

XX.—*The Meteorology of Edinburgh.* By ROBERT COCKBURN MOSSMAN, F.R.S.E.,
F.R. Met. Soc. (With Three Plates.)

(Read 1st June 1896.)

PART I.

INTRODUCTION.

Since the foundation of the Scottish Meteorological Society in 1856, a mass of information regarding the climate of Edinburgh has been reduced and published in the Society's *Journal* from time to time, the data being furnished to that body by its local observers. In addition, numerous unreduced manuscript books of meteorological observations which extend back to the year 1764 are further available for discussion. In 1861 the late Principal FORBES communicated to this Society a paper on the "Climate of Edinburgh,"* two elements of climate being alone discussed, viz., temperature and rainfall, and for a period of but forty years. The reduction of the observations taken virtually without a break during the past 132 years was therefore desirable for the discussion of cyclical and other weather changes, for which records covering a long period are absolutely necessary. Through the kindness of the Councils of the Scottish Meteorological Society, the Royal Society of Edinburgh, and the Royal Meteorological Society, the loan of the manuscript registers kept in Edinburgh and its immediate vicinity was obtained.

The daily observations taken at Edinburgh from 1857 to the commencement of my series in 1886 were kindly copied from the original records by Miss J. H. BUCHAN of the Scottish Meteorological Society's office. For one or two short periods no observations were made in the city, but the missing values were deduced from the records of contiguous stations by Dr BUCHAN, to whom I have further to tender my best thanks for helpful advice and suggestions received from time to time in the progress of the paper. I am further indebted to Mr CHARLES STEWART, B.Sc., for assistance in the calculation of the thermal and hygrometric windroses and for other help in connection with the re-tabulation of some of the temperature observations. The following statement exhibits the data available for discussion, and it will be seen that, while the period covered by the inquiry extends over 132 years, the duplication of observations for certain periods lengthens the time embraced by the records to nearly 400 years.

* *Trans. Roy. Soc. Edin.*, vol. xxii.

NOTE.—The following contractions have been used to denote the elements observed, viz., T. for temperature, P. pressure, R. rainfall, W. wind direction, N. for weather notes, while C. indicates that all the foregoing data are given, and that the record is complete. M. in the reference column signifies that the register is in manuscript.

No. of Register.	Kept at.	Observer.	Years.	Hours of Observation.	Nature of Observations.	Remarks.	Reference.
I.	?	?	1731-36.	8 or 10 A.M. and 4 or 6 P.M.	C.	FORBES (<i>Trans. Roy. Soc. Ed.</i> , vol. xviii. p. 327) inclined to the belief that the observer was a medical man resident in the vicinity of the present Royal Exchange.	<i>Medical Essays and Observations</i> , published by a Society in Edinburgh, 5 vols., 3rd ed., 1748.
II.	1764-70.	8 A.M.	T.	...	<i>Essays, Phil. Soc. Edin.</i> , vol. iii. M.
III.	Hawkhill Ho. St Andrew Sq. and Pleasance. Mertown.	JAMES HOY. do. do.	1764-76. 1777-79. 1780-June '81.	8 A.M. and 3 P.M. 8 A.M.	P. T. W. N.	From Jan. 1771 to May 1776 the temperature was read at 8 A.M., noon, 2, 3, 4, 6, 8, and 10 P.M., and at midnight. Up to 1770 the temperature alone was taken. The rain was not measured from 1777-79.	
IV.	Near the foot of Arthur's Seat. Near the Castle. At Barnton, $\frac{3}{4}$ miles west of Edinburgh.	?	1785-93. 1794-98. 1799-1817.	Sunrise and noon. do. do.	T. P. R. N.	The temperature only was read twice a day. The hour at which the other observations were made is not stated, but was probably noon.	Tables are given <i>in extenso</i> in the monthly numbers of the <i>Edinburgh Magazine</i> , afterwards the <i>Scots Magazine</i> .
V.	?	?	1787-1831.	8 A.M. and 8 P.M.	T. N.	The daily min. temp. was given after 1802.	<i>Edinburgh Advertiser</i> . Newspaper from which the observations were extracted.
VI.	Windmill St.	Prof. PLAYFAIR.	1794-99.	8 A.M., 2 P.M., 10 P.M.	C.	The values given are monthly means and extremes.	<i>Trans. Roy. Soc. Ed.</i> , vols. iv. p. 213, and v. p. 193.
VII.	Near George IV. Bridge. Canaan Cottage. Regent Terrace.	ALEX. ADIE.	1795-1805. 1821-31 and 1838-50. 1832-37.	8 A.M. and 8 P.M. 10 A.M. and 10 P.M. 10 A.M. and 10 P.M.	C.	FORBES, in his "Climate of Edinburgh," discusses the observations of temperature and rain. The daily max. and min. temperatures were not observed till 1821.	<i>Trans. Roy. Soc. Ed.</i> , vol. xxii. p. 327; <i>Edin. Jour. Science</i> , 1824-32; Original MSS., 1840-50.
VIII.	Coates Hall.	J. M'FARLANE.	1811-19.	?	W. N.	...	M.
IX.	St John's Hill and York Pl.	G. WATERSTON.	1797-1850.	9 A.M., 4 P.M. Midt.	C.	The rainfall, however, is given monthly for a few years only. The daily observations taken from 1808-16 are not known to be in existence, but monthly means have been preserved for this period.	M.
X.	Calton Hill Observatory.	?	1817-26.	...	C.	...	<i>In extenso</i> in the monthly numbers of <i>Scots Magazine</i> .
XI.	Leith.	J. COLDSTREAM.	1822-27.	9 A.M. and 9 P.M.	C.	The values for one or two years were published in <i>Edin. Phil. Jour.</i> ...	M.
XII.	Canonmills.	PAT. NEILL and F. FOGGO.	1822-27.	Morning and evening.	T. P. N.		M.
XIII.	?	Dr GAIRDNER.	1820-36.	8 A.M. till 1828, then 8 A.M. and 8 P.M.	T. P. N.	Interesting notes on epidemics and public health generally are given at the close of each month.	M.

No. of Register.	Kept at.	Observer.	Years.	Hours of Observation.	Nature of Observations.	Remarks.	Reference.
XIV.	Royal Society.	Librarian.	1838-76.	10 A.M.?	P. N. W.	No readings of the barometer were taken on Sundays, or holidays, but the missing values have been interpolated. Blanks occur once or twice.	M.
* XV.	Princes St.	A. ADIE & SON.	1852-55.	9 A.M. and 3 P.M.	C.		M.
XVI.	Melbourne Pl.	Royal Engineers.	1853-56.	9.30 A.M. and 3.30 P.M.	C.	The values given are monthly means and extremes.	<i>Abstracts from Meteorological Observations taken at the Stations of the Royal Engineers.</i> Edited by Colonel Sir HENRY JAMES, R.E., F.R.S.
XVII.	Various.	Various.	1856-86.	9 A.M. and 9 P.M.	C.	These are the readings taken at the stations of the Scot. Met. Soc., and extracted from the schedules in the Met. Office, Edin.	M.
XVIII.	Blacket Pl.	R. C. MOSSMAN.	1887-95.	9 A.M. and 9 P.M.	C.	In addition to the ordinary observations automatic instruments record the fluctuations of pressure, temp., humidity, rain, and sunshine.	M.
XIX.	Charlotte Sq.	The late J. LESLIE, C.E., and Miss LESLIE.	1850-95.	Monthly.	R.	This is a very valuable rain register kept for nearly half a century. With this exception no registers of rain only have been quoted, but the results of all these extra stations will be given in Part II.	<i>Jour. Scot. Met. Soc.</i> , and M.

The present paper deals with mean values of the climatic elements for each day of the year, it being quite evident that many of the most interesting features of the pressure and other curves are wholly eliminated when *monthly* means alone are under consideration. The data, wherever possible, have been calculated for the fifty years 1840-51 and 1857-94, the means in a number of cases being thus made comparable *inter se*. The daily instrumental observations, being incomplete during the period 1852-56, could not be dealt with in this inquiry, but monthly means are available, so that there will be no hiatus when we come to the examination of monthly and annual averages. As regards the non-instrumental observations, which extend back without a break to the year 1770, daily values for the fifty years quoted above have not been given, but five-day totals will be found in Table XXXII., which are graphically shown for both periods in Plate III. It is not our intention to make any reference to the monthly means deduced from the daily values extending over periods ranging from 30 to 125 years, as tables of monthly and annual values will subsequently be available, based in most cases on observations extending over 132 years, particulars of which will be given in the second part of this inquiry.

* Since the above table was compiled, Mr G. J. SYMONS, F.R.S., has drawn my attention to a daily register of pressure and temperature kept at Edinburgh from 1847-51 by KENNETH M'KENZIE. See *Quart. Jour. of Agriculture*, July 1852, and *Farmers' Note Book*, No. xxvi. p. 402.

The tables which accompany the text have been derived by immense condensation from over one million observations, the re-tabulation of which was required as a necessary preliminary. The values were entered on special forms having 366 columns one for each day of the year and an extra one for February 29. After the daily and annual means were computed, the excess or defect of each daily value from the mean of the whole year was ascertained. The daily departures from the annual mean were then smoothed by BLOXAM's method, which consists in assuming the mean of the first, second, and third days to be the true mean of the second day; and so on, the average of continuous threes being calculated. Any sudden or accidental day to day difference is obviously eliminated by this method. The results presented are based upon an analysis of all the climatic elements; a most essential condition, since from such a comprehensive examination alone is it possible to show the mutual inter-relations which exist among the weather elements. The results are graphically shown in the plates which accompany the paper, while mean values for each of the seventy-three five-day periods will be found in Table XXXII.

Mean Barometric Pressure. (See Tables I. and II.)

The mean barometric pressure has been computed from observations made at the rooms of the Royal Society, Mound, from 1840-51 and 1857-61. From 1862 to 1884 the readings were made at Leith, 2 miles N.E. of the former station, while from 1885 to 1894 the observations were again made in Edinburgh. Each observation was first reduced to 32° and then to mean sea-level, while the instrumental correction, including index-error, was applied to each of the 18,500 values. To reduce the observations to standard gravity a further correction of +0.028 inch is necessary; this has not, however, been applied. The reduction of the Leith observations was kindly made under the direction of Mr R. H. SCOTT, F.R.S. No observations were made at this station on Sundays until 1868, but the missing readings have been interpolated by differentiating with Edinburgh. The hour of observation was 10 A.M. till 1861, 8 A.M. till 1884, and 9 A.M. since. The following are the extreme mean daily (not absolute) pressures on the average of fifty years:—

Month.	Highest Inches.	Date.	Lowest Inches.	Date.	Range Inches.
January, . .	29.878	12	29.670	30	0.208
February, . .	.921	23	.704	1	.217
March, . .	.935	3	.746	31	.189
April, . .	.983	30	.764	2	.219
May, . .	30.013	13	.815	18	.198
June, . .	29.992	16	.880	9	.112
July, . .	.932	15	.820	25	.112
August, . .	.890	18	.789	8	.101
September, . .	.972	13	.772	29	.200
October, . .	.913	4	.707	24	.206
November, . .	.905	9	.628	26	.277
December, . .	.948	27	.729	19	.219
	30.013	May 13	29.628	Nov. 26	0.385

Looking at the smoothed means in Table II. it will be seen that pressure is above the annual average on 195 days and below it on 169 days. The most pronounced maximum occurs from April 7 to July 3, during which time pressure is below the mean on only one day, viz., May 18. The period of low pressure is from September 26 to February 11, but anti-cyclones occur from time to time, the longest spell of uninterrupted low pressure being from October 6 to November 6. The unsteadiness of the barometer is remarkable, considering that a period of fifty years is under discussion, there being no less than twenty-seven well-defined troughs and a similar number of crests in the air waves, the mean height of the barometer during these being 29.808 inches and 29.909 inches respectively. The cyclonic and anti-cyclonic periods will be examined in detail when the climatic features which accompany them are under discussion, but attention may be here called to the remarkable barometric depression in November which is the most noteworthy feature of the pressure curve. The mean barometric pressure on November 18 for the period under review is 29.902 inches, after which it falls slowly to 29.831 inches on the 21st. Pressure then diminishes with great rapidity, and with one or two minor oscillations falls to the minimum on November 26, when the low value of 29.628 inches is attained. A rapid rise then sets in, which culminates on December 2 in a reading of 29.922 inches. The following table shows the mean pressure for each day of the period November 18 to December 2 on the average of fifty years, as well as mean values for Edinburgh and Greenwich for the thirty-three years 1861-93. The Greenwich values were extracted from the detailed annual volumes of *The Greenwich Magnetical and Meteorological Observations*, and are the mean of twenty-four hourly observations, while the Edinburgh readings were made at 8 or 9 A.M.

Date.	Edinburgh, 50 Years. At 32° and Sea-Level.	Edinburgh, 33 Years. At 32° and Sea-Level.	Greenwich, 33 Years. At 32° and Sea-Level.
	Inches.	Inches.	Inches.
November 18	29.902	29.937	30.023
," 19	.842	.888	.004
," 20	.841	.930	.023
," 21	.831	.893	29.975
," 22	.655	.677	.851
," 23	.695	.718	.859
," 24	.716	.735	.857
," 25	.637	.619	.774
," 26	.628	.605	.778
," 27	.706	.667	.850
," 28	.759	.772	.915
," 29	.734	.764	.884
," 30	.791	.774	.884
December 1	.836	.821	.912
," 2	.922	.935	30.004

Hence the returns from the two places are substantially the same, the barometer

naturally standing higher at the southern station. The Edinburgh registers have been examined for various sets of years, with the result that this great November wave invariably manifests itself about the 26th of the month. The barometric fall, as might be expected, is greater in the north than in the south of our islands, and probably embraces the whole of Western Europe. The depression is apparently not associated with steepening gradients, as there is no marked increase in the frequency of gales during the passage of the low-pressure area.

Temperature.

The average maximum, minimum, and mean temperature, as well as the daily range and daily variability of temperature, have been determined from the observations made during the fifty years 1840–51 and 1857–94, the latter set of observations being those taken at the various Edinburgh stations of the Scottish Meteorological Society. From 1840 to 1851 the observations were made at Canaan House, Grange, by the late ALEX. ADIE, Esq., F.R.S.E. I am indebted to Mr WILLIAM J. MENZIES, W.S., for the loan of this important register. All the values were corrected to a height of 250 feet above mean sea-level.

The mean temperature of each day of the year has also been calculated on the average of 100 years.

The observations from 1770 to 1779 were taken by Mr Hoy, the station being Hawkhill House till 1776 and afterwards at St Andrew Square and Pleasance. The readings utilised were those made at 8 A.M. From 1795–1804 the observations were made at Merchant Court* by Mr ADIE, the hours of observation being 8 A.M. and 8 P.M. From 1811–20 the 8 A.M. and 8 P.M. values printed *in extenso* in the *Edinburgh Advertiser* were employed. From 1821–30, and from 1831–40, the daily means are those deduced from the mean of maximum and minimum thermometers, the observations being also made by Mr ADIE. The mean daily temperatures for each of the decenniums 1795–1804, 1821–30, and 1831–40 were taken from FORBES' "Climate of Edinburgh";† the means for the ten years ending 1804 being first brought to the mean of the maximum and minimum by the following corrections, which were obtained by comparing ADIE's 8 A.M. and 8 P.M. values with a table of adopted mean temperatures for the years in question.

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

It may be remarked that the means for the decennium 1795–1804 include the returns for the first six months of 1805. This, however, does not affect the results, ten-year means having been entered in the table from which the 100-year average was obtained. The period embraced in the discussion is thus really 100½ years.

* This locality is now extinct, but it was in the vicinity of George IV. Bridge.

† *Trans. Roy. Soc. Edin.*, vol. xxii, pp. 348–49.

In a recent number of the *Scottish Meteorological Society's Journal* (vol. ix. p. 224) Dr BUCHAN gave a paper on the "Mean Temperature of the N.E. of Scotland from 1764-1894," the means being corrected to an elevation of 100 feet above the sea. From 1764 to 1781 the observations were made by Mr HOY, whose 8 A.M. readings have been utilised for the decennium 1770-79. A comparison of Dr BUCHAN'S adopted means with the 8 A.M. values gave the following corrections to be applied in order to bring them to the average of maximum and minimum thermometers at a height of 250 feet above mean sea-level.

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

The decennial means with the above corrections applied were then entered in the table. Similarly the means of the 8 A.M. and 8 P.M. observations made from 1811 to 1820 were first compared with FORBES' adopted temperatures for the above ten years and then with my own table of Edinburgh mean temperatures. The corrections, in both cases, are virtually the same, showing that FORBES' interpolated values for the years in question deduced by differentiation from the Dunfermline register, give a very close approximation. The following were the corrections applied :—

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

In view of the somewhat anomalous corrections given above a careful examination was made of the adopted temperature values from which they were deduced. In this connection the observations made at Gordon Castle, Kinfauns Castle, and other places in Scotland were gone over and compared with the Edinburgh values, the accuracy of which they confirmed. It will be seen that the above table of corrections differs materially from that given for the reduction of ADIE'S 8 A.M. and 8 P.M. readings to mean temperatures. The difference between the two tables may be accounted for by the assumption that ADIE'S thermometer was slightly exposed to radiation during several months of the year, while the *Edinburgh Advertiser* observations were probably made in a shady court.

The decennial means for the period 1841-50 given by FORBES have not been utilised, as an examination of ADIE'S original register showed several blanks in the observations. These were made good by interpolating values for the missing days from other Edinburgh registers. The decennial values for each day of the year were then tabulated and the means entered in the table. Hence Table V., showing the mean temperature of each day of the year at Edinburgh on the mean of 100 years, is made up of seventy years' maximum and minimum readings obtained from registering thermometers, while during twenty years observations were made at 8 A.M. and 8 P.M. from ordinary thermometers, similar readings being taken for ten years at 8 A.M. only. These values, as already shown, have been brought to the mean of the maxima and minima, so as to make the results strictly comparable.

The following table shows the highest and lowest daily temperatures on the mean of 100 and 50 years respectively :—

	Mean 100 Years.					Mean 50 Years.				
	Highest.	Date.	Lowest.	Date.	Range.	Highest.	Date.	Lowest.	Date.	Range.
January, . .	38·38	20	35·86	8	2·52	39·32	30	36·28	6	3·04
February, . .	39·52	23	37·61	3	1·91	40·12	18	36·75	9	3·37
March, . .	43·02	31	38·86	2	4·16	43·36	31	38·71	1	4·65
April, . .	47·47	30	42·62	1	4·85	46·80	30	43·18	1	3·62
May, . .	53·36	31	47·16	2	6·20	53·20	30	46·69	4	6·51
June, . .	58·18	29	53·65	3	4·73	58·29	28	53·40	3	4·89
July, . .	59·20	15	57·29	1	1·91	59·11	15*	57·48†	1	1·63
August, . .	59·23	8	56·21	31	3·02	59·17	12	55·82	31	3·35
September, . .	56·46	2	51·08	30	5·38	57·06	2	51·13	30	5·93
October, . .	50·71	1	43·83	29	6·88	50·91	1	43·92	26	6·99
November, . .	44·60	1	39·06	25	5·54	44·75	1	39·33	30	5·42
December, . .	39·86	4‡	36·42	27	3·44	40·88	5	36·99	23	3·89
	59·23	Aug. 8	35·86	Jan. 8	23·37	59·17	Aug. 12	36·28	Jan. 6	22·89

* And 21.

† And 4.

‡ And 5.

It will be seen, from Tables III. and V., that the mean annual temperature of Edinburgh deduced from the observations of 50 and 100 years respectively differs by only half a tenth of a degree. Owing to the great frosts experienced at the end of the last and the beginning of the present century, the mean temperature of the winters was more than half a degree lower than the values calculated from the shorter average, but during the other seasons there was a slight excess during the longer period.

The coldest day on the mean of 100 years is January 8, with an average temperature of 35°·86, while the warmest is August 8, with a mean of 59°·23, showing an extreme range in the daily temperatures of 23°·37. For the fifty years the coldest day is January 6, and the warmest August 12, with mean temperatures of 36°·28 and 59°·17 respectively, the annual range being 22°·89. On smoothing the curves it is seen that the warmest day of the year clearly falls on July 15, and the coldest on January 8.

Looking at the smoothed values in Tables IV. and VI. it will be observed that the temperature on the mean of fifty years rises permanently above the annual average on May 6 and remains above it till October 18, while on the average of 100 years the respective dates are April 29 and October 18. On the long average, temperature is thus above the annual mean on 173 days, and below it on 191, being just the average on one day, viz., October 19.

Mean Maximum Temperature.

The following table shows the highest and lowest mean maximum temperatures on the average of fifty years. (See Table VII.)

	Highest.	Date.	Lowest.	Date.	Range.
	°		°		°
January,	44·6	30	41·0	9	3·6
February,	45·4	23	41·7	9	3·7
March,	50·7	31	44·0	1	6·7
April,	54·7	29	50·2	14	4·5
May,	61·5	31	54·4	4	7·1
June,	66·1	21	60·8	3	5·3
July,	66·8	21	64·8	4	2·0
August,	66·6	14	63·1	31	3·5
September,	63·8	2	57·4	31	6·4
October,	57·6	1	49·5	30, 31	8·1
November,	50·0	3	44·4	30	5·6
December,	45·8	5	41·8	23	4·0

Hence the range of temperature between the warmest day, July 21, and the coldest, January 9, is $25^{\circ}8$.

Mean Minimum Temperature.

Table IX. shows the average minimum temperature of fifty years for each day of the year. The monthly extremes are as follows :—

	Highest.	Date.	Lowest.	Date.	Range.
	°		°		°
January,	34·8	31	30·9	21	3·9
February,	34·9	18	31·8	9	3·1
March,	36·1	31	33·1	10	3·0
April,	39·5	21	35·9	1	3·6
May,	45·2	30	38·8	2	6·4
June,	50·6	27	45·8	1	4·8
July,	51·7	15	49·8	10	1·9
August,	52·3	8	48·5	31	3·8
September,	50·3	2	44·7	22	5·6
October,	44·3	1	37·5	26	6·8
November,	40·0	1	34·2	30	5·8
December,	35·9	5	32·1	27	3·8

The extreme range is thus $21^{\circ}4$, or $4^{\circ}4$ less than the corresponding range between the maxima. The mean maximum (Table VIII.) is above the annual average from April 26 to October 14, but the minimum (Table X.) does not get above the annual mean until May 12, and remains above it till October 19.

Mean Daily Range.

The mean daily range of temperature is shown in Table XI., the values there given being the differences between the mean maximum and minimum temperatures (Tables VII. and IX.).

The following are the monthly extremes:—

		Greatest.	Date.	Least.	Date.	Difference.
January,	.	11·2	26	8·8	31	2·4
February,	.	11·3	26	9·5	10	1·8
March, .	.	14·6	31	10·5	3	4·1
April, .	.	16·1	29	13·0	8	3·1
May, .	.	17·0	31	14·4	11	2·6
June, .	.	17·0	20	14·0	25	3·0
July, .	.	16·3	16, 17	13·9	25	2·4
August, .	.	15·9	1	13·1	21	2·8
September, .	.	15·8	8	12·0	24	3·8
October, .	.	13·3	1	10·5	24	2·8
November, .	.	11·4	7	8·7	20	2·7
December, .	.	12·1	2	8·3	7	3·8

The mean daily range of temperature is above the annual average from March 21 to October 2, if we except the five days, March 26–28 and September 24–25, when it is slightly under the mean.

Variability of Temperature.

The variability of temperature has been computed for each day during the fifty years 1840–51, 1857–94. The first stage of the operation was to strike the arithmetical mean of the maximum and minimum temperatures. Then the day to day differences in the mean temperature of successive days were computed and entered into 366 columns corresponding to the 365 days in the year, and the extra day in leap year. These values were then added up, the gross totals being given in Table XIII. under the heading of "Cumulative Temperature Variability." Cumulative values have been given instead of means, the variation being extremely small, as will be apparent from the following table showing the highest and lowest mean variabilities in each month.

		Highest.	Date.	Lowest.	Date.	Range.
January,	.	4·2	1	2·6	22	1·6
February,	.	3·8	2	2·2	25	1·6
March, .	.	3·5	17	2·2	25	1·3
April, .	.	3·3	12	2·1	8	1·2
May, .	.	3·3	5	2·3	12	1·0
June, .	.	3·6	4	2·1	14	1·5
July, .	.	3·1	18	2·0	25	1·1
August, .	.	2·9	12, 26, 27	1·9	24	1·0
September, .	.	3·1	27	2·2	13	0·9
October, .	.	3·9	25	2·2	7	1·7
November, .	.	4·0	30	2·3	11	1·7
December, .	.	3·9	29	2·7	10	1·2

Hence the greatest variability, $4^{\circ}2$, occurs on January 1, and the least, $1^{\circ}9$, on August 24. Looking at Table XIV. it will be seen that the variability is, broadly speaking, above the annual average from October to March, and below it during the other six months of the year, falling to an annual minimum in July and August. The variability of temperature seems to depend in no inconsiderable degree on the amount of vapour present in the air. When the quantity of vapour is small, the tendency for temperature to change from day to day reaches a maximum, but when the amount is large, the conserving influence exerted by it on the temperature of the air is very apparent. The variability of temperature during the winter is further increased by the prevalence of rapidly moving cyclones and their accompanying anti-cyclonic systems, with their different temperatures and humidities.

Direction of the Wind.

The number of times the wind blew from each direction has been determined for each day of the year on the mean of 100 years (see Tables XV. and XVI.). The observations utilised were taken from 1770-79 and from 1800 to 1894, with the exception of the years 1809, '10, '37, and '38, for which we have only monthly summaries. The observations utilised were those contained in registers III., VII., IX., XIV., XVII., and XVIII.; the hour of observation varying from 8 to 10 A.M., the direction being usually observed to eight points. For some years the direction was given to sixteen points, but the values were resolved to eight points by halving the eight intermediate points between the octants. No attempt has been made to calculate the mean direction from the observations, LAMBERT's formulae yielding results that are obviously erroneous unless the air movement from the different octants is known.

The seasonal variation in the percentage frequency of the various winds is well marked. Perhaps the most interesting feature is the difference between the W. and S.W. winds, the former of which are at a maximum in August, and the latter in February. This is probably due to the fact that in February the dominating factor is the low-pressure area located over Iceland, while in August the lowest barometer is found over India.

Rainfall.

Table XVII. gives the total rainfall collected during eighty-eight years on each day of the year, the series being a composite of several registers. From 1770-76 the observations were made at Hawkhill House by JAMES HOY, who also kept a gauge during the year 1780. From 1785 to 1817 the rain tables given monthly in the *Edinburgh Magazine* (afterwards the *Scots Magazine*) have been utilised. The station was "near the foot of Arthur's Seat" till 1793, "within one mile of the Castle of Edinburgh" from 1794 to 1798, and thereafter at Barnton, three and a half miles west of Edinburgh, till 1817. The values from 1824 to 1831 were obtained from the meteorological register kept at Canaan House by ALEX. ADIE, optician, and F.R.S.E., the daily observations being published in the *Edinburgh Journal of Science*. Since the establishment of the Scottish Meteoro-

logical Society the rain values from the various stations reporting to that body have been employed, the period being from 1857 to 1895 inclusive.

The following table shows the least and greatest rainfalls in every month :—

		ins.		ins.	
In January the sums vary from 8·4 on the 26th to 2·6 on the 3rd					
" February	"	8·6	2nd	2·5	23rd
" March	"	6·5	9th	1·9	13th
" April	"	7·6	21st	3·4	12th
" May	"	8·8	24th	2·3	3rd
" June	"	9·0	4th	3·6	20th
" July	"	10·3	5th	5·1	4th
" August	"	13·4	3rd	4·2	23rd
" September	"	12·7	17th	3·2	16th
" October	"	10·9	20th	3·6	2nd
" November	"	11·3	5th	3·1	11th
" December	"	10·7	9th	3·8	25th

It will be seen that the wettest day of the year is August 3, with a fall of 13·4 inches; the next in order being August 13 and 14. The day in the year with the smallest downfall is March 13, with 1·9 inch, the next driest being May 3 and February 23. By far the wettest period is that embraced in the seven days ending with August 18, the period distinguished by the least fall being the week ending with March 27. The totals for these two weeks are respectively 77·53 and 24·04 inches. Great differences are observable in the sums of consecutive days, the fall on August 3, for example, being 13·4 inches, but on August 2 only 5·2 inches fell. It is thus evident that a very long period indeed is required to give daily mean rainfalls; probably observations extending over two centuries would be necessary to define the daily fall with accuracy.

Table XIX., giving the number of times a rainfall of 0·01 inch was registered in each day of the year during eighty-eight years, must be regarded in the light of a tolerable approximation to the truth, it being quite evident that many of the older observers systematically neglected to measure slight rainfalls, but allowed several small amounts to accumulate. Every effort has been made to detect and throw out such erroneous entries, but a number must obviously remain.

The number of rainy days in every month on the total of eighty-eight years vary as follows :—

		Greatest.	Date.	Least.	Date.
January,	.	46	29	28	14
February,	.	48	2	33	5, 20
March,	.	45	6	25	8
April,	.	43	22	27	9
May,	.	45	17, 28	28	15
June,	.	47	24	27	1
July,	.	47	19	34	17
August,	.	55	13	34	19, 21
September,	.	49	21	33	16, 18
October,	.	55	10	36	27
November,	.	55	5	32	11
December,	.	49	22	29	24

Hence the frequency of rainfall is at a maximum on August 13, October 10, and November 5, on each of which dates rain has fallen on fifty-five of the eighty-eight years under review, while the smallest number of rainy days, viz., twenty-five, occurs on March 8.

Sunshine.

Daily sunshine values have been calculated for thirty years. From 1861 to 1876 the observations were made at Inveresk, 6 miles E. of the city. From 1877 to 1885 the observer was Mr BLACKWOOD, Cumin Place. No instrument was in use during the above periods, the method adopted being to estimate the total sunshine recorded during each day. From July 1890 to June 1895 the records are derived from a CAMPBELL-STOKES sunshine recorder in use at my station at Blacket Place. Owing to the shortness of the period and the comparative looseness of the method of observing this element of climate during the greater part of the period, the values given in Tables XX. to XXIII. must only be regarded as tolerable approximations.

Table XX. gives the mean number of hours the sun shone on each day of the year, but in order to make the results strictly comparable the mean percentages which the amounts recorded formed of the total possible sunshine for each day were computed. The table given in the last edition of the Smithsonian Tables was the one from which the total possible sunshine for Edinburgh was obtained. No allowance has been made for the loss of sunshine which occurs near the time of sunrise and sunset owing to haze at the horizon.

The following are the variations in the mean percentage of possible sunshine from month to month. (See Table XXI.)

	Greatest Percentage of Possible.	Date.	Least Percentage of Possible.	Date.	Range.
January, . . .	35	25	13	4	22
February, . . .	35	8	20	27	15
March, . . .	42	8	23	28	19
April, . . .	37	30	23	5	14
May, . . .	38	24	24	17	14
June, . . .	35	21	22	3	13
July, . . .	38	17, 20	22	26	16
August, . . .	38	23	24	8, 17	14
September, . . .	39	11	20	22	19
October, . . .	36	2, 10	19	30	17
November, . . .	35	10, 20	17	24, 27, 28	18
December, . . .	26	23	12	18	14

Hence on the sunniest day of the year, viz., March 8, not half the possible sunshine is recorded, while on December 18 we obtain only 12 per cent. of the total possible. There is not much variation in the daily values from March to October, but the dull period is well marked, extending from the middle of November to the end of January.

Table XXIII. shows the number of times sunshine was registered on each day of the year for the thirty years. May 27, June 19, and September 6 had not a single sunless day in this period, but December 4 was sunless on seventeen occasions.

Auroras.

Table XXIV. gives the number of times the aurora was observed on each day of the year for eighty-one years, the periods being 1773-81, 1817-52, and 1859-94.

This meteor does not seem to have been systematically recorded during the other years.

The number observed in all was 332, being an average of four a year. Their distribution throughout the year shows two maxima and two minima, the primary maximum extending from about September 21 to November 23 and the secondary from February 18 to April 20. During the whole eighty-one years, only two auroras were observed from May 22 to July 26.

Snow.

The number of days on which snow fell for each day of the year is given in Table XXV., the period under discussion being the 125 years 1770-1894. For short periods that embraced in the nineteen days ending with February 12 is the snowiest, another maximum occurring from March 6 to 16. Snow is comparatively uncommon after April 2, but a slight increase is observable from April 9 to 12, or about the time of "the borrowing days." The infrequency of snowstorms about the middle of December is of interest in connection with the retardation of the autumnal fall of temperature at that time. No snow fell in the months of June, July, August, and September during the 125 years under review.

Hail.

The number of times hail fell is given for each day of the year in Table XXVI. The annual period is well marked, the phenomenon being essentially a spring one extending over the nine weeks ending May 10. The minimum is reached in August. It is probable that true hail is of rare occurrence, most of the falls being cases of graupel or soft hail.

Thunderstorms.

Table XXVII. shows the distribution of thunderstorms through the days of the year. These phenomena temporarily increase after the termination of the cold period about May 13, but the summer frequency does not begin until a fortnight later. The time of absolutely greatest activity is from July 3 to August 13, after which few cases are recorded. The minimum is in November and December, no case having been observed from November 17 to December 5 during the 125 years.

Lightning without thunder, Table XXVIII., is a comparatively rare phenomenon, only eighty-five cases having been recorded during the sixty-one years during which this meteor was observed. As compared with thunderstorms, sheet lightning shows a relatively

greater frequency during winter, but there is no pronounced maximum. It is seldom seen in spring, only fourteen cases being reported from March to June inclusive.

Gales.

Table XXIX. shows the distribution of gales throughout the year. The absolutely stormiest time is from January 19 to February 6, and the calmest from June 26 to July 30. The popular belief in the prevalence of storms at the spring or the autumnal equinox is not supported by the data under consideration.

Fog or Mist.

The preparation of this table (XXX.) has been a matter of much labour, owing to the different ideas prevailing among the observers as to what constitutes fog or mist. It is quite evident that for some periods "haze" was entered as fog. All such erroneous entries as could be detected were eliminated, but owing to the lack of uniformity in the observations, an element of error is introduced. The foggiest periods are during the cold weather in January, viz., from the 9th to the 14th, and from April 22 to June 26, or during the time when easterly winds are most prevalent. The annual minimum is in February.

Climatic Features of the Winds.

It has been proved by meteorologists that the weather prevailing at any given time at a place is the result of the distribution of pressure at the time. Now, since the distribution of pressure regulates the direction of the wind it follows that if we wish to see clearly the effect of different pressure types on the weather that the way to do so is to analyse the climatic features of the various winds. We have accordingly, with the able assistance of Mr CHARLES STEWART, B.Sc., calculated the mean temperature, mean relative humidity, average amount of vapour in a cubic foot of air, and mean percentage of sunshine for the various winds.

The observations utilised for this purpose, over 10,000 in number, were taken at my station in the south side of Edinburgh 254 feet above the sea, the hours of observation being 9 A.M. and 9 P.M. The values given are the mean of the seven years ending with June 1894. (See Tables XXXIII. to XXXVI.)

As regards sunshine the values are for the five years ending July 1895, and will be found in the last volume of the *Scottish Meteorological Society's Journal*.*

Temperature.—The warmest winds at Edinburgh are S., S.W., and W. The warmest direction is S.W., except in August and September, when it changes to W. The coldest winds, on the other hand, are N. in spring, autumn, and winter, and E. in summer. S.E. winds are characterised by unusually low temperatures in December and January. That severe frost often occurs with the wind in question has been pointed out by the Rev. FENWICK STOW in an interesting and suggestive paper published in the *Royal Meteorological Society's Quarterly Journal*.†

* Vol. x. p. 159.

† Vol. xvii. p. 176.

In spring and summer there is a well marked tendency for warm weather if the wind be calm or from the S.E. or N.W. During autumn and winter, low temperatures are experienced when these winds occur. The explanation is probably to be found in the considerable stretch of land traversed by S.E. and N.W. winds before reaching Edinburgh. During winter the temperature over these districts is low, owing to terrestrial radiation, while in summer the temperature inland is high.

Humidity.—The dampest winds are those from the E., N.E., and S.E., which blow off the North Sea, calms also having a high percentage of humidity. The driest wind is the N.W., except in winter, when the S.W. takes its place. The S.E. wind is a dry one in the early summer.

Vapour in a Cubic Foot of Air is at a maximum with S.W. winds and at a minimum when the direction is N. The S. wind has a remarkably large amount of water vapour present in July, August, and September, this being doubtless due to its high temperature.

Sunshine is most prevalent with winds from the N.W., W., and N., while but little is recorded with winds from an easterly quarter. When the air is calm during winter, sunless weather predominates, but fine weather prevails in summer with a calm atmosphere.

General Remarks.—The climatic features of the various winds at Edinburgh depend in no inconsiderable degree on whether they have blown over the land or over the sea; land winds being sunny, and dry at all seasons, warm in summer and cold in winter. Sea winds, on the other hand, are cold, damp, and sunless at all seasons of the year, the conditions varying according to the relationship existing between the temperature of the land surfaces and that of the contiguous expanses of water. For example, in spring and summer when there is little difference between the temperature of the North Sea and its western shores, a rapid increase of temperature being then in progress, the easterly winds at Edinburgh are comparatively sunny and warm; but in autumn and winter when the above conditions are reversed, the weather experienced is cold, dull, and humid.

ON THE GENERAL CLIMATIC CHARACTERISTICS OF THE MONTHS AT EDINBURGH.

We have referred to the fact that the phenomena which are, in the aggregate, designated "weather," depend on the distribution of pressure over Western Europe at the time. When the barometer, for example, is high to the north of our islands and low to the south we have easterly winds; when the reverse conditions of pressure prevail, winds from the west predominate. The polar and equatorial air currents, as has been shown, are accompanied by totally different phenomena as regards temperature, humidity, rain, sunshine, and so on.

An examination of the data which are graphically projected on the plates clearly shows that certain definite weather types tend to recur from year to year at approxi-

mately the same time. It is not our intention to attempt to demonstrate the general causes concurring in these periodic phenomena, but rather to point out the inter-relations and inter-dependence of the various climatic elements during the passage of the different weather types. As the daily means are computed for various periods, attention can only be drawn to some of the more prominent recurring weather types, which are salient features of the curves.

January.

The most pronounced feature of the meteorology of the month is the cold period which culminates on the 9th, this being associated with a tendency to anti-cyclonic conditions, viz., relatively high pressure, little sunshine, scanty precipitation and that chiefly in the form of snow. Few gales are experienced, fog being consequently in excess. About the time of greatest cold there is a marked increase in polar winds, the equatorial current blowing with diminished frequency.

During the second half of the month pressure gives way, falling after one or two slight recoveries to a minimum at the end of the month, with a marked increase in W. and S.W. winds. Gales now rise to their annual maximum, and are accompanied by considerable precipitation, the rainfall being well above the annual mean after the 24th. Temperature shows a rise from a secondary minimum after the 21st.

February.

During the first twelve days of the month pressure is low, temperature also showing a fall from the 5th to the 9th. Gales fall rapidly from the maximum, while the snow-fall also exhibits a diminution. Rainfall is above the mean at the beginning of the month but decreases in quantity until the 7th. During the first half of the month S.W. winds are well above the average. During the second half of February pressure is, on the whole, high, the anti-cyclonic type being well defined, with few gales and slight precipitation. E. winds begin to show an increase after the 18th. A shallow depression prevails during the last three days of the month with an augmented rainfall and lessened sunshine. A fall of temperature occurs from the 23rd to the 27th.

March.

The month opens with high pressure and sunny, dry weather, the daily range of temperature showing a distinct increase owing to the increased clearness of the skies. S.W. winds decline, while the N. and N.W. currents gain strength, gales from these quarters being frequent. After the first week a fall in pressure takes place, the minimum occurring on the 11th, after which the barometer rises till the 22nd, when snow showers and gales become infrequent, although a well-defined increase is observable in the frequency of hail showers. At the close of the month a rapid rise in

temperature is in progress, the increase being unequally partitioned between the day and night values, the maximum temperatures rising more rapidly than the minima.

April.

Low pressure prevails at the beginning of the month, during the continuance of which polar winds blow with diminished frequency. An interruption in the vernal rise of temperature known as the borrowing days occurs about the 10th, the fall of temperature being greater during the night than during the day, pointing to increased terrestrial radiation. At this time pressure is high, winds from the N.E. and E. being at a temporary maximum, while those from S., S.W., and W. are well below their mean frequency. Snow and hail showers exhibit a decided rise after the 5th. Throughout the last three weeks pressure is high, except for a slight fall culminating on the 21st, which is accompanied by a considerable rainfall, while gales shoot up to their average annual frequency, thereafter to remain steadily below it for four and a half months. During the prevalence of the strong winds, fog is uncommon. After the 21st, pressure rises rapidly, hail showers increase with the N.W. winds which usually blow in the rear of a cyclonic disturbance. A rapid fall of temperature also occurs. Westerly winds fall to their annual minimum about the 26th.

May.

Pressure is well above the mean during the first fourteen days, after which it falls quickly till the 18th, showing an equally rapid recovery in the four days immediately succeeding. E. and N.E. winds are at their annual maximum about the 10th of the month, pressure being then very high, although the rainfall is considerable. A slight fall of temperature occurs at this time. Fog now becomes frequent, thunderstorms also showing an increase, but hail showers are few, the values falling permanently below the annual mean at the close of the month. Rainfall is, on the whole, below the average, sunshine being abundant, except during a period of low pressure about the 15th. Temperature rises rapidly after the temporary interruption about the 10th.

June.

Pressure is high throughout the month, the anti-cyclonic tendency being at a maximum. Thunderstorms now become comparatively frequent, while the prevailing easterly winds bring with them an increased amount of fog. E. winds diminish somewhat from the 2nd to the 9th, after which there is little variation. The daily range of temperature reaches the annual maximum on the 20th, the increased difference between the day and night values being almost entirely due to the higher day temperatures which occur at this time. From the 20th to the 24th the maxima show a decided fall and the minima a less marked one; in other words, there is a distinct tendency for cloudy weather about this time. At the end of the month another well-marked fall of temperature takes place, during an increase in the frequency of N.E. and E. winds. The

sudden abatement of thunderstorms during this interruption of temperature is of interest.

July.

During the month there are two periods characterised by low and high pressure, each of which is associated with well-marked climatological features. The month opens with pressure above the mean, but falls to a minimum on the 7th, about which time thunderstorms rise to their annual maximum with torrential rains. During the first week there is a decided decrease in winds from the N., N.E., and E., while a corresponding increase is observable in winds from the W. The first high-pressure area embraces the ten days ending with the 18th, in the middle of which period temperature rises to the annual maximum on the 15th. Low pressure prevails from the 18th to the 26th, during which period E. winds increase, a point to be noted in connection with the excessive rainfall at the time. Temperature during the passage of the low pressure area continues to fall slowly. The month closes with high pressure, although with rainfall well above the annual mean.

August.

Throughout the month pressure is on the whole low and steady. The most prominent low-pressure period extends over the first half of the month, towards the close of which an enormous increase of rainfall takes place, known in Scotland as the Lammas floods. The absolutely wettest day of the year on smoothing the curve is August 13, the precipitation being then 96 per cent. above the annual mean. About this time a curious increase in the frequency of S.W. winds takes place, the W. wind for the time blowing with diminished frequency. A secondary maximum of temperature culminates on the 13th of the month, the temperature of the sea reaching its annual maximum at this time. After the middle of the month pressure rises slowly, the torrential rains abate, in connection with which the rapid decline of thunderstorms is of interest, electrical disturbances being of comparatively rare occurrence during the second half of the month. At the close of the month W. winds blow with greater persistence than at any other period of the year.

September.

During the greater part of September the tendency is for the anti-cyclonic type of pressure, which is most pronounced from the 11th to the 20th. Calms are now at their annual maximum. Rainfall is still above the mean, but shows a distinct fall from the previous month. The maximum temperature shows a rapid fall after the 13th, which does not appear in the minimum temperatures until the 16th; the fall ceases in both cases on the 22nd, after which a slight rise occurs, due apparently to the greater frequency of westerly winds at the time. During the rapid fall of temperature

referred to above there is little sunshine, which accounts for the comparatively small diurnal range in the temperature values. The month closes with a low barometer, gales now showing an increase.

October.

Pressure is low throughout, rainfall being well above the mean during the first three weeks, with the exception of a few days about the 16th. Gales show an increase after the 7th and are at a maximum about the 20th. This period is noteworthy as having more rainy days than any other time of the year, although the downpours are not of such a torrential character as in July and August. The winds during the month present few features of interest, although a number of small and unimportant oscillations take place from time to time. The excess of N. and S.E. winds is perhaps the most interesting, the latter in connection with the increased frequency of gales. At the close of the month pressure rises slightly, the rainfall diminishing about the time. Temperature falls steadily throughout with few and unimportant interruptions.

November.

During the first week pressure is below the mean, but is well above it in the following week. During the period of relatively high barometer, temperature falls quickly with a considerable augmentation in the precipitation. Northerly winds show a marked excess, a point of interest in connection with the rapid fall of temperature. There is a good deal of sunshine till about the 10th, when the polar current asserts itself. Gales become frequent about the 16th, when there is an increased tendency for snow. The most pronounced feature of the meteorology of the month is the great and rapid fall of pressure to a minimum on the 26th (see page 685), this being accompanied by an increase in equatorial winds, in consequence of which the autumnal fall of temperature is retarded.

December.

Pressure is below the mean in December during the first three weeks, temperature remaining steady till the 17th. The cause of this interruption in the regular autumnal fall of temperature is to be found in the increased prevalence first of S.E., then of S., and finally of westerly winds. Gales during this time are frequent, while snow is of uncommon occurrence. After the 17th temperature falls, S.W. winds blowing with diminished frequency. Snow now becomes frequent, while pressure is higher than during any time in the three months before or after. Calms are common at this time, pressure being high, conditions eminently favourable for the deposition of aqueous vapour on the dust particles and its consequent condensation into fog. The increase of S.E. winds at the close of the year is of interest in connection with the low temperature at the time.

TABLE I.

Showing the Mean Barometric Pressure of each Day of the Year at Edinburgh on the Mean of Fifty Years.

At 32° and Mean Sea-Level.

Day.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	29.858	29.704	29.831	29.782	29.955	29.991	29.920	29.888	29.887	29.760	29.797	29.836
2	.860	.727	.862	.764	.963	.949	.894	.878	.862	.829	.850	.922
3	.818	.767	.935	.775	.894	.918	.848	.828	.855	.836	.814	.814
4	.820	.877	.904	.781	.930	.916	.855	.834	.917	.913	.795	.813
5	.748	.861	.905	.801	.941	.903	.858	.849	.906	.906	.799	.757
6	.834	.863	.832	.850	.914	.900	.845	.824	.885	.867	.863	.747
7	.850	.793	.801	.880	.884	.902	.822	.804	.855	.766	.875	.769
8	.790	.780	.810	.867	.879	.889	.822	.789	.912	.804	.881	.835
9	.842	.845	.817	.926	.900	.880	.850	.830	.840	.768	.905	.846
10	.832	.792	.817	.947	.961	.884	.905	.841	.858	.764	.858	.865
11	.850	.829	.803	.931	.958	.910	.904	.841	.912	.758	.855	.841
12	.878	.876	.801	.917	.937	.909	.912	.866	.951	.831	.892	.889
13	.852	.900	.846	.901	30.013	.912	.903	.833	.972	.849	.864	.803
14	.842	.874	.843	.914	29.986	.942	.876	.850	.940	.817	.839	.825
15	.835	.875	.825	.930	.946	.935	.932	.853	.924	.789	.842	.812
16	.846	.868	.864	.900	.905	.992	.928	.863	.934	.750	.830	.782
17	.835	.885	.865	.914	.856	.984	.888	.836	.956	.746	.849	.835
18	.771	.881	.889	.945	.815	.987	.852	.890	.934	.813	.902	.749
19	.764	.887	.899	.900	.865	.972	.841	.882	.917	.771	.842	.729
20	.761	.871	.830	.859	.888	.979	.847	.879	.890	.740	.841	.753
21	.828	.914	.878	.877	.954	.937	.852	.873	.891	.781	.831	.840
22	.807	.898	.931	.869	.965	.900	.832	.854	.842	.750	.655	.815
23	.766	.921	.913	.878	.946	.905	.836	.855	.868	.718	.695	.908
24	.741	.894	.837	.917	.942	.924	.838	.874	.879	.707	.716	.879
25	.735	.889	.828	.895	.907	.915	.820	.874	.870	.764	.637	.901
26	.736	.826	.749	.923	.923	.930	.870	.828	.874	.786	.628	.927
27	.764	.820	.789	.930	.904	.936	.891	.866	.803	.759	.706	.948
28	.713	.852	.821	.912	.918	.929	.918	.861	.784	.786	.759	.918
29	.745815	.961	.952	.941	.913	.869	.772	.801	.734	.829
30	.670790	.983	.956	.956	.889	.871	.813	.828	.791	.832
31	.679746984882	.880842855
Means	29.796	29.849	29.841	29.887	29.927	29.931	29.872	29.854	29.883	29.794	29.805	29.835

The Mean of the Twelve Monthly Values is 29.856 inches.

TABLE II.

Showing the Smoothed Difference from Mean of Year of Mean Barometric Pressure.

Thousandths of an Inch.

Day.	Jan.	Feb.	March.	April.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	2	153	8	92	111	119	67	27	20	55	26	8
2	11	123	20	82	81	97	31	8	12	48	36	1
3	23	66	44	83	73	72	10	9	22	3	36	6
4	61	21	59	70	66	50	2	19	37	29	53	61
5	55	11	24	45	72	50	3	20	47	39	37	84
6	45	17	10	12	57	46	14	30	26	10	10	98
7	31	44	42	10	36	41	26	50	28	44	17	72
8	29	50	47	35	32	34	25	48	13	77	31	39
9	35	50	41	57	57	28	3	36	14	77	25	7
10	15	34	44	75	84	35	30	19	14	93	17	5
11	3	24	49	72	96	45	51	7	51	72	12	9
12	4	12	39	57	113	54	50	13	89	43	14	12
13	1	27	26	55	123	65	41	6	98	24	9	17
14	13	27	18	59	126	74	48	11	89	38	8	43
15	15	16	12	59	90	100	56	1	77	71	19	50
16	17	20	5	59	46	114	60	5	82	94	16	46
17	39	22	17	64	3	132	33	7	85	86	4	67
18	66	28	28	64	10	125	4	13	80	79	8	85
19	91	24	17	45	0	123	11	28	58	81	6	112
20	72	35	13	23	47	107	9	22	43	92	18	82
21	57	38	24	12	80	83	12	13	18	99	80	53
22	56	55	51	19	99	58	16	5	11	106	129	2
23	85	48	38	32	95	53	21	5	7	131	167	11
24	109	45	3	44	76	59	25	12	16	126	173	40
25	119	14	51	56	68	67	13	3	18	104	196	46
26	111	11	67	60	55	71	4	3	7	86	199	69
27	118	23	69	66	59	76	27	4	36	79	158	75
28	115	22	48	78	69	79	51	9	70	74	123	42
29	150	...	47	96	86	86	51	11	66	51	95	4
30	161	...	72	110	108	83	39	17	74	32	69	17
31	175	...	83	...	122	...	30	23	...	34	...	8

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

TABLE III.

Showing the Mean Temperature of the Air at Edinburgh on each Day of the Year during Fifty Years.

Mean of Max. and Min.

Day.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	38.16	39.15	38.71	43.18	48.00	54.09	57.48	57.82	55.76	50.91	44.75	38.83
2	37.24	38.44	39.31	43.60	46.84	53.91	57.86	57.95	57.06	50.03	44.27	39.73
3	36.90	39.06	40.15	44.16	47.31	53.40	57.77	57.73	56.08	49.48	44.55	39.82
4	36.96	39.93	40.03	43.69	46.69	53.87	57.48	58.05	55.47	49.25	44.29	40.59
5	36.99	40.03	40.45	44.42	47.11	53.94	57.57	58.23	55.93	49.34	43.96	40.88
6	36.28	38.89	40.58	43.91	47.56	54.54	57.70	58.60	56.04	49.84	43.22	40.12
7	36.42	39.33	40.60	43.59	48.79	54.38	57.90	58.96	55.88	49.30	43.16	39.91
8	36.70	38.20	40.43	44.06	48.25	54.12	58.32	58.84	55.29	49.42	43.62	39.16
9	36.52	36.75	39.35	43.41	47.67	54.36	57.59	58.02	55.42	48.67	42.74	39.65
10	36.91	37.70	39.42	43.53	47.90	54.06	57.62	57.85	55.22	49.19	41.46	40.26
11	37.07	38.50	39.57	43.42	48.05	54.06	57.90	58.10	55.09	48.64	41.38	39.84
12	37.21	38.34	39.40	43.25	48.73	54.19	58.49	59.17	54.85	47.98	40.60	39.25
13	37.93	38.37	39.66	43.66	49.63	55.48	58.99	58.76	55.44	47.82	41.37	39.25
14	38.28	39.52	39.99	43.36	49.43	55.65	58.99	58.81	55.32	48.22	41.40	39.28
15	37.80	39.67	40.39	44.64	49.09	55.67	59.11	58.48	54.44	48.13	41.68	39.24
16	38.11	39.52	40.15	45.29	49.88	55.53	58.21	58.06	54.56	47.23	40.86	40.02
17	37.66	39.65	40.86	44.73	50.02	55.68	58.19	57.57	53.90	47.47	40.98	39.31
18	38.84	40.12	41.90	45.67	50.29	56.08	58.35	57.82	53.67	47.40	40.65	39.25
19	38.80	39.48	41.02	46.40	50.34	56.49	58.62	57.58	52.83	46.91	41.84	38.70
20	37.42	39.08	40.58	46.76	50.99	56.98	58.32	57.22	53.11	46.47	41.32	38.43
21	36.31	39.82	40.01	46.76	50.86	57.97	59.11	57.52	51.91	45.71	41.38	37.98
22	36.99	39.57	40.91	45.52	51.02	57.26	58.39	56.68	51.52	45.83	40.88	37.71
23	37.86	40.07	41.51	44.88	52.07	56.55	58.34	56.79	52.09	45.93	39.52	36.99
24	38.48	39.70	41.92	45.34	52.72	56.24	58.29	56.59	52.56	45.31	40.01	37.03
25	38.66	39.33	41.73	46.03	52.18	56.51	57.85	57.13	52.39	44.10	40.15	37.76
26	38.57	38.80	40.98	46.11	51.99	56.90	58.01	56.90	52.15	43.92	40.03	37.82
27	38.99	38.35	41.10	45.99	52.33	58.14	57.51	56.66	52.60	44.76	39.83	37.05
28	39.11	38.69	41.34	46.16	51.85	58.29	57.99	56.54	51.64	44.60	40.00	37.60
29	38.49	(39.18)	42.23	46.64	52.49	58.14	57.70	56.25	51.31	44.08	40.21	38.49
30	39.32	...	42.44	46.80	53.20	57.32	57.87	56.06	51.13	44.11	39.33	37.96
31	39.21	...	43.36	...	53.00	...	57.72	55.82	...	44.24	...	37.85
Means	37.75	39.07	40.65	44.83	49.88	55.66	58.10	57.63	54.02	47.24	41.65	38.90

The Mean of the Twelve Monthly Values is 47°.11.

TABLE IV.

*Showing the Smoothed Difference from Mean of Year of the Mean Temperature
Deduced from Fifty Years' Observation.*

Day.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	° 9·4	° 8·2	° 8·2	° 3·7	° 0·1	° 6·6	° 10·4	° 10·7	° 9·1	° 3·6	° 2·7	° 7·8
2	9·7	8·2	7·7	3·5	0·3	6·7	10·6	10·7	9·2	3·0	2·6	7·6
3	10·1	8·0	7·3	3·3	0·1	6·6	10·6	10·9	9·1	2·5	2·7	7·1
4	10·2	7·4	6·9	3·0	0·1	6·6	10·5	10·9	8·7	2·2	2·8	6·7
5	10·4	7·5	6·8	3·1	0·0	7·0	10·5	11·2	8·7	2·4	3·3	6·6
6	10·5	7·7	6·6	3·1	0·7	7·2	10·6	11·5	8·8	2·4	3·7	6·8
7	10·6	8·3	6·6	3·2	1·1	7·2	10·9	11·7	8·6	2·4	3·8	7·4
8	10·6	9·0	7·0	3·4	1·1	7·2	10·8	11·2	8·4	2·0	3·9	7·5
9	10·4	9·6	7·4	3·4	0·8	7·1	10·7	11·1	8·2	2·0	4·5	7·4
10	10·3	9·5	7·7	3·7	0·8	7·0	10·6	10·9	8·1	1·7	5·2	7·2
11	10·0	8·9	7·6	3·7	1·1	7·0	10·9	11·3	7·9	1·5	6·0	7·3
12	9·7	8·7	7·6	3·7	1·7	7·5	11·4	11·6	7·7	1·0	6·0	7·7
13	9·3	8·4	7·4	3·7	2·1	8·0	11·7	11·8	7·8	0·9	6·0	7·9
14	9·1	7·9	7·1	3·2	2·3	8·5	11·9	11·6	7·6	0·9	5·6	7·9
15	9·0	7·5	6·9	2·7	2·4	8·5	11·7	11·3	7·7	0·7	5·8	7·6
16	9·2	7·5	6·6	2·2	2·6	8·5	11·4	10·9	7·2	0·5	5·9	7·6
17	8·9	7·3	6·1	1·9	3·0	8·6	11·1	10·7	6·9	0·3	6·3	7·6
18	8·7	7·4	5·8	1·5	3·1	9·0	11·3	10·5	6·4	0·1	5·9	8·0
19	8·8	7·5	5·9	0·8	3·4	9·4	11·3	10·4	6·1	0·2	5·8	8·4
20	9·6	7·7	6·6	0·5	3·6	10·0	11·6	10·3	5·5	0·7	5·6	8·7
21	10·2	7·6	6·6	0·8	3·8	10·3	11·5	10·0	5·1	1·1	5·9	9·1
22	10·1	7·3	6·3	1·4	4·2	10·2	11·5	9·9	4·7	1·3	6·5	9·5
23	9·3	7·3	5·7	1·9	4·8	9·9	11·2	9·6	4·9	1·4	7·0	9·9
24	8·8	7·4	5·4	1·7	5·2	9·3	11·1	9·7	5·2	2·0	7·2	9·8
25	8·5	7·8	5·6	1·3	5·2	9·4	10·9	9·8	5·3	2·7	7·0	9·6
26	8·4	8·3	5·8	1·1	5·0	10·1	10·7	9·8	5·3	2·8	7·0	9·6
27	8·2	8·5	6·0	1·0	4·9	10·7	10·7	9·6	5·0	2·7	7·2	9·6
28	8·2	8·5	5·6	0·8	5·1	11·1	10·6	9·4	4·7	2·6	7·1	9·4
29	8·1	...	5·1	0·6	5·4	10·8	10·7	9·2	4·2	2·8	7·3	9·1
30	8·1	...	4·4	0·0	5·8	10·5	10·7	8·9	4·0	2·0	7·7	9·0
31	7·9	...	4·1	...	6·3	8·8	...	2·7	...	9·1

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

TABLE V.

Showing the Mean Temperature of the Air on each Day of the Year at Edinburgh during 100 Years.

Day.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	37.36	38.16	39.02	42.62	48.07	53.94	57.29	58.24	55.77	50.71	44.60	39.22
2	36.34	37.79	38.86	43.34	47.16	54.06	57.65	58.32	56.46	50.34	44.54	39.56
3	36.24	37.61	39.72	43.19	47.50	53.65	57.70	58.37	55.83	50.16	44.38	39.29
4	36.87	37.80	39.70	43.32	47.40	53.96	57.79	58.72	55.66	49.76	43.42	39.86
5	36.60	38.06	39.29	43.72	47.80	53.74	58.17	58.78	55.70	49.17	43.51	39.86
6	36.27	38.14	39.36	43.70	47.85	54.31	57.99	58.65	55.64	49.70	42.95	39.43
7	36.12	38.70	39.43	43.88	48.58	54.55	57.85	58.77	55.51	49.77	42.80	39.70
8	35.86	38.47	39.58	44.17	48.58	54.37	58.30	59.23	54.86	49.45	42.59	39.22
9	35.91	38.00	39.46	43.58	47.96	54.48	57.92	58.45	55.00	49.42	42.29	39.60
10	36.02	38.23	39.43	43.68	47.92	54.41	57.94	58.30	54.91	48.95	41.69	39.36
11	35.92	38.37	39.56	43.46	48.40	54.73	58.46	58.58	54.86	48.59	41.94	39.47
12	36.18	38.10	39.68	43.96	48.78	55.08	58.58	58.98	54.47	47.81	41.27	39.34
13	37.20	38.18	40.13	43.94	49.22	55.88	58.88	58.33	54.64	47.80	41.80	39.50
14	36.67	38.69	40.14	44.31	48.86	55.86	58.98	58.20	54.74	48.33	41.41	39.25
15	35.92	38.92	40.40	45.07	49.44	56.00	59.20	58.27	54.45	48.18	41.24	39.30
16	36.86	39.10	40.50	45.02	50.38	56.21	59.06	57.75	54.80	47.74	40.37	39.82
17	36.63	38.71	40.83	44.66	50.61	56.36	58.80	57.72	54.27	47.78	40.89	39.32
18	37.58	38.61	41.55	44.88	50.56	56.33	58.77	58.04	53.68	47.10	39.90	39.22
19	37.82	38.32	41.20	45.64	50.53	56.20	58.63	58.00	53.30	47.18	40.63	38.73
20	37.03	38.42	41.31	46.30	50.88	56.59	58.68	57.51	52.67	47.00	40.61	38.30
21	36.34	38.60	41.10	46.28	51.09	57.06	58.74	57.45	52.12	46.31	40.67	37.99
22	36.57	38.70	41.20	45.97	51.26	56.71	58.48	56.57	51.51	46.28	40.30	37.86
23	37.24	39.52	41.16	45.55	52.10	56.80	58.61	57.28	51.67	46.06	39.72	37.06
24	37.87	39.48	41.37	45.42	52.70	56.74	58.88	57.10	52.55	45.90	39.62	37.06
25	37.62	39.22	41.36	46.15	52.21	56.78	58.48	57.00	52.50	45.07	39.06	37.41
26	37.84	38.66	40.91	46.46	52.16	56.89	58.64	56.62	52.40	44.48	39.92	37.06
27	37.62	38.70	41.85	46.46	52.72	57.76	58.52	56.72	52.23	44.93	39.35	36.42
28	37.74	38.87	41.86	47.00	52.36	58.06	58.62	56.55	51.53	44.31	39.54	36.65
29	37.34	(39.00)	42.12	47.25	52.91	58.18	58.18	56.66	51.27	43.83	39.86	37.22
30	38.38	...	41.96	47.47	53.10	57.57	58.26	56.52	51.08	44.34	39.86	37.45
31	38.04	...	43.02	...	53.36	...	58.19	56.21	...	44.24	...	37.20
Means	36.90	38.50	40.55	44.88	50.08	55.78	58.39	57.80	53.87	47.44	41.96	38.60

The Mean of the Twelve Monthly Values is 47°.06.

TABLE VI.

Showing the Smoothed Difference from Mean of Year of the Mean Temperature deduced from 100 Years' Observation.

Day.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	°	°	°	°	°	°	°	°	°	°	°	°
2	10·1	9·1	8·1	4·1	0·5	6·7	10·4	11·2	9·1	3·6	2·6	7·5
3	10·8	9·2	7·9	4·0	0·5	6·8	10·5	11·3	9·0	3·3	2·6	7·7
4	10·9	9·3	7·6	3·8	0·3	6·8	10·6	11·4	8·9	3·0	2·9	7·5
5	10·8	9·2	7·5	3·7	0·5	6·7	10·8	11·6	8·7	2·6	3·3	7·4
6	10·5	9·1	7·6	3·5	0·6	6·9	10·9	11·7	8·6	2·5	3·8	7·3
7	10·7	8·8	7·7	3·3	1·0	7·1	10·9	11·7	8·6	2·5	4·0	7·4
8	11·0	8·6	7·6	3·1	1·3	7·3	11·0	11·8	8·3	2·6	4·3	7·6
9	11·1	8·7	7·6	3·2	1·3	7·4	11·0	11·8	8·1	2·5	4·5	7·6
10	11·1	8·9	7·6	3·5	1·0	7·5	11·0	11·4	7·9	1·9	5·1	7·6
11	11·0	8·8	7·5	3·4	1·3	7·7	11·3	11·6	7·7	1·4	5·4	7·7
12	10·6	8·8	7·3	3·3	1·7	8·2	11·6	11·6	7·6	1·0	5·4	7·6
13	10·4	8·7	7·1	3·0	1·9	8·5	11·8	11·4	7·6	0·9	5·6	7·7
14	10·5	8·5	6·8	2·6	2·1	8·9	12·0	11·2	7·5	1·0	5·6	7·7
15	10·6	8·2	6·7	2·3	2·5	9·0	12·0	11·0	7·6	1·0	6·1	7·6
16	10·6	8·2	6·5	2·1	3·1	9·1	12·0	10·9	7·4	0·8	6·2	7·6
17	10·0	8·2	6·1	2·2	3·5	9·2	11·8	10·8	7·2	0·5	6·7	7·6
18	9·7	8·5	5·9	2·0	3·5	9·2	11·7	10·9	6·7	0·3	6·6	8·0
19	9·6	8·6	5·7	1·5	3·6	9·3	11·6	10·8	6·2	0·0	6·7	8·3
20	10·0	8·6	5·9	1·0	3·8	9·6	11·6	10·6	5·6	0·2	6·4	8·7
21	10·4	8·5	5·9	0·9	4·0	9·7	11·6	10·1	5·0	0·5	6·5	9·0
22	10·3	8·1	5·9	1·1	4·3	9·8	11·5	10·0	4·7	0·8	6·8	9·4
23	9·8	7·8	5·8	1·4	5·0	9·7	11·6	9·9	4·8	1·0	7·2	9·7
24	9·5	7·7	5·8	1·4	5·3	9·7	11·6	10·1	5·2	1·4	7·6	9·9
25	9·3	7·9	5·8	1·0	5·3	9·7	11·6	9·8	5·4	1·9	7·5	9·9
26	9·4	8·2	5·7	0·7	5·3	10·1	11·5	9·7	5·3	2·2	7·6	10·1
27	9·3	8·3	5·5	0·4	5·4	10·5	11·5	9·6	5·0	2·5	7·5	10·3
28	9·5	8·2	5·1	0·2	5·6	10·9	11·4	9·6	4·6	2·6	7·5	10·0
29	9·2	...	5·1	0·2	5·7	10·9	11·3	9·5	4·2	2·9	7·3	10·0
30	9·1	...	4·7	0·5	6·1	10·6	11·1	9·4	3·9	2·9	7·4	9·8
31	8·9	...	4·5	...	6·4	...	11·2	9·1	...	2·7	...	9·7

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

TABLE VII.

Showing the Mean Maximum Temperature of the Air at Edinburgh on each Day of the Year during Fifty Years.

Day.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	42°66	44°28	44°00	50°48	56°02	62°42	65°12	65°76	63°28	57°56	49°52	44°40
2	41°68	43°42	45°30	50°74	54°84	61°66	65°66	65°64	63°82	56°52	49°68	45°80
3	41°72	44°26	45°40	51°16	55°12	60°82	65°20	64°84	62°86	55°80	50°02	44°82
4	41°76	45°06	45°52	50°84	54°44	61°48	64°80	65°66	62°64	55°30	49°80	45°80
5	41°64	45°30	46°58	50°98	54°64	61°88	65°20	65°90	63°52	55°58	49°62	45°82
6	41°36	43°88	46°54	50°82	54°98	62°10	64°98	65°90	63°34	56°26	48°52	44°86
7	41°34	44°62	46°78	50°24	55°72	61°90	65°36	65°84	63°14	55°26	48°86	44°04
8	41°10	43°62	46°84	50°56	56°20	62°24	65°96	65°42	63°18	55°42	48°34	44°38
9	40°98	41°74	45°48	50°48	55°38	62°08	64°98	65°30	63°02	54°72	47°72	44°44
10	41°66	42°46	45°76	50°38	55°76	61°74	65°48	65°40	62°48	55°26	46°48	45°18
11	42°18	43°72	45°76	50°86	55°28	62°22	65°24	65°44	62°70	54°72	46°36	44°68
12	41°98	43°94	45°48	50°58	56°28	61°98	66°10	66°60	62°38	54°22	45°88	43°96
13	42°90	43°56	45°78	50°66	57°32	63°32	66°60	65°84	62°68	53°60	46°50	43°74
14	43°00	44°96	46°50	50°18	56°94	64°10	66°32	66°64	63°10	53°60	46°72	44°46
15	42°96	45°22	46°50	51°36	56°42	63°60	66°54	65°98	61°22	54°08	46°50	43°88
16	43°16	44°44	46°02	52°68	57°64	63°86	66°36	65°04	61°38	52°80	46°34	44°54
17	42°94	44°94	47°14	52°32	57°84	63°48	66°34	64°42	61°06	53°04	46°36	43°82
18	43°66	45°34	48°04	52°84	57°54	64°06	65°90	65°04	60°48	52°36	46°04	44°28
19	43°56	44°72	47°42	53°60	57°82	64°98	66°08	64°42	59°90	52°30	47°18	43°44
20	42°68	44°32	46°46	54°34	59°04	65°50	66°26	64°76	59°68	52°32	45°66	42°62
21	41°68	44°50	46°76	53°98	58°94	66°06	66°76	64°08	58°32	51°60	46°66	42°94
22	41°98	45°14	47°72	52°74	59°86	65°50	65°66	64°04	58°36	51°74	45°52	42°52
23	43°02	45°38	47°98	51°56	60°18	64°70	66°08	64°08	58°60	51°36	44°80	41°78
24	43°46	44°82	48°50	52°68	60°86	63°84	65°70	64°08	58°58	50°58	45°52	41°86
25	44°08	44°88	48°36	53°56	59°56	63°50	64°82	64°86	58°90	50°22	45°08	42°62
26	44°16	44°44	47°24	53°88	59°84	64°96	65°40	64°12	58°52	50°34	45°20	42°70
27	44°16	43°84	47°18	53°76	60°04	65°64	64°88	63°80	59°28	50°32	44°46	42°02
28	43°86	43°98	47°58	53°86	59°80	66°04	65°68	64°30	58°30	50°38	44°94	42°44
29	43°60	(43°55)	48°98	54°74	60°30	65°92	65°08	63°72	57°84	49°88	45°24	43°14
30	44°58	...	49°42	54°42	61°24	65°12	65°20	63°58	57°42	49°52	44°44	42°76
31	43°60	...	50°66	...	61°52	...	65°08	63°14	...	49°52	...	42°92
Means	42°68	44°31	46°89	52°04	57°65	63°55	65°64	64°96	61°00	53°10	46°80	43°76

The Mean of the Twelve Monthly Values is 53°·53.

TABLE VIII.

Showing the Smoothed Difference from Mean of Year of the Mean Maximum Temperature deduced from Fifty Years' Observation.

Day.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	°	°	°	°	°	°	°	°	°	°	°	°
2	<i>11·1</i>	9·8	<i>9·1</i>	<i>3·0</i>	<i>1·6</i>	<i>8·3</i>	<i>11·8</i>	<i>12·0</i>	<i>9·9</i>	<i>3·6</i>	<i>4·0</i>	<i>8·7</i>
3	<i>11·5</i>	<i>9·5</i>	<i>8·6</i>	<i>2·7</i>	<i>1·8</i>	<i>8·1</i>	<i>11·8</i>	<i>12·2</i>	<i>9·8</i>	<i>3·1</i>	<i>3·8</i>	<i>8·5</i>
4	<i>11·8</i>	<i>8·7</i>	<i>7·7</i>	<i>2·5</i>	<i>1·2</i>	<i>7·9</i>	<i>11·5</i>	<i>11·9</i>	<i>9·5</i>	<i>2·0</i>	<i>3·7</i>	<i>8·0</i>
5	<i>11·9</i>	<i>8·8</i>	<i>7·3</i>	<i>2·6</i>	<i>1·2</i>	<i>8·3</i>	<i>11·4</i>	<i>12·3</i>	<i>9·6</i>	<i>2·2</i>	<i>4·2</i>	<i>8·0</i>
6	<i>12·1</i>	<i>8·9</i>	<i>6·9</i>	<i>2·9</i>	<i>1·6</i>	<i>8·4</i>	<i>11·7</i>	<i>12·4</i>	<i>9·8</i>	<i>2·2</i>	<i>4·2</i>	<i>8·6</i>
7	<i>12·3</i>	<i>9·5</i>	<i>6·8</i>	<i>3·0</i>	<i>2·1</i>	<i>8·6</i>	<i>11·9</i>	<i>12·2</i>	<i>9·7</i>	<i>2·1</i>	<i>5·0</i>	<i>9·1</i>
8	<i>12·4</i>	<i>10·2</i>	<i>7·2</i>	<i>3·1</i>	<i>2·2</i>	<i>8·5</i>	<i>11·9</i>	<i>12·0</i>	<i>9·6</i>	<i>1·6</i>	<i>5·2</i>	<i>9·2</i>
9	<i>12·3</i>	<i>10·9</i>	<i>7·5</i>	<i>3·1</i>	<i>2·3</i>	<i>8·5</i>	<i>11·9</i>	<i>11·8</i>	<i>9·4</i>	<i>1·6</i>	<i>6·0</i>	<i>8·9</i>
10	<i>11·9</i>	<i>10·9</i>	<i>7·9</i>	<i>3·0</i>	<i>1·9</i>	<i>8·5</i>	<i>11·7</i>	<i>11·9</i>	<i>9·2</i>	<i>1·4</i>	<i>6·7</i>	<i>8·8</i>
11	<i>11·6</i>	<i>10·2</i>	<i>7·9</i>	<i>2·9</i>	<i>2·2</i>	<i>8·4</i>	<i>12·1</i>	<i>12·3</i>	<i>9·0</i>	<i>1·2</i>	<i>7·3</i>	<i>8·9</i>
12	<i>11·2</i>	<i>9·8</i>	<i>7·9</i>	<i>2·8</i>	<i>2·8</i>	<i>9·0</i>	<i>12·5</i>	<i>12·4</i>	<i>9·0</i>	<i>0·6</i>	<i>7·3</i>	<i>9·4</i>
13	<i>10·9</i>	<i>9·4</i>	<i>7·6</i>	<i>3·1</i>	<i>3·3</i>	<i>9·7</i>	<i>12·8</i>	<i>12·8</i>	<i>9·2</i>	<i>0·3</i>	<i>7·2</i>	<i>9·5</i>
14	<i>10·6</i>	<i>8·9</i>	<i>7·3</i>	<i>2·8</i>	<i>3·4</i>	<i>10·1</i>	<i>12·9</i>	<i>12·7</i>	<i>8·8</i>	<i>0·2</i>	<i>6·9</i>	<i>9·5</i>
15	<i>10·5</i>	<i>8·7</i>	<i>7·2</i>	<i>2·1</i>	<i>3·5</i>	<i>10·3</i>	<i>12·9</i>	<i>12·4</i>	<i>8·4</i>	<i>0·0</i>	<i>7·0</i>	<i>9·2</i>
16	<i>10·5</i>	<i>8·7</i>	<i>7·0</i>	<i>1·4</i>	<i>3·8</i>	<i>10·1</i>	<i>12·9</i>	<i>11·6</i>	<i>7·7</i>	<i>0·2</i>	<i>7·1</i>	<i>9·5</i>
17	<i>10·3</i>	<i>8·6</i>	<i>6·5</i>	<i>0·9</i>	<i>4·1</i>	<i>10·1</i>	<i>12·7</i>	<i>11·3</i>	<i>7·4</i>	<i>0·8</i>	<i>7·3</i>	<i>9·3</i>
18	<i>10·1</i>	<i>8·5</i>	<i>6·0</i>	<i>0·6</i>	<i>4·2</i>	<i>10·6</i>	<i>12·6</i>	<i>11·1</i>	<i>6·9</i>	<i>1·0</i>	<i>7·0</i>	<i>9·7</i>
19	<i>10·2</i>	<i>8·7</i>	<i>6·2</i>	<i>0·1</i>	<i>4·6</i>	<i>11·3</i>	<i>12·5</i>	<i>11·2</i>	<i>6·5</i>	<i>1·2</i>	<i>7·2</i>	<i>10·1</i>
20	<i>10·9</i>	<i>9·0</i>	<i>6·7</i>	<i>0·4</i>	<i>5·1</i>	<i>12·0</i>	<i>12·8</i>	<i>10·9</i>	<i>5·8</i>	<i>1·5</i>	<i>7·0</i>	<i>10·5</i>
21	<i>11·4</i>	<i>8·9</i>	<i>6·6</i>	<i>0·2</i>	<i>5·7</i>	<i>12·2</i>	<i>12·7</i>	<i>10·8</i>	<i>5·3</i>	<i>1·6</i>	<i>7·6</i>	<i>10·8</i>
22	<i>11·3</i>	<i>8·5</i>	<i>6·0</i>	<i>0·8</i>	<i>6·1</i>	<i>11·9</i>	<i>12·6</i>	<i>10·5</i>	<i>4·9</i>	<i>2·0</i>	<i>7·9</i>	<i>11·1</i>
23	<i>10·7</i>	<i>8·4</i>	<i>5·5</i>	<i>1·2</i>	<i>6·8</i>	<i>11·1</i>	<i>12·3</i>	<i>10·5</i>	<i>5·0</i>	<i>2·3</i>	<i>8·2</i>	<i>11·5</i>
24	<i>10·0</i>	<i>8·5</i>	<i>5·2</i>	<i>0·9</i>	<i>6·7</i>	<i>10·5</i>	<i>12·0</i>	<i>10·8</i>	<i>5·2</i>	<i>2·8</i>	<i>8·4</i>	<i>11·4</i>
25	<i>10·0</i>	<i>8·8</i>	<i>5·5</i>	<i>0·2</i>	<i>6·6</i>	<i>10·6</i>	<i>11·8</i>	<i>10·8</i>	<i>5·1</i>	<i>3·2</i>	<i>8·3</i>	<i>11·1</i>
26	<i>9·4</i>	<i>9·1</i>	<i>5·9</i>	<i>0·2</i>	<i>6·3</i>	<i>11·2</i>	<i>11·5</i>	<i>10·7</i>	<i>5·4</i>	<i>3·2</i>	<i>8·6</i>	<i>11·1</i>
27	<i>9·5</i>	<i>9·4</i>	<i>6·2</i>	<i>0·3</i>	<i>6·4</i>	<i>12·0</i>	<i>11·8</i>	<i>10·5</i>	<i>5·2</i>	<i>3·2</i>	<i>8·7</i>	<i>11·1</i>
28	<i>9·7</i>	<i>9·6</i>	<i>5·6</i>	<i>0·6</i>	<i>6·5</i>	<i>12·3</i>	<i>11·7</i>	<i>10·4</i>	<i>4·9</i>	<i>3·3</i>	<i>8·6</i>	<i>11·0</i>
29	<i>9·5</i>	...	<i>4·9</i>	<i>0·8</i>	<i>6·9</i>	<i>12·2</i>	<i>11·8</i>	<i>10·3</i>	<i>4·3</i>	<i>3·6</i>	<i>8·7</i>	<i>10·7</i>
30	<i>9·6</i>	...	<i>3·8</i>	<i>1·5</i>	<i>7·5</i>	<i>11·9</i>	<i>11·6</i>	<i>9·9</i>	<i>4·1</i>	<i>3·9</i>	<i>8·8</i>	<i>10·6</i>
31	<i>9·4</i>	...	<i>3·3</i>	...	<i>8·2</i>	...	<i>11·8</i>	<i>9·8</i>	...	<i>4·0</i>	...	<i>10·8</i>

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

TABLE IX.

Showing the Mean Minimum Temperature of the Air at Edinburgh on each Day of the Year during Fifty Years.

Day.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	33.66	34.02	33.42	35.90	39.98	45.76	49.84	49.88	48.24	44.26	39.98	34.26
2	32.80	33.46	33.32	36.46	38.84	46.16	50.06	50.26	50.30	43.54	38.86	33.66
3	32.08	33.86	34.90	37.16	39.50	45.98	50.34	50.62	49.30	43.16	39.08	34.82
4	32.16	34.80	34.54	36.54	38.94	46.26	50.16	50.44	48.30	43.20	38.78	35.38
5	32.34	34.76	34.32	37.86	39.58	46.00	49.94	50.56	48.34	43.10	38.30	35.94
6	31.20	33.90	34.62	37.00	40.14	46.98	50.42	51.30	48.74	43.40	37.92	35.38
7	31.50	34.04	34.42	36.94	40.86	46.86	50.44	51.08	48.62	43.34	37.46	35.78
8	32.30	32.78	34.02	37.56	40.28	46.00	50.68	52.26	47.40	43.42	38.90	33.94
9	32.06	31.76	33.22	36.34	39.96	46.64	50.20	50.76	47.82	42.62	37.76	34.86
10	32.16	32.94	33.08	36.68	40.04	46.38	49.76	50.30	47.96	43.12	36.44	35.34
11	31.96	33.28	33.38	35.98	40.92	45.90	50.56	50.76	47.48	42.56	36.40	35.00
12	32.44	32.74	33.32	35.92	41.18	46.40	50.88	51.74	47.32	41.74	35.32	34.54
13	32.96	33.18	33.54	36.66	41.94	47.64	51.38	51.68	48.20	42.04	36.24	34.76
14	33.56	34.14	33.48	36.54	41.92	47.20	51.66	50.98	47.54	42.84	36.08	34.10
15	32.64	34.12	34.28	37.92	41.76	47.74	51.68	50.98	47.66	42.18	36.86	34.61
16	33.06	34.60	34.28	37.90	42.12	47.20	50.06	51.08	47.74	41.66	35.38	35.50
17	32.38	34.36	34.56	37.14	42.20	47.88	50.04	50.72	46.74	41.90	35.60	34.80
18	34.02	34.90	35.76	38.50	43.04	48.10	50.80	50.60	46.86	41.44	35.26	34.22
19	34.04	34.24	34.62	39.20	42.86	48.00	51.16	50.74	45.76	41.52	36.50	33.96
20	32.16	33.84	34.70	39.18	42.94	48.46	50.38	49.68	46.54	40.62	36.98	34.24
21	30.94	34.14	33.26	39.54	42.78	49.88	51.46	50.96	45.50	39.82	36.10	33.02
22	32.00	34.00	34.10	38.30	43.18	49.02	51.12	49.32	44.68	39.92	36.24	32.90
23	32.70	34.76	35.04	38.20	43.96	48.40	50.60	49.50	45.58	40.50	34.30	32.20
24	33.50	34.58	35.34	38.00	44.58	48.64	50.88	49.10	46.54	40.04	34.50	32.20
25	33.24	33.78	35.10	38.50	44.80	49.52	50.88	49.40	45.88	39.98	35.22	32.90
26	32.98	33.16	34.72	38.34	44.14	48.84	50.62	49.68	45.78	37.50	34.86	32.94
27	33.82	32.86	35.02	38.22	44.62	50.64	50.14	49.52	45.92	39.20	35.20	32.08
28	34.36	33.40	35.10	38.46	43.90	50.54	50.30	48.78	44.98	38.82	35.06	32.76
29	33.38	(34.80)	35.48	38.54	44.68	50.36	50.32	48.78	44.78	38.28	35.18	33.84
30	34.06	...	35.46	39.18	45.16	49.52	50.54	48.54	44.84	38.70	34.22	33.16
31	34.82	...	36.06	...	44.48	...	50.36	48.50	...	38.96	...	32.78
Means	32.82	33.80	34.40	37.59	42.11	47.76	50.58	50.27	47.04	41.40	36.50	34.06

The Mean of the Twelve Monthly Values is 40°.69.

TABLE X.

Showing the Smoothed Difference from Mean of Year of the Mean Minimum Temperature deduced from Fifty Years' Observation.

Day.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	7.6	6.6	7.3	4.6	1.4	4.8	9.1	9.5	8.3	3.5	1.4	6.6
2	7.8	6.9	7.1	4.2	1.3	5.3	9.4	9.6	8.6	3.0	1.4	6.4
3	8.3	6.7	6.8	4.0	1.6	5.3	9.5	9.8	8.6	2.6	1.8	6.1
4	8.5	6.2	6.4	3.5	1.4	5.4	9.5	9.9	8.0	2.5	2.0	5.3
5	8.8	6.2	6.2	3.6	1.2	5.7	9.5	10.1	7.8	2.5	2.4	5.1
6	9.0	6.5	6.2	3.4	0.5	5.9	9.6	10.3	7.9	2.6	2.8	5.0
7	9.0	7.1	6.3	3.5	0.2	5.9	9.8	10.9	7.6	2.7	2.6	5.7
8	8.7	7.8	6.8	3.7	0.3	5.8	9.8	10.7	7.3	2.1	2.6	5.8
9	8.5	8.2	7.2	3.8	0.6	5.6	9.6	10.4	7.0	2.4	3.0	6.0
10	8.6	8.0	7.5	4.4	0.4	5.6	9.5	9.9	7.1	2.1	3.8	5.6
11	8.5	7.7	7.4	4.5	0.0	5.5	9.7	10.2	6.9	1.8	4.6	5.7
12	8.2	7.6	7.3	4.5	0.7	6.0	10.2	10.7	7.0	1.4	4.7	5.9
13	7.7	7.3	7.2	4.3	1.0	6.4	10.6	10.8	7.0	1.5	4.8	6.2
14	7.6	6.9	6.9	3.7	1.2	6.8	10.9	10.5	7.1	1.7	4.3	6.2
15	7.6	6.4	6.7	3.2	1.2	6.7	10.4	10.3	7.0	1.5	4.6	5.9
16	8.0	6.3	6.3	3.0	1.3	6.9	9.9	10.2	7.0	1.2	4.7	5.7
17	7.5	6.1	5.8	2.8	1.8	7.0	9.6	10.1	6.4	1.0	5.3	5.8
18	7.2	6.2	5.7	2.4	2.0	7.3	10.0	10.0	5.8	0.9	4.9	6.4
19	7.2	6.4	5.7	1.7	2.3	7.5	10.1	9.7	5.7	0.5	4.4	6.5
20	8.3	6.6	6.5	1.4	2.2	8.1	10.3	9.8	5.2	0.0	4.2	7.0
21	9.0	6.7	6.7	1.7	2.3	8.4	10.3	9.3	4.9	0.6	4.2	7.3
22	8.8	6.4	6.6	2.0	2.6	8.4	10.4	9.2	4.2	0.6	5.1	8.0
23	8.0	6.2	5.9	2.5	3.2	8.0	10.2	8.6	4.9	0.5	5.7	8.3
24	7.5	6.3	5.5	2.5	3.8	8.2	10.1	8.6	5.3	0.5	6.0	8.3
25	7.5	6.8	5.6	2.4	3.8	8.3	10.1	8.7	5.4	1.5	5.8	8.0
26	7.3	7.4	5.7	2.3	3.8	9.0	9.9	8.8	5.2	1.8	5.6	8.0
27	7.0	7.5	5.7	2.3	3.5	9.3	9.7	8.6	4.9	2.2	5.6	8.1
28	6.8	7.5	5.5	2.3	3.7	9.8	9.6	8.3	4.5	1.9	5.5	7.8
29	6.8	...	5.3	2.0	3.9	9.4	9.7	8.0	4.2	2.1	5.9	7.4
30	6.6	...	5.0	1.5	4.1	9.2	9.7	7.9	3.9	2.0	6.1	7.4
31	6.4	...	4.9	...	4.4	...	9.6	7.7	...	1.5	...	7.5

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

TABLE XI.

Showing the Mean Daily Range of the Temperature of the Air at Edinburgh on each Day of the Year during Fifty Years.

Day.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	°	°	°	°	°	°	°	°	°	°	°	°
2	9.00	10.26	10.58	14.48	16.04	16.66	15.28	15.88	15.04	13.30	9.54	10.14
3	8.88	9.96	11.98	14.28	16.00	15.50	15.60	15.38	13.52	12.98	10.82	12.14
4	9.64	10.40	10.50	14.00	15.62	14.84	14.86	14.22	13.56	12.64	10.94	10.00
5	9.60	10.26	10.98	14.30	15.50	15.22	14.64	15.22	14.34	12.10	11.02	10.42
6	9.30	10.54	12.26	13.12	15.06	15.88	15.26	15.34	15.18	12.48	11.32	9.88
7	10.16	9.98	11.92	13.82	14.84	15.12	14.56	14.60	14.60	12.86	10.60	9.48
8	9.84	10.58	12.36	13.30	14.86	15.04	14.92	14.76	14.52	11.92	11.40	8.26
9	8.80	10.84	12.82	13.00	15.92	16.24	15.28	13.16	15.78	12.00	9.44	10.44
10	8.92	9.98	12.26	14.14	15.42	15.44	14.78	14.54	15.20	12.10	9.96	9.58
11	9.50	9.52	12.68	13.50	15.72	15.36	15.72	15.10	14.52	12.14	10.04	9.84
12	10.22	10.44	12.38	14.88	14.36	16.32	14.68	14.68	15.22	12.16	9.96	9.68
13	9.54	11.20	11.96	14.66	15.10	15.58	15.22	14.86	15.06	12.48	10.56	9.42
14	9.94	10.38	12.24	14.00	15.38	15.68	15.22	14.16	14.48	11.56	10.26	8.98
15	9.44	10.82	12.02	13.64	15.02	16.90	14.66	15.66	15.56	10.76	10.64	10.36
16	10.32	11.10	12.22	13.44	14.66	15.86	14.86	15.00	13.56	11.90	9.64	9.27
17	10.10	9.84	11.74	14.78	15.52	16.66	16.30	13.96	13.64	11.14	10.96	9.04
18	10.56	10.58	12.58	15.08	15.64	15.60	16.30	13.70	14.32	11.14	10.76	9.02
19	9.64	10.44	12.28	14.34	14.50	15.96	15.10	14.44	13.62	10.92	10.78	10.06
20	9.52	10.48	12.80	14.40	14.96	16.98	14.92	13.68	14.14	10.78	10.68	9.48
21	10.52	10.38	11.76	15.16	16.10	17.04	15.88	15.08	13.14	11.70	8.68	8.38
22	10.74	10.36	13.50	14.44	16.16	16.18	15.30	13.12	12.82	11.78	10.55	9.92
23	9.98	11.14	13.62	14.44	16.68	16.48	14.54	14.72	13.68	11.82	9.28	9.62
24	9.32	10.62	12.94	13.36	16.22	16.30	15.48	14.58	13.02	10.86	10.50	9.58
25	9.96	10.24	13.16	14.68	16.28	15.20	14.82	14.98	12.04	10.54	11.02	9.66
26	10.84	11.10	13.26	15.06	15.76	13.98	13.94	15.46	13.02	12.24	9.76	9.72
27	11.18	11.28	12.52	15.54	15.70	16.12	14.78	14.44	12.74	12.84	10.34	9.76
28	10.34	10.98	12.16	15.54	15.62	15.00	14.74	14.28	13.36	11.12	9.26	9.94
29	9.50	10.58	12.48	15.40	15.90	15.50	15.38	15.52	13.32	11.56	9.88	9.68
30	10.22	(8.75)	13.50	16.10	15.62	15.56	14.76	14.94	13.06	11.60	10.06	9.30
31	10.52	...	13.98	15.24	16.08	15.60	14.66	15.04	12.58	10.82	10.22	9.60
Means	9.86	10.51	12.49	14.45	15.54	15.79	15.06	14.69	13.96	11.70	10.30	9.70

The Mean of the Twelve Monthly Values is 12°.84.

TABLE XII.

Showing the Smoothed Difference from Mean of Year of the Mean Daily Range of Temperature deduced from Fifty Years' Observation.

Day.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	°	°	°	°	°	°	°	°	°	°	°	°
2	3.2	3.2	1.8	1.6	2.9	3.6	2.6	2.5	1.6	0.1	2.4	2.0
3	3.7	2.6	1.8	1.4	3.0	2.8	2.4	2.3	1.2	0.1	2.4	2.1
4	3.5	2.6	1.7	1.4	2.9	2.3	2.2	2.1	1.0	0.3	1.9	2.0
5	3.3	2.4	1.6	1.0	2.6	2.5	2.1	1.8	1.5	0.4	1.7	2.7
6	3.1	2.6	1.1	0.9	2.3	2.6	2.0	1.9	1.9	0.4	1.9	2.9
7	3.1	2.5	0.7	0.6	2.1	2.5	2.1	1.7	1.9	0.4	1.7	3.6
8	3.2	2.4	0.5	0.5	2.4	2.6	2.1	1.3	2.1	0.6	2.4	3.4
9	3.7	2.4	0.4	0.6	2.5	2.7	2.2	1.3	2.3	0.9	2.6	3.4
10	3.8	2.7	0.3	0.7	2.8	2.8	2.4	1.4	2.3	0.8	3.0	2.9
11	3.3	2.9	0.4	1.3	2.3	2.9	2.2	1.9	2.1	0.7	2.9	3.2
12	3.1	2.4	0.5	1.5	2.2	2.9	2.4	2.0	2.1	0.6	2.7	3.2
13	2.9	2.2	0.6	1.7	2.1	3.0	2.2	1.7	2.1	0.8	2.6	3.5
14	3.2	2.0	0.8	1.3	2.3	3.2	2.2	2.1	2.2	1.2	2.3	3.3
15	2.9	2.1	0.7	0.9	2.2	3.3	2.1	2.1	1.7	1.4	2.7	3.3
16	2.9	2.2	0.8	1.1	2.2	3.6	2.4	2.0	1.4	1.6	2.4	3.3
17	2.5	2.3	0.7	1.6	2.4	3.2	3.0	1.4	1.0	1.4	2.4	3.7
18	2.7	2.6	0.6	1.9	2.4	3.2	3.1	1.2	1.0	1.8	2.0	3.5
19	2.9	2.3	0.3	1.8	2.3	3.8	2.5	1.6	0.8	1.7	2.8	3.5
20	2.6	2.4	0.1	1.8	2.9	3.9	2.5	1.1	0.5	1.4	2.9	3.6
21	2.4	2.2	0.1	1.8	3.5	3.7	2.4	1.5	0.4	1.1	3.3	3.5
22	2.8	2.1	0.5	1.2	3.5	3.5	2.3	1.3	0.3	1.4	2.7	3.1
23	3.1	2.2	0.4	1.3	3.6	3.1	2.1	1.9	0.1	1.8	2.6	3.2
24	2.8	2.2	0.3	1.5	3.2	2.3	1.9	2.2	0.1	1.6	2.7	3.2
25	2.2	2.0	0.1	2.3	3.1	2.3	1.7	2.1	0.2	1.0	2.5	3.1
26	2.0	1.7	0.2	2.5	2.9	2.2	1.6	1.9	0.2	0.8	3.1	3.0
27	2.5	1.9	0.4	2.7	2.9	2.7	2.1	1.9	0.3	1.0	3.0	3.0
28	2.8	2.1	0.1	2.8	2.9	2.5	2.1	2.1	0.4	1.4	3.1	3.2
29	2.8	...	0.5	2.7	3.0	2.7	2.1	2.3	0.1	1.5	2.8	3.3
30	3.0	...	1.2	3.0	3.4	2.6	1.9	2.0	0.1	1.8	2.7	3.2
31	3.0	...	1.5	...	3.7	...	2.2	2.1	...	2.5	...	3.3

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

TABLE XIII.

Showing the Cumulative Variability of Temperature at Edinburgh on each Day of the Year on the Mean of Fifty Years.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	
1	°	°	°	°	°	°	°	°	°	°	°	°	
1	208	151	142	152	165	142	132	117	123	119	156	182	
2	190	192	147	117	148	127	139	98	133	121	134	152	
3	188	133	148	122	139	145	128	115	120	139	163	189	
4	166	144	158	135	144	179	122	132	120	134	160	171	
5	192	139	128	129	167	111	117	118	131	139	151	170	
6	165	158	155	134	139	133	110	142	129	128	179	150	
7	159	149	150	161	153	151	144	128	122	110	139	140	
8	170	163	164	105	131	122	127	128	125	136	167	142	
9	145	138	129	159	145	141	150	116	143	161	160	144	
10	171	159	155	152	123	135	127	118	138	137	163	137	
11	156	152	174	107	133	150	119	127	151	155	117	171	
12	164	151	137	163	113	144	154	146	149	137	125	176	
13	152	152	151	130	154	156	133	121	109	161	150	190	
14	165	156	122	151	141	106	138	136	137	180	141	141	
15	141	156	124	138	140	120	128	122	120	152	166	152	
16	148	144	147	143	135	139	124	128	140	144	156	152	
17	140	129	176	138	145	142	111	131	127	136	164	157	
18	176	139	152	141	145	126	155	132	126	152	169	164	
19	153	155	136	148	162	158	141	139	127	154	170	174	
20	148	144	147	151	155	136	116	128	133	137	169	141	
21	191	141	114	145	137	156	142	137	133	165	148	162	
22	128	160	174	141	129	136	112	130	110	135	160	162	
23	166	140	151	108	135	140	141	143	114	112	156	172	
24	135	132	144	135	153	140	112	96	128	122	146	183	
25	155	110	109	113	144	125	102	134	125	195	139	150	
26	185	134	148	141	157	125	108	146	136	149	164	140	
27	154	128	131	124	148	135	124	146	156	147	143	161	
28	170	168	144	129	127	131	132	112	154	146	165	164	
29	155	(31)	140	137	132	123	130	157	110	165	149	195	
30	179	...	131	149	153	147	104	107	125	155	200	147	
31	165	...	145	...	131	...	135	125	...	112	...	147	
Totals,	5080	4117	4473	4098	4423	4121	3957	3955	3894	4435	4669	4978	51,300
Mean, Mean Daily Change	167	147	144	137	143	137	128	128	130	143	156	161	140·5
	3·36	2·94	2·89	2·73	2·85	2·75	2·53	2·56	2·60	2·86	3·11	3·22	2·87

TABLE XIV.

Showing the Smoothed Excess or Defect from Mean of Year of the Cumulative Variability of Temperature deduced from Fifty Years, Observation.

Day.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	° 41	° 28	° 11	° <i>3</i>	° 10	° <i>8</i>	° <i>2</i>	° 24	° 14	° <i>9</i>	° <i>7</i>	° 34
2	54	18	5	<i>11</i>	10	<i>3</i>	<i>8</i>	<i>31</i>	<i>16</i>	<i>15</i>	10	33
3	40	15	10	<i>16</i>	3	9	<i>11</i>	<i>26</i>	<i>17</i>	<i>10</i>	11	30
4	41	<i>2</i>	4	<i>12</i>	9	4	<i>19</i>	<i>19</i>	<i>17</i>	<i>4</i>	<i>17</i>	36
5	33	6	6	<i>8</i>	9	<i>0</i>	<i>21</i>	<i>10</i>	<i>14</i>	<i>7</i>	<i>22</i>	23
6	31	8	3	<i>0</i>	12	<i>9</i>	<i>17</i>	<i>12</i>	<i>14</i>	<i>15</i>	15	12
7	24	16	15	<i>8</i>	<i>0</i>	<i>6</i>	<i>14</i>	<i>8</i>	<i>16</i>	<i>16</i>	21	3
8	<i>17</i>	9	7	1	2	<i>3</i>	<i>1</i>	<i>17</i>	<i>11</i>	<i>5</i>	<i>14</i>	1
9	21	12	8	<i>2</i>	<i>8</i>	<i>8</i>	<i>6</i>	<i>20</i>	<i>6</i>	<i>4</i>	<i>22</i>	<i>0</i>
10	16	9	12	<i>2</i>	7	1	<i>9</i>	<i>21</i>	<i>3</i>	10	<i>6</i>	10
11	23	13	14	<i>0</i>	<i>18</i>	2	<i>8</i>	<i>11</i>	<i>5</i>	<i>2</i>	<i>6</i>	20
12	16	11	13	<i>4</i>	<i>7</i>	9	<i>6</i>	<i>10</i>	<i>5</i>	10	<i>10</i>	38
13	19	12	4	<i>7</i>	5	<i>6</i>	1	<i>7</i>	<i>9</i>	18	<i>2</i>	28
14	12	14	9	<i>1</i>	4	<i>14</i>	<i>8</i>	<i>15</i>	<i>19</i>	23	11	20
15	10	11	<i>10</i>	3	<i>2</i>	<i>19</i>	<i>11</i>	<i>12</i>	<i>9</i>	18	13	7
16	<i>2</i>	2	8	<i>1</i>	<i>1</i>	<i>7</i>	<i>20</i>	<i>14</i>	<i>12</i>	<i>3</i>	21	13
17	14	<i>4</i>	17	<i>0</i>	<i>1</i>	<i>5</i>	<i>11</i>	<i>11</i>	<i>10</i>	<i>3</i>	21	17
18	15	<i>0</i>	14	<i>1</i>	<i>10</i>	<i>1</i>	<i>5</i>	<i>7</i>	<i>14</i>	<i>6</i>	26	24
19	18	5	4	<i>6</i>	13	<i>1</i>	<i>4</i>	<i>8</i>	<i>12</i>	<i>7</i>	28	19
20	23	6	9	<i>7</i>	10	<i>9</i>	<i>8</i>	<i>6</i>	<i>10</i>	<i>11</i>	21	18
21	15	7	4	<i>5</i>	<i>1</i>	<i>2</i>	<i>18</i>	<i>9</i>	<i>16</i>	<i>5</i>	18	14
22	21	6	5	<i>10</i>	<i>7</i>	4	<i>9</i>	<i>4</i>	<i>22</i>	<i>4</i>	14	24
23	<i>2</i>	3	15	<i>13</i>	<i>2</i>	<i>2</i>	<i>19</i>	<i>18</i>	<i>24</i>	<i>18</i>	13	31
24	11	<i>14</i>	6	<i>22</i>	3	<i>6</i>	<i>23</i>	<i>17</i>	<i>19</i>	<i>2</i>	<i>6</i>	27
25	17	16	7	<i>11</i>	10	<i>11</i>	<i>34</i>	<i>16</i>	<i>11</i>	14	<i>9</i>	17
26	30	<i>17</i>	12	<i>15</i>	9	<i>13</i>	<i>30</i>	1	<i>2</i>	<i>23</i>	<i>8</i>	9
27	29	2	<i>0</i>	<i>10</i>	3	<i>11</i>	<i>20</i>	<i>6</i>	<i>8</i>	<i>6</i>	16	14
28	19	5	3	<i>11</i>	<i>5</i>	<i>11</i>	<i>12</i>	<i>3</i>	<i>1</i>	<i>12</i>	<i>11</i>	32
29	27	...	3	<i>3</i>	<i>4</i>	<i>7</i>	<i>19</i>	<i>16</i>	<i>1</i>	<i>14</i>	<i>27</i>	28
30	25	...	<i>2</i>	9	<i>2</i>	<i>7</i>	<i>18</i>	<i>11</i>	<i>13</i>	<i>3</i>	33	22
31	24	...	2	...	1	...	<i>22</i>	<i>23</i>	...	<i>0</i>	...	26

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

TABLE XV.

*Showing the Percentage Frequency of the Different Winds at Edinburgh
on the Mean of 100 Years.*

JANUARY.										FEBRUARY.									
Day.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	
1	6	3	8	13	8	23	31	6	2	6	3	6	11	3	29	37	4	1	
2	4	2	3	13	7	17	36	12	6	5	3	7	8	7	24	36	7	3	
3	0	1	9	12	5	21	43	3	6	6	2	9	3	7	24	39	8	2	
4	6	7	16	8	5	18	29	7	4	2	4	9	3	4	25	43	7	3	
5	6	8	12	5	6	21	33	6	3	1	4	7	5	10	26	37	9	1	
6	4	7	14	8	6	18	34	8	1	2	4	8	6	10	27	31	9	3	
7	5	3	15	5	5	16	37	10	4	4	5	9	4	8	31	34	2	3	
8	2	3	14	10	2	22	35	7	5	1	4	8	7	1	20	46	8	5	
9	4	2	15	12	3	20	36	4	4	4	5	13	5	9	24	34	5	1	
10	6	5	7	12	8	15	31	11	5	4	8	6	9	6	28	29	6	4	
11	6	3	14	9	8	14	30	10	6	3	11	10	4	6	23	34	7	2	
12	6	3	11	11	10	13	35	8	3	9	5	10	7	11	22	33	3	0	
13	6	4	11	12	9	14	33	8	3	6	3	10	9	11	19	34	5	3	
14	4	4	17	6	11	20	26	7	5	5	6	6	10	11	20	36	5	1	
15	2	5	14	7	9	20	33	5	5	8	1	3	13	7	25	34	4	5	
16	4	6	14	13	7	19	27	6	4	2	3	6	12	10	21	37	6	3	
17	4	5	10	8	7	30	31	4	1	4	10	5	14	9	19	32	5	2	
18	2	5	7	10	11	21	34	6	4	4	8	5	9	9	18	35	11	1	
19	1	7	11	8	8	30	29	4	2	2	4	13	7	5	21	32	13	3	
20	3	4	8	10	6	21	34	6	8	6	10	9	6	6	27	25	8	3	
21	7	6	8	10	8	23	28	7	3	5	3	14	8	6	22	29	8	5	
22	4	4	8	6	10	23	36	4	5	3	5	11	6	6	26	30	6	7	
23	3	3	7	9	10	26	34	6	2	4	3	14	7	7	22	33	8	2	
24	5	4	6	7	8	32	32	5	1	3	10	11	10	8	24	26	6	2	
25	2	5	7	6	5	26	40	6	3	3	3	14	8	5	18	33	10	6	
26	3	10	10	4	5	29	31	3	5	5	9	17	7	5	20	30	5	2	
27	2	3	13	6	10	19	39	5	3	6	5	13	6	4	22	33	11	0	
28	3	3	7	4	11	24	35	9	4	4	7	11	5	5	29	30	8	1	
29	6	1	9	6	10	24	36	7	1	
30	2	2	8	6	4	27	42	8	1	
31	4	3	13	4	10	22	36	5	3	
Means	4	4	10	8	7	22	34	7	4	4	5	9	8	7	23	34	7	3	

TABLE XV.—*continued.*

Day.	MARCH.										APRIL.									
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.		
1	2	10	11	10	3	26	30	6	2	6	7	16	9	9	13	30	8	2		
2	3	3	10	6	2	28	36	6	6	5	12	12	11	1	12	32	10	5		
3	2	3	14	11	2	23	29	12	4	7	13	14	6	9	14	30	5	2		
4	6	4	13	7	10	20	28	7	5	6	7	15	7	1	15	41	5	3		
5	6	4	15	7	6	11	40	9	2	4	6	22	8	3	15	31	10	1		
6	12	6	15	5	4	18	28	10	2	3	8	17	11	5	18	28	7	3		
7	6	4	16	12	6	12	31	11	2	6	10	21	7	2	15	31	5	3		
8	6	9	14	7	5	13	35	8	3	6	8	22	11	1	10	26	10	6		
9	10	7	9	6	11	10	31	16	0	6	17	26	5	5	11	21	8	1		
10	5	8	12	7	5	15	34	13	1	4	13	25	13	3	6	27	7	2		
11	8	9	13	10	8	10	31	8	3	9	12	26	10	1	10	22	8	2		
12	6	7	11	7	7	18	29	10	5	6	8	22	8	2	14	28	6	6		
13	9	5	9	6	6	12	35	15	3	9	10	21	9	1	13	24	8	5		
14	3	3	13	10	10	15	32	9	5	5	12	16	11	5	5	26	14	6		
15	7	7	14	6	5	14	29	13	5	7	14	17	7	5	15	21	12	2		
16	1	5	15	12	7	18	35	7	0	10	10	16	6	2	19	32	4	1		
17	4	8	9	11	6	18	34	7	3	9	6	22	7	3	12	30	9	2		
18	4	5	18	8	7	13	35	6	4	11	13	18	3	7	10	26	8	4		
19	7	11	14	6	5	17	32	7	1	4	13	21	7	8	10	29	5	3		
20	7	8	17	11	2	18	25	10	2	6	13	13	7	6	20	26	6	3		
21	4	10	10	8	9	11	32	13	3	9	14	19	5	7	7	21	6	1		
22	8	7	13	6	5	22	26	10	3	3	18	19	8	5	12	26	8	1		
23	10	10	13	8	6	14	29	8	2	4	10	31	8	3	10	21	10	3		
24	6	8	24	4	7	10	31	5	5	3	12	28	6	6	8	28	5	4		
25	5	6	20	4	2	19	29	9	6	8	20	20	8	4	8	23	4	5		
26	4	6	19	9	1	14	33	11	3	9	15	19	4	3	15	21	11	3		
27	4	10	21	5	3	13	31	10	3	4	16	26	5	9	10	15	10	5		
28	5	11	22	6	6	18	24	7	1	6	18	19	10	3	11	17	14	2		
29	9	7	19	5	4	17	31	8	0	6	9	28	4	5	8	26	11	3		
30	6	13	10	9	7	18	24	12	1	2	16	24	8	6	7	24	10	3		
31	9	9	11	7	5	17	27	10	5		
Means	6	7	14	8	6	16	31	9	3	6	12	21	8	4	12	26	8	3		

TABLE XV.—*continued.*

MAY.										JUNE.									
Day.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	
1	6	16	26	5	3	11	23	6	4	5	9	29	2	4	16	28	6	1	
2	7	18	26	5	5	9	22	5	3	2	12	35	1	1	11	32	5	1	
3	6	12	35	2	3	12	19	7	4	1	14	34	3	1	14	24	8	1	
4	9	10	27	3	1	14	27	4	5	4	11	22	5	1	9	36	6	6	
5	6	11	27	3	5	11	25	10	2	4	10	24	5	2	13	34	5	3	
6	4	10	34	7	2	11	22	7	3	1	12	26	5	4	19	24	8	1	
7	4	13	25	6	5	8	23	10	6	5	9	22	3	5	17	31	4	4	
8	6	19	27	5	6	8	20	4	5	8	12	15	4	3	20	26	9	3	
9	10	12	27	6	1	14	20	8	2	4	9	25	7	2	15	28	9	1	
10	4	13	35	6	2	9	23	6	2	6	9	27	6	2	16	23	8	3	
11	4	10	30	9	1	13	25	7	1	4	8	22	6	5	10	35	6	4	
12	4	13	26	4	5	11	27	10	0	5	8	22	3	2	14	36	8	2	
13	8	16	26	3	4	10	24	5	4	6	9	18	7	3	11	36	9	1	
14	3	10	33	9	1	9	22	10	3	5	7	20	6	1	18	32	9	2	
15	4	16	29	7	4	9	21	8	2	7	10	24	3	6	13	24	11	2	
16	3	10	28	6	5	13	24	8	3	4	11	25	5	4	15	24	9	3	
17	6	8	29	7	9	13	19	7	2	4	15	19	7	3	10	30	9	3	
18	6	12	27	6	4	19	18	5	3	6	10	23	6	2	8	36	6	3	
19	3	17	22	8	4	8	24	12	2	3	7	27	5	6	7	32	9	4	
20	6	12	30	8	6	4	26	7	1	6	13	29	5	5	8	29	4	1	
21	4	11	28	9	4	13	22	4	5	6	12	22	3	4	16	26	9	2	
22	1	12	33	5	3	16	22	4	4	3	5	20	4	3	17	37	9	2	
23	1	17	37	2	5	9	20	5	4	5	5	22	6	3	14	34	6	5	
24	2	10	29	5	5	14	24	8	3	7	9	19	1	4	10	38	7	5	
25	4	12	26	4	5	6	34	4	5	2	10	26	2	7	8	33	8	4	
26	4	14	27	6	2	15	23	6	3	5	12	22	4	4	6	39	4	4	
27	8	10	26	4	2	9	32	8	1	3	13	24	3	7	9	31	7	3	
28	5	12	32	3	3	13	27	4	1	4	13	24	0	4	14	34	4	3	
29	2	12	28	4	7	11	28	4	4	5	10	25	2	4	12	28	7	7	
30	4	11	27	4	6	16	28	2	2	4	9	25	4	3	15	30	7	3	
31	5	9	35	7	4	13	21	4	2	
Means	5	13	29	5	4	11	24	6	3	4	10	24	4	4	13	31	7	3	

TABLE XV.—*continued.*

Day.	JULY.										AUGUST.									
	N.	N.E.	E.	S.E.	S. - -	S.W.	W.	N.W.	Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.		
1	2	14	22	9	2	13	31	6	1	2	5	15	3	4	13	47	7	4		
2	4	18	17	3	6	12	39	5	6	3	6	15	5	9	15	41	3	3		
3	2	12	23	2	4	15	36	3	3	1	6	14	5	7	14	40	9	4		
4	0	9	8	4	2	12	43	6	6	3	3	18	2	2	14	48	7	3		
5	2	5	19	8	6	11	40	4	5	0	5	19	5	4	20	35	9	3		
6	3	6	16	9	2	17	37	8	2	9	5	12	4	5	16	40	5	4		
7	5	11	18	3	6	16	31	5	5	1	3	19	3	6	24	33	3	8		
8	3	11	17	2	6	15	37	5	4	0	5	16	3	6	19	44	2	5		
9	3	8	18	5	6	13	36	6	5	2	11	14	1	4	18	40	6	4		
10	5	10	16	5	3	8	42	9	2	3	5	17	7	1	15	46	3	3		
11	3	16	16	5	3	10	41	3	3	7	5	13	5	5	16	40	6	3		
12	2	12	19	2	3	20	33	5	4	4	7	13	3	5	25	31	7	5		
13	4	7	18	4	1	14	38	9	5	2	5	20	5	5	23	29	7	4		
14	7	7	17	2	3	13	38	8	5	5	6	13	7	6	23	28	7	5		
15	3	7	16	7	5	14	40	5	3	2	6	20	7	4	17	31	10	3		
16	4	7	18	3	6	14	44	2	2	3	8	17	5	4	16	35	8	4		
17	4	3	20	4	7	15	36	8	3	3	9	12	3	4	17	41	9	2		
18	2	5	19	6	6	12	38	6	6	4	8	14	6	3	8	43	7	7		
19	3	6	22	3	5	13	37	8	3	4	6	20	6	3	12	40	4	5		
20	6	3	21	5	5	20	30	6	4	2	11	21	2	5	14	36	5	4		
21	1	7	25	2	7	12	39	5	2	1	10	19	6	4	13	34	7	6		
22	3	5	26	2	11	17	32	4	0	5	5	22	5	5	18	32	4	4		
23	3	7	20	5	5	13	36	7	4	2	3	16	9	4	15	39	8	4		
24	3	9	22	2	9	14	31	5	5	3	6	20	4	3	15	36	8	5		
25	4	12	18	6	4	16	33	4	3	3	4	22	8	3	12	38	6	4		
26	5	12	22	5	6	15	28	5	2	2	7	16	6	6	13	44	5	1		
27	3	10	18	2	3	9	39	9	7	3	6	15	4	6	18	34	12	2		
28	4	6	17	6	6	15	38	4	4	3	10	12	3	3	15	45	5	4		
29	4	6	27	4	3	16	35	5	0	3	7	14	5	2	10	47	7	5		
30	2	12	16	6	5	18	30	6	5	5	7	17	1	6	12	41	7	4		
31	10	9	19	3	2	15	33	5	4	3	9	14	3	7	11	40	2	11		
Means	4	9	19	4	5	14	36	6	3	3	6	17	5	4	16	39	6	4		

TABLE XV.—*continued.*

SEPTEMBER.										OCTOBER.									
Day.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	
1	1	6	11	6	6	18	45	4	3	5	8	13	11	6	14	33	7	3	
2	6	5	15	7	5	18	32	10	2	6	7	12	5	9	18	34	7	2	
3	4	8	17	2	4	20	35	6	4	4	5	14	7	6	15	39	7	3	
4	5	9	20	3	5	14	27	13	4	4	9	10	10	6	19	32	8	2	
5	5	6	18	5	8	19	33	2	4	2	8	8	8	6	20	37	7	4	
6	4	6	15	6	10	15	33	6	5	3	5	14	8	10	23	28	6	3	
7	4	6	15	6	9	19	31	6	4	3	11	11	6	12	18	29	8	2	
8	4	7	15	6	8	14	39	1	6	7	6	11	10	8	17	31	6	4	
9	2	8	12	9	7	18	37	3	4	5	7	9	9	9	14	38	5	4	
10	4	9	14	6	6	14	40	3	4	5	8	7	11	9	16	35	5	4	
11	3	7	10	8	4	24	35	8	1	7	6	8	16	6	15	30	7	5	
12	2	5	15	3	5	21	35	9	5	2	9	9	10	8	21	32	7	2	
13	3	7	14	5	5	16	37	10	3	8	5	10	6	6	19	36	7	3	
14	5	12	11	9	2	14	34	9	4	7	7	8	8	4	19	37	5	5	
15	5	8	12	4	5	24	35	5	2	8	4	8	10	13	18	35	0	4	
16	4	4	12	5	7	19	34	6	9	2	4	13	4	7	27	31	9	3	
17	6	2	15	5	8	22	28	7	7	7	6	7	6	1	17	40	10	6	
18	5	12	12	5	7	12	36	4	7	8	7	5	8	3	22	36	8	3	
19	2	7	12	4	9	14	31	9	12	4	8	9	11	7	20	31	8	2	
20	1	7	17	8	5	20	40	8	4	5	3	12	9	9	16	34	8	4	
21	5	8	18	8	6	18	22	10	5	6	4	10	15	7	21	29	6	2	
22	5	8	15	6	9	14	29	9	5	5	4	10	10	6	25	33	7	0	
23	5	5	21	4	10	16	27	6	6	4	3	7	11	8	18	44	3	2	
24	4	7	19	8	7	21	25	6	3	1	3	13	12	6	21	33	6	5	
25	5	9	16	2	9	15	34	9	1	2	5	11	10	10	16	36	8	2	
26	5	5	12	5	9	18	33	7	6	7	5	10	10	2	21	30	10	5	
27	4	7	11	4	5	22	35	7	5	7	7	15	9	4	19	26	9	4	
28	8	7	13	6	7	17	33	4	5	9	6	13	6	8	15	33	7	3	
29	7	11	9	7	12	14	30	3	7	6	8	8	9	6	18	33	8	4	
30	11	7	12	10	6	18	26	6	4	4	3	15	7	11	17	35	6	2	
31	7	4	10	12	3	19	35	8	2	
Means	4	7	14	6	7	17	33	7	5	5	6	10	9	7	19	34	7	3	

TABLE XV.—*continued.*

NOVEMBER.											DECEMBER.										
Day.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.			
1	5	1	11	7	7	21	38	7	3	5	5	8	16	7	17	31	8	3			
2	2	3	13	12	5	23	29	10	3	5	2	9	6	10	19	40	2	7			
3	1	5	13	7	7	15	33	13	6	1	8	8	13	8	19	33	9	1			
4	5	4	16	6	6	15	34	7	7	5	6	13	5	8	17	31	10	5			
5	3	5	12	6	8	19	37	6	4	5	4	8	8	10	17	39	4	5			
6	6	6	11	13	3	19	29	9	4	3	9	11	4	7	21	32	10	3			
7	3	2	11	9	8	21	32	10	4	6	5	6	9	11	18	31	11	3			
8	7	5	14	7	5	16	32	7	7	5	4	5	6	8	17	42	9	4			
9	11	5	8	8	5	15	38	8	2	2	6	9	4	11	17	39	6	6			
10	6	5	11	6	6	18	36	7	5	4	6	8	2	14	22	30	7	7			
11	9	8	11	8	10	19	24	8	3	5	3	7	8	10	27	30	7	3			
12	8	3	11	7	7	20	36	7	1	4	2	7	6	5	32	31	8	5			
13	6	6	9	10	5	18	33	8	5	3	3	9	5	6	27	36	4	7			
14	10	7	11	7	7	17	27	11	3	4	1	10	8	4	22	35	10	6			
15	6	4	12	7	4	18	41	7	1	4	6	6	9	7	22	38	7	1			
16	6	5	17	6	4	16	30	11	5	3	5	6	7	9	19	37	11	3			
17	6	4	9	2	6	20	33	12	8	7	5	6	6	5	29	29	7	6			
18	6	7	10	3	7	25	28	7	7	7	3	11	5	4	29	33	4	4			
19	4	2	5	6	5	22	41	12	3	4	2	10	5	6	25	40	6	2			
20	3	4	6	12	4	25	37	8	1	6	2	12	10	7	26	27	8	2			
21	4	5	3	11	12	18	36	9	2	7	3	13	4	8	21	30	12	2			
22	7	2	9	8	8	15	38	5	8	2	7	9	10	9	26	25	9	3			
23	3	6	9	7	6	10	44	12	3	9	8	8	7	4	21	30	9	4			
24	8	3	8	3	8	20	38	8	4	5	4	13	4	4	23	34	9	4			
25	4	2	15	11	5	20	34	7	2	2	1	14	3	4	21	39	9	7			
26	5	7	9	5	8	26	30	7	3	3	3	8	11	6	15	42	3	9			
27	5	0	9	8	9	17	40	6	6	3	0	9	11	5	20	42	3	7			
28	5	3	9	10	11	20	35	4	3	3	1	3	10	8	24	33	6	7			
29	3	3	9	7	12	19	36	9	2	3	4	6	13	2	23	36	8	5			
30	4	3	11	13	4	23	30	8	4	3	4	10	11	7	24	30	4	7			
31	5	5	4	8	6	23	42	6	1			
Means	5	4	11	8	7	19	34	8	4	4	4	9	8	7	22	34	7	5			

Mean Annual Percentage Frequency of the Winds.—The Mean of the Twelve Monthly Values is—N. 4, N.E. 7, E. 16, S.E. 7, S. 6, S.W. 17, W. 32, N.W. 7, Calm or Var. 4.

TABLE XVI.

Showing the Smoothed Percentage Excess or Defect from Mean of Year of Wind Direction deduced from 100 Years' Observations.

JANUARY.										FEBRUARY.									
Day.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	
*1	1	4	11	4	1	4	4	1	1	1	2	4	7	1	8	5	2	2	
2	1	5	9	6	1	3	5	0	1	0	4	9	0	9	5	1	2	2	
3	1	4	7	4	0	2	4	0	1	0	4	8	2	0	7	7	0	1	
4	0	2	4	1	1	3	3	2	0	1	2	4	8	3	1	8	8	2	
5	1	0	2	0	0	2	0	0	1	2	3	8	2	2	9	5	1	2	
6	1	1	2	1	0	1	3	1	1	2	2	3	8	2	3	11	2	2	
7	0	3	2	1	2	2	3	1	1	2	3	8	1	0	9	5	1	0	
8	0	4	1	2	3	2	4	0	0	1	2	6	2	0	8	6	2	1	
9	0	4	4	4	2	2	2	0	1	1	1	7	0	1	7	4	1	1	
10	1	4	4	4	0	1	0	1	1	0	1	6	1	1	8	0	1	2	
11	2	3	5	4	3	3	0	3	1	1	1	7	0	2	7	0	2	2	
12	2	4	4	4	3	3	1	2	0	2	1	6	0	3	4	2	2	2	
13	1	3	3	3	4	1	1	1	0	3	2	7	2	5	3	2	3	3	
14	0	3	2	1	4	1	1	0	0	2	4	10	4	4	4	3	2	1	
15	1	2	1	2	3	3	3	1	1	1	4	11	5	3	5	4	2	1	
16	1	2	3	2	2	6	2	2	1	1	2	11	6	3	5	2	2	1	
17	1	2	6	3	2	6	1	2	1	1	0	11	5	3	2	3	0	2	
18	2	1	7	2	3	10	1	2	2	1	0	8	3	2	2	1	3	2	
19	2	2	7	2	2	7	0	2	1	0	0	7	0	1	5	1	4	2	
20	0	1	7	2	1	8	2	1	0	0	1	4	0	0	6	3	3	0	
21	1	2	8	2	2	5	1	1	1	1	1	4	0	0	8	4	0	1	
22	1	3	8	1	3	7	1	1	1	0	3	3	0	0	6	1	0	1	
23	0	3	9	0	3	10	2	2	1	1	1	4	1	1	7	2	0	0	
24	1	3	9	0	2	11	3	1	2	1	2	3	1	1	4	1	1	1	
25	1	1	8	1	0	12	2	2	1	0	0	2	1	0	4	2	0	1	
26	2	1	6	2	1	8	5	2	0	1	1	1	0	1	3	0	2	1	
27	1	2	6	2	3	7	3	1	0	1	0	2	1	1	7	1	1	3	
28	0	5	6	2	4	5	5	0	1	0	0	4	0	2	9	1	1	3	
29	0	5	8	2	2	8	6	1	2	
30	0	5	6	2	2	7	6	0	2	
31	0	4	7	0	0	9	8	1	2	

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

* The positive and negative values do not always balance, there being sometimes a difference of one or two per cent. This slight discrepancy results from the smoothing process adopted, 2·3 for example being entered as 2 in the above tables, and so on. The elimination of these fractional residuals would involve the introduction of decimals.

TABLE XVI.—*continued.*

Day.	MARCH.										APRIL.									
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.		
1	<i>1</i>	0	5	0	3	11	0	1	0	1	<i>2</i>	2	3	<i>2</i>	1	3	2	2	0	
2	2	2	4	2	4	9	0	1	0	2	<i>4</i>	2	2	0	4	1	1	1	1	
3	0	4	4	1	1	7	1	1	1	2	<i>4</i>	2	2	1	2	2	1	0	1	
4	<i>1</i>	3	2	1	0	1	0	2	0	2	0	2	1	2	3	1	2	0	2	
5	<i>4</i>	2	2	1	1	1	0	2	1	0	0	0	2	3	1	1	2	0	2	
6	<i>4</i>	2	1	2	1	3	1	3	2	0	1	2	4	2	3	1	2	0	2	
7	<i>4</i>	1	1	2	1	3	1	3	2	1	2	4	3	3	3	4	6	0	0	
8	3	0	4	2	1	5	0	5	2	2	5	7	1	3	5	6	1	1	1	
9	3	1	4	0	1	4	1	5	3	1	6	8	3	3	8	7	1	1	1	
10	<i>4</i>	1	5	1	2	5	0	5	3	2	7	10	2	3	8	9	6	0	2	
11	2	1	4	1	1	3	1	3	1	2	4	8	3	4	5	7	6	0	1	
12	<i>4</i>	0	5	1	1	4	0	4	0	0	4	3	7	2	5	7	7	0	0	
13	<i>2</i>	2	5	1	2	2	0	4	0	3	3	4	2	2	3	6	6	2	0	
14	<i>2</i>	2	4	0	1	3	0	5	0	3	3	5	2	2	6	6	8	4	1	
15	0	2	2	2	1	1	0	3	1	3	3	5	0	1	2	4	6	3	1	
16	0	0	3	3	0	0	1	2	1	5	3	2	0	3	2	4	3	1	2	
17	1	1	2	3	1	1	3	0	2	6	3	3	2	1	3	3	4	0	2	
18	1	1	2	1	0	1	2	0	1	4	4	4	1	2	0	6	4	0	1	
19	<i>2</i>	1	0	1	1	1	1	1	2	3	2	6	1	1	4	5	5	1	1	
20	<i>2</i>	3	2	1	1	2	2	2	3	2	2	6	2	1	1	0	8	1	2	
21	<i>2</i>	1	3	1	1	0	4	4	1	2	2	8	1	0	1	0	9	0	2	
22	<i>3</i>	2	4	0	1	1	3	3	1	1	7	7	0	1	3	10	7	1	2	
23	<i>4</i>	1	1	1	0	2	3	1	1	1	6	10	0	1	1	7	7	1	1	
24	<i>3</i>	1	3	2	1	3	2	2	0	1	7	10	0	1	2	8	8	1	0	
25	<i>1</i>	0	5	1	3	3	1	1	1	1	3	9	6	1	2	7	8	0	0	
26	0	0	4	1	4	2	1	3	0	3	10	6	1	1	6	12	1	0	0	
27	0	2	5	0	3	2	3	2	2	2	9	5	1	1	5	14	5	1	1	
28	<i>2</i>	2	5	2	2	1	3	1	3	1	7	8	1	1	7	13	5	1	1	
29	3	3	1	0	0	1	1	6	2	1	7	8	0	1	8	10	5	1	1	
30	<i>4</i>	3	3	0	1	0	5	3	2	1	7	10	1	1	8	8	8	2	1	
31	<i>3</i>	3	4	2	1	1	5	3	1	

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

TABLE XVI.—*continued.*

MAY.											JUNE.										
Day.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.			
1	1	10	9	1	1	8	9	0	1	1	3	17	4	3	4	5	2	3			
2	2	8	13	3	2	6	11	1	0	1	5	17	5	4	3	4	1	3			
3	3	6	13	4	3	5	9	2	0	2	5	14	4	5	6	1	1	1			
4	3	4	14	4	3	5	8	0	0	1	5	11	3	5	5	1	1	1			
5	2	3	13	3	3	5	7	0	1	1	4	8	2	4	3	1	1	1			
6	1	4	13	2	2	7	9	2	0	1	3	8	3	2	1	2	1	1			
7	1	7	13	1	2	8	10	0	1	1	4	5	3	2	2	5	0	1			
8	3	8	10	1	2	7	11	0	0	2	3	5	2	3	0	4	0	1			
9	3	8	14	1	3	7	11	1	1	2	3	6	1	4	0	6	2	2			
10	2	5	14	0	5	5	9	0	2	1	2	9	1	3	3	3	1	1			
11	0	5	14	1	3	6	7	1	3	1	1	8	2	3	4	1	0	1			
12	1	6	11	2	3	6	7	0	2	1	1	5	2	3	5	4	1	2			
13	1	6	12	2	3	7	8	1	2	1	1	4	2	4	3	3	2	2			
14	1	7	13	1	3	8	10	1	1	2	2	5	2	3	3	1	3	2			
15	1	5	14	0	3	7	10	2	1	1	2	7	2	2	2	5	3	2			
16	0	4	13	0	0	5	11	1	2	1	5	7	2	2	4	6	3	1			
17	1	3	12	1	0	2	12	0	1	1	5	6	1	3	6	2	1	1			
18	1	5	10	0	0	4	12	1	2	0	4	7	1	2	9	1	1	1			
19	1	7	10	0	1	7	9	1	2	1	3	10	2	2	9	0	1	1			
20	0	6	11	1	1	9	8	1	1	1	4	10	3	1	7	3	0	2			
21	0	5	11	0	2	6	9	2	1	1	3	8	3	2	3	1	0	2			
22	2	6	17	2	2	4	11	3	0	1	0	5	3	3	1	0	1	1			
23	3	6	17	3	2	4	10	1	0	1	1	4	3	3	3	4	0	0			
24	2	6	15	3	1	7	6	1	0	1	1	6	4	1	6	3	0	1			
25	1	5	11	2	2	5	5	1	0	1	3	6	5	1	9	5	1	0			
26	1	5	10	2	3	7	2	1	1	1	5	8	4	0	9	2	1	0			
27	2	5	12	3	4	5	5	1	2	0	6	7	5	1	7	3	2	1			
28	1	4	13	3	2	6	3	2	2	0	5	8	5	1	5	1	1	0			
29	0	5	13	3	1	4	4	4	2	0	4	9	5	2	3	1	1	0			
30	0	4	14	2	0	4	6	4	1	0	4	8	2	3	4	2	0	0			
31	1	3	14	3	1	2	8	3	2			

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

TABLE XVI.—*continued.*

JULY.												AUGUST.											
Day.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.					
1	0	7	5	2	2	3	1	1	1	1	0	0	3	1	3	8	2	0	0	0	1	1	1
2	1	8	5	2	2	4	3	2	1	2	1	1	3	1	3	11	1	1	1	1	1	1	1
3	2	6	3	4	2	4	7	2	1	2	2	0	3	0	3	10	1	1	1	1	1	1	1
4	3	2	4	2	2	4	8	3	1	3	2	1	3	2	1	9	1	0	1	1	1	1	1
5	2	0	2	0	3	4	8	1	0	0	3	0	3	2	2	9	0	1	0	1	0	1	1
6	1	0	2	0	1	2	4	1	0	1	3	3	1	3	3	4	1	0	1	1	1	1	1
7	0	2	1	2	1	1	1	3	1	0	1	3	0	4	0	7	4	3	2	2	2	2	0
8	0	3	2	4	0	2	3	2	1	1	3	1	0	5	1	3	7	3	3	3	3	3	3
9	0	3	1	3	1	5	6	0	0	2	0	0	3	2	0	11	0	1	1	1	1	1	1
10	0	4	1	2	2	7	8	1	1	0	0	1	3	3	1	10	2	2	2	2	0	0	0
11	1	6	1	3	3	4	7	1	1	1	1	2	2	2	2	7	1	2	2	2	0	0	0
12	1	5	2	3	4	2	5	1	0	0	1	1	3	1	4	1	1	1	2	4	1	1	0
13	0	2	2	4	4	1	4	0	1	0	1	1	1	2	1	7	3	0	1	0	1	0	0
14	1	0	1	3	3	3	7	0	0	1	1	1	2	1	1	4	3	1	1	1	0	0	0
15	1	0	1	3	1	3	9	2	1	1	0	1	1	1	1	2	0	1	1	1	1	1	1
16	0	1	2	2	0	3	8	2	1	1	1	1	0	2	2	0	4	2	2	2	2	1	0
17	1	2	3	3	0	3	7	2	0	0	1	1	1	2	2	3	8	3	2	2	2	1	0
18	1	2	4	3	0	4	5	0	0	0	0	1	1	1	2	3	9	5	5	5	5	5	1
19	0	2	5	2	1	2	3	0	0	1	1	1	2	2	2	2	8	6	6	6	6	6	1
20	1	2	7	4	0	2	3	1	1	1	2	2	4	2	2	4	5	2	2	2	2	2	1
21	1	2	8	4	2	1	2	2	2	1	2	1	2	2	2	5	2	1	2	2	2	2	1
22	2	1	8	4	2	3	4	2	2	1	1	1	3	0	2	2	3	1	2	2	2	3	1
23	1	0	7	4	2	2	1	2	2	1	1	1	2	3	1	2	4	1	2	2	2	3	0
24	1	2	4	3	0	3	1	2	2	0	1	1	3	3	0	6	6	6	6	6	6	6	0
25	0	4	5	3	0	2	1	2	1	1	1	1	3	1	2	4	7	1	2	2	2	2	1
26	0	4	3	3	2	4	1	1	1	0	1	1	2	1	1	7	1	1	2	2	2	2	2
27	0	2	3	3	1	4	3	1	0	1	1	1	2	2	2	2	9	2	1	1	1	1	0
28	0	0	5	3	2	4	5	1	0	1	1	1	2	3	2	3	10	1	1	1	1	1	0
29	1	1	4	1	1	1	2	2	1	1	0	1	1	2	4	2	12	5	5	5	5	5	3
30	1	2	5	2	3	1	1	2	1	1	0	1	1	1	4	1	11	6	6	6	6	6	3
31	1	2	1	3	2	2	5	1	0	1	0	2	4	0	3	10	3	3	3	3	3	3	2

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

TABLE XVI.—*continued.*

SEPTEMBER.										OCTOBER.									
Day.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	
1	2	0	3	2	0	1	7	2	1	1	0	0	4	2	1	0	1	0	1
2	<i>0</i>	1	2	2	1	2	5	0	1	1	1	0	3	1	1	1	3	0	1
3	1	0	1	3	1	0	1	3	1	1	0	0	4	0	1	0	3	0	2
4	1	1	2	4	0	1	0	0	0	1	0	0	5	1	0	1	4	0	1
5	<i>1</i>	0	2	2	2	1	1	0	0	1	0	0	5	2	1	4	0	0	1
6	0	1	0	1	3	1	0	2	0	1	1	1	5	0	3	3	1	0	1
7	0	1	1	1	3	1	2	3	1	0	1	1	4	1	4	2	3	0	1
8	1	0	2	0	2	0	4	4	1	1	1	6	1	4	1	1	1	1	1
9	1	1	2	0	1	2	7	5	1	2	0	0	7	3	3	1	3	2	0
10	1	1	4	1	0	2	5	2	1	2	0	8	5	2	2	2	1	1	0
11	<i>1</i>	0	3	1	1	3	5	0	1	1	1	8	5	2	0	0	1	1	0
12	1	1	3	2	1	3	4	1	1	2	0	7	4	1	1	1	0	1	1
13	1	1	3	1	2	0	3	2	0	2	0	7	1	0	3	3	1	3	1
14	<i>0</i>	2	4	1	2	1	3	1	1	1	4	2	7	1	2	2	4	3	0
15	1	1	4	1	1	2	2	0	1	2	2	2	6	0	2	4	2	2	0
16	1	2	3	2	1	5	0	1	2	2	2	7	0	1	4	3	1	2	0
17	1	1	3	2	1	1	1	1	4	2	1	8	1	2	5	4	2	2	0
18	0	0	3	2	2	1	0	0	5	2	0	9	1	2	3	4	2	2	0
19	1	2	2	1	1	2	4	0	4	2	1	7	6	2	0	2	2	1	1
20	<i>1</i>	0	0	0	1	0	1	2	3	1	1	2	6	5	1	2	1	0	2
21	0	1	1	0	1	0	2	2	1	1	1	3	5	4	1	4	0	0	2
22	1	0	2	1	2	1	6	1	1	1	3	7	5	1	4	3	2	3	2
23	1	0	2	1	3	0	5	0	1	1	4	6	4	1	4	5	2	2	1
24	1	0	3	2	3	0	3	0	1	2	3	6	4	2	1	6	1	1	1
25	1	0	0	2	3	1	1	0	1	1	3	5	4	0	2	1	2	1	0
26	1	0	3	3	2	1	2	1	0	1	1	4	3	1	2	1	2	2	0
27	2	1	4	2	1	2	2	1	1	4	1	1	3	1	1	1	1	2	2
28	2	1	5	1	2	1	1	2	2	3	0	4	1	1	0	1	1	1	0
29	5	1	5	1	2	1	2	2	2	1	2	1	4	4	2	0	2	0	1
30	4	2	5	2	2	0	2	2	1	2	2	2	5	2	1	1	2	0	1
31	1	4	4	2	1	2	4	0	2	

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

TABLE XVI.—*continued.*

NOVEMBER.										DECEMBER.									
Day.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	
1	1	4	5	3	1	4	2	1	1	1	4	7	5	1	0	2	1	1	1
2	<i>1</i>	4	4	2	0	3	1	3	0	1	2	8	5	2	1	3	1	0	0
3	<i>1</i>	3	2	1	0	1	0	3	1	0	2	6	1	3	1	3	0	0	0
4	<i>1</i>	2	2	1	1	1	3	2	2	0	1	6	2	3	1	2	2	1	0
5	<i>1</i>	2	3	1	0	1	1	0	1	0	1	5	1	2	1	2	2	1	0
6	0	3	5	2	0	3	1	1	0	1	1	8	0	3	1	2	2	1	0
7	1	3	4	2	1	2	1	1	1	1	1	9	1	3	2	3	3	1	0
8	3	3	5	1	0	0	2	1	0	0	2	9	1	4	0	5	2	2	0
9	4	2	5	0	1	1	3	0	1	0	2	9	3	5	2	5	5	0	2
10	5	1	6	0	1	0	1	1	1	0	2	8	2	6	5	1	0	0	1
11	4	2	5	0	2	2	0	0	1	0	3	9	2	4	10	2	0	0	1
12	4	1	6	1	2	2	1	1	1	0	4	8	1	1	12	0	1	1	1
13	4	2	6	1	1	1	0	2	1	0	5	7	1	1	10	2	0	0	2
14	3	1	5	1	1	1	2	2	1	0	0	4	8	0	7	4	4	1	1
15	3	2	3	0	1	0	1	3	1	0	3	9	1	1	4	5	2	1	1
16	2	3	3	2	1	1	3	3	1	1	2	10	0	1	6	2	1	1	1
17	2	2	4	3	0	3	2	3	3	2	3	8	1	0	9	1	0	0	0
18	1	3	8	3	0	5	2	3	2	2	4	7	2	1	11	2	1	0	0
19	0	3	9	0	1	7	3	2	0	2	5	5	0	0	10	1	2	1	1
20	0	3	11	3	1	5	6	3	2	2	5	4	1	1	7	0	1	2	2
21	1	3	10	3	1	2	5	0	0	1	3	5	1	1	7	5	2	2	2
22	1	3	9	2	2	3	7	2	0	2	1	6	0	1	6	4	3	1	0
23	2	3	7	1	1	2	8	1	1	1	1	6	0	0	6	2	2	0	0
24	1	3	5	0	0	0	7	2	1	1	3	4	2	2	5	2	2	1	1
25	2	3	5	1	1	5	2	0	1	1	4	4	1	1	3	6	0	3	3
26	1	4	5	1	1	4	3	0	0	1	6	6	1	1	2	9	2	4	4
27	1	4	7	1	3	4	3	1	0	1	6	8	4	0	3	7	3	3	4
28	0	5	7	1	5	2	5	1	0	1	5	8	4	1	5	5	1	2	2
29	0	4	6	3	3	4	2	0	1	1	4	8	5	0	7	1	1	1	2
30	0	3	7	5	2	3	0	1	1	0	3	9	4	1	7	4	1	1	0
31	1	3	9	4	1	6	2	2	1	1

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

TABLE XVII.

Showing the Total Rainfall Recorded at Edinburgh on each day of the year during Eighty-eight years.

Day.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	ins. 5·64	ins. 6·59	ins. 4·99	ins. 4·28	ins. 6·76	ins. 4·33	ins. 5·50	ins. 3·61	ins. 7·92	ins. 7·07	ins. 8·62	ins. 5·49
2	4·07	8·56	2·96	3·98	3·00	6·46	5·75	5·17	7·60	3·59	5·89	5·50
3	2·63	8·28	3·80	5·57	2·29	5·88	9·08	13·36	6·64	7·54	7·64	5·10
4	7·34	4·93	6·12	3·72	4·17	9·01	5·07	7·80	7·31	7·65	4·44	5·26
5	5·92	3·34	4·74	5·37	3·52	5·51	10·32	6·37	7·00	6·97	11·28	6·56
6	3·17	5·20	3·42	3·59	6·15	5·82	7·89	6·16	10·81	5·67	8·63	7·16
7	4·43	4·72	6·21	3·97	5·59	6·02	6·19	7·24	6·21	9·93	10·20	5·80
8	4·60	4·88	2·69	3·45	3·78	5·94	8·02	8·95	7·13	8·29	6·53	5·72
9	3·37	7·35	6·50	4·53	6·34	3·70	5·59	8·44	5·52	6·07	9·95	10·71
10	5·26	4·66	5·73	5·41	5·38	7·61	5·77	6·22	5·39	8·10	8·85	6·09
11	5·62	5·11	2·98	5·45	8·12	8·29	7·24	6·60	4·63	10·81	3·10	6·46
12	6·16	3·87	4·97	3·43	6·02	5·29	7·51	13·01	7·61	8·70	7·74	5·94
13	5·57	5·64	1·91	4·76	5·05	4·09	9·22	13·08	8·47	8·78	9·39	5·20
14	3·00	5·88	2·30	3·91	5·12	4·41	8·56	10·01	6·26	8·24	7·28	4·95
15	5·60	4·41	5·62	3·98	4·92	4·85	6·07	10·90	6·25	5·41	6·10	5·82
16	5·13	5·48	3·64	4·62	4·24	4·37	8·55	9·27	3·22	5·87	5·85	5·22
17	5·47	4·20	3·87	3·53	7·44	6·48	5·50	9·75	12·68	6·70	11·25	5·38
18	4·40	3·98	3·51	4·19	5·52	5·36	8·22	11·51	6·22	7·08	5·82	7·32
19	5·38	3·85	4·20	3·93	5·34	6·62	7·95	5·94	4·86	6·76	6·82	7·35
20	7·22	3·32	4·59	4·42	2·58	3·65	8·08	5·72	8·70	10·93	6·10	6·52
21	5·85	4·05	3·72	7·59	4·31	5·39	6·86	8·40	8·78	4·57	5·06	8·20
22	3·60	3·89	2·71	6·63	4·14	7·31	6·81	7·93	5·71	9·15	5·33	8·72
23	5·85	2·47	3·08	5·03	6·06	6·90	9·46	4·24	7·29	6·90	5·89	5·67
24	6·75	3·69	3·03	7·56	8·76	5·53	9·84	6·67	8·45	4·87	5·94	4·83
25	6·50	6·59	4·84	6·49	5·64	4·31	8·46	8·01	5·55	6·09	7·70	3·75
26	8·40	8·04	3·55	5·42	5·44	8·75	8·09	6·74	3·88	5·96	9·29	4·42
27	6·31	5·35	3·11	3·94	6·50	4·21	7·84	5·48	4·83	5·51	7·32	5·44
28	6·12	6·16	5·15	6·34	8·66	4·38	9·63	7·04	5·15	4·35	6·17	7·68
29	6·42	...	4·38	4·89	5·63	3·88	8·21	8·57	7·31	6·12	6·37	5·97
30	7·16	...	5·13	4·14	5·18	5·04	9·48	9·41	5·87	7·85	8·02	5·08
31	5·30	...	3·41	...	2·51	...	8·54	10·44	...	4·76	...	5·69
Total	168·24	144·49	126·86	144·12	166·16	169·39	239·30	252·04	203·25	216·29	218·57	189·00

The Mean Annual Rainfall is 25·42 inches.

TABLE XVIII.

Showing the Smoothed Percentage Excess or Defect from Mean of Year of the Rainfall deduced from Eighty-eight Years' Observations.

Day.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	%	%	%	%	%	%	%	%	%	%	%	%
1	17	11	36	36	13	27	11	6	41	10	5	4
2	33	27	36	25	24	9	10	20	20	1	20	12
3	23	18	30	28	38	16	8	43	17	2	2	14
4	14	10	20	20	46	11	33	50	14	20	16	8
5	11	27	22	31	25	11	27	10	38	10	32	3
6	26	28	22	30	17	6	32	7	31	23	63	7
7	33	20	33	40	16	3	20	21	31	30	38	2
8	32	8	16	35	15	15	7	34	2	32	45	21
9	28	9	19	27	16	6	5	28	2	22	38	22
10	23	7	17	16	4	6	1	16	15	36	19	26
11	8	26	25	22	2	15	12	40	4	50	7	1
12	6	21	46	26	0	4	30	77	12	54	10	4
13	20	16	50	34	12	25	37	96	22	40	33	12
14	23	13	47	31	18	27	30	84	14	22	24	13
15	25	14	37	32	22	26	27	63	15	6	5	13
16	12	23	28	34	11	15	10	62	20	2	26	11
17	18	26	40	33	7	12	21	66	20	7	25	3
18	17	35	37	37	0	0	18	48	29	12	30	9
19	8	39	34	32	27	15	32	26	7	35	2	15
20	0	39	32	14	33	15	24	9	22	21	2	20
21	9	40	40	1	36	11	18	20	26	34	10	27
22	17	43	48	5	17	6	26	12	18	12	11	23
23	12	45	52	5	7	7	42	2	16	14	7	5
24	4	31	40	4	11	9	51	3	16	3	6	22
25	18	0	38	6	8	1	43	17	3	8	25	29
26	15	8	37	14	4	6	33	10	22	5	32	26
27	13	6	36	15	12	6	39	5	25	14	24	5
28	2	10	31	17	13	32	40	15	6	13	8	4
29	7	...	20	17	6	27	48	36	0	0	12	2
30	3	...	30	14	27	22	42	54	10	2	8	9
31	4	...	30	...	35	...	18	51	...	15	...	11

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

TABLE XIX.

Showing the Number of Times Rain (including Snow and Hail) fell on each day of the Year at Edinburgh during Eighty-eight Years.

Day.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	38	45	40	39	35	27	36	38	39	37	43	47
2	33	48	30	31	35	35	37	39	42	38	43	33
3	31	46	35	37	32	34	39	45	48	39	44	38
4	40	36	42	34	32	44	44	45	43	39	39	38
5	40	33	40	38	38	40	46	43	47	41	55	48
6	31	41	45	32	41	37	42	41	42	37	44	48
7	30	42	37	37	35	40	43	37	43	46	37	41
8	32	40	25	30	33	36	40	47	39	52	38	39
9	32	39	44	27	37	31	36	41	42	43	43	40
10	35	40	39	35	36	38	37	44	42	55	41	39
11	30	42	39	34	42	40	37	45	37	45	32	41
12	32	35	35	36	42	43	41	49	38	50	40	38
13	34	41	30	40	35	29	42	55	45	37	36	45
14	28	38	29	35	39	33	45	48	36	47	48	37
15	40	40	44	35	28	32	45	52	35	39	45	39
16	38	35	29	42	39	31	38	50	33	45	34	43
17	32	37	30	40	45	31	34	45	37	38	42	39
18	40	38	41	38	37	35	45	42	33	39	37	45
19	36	35	37	42	40	34	47	34	40	41	36	41
20	45	33	36	31	31	30	44	38	36	48	37	37
21	37	36	31	39	32	33	41	34	49	41	41	44
22	34	41	32	43	38	34	41	39	47	44	35	49
23	29	31	32	41	37	36	45	36	38	38	40	35
24	40	37	34	39	39	47	41	41	40	43	39	29
25	38	42	32	42	35	31	37	39	40	45	36	37
26	45	45	34	37	32	35	47	44	39	42	51	31
27	37	42	27	35	37	38	39	37	41	36	38	34
28	44	36	38	41	45	36	40	45	38	38	38	30
29	46	(12)	36	34	38	31	43	41	37	38	36	39
30	40	...	31	33	35	35	40	46	39	50	43	35
31	45	...	41	...	36	...	43	41	...	41	...	31
Total	1132	1106	1095	1097	1136	1056	1275	1321	1205	1312	1211	1210

The Mean Annual Number of Rainy Days is 161.

TABLE XX.

Showing the Mean Duration of Sunshine at Edinburgh on each Day of the Year on the Mean of Thirty Years.

Day.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	hrs. 1·16	hrs. 1·90	hrs. 2·64	hrs. 3·30	hrs. 4·78	hrs. 5·31	hrs. 4·42	hrs. 5·05	hrs. 3·98	hrs. 3·48	hrs. 2·22	hrs. 1·59
2	1·92	1·88	3·71	3·26	5·61	4·99	5·32	5·59	4·57	4·07	1·81	1·26
3	1·22	2·04	3·00	4·15	4·65	3·78	4·14	5·20	4·16	3·87	2·56	1·14
4	0·95	2·46	3·50	4·06	5·45	4·35	5·15	4·31	4·54	3·74	2·23	1·42
5	1·42	2·29	3·24	3·14	5·02	4·40	4·79	4·74	4·26	3·02	3·04	1·10
6	1·38	2·22	3·59	4·43	5·60	5·16	4·80	4·58	4·75	2·98	2·73	1·22
7	1·32	2·32	3·56	3·93	4·95	4·77	4·71	4·25	4·58	3·34	2·20	1·90
8	1·42	3·12	4·65	4·38	5·07	4·61	4·86	3·74	4·87	3·27	2·20	1·35
9	1·02	2·35	3·51	4·39	5·45	4·96	4·07	4·20	4·10	2·82	2·40	1·55
10	1·36	2·03	3·79	4·65	5·57	4·41	5·24	5·15	4·26	3·88	3·00	1·47
11	1·16	2·68	3·86	4·32	4·78	4·98	4·47	4·39	5·09	3·63	2·75	1·43
12	1·17	3·10	3·90	3·57	4·98	4·97	5·13	4·63	4·33	3·57	2·38	1·21
13	1·60	2·50	3·18	3·55	4·83	5·20	3·88	5·20	4·12	2·76	2·02	1·53
14	1·55	2·90	3·05	4·26	4·32	5·92	5·26	5·56	3·64	2·64	1·58	1·05
15	1·36	2·90	3·10	3·86	4·28	4·98	5·00	4·11	4·02	3·00	1·56	1·36
16	1·68	1·98	3·46	4·00	4·80	4·72	4·67	4·09	3·63	3·14	1·71	1·26
17	1·61	2·16	3·03	3·76	3·91	4·20	6·40	3·52	3·92	2·36	1·61	1·37
18	1·46	2·53	3·67	4·26	4·91	5·23	4·38	4·36	3·73	3·00	1·93	0·86
19	2·02	3·18	3·87	4·17	5·17	4·00	4·34	5·07	3·52	3·10	1·57	0·94
20	2·37	2·75	3·22	4·72	4·79	5·69	6·34	4·78	3·78	2·73	1·96	1·32
21	1·83	2·96	3·01	5·05	5·48	6·11	5·19	3·97	3·17	2·52	1·41	1·33
22	1·76	2·83	3·09	4·31	4·54	4·57	5·39	4·29	2·50	3·14	1·72	1·69
23	1·53	2·44	4·10	4·19	5·63	5·34	5·68	5·54	2·75	3·03	2·16	1·78
24	1·79	2·96	4·02	3·71	6·38	4·49	5·55	5·12	3·55	1·95	1·31	1·35
25	2·81	2·30	3·10	4·81	5·53	4·29	5·44	4·60	3·79	3·38	1·48	1·41
26	1·95	2·19	3·60	4·65	5·13	5·61	3·66	3·53	3·95	2·48	1·44	1·37
27	1·99	2·06	3·95	4·46	6·26	5·56	5·59	4·07	3·50	2·89	1·31	1·39
28	1·93	2·69	2·97	4·10	5·42	5·32	5·59	4·15	3·36	3·23	1·29	1·27
29	1·25	...	3·84	4·92	5·87	5·12	4·26	4·95	3·53	1·89	2·08	1·49
30	2·01	...	3·98	5·61	5·93	5·65	5·11	4·67	2·66	1·80	1·66	0·87
31	1·37	...	3·67	...	6·09	...	4·66	3·76	...	2·74	...	1·44
Totals	49·37	70·03	108·86	125·97	161·18	148·69	153·49	141·17	116·61	93·45	59·32	41·72

TABLE XXI.

Showing the Mean Percentage of the Possible Sunshine Recorded at Edinburgh on each Day of the Year on the Mean of Thirty Years.

Day.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	17	22	25	25	31	31	25	32	29	30	24	22
2	27	22	35	25	36	29	31	35	33	36	20	17
3	17	23	28	32	30	22	24	33	30	34	28	16
4	13	28	32	31	36	25	30	27	33	33	25	20
5	20	26	30	23	32	25	28	30	32	27	34	15
6	19	25	33	33	36	30	28	29	35	27	31	17
7	19	26	32	29	32	28	27	27	34	30	25	27
8	20	35	42	32	32	26	28	24	37	30	25	19
9	14	26	31	32	35	28	24	27	31	26	27	22
10	19	22	34	34	35	26	30	33	33	36	35	21
11	16	29	34	31	30	29	26	29	39	34	32	20
12	16	33	34	26	31	29	30	30	33	33	28	17
13	22	27	27	25	30	30	23	34	32	26	24	22
14	21	31	26	30	27	34	31	37	28	25	19	15
15	18	30	26	27	26	28	29	27	32	29	19	20
16	22	21	29	28	29	27	28	27	29	30	21	18
17	21	25	25	26	24	24	38	24	31	23	20	20
18	19	26	31	30	30	30	26	29	30	30	24	12
19	26	32	32	29	31	23	26	34	28	31	20	14
20	31	28	27	32	29	33	38	33	31	27	35	19
21	23	30	25	35	33	35	31	27	26	25	18	19
22	22	28	25	30	27	26	33	29	20	32	22	25
23	19	24	33	29	34	31	34	38	23	31	28	26
24	22	29	32	25	38	26	34	36	30	20	17	20
25	35	22	25	32	33	25	37	32	32	35	19	20
26	24	21	28	31	31	32	22	25	33	26	19	20
27	24	20	31	30	37	32	34	29	30	30	17	20
28	24	25	23	27	32	30	34	29	29	34	17	18
29	15	...	30	32	35	29	26	35	30	20	28	22
30	24	...	31	37	35	32	32	34	23	19	22	13
31	16	...	28	...	36	...	29	27	...	30	...	21
Means	21	26	30	30	32	28	29	30	31	29	24	19

The Mean of the 12 Monthly Values is 27.

TABLE XXII.

Showing the Smoothed Excess or Defect from Mean of Year of the Percentage of possible Sunshine on the Mean of Thirty Years.

Day.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	5	7	1	1	8	5	2	5	3	3	2	7
2	7	5	2	0	5	0	0	6	4	6	3	9
3	8	3	5	2	7	2	1	5	5	7	3	9
4	10	1	3	2	6	3	0	3	5	4	2	10
5	10	1	5	2	8	0	2	2	6	2	3	10
6	8	1	5	1	6	1	1	2	7	1	3	7
7	8	2	9	4	6	1	1	0	8	2	0	6
8	9	2	8	4	6	1	1	1	7	2	1	4
9	9	1	9	6	7	0	0	1	7	4	2	6
10	11	1	6	5	6	1	0	3	7	5	4	6
11	10	1	7	3	5	1	2	4	8	7	5	8
12	9	3	5	0	3	2	1	4	8	4	1	7
13	7	3	2	0	2	4	1	7	4	1	3	9
14	7	2	1	0	1	4	1	6	4	0	6	8
15	7	0	0	1	0	3	2	3	3	1	7	9
16	7	2	0	0	1	1	5	1	4	0	7	8
17	6	3	1	1	1	0	4	0	3	1	5	10
18	5	1	2	1	1	1	3	2	3	1	6	12
19	2	2	3	3	3	2	3	5	3	2	1	12
20	0	3	1	5	4	3	5	4	1	1	3	10
21	2	2	1	5	3	4	7	3	1	1	2	6
22	6	0	1	4	4	4	6	4	4	2	4	4
23	6	0	3	1	6	1	7	7	3	1	5	3
24	2	2	3	2	8	0	8	8	1	2	6	5
25	0	3	1	2	7	1	4	4	5	0	9	7
26	1	6	1	4	7	3	4	2	5	3	9	7
27	3	5	0	2	6	4	3	1	4	3	9	8
28	6	4	1	3	8	3	4	4	3	1	6	7
29	6	...	1	5	7	3	4	6	0	3	5	9
30	9	...	3	6	8	2	2	5	1	4	3	8
31	6	...	1	...	7	...	4	3	...	3	...	10

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

TABLE XXIII.

Showing the Number of Days on which the Sun Shone at Edinburgh for each Day of the Year during Thirty Years.

Day.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	17	24	21	23	25	28	29	29	27	27	20	19
2	21	20	27	21	27	26	29	28	28	27	21	18
3	17	24	22	24	27	25	28	27	28	26	23	16
4	17	23	24	24	27	27	27	28	27	27	26	13
5	15	24	20	24	27	25	27	28	28	23	28	18
6	17	23	25	26	26	26	28	25	30	22	24	17
7	18	23	25	24	27	25	26	25	24	25	22	17
8	18	27	29	25	25	25	27	27	29	26	22	16
9	17	23	25	26	29	25	28	28	29	24	24	17
10	21	21	25	25	26	27	29	29	28	27	26	17
11	17	23	24	29	26	27	26	26	27	24	25	17
12	18	25	24	27	25	27	27	25	25	24	20	17
13	20	25	28	25	24	27	23	24	25	22	18	17
14	20	19	23	27	28	29	27	27	24	20	17	16
15	19	25	23	25	27	25	28	29	24	24	17	20
16	18	19	23	28	26	27	26	27	26	25	19	19
17	19	21	24	24	25	26	28	25	25	22	21	20
18	20	26	25	22	25	27	27	25	23	23	20	14
19	21	27	25	24	29	30	27	26	25	23	23	15
20	20	21	24	26	28	29	29	26	21	22	23	18
21	20	21	22	24	27	28	24	26	24	22	20	17
22	19	21	22	23	25	25	29	26	24	25	20	21
23	20	26	25	25	25	28	27	29	21	27	23	20
24	20	25	25	23	28	27	27	24	26	20	14	17
25	27	22	22	26	27	26	27	25	27	26	17	17
26	24	21	25	27	24	29	25	24	28	24	21	16
27	21	19	24	26	30	28	26	25	26	22	18	18
28	23	22	22	25	28	28	27	25	27	25	18	18
29	19	...	25	28	28	29	25	28	22	23	25	20
30	24	...	26	27	27	27	27	27	24	23	18	15
31	20	...	22	...	26	...	28	24		24	...	19
Means.	19.6	22.9	24.1	25.1	26.6	26.9	27.0	26.4	25.7	24.0	21.1	17.4

The Mean of the 12 Monthly Values is 23.9.

TABLE XXIV.

Showing the Number of Auroras observed at Edinburgh on each Day of the Year during Eighty-one Years.

Day.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	0	3	3	1	1	1	0	0	1	0	1	0
2	0	3	1	0	0	0	0	0	0	2	0	0
3	4	0	2	0	0	0	0	0	2	1	3	1
4	2	2	1	0	0	0	0	0	4	2	2	1
5	2	1	0	2	0	0	0	0	1	0	1	0
6	1	1	0	1	0	0	0	1	1	3	2	0
7	2	3	2	0	1	0	0	0	1	2	3	1
8	0	2	0	2	3	0	0	0	0	0	1	0
9	3	2	1	4	0	0	0	0	3	0	2	1
10	0	1	0	0	0	0	0	1	2	1	1	0
11	1	2	1	0	1	0	0	2	2	0	1	1
12	0	2	3	2	0	0	0	1	0	3	1	3
13	1	1	1	0	1	0	0	1	2	3	2	0
14	2	1	3	0	0	0	0	1	0	3	3	1
15	1	1	2	3	2	0	1	0	1	0	1	0
16	2	0	3	0	0	0	0	0	1	1	0	0
17	0	0	3	2	0	0	0	1	1	1	4	0
18	0	3	1	2	0	0	0	0	1	3	3	0
19	2	3	1	3	0	0	0	2	0	3	1	1
20	1	2	1	2	1	0	0	2	0	2	0	0
21	1	2	1	0	1	0	0	1	4	1	0	0
22	0	1	1	1	0	0	0	0	2	2	4	1
23	0	0	0	0	0	0	0	0	0	1	2	1
24	2	1	2	1	0	0	0	1	2	2	0	0
25	0	2	2	1	1	0	0	0	3	3	0	2
26	1	0	0	0	0	0	0	2	2	0	0	0
27	2	0	1	2	0	0	2	0	1	0	0	2
28	0	1	4	1	0	0	1	2	1	1	0	0
29	0	(1)	2	0	0	0	1	3	3	1	1	0
30	1	...	2	0	0	0	1	0	0	1	...	0
31	2	...	2	...	0	0	...	3	...	0
Totals	33	41	46	30	12	1	6	21	41	46	39	16

The Mean Annual Number of Auroras is 4.

TABLE XXV.

Showing the Number of Times Snow fell on each Day of the Year at Edinburgh during 125 Years.

SNOW.

Day.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	17	22	22	14	5	1	3	12
2	17	21	21	12	6	0	0	10
3	18	25	19	11	6	0	1	9
4	22	19	13	6	3	1	3	6
5	23	16	17	8	3	0	1	9
6	24	18	21	4	2	0	8	11
7	17	22	22	9	3	0	0	16
8	11	22	25	9	7	1	6	9
9	15	18	21	8	1	0	4	14
10	23	19	24	13	4	0	3	13
11	23	20	29	9	1	0	4	8
12	17	18	23	8	0	1	4	11
13	16	21	18	12	0	2	4	11
14	16	13	19	7	3	1	4	4
15	18	15	24	6	1	0	6	9
16	29	20	24	12	3	0	6	10
17	19	20	19	4	3	2	9	13
18	19	21	13	7	0	0	10	11
19	23	22	12	8	2	0	8	9
20	21	26	15	4	1	1	7	12
21	19	20	21	7	0	0	6	10
22	13	14	24	4	0	2	7	22
23	20	14	20	1	0	1	6	13
24	20	23	27	7	0	0	4	15
25	12	19	21	3	0	0	10	13
26	22	25	19	1	1	3	13	20
27	25	29	19	3	1	3	14	17
28	24	18	12	5	0	4	6	19
29	26	(3)	16	1	0	1	4	21
30	19	...	10	4	1	3	12	16
31	23	...	13	...	0	1	...	10
Totals	611	563	603	207	57	28	173	383
Means	4.9	4.5	4.8	1.7	0.5	0.2	1.2	3.1

The Mean Annual Number of Days with Snow is 21.

TABLE XXVI.

Showing the Number of Times Hail fell on each Day of the year at Edinburgh during 125 Years.

HAIL.

Day.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1	5	8	9	12	1	0	0	1	2	2	3
2	3	5	5	10	9	1	3	1	2	2	4	2
3	3	2	3	6	7	1	3	1	3	2	4	1
4	3	2	2	8	3	3	1	1		2	3	3
5	4	0	4	6	8	1	3	2	0	0	4	4
6	4	3	5	8	6	2	3	0	0	1	5	1
7	4	4	8	5	9	4	2	0	1	1	2	1
8	1	2	8	7	9	4	2	1	0	2	1	5
9	3	1	2	9	10	2	0	1	1	0	3	3
10	3	1	9	9	10	1	2	0	1	3	2	3
11	0	2	11	13	5	1	1	1	1	3	0	1
12	2	2	5	11	2	2	1	2	1	4	5	4
13	5	2	3	13	5	1	0	1	0	2	3	0
14	2	4	8	4	6	3	0	1	0	0	2	3
15	4	4	2	7	5	0	1	0	0	2	1	5
16	1	4	6	12	5	3	0	2	0	1	2	2
17	0	2	5	10	4	3	1	0	2	3	2	0
18	1	4	7	10	4	0	1	2	3	3	0	2
19	4	3	3	6	3	4	1	2	1	1	6	5
20	2	3	7	5	3	0	1	0	3	3	1	3
21	1	3	2	3	2	0	2	1	0	3	1	5
22	2	5	3	6	5	1	0	0	3	4	4	2
23	2	2	5	9	3	2	1	0	0	4	1	3
24	2	6	8	12	2	1	0	5	2	4	1	4
25	1	6	10	12	8	2	0	0	3	1	4	3
26	1	11	14	10	7	0	1	1	2	1	5	4
27	2	4	5	12	7	3	1	2	2	1	2	2
28	1	2	6	10	5	0	1	0	2	3	3	4
29	2	(1)	13	8	6	0	2	1	3	4	7	1
30	4	...	8	9	2	0	2	0	1	2	2	4
31	2	...	10	...	2	...	0	1	...	4	...	3
Totals	69	95	200	259	174	46	36	29	40	68	83	86
Means	0·6	0·8	1·6	2·1	1·4	0·4	0·3	0·2	0·3	0·5	0·7	0·7

The Mean Annual Number of Days with Hail is 10.

TABLE XXVII.

Showing the Number of Times Thunderstorms were Observed on each Day of the Year at Edinburyh during 125 Years.

THUNDERSTORMS.

Day.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	0	1	1	1	1	6	2	7	2	1	0	0
2	1	0	0	0	2	1	10	8	2	0	1	0
3	0	0	0	0	2	8	5	7	2	0	0	0
4	1	1	0	1	1	8	8	4	7	0	2	0
5	1	0	0	3	4	2	11	5	4	1	0	0
6	0	0	0	0	3	3	7	7	2	1	2	1
7	0	0	0	0	4	5	11	4	3	1	0	0
8	0	0	1	1	2	7	5	8	0	0	1	0
9	0	0	0	1	5	6	7	8	3	0	0	0
10	2	0	1	1	2	7	7	7	2	0	0	0
11	0	0	1	1	3	4	11	8	2	1	0	0
12	0	0	0	1	1	5	5	9	2	0	0	0
13	0	0	0	1	2	4	4	9	0	0	0	0
14	0	0	1	1	9	5	7	4	2	0	0	2
15	1	1	0	0	7	5	9	3	1	0	0	1
16	1	1	1	0	3	7	8	5	1	0	1	0
17	2	1	1	0	6	6	7	2	2	1	0	0
18	1	0	0	0	3	6	3	6	4	1	0	0
19	0	1	0	0	5	6	10	2	1	1	0	0
20	1	0	2	0	3	6	10	7	1	2	0	0
21	1	0	1	0	4	7	6	1	0	0	0	0
22	0	0	0	0	1	7	8	2	2	1	0	0
23	0	0	0	3	4	4	7	0	0	0	0	0
24	0	1	0	3	4	9	10	1	0	0	0	1
25	0	2	1	1	2	7	3	6	0	0	0	0
26	0	0	0	2	3	5	8	5	1	3	0	0
27	1	1	0	2	3	5	7	2	4	0	0	0
28	0	0	0	2	3	5	10	2	3	1	0	1
29	0	0	0	2	2	4	9	2	2	1	0	0
30	4	0	...	3	3	4	5	1	2	2	0	1
31	0	...	0	...	2	...	6	3	...	0	...	0
Totals.	17	10	11	30	99	164	226	145	57	18	7	7
...	0·1	0·1	0·1	0·2	0·8	1·3	1·8	1·2	0·5	0·1	0·1	0·1

The Mean Annual Number of Thunderstorms is 6.

TABLE XXVIII.

Showing the Number of Times Lightning without Thunder was Observed on each Day of the Year at Edinburgh during 61 Years.

Day.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	0	0	1	0	0	0	0	0	1	0	0	0
2	0	0	0	0	0	0	1	0	2	1	0	1
3	0	1	0	0	0	0	1	1	2	0	0	0
4	0	0	0	0	0	1	0	0	1	0	0	0
5	1	0	0	0	0	0	0	0	0	1	0	0
6	1	0	0	0	0	0	0	0	3	0	0	1
7	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	1	0	1	1
10	0	0	0	0	0	0	0	0	0	1	0	0
11	0	0	0	1	0	1	1	1	0	0	0	1
12	0	0	0	0	1	0	0	0	0	0	1	0
13	1	0	0	0	0	0	1	0	0	0	0	0
14	1	0	0	0	0	0	0	0	0	1	0	0
15	2	1	0	0	1	0	0	1	2	0	0	1
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	1	1	0	0	0	1	1	0	0	0	0
18	1	0	0	0	0	0	0	0	0	0	0	0
19	0	1	0	0	0	0	1	2	2	2	0	0
20	0	0	0	0	0	0	0	1	0	0	0	1
21	1	0	0	0	0	0	1	0	1	0	1	0
22	0	0	0	1	0	0	1	0	0	1	0	0
23	2	0	0	0	0	0	1	0	0	0	0	0
24	0	0	0	0	1	0	0	0	0	0	0	0
25	1	1	0	0	1	0	0	0	0	0	0	0
26	1	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	1	1	0	0	0	0	0	1	1
28	0	0	0	0	1	0	1	1	0	1	0	0
29	0	...	0	0	0	0	1	0	1	0	0	0
30	0	...	0	0	0	0	1	1	0	0	1	0
31	0	...	0	...	0	...	0	2	...	0	...	1
Totals	12	5	2	3	6	2	12	11	16	8	5	8

TABLE XXIX.

Showing the Number of Times Gales were Observed on each Day of the Year at Edinburgh during 125 Years.

GALES.

Day.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	19	21	21	9	7	4	2	7	9	8	15	12
2	13	23	20	6	6	2	2	5	5	8	14	14
3	17	24	16	12	4	6	4	6	8	11	12	17
4	22	16	16	8	4	5	4	7	7	9	12	17
5	17	18	24	9	6	7	6	10	7	7	13	18
6	17	19	16	7	3	3	3	5	9	11	14	15
7	17	20	13	9	11	5	4	7	6	12	9	13
8	9	10	13	6	6	7	6	6	8	8	13	13
9	18	17	16	7	6	5	5	7	12	4	12	13
10	15	16	16	11	5	3	3	3	9	10	10	15
11	10	14	15	6	4	5	3	2	7	15	7	19
12	15	19	9	6	7	3	3	4	7	11	12	17
13	22	18	19	6	2	4	4	6	5	11	14	17
14	10	14	7	5	6	6	2	5	9	18	7	16
15	15	10	10	6	4	1	5	7	12	10	10	21
16	14	13	14	10	6	4	3	5	6	18	11	17
17	11	17	15	7	5	4	3	3	4	9	17	17
18	16	19	14	5	6	2	3	3	10	12	16	13
19	18	15	11	5	8	6	6	2	8	9	14	16
20	20	16	16	6	4	4	3	2	5	14	17	17
21	19	11	11	11	3	5	1	7	6	15	17	15
22	19	22	14	10	6	7	2	4	7	19	16	16
23	24	13	14	8	5	2	2	5	8	12	11	21
24	27	20	13	7	3	7	2	4	9	10	9	18
25	23	19	6	7	4	6	6	7	10	13	8	12
26	23	17	11	10	3	2	2	4	8	12	18	10
27	24	13	6	8	2	3	3	6	15	19	14	17
28	23	13	10	10	4	2	2	6	12	15	22	17
29	22	(4)	15	7	4	4	5	5	9	9	15	18
30	34	...	8	6	5	6	5	7	11	11	12	16
31	27	...	5	...	3	...	2	6	...	5	...	18
Totals	580	471	414	230	152	130	106	163	248	355	391	495
Means	4·1	3·8	3·3	1·8	1·2	1·0	0·8	1·3	2·0	2·8	3·1	3·9

The Mean Annual Number of Gales is 29.

TABLE XXX.

Showing the Number of Times Fog or Mist was Observed on each Day of the Year at Edinburgh during 125 Years.

FOG.

Day.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	4	3	5	2	6	6	4	4	2	8	2	4
2	8	4	6	6	9	4	4	5	5	8	5	4
3	7	4	5	7	9	11	8	5	6	6	4	3
4	1	3	3	6	6	7	5	6	10	4	6	7
5	6	5	4	4	11	10	1	3	5	4	5	4
6	10	3	2	3	8	4	3	7	7	5	3	6
7	5	3	5	6	10	8	8	8	5	6	5	5
8	8	2	4	3	6	2	5	5	8	5	5	6
9	3	1	4	6	5	6	3	5	5	3	6	5
10	12	4	6	6	5	8	6	5	5	4	5	6
11	10	3	3	3	9	11	3	5	5	6	4	4
12	12	3	4	5	5	11	3	4	5	9	5	6
13	9	2	3	6	5	9	3	4	8	3	7	3
14	6	1	5	3	8	4	6	6	9	3	6	2
15	7	2	3	7	9	4	8	4	7	6	7	7
16	5	3	3	5	7	6	4	7	7	5	6	6
17	4	2	3	3	3	11	3	6	8	3	7	4
18	3	3	6	6	7	9	5	6	5	7	5	3
19	3	2	6	5	5	8	5	8	5	6	6	4
20	8	4	5	3	4	5	6	4	2	4	3	3
21	3	5	2	2	7	8	2	6	6	9	4	6
22	2	6	4	2	5	8	4	7	4	6	6	7
23	3	2	2	6	10	9	4	2	5	6	6	6
24	4	5	6	7	10	7	5	5	6	5	7	11
25	4	5	2	8	5	7	7	6	3	4	2	6
26	4	4	3	5	8	7	8	5	6	6	5	5
27	5	1	9	6	7	6	6	3	5	7	3	3
28	2	2	8	7	4	5	3	6	6	8	8	3
29	2	...	6	6	4	8	4	4	10	5	7	5
30	1	...	7	9	0	5	5	3	6	12	1	6
31	4	...	5	...	3	...	2	3	...	4	...	2
	165	87	139	153	200	214	143	157	176	175	152	152
	1·3	0·7	1·1	1·2	1·6	1·7	1·1	1·3	1·4	1·4	1·2	1·2

The Mean Annual Number of Days with Mist or Fog is 15.

TABLE XXXI.

*Showing the Smoothed Excess or Defect in Days from Mean Frequency of Hail,
Thunderstorms, Gales, Fog, and Snow.*

NOTE.—The mean daily frequency of each phenomenon is obtained by dividing the total number of times it has been observed by the number of days in the year. Thus, in the 125 years under review, hail fell on 1185 days, which, divided by 365, gives an average of three per diem. But the smoothed value for January 1 is two, being one below the average. The figure 1 is accordingly entered in the table in italic type.

HAIL.

Days.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	<i>1</i>	1	2	7	7	2	2	3	2	1	0	1
2	<i>1</i>	1	2	5	6	2	1	2	1	1	0	1
3	0	0	0	5	3	1	1	2	1	1	1	1
4	0	2	0	4	3	1	1	2	1	2	1	0
5	<i>1</i>	1	1	4	3	1	1	2	2	2	1	0
6	1	1	3	3	5	1	0	2	3	2	1	1
7	0	0	4	4	5	0	1	3	3	2	0	1
8	0	1	3	4	6	0	2	2	2	2	1	0
9	1	2	3	5	7	1	2	2	2	1	1	1
10	1	2	4	7	5	2	2	2	2	1	1	1
11	<i>1</i>	1	5	8	3	2	2	2	2	0	1	0
12	1	1	3	9	1	2	2	2	2	0	0	1
13	0	0	2	6	1	1	3	2	3	1	0	1
14	<i>1</i>	0	1	5	2	2	3	2	3	2	1	0
15	1	1	2	5	2	1	3	2	3	2	1	0
16	<i>1</i>	0	1	6	2	1	2	2	2	1	1	1
17	2	0	3	8	1	1	2	2	1	1	2	2
18	1	0	2	6	1	1	2	2	1	1	0	1
19	<i>1</i>	0	3	4	0	2	2	2	1	1	1	0
20	1	0	1	2	0	2	2	2	2	1	0	1
21	1	1	3	2	0	3	2	3	1	0	1	0
22	<i>1</i>	0	2	3	0	2	2	3	2	1	1	0
23	<i>1</i>	1	4	6	0	2	3	1	1	1	1	0
24	1	2	5	8	1	1	3	1	1	0	1	0
25	2	5	8	8	3	2	3	1	1	1	0	1
26	2	3	7	8	4	1	2	2	1	2	1	0
27	2	3	5	8	3	2	2	2	1	1	0	0
28	<i>1</i>	2	5	7	3	2	2	2	1	0	1	1
29	<i>1</i>	...	6	6	1	3	1	3	1	0	1	0
30	0	...	7	7	0	3	2	2	1	0	1	0
31	1	...	6	...	1	...	2	3	...	0	...	0

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

TABLE XXXI.—*continued.*

THUNDERSTORMS.

The mean daily frequency of Thunderstorms is 2.

Days.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2	2	2	2	0	2	1	5	0	1	2	2
2	2	2	2	2	0	1	3	5	0	2	2	2
3	1	2	2	2	0	3	6	4	2	2	1	2
4	1	2	2	1	0	4	6	3	2	1	1	2
5	1	2	2	1	1	4	7	3	2	1	1	2
6	2	2	2	2	1	2	8	3	1	1	1	2
7	2	2	2	1	1	1	6	4	0	1	2	2
8	2	2	2	1	2	3	6	5	0	2	2	2
9	1	2	1	1	1	4	4	6	0	2	2	2
10	1	2	1	1	1	5	6	6	0	2	2	2
11	1	2	1	1	0	4	6	6	0	2	2	2
12	2	2	2	1	0	3	5	7	1	2	2	2
13	2	2	2	1	2	2	3	5	1	2	2	1
14	2	2	2	2	4	3	5	3	1	2	2	1
15	1	1	1	2	4	3	6	2	1	2	2	1
16	1	1	1	2	3	4	6	1	1	2	2	2
17	1	1	1	2	2	4	4	2	0	1	2	2
18	1	1	2	2	3	4	5	1	0	1	2	2
19	1	2	1	2	2	4	6	3	0	1	2	2
20	1	2	1	2	2	4	7	1	1	1	2	2
21	1	2	1	2	1	4	6	1	1	1	2	2
22	2	2	2	1	1	5	5	1	1	2	2	2
23	2	2	2	0	1	4	6	0	1	2	2	2
24	2	1	2	0	1	5	5	2	2	2	2	2
25	2	1	2	0	1	5	5	2	2	1	2	2
26	2	1	2	0	1	5	4	1	0	1	2	2
27	2	2	2	0	1	4	6	0	1	1	2	2
28	2	1	2	0	1	3	7	0	1	1	2	2
29	1	...	2	0	1	3	6	0	0	1	2	1
30	1	...	2	0	0	2	5	0	0	1	2	2
31	0	...	2	4	0	2

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

TABLE XXXI.—*continued.*

GALES.

The mean daily frequency of Gales is 10.

Days.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	7	13	8	3	4	7	7	5	3	1	1	3
2	6	12	9	1	4	6	7	4	3	1	4	4
3	7	11	7	1	5	6	7	4	3	1	3	6
4	9	9	9	0	5	4	5	2	3	1	2	7
5	9	8	9	2	6	5	6	3	2	1	3	7
6	7	9	8	2	3	5	6	3	3	0	2	5
7	4	6	4	3	3	5	6	4	2	0	2	4
8	5	6	4	3	2	4	5	3	1	2	1	3
9	4	4	5	2	4	5	5	5	0	3	2	4
10	4	6	6	2	5	6	6	6	1	0	0	6
11	3	6	3	2	5	6	7	7	2	2	0	7
12	6	7	4	4	6	6	7	6	4	2	1	8
13	6	7	2	4	5	6	7	5	3	3	1	7
14	6	4	2	4	6	6	6	4	1	3	0	8
15	3	2	0	3	5	6	7	4	1	5	1	8
16	3	3	3	2	5	7	6	5	3	2	3	8
17	4	6	4	3	4	7	7	6	3	3	5	6
18	5	7	3	4	4	6	6	7	3	0	6	5
19	8	7	4	5	3	6	6	8	2	2	6	5
20	9	4	3	3	4	5	7	6	4	3	6	6
21	9	6	4	1	5	5	8	6	4	6	7	6
22	11	5	3	0	5	5	8	5	3	5	5	7
23	13	8	4	2	5	5	8	6	2	4	2	8
24	15	7	1	3	6	5	7	5	1	2	0	7
25	15	9	0	2	7	5	7	5	1	2	2	3
26	13	6	2	2	7	6	6	4	1	5	3	3
27	13	4	1	1	7	8	8	5	2	5	8	5
28	13	6	0	2	7	7	7	4	2	5	7	7
29	16	...	1	2	6	6	6	4	1	2	6	7
30	18	...	1	3	6	6	6	4	1	2	3	7
31	17	...	3	...	6	...	5	3	...	0	...	8

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

TABLE XXXI.—*continued.*

Fog.

The mean daily frequency of Fog is 3.

Days.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	0	1	1	1	3	1	1	1	2	2	1	2
2	1	1	0	0	3	2	0	0	1	2	1	1
3	0	1	0	1	3	2	1	0	2	1	0	0
4	0	1	1	1	4	4	0	0	2	0	0	0
5	1	1	2	1	3	2	2	0	2	1	0	1
6	2	1	1	1	5	2	1	1	1	0	1	0
7	3	2	1	1	3	0	0	2	2	0	1	1
8	0	3	1	0	2	0	0	1	1	0	0	0
9	3	3	0	0	0	0	0	0	1	1	0	1
10	3	2	1	0	1	3	1	0	0	1	0	0
11	6	2	1	0	1	5	1	0	0	1	0	0
12	5	2	2	0	1	5	2	1	1	1	0	1
13	4	3	1	0	1	3	1	0	2	0	1	1
14	2	3	1	0	2	1	1	0	3	1	2	1
15	1	3	1	0	3	0	1	1	3	0	1	0
16	0	3	2	0	1	2	0	1	2	0	2	1
17	1	2	1	0	1	4	1	1	2	0	1	1
18	2	2	0	0	0	4	1	2	1	0	1	1
19	0	2	1	0	0	2	0	1	1	1	0	2
20	0	1	1	2	0	2	1	1	1	1	1	1
21	1	0	1	3	0	2	1	1	1	1	1	0
22	2	1	2	2	2	3	2	0	0	1	0	1
23	2	1	1	0	3	3	1	0	0	0	1	3
24	1	1	2	2	3	3	0	1	0	0	0	0
25	1	0	1	2	3	2	2	0	0	0	1	2
26	1	2	0	1	2	2	2	0	0	0	1	0
27	1	3	2	1	1	1	1	0	1	2	0	1
28	2	2	3	1	0	1	1	1	2	2	1	1
29	3	...	2	2	2	1	1	1	2	3	0	0
30	3	...	1	2	3	1	1	2	3	2	1	1
31	2	...	0	...	2	...	1	2	...	1	...	1

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

TABLE XXXI.—*continued.*

NOTE.—As regards Snow the Mean is for the Eight Months October to May, none having fallen during the other Four Months of the Year.

SNOW.

The mean daily frequency of Snow is 11.

Day.	Jan.	Feb.	Mar.	April	May	Oct.	Nov.	Dec.
1	4	11	9	2	5	11	10	0
2	6	12	10	1	5	11	10	1
3	8	11	7	1	6	11	10	3
4	10	9	5	3	7	11	9	3
5	12	7	6	5	8	11	7	2
6	10	8	9	4	8	11	8	1
7	6	10	12	4	7	11	6	1
8	3	10	12	2	7	11	8	2
9	5	9	12	1	7	11	7	1
10	9	8	14	1	9	11	7	1
11	10	8	14	1	9	11	7	0
12	8	9	12	1	11	10	7	1
13	5	6	9	2	10	10	7	2
14	6	5	9	3	10	10	6	3
15	10	5	11	3	9	11	6	3
16	11	7	11	4	9	10	4	0
17	11	9	8	3	9	10	3	0
18	9	10	4	5	9	10	2	0
19	10	12	2	5	10	11	3	0
20	10	12	5	5	10	11	4	1
21	7	9	9	6	11	10	4	4
22	6	5	11	7	11	10	5	4
23	7	6	13	7	11	10	5	6
24	7	8	12	7	11	11	4	3
25	7	11	11	7	11	10	2	5
26	9	13	9	9	10	9	1	6
27	13	13	6	8	10	8	0	8
28	14	12	5	8	11	8	3	8
29	12	...	2	8	11	8	4	8
30	12	...	2	8	11	9	2	5
31	11	...	1	...	11	9	...	3

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

TABLE XXXII.—*Showing the Five Day Means and Totals of the Meteorological Elements observed at Edinburgh during Periods Ranging from 30 to 125 years.*

Mar. 17-21	.872	47.2	34.6	12.6	2.9	40.9	41.2	5	8	12	9	6	16	32	9	3	34	63	19.89	28	4	1	80	24	67	22	7175	120	4	1	30	6	24	14	5
, 22-26	.852	48.0	34.9	13.1	2.9	41.4	41.2	7	7	18	6	4	16	29	9	4	41	55	17.19	29	1	0	111	45	58	17	5164	119	1	0	42	11	18	7	3
, 27-31	.792	48.8	35.4	13.4	2.8	42.1	42.2	7	10	17	6	5	17	27	9	2	43	55	21.18	29	0	0	70	42	44	35	11173	119	0	0	20	13	14	14	8
April 1-5	.781	50.8	36.8	14.0	2.6	43.8	43.2	5	9	16	8	5	14	33	7	3	37	60	22.92	27	5	0	51	39	44	25	3179	116	2	0	11	11	16	15	2
, 6-10	.894	50.5	36.9	13.6	2.8	43.7	43.8	5	11	22	9	3	12	27	8	3	46	51	20.95	32	3	0	43	38	40	24	7161	126	1	0	13	14	12	15	3
, 11-15	.919	50.7	36.6	14.1	2.8	43.6	44.1	7	11	21	9	3	11	24	10	4	49	47	21.53	28	4	1	42	48	29	24	5180	133	2	1	14	14	9	11	4
, 16-20	.904	53.2	38.4	14.8	2.9	45.8	45.3	8	11	18	6	5	14	29	6	3	43	54	20.69	29	0	0	35	43	33	22	9193	124	0	0	10	8	12	14	6
, 21-25	.887	52.9	38.5	14.4	2.6	45.7	45.9	5	15	23	7	5	12	23	7	3	50	47	23.30	30	7	1	22	42	43	25	3269	121	1	1	4	9	14	18	1
, 26-30	.942	54.1	38.5	15.6	2.7	46.3	46.9	6	15	23	6	5	10	21	11	3	55	42	24.73	31	11	1	14	49	41	33	3180	133	7	0	2	17	8	13	3
May 1-5	.937	55.0	39.4	15.6	3.1	47.2	47.6	7	14	28	4	3	11	23	6	4	55	41	21.74	33	10	0	23	39	27	41	1172	133	3	0	7	10	10	16	1
, 6-10	.908	55.6	40.3	15.3	2.8	48.0	48.2	6	13	30	6	3	10	22	7	3	56	41	27.14	34	16	0	17	44	31	34	4182	133	8	0	5	16	15	16	4
, 11-15	.968	56.4	41.5	14.9	2.7	49.0	48.9	5	13	29	6	3	10	24	8	2	55	43	29.23	29	22	2	5	33	23	36	4186	130	7	2	0	7	10	20	4
, 16-20	.868	58.0	42.6	15.4	3.0	50.3	50.6	5	12	27	7	6	11	22	8	2	52	46	25.12	29	20	0	9	19	29	26	1192	133	11	0	3	7	6	13	1
, 21-25	.943	59.9	43.9	16.0	2.8	51.9	51.9	3	12	31	5	4	12	24	5	4	51	45	28.91	33	15	2	0	20	21	37	2181	132	8	0	0	7	5	17	2
, 26-30	.931	60.2	44.5	15.7	2.9	52.4	52.6	4	12	28	4	4	13	28	5	2	49	49	31.41	34	14	2	3	27	18	23	0184	126	14	0	0	6	8	11	0
June 1-4	.952	61.6	45.7	15.9	2.9	53.6	53.8	4	13	31	3	2	11	28	6	2	54	44	28.19	29	25	1	0	8	20	31	1176	132	11	1	0	3	8	14	1
June 5-9	.895	62.0	46.5	15.5	2.6	54.2	54.3	5	10	22	5	3	17	29	7	2	44	54	26.99	28	23	0	0	13	27	30	0184	126	14	0	0	6	8	11	0
, 10-14	.911	62.7	46.7	16.0	2.8	54.7	55.2	5	10	24	5	4	11	29	9	3	48	49	29.69	30	25	1	0	8	21	43	0183	137	14	0	0	4	13	13	0
, 15-19	.974	64.0	47.8	16.2	2.7	55.9	56.2	5	10	24	5	4	11	29	9	3	43	55	27.68	26	30	0	0	10	17	39	0163	135	15	0	0	4	22	0	
, 20-24	.929	65.1	48.9	16.2	2.8	57.0	56.8	5	9	22	4	4	13	33	7	3	43	54	28.78	30	33	0	0	4	25	37	0180	137	18	0	0	9	22	0	
, 25-29	.950	65.2	50.0	15.2	2.6	57.6	57.5	4	12	24	2	5	10	33	6	4	46	50	25.53	30	26	0	0	5	17	33	0171	140	13	0	0	2	11	14	0
July July	.905	65.2	50.0	15.2	2.7	57.6	57.6	2	12	21	4	3	13	36	5	4	40	56	30.04	28	29	2	0	7	18	26	0191	140	17	2	0	4	7	10	0
July 5-9	.839	65.3	50.3	15.0	2.6	57.8	58.0	3	8	18	5	5	15	36	6	4	35	61	38.01	27	41	0	0	10	24	20	0207	136	28	0	0	7	12	9	0
, 10-14	.900	65.9	50.8	15.1	2.7	58.4	58.6	4	10	17	4	3	13	38	7	4	38	58	38.30	28	34	2	0	4	15	21	0202	132	11	1	0	2	6	9	0

TABLE XXXII.—*continued.*

No. of Years	Temperature in Shade 4 Ft. above Grass.					Wind Direction. Percentage Frequency from the Following Directions.					Number of Days the Following Phenomena were Observed.																								
	Mean Max.	Mean Min.	Mean Daily Range.	Mean Daily Variability.	Mean Daily Variability.	N.E.	E.	S.E.	S.W.	N.W.	Calm or Var.	N.E.	S.E.	S.W.	N.W.	Ins.	36-29	29	37	2	0	4	20	25	1209	13615	0	0	4	5	14	1			
July 15-19	Inches.	°	°	°	°	2·6	58·4	58·9	3	6	19	4	6	14	39	6	3	34	63	36-29	29	37	2	0	4	20	25	1209	13615	0	0	4	5	14	1
,, 20-24	.841	66·1	50·9	15·2	2·5	58·5	58·7	3	6	23	3	8	15	34	5	3	37	60	41·05	34	41	3	0	4	10	21	0212	13620	2	0	2	2	11	0	
,, 25-29	.882	65·2	50·5	14·7	2·1	57·8	58·5	4	9	21	5	4	14	35	5	3	39	58	42·23	31	37	2	0	5	18	28	4206	13014	2	0	1	3	9	3	
,, 30-3	.878	65·3	50·3	15·0	2·3	57·8	58·3	4	8	16	4	5	15	38	6	4	34	62	40·16	32	33	2	0	4	25	21	1205	1399	0	0	1	8	15	1	
Aug. 4-8	.820	65·5	51·1	14·4	2·6	58·3	58·8	2	4	17	3	5	19	40	5	5	28	67	36·52	27	28	0	0	4	35	29	1213	13313	0	0	2	9	12	1	
,, 9-13	.840	65·7	51·0	14·7	2·5	58·4	58·5	4	7	15	4	4	19	37	6	4	32	64	47·35	31	41	1	0	5	22	23	5234	13226	0	0	3	5	13	4	
,, 14-18	.858	65·4	50·9	14·5	2·6	58·2	58·0	4	7	15	6	4	16	36	8	4	34	62	51·44	29	20	2	0	5	28	29	2237	1338	2	0	2	9	19	0	
,, 19-23	.869	64·3	50·0	14·3	2·7	57·2	57·4	3	7	20	5	4	14	36	6	5	36	59	32·23	32	12	3	0	3	20	27	5181	1335	0	0	3	9	15	3	
,, 24-28	.861	64·2	49·3	14·9	2·5	56·8	56·8	3	7	17	5	4	15	39	7	3	34	63	38·94	30	16	1	0	8	27	25	5206	1237	7	1	0	5	8	10	4
,, Sept. 20-2	.874	63·5	48·9	14·6	2·6	56·2	56·3	4	7	14	4	5	14	41	6	5	31	64	43·94	32	10	6	0	1	32	17	4209	1347	3	0	3	14	5	3	
Sept. 3-7	.884	63·1	48·7	14·4	2·5	55·9	55·7	4	7	17	4	7	18	32	7	4	35	61	38·07	33	18	6	0	6	37	33	9223	13711	4	0	1	8	10	6	
,, 8-12	.895	62·8	47·6	15·2	2·8	55·2	54·8	3	7	13	7	6	18	37	5	4	28	68	30·28	35	9	1	0	4	43	28	7198	1380	1	0	0	19	12	2	
,, 13-17	.945	61·9	47·6	14·3	2·5	54·8	54·6	4	7	13	6	5	19	34	7	5	31	64	36·88	30	6	2	0	2	36	39	5186	1244	0	0	1	9	21	4	
,, 18-22	.895	59·3	45·9	13·4	2·5	52·6	52·7	3	8	15	6	7	15	31	8	7	34	59	34·27	27	8	3	0	10	36	22	7205	1173	1	0	7	13	13	5	
,, 23-27	.859	58·8	45·9	12·9	2·6	52·4	52·3	4	7	16	5	8	18	31	7	4	34	62	30·00	30	5	1	0	9	50	25	8198	1284	1	0	3	20	11	6	

Mean Barometric Pressure
32° and Mean Sea Level.

Oct.	Sept. 28-2	1888												1889																							
		57·5	44·4	18·1	2·5	51·0	51·0	7	8	12	8	9	16	31	5	4	32	64	28·99	30	8	2	1	7	48	38	6	189	127	3	2	0	5	27	14	5	
Oct.	3-7	792	55·6	43·2	12·4	2·6	49·4	49·7	3	8	11	8	8	19	33	7	3	29	68	37·76	30	3	1	1	6	50	25	8	202	128	3	1	1	4	15	12	3
"	8-12	785	54·9	42·7	12·2	2·9	48·8	48·8	5	7	9	11	8	17	33	6	4	27	69	41·97	32	1	1	2	12	48	27	4	245	125	1	1	1	6	14	18	2
"	13-17	790	53·4	42·1	11·3	3·1	47·8	48·0	7	5	9	7	6	20	36	6	4	27	69	35·00	27	1	1	5	8	66	20	8	206	113	1	1	1	4	28	15	5
"	18-22	771	52·1	40·7	11·4	3·0	46·4	46·8	6	5	9	11	6	21	33	7	2	27	71	38·49	29	5	3	3	14	69	30	11	213	115	5	1	1	10	19	17	7
"	23-27	747	50·6	39·4	11·2	2·9	45·0	43·3	4	5	11	10	6	19	34	7	4	27	69	29·33	28	3	0	7	11	66	28	6	204	119	2	0	5	3	28	12	6
Nov.	28-1	811	49·8	38·9	10·9	2·9	44·4	44·3	6	5	11	8	7	18	35	7	3	29	68	31·70	25	4	1	12	15	55	31	7	210	115	2	1	3	7	19	10	4
	2-6	824	49·5	38·6	10·9	3·1	44·0	43·8	3	5	13	9	6	18	32	9	5	30	65	37·88	28	5	0	13	20	65	23	8	225	122	2	0	2	6	19	10	6
"	7-11	875	47·6	37·4	10·2	3·0	42·5	42·3	7	5	11	8	7	18	32	8	4	31	65	38·63	29	1	1	17	8	51	25	8	191	119	1	1	11	4	21	15	4
"	12-16	853	46·4	36·0	19·4	3·0	41·2	41·2	7	5	12	7	5	18	34	9	3	33	64	36·36	22	1	1	24	13	54	31	7	208	91	1	1	12	5	21	22	5
"	17-21	853	46·4	36·1	10·3	3·3	41·2	40·5	5	4	7	7	7	22	35	9	4	25	71	35·05	23	0	1	40	10	81	25	8	193	107	0	1	9	2	28	13	6
"	22-26	666	45·2	35·0	10·2	3·1	40·1	39·7	5	4	10	7	7	18	37	8	4	27	69	34·15	21	0	0	40	15	52	26	6	201	95	0	0	13	4	22	18	3
Dec.	27-1	765	44·7	34·8	9·9	3·4	39·8	39·6	4	3	9	11	9	19	34	7	4	28	73	33·37	21	0	2	48	17	75	23	1	202	95	0	2	17	3	32	16	1
	2-6	811	45·4	35·0	10·4	3·3	40·2	39·6	4	6	10	7	9	18	35	7	4	27	69	29·58	17	1	2	45	11	81	24	2	205	81	0	1	18	4	36	12	2
"	7-11	831	44·5	35·0	9·5	2·9	39·8	39·5	4	5	7	6	11	20	35	8	4	24	72	34·78	22	0	2	60	13	73	26	3	200	84	0	1	26	4	36	14	3
"	12-16	822	44·1	34·7	9·4	3·2	39·4	39·4	4	4	8	7	6	24	35	8	4	24	72	27·13	18	3	1	45	14	88	24	4	292	85	1	0	19	4	36	11	3
"	17-21	781	43·4	34·0	9·4	3·2	38·7	38·7	6	3	11	6	6	26	32	7	3	27	70	34·77	17	0	1	55	15	78	20	1	206	84	0	0	28	8	22	9	0
"	22-26	886	42·3	32·6	9·7	3·2	37·4	37·3	4	5	10	7	5	21	34	8	6	27	67	27·39	22	1	0	83	16	77	35	4	181	91	1	0	25	4	28	17	2
"	27-31	876	42·7	32·9	9·8	3·3	37·8	37·0	3	3	7	11	6	23	37	5	5	18	77	29·86	19	2	2	83	14	86	19	2	1	26	4	33	16	0			

TABLE XXXIII.—*Showing the Mean Temperature and Wet Bulb Depression of the Different Winds at Edinburgh on the Mean of Seven Years. Hours of Observation, 9 a.m. and 9 p.m.*

	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	Mean.	Difference between the Extremes.	Wet Bulb. Temp.	
												Wet Bulb. Temp.	Wet Bulb. Dep.
January,	33.5	°	°	°	°	°	°	°	°	°	°	38.3	1.2
February,	33.7	1.7	33.2	1.4	33.5	1.2	33.2	1.2	39.4	2.1	40.4	1.9	35.1
March,	34.7	1.8	33.4	1.4	34.7	1.3	36.6	1.2	36.9	2.0	34.9	2.0	36.2
April,	35.1	2.4	35.1	1.4	35.5	1.5	38.1	2.4	38.5	2.2	43.0	2.5	39.9
May,	34.2	3.4	44.2	2.5	40.5	1.7	44.1	2.6	45.2	3.0	47.6	4.2	45.8
June,	36.9	4.0	46.4	2.3	48.0	2.4	49.9	2.8	51.5	3.8	54.0	4.0	50.7
July,	32.8	3.7	52.2	2.4	51.3	2.2	53.2	3.3	55.4	4.1	58.2	5.0	56.9
August,	35.3	4.1	55.4	2.0	53.5	2.1	53.8	3.6	59.5	3.7	60.1	4.5	56.8
September,	35.7	3.1	53.8	2.2	54.5	2.1	57.8	2.8	59.4	3.1	57.5	2.8	56.2
October,	37.2	2.8	50.9	1.9	51.9	1.8	52.3	1.8	56.4	3.3	54.4	3.2	53.5
November,	31.5	2.5	44.8	1.1	45.3	1.7	47.4	1.7	48.0	2.5	49.7	2.8	47.4
December,	35.1	2.2	39.5	1.3	41.6	1.5	40.4	2.5	44.2	2.1	46.2	2.4	42.7
Annual Range,	34.3	1.5	36.7	1.7	36.6	1.4	34.9	1.4	39.8	1.7	44.6	2.3	39.1
Spring,	32.2	2.6	42.5	1.4	21.0	1.2	24.6	2.4	22.6	2.4	18.0	2.7	21.7
Summer,	33.6	3.6	53.7	2.2	42.5	1.9	44.7	2.6	46.3	3.1	47.2	3.5	45.3
Autumn,	32.3	2.6	43.8	1.4	45.6	1.6	54.9	3.2	57.9	3.7	58.6	4.1	56.6
Winter,	33.7	1.7	34.7	1.5	34.8	1.3	45.3	1.6	48.0	2.5	50.5	2.9	47.9
Year,	43.4	2.9	44.3	2.0	45.4	1.9	44.1	2.2	47.2	2.8	49.1	3.1	47.2
No of Observations,	308	308	174	880	196	278	362	1935	311	670	311	670	5114

TABLE XXXIV.

*Showing the Mean Relative Humidity with different Winds at Edinburgh
on the Mean of Seven years.*

SATURATION = 100.

	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	Mean.	Difference between the Means.
January, . .	82	84	87	87	84	82	84	80	88	84	8
February, . .	81	85	86	89	83	81	84	80	86	85	9
March, . .	77	86	86	80	82	78	81	78	82	82	9
April, . .	74	80	86	80	78	72	73	77	78	78	12
May, . .	73	84	83	81	75	74	74	70	82	78	14
June, . .	76	83	85	78	75	71	73	75	76	78	14
July, . .	75	87	86	77	79	73	77	73	83	79	14
August, . .	81	85	86	82	82	82	79	74	85	81	12
September, . .	80	86	87	87	79	79	80	78	85	81	9
October, . .	81	91	87	88	82	81	83	78	90	85	13
November, . .	78	90	89	81	84	83	84	84	88	86	12
December, . .	85	85	89	82	86	83	84	87	89	85	7
Annual Range, .	12	11	6	12	11	12	11	17	14	8	11
Spring, . .	75	84	85	81	79	76	77	75	79	78	10
Summer, . .	78	85	85	80	78	75	77	74	84	83	10
Autumn, . .	81	88	88	88	82	80	82	80	89	84	9
Winter, . .	82	84	86	86	85	81	84	83	87	84	6
Year, . .	78	84	86	84	80	79	81	77	85	82	9

TABLE XXXV.

*Showing the Vapour in a Cubic Foot of Air in Grains with Different Winds
at Edinburgh on the Mean of Seven years.*

	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	Mean.
January, .	1·8	1·9	1·9	2·0	2·3	2·5	2·4	1·8	2·1	2·2
February, .	1·9	2·0	2·1	2·2	2·1	2·6	2·4	1·9	2·1	2·1
March, . .	1·8	2·1	2·0	2·1	2·2	2·5	2·5	2·0	2·3	2·3
April, . .	2·1	2·7	2·4	2·7	2·7	2·7	2·6	2·5	2·6	2·5
May, . .	2·7	3·1	3·2	3·1	3·3	3·5	3·1	2·8	3·2	3·1
June, . .	3·4	3·7	3·6	3·5	3·7	3·8	3·9	3·7	3·9	3·8
July, . .	3·7	4·2	3·9	3·6	4·4	4·2	4·0	3·7	4·0	4·0
August, . .	4·1	4·1	4·1	4·4	4·6	4·3	4·0	3·9	4·3	4·1
September, .	2·9	3·6	3·8	3·8	4·0	3·8	3·8	3·4	3·9	3·7
October, .	2·5	3·1	3·0	3·3	3·1	3·3	3·1	2·7	2·9	3·0
November, .	1·9	2·4	2·6	2·4	2·8	3·0	2·7	2·3	2·4	2·6
December, .	2·0	2·1	2·1	2·0	2·5	2·8	2·3	2·3	2·1	2·3
Annual Range,	2·3	2·3	2·2	2·4	2·5	1·8	1·6	2·1	2·2	2·0
Spring, . .	2·2	2·6	2·6	2·7	2·8	2·8	2·7	2·3	2·6	2·6
Summer, .	3·7	4·1	3·9	3·9	4·2	4·3	4·0	3·8	4·1	4·0
Autumn, .	2·5	2·8	3·2	3·0	3·1	3·4	3·1	2·8	3·2	3·1
Winter, . .	1·9	2·0	2·0	2·1	2·3	2·6	2·4	2·0	2·1	2·2
Year, . .	2·5	2·8	2·9	2·8	2·9	3·1	3·0	2·7	2·9	2·9

TABLE XXXVI.

*Showing the Departure from the Annual Mean of the Temperature, and Humidity
at Edinburgh recorded with different Winds.*

TEMPERATURE.

	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.
January, . . .	° 4·8	° 5·0	° 4·8	° 5·1	° 1·1	° 3·8	° 2·1	° 5·0	° 3·2
February, . . .	3·9	4·2	2·9	1·0	0·7	5·4	2·3	2·7	1·4
March, . . .	4·5	4·1	3·7	1·1	0·7	3·8	2·8	2·2	0·3
April, . . .	2·6	0·8	2·9	0·7	1·8	4·2	2·4	2·3	0·5
May, . . .	2·3	2·8	1·2	0·7	2·3	4·8	1·5	0·4	0·1
June, . . .	1·4	2·0	2·9	1·0	1·2	4·0	2·7	0·6	0·7
July, . . .	0·7	0·6	2·5	2·2	3·5	4·1	0·8	0·5	0·7
August, . . .	0·4	2·3	1·6	1·7	3·3	1·4	0·1	1·2	0·0
September, . . .	5·6	1·9	0·9	0·5	3·6	1·6	0·7	1·2	0·4
October, . . .	4·5	1·2	0·7	1·4	2·0	3·7	0·7	2·1	1·8
November, . . .	6·6	2·2	0·1	1·3	2·5	4·5	1·0	3·0	2·1
December, . . .	4·1	1·7	1·8	3·5	1·4	6·2	0·7	0·5	4·0
Spring, . . .	3·1	1·5	1·5	0·7	2·3	3·2	1·3	1·5	0·3
Summer, . . .	0·7	1·7	2·7	0·5	2·5	3·2	1·2	0·8	0·1
Autumn, . . .	4·5	3·0	1·2	1·5	1·2	3·7	1·1	2·2	0·8
Winter, . . .	4·4	3·4	3·3	3·1	1·0	5·2	1·7	2·8	2·9
Year, . . .	2·7	1·8	0·7	2·0	1·1	3·0	1·1	1·3	1·2

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

TABLE XXXVI.—*continued.**Vapour in Cubic Foot of Air. Tenth of Grains.*

	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.
January, . . .	4	3	3	2	1	3	2	4	1
February, . . .	2	1	0	1	0	5	3	2	0
March, . . .	5	2	3	2	1	2	2	3	0
April, . . .	4	2	1	2	2	2	1	0	1
May, . . .	4	0	1	0	2	2	0	3	1
June, . . .	4	1	2	3	1	0	1	1	1
July, . . .	3	2	1	4	4	2	0	3	0
August, . . .	0	0	0	3	5	2	1	2	2
September, . . .	8	1	1	1	3	1	1	3	2
October, . . .	5	1	0	3	1	3	1	3	1
November, . . .	7	2	0	2	2	4	1	3	2
December, . . .	3	2	2	3	2	5	0	0	2
Spring, . . .	4	0	0	1	2	2	1	3	0
Summer, . . .	3	1	1	1	2	3	0	2	1
Autumn, . . .	6	3	1	1	0	3	0	3	1
Winter, . . .	3	2	2	1	1	4	2	2	1
Year, . . .	4	1	0	1	0	2	1	2	0

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

TABLE XXXVI.—*continued.**Relative Humidity. Percentage of Excess or Defect.*

	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.
January, . . .	2	0	3	3	0	2	0	4	5
February, . . .	4	0	1	4	2	4	1	5	1
March, . . .	5	4	4	2	0	4	1	4	0
April, . . .	4	2	8	2	0	6	5	1	0
May, . . .	5	6	5	3	3	4	4	8	4
June, . . .	2	5	7	0	3	7	5	3	2
July, . . .	4	8	7	2	0	6	2	6	4
August, . . .	0	4	5	1	1	1	2	7	4
September, . . .	1	5	6	6	2	2	1	3	4
October, . . .	4	6	2	3	3	4	2	7	5
November, . . .	8	4	3	5	2	3	2	2	2
December, . . .	0	0	4	3	1	2	1	2	4
Spring, . . .	3	6	7	3	1	2	1	3	1
Summer, . . .	5	2	2	3	5	8	6	9	1
Autumn, . . .	3	4	4	4	2	4	2	4	5
Winter, . . .	2	0	2	2	1	3	0	1	3
Year, . . .	4	2	4	2	2	3	1	5	3

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

