63·9	55·8	54·9	10·7
August,	59·0	56·1	60·0	62·2	63·2	62·1	59·6	59·2	7·1
September,	56·3	54·5	57·3	60·3	53·8	58·4	54·9	54·4	5·9
October,	44·3	49·5	50·5	50·1	54·6	52·2	50·3	48·8	10·3
November,	43·4	45·0	45·8	45·4	45·3	46·4	43·0	39·0	7·4
December,	37·7	39·5	38·3	39·9	48·1	40·4	40·5	32·6	10·5
Range,	33·0	34·6	37·4	35·4	37·7	41·5	36·3	36·3	8·5
Spring,	27·3	21·5	26·1	28·0	29·4	25·4	23·9	32·7	5·8
Summer,	43·3	46·1	46·3	44·7	48·8	48·8	47·2	43·0	6·7
Autumn,	57·5	55·0	58·0	60·6	61·7	60·4	57·9	40·3	5·3
Winter,	41·5	45·0	46·8	44·6	45·6	46·6	44·2	33·8	8·4

TABLE LIII.

Thermal Windrose, 1770-1776—7 Years.

	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	Mean.	Range.
January,	32·2	31·8	32·6	31·8	36·5	37·6	34·1	30·3	27·1	33·2	10·5
February,	33·4	34·0	35·5	37·0	36·5	39·0	33·4	35·4	31·7	36·3	7·3
March,	35·3	38·6	36·3	36·9	41·3	41·2	38·5	34·1	36·0	38·3	7·2
April,	40·4	43·8	42·5	42·8	46·6	45·3	45·3	39·4	45·0	44·1	7·2
May,	47·6	46·6	50·1	52·0	52·8	51·5	50·7	45·3	48·3	49·3	7·5
June,	53·6	55·3	55·9	58·7	57·4	56·3	55·6	54·2	...	55·7	5·1
July,	56·7	56·2	58·2	56·6	60·6	59·6	58·0	57·4	62·0	58·4	4·4
August,	57·2	56·8	57·8	58·3	60·0	58·2	57·8	56·4	58·0	57·5	3·6
September,	51·7	52·9	53·8	53·9	53·7	51·3	50·8	51·9	...	52·3	3·1
October,	42·1	48·8	47·0	44·7	49·1	48·3	45·6	40·6	43·5	46·8	8·6
November,	37·8	40·9	40·9	39·3	41·4	40·8	39·1	36·5	44·0	39·7	7·5
December,	36·1	38·1	37·7	38·4	39·0	40·2	35·7	37·3	37·0	38·5	4·5
Range,	24·5	25·0	25·6	26·9	24·1	22·0	24·6	27·1
Spring,	42·4	44·1	43·8	40·1	45·7	46·4	44·8	38·9	44·1	43·9	7·5
Summer,	55·7	55·8	57·2	57·9	59·4	58·3	57·2	56·1	60·0	57·2	4·3
Autumn,	44·3	49·8	48·7	45·5	47·6	46·2	44·8	42·6	43·7	46·3	5·0
Winter,	33·4	35·4	35·1	35·0	37·7	39·2	34·4	33·7	29·5	36·0	9·7
Year,	44·0	48·1	46·0	43·1	47·9	45·9	46·5	42·4	37·9

TABLE LIV.

Mean Humidity with Different Winds, 1781-1786. Scale 0·5 to 5·0.

	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
January,	2·47	3·65	2·53	2·67	2·36	2·27	2·36	1·66
February,	2·53	2·57	2·30	2·28	2·12	2·14	2·23	2·11
March,	2·40	2·78	2·60	2·38	2·19	2·09	2·05	1·91
April,	2·02	2·41	2·68	2·10	2·10	1·89	1·97	1·74
May,	1·52	1·85	1·96	1·63	1·74	1·61	1·55	1·38
June,	2·03	2·39	1·86	1·64	1·51	1·54	1·57	1·79
July,	1·95	2·43	2·07	1·93	1·68	1·70	1·71	1·58
August,	2·68	2·30	2·23	1·92	1·82	1·82	1·88	1·64
September,	1·88	2·45	2·10	2·04	1·76	1·92	1·89	1·70
October,	2·26	2·91	2·50	2·40	2·14	2·29	2·14	2·05
November,	2·52	2·82	2·30	2·44	2·47	2·25	2·42	2·13
December,	2·66	2·40	2·97	2·65	2·51	2·35	2·41	2·39
Range,	1·14	1·06	1·11	1·04	1·00	0·81	0·87	1·01
Spring,	1·89	2·17	2·35	2·18	2·07	1·91	1·88	1·67
Summer,	2·12	2·38	2·04	1·85	1·65	1·73	1·74	1·66
Autumn,	2·22	2·73	2·31	2·33	2·18	2·10	2·18	1·96
Winter,	2·58	2·69	2·62	2·63	2·39	2·24	2·34	2·11
Year,	2·19	2·36	2·26	2·26	2·19	2·06	2·02	1·80

TABLE LV.

Showing the Departure of Temperature from the Normal, smoothed by continuous Five Year Groups.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1766	•	•	•	•	•	•	•	•	•	•	•	•	•
1767	1·7	1·4	1·1	0·3	0·3	1·5	0·2	0·7	1·6	0·6	0·6	0·8	0·7
1768	1·9	1·6	0·7	0·6	0·0	1·8	0·2	0·4	1·0	0·8	0·2	0·1	0·6
1769	2·0	0·7	1·9	0·8	0·1	1·8	0·7	0·1	0·4	1·3	0·0	0·5	0·6
1770	1·8	1·0	2·1	1·2	0·1	1·2	0·4	0·4	1·2	0·5	0·3	1·4	0·7
1771	0·8	1·4	1·6	1·4	1·0	1·3	0·8	0·5	1·1	0·7	0·5	0·9	0·8
1772	1·8	1·3	2·0	1·8	2·0	1·4	1·5	0·4	1·5	0·1	0·7	0·3	1·2
1773	2·1	1·6	1·2	0·7	1·0	1·0	0·9	0·6	1·8	0·2	0·7	0·6	0·9
1774	3·1	1·9	0·0	0·5	1·0	1·0	0·5	0·5	1·7	0·3	0·9	0·1	0·8
1775	2·5	1·4	0·4	0·3	0·5	1·5	0·6	0·1	0·8	0·3	0·8	0·3	0·6
1776	2·6	0·7	0·2	0·0	0·5	0·5	0·4	0·0	0·8	0·4	0·5	1·1	0·2
1777	1·1	1·4	1·5	0·7	1·6	0·4	2·1	1·4	0·0	0·4	0·1	0·2	0·7
1778	3·1	0·4	2·4	0·4	1·7	0·5	2·0	2·5	0·8	0·4	0·0	0·3	0·7
1779	1·7	1·2	2·9	0·2	2·2	1·8	2·4	2·9	1·0	0·3	0·5	0·9	2·0
1780	0·9	1·1	2·4	0·5	1·4	2·5	2·9	2·3	0·2	1·2	1·0	0·1	0·8
1781	1·0	0·9	1·9	0·3	0·7	1·6	3·3	2·2	0·6	0·3	0·9	1·0	0·8
1782	2·1	1·5	0·4	0·8	1·6	0·6	2·0	0·7	0·4	0·8	1·2	0·8	0·1
1783	0·2	2·0	2·5	0·6	1·1	1·4	1·5	1·1	0·3	0·8	0·3	1·5	0·3
1784	0·2	2·7	4·3	0·1	0·7	0·9	0·7	1·1	0·6	1·7	1·2	2·5	0·9
1785	0·1	0·8	3·4	0·8	1·2	0·3	0·7	0·3	0·1	0·9	0·7	2·2	0·4
1786	0·2	1·2	3·0	0·9	1·2	0·9	0·1	0·2	0·0	0·8	0·4	3·2	0·4
1787	0·7	0·1	3·1	1·4	0·8	1·5	0·6	0·8	0·1	0·6	0·2	1·2	0·1
1788	1·0	2·3	1·3	0·1	1·2	1·2	0·7	1·6	0·2	0·0	0·8	0·9	0·5
1789	1·5	2·7	0·4	0·6	1·7	1·0	1·2	1·5	0·5	0·6	0·4	1·6	0·9
1790	0·5	2·0	0·3	1·8	1·5	1·0	0·8	1·6	0·0	0·2	0·9	1·4	0·8
1791	0·2	2·5	0·4	0·0	1·3	0·3	0·8	1·4	0·3	1·0	0·6	0·2	0·7
1792	0·9	3·1	1·5	0·6	0·8	0·6	0·7	0·3	0·9	0·9	0·6	0·5	0·8
1793	1·0	0·5	0·3	1·1	0·1	0·5	0·5	0·6	0·0	1·3	0·2	0·5	0·3
1794	0·0	0·7	0·6	1·4	0·5	0·8	0·3	0·9	0·0	0·9	0·2	0·3	0·2
1795	1·2	1·5	0·9	0·4	0·2	0·7	0·6	0·4	0·6	0·6	1·4	0·8	0·3
1796	1·4	1·3	0·3	2·3	1·0	0·7	0·9	0·7	1·0	0·1	1·8	0·2	0·6
1797	1·2	0·1	1·4	1·1	0·5	0·3	0·4	0·6	1·5	0·5	1·9	1·2	0·1
1798	2·3	0·8	1·2	1·5	0·9	0·6	1·2	0·5	1·1	1·1	1·5	2·5	0·3
1799	1·3	0·7	0·5	0·9	1·5	0·9	1·4	0·9	1·3	0·2	1·3	2·1	0·5
1800	0·6	0·5	0·1	1·3	0·9	1·2	0·5	1·3	1·6	0·8	0·7	2·5	0·4
1801	0·0	0·7	0·3	0·7	0·2	0·2	0·9	1·2	1·1	0·6	0·7	2·0	0·2
1802	0·6	0·7	0·4	1·1	1·4	1·0	1·1	1·8	0·4	1·5	0·5	1·7	0·6
1803	1·0	0·2	1·2	0·9	0·7	0·7	0·7	1·7	0·7	1·2	0·1	1·6	0·6
1804	0·2	0·8	0·6	0·0	0·3	0·5	0·4	1·4	0·5	1·2	0·5	0·5	0·4
1805	0·1	1·2	0·0	0·4	0·1	0·4	1·3	1·3	0·9	1·4	1·0	1·0	0·0
1806	0·0	1·4	0·9	1·4	0·9	0·6	1·3	1·6	0·5	0·7	0·8	1·6	0·3
1807	0·8	1·2	0·1	1·9	0·5	0·3	0·9	1·4	0·2	1·0	1·1	1·6	0·3
1808	0·9	1·7	1·3	2·2	0·1	0·1	0·5	1·1	0·3	1·4	1·7	1·8	0·6
1809	1·1	1·5	0·5	1·8	0·4	0·5	0·9	0·7	0·5	1·8	1·5	2·6	0·5
1810	1·0	0·8	1·0	2·6	0·6	0·2	0·1	0·1	0·6	1·2	0·4	2·6	0·5

NOTE.—The heavy type indicates an excess, and the italic type a defect.

TABLE LV.—*continued.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1811	°	°	°	°	°	°	°	°	°	°	°	°	°
1812	1·1	0·0	0·2	2·0	0·4	0·3	0·6	0·4	0·4	1·3	0·9	2·2	0·4
1813	3·0	0·7	0·7	0·4	1·2	0·8	0·2	0·5	0·7	0·2	1·0	2·2	0·8
1814	3·7	0·4	0·3	0·3	0·1	0·7	0·0	0·5	0·3	0·0	1·3	2·6	0·6
1815	3·3	0·0	1·2	0·8	0·7	1·1	0·7	0·7	0·5	1·0	2·4	2·7	1·2
1816	2·9	0·2	0·6	0·1	1·4	1·2	0·7	1·4	0·4	2·1	1·4	2·6	1·2
1817	2·5	0·6	1·8	0·9	1·2	0·6	0·5	1·6	0·5	0·4	0·4	2·3	1·0
1818	0·3	0·4	0·9	1·5	0·6	0·2	0·5	0·5	0·6	0·2	0·1	2·9	0·7
1819	0·9	0·7	1·1	1·2	0·9	0·4	0·8	0·8	0·9	1·0	0·9	1·9	0·7
1820	0·2	0·2	0·2	0·4	1·0	0·5	0·0	0·1	0·4	0·1	1·8	0·5	0·1
1821	0·1	0·2	1·0	0·6	0·4	0·4	0·2	0·4	0·3	1·0	1·7	0·6	0·5
1822	1·3	0·0	1·7	0·9	0·6	0·7	0·5	0·3	0·5	0·5	1·2	0·9	0·1
1823	1·3	0·5	1·2	1·0	0·5	0·2	0·4	0·8	0·3	0·6	1·9	0·1	0·2
1824	0·8	0·3	1·3	0·9	0·5	0·0	0·0	0·1	0·6	0·6	1·3	0·1	0·6
1825	0·7	0·7	1·1	0·5	1·4	1·7	0·9	0·4	0·1	0·5	0·4	0·1	0·6
1826	1·4	0·7	0·3	0·4	1·0	1·1	1·0	0·1	1·0	1·0	0·2	1·3	0·5
1827	0·3	0·5	0·8	1·0	1·0	1·8	1·3	0·3	1·5	1·7	0·2	2·5	1·1
1828	1·3	0·4	0·8	0·3	1·3	1·8	0·6	0·3	0·7	1·5	0·0	2·0	0·7
1829	2·2	0·2	1·4	0·3	1·1	0·8	0·2	1·8	0·3	1·4	0·8	1·3	0·3
1830	1·6	0·6	1·5	0·1	0·5	0·2	0·7	2·0	0·1	1·9	1·1	1·5	0·2
1831	0·9	0·5	1·8	0·1	0·1	0·1	0·8	1·6	0·3	1·9	0·8	1·1	0·3
1832	1·8	0·4	1·1	0·1	1·0	0·1	0·6	2·1	0·6	2·0	0·2	0·5	0·0
1833	0·0	0·7	1·7	0·6	1·2	0·0	0·0	1·2	0·1	2·5	0·9	1·8	0·7
1834	0·8	1·5	1·0	0·2	1·0	0·4	0·0	0·0	0·1	1·9	0·9	2·4	0·9
1835	1·4	1·2	0·5	0·3	1·4	0·0	0·7	1·1	1·0	0·4	0·9	1·9	0·4
1836	0·6	0·8	0·9	1·7	1·3	0·0	0·3	1·3	1·4	0·3	0·6	1·9	0·0
1837	0·2	1·1	0·9	2·3	0·7	0·2	0·3	0·8	1·3	0·0	0·2	2·0	0·5
1838	1·4	1·6	1·8	2·6	1·3	0·4	0·4	1·2	1·4	0·3	0·4	1·2	0·9
1839	1·1	2·1	1·8	1·5	1·5	0·2	0·7	1·2	1·6	0·1	0·5	0·7	0·9
1840	2·1	1·1	1·9	0·4	1·4	0·7	0·7	0·7	0·7	0·2	0·7	0·8	0·8
1841	2·1	1·7	0·9	0·3	0·9	0·9	1·4	0·5	0·7	1·4	0·7	3·1	0·3
1842	0·8	1·1	2·4	2·1	0·3	1·1	1·6	0·3	0·7	1·5	0·8	2·1	0·3
1843	0·3	1·5	1·5	1·5	0·3	0·8	1·9	0·3	1·2	0·9	1·2	2·4	0·2
1844	2·0	0·1	0·6	1·4	0·1	0·9	1·3	0·2	2·2	0·2	2·4	1·6	0·8
1845	2·3	1·0	0·8	0·8	0·3	0·7	0·3	0·4	1·5	0·5	3·3	0·4	0·7
1846	1·1	0·2	0·6	0·5	1·3	1·2	0·2	1·2	0·8	0·9	2·5	1·1	0·6
1847	0·3	1·4	0·9	0·8	1·8	0·8	0·3	0·9	0·7	0·5	2·2	0·3	0·6
1848	0·8	2·7	2·0	0·6	1·8	1·1	0·6	0·7	0·4	0·4	2·1	0·1	0·7
1849	1·1	1·9	1·6	0·8	1·3	0·2	0·0	1·4	1·0	0·1	0·6	1·2	0·2
1850	0·5	2·8	1·2	0·3	1·3	0·4	0·4	0·9	0·5	0·5	0·1	1·7	0·5
1851	0·5	2·3	0·5	0·6	0·1	0·0	0·4	0·1	0·6	0·2	0·7	1·0	0·4
1852	0·4	1·0	1·0	1·3	0·1	1·0	1·0	0·5	0·3	0·4	0·7	1·6	0·9
1853	1·8	1·2	0·0	1·1	0·3	0·7	1·5	1·1	0·7	0·9	0·4	1·1	0·7
1854	1·0	1·1	0·1	1·5	0·8	1·4	2·2	1·5	0·7	1·1	1·5	1·1	0·9
1855	0·8	0·9	0·2	0·8	0·7	1·6	1·5	1·7	1·3	2·1	2·1	1·9	1·1
1856	1·1	0·5	0·8	0·2	0·4	1·7	0·8	1·5	1·5	1·5	1·4	2·4	1·1
1857	1·7	0·5	0·4	0·9	0·6	1·1	0·6	0·8	0·7	0·9	0·7	1·1	0·6
1858	1·1	0·1	0·6	1·8	0·2	0·1	0·2	0·2	0·1	0·7	0·1	0·3	0·2
1859	1·0	0·4	0·7	2·2	0·6	0·8	0·6	0·2	0·2	0·3	0·8	0·3	0·2
1860	1·1	0·5	0·0	2·2	0·5	1·3	2·1	1·1	0·6	0·5	2·6	1·2	0·8

NOTE.—The heavy type indicates an excess, and the italic type a defect.

TABLE LV.—*continued.*

Year.	Jan.	Feb.	Mar.	April.	May.	Juue.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1861	0·7	0·5	0·4	1·9	0·2	1·9	1·6	1·2	1·6	0·1	1·7	0·8	0·7
1862	0·1	0·8	0·8	0·7	0·4	1·8	1·9	1·7	1·5	0·1	1·2	0·4	0·8
1863	0·0	0·9	1·1	0·3	0·4	0·7	1·6	1·4	0·2	0·2	0·6	2·4	0·3
1864	0·8	1·1	2·0	0·1	0·0	0·3	1·3	1·8	0·2	0·2	0·2	3·3	0·2
1865	0·3	0·6	2·1	0·3	0·5	0·4	1·0	1·1	0·1	0·3	1·2	2·9	0·1
1866	0·4	0·3	1·9	0·7	0·2	0·7	0·2	0·5	1·1	0·5	0·3	2·9	0·2
1867	0·6	1·5	1·7	1·0	0·9	0·8	0·4	0·1	1·4	0·0	0·4	2·4	0·5
1868	0·7	1·8	1·2	1·6	0·5	0·9	0·8	0·4	0·8	0·2	0·2	0·8	0·6
1869	0·2	2·7	0·0	1·6	0·0	0·0	0·8	1·1	0·7	0·3	0·6	0·0	0·6
1870	0·9	2·2	0·9	1·1	0·3	0·2	1·4	0·7	0·2	0·6	0·7	0·2	0·6
1871	1·4	0·8	0·1	0·9	1·2	0·3	1·0	0·3	0·2	0·6	0·1	0·0	0·2
1872	1·5	0·1	1·2	0·8	1·0	0·1	1·0	0·2	0·4	0·6	0·2	1·1	0·2
1873	2·4	0·5	1·5	0·4	1·1	0·5	0·2	0·2	0·5	0·5	0·2	0·1	0·3
1874	3·4	0·3	0·6	0·7	1·2	0·0	0·5	0·3	0·5	0·1	0·3	0·4	0·4
1875	3·6	0·2	0·0	0·3	1·2	0·1	0·2	0·6	0·7	0·5	0·7	0·5	0·3
1876	3·1	1·1	0·4	0·4	0·8	0·3	0·4	0·4	0·2	1·2	0·2	1·7	0·4
1877	1·2	0·3	1·0	1·0	0·9	0·4	0·7	0·5	0·5	0·6	0·7	0·5	1·1
1878	0·5	1·4	0·8	1·1	1·4	0·4	0·6	0·6	0·0	0·4	0·1	0·6	1·5
1879	1·8	1·2	0·9	1·4	0·9	0·5	0·8	0·5	0·2	1·1	0·5	1·8	0·8
1880	1·2	1·6	0·3	0·9	0·2	0·9	0·8	0·1	0·1	0·9	0·2	3·1	0·5
1881	1·1	1·1	0·6	1·0	0·7	1·5	1·7	0·4	0·3	1·2	0·5	1·1	0·6
1882	0·9	2·4	0·4	0·2	0·0	1·0	1·2	0·0	0·3	0·6	0·9	0·5	0·2
1883	0·9	2·0	0·2	0·6	0·6	1·2	0·7	1·2	0·3	0·6	1·2	0·2	0·0
1884	2·0	1·9	0·1	0·7	1·3	1·3	0·7	0·6	0·3	0·6	0·9	0·9	0·1
1885	1·5	1·2	1·4	0·9	1·5	0·4	0·0	0·4	0·1	0·1	0·9	0·3	0·0
1886	1·5	0·1	1·4	1·5	1·2	0·9	0·2	0·8	0·3	0·0	1·2	0·2	0·2
1887	1·2	0·5	1·8	1·8	0·7	0·3	0·1	1·0	0·7	0·5	1·7	0·1	0·3
1888	2·1	1·1	1·3	1·6	0·2	0·2	0·6	0·5	0·4	0·6	1·8	0·6	0·0
1889	2·5	0·5	1·3	1·6	0·2	0·1	0·5	0·8	0·9	0·1	1·1	0·3	0·2
1890	2·0	0·1	1·2	1·4	0·5	0·9	1·6	1·0	0·7	0·2	1·8	0·1	0·1
1891	1·7	0·9	0·2	0·4	1·3	0·5	0·9	0·2	1·0	0·0	1·2	0·0	0·5
1892	1·3	1·5	1·0	0·5	0·3	0·1	1·0	0·1	0·8	0·1	1·6	0·2	0·6
1893	0·6	0·1	0·6	0·8	0·7	0·2	0·8	0·6	0·9	1·0	2·0	0·7	0·6
1894	0·2	0·2	1·5	2·0	2·0	0·5	0·9	0·6	0·3	1·9	2·1	0·6	0·6

NOTE.—The heavy type indicates an excess, and the italic type a defect.

TABLE LVI.

Showing the Smoothed Percentage Excess or Defect of West Winds from Average of One Hundred and Thirty-Three Years. The Values have been smoothed by continuous Five Year Groups.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1766	6	9	7	4	4	5	10	5	7	15	3	19	3.3
1767	6	6	5	5	2	4	10	5	3	9	9	10	2.8
1768	2	1	6	5	5	1	15	3	2	7	4	4	2.0
1769	0	4	8	0	4	2	9	4	6	10	5	2	1.3
1770	3	5	14	5	8	6	7	10	7	2	3	7	2.7
1771	1	0	5	12	12	5	2	11	3	5	5	2	0.7
1772	0	3	4	14	15	7	3	12	7	9	1	2	0.6
1773	8	2	6	21	3	2	7	12	5	9	2	1	1.1
1774	16	8	0	22	2	3	4	8	5	5	10	4	1.0
1775	14	8	6	19	5	1	3	2	2	7	2	3	3.2
1776	15	10	0	14	10	5	7	6	5	5	8	3	3.1
1777	11	11	5	20	17	3	3	3	2	1	2	9	4.5
1778	16	6	6	10	17	7	5	7	5	0	6	1	3.3
1779	11	2	4	3	13	0	4	9	8	1	6	2	2.2
1780	6	3	4	3	10	3	6	9	3	6	7	5	0.2
1781	3	15	3	3	9	2	7	13	4	15	6	12	0.4
1782	4	26	3	7	11	2	6	9	2	11	2	25	2.5
1783	1	22	16	1	11	1	7	9	1	11	1	30	3.3
1784	1	27	18	1	19	3	16	4	7	0	13	30	4.1
1785	3	17	14	8	19	2	14	1	6	1	12	34	2.5
1786	4	19	21	13	17	7	17	2	4	3	11	36	3.5
1787	11	11	24	13	12	9	16	2	1	7	15	22	4.1
1788	5	3	15	0	2	7	17	5	6	13	23	14	3.3
1789	0	6	7	1	1	7	15	5	1	15	15	11	2.5
1790	7	0	12	0	2	9	15	5	1	20	7	3	3.3
1791	8	8	4	11	6	1	13	5	1	20	17	4	2.5
1792	4	5	6	10	11	3	12	5	1	12	18	2	0.8
1793	6	9	1	4	17	7	6	4	5	11	13	4	2.7
1794	5	9	7	5	14	1	5	1	3	1	13	5	0.6
1795	1	1	9	2	14	2	5	14	2	9	13	7	2.4
1796	7	1	5	5	13	1	10	15	3	9	6	2	4.4
1797	3	3	12	1	10	7	5	15	4	7	0	11	2.1
1798	3	3	12	4	8	12	12	12	4	12	7	15	3.8
1799	3	3	7	3	10	11	7	6	1	7	10	17	2.4
1800	3	5	3	12	7	15	2	2	3	10	6	20	2.9
1801	8	5	6	17	10	13	3	1	3	6	5	19	1.9
1802	11	3	6	20	15	13	4	3	0	3	4	13	2.6
1803	7	6	14	13	11	9	8	9	4	7	7	11	2.5
1804	9	11	6	8	5	9	10	14	13	12	7	6	2.0
1805	6	9	6	1	2	8	4	14	12	14	2	7	0.7
1806	3	6	20	2	3	4	13	10	7	8	4	7	2.2
1807	5	6	21	3	8	2	10	2	3	9	1	1	3.5
1808	2	7	27	0	4	4	10	1	0	1	10	2	3.4
1809	4	8	21	0	4	2	5	1	8	1	9	2	3.6
1810	4	5	19	6	2	2	8	11	9	2	13	4	6.1

NOTE.—The heavy type indicates an excess, and the italic type a defect.

TABLE LVI.—*continued.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1811	4	8	7	8	6	5	8	10	14	7	1	5·5	
1812	3	9	7	0	12	11	3	3	9	8	1	7	8·5
1813	3	7	2	4	11	14	3	1	8	12	8	8	2·7
1814	2	10	1	7	8	15	1	5	6	15	4	11	4·9
1815	3	11	6	1	6	17	6	0	6	31	11	4	2·5
1816	4	11	8	7	9	6	3	7	6	16	0	4	3·1
1817	9	12	15	11	4	4	12	11	1	20	2	2	1·8
1818	9	13	10	5	6	6	16	12	3	18	3	10	2·3
1819	10	9	13	2	8	4	12	10	8	9	2	6	0·2
1820	8	8	14	2	11	5	14	5	6	5	1	7	0·1
1821	5	2	12	8	4	6	14	7	12	4	9	3	1·2
1822	2	3	12	9	8	9	9	6	7	4	12	4	1·4
1823	2	2	10	6	14	4	7	4	6	0	13	8	2·4
1824	3	8	7	9	16	9	4	9	1	2	15	7	3·9
1825	3	3	5	8	7	14	2	6	4	2	14	12	3·5
1826	3	1	6	9	17	16	6	8	2	2	8	9	1·5
1827	9	4	4	6	13	12	13	8	3	2	4	1	1·5
1828	6	0	3	8	9	8	8	14	0	3	4	2	2·1
1829	20	4	9	2	8	5	10	17	4	5	5	1	3·5
1830	18	7	10	6	10	2	14	16	2	15	5	0	2·6
1831	14	9	0	1	5	4	5	7	5	10	13	3	0·1
1832	5	10	11	1	2	2	7	3	0	17	13	9	3·6
1833	2	11	10	4	2	0	7	1	5	15	9	14	3·6
1834	1	10	10	1	3	4	5	1	2	9	5	8	3·8
1835	5	8	2	2	1	10	5	4	12	9	5	4	2·4
1836	2	4	8	2	9	8	5	5	13	13	4	4	0·2
1837	2	5	0	1	13	1	3	6	5	5	9	3	1·6
1838	3	4	5	0	16	3	5	1	1	1	7	2	1·6
1839	1	9	4	1	8	3	1	6	4	1	6	3	2·3
1840	1	9	4	3	8	8	1	6	4	1	15	9	2·2
1841	10	11	3	0	7	14	3	8	3	2	6	11	0·7
1842	11	15	9	6	11	10	1	9	11	0	4	4	0·9
1843	10	3	11	2	12	7	3	6	12	1	3	7	1·0
1844	11	3	9	4	12	2	1	1	11	2	6	3	1·0
1845	4	6	1	1	13	0	2	1	4	6	5	2	1·8
1846	1	6	1	4	6	2	6	3	3	12	5	7	1·2
1847	4	12	2	14	4	4	7	3	6	10	11	3	1·1
1848	10	17	1	15	2	4	8	5	9	10	14	2	0·7
1849	7	16	0	9	4	6	7	9	7	1	18	4	3·1
1850	4	21	3	14	3	5	1	6	10	2	14	4	3·1
1851	3	7	0	7	6	10	1	8	9	6	12	0	2·2
1852	1	6	4	4	4	8	1	10	2	8	11	5·1	
1853	1	8	4	6	1	7	2	9	5	7	2	7	4·4
1854	3	10	1	9	1	3	5	11	1	3	0	4	0·5
1855	8	8	1	12	2	1	7	6	0	3	4	9	1·6
1856	7	5	2	9	2	5	2	5	3	6	4	19	0·4
1857	1	3	2	8	10	4	0	4	4	1	2	13	1·9
1858	3	8	5	1	4	1	0	2	7	3	2	7	2·2
1859	8	9	14	6	5	2	1	7	16	0	5	7	4·5
1860	12	3	8	3	1	1	2	12	19	11	2	3	5·9

NOTE.—The heavy type indicates an excess, and the italic type a defect.

TABLE LVI.—*continued.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1861	15	12	9	1	5	4	3	10	15	8	2	2	7·2
1862	13	5	1	10	1	3	7	14	4	7	1	1	4·6
1863	11	5	3	6	6	3	6	0	15	7	1	3	3·0
1864	11	7	13	3	6	5	1	7	4	11	4	5	1·3
1865	3	2	11	6	3	2	11	2	3	9	4	7	0·0
1866	3	1	5	3	0	5	14	6	5	5	2	2	1·3
1867	7	6	4	5	6	1	12	1	5	0	7	6	0·2
1868	6	8	9	10	3	3	11	0	2	4	13	3	1·4
1869	8	6	2	9	4	2	2	5	5	3	3	0	1·0
1870	5	2	3	5	4	2	2	1	7	1	1	5	0·2
1871	1	6	10	1	2	2	8	0	1	1	2	1	0·6
1872	5	10	5	1	1	2	9	1	1	5	5	2	0·2
1873	7	11	5	3	2	3	6	1	4	3	13	5	1·1
1874	8	11	8	2	1	4	5	5	3	2	13	2	2·2
1875	8	6	4	5	3	3	11	7	5	0	7	1	1·3
1876	10	1	8	5	5	3	3	17	4	4	7	2	4·6
1877	2	6	1	13	0	6	2	19	6	6	7	5	4·6
1878	6	3	0	14	4	12	2	23	0	3	2	4	3·7
1879	4	3	1	19	2	12	1	22	1	4	10	14	1·9
1880	7	4	4	16	0	12	2	13	5	9	7	10	0·4
1881	4	2	5	13	4	7	6	0	1	6	12	10	0·7
1882	11	8	0	13	8	4	13	3	1	5	14	8	4·0
1883	5	6	7	12	12	1	22	2	1	7	9	8	5·0
1884	4	6	4	12	10	0	16	7	4	5	8	6	4·2
1885	3	4	4	5	10	1	16	1	5	1	6	11	5·3
1886	6	0	6	4	10	6	12	2	6	3	2	13	3·4
1887	4	0	4	0	2	9	2	4	2	3	1	14	1·2
1888	10	6	4	0	4	7	2	4	1	5	4	5	1·3
1889	13	0	6	1	6	11	1	0	5	12	0	8	2·0
1890	12	4	0	5	4	12	8	3	7	6	0	2	0·3
1891	8	2	5	7	7	6	6	0	10	6	2	2	0·4
1892	7	3	7	12	1	5	4	0	5	5	5	3	0·9
1893	3	1	3	11	1	8	5	4	4	6	1	6	1·0
1894	2	2	9	1	1	6	7	4	1	6	0	7	1·0

NOTE.—The heavy type indicates an excess, and the italic type a defect.

TABLE LVII.

Showing the Departure of Pressure from the Normal, Smoothed by continuous Five Year Groups.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
					Hund	redths	of an	Inch.					Thousands of an Inch.
1772	6	5	2	5	2	4	4	1	12	15	6	2	40
1773	11	11	1	1	6	2	1	6	11	12	1	5	29
1774	6	26	1	2	11	3	0	5	13	5	3	11	32
1775	5	22	2	5	4	7	1	3	9	3	4	11	15
1776	4	25	5	5	2	6	5	2	0	4	2	12	18
1777	5	20	5	4	5	1	2	4	2	3	2	4	10
1778	10	17	5	4	11	3	2	11	2	7	2	10	1
1779	11	8	1	8	10	1	1	11	2	10	3	8	12
1780	7	3	2	12	12	2	2	13	1	16	0	10	17
1781	1	4	3	3	8	0	4	10	7	19	6	15	25
1782	3	6	4	4	2	6	1	6	5	23	7	19	22
1783	6	1	7	6	1	2	1	1	6	21	1	13	31
1784	14	6	5	10	3	1	3	0	10	20	7	9	29
1785	4	0	6	13	2	1	0	2	10	12	4	5	21
1786	7	2	5	10	3	1	1	1	8	18	4	5	41
1787	1	7	3	9	0	3	2	1	10	7	2	3	4
1788	4	8	2	4	0	1	4	2	8	6	4	9	8
1789	4	10	2	0	1	3	10	1	0	1	4	8	13
1790	12	5	0	4	1	1	10	1	4	0	3	12	22
1791	13	6	2	5	1	5	10	0	2	6	3	17	33
1792	8	2	4	2	3	1	4	0	0	4	3	10	2
1793	4	6	4	6	7	1	1	3	5	10	2	7	1
1794	2	6	1	0	5	0	1	4	2	9	3	1	0
1795	7	1	5	0	5	1	1	0	3	8	4	5	12
1796	5	5	8	2	4	4	6	2	3	9	4	5	5
1797	5	6	8	4	1	3	10	3	5	10	3	8	6
1798	9	8	10	7	5	3	9	1	12	6	9	4	28
1799	3	6	2	9	3	7	6	2	12	7	12	5	36
1800	6	4	4	9	1	4	10	6	6	9	14	3	38
1801	4	9	5	10	5	2	2	5	2	4	15	11	34
1802	11	0	0	9	6	2	4	10	8	5	9	13	24
1803	8	3	0	2	3	2	1	7	12	1	9	12	1
1804	11	3	2	1	1	3	0	0	13	4	1	15	5
1805	12	3	5	2	4	8	2	1	9	7	6	10	4
1806	16	4	8	2	3	8	1	3	4	1	2	8	1
1807	15	7	16	5	0	6	3	5	2	7	1	19	13
1808	6	4	13	4	1	8	0	7	0	6	12	18	4
1809	4	10	18	3	3	5	5	4	2	1	5	13	1
1810	1	12	13	2	3	4	7	1	6	7	2	8	1

NOTE.—The heavy type indicates an excess, and the italic type a defect.

TABLE LVII.—*continued.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
				Hund	redths	of an	Inch.						Thousands of an Inch.
1811	8	22	9	0	5	5	4	2	9	5	1	7	3
1812	10	14	4	1	2	7	4	5	15	11	7	2	9
1813	7	17	1	1	4	4	9	5	13	13	2	2	6
1814	1	9	5	2	3	4	2	6	12	9	1	1	10
1815	3	5	8	8	6	1	3	1	8	4	2	11	20
1816	12	4	19	7	1	1	1	1	3	5	2	7	27
1817	13	12	18	7	4	5	2	3	0	8	4	4	32
1818	12	4	11	6	6	4	0	2	2	5	3	2	19
1819	3	5	17	3	5	3	5	2	1	4	0	5	7
1820	5	8	15	3	2	9	6	5	1	5	6	5	9
1821	10	3	9	3	1	7	1	0	3	8	1	5	3
1822	15	8	10	2	0	10	0	3	2	10	8	8	6
1823	19	7	6	1	5	9	4	2	0	8	13	18	4
1824	21	4	6	5	9	10	4	3	2	9	10	7	20
1825	15	0	1	4	2	5	8	2	2	6	1	16	13
1826	16	7	3	1	3	5	5	2	2	0	4	12	21
1827	15	9	7	7	4	6	0	0	2	5	7	3	35
1828	14	1	5	18	0	3	7	1	6	11	9	3	15
1829	9	1	1	16	2	5	6	1	8	8	6	1	12
1830	12	3	6	14	2	5	4	6	6	10	2	2	2
1831	19	10	8	15	5	8	3	3	7	5	1	5	7
1832	11	10	7	1	3	11	9	3	0	4	2	5	3
1833	10	14	5	9	4	6	11	1	1	4	1	4	20
1834	9	6	4	10	10	8	9	2	1	1	1	5	19
1835	10	9	1	7	10	7	5	4	2	2	1	6	15
1836	7	1	5	6	8	5	4	2	2	2	4	18	22
1837	12	5	11	2	8	4	0	3	12	6	8	7	3
1838	2	1	1	1	8	8	3	1	10	11	16	8	9
1839	2	1	5	0	1	5	4	3	12	7	16	4	19
1840	2	2	1	6	3	3	4	2	12	9	15	4	16
1841	9	1	4	7	6	2	5	0	8	3	18	9	16
1842	6	2	3	7	1	3	4	3	2	6	11	18	6
1843	2	2	4	3	1	4	2	5	6	9	10	7	18
1844	5	3	6	2	1	3	2	2	11	10	6	13	8
1845	8	2	0	8	0	5	1	2	9	11	3	9	17
1846	1	9	7	7	3	8	0	0	4	8	1	1	32
1847	5	1	1	14	3	6	1	2	4	4	2	1	30
1848	0	4	2	19	5	4	0	2	7	5	0	4	23
1849	2	0	3	16	2	6	0	1	12	0	1	10	2
1850	10	2	7	7	1	11	1	5	15	1	6	5	14
1851	18	5	14	7	1	9	4	2	14	5	4	9	5
1852	20	4	15	1	5	12	3	2	14	6	3	2	13
1853	17	8	4	6	5	11	4	1	13	11	5	1	10
1854	19	5	12	3	8	11	2	3	5	5	9	10	22
1855	13	5	4	1	6	3	4	4	2	5	19	2	4
1856	1	11	3	0	10	1	1	5	5	1	19	4	24
1857	6	5	4	6	4	4	4	4	2	2	21	4	20
1858	7	7	4	5	4	2	6	2	4	5	18	5	2
1859	4	5	15	3	0	1	0	2	4	2	8	3	2
1860	5	8	16	2	3	6	2	9	3	1	4	1	17

NOTE.—The heavy type indicates an excess, and the italic type a defect.

TABLE LVII.—*continued.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
				Hund	redths	of an	Inch.						Thousands of an Inch.
1861	7	9	17	4	0	11	2	10	8	5	2	2	2
1862	4	13	19	10	1	11	1	5	5	2	2	9	5
1863	3	12	13	14	2	0	1	1	0	1	1	16	23
1864	11	10	9	10	2	1	6	0	2	2	6	10	20
1865	11	7	5	5	5	4	8	1	4	1	11	12	30
1866	8	1	5	5	3	8	6	1	0	5	13	0	24
1867	13	3	1	1	0	10	5	2	3	4	13	4	4
1868	7	3	2	1	0	7	7	2	7	5	10	5	7
1869	5	2	6	4	2	9	3	6	0	1	13	1	34
1870	10	1	2	1	1	5	5	9	3	1	0	10	5
1871	12	5	4	6	0	3	2	10	3	2	1	5	10
1872	14	9	7	3	3	5	1	2	2	8	0	5	9
1873	17	13	9	3	2	0	1	1	2	5	3	5	12
1874	9	10	2	4	4	1	6	0	6	6	0	5	4
1875	5	10	3	2	4	1	3	4	1	2	2	2	7
1876	6	10	0	2	0	2	7	5	1	6	3	5	6
1877	12	3	2	2	1	6	3	4	3	3	4	2	15
1878	22	8	4	6	5	4	0	3	2	7	3	2	10
1879	17	5	3	3	2	5	5	5	7	10	1	6	20
1880	27	1	5	4	5	7	4	5	2	10	2	1	24
1881	21	5	5	1	9	6	9	3	0	15	3	8	27
1882	16	0	2	1	6	1	5	1	2	12	5	2	23
1883	7	2	1	0	2	1	2	0	2	7	4	4	6
1884	1	3	3	3	5	2	2	2	3	2	1	3	6
1885	8	6	8	1	5	9	3	4	3	6	1	1	17
1886	0	10	1	2	5	9	5	5	5	8	2	4	25
1887	5	11	3	4	6	10	1	1	6	2	2	1	26
1888	1	26	4	4	3	7	3	2	12	7	1	2	32
1889	10	31	6	0	5	11	7	7	9	3	1	7	38
1890	8	23	6	0	7	6	9	9	8	3	4	11	21
1891	6	13	2	7	5	6	9	9	0	7	10	10	19
1892	2	12	0	9	3	4	7	7	5	2	4	7	16
1893	1	10	1	10	3	7	7	8	5	2	5	2	16
1894	6	7	4	10	10	4	3	1	2	5	11	3	32

NOTE.—The heavy type indicates an excess, and the italic type a defect.

TABLE LVIII.

*Showing the Smoothed Percentage Excess or Defect of Rainfall from the Normal.
The Averages have been Smoothed by continuous Five Year Groups.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1768	13	33	10	5	13	8	2	27	8	11	66	9	4
1769	6	37	28	19	11	18	6	14	2	9	76	1	3
1770	7	26	33	10	9	7	2	7	18	18	93	6	9
1771	0	15	25	22	1	13	28	6	19	13	90	4	4
1772	7	19	33	17	14	2	27	4	19	13	79	2	6
1773	46	5	23	2	4	12	2	3	23	45	53	27	11
1774	69	19	11	9	4	6	11	3	31	15	44	17	14
1775	48	43	10	29	6	1	1	5	11	45	20	26	12
1776	48	36	0	7	2	15	28	1	1	71	52	9	19
1777	34	32	8	19	7	2	53	28	16	95	21	2	20
1778	5	5	11	55	11	5	21	41	22	75	2	1	12
1779	20	9	30	59	26	3	11	13	9	69	14	24	14
1780	36	2	0	46	64	4	9	4	41	36	2	33	20
1781	44	34	7	21	57	5	4	3	64	23	8	4	17
1782	36	22	19	12	39	7	31	6	15	5	3	6	4
1783	43	39	9	27	16	15	21	15	63	8	22	0	12
1784	51	21	19	41	19	33	7	17	64	14	6	27	7
1785	23	9	5	48	11	19	30	31	31	9	8	36	2
1786	42	10	5	27	4	20	22	42	27	23	15	37	7
1787	21	6	20	37	3	27	31	42	42	2	14	46	3
1788	16	13	13	9	19	10	27	30	22	5	2	58	0
1789	19	0	12	25	14	12	3	19	21	4	7	54	3
1790	3	2	3	28	1	25	6	10	1	11	20	16	7
1791	2	3	15	21	1	19	17	1	21	19	29	27	8
1792	11	16	11	36	8	18	17	2	12	20	23	27	8
1793	2	41	17	41	6	28	15	2	25	41	40	37	15
1794	8	31	13	18	10	14	5	19	18	21	23	37	8
1795	4	22	9	17	23	10	1	8	21	13	12	11	0
1796	6	2	28	21	18	0	6	5	7	10	12	2	1
1797	1	5	35	21	4	2	8	23	0	2	10	22	0
1798	6	45	35	8	10	33	7	9	12	14	40	29	12
1799	9	44	30	2	14	41	11	11	15	12	42	19	10
1800	15	30	37	8	5	41	4	8	10	19	35	21	14
1801	25	18	47	13	0	51	5	15	7	20	33	24	19
1802	3	30	20	14	17	47	10	27	20	17	32	17	21
1803	23	17	31	33	33	39	2	16	19	32	37	30	25
1804	18	20	32	31	30	39	20	3	32	30	6	34	23
1805	15	36	23	12	21	54	41	0	16	20	5	31	23
1806	15	29	25	9	13	43	10	20	11	12	18	15	13
1807	25	1	56	9	7	27	7	32	7	21	23	4	9
1808	17	2	23	20	1	22	20	34	5	22	11	8	1
1809	27	23	12	32	12	10	10	30	1	10	4	26	11
1810	19	60	12	20	16	26	11	36	25	17	18	22	11

NOTE.—The heavy type indicates an excess, and the italic type a defect.

TABLE LVIII.—*continued.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1811	18	61	4	8	30	15	8	8	35	10	24	6	4
1812	37	31	25	20	13	0	6	16	48	8	44	4	1
1813	37	32	13	12	29	3	18	29	42	4	11	7	5
1814	32	6	9	6	13	13	0	28	32	7	13	18	11
1815	29	19	20	6	16	11	18	14	34	17	23	6	9
1816	9	36	1	0	12	13	28	16	23	25	10	19	4
1817	18	22	11	3	31	20	20	18	23	6	21	18	0
1818	8	25	26	2	43	26	13	8	29	8	14	25	0
1819	12	31	8	15	40	14	13	14	40	12	13	31	1
1820	22	19	27	31	33	19	8	35	36	5	8	12	4
1821	16	17	13	21	28	25	6	12	43	3	8	29	2
1822	11	16	19	12	11	22	6	15	41	11	9	37	3
1823	3	10	10	0	1	34	15	21	27	7	29	33	3
1824	22	24	4	14	3	37	8	13	32	7	1	17	10
1825	27	14	12	3	10	35	24	0	33	27	9	29	6
1826	32	21	19	1	15	36	22	3	29	10	15	10	9
1827	16	23	6	36	14	36	2	35	27	7	1	13	5
1828	19	16	24	47	27	32	42	69	21	23	5	10	4
1829	18	10	32	49	33	21	45	84	17	17	11	9	11
1830	35	8	16	28	32	9	37	75	19	13	11	16	4
1831	47	26	12	27	43	16	15	59	19	11	16	1	1
1832	39	18	15	11	46	10	6	19	3	21	26	1	6
1833	30	36	12	31	44	4	31	15	17	6	29	4	12
1834	4	5	36	31	46	6	2	26	28	10	29	7	6
1835	3	13	36	26	44	6	23	22	34	37	20	1	3
1836	22	2	53	20	23	21	29	9	47	34	0	26	4
1837	6	5	51	22	23	44	31	5	36	25	3	25	6
1838	33	6	27	29	4	60	46	5	12	26	1	36	6
1839	5	6	15	34	2	51	27	4	10	3	7	40	1
1840	2	18	15	53	1	36	6	16	8	11	10	39	6
1841	5	16	7	52	3	7	14	27	17	9	17	43	12
1842	11	13	20	51	1	4	8	25	20	3	2	54	14
1843	30	24	36	49	18	1	6	14	25	29	4	42	13
1844	16	25	41	26	17	18	4	4	19	22	8	53	9
1845	21	29	5	12	16	25	5	8	21	42	8	25	4
1846	25	17	4	22	8	61	21	4	16	44	6	12	1
1847	9	8	14	6	7	58	20	2	22	51	10	2	2
1848	11	34	34	0	16	40	21	11	28	13	2	10	3
1849	8	22	3	11	9	27	29	17	37	7	9	10	9
1850	19	37	3	21	19	37	25	8	29	18	5	4	3
1851	25	6	27	28	14	45	17	17	26	28	8	2	6
1852	26	10	28	45	6	51	22	10	36	30	12	5	7
1853	17	29	16	49	19	64	6	15	47	19	22	5	7
1854	13	9	57	51	8	71	13	9	17	21	17	23	3
1855	4	28	38	33	5	82	17	5	2	29	26	20	8
1856	8	34	23	30	11	42	7	13	4	22	19	22	9
1857	16	25	3	1	12	32	3	17	11	7	22	17	5
1858	18	20	12	1	25	42	16	20	33	5	10	39	5
1859	1	30	39	1	38	39	6	19	30	7	11	23	4
1860	24	25	73	12	17	29	4	9	9	25	8	32	11

NOTE.--The heavy type indicates an excess, and the italic type a defect.

TABLE LVIII.—*continued.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1861	44	22	62	6	18	37	20	0	14	10	11	37	12
1862	33	14	64	15	2	29	27	1	28	37	3	33	13
1863	16	13	54	18	21	0	13	7	7	46	7	22	6
1864	33	9	48	19	29	13	14	1	7	37	18	10	6
1865	51	21	2	2	29	13	7	7	11	22	28	23	4
1866	43	51	18	15	31	42	5	1	7	22	32	9	6
1867	59	37	12	13	37	37	5	1	1	20	35	10	1
1868	53	84	10	14	13	20	16	16	11	37	42	1	0
1869	40	71	20	55	6	14	16	18	8	28	41	6	0
1870	20	75	6	42	3	11	35	13	42	13	18	2	6
1871	17	67	2	3	9	5	17	11	51	6	9	17	6
1872	6	44	14	1	1	6	1	18	31	1	5	14	10
1873	17	10	11	5	5	8	13	15	38	6	40	20	10
1874	12	2	38	10	3	2	2	23	49	5	46	26	17
1875	28	0	18	6	16	13	9	59	13	2	33	20	14
1876	31	10	4	22	12	2	6	55	0	12	36	27	10
1877	28	3	12	39	11	31	12	38	1	23	26	20	14
1878	6	6	20	71	11	27	14	33	1	17	13	29	14
1879	10	1	1	41	5	19	26	49	5	19	3	15	9
1880	28	5	7	35	0	28	21	1	1	18	10	17	4
1881	27	1	14	35	23	22	45	6	5	16	3	6	2
1882	2	7	5	16	13	21	36	7	1	15	8	19	1
1883	10	4	4	1	1	32	17	7	4	30	24	2	6
1884	33	23	6	1	26	34	15	28	12	17	31	2	8
1885	26	30	4	18	17	57	3	26	8	28	27	32	16
1886	19	26	24	20	17	51	13	36	6	35	3	33	14
1887	18	29	10	2	8	44	8	16	18	17	8	49	16
1888	6	39	8	13	2	22	18	10	20	8	18	40	9
1889	23	52	21	25	25	31	17	16	7	22	16	19	10
1890	20	41	15	25	15	8	9	37	33	7	0	20	8
1891	32	30	22	22	9	14	14	44	26	7	24	9	11
1892	16	36	14	34	1	0	25	33	30	4	20	5	7
1893	37	28	6	31	5	1	8	40	39	9	37	1	7
1894	37	36	12	22	16	25	2	22	43	22	44	17	3

NOTE.—The heavy type indicates an excess, and the italic type a defect.

TABLE LIX.

Showing the Smoothed Departure from the Average of the Non-Instrumental Phenomena.

	Snow.	Thunderstorms.	Hail.	Gales.	Fog.			Snow.	Thunderstorms.	Hail.	Gales.	Fog.
Year.	Days.	Days.	Days.	Days.	Days.	Year.	Days.	Days.	Days.	Days.	Days.	Days.
1772	3	3·0	4·2	10	0	1811	2	0·8	3·2	5	1	1
1773	1	2·6	3·8	8	0	1812	5	2·2	1·4	6	3	3
1774	2	2·0	2·8	6	1	1813	7	2·0	0·4	14	4	4
1775	0	2·8	2·8	2	2	1814	11	1·6	1·2	19	5	5
1776	0	2·0	3·2	2	2	1815	10	0·4	0·2	23	5	5
1777	2	1·0	3·8	1	4	1816	13	0·2	0·2	26	6	6
1778	0	1·8	3·8	3	3	1817	12	0·0	2·8	26	6	6
1779	2	1·8	4·0	5	3	1818	12	0·6	3·0	24	6	6
1780	2	1·8	2·0	4	3	1819	7	0·4	5·2	19	6	3
						1820	4	1·0	7·0	16		
1781	6	1·2	0·8	4	1	1821	4	0·4	9·0	8		
1782	8	2·4	0·8	7	4	1822	1	0·6	11·6	8	1	
1783	8	2·0	2·8	9	6	1823	1	1·0	12·4	6	2	
1784	12	2·8	3·2	10	5	1824	1	1·0	11·2	6	5	
1785	5	2·2	1·6	11	4	1825	3	0·0	9·6	8	6	
1786	2	3·0	0·0	13	8	1826	0	1·4	8·4	11	6	
1787	1	1·2	3·6	14	6	1827	0	2·4	7·0	10	7	
1788	2	1·0	1·6	11	8	1828	1	1·6	4·4	9	6	
1789	6	1·0	1·2	9	9	1829	0	2·8	0·8	7	4	
1790	5	1·4	1·0	6	9	1830	3	2·4	0·8	2	3	
1791	6	1·6	0·4	5	7	1831	3	1·8	0·4	2	4	
1792	8	2·6	0·8	2	9	1832	6	2·0	2·6	6	1	
1793	4	3·0	0·2	3	8	1833	9	0·6	1·2	3	2	
1794	4	3·2	0·8	5	9	1834	9	0·6	1·4	5	1	
1795	6	3·0	0·4	8	10	1835	2	0·8	3·8	7	2	
1796	6	1·6	1·6	8	12	1836	4	0·0	1·8	7	4	
1797	1	1·8	1·6	6	10	1837	9	1·0	1·8	10	6	
1798	3	1·6	3·4	3	5	1838	10	0·0	0·4	15	6	
1799	3	1·6	3·2	2	5	1839	10	0·2	0·5	18	3	
1800	6	2·0	0·8	1	6	1840	7	1·6	1·6	20	1	
1801	8	3·4	2·2	1	6	1841	1	1·4	0·6	18	5	
1802	8	3·4	2·6	4	8	1842	1	2·2	0·8	10	8	
1803	5	3·4	4·6	7	10	1843	1	1·8	1·2	9	9	
1804	2	2·6	3·8	8	7	1844	1	0·4	2·8	1	11	
1805	3	2·2	4·6	8	3	1845	5	0·6	3·4	2	8	
1806	5	0·6	3·4	6	6	1846	7	1·0	6·2	4	6	
1807	5	0·4	4·6	2	9	1847	9	0·8	5·4	3	8	
1808	6	0·4	4·6	3	11	1848	10	0·4	5·8	1	9	
1809	5	0·4	5·0	0	10	1849	11	1·6	5·6	5	5	
1810	6	0·2	4·4	2	6	1850	12	0·2	4·6	3	5	

NOTE.—The heavy type indicates an excess, and the italic type a defect.

TABLE LIX.—*continued.*

	Snow.	Thunder-storms.	Hail.	Gales.	Fog.			Snow.	Thunder-storms.	Hail.	Gales.	Fog.
Year.	Days.	Days.	Days.	Days.	Days.	Year.	Days.	Days.	Days.	Days.	Days.	Days.
1851	9	1·0	3·4	2	6	1873	5	5·6	1·8	9	9	9
1852	9	0·6	2·8	4	0	1874	1	5·2	0·8	9	9	7
1853	5	1·2	2·8	5	2	1875	1	3·4	0·2	8	8	4
1854	5	1·6	3·2	11	3	1876	1	2·6	0·0	7	6	6
1855	4	0·2	4·6	12	4	1877	3	1·6	1·8	5	9	9
1856	6	0·0	5·8	15	5	1878	1	2·8	1·2	1	10	10
1857	5	1·4	6·4	16	8	1879	1	3·0	0·4	7	8	8
1858	7	1·0	5·2	18	8	1880	1	4·0	0·6	9	7	7
1859	4	0·6	4·6	14	10							
1860	3	1·2	4·6	13	9	1881	1	5·0	1·6	15	5	5
						1882	3	6·2	3·4	23	3	3
1861	5	1·4	3·2	8	7	1883	2	5·6	3·8	25		
1862	4	1·0	3·2	8	6	1884	0	5·2	1·4	19	3	3
1863	4	2·2	4·2	7	5	1885	1	3·6	0·2	15	3	3
1864	6	2·6	3·6	11	2	1886	1	2·0	1·2	11	4	4
1865	3	1·4	4·0	10	1	1887	1	0·8	0·6	2	4	4
1866	2	0·0	4·6	9	0	1888	1	1·4	0·4	1	4	4
1867	4	0·0	5·4	9	0	1889	3	0·2	2·6	0	4	4
1868	1	0·2	5·6	10	3	1890	0	0·2	5·8	2	6	6
1869	0	1·2	6·0	7	5							
1870	4	3·2	5·8	7	10	1891	1	1·4	5·6	3	7	7
1871	4	3·0	5·0	10	12	1893	1	2·6	6·8	3	6	3
1872	2	5·0	2·8	11	10	1894	0	4·2	5·8	14	2	2

NOTE.—The heavy type indicates an excess, and the italic type a defect.

TABLE LX.

Showing the Number of Times the Shade Minimum fell to or below Freezing Point in each Month during 81 Years.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1803, . . .	16	7	8	8	9	48
1804, . . .	7	15	11	6	2	11	52
1805, . . .	14	8	3	2	1	5	4	10	47
1806, . . .	17	7	10	6	2	2	4	48
1807, . . .	15	19	23	10	21	17	105
1808, . . .	17	15	18	7	1	4	7	11	80
1809, . . .	22	8	4	12	1	7	14	68
1810, . . .	10	15	23	5	3	2	7	13	78
1811, . . .	18	11	10	5	18	62
1812, . . .	16	7	17	5	7	15	67
1813, . . .	16	3	3	3	2	8	14	12
1814, . . .	29	20	18	2	10	18	99
1815, . . .	26	2	9	3	15	20	75
1816, . . .	21	18	16	10	3	16	22	106
1817, . . .	13	11	15	6	1	5	3	71
1818, . . .	17	19	22	11	5	..	5
1819, . . .	11	10	2	..	1	13	21	63
1820, . . .	18	7	12	2	13	52
1821, . . .	9	9	2	1	..	7
1822, . . .	10	5	5	1	12	33
1823, . . .	23	20	8	1	1	..	9
1824, . . .	9	10	16	12	6	3	8	13	12
1825, . . .	9	12	16	8	3	5	15	14
1826, . . .	21	4	10	7	4	3	14	9
1827, . . .	18	20	13	6	2	1	8	4
1828, . . .	10	13	12	6	4	3	50
1829, . . .	22	13	14	8	6	10	18
1830, . . .	23	17	10	4	3	7	17
1831, . . .	17	12	10	1	4	11	5	60
1840, . . .	15	18	17	3	1	1	10	21	86
1841, . . .	21	14	2	2	1	4	15	10	69
1842, . . .	23	9	8	4	1	7	7	6	64
1843, . . .	19	15	11	5	12	14	2	79
1844, . . .	17	23	22	1	3	1	5	5	25	102
1845, . . .	19	22	21	8	1	2	6	19	98
1846, . . .	6	8	12	12	1	2	5	26	72
1847, . . .	20	19	9	9	1	1	..	7	15	81
1848, . . .	25	12	14	14	5	11	11	92
1849, . . .	16	7	4	8	1	5	10	67
1850, . . .	26	7	9	5	17	10	57
1851, . . .	6	8	7	7	1	4	..	35
1857, . . .	16	5	6	4	2	10	8	59
1858, . . .	7	17	11	4	9	12	18
1859, . . .	10	9	4	14	7	15	76
1860, . . .	22	21	12	9	12	86
1861, . . .	17	9	6	3	2	11	17	65
1862, . . .	8	5	12	4	1	1	19	1	51
1863, . . .	9	8	7	1	1	4	10	40
1864, . . .	18	20	15	3	1	1	9	11	78
1865, . . .	20	19	24	3	4	7	8	61
1866, . . .	10	14	16	3	2	1	5	10	62
1867, . . .	21	5	19	..	1	1	13	6	47
1868, . . .	13	6	4	3	1	1	12	15	84
1869, . . .	11	7	23	5	5	6	12	16	82
1870, . . .	18	19	15	1	1	12	16	

TABLE LX.—*continued.*

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1871, . . .	19	4	4	3	2	5	19	19	75
1872, . . .	18	9	9	6	1	2	9	54
1873, . . .	8	12	3	2	9	9	43
1874, . . .	10	16	4	6	21	57
1875, . . .	8	7	7	1	7	9	39
1876, . . .	9	9	9	5	6	7	45
1877, . . .	5	3	16	9	5	2	6	5	51
1878, . . .	14	5	14	4	3	13	26	79
1879, . . .	28	19	16	9	2	5	11	18	108
1880, . . .	16	1	6	1	3	11	16	54
1881, . . .	25	15	16	8	4	1	14	83
1882, . . .	4	4	3	3	2	8	18	42
1883, . . .	6	3	20	...	1	3	5	38
1884, . . .	8	4	7	6	1	7	12	45
1885, . . .	14	8	11	3	1	5	5	10	58
1886, . . .	19	19	19	2	2	3	64
1887, . . .	11	10	15	9	2	2	5	17	71
1888, . . .	9	17	20	8	2	6	62
1889, . . .	6	13	9	5	12	45
1890, . . .	6	15	4	4	2	7	12	50
1891, . . .	18	6	16	4	1	5	6	56
1892, . . .	15	11	21	7	4	4	19	81
1893, . . .	11	7	6	2	7	5	38
1894, . . .	13	7	3	...	1	3	1	9	37
1895, . . .	26	22	5	4	3	4	8	72
1896, . . .	7	7	4	4	4	12	38

Decennial Means.

1811-20, .	18·5	10·8	12·4	4·3	0·5	0·2	2·0	8·0	16·1	72·8
1821-30, .	15·4	12·3	10·6	5·2	1·5	0·3	3·2	7·1	10·4	66·0
1841-50, .	19·2	13·6	11·2	6·7	1·1	0·4	4·5	8·5	13·3	78·5
1861-70, .	14·5	11·2	14·1	2·6	1·3	1·7	10·1	9·5	65·0
1871-80, .	18·5	8·5	8·8	3·7	0·9	2·2	9·0	13·9	60·5
1881-90, .	10·8	10·8	12·4	4·3	0·6	0·1	1·6	4·3	10·9	55·8
Means, 81 years, .	15·1	11·3	11·3	4·6	0·9	0·0	0·0	0·0	0·1	2·4	7·7	11·9	65·3

TABLE LXI.

Showing the Number of Times the Shade Minimum fell to or below 32° in each Winter, with Date of First and Last Frost.

Winter.	Days with Frost.	First Frost.	Last Frost.	Winter.	Days with Frost.	First Frost.	Last Frost.
1802-3, . .	43	November 8	March 15	1857-58, . .	43	November 25	April 14
1803-4, . .	56	" 13	April 22	1858-59, . .	57	October 29	" 24
1804-5, . .	41	" 23	May 1	1859-60, . .	103	" 21	" 28
1805-6, . .	59	October 18	April 15	1860-61, . .	59	November 3	May 9
1806-7, . .	75	" 22	" 21	1861-62, . .	58	" 1	" 16
1807-8, . .	95	November 7	" 21	1862-63, . .	46	October 30	April 7
1808-9, . .	70	September 27	May 2	1863-64, . .	72	" 6	May 31
1809-10, . .	77	November 1	" 17	1864-65, . .	87	" 21	April 30
1810-11, . .	66	October 28	April 10	1865-66, . .	59	" 23	May 3
1811-12, . .	63	December 4	" 22	1866-67, . .	62	" 26	" 14
1812-13, . .	47	November 5	" 3	1867-68, . .	43	" 4	" 6
1813-14, . .	103	October 13	June 8	1868-69, . .	71	" 20	" 29
1814-15, . .	70	" 8	April 24	1869-70, . .	86	" 17	April 9
1815-16, . .	103	November 2	May 11	1870-71, . .	61	" 15	May 17
1816-17, . .	84	" 6	" 18	1871-72, . .	85	" 4	April 23
1817-18, . .	94	October 3	April 18	1872-73, . .	35	" 5	March 15
1818-19, . .	29	December 9	May 28	1873-74, . .	50	" 9	" 12
1819-20, . .	76	October 20	March 25	1874-75, . .	47	November 1	" 20
1820-21, . .	35	November 14	" 22	1875-76, . .	49	October 12	April 23
1821-22, . .	28	" 4	" 24	1876-77, . .	51	November 9	May 8
1822-23, . .	65	" 29	April 19	1877-78, . .	50	October 17	April 6
1823-24, . .	63	October 29	May 22	1878-79, . .	116	" 29	May 10
1824-25, . .	84	September 27	" 31	1879-80, . .	58	" 15	April 30
1825-26, . .	80	October 21	" 12	1880-81, . .	94	" 19	" 10
1826-27, . .	85	" 6	" 12	1881-82, . .	33	" 16	" 15
1827-28, . .	54	" 29	April 8	1882-83, . .	58	" 26	May 6
1828-29, . .	66	" 18	" 30	1883-84, . .	33	November 7	April 27
1829-30, . .	88	" 7	" 4	1884-85, . .	57	October 11	May 12
1830-31, . .	71	" 17	May 14	1885-86, . .	82	September 27	" 27
1831-41, . .	72	" 25	" 3	1886-87, . .	50	October 12	" 5
1841-42, . .	73	" 21	April 12	1887-88, . .	78	" 12	April 26
1842-43, . .	70	" 13	" 27	1888-89, . .	36	November 27	March 27
1843-44, . .	95	September 29	May 19	1889-90, . .	46	" 17	April 20
1844-45, . .	106	" 22	April 25	1890-91, . .	66	October 27	May 17
1845-46, . .	67	" 23	May 15	1891-92, . .	65	November 23	April 19
1846-47, . .	91	October 26	" 17	1892-93, . .	51	October 18	March 28
1847-48, . .	88	September 27	April 30	1893-94, . .	38	" 30	May 21
1848-49, . .	62	October 18	" 21	1894-95, . .	70	" 19	April 14
1849-50, . .	83	" 2	May 15	1895-96, . .	33	" 24	March 31
1850-51, . .	40	" 8	June 4	1896-97, . .	51	" 11	April 8

TABLE LXII.

*Showing the Number of Times Frost was Registered on each Day
of the Year during Eighty-one Years.*

	Jan.	Feb.	Mar.	Ap'l.	May.	June.	Sept.	Oct.	Nov.	Dec.		Jan.	Feb.	Mar.	April.	May.	June.	Sept.	Oct.	Nov.	Dec.		
1,	38	33	37	20	3							30	34	26	16	3				8	27	29	
2,	40	38	36	16	5							44	38	23	12	1				8	18	28	
3,	41	32	31	17	2							48	34	29	9	2				9	17	35	
4,	39	33	33	18	3							46	29	34	8	1				6	20	40	
5,	38	28	34	10	4							46	30	32	8	1				6	25	40	
6,	42	32	32	14	6							36	31	28	7					5	22	35	
7,	45	33	29	11	2	1						31	32	22	11					11	21	36	
8,	41	31	32	9	5	1						42	36	25	3	1				15	25	39	
9,	40	41	36	15	4							39	38	21	8					12	30	42	
10,	39	31	37	16	3							34	34	21	5	2				10	26	37	
11,	45	33	37	18	3							39	(5)	20	7	1				13	28	39	
12,	43	33	36	19	3							35	...	20	6					11	26	41	
13,	38	35	33	19	2							31	...	20	1					10	...	35	
14,	40	26	30	19	4																		
15,	41	30	31	12	2																		
16,	40	26	34	14	2																		
17,	39	28	29	13	4																		
18,	32	32	29	13	2																		
												Totals,	.	1220	916	917	373	72	3	9	194	624	966

TABLE LXIII.

Showing the Number of Times the Minimum Temperature in Shade fell to or below 20° during Eighty-one Years.

Year.	Jan.	Feb.	Mar.	April.	Oct.	Nov.	Dec.	Year.	Jan.	Feb.	Mar.	April.	Oct.	Nov.	Dec.	Year.
1803	1	1857	1	1
1804	1	1	1858
1805	1859
1806	1860
1807
1808	2	1861	2	2
1809	4	1862	1
1810	..	6	1863
1811	4	1864	2	1	1	4
1812	1	1865	1	2	1	3
1813	1866	1	1
1814	14	1	1867	5	5
1815	3	1868
1816	..	2	1869	3
1817	1870	3
1818	1	1871
1819	1872
1820	5	1873
1821	1	1874	5
1822	..	2	1875	1	1
1823	1876	3
1824	1877	3
1825	1878	1	3
1826	6	1879	3	4
1827	3	2	1	1880
1828	1	1881	13	19
1829	6	1882	5
1830	1	3	1883
1831	2	1	1	1884	1
1840	1885	3
1841	4	1886	2	1
1842	2	1887	1
1843	1	3	1888
1844	..	4	1889
1845	3	5	1890
1846	4	1891	4
1847	..	4	1	1892	2
1848	1893	2	2
1849	1894	2	13
1850	5	1895	3	9
1851	1896
								Totals,	117	54	10	1	1	8	48	239

Decennial Totals.

1811-20	27	3	1	1	3	11	45	1861-70	11	5	2	4	22
1821-30	18	7	1	1	1	4	32	1871-80	5	1	1	9	16
1841-50	23	16	5	1	6	51	1881-90	15	2	2	6	25	

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