

METEOROLOGICAL OFFICE

THE
OBSERVATORIES' YEAR BOOK
1922

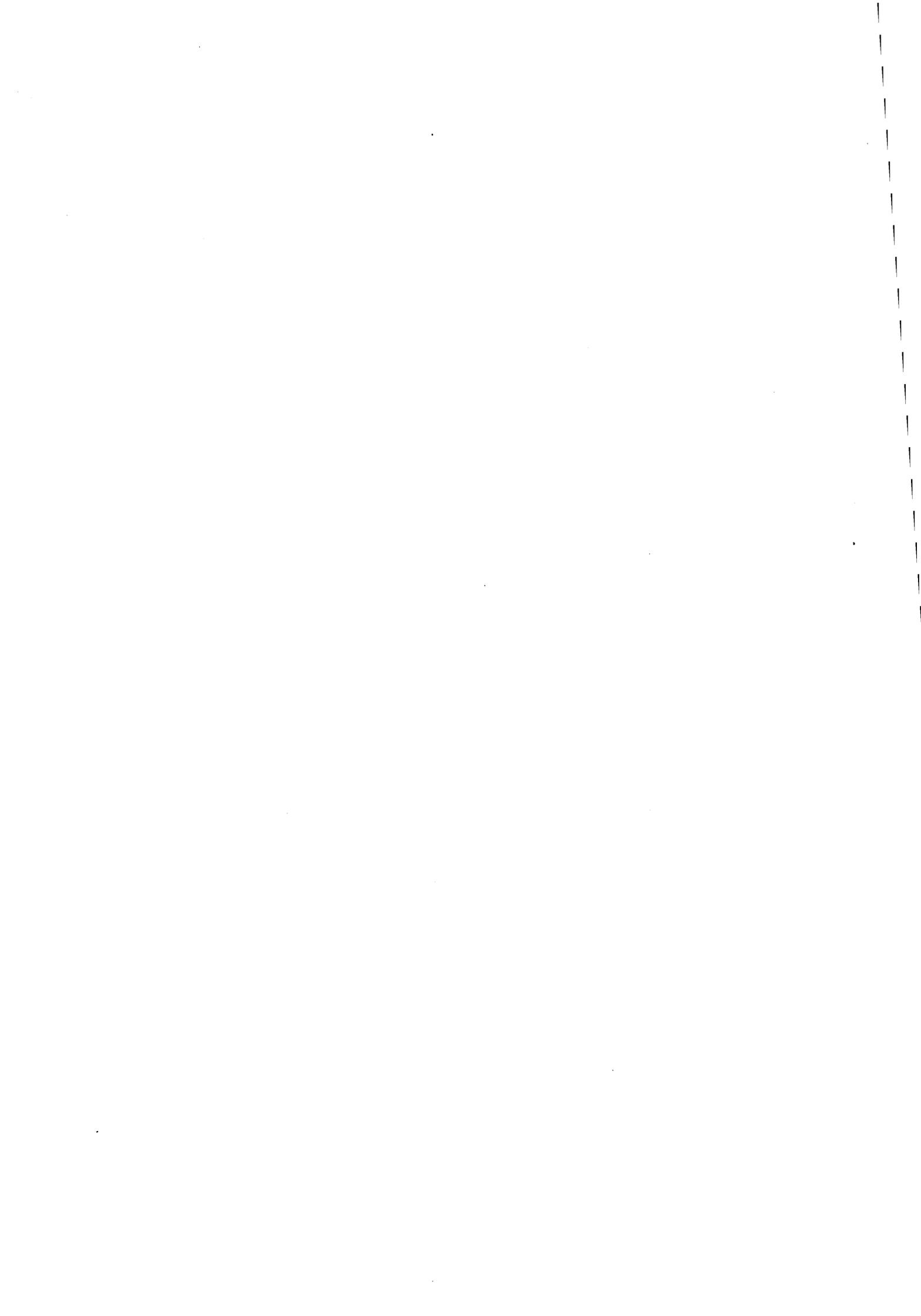
Comprising the results obtained from autographic records and eye observations at the observatories at Aberdeen, Eskdalemuir, Cahirciveen (Valencia Observatory), Richmond (Kew Observatory), and Benson.

SECTION III.—CAHIRCIVEEN

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SECTION III.

CAHIRCIVEEN (VALENCIA OBSERVATORY).

Latitude	51°	56'	N.
Longitude	10°	15'	W.
G.M.T. of Local Mean Noon	..	..	..	..	..	12h	41m.	

Heights in metres above Sea Level.

Barometer	..	..	..	..	..	13·7
Rain-gauge	..	..	..	..	..	9·1
Robinson Cup Anemograph	..	..	..	..	..	26
Dines Tube Anemograph	..	..	..	..	..	30

Heights in metres above Ground.

Thermometer Bulbs	..	..	..	..	..	1·3
Sunshine Recorder	..	..	..	..	..	12·8
Robinson Cup Anemograph	..	..	..	..	..	14
Dines Tube Anemograph	..	..	..	..	..	13

INTRODUCTION.

SITE.

Valencia Observatory derives its name from the fact that it was originally established on Valencia Island in 1867. It was removed to the mainland in March, 1892, and now lies in a direct line between the old site on Valencia Island and the town of Cahirciveen, about $2\frac{1}{2}$ miles (4 km.) north-east from the former, and three-quarters of a mile (1 km.) south-west of the latter. It is quite remote from any other buildings. The general character of the country surrounding the Observatory is hilly. The eastern bank of the Cahir river is about 150 metres to the westward, and in that direction there is no very high ground between the Observatory and the open sea, some $3\frac{1}{2}$ miles (6 km.) away. To the north-west, however, are hills varying in height from 400 (120 m.) to 900 feet (275 m.), the highest being less than 3 miles (5 km.) distant. These are only separated by a narrow gully running in a N N W direction from other hills equally high, which stretch away to the northward: the nearest of these is but little more than a mile ($1\frac{1}{2}$ km.) from the Observatory. Beyond the town of Cahirciveen to the north-east the river opens out considerably, and the country in this direction becomes an open boggy basin, rising by only a gentle gradient. Southward of this, however, it soon rises again, and at about a mile south-east of the Observatory it culminates in a hill upwards of 1,245 feet (380 m.) in height. Still further south it opens out once more to a distance of nearly 5 miles (8 km.) from the Observatory, where there is a range of hills running east and west, and varying in height from 400 (120 m.) to 1,300 feet (400 m.). To the south-west there is an opening to the sea, between Valencia Island and the mainland; and the circle of hills is completed by those on the island itself, the highest of which is about 800 feet (240 m.) high, and bears about west-south-west from the Observatory. For a general view of the Observatory building, see Fig. 3.

METEOROLOGY.

The elements dealt with in the following tables are: atmospheric pressure, air temperature, humidity, rainfall, sunshine, wind speed and direction, minimum temperature on the grass, together with a diary of cloud and weather.

Pressure and Temperature.—The photographic barograph and thermograph are installed in a room on the ground floor of the Observatory tower. The standard Fortin barometer, from which the control readings at 9h, 15h and 21h are taken, is

mounted in the same room beside a window which faces the north-east. The stems of the dry and wet bulb thermometers pass out into the screen placed against the north wall of the tower. Close to the bulb of these thermometers are the bulbs of the standard thermometers from which the control readings at 9h, 15h and 21h are taken.

Rainfall.—The Beckley raingauge and the 8-inch (20·3 cm.) check gauge are placed in a railed-off enclosure about 40 metres to the north of the tower.

Sunshine.—The recorder is cemented to a wooden rail on the roof of the tower. The exposure is satisfactory.

Wind Speed and Direction.—The Robinson Cup Anemograph is placed on the roof of the Observatory tower (see Fig. 3). It will be seen from Fig. 3 that the exposure is satisfactory except for winds between south and south-west. Winds from these directions are liable to be deviated and reduced in speed because of the sheltering action of the roof and chimney. The Dines Tube Anemograph stands in an open field, about 250 metres S E by E of the Observatory tower. The field slopes northwards to the river Cahir. About 1 mile (1½ km.) to the south-east and in an approximately direct line with the highest point (1,245 feet) is the hill Bente which extends for some little distance in a northerly and south-westerly direction. A description of the surrounding country has already been given on p. 195.

Minimum Temperature on the Grass.—The grass minimum thermometer is of the type described on p. 12. It is exposed over short grass in the field enclosure. It is set at 18h and read at 9h on the succeeding day, the reading being entered to the day of reading.

Notes on the Meteorological Summaries.

The features that stand out most in a general meteorological review of the year 1922 at Cahirciveen, are the cold weather of April, the prolonged low temperature, practically continuous from the middle of June to the beginning of November, and the small rainfall of October and November.

Pressure.—Neither very high nor very low pressures were recorded before the latter half of November, but on the 16th and 17th of that month pressure at station level reached 1,042 millibars while on the 29th and 30th of December the year's minimum of 967 millibars was registered. The mean pressure for the year was only 0·12 millibars less than the normal, but the months considered individually showed considerable divergences from the average; January and February having deficiencies of 7 and 6 millibars respectively, while the mean excess in November was as much as 12 millibars. The mean diurnal variation for the year followed the normal very closely, the hourly values being deficient by amounts varying from 0·08 to 0·20 millibars. This correspondence appears clearly in the mean coefficients of the Fourier analysis of the annual diurnal variation, which are given in the second line after the monthly values in Table A (p. 199), followed by the normal values for the annual diurnal variation. The inequality is represented by either of the equivalent formulæ :—

$$(a) \ c_1 \sin (15t^\circ + \alpha_1) + c_2 \sin (30t^\circ + \alpha_2) + c_3 \sin (45t^\circ + \alpha_3) + c_4 \sin (60t^\circ + \alpha_4)$$

$$(b) \ a_1 \cos 15t^\circ + b_1 \sin 15t^\circ + a_2 \cos 30t^\circ + b_2 \sin 30t^\circ + \dots$$

where t is the time in hours after midnight, all times being expressed in Local Mean Time. In the table, immediately below the coefficients for the individual months, are shown the arithmetic means of the monthly amplitudes. The values for the year and the normals are computed directly from the mean inequalities. The normals are for the period 1871 to 1915.

The mean inequality for the year gives values very near to the normal, particularly in the case of the phase angles; the correspondence appears even more clearly when the times of maximum amplitude are compared instead of the actual

FIG. 3.



VALENCIA OBSERVATORY.—GENERAL VIEW.

phase angles. Other points worthy of notice in the table are the somewhat irregular changes, both in amplitude and phase, in the 24-hour term, the small variation in the 12-hour term, and the regular change from month to month in the 8-hour term, the last named having amplitudes which are large in winter and small in summer, with phases nearly opposed at the two seasons. The 6-hour term shows a general similarity to the 8-hour term in its changes throughout the year, but the difference between the summer and winter amplitudes is proportionally much greater. The changes in phase, while apparently not so regular, still give approximate opposition at the two seasons. In the year 1891, the Meteorological Office published the results of the harmonic analysis of pressure and temperature inequalities for all the months of the twelve years 1871 to 1882 in Official Publication, No. 93. Reference to this work shows that the 1922 mean value of c_2 is high, being, in fact, the same as the highest mean annual value during the 12-year period, namely $\cdot 342$ millibars. The mean value of c_2 is the same as the average for the 12 years, the value of c_2 obtained from the mean annual diurnal inequality being also the same as the corresponding value for the 12-year period. In the case of c_3 is found again a reasonably close agreement in the case of the mean for the twelve months, but the value of c_3 as calculated from the inequality for the year appears rather low in 1922 as compared with the 12-year period.

Temperature.—The mean temperature for the year was $283\cdot 14a$, or $0\cdot 37a$ below normal. Eight of the twelve monthly means were low as compared with the normal values; the most striking deficiencies, appearing in April, July and August, being respectively $2\cdot 22$, $1\cdot 97$ and $1\cdot 48a$. No month showed an excess over normal of a whole degree absolute, February having the greatest with $0\cdot 88a$. The highest temperature recorded during the year was $297\cdot 0a$ ($75\cdot 2^\circ$ F.) on the 31st of May, the following day, the 1st of June, having a maximum of $295\cdot 1a$ ($71\cdot 8^\circ$ F.). The lowest temperature was on the 20th of January, $272\cdot 1a$ ($30\cdot 3^\circ$ F.), the only other day on which the minimum was below the freezing point being the 12th of January on which day it was $272\cdot 2a$ ($30\cdot 5^\circ$ F.).

The diurnal inequalities of temperature have been resolved into harmonic components which are given in Table B (p. 199). The normal values of these components are not available, but in the lowest line of the table are given the values computed from the mean diurnal inequality for the period 1871 to 1882, obtained from Official Publication, No. 93, quoted above in the notes on pressure. For purposes of comparison these may be regarded as normal values. The four mean values of amplitude given immediately below the monthly values are the arithmetic means of the monthly amplitudes. The values for the year are computed directly from the mean diurnal inequality for 1922. The 12-hour term has a rather small amplitude and is somewhat earlier than normal as regards phase; the 8-hour term also is low but its maximum value is very late. The highest value of c_1 occurs in May as in the average for the period 1871-1882. The variation of phase through the year agrees very closely with the normal, a difference of an hour in the time of maximum appearing in only one month, namely, February. Of the remaining months eight show a difference from normal of ten minutes or less. The 12-hour term has the usual double period with minima in winter and summer. The March and April amplitudes are, however, considerably below normal, being, in fact, lower than those for February and November. In May and June the first maxima are more than an hour early while February has its first maximum rather less than an hour late as compared with the normal for the period 1871-1882. The variation of the amplitude of the 8-hour term from month to month does not follow the normal so well. The normal seasonal variation of the 8-hour term is very regular with well-marked maxima in summer and winter and minima at the equinoxes, whereas in the table for 1922 it is seen that there is no certain change between January and April and that December has a very low value for the amplitude; maxima appear, however, in May and November. The variation in phase through the year is similar in character to that shown by the normals for the comparison period, but is much

larger. Agreeing very closely in summer with the normal, the time of first maximum occurs increasingly later with respect to normal month by month towards both January and December, being in each of these months about three hours late. No 6-hour term data are included in the publication utilised for these comparisons.

Rainfall.—The period 1871 to 1915, chosen for the normals in the volumes of *Hourly Values* published in previous years, is not the same as the period adopted for comparative purposes in *British Rainfall*. In these notes the *Hourly Values* period is to be understood to be the one referred to whenever reference is made to normal values, and there will be, in consequence, slight differences between comparative figures here and in *British Rainfall*, but such differences will be small and of little significance.

The rainfall for the year 1922 was 6 per cent. below the normal, giving a mean daily deficiency of 0·23 millimetres. In January and February excesses over normal of 27 and 32 per cent. were registered and in July 43 per cent. The excess in January and February was spread over the whole period, the duration figures being the highest of the year, totalling for the two months 213 hours of rain. In July, on the other hand, of the 141 millimetres registered, 58 fell during one interval of twenty-four hours. The duration was by no means small for a summer month, however, being 67 hours; only on five days was no rain registered, but only eight days had more than five millimetres. Among months which had less than average rainfall most conspicuous are March, June and October, with deficiencies respectively of 31, 53 and 61 per cent. Fifteen days of March had no rain at all, while three more had less than a millimetre. From the 10th to the 22nd no rain occurred in the daytime, and no rain was recorded from oh on the 28th to 24h on the 3rd April. Except for three very slight falls of rain the first eleven days of June were dry, following the last five days of May without rain. In all, June had 21 days with not more than a millimetre of rain and 13 with no rain. The duration for this month was very low, being no more than 27 hours. October shows the most pronounced deficiency of rain, with 19 perfectly dry days. Of these, ten were consecutive. Three other days had less than a millimetre.

Sunshine.—Sunshine was, on the whole, deficient. Only in March and October was the recorded sunshine greater than normal, the earlier month having an excess of 25 per cent. and the later one 30 per cent. March and October were noted above as exceptionally dry months; but it is interesting to notice that the third exceptionally dry month, June, has in the matter of sunshine a deficiency of 34 per cent. September had the smallest amount as compared with the normal, the deficiency amounting to 41 per cent., while November and December had each 35 per cent. less than average. The mean deficiency for the year was 13 per cent.

Cloud and Weather.—The general characteristics of weather for 1922 appear sufficiently well from the above notes and the details given in Tables 356–367, and further elaboration is unnecessary here. A feature of the cloud summaries calls, however, for a special note. It will be noticed that observations of Nimbus cloud are exceedingly rare, Stratus being usually entered at times of rain. In this connection it may be observed that at the end of June, 1922, a change of superintendent took place at the observatory, and that the observations of the new superintendent showed the same peculiarities in this matter of Nimbus cloud as did those of his predecessor. As a considerable number of the observations is made by the superintendent, including practically all the 21h and at least half the 7h observations, and as both superintendents in the present case were experienced observers, it is reasonably safe to conclude that the small number of observations of Nimbus cloud is not due to the idiosyncrasies of the observers. The “dense layer of dark shapeless cloud with ragged edges” (vide *Observer's Handbook*) is observed at Valencia only very rarely, whereas rain is observed more frequently than at most stations. Frequent entries of Nimbus cloud in the register would only be justified on the assumption that all rain-clouds are Nimbus of one sort or another, a proposition which probably few meteorologists would be prepared to support.

TABLE A.

Harmonic Analysis of Diurnal Variation of Pressure, 1922.
Cahirciveen (Valencia Observatory), Longitude 10° 15' W.

Month.	Amplitude in Millibars.				Phase, Local Mean Time.							
					24-Hour Term.		12-Hour Term.		8-Hour Term.		6-Hour Term.	
	c_1	c_2	c_3	c_4	α_1	Max.	α_2	Max.	α_3	Max.	α_4	Max.
January ..	·383	·268	·137	·092	196·0	h m	°	h m	°	h m	°	h m
February ..	·280	·206	·060	·064	273·7	11 45	168·4	9 23	14·8	1 40	203·3	4 7
March ..	·123	·385	·092	·041	233·3	14 45	124·1	10 52	0·9	1 59	65·3	0 25
April ..	·441	·230	·058	·072	88·9	0 4	151·9	9 56	342·4	2 23	34·2	0 56
May ..	·457	·244	·068	·033	220·4	15 19	165·3	9 29	188·7	5 48	13·9	1 16
June ..	·394	·215	·082	·028	225·6	14 58	144·1	10 12	167·1	6 17	357·4	1 32
July ..	·459	·210	·068	·014	185·8	17 37	160·3	9 40	159·5	6 28	315·3	2 15
August ..	·216	·269	·089	·015	198·0	16 48	146·9	10 6	150·1	6 40	62·2	0 28
September ..	·322	·298	·014	·044	184·6	17 41	135·5	10 29	164·1	6 21	279·6	2 50
October ..	·128	·362	·104	·008	223·5	15 6	161·0	9 38	276·1	3 52	348·8	1 41
November ..	·290	·410	·082	·032	229·4	14 43	161·0	9 38	344·7	2 20	77·4	0 13
December ..	·608	·395	·137	·097	63·8	1 45	167·0	9 18	13·3	1 42	159·4	4 50
Arithmetic Mean	·342	·291	·083	·045	..	..	..	..	..	..	..	..
Year ..	·176	·284	·020	·006	192·9	17 9	154·4	9 51	4·1	1 55	31·7	0 59
*Normal ..	·151	·307	·034	·004	188·1	17 28	151·5	9 57	2·8	1 56	83·5	0 7

* From the mean diurnal inequality for the period 1871-1915.

TABLE B.

Harmonic Analysis of Diurnal Variation of Temperature, 1922.
Cahirciveen (Valencia Observatory), Longitude 10° 15' W.

Month.	Amplitude in Degrees Absolute.				Phase, Local Mean Time.							
					24-Hour Term.		12-Hour Term.		8-Hour Term.		6-Hour Term.	
	c_1	c_2	c_3	c_4	α_1	Max.	α_2	Max.	α_3	Max.	α_4	Max.
January ..	·197	·249	·109	·023	249·4	h m	°	h m	°	h m	°	h m
February ..	·597	·356	·107	·051	226·8	14 53	71·5	0 40	227·5	4 56	320·3	2 10
March ..	1·252	·332	·110	·100	228·8	14 45	56·9	1 6	246·8	4 31	258·3	3 12
April ..	1·836	·305	·108	·067	236·4	14 14	65·4	0 49	314·3	3 1	253·1	3 17
May ..	1·967	·115	·234	·063	244·6	13 41	80·8	0 19	20·2	1 33	227·2	3 43
June ..	1·641	·159	·185	·054	244·5	13 42	109·6	11 21	49·1	0 58	297·4	2 33
July ..	1·723	·142	·186	·044	247·2	13 31	93·8	11 52	74·6	0 20	316·5	2 13
August ..	1·586	·221	·085	·038	247·7	13 29	84·8	0 10	84·0	0 8	321·7	2 8
September ..	1·327	·389	·023	·057	241·4	13 55	67·6	0 45	40·0	1 6	272·5	2 57
October ..	1·218	·421	·131	·036	233·9	14 25	77·6	0 25	359·9	2 3	266·8	3 3
November ..	·844	·351	·151	·013	244·9	13 40	61·2	0 58	265·8	4 6	219·6	3 50
December ..	·569	·101	·055	·043	227·4	14 50	60·5	0 59	273·7	3 55	259·9	3 10
Arithmetic Mean	1·230	·262	·124	·049	..	..	..	..	..	..	..	..
Year ..	1·221	·255	·029	·034	240·9	13 56	70·7	0 38	13·1	1 43	268·6	3 1
Period 1871-1882	1·251	·328	·054	..	244·9	13 40	60·7	0 59	54·4	0 47	..	..

TERRESTRIAL MAGNETISM.

Notes on the Magnetic Observations for the Year 1922.

Absolute observations of declination, horizontal force and inclination shown in Table C (p. 201) were made, on the whole, rather more frequently than in previous years. It had been the practice to make two observations per month of each of the three elements, but with extra observations from time to time. For the first six months of the year 1922, the average number of observations per month was three, and from July to the end of the year four. The instruments in use were the same as in previous years, namely, the Dover unifilar magnetometer, No. 139, and the Dover dip circle, No. 118. The mean times of observation were 10h. 21m. for the declination, 11h. 41m. for the horizontal force and 14h. 31m. for the inclination, all these times being Greenwich Mean Time. In only two observations was the time different by more than ten minutes from the average. All observations used in the published tables were made at times when the elements observed—as recorded by the magnetographs at Kew Observatory, Richmond—were free from serious disturbance. The deflection of the mirror magnet was measured with the collimator magnet at distances of 30cm. and 40cm. and a single distribution constant, P , was calculated. Up to September the complete observation of deflection consisted of twelve readings of the mirror magnet, as described in the notes on the observations in the *British Meteorological and Magnetic Year Book*, Part IV, for 1917. From September onwards the original practice of observing only eight positions of the mirror magnet was resumed. The twelve-position method was introduced in order to diminish observational errors in the individual values of P . The same purpose is now served by observing weekly instead of fortnightly. The value of P was calculated for each month separately by the method described in the notes in the *British Meteorological and Magnetic Year Book* for 1919. The extreme variation in the value of P calculated in this way was equivalent to about 6γ in the value of the horizontal force. As this is about double the extreme variation found in 1921 it would seem that the reversion to the original eight-position method of observing the deflections, even with twice the number of observations, was responsible for a considerable increase in the effect on the monthly means of casual errors of observation. There is good reason, however, to suppose that this increase is due to some cause other than the alteration in the method of observation, and that the object of the twelve-position method, namely, the minimising of the effects of casual errors, is as fully secured by more frequent observations with the eight-position method, with the added advantage that when obtaining monthly mean values of the horizontal force the discarding of an observation in any month on account of disturbance is of less account when there are four or five observations available for the mean than when there are only two. The magnetic moment of the collimator magnet, No. 139A, has continued to decrease at the rate of about three units per year, as in the last three years. The mean value of P was 7.29.

The mean values of declination, inclination and horizontal force are given in Table D (p. 202), together with the mean monthly and annual values of the North, West and Vertical Components and the Total Force, calculated from them. Annual values are also given for previous years. Westerly declination has diminished by $9'.5$ as compared with 1921. The change was $11'.4$ in the same direction in the preceding twelve months, while if we take five-year averages for the periods 1917–1922, 1915–1920 and 1910–1915, we find that the decreases over these periods, in order, are $9'.2$, $9'.2$ and $8'.2$; so that the position of the magnetic needle is moving eastward at a fairly steady rate which is inclined to become greater.

Northerly inclination continues to decrease very slowly, the change in the mean value from 1921 to 1922 being $-0'.4$. The change in the preceding year was $-1'.9$. Considering averages, we find that the five years ended December, 1922, have a mean decrement of $0'.8$, while the periods 1915–1920 and 1910–1915 show, respectively $-0'.5$ and $-1'.0$ per year. The observation of inclination is hardly such as to justify the drawing of any conclusions from the differences in the annual

rates of change ; instrumental uncertainties are probably quite sufficient to account for them, and in addition it is to be remembered that observations have been made on about one-tenth of the days of the year only. It must suffice to say that on the whole, an average annual decrease in the inclination of about $0'.7$ per annum is in progress.

The secular change in the horizontal force had shown signs of approaching a turning point about 1918–1919. Immediately previous to this the mean annual change had been a decrease of rather more than 5γ . From 1918 to 1919, however, and again from 1919 to 1920 the year's fall was only 2γ . At the end of 1921, therefore, it was interesting to find that the change from 1920 was an increase of 8γ . The mean value for 1922 is again greater than that for 1921, but only by 1γ , so that, even allowing for a certain amount of instrumental uncertainty, the results for the past five years considered together indicate that the steady annual diminution in the horizontal force has died out and has given place to an annual increase, for the time being at any rate ; whether persistent or not can only be determined from the observations of future years.

The rate of decrease of the total force is for the period under review, only 10γ per annum, whereas during the preceding twelve months it was 46γ , and for some years had been on the average about 30γ , while over the period 1910–1915, it was more than 50γ per annum. There is thus a distinct retardation in the fall of the total force.

TABLE C.

Cahirciveen (Valencia Observatory), Absolute Magnetic Observations, 1922.

Latitude $51^{\circ} 56'$. Longitude $10^{\circ} 15' W$.

Date.	Westerly Declination	Horizontal Force	Northerly Inclination	Date.	Westerly Declination	Horizontal Force	Northerly Inclination
January 9 ..	19 6.5	17834	68 5.2	July 7	18 59.1	17853	68 4.1
„ 20 ..	19 1.3	17867	68 4.2	„ 19	18 56.9	17850	68 4.1
February 8 ..	19 5.7	17860	68 2.9	„ 26	18 56.7	17856	68 1.1
„ 23 ..	19 0.6	17866	68 3.5	August 8	18 54.6	17839	68 1.7
„ 28 ..	..	17850	..	„ 29	18 55.9	17838	..
March 10 ..	18 58.2	17862	68 2.9	„ 30	18 55.5	17845	68 2.8
„ 24 ..	18 56.4	17842	68 2.8	September 13	18 59.0	17875	68 3.1
„ 25 ..	18 56.6	..	..	„ 20	18 54.9	17856	68 1.7
April 4 ..	18 57.3	17840	..	„ 27	18 55.1	17850	68 3.7
„ 11 ..	18 56.8	17829	..	October 4	18 59.5	..	68 3.4
„ 12 ..	..	..	68 3.7	„ 11	18 52.7	17838	68 3.8
„ 25 ..	18 57.4	17832	68 3.5	„ 18	18 51.6	17844	68 3.5
May 10 ..	18 56.8	17840	68 3.8	„ 25	18 51.9	17844	68 1.7
„ 25 ..	18 57.3	17852	68 1.5	November 1	18 55.9	..	..
„ 30 ..	18 55.2	17848	..	„ 2	..	17845	68 1.5
June 9 ..	18 55.3	..	68 2.1	„ 9	18 55.8	17857	68 3.3
„ 10 ..	18 53.7	17846	..	„ 15	18 52.8	17845	68 2.1
„ 21 ..	18 57.1	17842	..	„ 22	18 51.4	17856	..
„ 22 ..	18 58.5	17849	68 2.5	„ 23	..	..	68 3.0
„ 28 ..	18 54.3	17843	68 2.6	„ 29	18 55.1	17823	68 3.6
				December 6	18 55.0	17861	68 3.1
				„ 13	18 52.7	17855	68 2.8
				„ 20	18 51.9	17870	68 1.5
				„ 27	18 54.4	17861	68 1.8

TABLE D.

Valencia Observatory, Cahirciveen.
Magnetic Data for the Year 1922.

1922	Declination (West).	Inclination (North)	Horizon- tal Force.	North.	West.	Vertical.	Total.
	° ' "	° ' "	γ	γ	γ	γ	γ
January	19 3·9	68 4·7	17851	16872	5831	44357	47814
February	19 3·2	68 3·2	17859	16881	5830	44321	47784
March	18 57·1	68 2·9	17852	16884	5830	44293	47755
April	18 57·2	68 3·5	17834	16867	5792	44270	47728
May	18 56·4	68 2·7	17847	16881	5793	44273	47735
June	18 55·9	68 2·4	17845	16880	5790	44257	47719
July	18 57·5	68 3·1	17853	16885	5800	44303	47765
August	18 55·3	68 2·3	17841	16877	5785	44243	47705
September	18 56·3	68 2·8	17860	16893	5796	44309	47773
October	18 53·9	68 3·1	17842	16880	5779	44275	47735
November	18 54·2	68 2·7	17845	16883	5781	44268	47730
December	18 53·5	68 2·3	17862	16900	5783	44295	47761
Year, 1922	18 57·0	68 3·0	17849	16882	5796	44289	47750
Year, 1921	19 6·5	68 3·4	17848	16865	5842	44299	47760
Year, 1920	19 17·9	68 5·3	17840	16837	5896	44353	47806
Year, 1919	19 27·2	68 6·1	17842	16823	5942	44385	47837
Year, 1918	19 36·2	68 6·5	17844	16810	5987	44407	47858
Year, 1917	19 43·0	68 6·9	17855	16808	6024	44448	47900
Year, 1915	20 3·8	68 7·9*	17869	16785	6130	44519*	47972*
Year, 1910	20 44·6	68 13·0	17892	16732	6337	44771	48215

*Mean of 11 months.

Readings in millibars at exact hours, Greenwich Mean Time.

271. Cahirciveen (Valencia Observatory) : H_b (height of barometer cistern above M.S.L.) = 13.7 metres.

January, 1922.

Table with 25 columns (Day 1-25) and 25 rows (Station Level 1-25). Includes mean values for station and sea level.

272. Cahirciveen (Valencia Observatory) : H_b = 13.7 metres.

February, 1922.

Table with 25 columns (Day 1-25) and 25 rows (Station Level 1-25). Includes mean values for station and sea level, and G.M.T. column.

NOTE.—When pressure exceeds 1000 mb. the leading figure 1 is not printed, i.e., 1001.7 mb. is written 001.7. This rule does not, however, apply to monthly means.

Readings in millibars at exact hours, Greenwich Mean Time.

273. Cahirciveen (Valencia Observatory) : Hb (height of barometer cistern above M.S.L.) = 13.7 metres.

March, 1922.

Table with 25 columns (Station Level 1-25) and 25 rows (Day 1-25). Includes mean values for station and sea level.

274. Cahirciveen (Valencia Observatory) : Hb = 13.7 metres.

April, 1922.

Table with 25 columns (Station Level 1-25) and 25 rows (Day 1-25). Includes mean values for station and sea level.

NOTE.—When pressure exceeds 1000 mb. the leading figure 1 is not printed, i.e., 1001.7 mb. is written 001.7. This note does not, however, apply to monthly means.

Readings in millibars at exact hours, Greenwich Mean Time.

275. Cahirciveen (Valencia Observatory) : H_b (height of barometer cistern above M.S.L.) = 13.7 metres.

May, 1922.

Table with 26 columns (Day, 1-24, Mean) and 31 rows (Station Level 1-31, Mean Station level, Mean Sea level). Contains pressure readings in millibars for May 1922.

276. Cahirciveen (Valencia Observatory) : H_b = 13.7 metres.

June, 1922.

Table with 26 columns (Day, 1-24, Mean) and 31 rows (Station Level 1-31, Mean Station level, Mean Sea level, G.M.T.). Contains pressure readings in millibars for June 1922.

NOTE.—When pressure exceeds 1000 mb. the leading figure 1 is not printed, i.e., 1001.7 mb. is written 001.7. This note does not, however, apply to monthly means.

Readings in millibars at exact hours, Greenwich Mean Time.

277. Cahirciveen (Valencia Observatory) : Hb (height of barometer cistern above M.S.L.) = 13.7 metres.

July, 1922.

Table with 25 columns (Day, 1-24, Mean) and 31 rows (Station Level 1-31). Includes mean values for station and sea level.

278. Cahirciveen (Valencia Observatory) : Hb = 13.7 metres.

August, 1922.

Table with 25 columns (Day, 1-24, Mean) and 31 rows (Station Level 1-31). Includes mean values for station and sea level.

NOTE.—When pressure exceeds 1000 mb. the leading figure 1 is not printed, i.e., 1001.7 mb. is written 001.7. This rule does not, however, apply to monthly means.

Readings in millibars at exact hours, Greenwich Mean Time.

279. Cahirciveen (Valencia Observatory) : H_b (height of barometer cistern above M.S.L.) = 13.7 metres.

September, 1922.

Day.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	
	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
1	007.2	007.2	007.5	008.0	008.1	008.4	009.1	009.5	010.0	010.3	010.6	010.8	011.2	011.3	011.8	012.0	012.5	013.1	013.5	014.0	014.5	014.5	014.7	014.9	010.9	
2	015.1	015.1	014.9	015.0	015.1	015.8	016.0	016.1	016.1	016.3	016.6	016.7	017.0	017.0	017.0	017.2	017.3	017.5	017.5	017.6	017.8	017.5	017.0	016.6	016.5	
3	016.0	015.5	014.9	014.6	014.5	014.8	014.6	014.8	015.0	015.4	015.6	016.0	015.6	016.0	016.6	016.9	017.0	017.2	017.4	018.1	018.8	018.6	019.0	019.1	016.3	
4	019.1	019.3	019.3	019.3	019.6	019.9	020.1	020.2	020.7	020.8	020.8	020.9	021.0	021.0	021.0	021.0	020.8	020.7	020.8	021.0	021.1	021.7	021.8	021.5	021.1	020.5
5	020.6	020.4	020.2	019.9	019.9	019.9	020.1	020.6	020.7	020.7	021.1	021.5	021.6	021.8	022.1	022.4	022.9	023.4	023.8	024.7	025.4	025.8	026.3	026.5	022.1	
6	026.6	026.6	026.8	027.0	027.1	027.5	027.9	028.1	028.5	028.6	028.7	029.1	028.8	028.5	028.1	028.1	027.9	028.2	028.5	028.9	029.2	029.2	029.1	029.1	028.1	
7	028.8	028.7	028.4	028.1	028.0	028.1	028.7	028.9	029.1	029.1	029.1	029.0	029.1	028.6	028.7	028.7	028.9	029.1	030.1	030.5	030.8	031.0	031.1	029.1		
8	031.1	031.1	031.0	031.1	031.4	031.4	031.8	032.0	032.1	032.1	032.3	032.5	032.1	031.9	032.0	031.6	031.7	031.6	031.9	032.2	032.5	032.3	032.0	031.9	031.8	
9	031.7	031.3	031.0	030.6	030.6	030.7	030.9	031.0	030.7	030.5	030.4	029.9	029.7	029.0	028.9	028.3	028.0	028.0	027.9	028.0	027.9	028.0	027.7	027.5	029.6	
10	027.1	026.9	026.8	026.5	026.5	026.6	026.8	026.9	026.9	026.6	026.5	026.3	026.0	025.8	025.4	025.0	025.0	025.0	025.2	025.2	025.2	025.0	024.6	024.2	026.1	
11	024.0	023.4	022.8	022.2	021.8	021.2	021.1	020.8	020.4	019.6	019.0	018.5	017.8	016.8	015.7	014.9	014.2	013.2	012.1	011.3	010.2	008.7	007.3	005.5	017.2	
12	003.2	002.3	001.2	000.7	000.8	000.9	001.1	001.1	001.4	001.4	001.2	001.4	001.4	001.4	001.6	001.4	001.5	001.8	001.6	001.6	001.4	001.0	002.6	002.3	002.5	022.6
13	984.9	984.8	984.9	985.5	985.5	986.0	986.3	986.9	987.2	987.0	987.2	987.9	988.7	989.5	989.9	990.7	991.3	991.7	992.0	992.5	993.0	993.1	993.5	993.6	988.7	
14	993.9	994.8	995.7	996.5	997.4	998.4	999.9	1000.8	1001.5	1002.9	1004.2	1005.0	1006.1	1007.1	1008.1	1008.9	1009.9	1010.7	1011.7	1012.9	1013.5	1014.2	1015.0	1015.3	1004.7	
15	016.0	016.3	016.7	017.1	017.6	018.3	019.0	019.6	020.1	020.3	020.8	020.9	020.9	020.9	020.4	020.3	020.4	020.2	020.0	019.9	019.4	018.9	018.3	017.4	019.1	
16	016.6	016.1	014.9	014.5	013.9	013.3	013.2	013.1	013.0	012.5	011.6	010.9	010.4	010.1	010.1	009.7	010.0	010.0	009.9	009.8	009.8	009.6	009.3	009.2	011.9	
17	009.3	009.4	009.5	009.7	010.2	010.6	011.4	012.1	012.8	013.4	014.4	014.9	015.6	016.4	016.6	017.5	018.1	018.6	019.6	020.4	021.0	021.6	021.9	022.3	015.0	
18	022.6	022.7	022.7	023.0	023.0	023.3	023.9	024.1	024.4	024.6	024.5	024.6	024.4	024.2	024.1	024.0	023.6	023.5	023.0	022.3	021.1	020.1	019.3	023.2		
19	018.0	016.9	015.9	015.6	015.0	014.8	014.5	014.7	014.8	015.1	015.0	015.2	015.4	015.0	014.7	014.7	014.5	014.9	015.1	015.8	016.4	016.5	017.0	017.6	015.6	
20	018.5	018.9	019.0	019.4	019.8	019.8	020.7	021.1	021.5	021.7	021.5	021.0	020.7	020.2	020.5	020.1	020.0	019.8	020.1	020.2	020.3	020.3	020.2	020.2	020.2	
21	020.0	020.0	019.9	019.2	019.0	018.9	019.2	019.6	019.8	019.8	020.1	020.2	020.4	020.3	020.3	020.2	020.2	020.3	020.3	020.4	020.7	020.8	020.8	020.8	020.0	
22	020.6	020.5	020.5	020.2	020.2	020.3	020.5	020.5	020.7	021.1	021.2	021.0	020.9	020.9	020.7	020.7	020.4	020.4	020.2	020.1	020.1	020.1	019.8	020.5		
23	019.6	019.3	018.9	018.4	018.1	017.7	017.4	017.3	017.5	017.5	017.2	016.7	016.0	015.6	015.7	015.6	015.5	015.4	015.4	015.6	015.6	015.5	015.4	015.4	016.9	
24	015.1	014.7	014.9	014.6	014.5	014.7	014.7	014.5	014.2	013.8	013.2	012.7	011.8	011.5	010.5	009.6	008.9	008.0	007.7	006.3	004.7	003.2	001.7	011.5		
25	998.8	998.8	996.0	994.7	993.7	992.3	991.6	990.5	989.4	988.9	988.3	987.9	987.3	986.5	986.1	985.6	985.3	984.9	984.6	984.8	984.2	984.0	983.1	982.8	989.1	
26	982.0	981.4	981.0	979.9	979.6	978.6	978.4	978.1	978.1	978.2	978.6	978.7	978.9	979.1	979.3	979.6	979.9	980.5	980.7	981.1	981.5	981.9	982.5	983.3	980.0	
27	984.2	985.0	985.7	986.4	987.3	988.4	990.6	991.8	993.3	994.5	996.0	996.3	997.8	998.8	999.5	1000.3	1001.2	1001.8	1002.9	1003.5	1003.7	1004.7	1005.1	1005.4	995.5	
28	006.0	006.3	006.4	007.0	007.3	007.8	008.5	009.1	009.4	010.2	011.1	011.5	011.9	012.8	013.8	014.4	015.2	016.0	016.8	017.8	018.9	019.2	019.5	020.6	015.1	
29	020.8	020.8	020.5	020.9	021.2	021.4	021.7	022.2	022.0	021.6	021.9	021.7	021.6	020.2	020.3	019.1	018.5	017.9	017.8	017.4	016.9	016.7	016.3	016.1	019.9	
30	015.8	015.6	015.4	015.2	015.4	015.4	015.6	015.6	015.6	015.3	015.2	014.9	014.7	014.3	014.2	014.2	014.5	015.2	016.1	017.1	017.8	018.2	018.7	018.7	015.7	
Mean (Station level)	1013.77	1013.67	1013.45	1013.33	1013.32	1013.36	1013.64	1013.80	1013.93	1014.02	1014.16	1014.15	1014.19	1014.11	1014.09	1014.04	1014.08	1014.19	1014.33	1014.63	1014.75	1014.67	1014.54	1014.41	1014.02	
Mean (Sea level)	1015.43	1015.33	1015.12	1015.00	1014.99	1015.03	1015.31	1015.46	1015.59	1015.68	1015.81	1015.80	1015.84	1015.76	1015.74	1015.69	1015.74	1015.85	1015.99	1016.29	1016.41	1016.33	1016.20	1016.07	1015.68	

280. Cahirciveen (Valencia Observatory) : H_b = 13.7 metres.

October, 1922.

Day.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	018.9	019.2	019.0	019.1	019.1	019.0	019.4	019.8	019.7	019.7	020.2	019.9	019.7	019.7	019.5	019.3	019.4	019.8	020.1	020.1	020.2	019.9	020.0	019.7	019.6
2	019.5	019.2	019.1	019.0	018.9	018.7	018.4	018.1	018.4	018.6	018.0	018.0	018.0	017.6	017.2	016.9	016.7	016.9	016.3	016.0	015.2	015.1	015.1	014.8	017.6
3	013.3	013.8	012.7	012.1	011.8	011.6	011.7	011.5	011.4	011.2	011.4	011.3	009.8	009.8	009.0	008.9	008.7	008.7	008.7	008.6	008.6	008.4	008.6	008.8	010.6
4	008.8	008.8	008.3	007.8	007.2	007.3	007.5	007.8	007.8	007.7	007.3	006.8	006.6	006.6	006.6	006.6	006.6	005.8	006.0	006.2	006.4	006.1	005.9	005.7	007.0
5	005.7	005.9	006.2	006.4	006.8	007.2	008.0	008.7	009.9	010.6	011.2	012.0	012.6	013.2	014.0	014.8	015.2	015.6	016.2	017.0	017.8	018.2	018.8	019.2	011.9
6	019.7	020.1	020.3	020.6	020.8	021.0	021.4	022.0	022.5	022.9	023.2	023.4	023.5	024.0	024.2	024.5	024.8	025.0	025.2	025.6	025.7	025.7	026.0	026.0	023.1
7	026.1	026.0	026.1	026.2	026.2	026.5	026.6	026.7	026.9	027.2	027.4	027.3	027.1	027.0	027.0	026.8	026.9	027.0	027.1	027.2	027.5	027.8	027.7	026.9	
8	027.6	027.6	027.5	027.4	027.4	027.3	027.4	027.3	028.3	028.3	028.0	027.9	027.9	027.2	026.9	026.7	027.1	027.1	027.1	027.2	027.3	027.1	027.1	026.7	027.4
9	026.5	026.1	025.7	025.3	024.9	024.7	024.6	024.7	024.6	024.5	024.2	024.0	023.4	023.0	022.6	022.2	022.3	022.5	022.2	022.2	022.2	021.8	021.5	021.2	023.7
10	020.8	020.5	020.2	019.5	019.2	019.1	018.9	018.8	018.8	018.7	018.2	017.7	017.0	016.4											

Readings in millibars at exact hours, Greenwich Mean Time.

281. Cahirciveen (Valencia Observatory) : H_b (height of barometer cistern above M.S.L.) = 13.7 metres.

November, 1922.

Table with 26 columns (Day, 1-24, Mean) and 31 rows (Station Level 1-30, Mean Station level, Mean Sea level). Data represents pressure readings in millibars for November 1922.

282. Cahirciveen (Valencia Observatory) : H_b = 13.7 metres.

December, 1922.

Table with 26 columns (Day, 1-24, Mean) and 31 rows (Station Level 1-30, Mean Station level, Mean Sea level, G.M.T.). Data represents pressure readings in millibars for December 1922.

NOTE.—When pressure exceeds 1000 mb. the leading figure 1 is not printed, i.e., 1005.6 mb. is written 005.6. This rule does not, however, apply to monthly means.

ANNUAL MEANS OF HOURLY VALUES.

From readings in millibars at exact hours, Greenwich Mean Time.

283. Cahirciveen (Valencia Observatory) : Hb = 13.7 metres.

1922.

Table with 24 columns (G.M.T. 1-24) and 3 rows (Station Level, Sea Level, Mean). Station level values range from 01018 to 01229, with a maximum of 01168 and a minimum of 01171. Sea level values range from 01386 to 01397, with a maximum of 01386 and a minimum of 01342. Mean value is 01211.

PRESSURE AT STATION LEVEL : MONTHLY MEANS AND DIURNAL INEQUALITIES.

The departures from the mean of the day are adjusted for non-cyclic change.

284. Cahirciveen (Valencia Observatory) : Hb = 13.7 metres.

1922.

Table with 25 columns (Month, Mean, Hour 1-24) and 12 rows (Jan to Dec, Year). Shows monthly mean values and hourly departures. For example, Jan mean is 1005.31, with a maximum hourly departure of +0.46 on Feb 21 and a minimum of -0.34 on Jan 5.

ABSOLUTE EXTREMES OF PRESSURE AT STATION LEVEL FOR EACH DAY.

Maximum and minimum for the interval 0 h. to 24 h., Greenwich Mean Time.

285. Cahirciveen (Valencia Observatory) : Hb = 13.7 metres.

1922.

Table with 24 columns (Month) and 25 rows (Day 1-31). Each day's data is presented as a 2x2 grid of Max/Min values in millibars. For example, on 1st Jan, Max is 028.7 and Min is 020.8.

NOTE.—When pressure exceeds 1000 mb. the leading figure 1 is not printed, i.e., 1005.6 mb. is written 005.6. This rule does not, however, apply to monthly means.

Readings, in degrees absolute, at exact hours, Greenwich Mean Time.

286. Cahirciveen (Valencia Observatory) : North Wall Screen : ht (height of thermometer bulb above ground) = 1.3 metres.

January, 1922.

Day.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
1	83.5	83.6	83.5	83.5	83.5	83.9	84.2	84.4	84.3	84.4	84.5	84.8	84.9	85.1	85.1	85.2	85.1	85.1	85.1	85.3	85.3	85.2	85.1	85.1	84.5
2	85.1	85.2	85.3	85.4	85.2	84.8	84.8	84.7	84.6	84.6	84.5	84.7	84.5	84.3	84.1	83.3	82.1	81.9	81.6	81.4	81.2	81.2	80.7	80.9	83.7
3	80.9	80.8	80.8	81.2	81.2	81.2	81.3	80.7	81.0	81.6	81.5	81.5	80.9	81.5	81.3	81.2	81.3	80.7	80.7	80.1	80.8	80.7	80.1	79.6	81.0
4	79.8	79.9	79.8	79.3	79.6	79.3	79.4	79.8	79.3	79.2	79.7	80.0	79.5	80.1	80.4	79.5	79.8	79.9	80.1	79.9	80.1	79.9	80.0	79.7	79.7
5	79.4	79.4	79.1	79.4	79.4	79.1	79.5	79.3	79.1	79.0	79.8	80.4	81.0	81.1	81.3	80.9	80.9	81.4	81.3	81.2	81.6	81.8	81.8	81.6	80.3
6	81.4	81.5	81.6	81.5	81.5	81.3	81.4	81.3	81.1	81.3	81.5	81.8	81.9	81.8	82.5	82.0	82.2	82.2	82.4	82.7	83.2	83.2	83.1	82.7	81.9
7	82.1	82.3	82.4	82.2	82.2	81.6	80.9	81.1	81.2	81.3	81.6	82.3	82.8	82.6	82.8	82.5	82.5	83.0	83.3	83.5	84.0	84.2	84.4	84.5	82.5
8	85.1	82.9	83.8	83.4	83.1	83.1	83.2	83.2	82.9	82.7	82.9	83.1	83.5	83.4	83.2	82.1	82.2	82.1	81.8	82.1	84.7	85.1	85.4	85.6	83.3
9	85.6	85.6	85.8	85.5	85.5	85.7	85.8	85.5	86.0	85.9	86.1	85.7	85.7	83.4	83.2	83.3	82.8	82.7	82.3	82.7	82.5	82.4	82.5	82.6	84.4
10	82.4	82.3	82.3	81.5	80.9	82.1	81.8	81.7	81.4	81.5	81.8	81.8	81.0	81.7	81.6	81.4	81.4	81.2	80.9	81.0	81.2	81.1	81.4	81.5	81.6
11	81.1	80.9	81.0	80.9	80.7	80.9	81.2	81.1	81.1	80.8	80.6	81.4	81.8	81.9	81.8	81.5	81.3	81.1	80.6	80.8	80.7	78.7	78.4	77.4	80.8
12	76.5	76.9	75.4	75.5	74.8	74.3	73.1	72.3	74.9	76.8	78.1	78.9	79.3	79.8	79.9	79.7	79.5	79.8	80.0	80.3	80.2	80.3	80.7	80.6	77.8
13	80.4	80.4	80.0	80.2	80.0	80.3	80.5	80.3	80.4	80.6	80.7	80.5	80.5	80.1	79.5	78.4	79.0	78.9	79.7	79.8	79.5	79.7	79.7	79.8	80.0
14	79.6	79.8	80.3	79.4	79.6	80.2	80.3	80.4	80.6	80.7	80.8	80.8	81.2	81.2	80.9	80.7	80.5	80.0	79.9	79.7	79.7	79.7	79.7	79.8	80.2
15	80.3	80.9	81.6	82.1	82.4	82.7	83.4	83.7	82.2	81.9	81.3	81.3	81.2	79.9	79.7	78.1	77.9	77.9	78.9	78.6	77.9	78.5	77.4	76.5	80.3
16	76.4	75.6	76.5	76.7	75.8	77.1	77.3	76.3	75.7	76.3	75.1	75.5	75.9	77.8	75.5	76.6	76.4	77.1	76.6	76.1	75.8	75.6	77.4	77.1	76.3
17	76.5	77.8	78.4	77.6	78.0	76.8	78.6	78.4	78.8	77.1	78.5	79.4	79.7	80.1	79.6	79.3	78.1	78.1	79.2	79.1	78.9	79.9	80.5	80.9	78.6
18	81.3	81.7	82.1	81.6	81.2	81.3	81.0	81.1	80.5	80.3	80.1	80.8	79.9	80.1	79.9	79.7	79.8	78.9	78.9	78.4	77.9	77.8	77.8	77.5	80.0
19	76.4	76.0	76.8	76.6	76.1	75.7	75.4	77.6	77.5	75.5	75.1	75.4	75.5	76.1	77.0	76.5	76.2	75.9	75.7	75.2	75.2	74.7	75.3	74.6	76.0
20	74.3	74.5	74.2	73.9	73.4	73.2	72.6	72.6	72.4	73.3	74.4	75.6	77.0	77.7	77.4	77.3	77.3	77.5	78.0	79.1	80.1	82.3	83.6	84.1	76.3
21	84.3	84.3	83.1	84.0	83.0	81.7	80.9	80.9	80.6	81.3	81.5	81.4	80.9	81.5	81.4	81.1	80.3	80.1	80.1	79.7	80.5	80.3	80.4	80.6	81.5
22	81.7	81.8	81.9	82.5	82.8	82.8	82.8	82.9	83.2	83.4	83.5	83.8	83.9	83.9	83.8	83.8	83.9	83.9	83.5	83.8	83.9	84.0	84.1	83.9	83.2
23	83.5	83.9	84.1	84.1	84.4	84.5	84.2	84.2	83.9	84.0	83.9	83.9	84.0	83.9	83.5	83.0	82.4	81.9	82.0	81.9	81.8	81.8	82.1	83.3	83.3
24	81.9	81.8	81.7	81.6	81.1	80.6	80.4	80.3	80.3	80.2	80.0	79.7	79.4	78.5	77.5	77.0	77.0	76.5	76.4	76.2	75.8	75.3	75.1	75.1	78.9
25	74.9	74.6	74.1	73.6	73.9	75.2	75.7	77.2	77.6	78.1	78.8	79.6	79.7	79.7	80.1	81.4	80.8	80.3	80.5	80.6	81.4	81.6	82.5	82.3	78.4
26	83.1	83.4	82.9	82.2	81.9	81.5	80.8	80.6	80.8	81.0	81.9	81.9	82.7	82.5	83.0	82.5	82.5	82.3	80.4	80.8	80.9	80.9	81.3	81.4	81.8
27	81.3	81.5	81.7	81.8	81.2	81.4	80.9	80.4	81.2	81.5	82.2	82.9	82.6	82.9	82.6	82.2	82.2	81.9	81.6	81.3	80.4	79.8	79.8	79.5	81.5
28	79.5	79.9	80.1	80.2	80.7	81.1	80.6	80.9	81.1	81.3	81.7	81.9	81.3	81.6	81.3	80.6	80.6	80.7	81.1	81.6	81.8	81.8	81.6	81.5	81.0
29	81.5	81.4	81.5	81.3	80.7	80.5	80.7	80.3	80.4	80.7	80.4	79.8	80.3	80.2	80.4	80.4	80.3	79.9	79.5	79.5	79.6	79.7	79.7	79.6	80.3
30	80.3	79.7	79.8	80.9	81.2	81.3	80.3	80.1	81.2	81.7	81.1	82.2	81.7	81.8	81.7	81.2	80.8	80.8	79.9	79.6	79.4	79.1	79.3	78.6	80.6
31	79.1	79.5	79.7	79.6	79.7	80.3	80.4	80.3	80.3	80.9	81.1	81.1	81.0	80.9	80.8	81.7	81.8	81.1	81.2	81.3	81.2	81.1	80.9	80.6	80.6
Mean	80.6	80.6	80.7	80.6	80.5	80.5	80.4	80.5	80.6	80.8	81.1	81.2	81.2	81.1	80.8	80.6	80.5	80.4	80.4	80.6	80.6	80.7	80.6	80.7	80.7

287. Cahirciveen (Valencia Observatory) : North Wall Screen : ht = 1.3 metres.

February, 1922.

I	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.
1	80.5	80.4	80.4	80.4	79.7	79.1	78.9	77.7	77.1	79.6	80.4	81.6	81.9	81.7	81.8	81.4	81.3	81.4	81.5	81.8	82.5	82.7	83.8	83.9	80.8
2	84.1	84.2	84.0	83.9	84.1	84.2	84.1	84.3	83.7	84.3	84.2	84.2	84.2	84.2	84.4	84.4	84.3	84.3	83.9	83.5	83.4	83.7	83.6	83.6	84.0
3	83.3	82.8	83.1	82.9	82.5	82.3	82.4	82.2	82.5	82.3	82.8	83.2	82.7	82.6	82.4	82.2	82.5	82.3	82.1	81.5	81.8	81.8	81.7	81.7	82.4
4	81.7	81.4	81.4	81.3	81.0	80.4	80.4	80.5	80.0	80.6	80.4	81.5	81.1	80.9	79.8	80.2	80.4	79.8	79.8	79.2	79.4	79.4	78.0	78.8	80.4
5	78.1	77.5	78.5	77.4	78.6	77.8	77.5	77.2	75.9	77.0	77.8	79.2	79.9	80.4	80.4	80.1	79.3	79.1	79.3	78.9	78.7	79.1	79.1	79.3	78.6
6	79.3	79.5	79.6	79.7	80.1	80.5	80.5	81.1	81.2	81.6	82.0	82.4	82.9	83.1	82.6	82.5	82.4	81.6	81.5	81.6	81.5	81.6	81.5	81.4	81.3
7	81.5	81.5	82.1	82.3	82.4	82.4	82.3	81.8	81.6	82.2	82.3	82.3	82.3	82.3	82.3	82.5	82.6	82.2	82.3	82.5	82.6	82.3	81.9	81.7	82.2
8	81.4	81.3	81.2	81.0	80.5	80.8	80.4	80.3	80.2	80.6	81.4	82.2	82.7	82.8	82.9	82.4	81.8	82.0	81.9	81.9	81.9	82.0	81.9	81.8	81.6
9	81.5	81.2	80.5	79.8	80.0	80.3	81.1	80.9	81.2	81.4	82.4	82.3	82.8	82.9	82.6	82.4	81.5	81.4	80.7	80.4	80.4	79.8	80.4	80.5	81.2
10	79.6	80.0	80.1	80.1	79.1	79.4	78.4	79.1	79.7	80.0	81.2	81.1	81.9	81.5	81.5	81.4	80.7	80.4	80.5	80.5	80.7	80.9	80.9	80.8	80.4
11	80.9	81.2	81.3	81.4	81.5	81.5	81.6	81.6	81.8	82.0	82.2	82.5	82.5	82.6	82.8	82.4	82.6	82.6	82.6	82.6	82.6	82.5	82.5	82.5	82.1
12	82.5	82.5	82.2	81.6	81.5	81.4	81.3	80.9	80.6	80.5	80.7	80.4	81.2	81.2	81.2	81.1	80.9	80.6	80.6	79.3	78.3	79.5	79.2	78.6	80.8
13	78.5	78.9	78.6	78.8	77.6	78.3	78.2	78.5	77.7	79.2	79.4	79.5	79.5	79.8	79.7	79.8	79.4	78.4	78.3	77.7	76.5	76.3	75.3	76.5	78.4
14	75.5	75.8	75.3	76.3	76.1	76.7	77.2	77.5	78.1	79.1	80.0	80.6	80.9	81.1	80.8	80.6	80.5	80.6	81.0	81.5	82.4	82.4	82.3	82.2	79.2
15	81.8	81.8	81.7	81.5	81.1	80.9	80.8	80.5	80.6	81.0	81.7	82.4	82.8	82.9	83.0	82.7	83.0	83.1	83.2	83.3	83.4	83.5	83.7	82.2	82.2
16	83.4	82.8	82.6	82.0	81.5	81.3	81.4	81.2	80.8	81.0	80.9	81.5	82.3	82.4	82.4	82.3	81.8	81.3	80.7	79.8	79.5	79.6	79.5	78.6	81.4
17	78.7	78.9	78.3	78.5	77.4	78.0	78.2	78.3	79.5	79.5	80.0	79.9	77.3	77.6	78.7	77.4	77.5	78.1	78.2	77.6	77.7	77.5	77.7		

Readings, in degrees absolute, at exact hours, Greenwich Mean Time.

288. Cahirciveen (Valencia Observatory) : North Wall Screen : ht (height of thermometer bulb above ground) = 1.3 metres.

March, 1922.

Day.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
1	78.2	78.4	77.4	77.4	77.4	77.4	77.4	77.4	77.5	78.6	81.1	81.4	81.4	80.8	80.9	80.1	78.7	78.7	80.0	80.5	80.5	80.2	79.4	78.7	79.1
2	78.4	79.4	79.7	79.0	79.7	79.3	78.4	78.1	79.6	81.2	82.3	82.7	82.8	82.7	82.9	82.9	83.4	83.6	83.9	84.4	84.5	84.6	84.5	84.5	81.6
3	84.4	84.5	84.6	84.5	83.9	82.5	82.4	82.4	82.8	83.7	83.1	83.9	83.7	83.7	83.5	83.5	83.5	82.5	81.9	82.5	82.9	82.4	81.5	80.5	83.2
4	80.6	80.7	79.5	80.5	79.5	79.0	79.6	80.0	80.1	81.6	81.0	81.6	82.0	82.1	82.3	81.9	81.5	81.3	81.2	81.5	82.1	81.5	81.6	82.3	81.0
5	82.8	83.2	83.7	82.4	82.3	81.9	81.8	81.0	81.3	81.8	82.3	82.4	82.4	82.5	82.6	82.1	81.1	81.4	80.6	80.2	80.2	80.1	79.8	79.7	81.7
6	79.6	79.9	79.8	80.2	80.1	80.9	80.7	80.5	81.4	81.6	79.6	80.3	79.8	80.3	80.5	81.1	80.2	78.9	78.7	79.0	79.3	79.1	78.6	77.8	80.0
7	77.5	77.6	78.5	78.7	78.5	77.8	78.0	78.9	78.9	80.8	81.3	81.1	80.9	81.1	81.6	81.1	80.4	80.1	79.8	79.6	79.4	78.9	78.5	78.4	79.5
8	78.4	78.5	78.7	79.3	78.9	80.1	79.9	79.6	80.1	80.6	80.9	81.0	80.9	80.5	81.0	81.2	80.7	79.9	78.9	79.3	78.5	78.9	78.8	79.4	79.7
9	78.7	79.1	79.7	78.7	77.3	77.5	78.7	78.4	78.6	79.1	79.5	78.5	78.9	80.3	77.9	78.6	79.1	79.9	79.7	79.4	79.3	79.1	78.9	78.7	78.9
10	78.5	78.1	78.0	77.6	76.9	76.8	76.5	76.4	77.5	78.2	79.0	79.6	80.4	80.9	81.2	81.3	80.9	80.6	80.3	80.5	80.5	80.5	80.6	80.8	79.2
11	80.6	80.8	81.0	81.2	80.8	80.6	80.6	81.1	81.5	81.8	82.0	82.1	82.0	81.8	81.8	81.6	81.6	81.4	81.3	81.2	81.2	81.2	81.1	81.1	81.3
12	81.0	81.0	80.9	80.7	80.5	80.5	80.0	80.3	81.2	82.1	82.1	83.1	82.9	83.4	82.8	82.6	82.6	83.1	83.4	83.4	83.4	83.4	83.4	83.4	82.1
13	82.5	81.6	80.8	80.8	80.1	79.9	80.0	80.3	81.6	82.2	82.2	82.6	83.5	84.4	84.6	85.0	84.7	84.4	83.9	82.5	81.7	81.2	80.5	79.6	82.2
14	78.9	78.4	77.9	78.0	77.9	78.6	79.0	79.4	80.0	81.7	82.1	82.7	83.6	83.8	84.5	84.4	84.1	83.2	82.5	82.2	81.5	81.3	81.1	81.0	81.1
15	80.7	80.3	80.6	80.4	80.3	80.5	80.2	80.6	81.9	83.4	84.3	85.0	85.5	85.5	85.9	85.9	85.7	84.7	83.2	82.3	82.2	82.2	80.7	80.4	82.5
16	81.1	80.6	80.4	79.7	79.8	79.5	79.6	80.4	81.5	82.4	83.6	83.4	83.8	83.8	84.2	83.6	83.0	82.2	81.9	81.8	81.8	81.6	81.8	81.8	81.8
17	81.8	82.1	82.6	82.4	82.2	81.9	82.1	81.4	81.6	82.3	82.3	82.4	82.9	83.5	83.1	82.4	82.0	81.7	81.5	81.4	81.3	81.3	81.1	81.2	82.0
18	81.4	81.5	81.5	81.5	81.3	81.3	81.2	81.3	81.4	81.8	81.7	82.2	82.3	82.3	82.3	82.3	82.3	82.3	81.6	80.5	79.9	79.9	79.3	79.0	81.3
19	79.0	78.6	78.7	78.6	78.3	78.5	76.5	77.2	78.5	79.8	80.4	81.7	82.8	83.6	83.1	83.3	83.2	82.6	82.2	82.2	82.2	82.1	82.1	81.2	80.6
20	81.0	81.1	80.5	80.0	79.9	79.5	79.3	79.1	79.1	79.2	78.9	79.4	79.5	79.8	80.0	80.1	79.8	79.8	79.3	79.2	79.0	78.4	78.3	78.4	79.6
21	78.3	77.3	76.4	76.2	76.1	75.7	75.3	76.3	76.8	77.3	78.1	78.8	79.4	79.4	79.6	79.9	79.7	79.4	78.6	77.9	76.6	76.1	75.7	75.1	77.6
22	75.2	75.5	75.3	75.1	75.2	75.0	74.6	75.4	75.6	76.1	77.7	78.2	78.6	78.9	78.9	78.8	79.1	78.6	78.5	78.6	78.6	78.6	77.9	77.7	77.1
23	77.5	77.4	77.1	77.1	77.2	75.4	75.7	77.3	78.5	79.9	80.0	80.5	80.6	81.0	80.9	80.6	80.6	80.3	80.2	80.2	80.2	79.9	79.4	79.9	78.8
24	79.5	80.2	80.3	80.2	80.4	80.7	81.6	81.5	81.4	81.4	82.9	81.8	82.3	82.2	81.4	81.0	81.2	80.2	79.6	79.1	78.4	78.2	77.9	77.0	80.5
25	77.8	78.1	78.8	77.9	78.3	78.5	77.5	77.4	77.9	78.8	79.1	77.2	79.6	78.8	78.4	79.5	78.4	78.1	78.3	79.0	78.1	78.1	78.6	78.6	78.3
26	78.4	78.3	78.9	79.1	79.1	78.8	78.2	79.4	80.0	80.6	81.4	81.5	81.8	82.4	82.5	82.3	82.1	81.6	81.1	80.7	80.5	80.4	80.4	79.8	80.4
27	80.1	78.7	78.5	79.7	79.9	80.1	79.7	79.9	79.6	79.9	78.9	78.3	80.0	80.0	79.4	78.5	78.2	77.6	78.1	78.1	77.9	77.7	77.7	77.9	79.0
28	77.4	77.3	77.4	77.5	77.6	77.8	78.1	78.5	79.2	80.1	80.9	81.3	81.7	82.6	82.7	82.6	81.9	80.9	80.4	79.9	79.9	77.9	78.5	78.2	79.7
29	78.1	77.9	77.3	77.2	77.2	77.6	77.3	78.5	79.5	80.9	81.6	81.8	82.2	82.5	82.5	82.5	82.1	81.5	80.7	80.1	80.0	80.0	80.0	79.9	79.9
30	80.3	80.4	80.5	80.4	80.4	80.5	80.5	81.4	82.2	82.9	82.9	83.2	83.6	84.2	83.4	83.5	83.0	82.5	81.6	81.3	80.6	80.4	80.1	80.0	81.7
31	79.9	79.8	79.7	79.9	80.2	79.9	79.9	80.1	79.4	78.9	78.9	79.7	79.0	79.6	80.0	79.1	78.4	78.0	77.4	77.1	76.7	76.3	75.9	76.1	78.8
Mean ...	79.6	79.6	79.5	79.4	79.2	79.2	79.0	79.3	79.8	80.6	81.1	81.2	81.6	81.9	81.8	81.7	81.4	81.0	80.6	80.5	80.3	80.0	79.8	79.6	80.3

289. Cahirciveen (Valencia Observatory) : North Wall Screen : ht = 1.3 metres.

April, 1922.

I	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.
1	76.0	75.4	75.1	74.6	74.4	73.9	73.9	74.8	75.5	76.2	76.9	77.9	78.3	78.4	79.0	79.1	78.8	78.8	78.2	77.6	77.2	76.7	76.6	76.5	76.7
2	76.7	76.8	77.1	77.1	77.1	77.1	77.3	77.3	77.2	78.1	79.1	79.5	79.9	79.6	80.0	79.8	79.4	78.8	78.2	77.5	77.3	77.3	77.1	76.7	78.0
3	75.9	75.7	75.3	75.1	74.9	74.8	75.4	75.6	76.4	77.9	78.2	79.5	80.3	80.7	80.9	80.8	80.4	79.7	79.2	78.8	79.0	78.6	77.2	76.6	77.8
4	76.1	75.9	74.5	75.2	76.2	76.5	75.8	77.0	79.5	79.8	80.8	80.3	82.1	82.3	81.6	81.5	81.9	80.9	80.6	79.5	79.1	79.3	79.4	79.2	78.9
5	78.9	78.9	78.5	78.5	78.5	78.3	78.2	78.5	79.9	80.5	82.2	82.5	81.4	81.3	81.0	80.4	80.7	80.4	79.6	79.1	78.8	77.9	77.1	75.4	79.5
6	74.8	74.1	74.0	74.3	73.8	73.1	74.5	76.6	78.3	79.3	80.5	81.2	81.9	82.0	81.6	81.8	81.5	80.9	80.4	80.0	79.5	79.2	79.3	79.6	78.3
7	79.6	79.3	79.2	78.8	78.7	78.4	78.4	78.5	78.9	79.2	79.7	79.9	80.4	80.5	79.9	79.6	79.3	79.3	79.3	79.4	80.0	79.8	79.2	79.1	79.4
8	79.1	79.3	79.3	78.9	78.5	78.5	79.4	80.2	79.8	81.3	81.4	81.8	81.4	81.3	81.7	81.4	80.8	80.5	79.9	79.3	79.1	78.9	77.3	77.8	79.9
9	78.3	78.1	79.2	79.7	78.9	79.2	80.1	81.2	80.6	81.3	82.4	83.1	82.6	82.5	82.4	81.9	81.4	80.9	79.4	78.6	77.8	77.8	77.3	76.8	80.1
10	76.6	76.0	76.4	77.1	78.2	78.3	77.4	80.1	80.3	81.1	81.6	82.6	82.9	83.3	83.4	83.1	82.9	82.3	81.7	81.3	80.9	80.8	80.3	80.1	80.3
11	79.4	79.3	78.6	78.5	78.4	77.8	78.1	78.9	79.9	81.4	81.9	79.5	79.5	79.2	79.6	80.2	81.0	80.8	80.0	78.2	79.3	78.7	77.9	76.2	79.3
12	76.0	75.8	75.6	75.3	75.7	75.8	75.9	78.3	78.4	78.7	77.4	77.6	77.4	77.2	77.1	77.1	77.9	78.5	78.1	77.3	78.0	77.4	77.9	77.6	77.1
13	78.1	76.4	75.2	75.5	76.5	76.8	76.7	76.9	78.8	79.8	80.1	81.7	80.8	81.1	81.1	82.2	81.6	80.8	80.5	79.1	78.8	78.7	78.5	78.4	78.9
14	78.5	78.3	78.6	78.5	76.4	75.5	75.9	76.1	76.0	76.7	78.0	80.0	83.3	83.4	84.4	83.0	82.9	82.6	82.3	82.2	81.8	81.8	81.6	81.1	79.9
15	79.6	79.9	79.7	79.6	79.6	80.1	80.1	80.2	80.8	81.1	81.1	81.4	81.5	81.2	81.4	80.7	79.8	80.2	80.1	80.8	79.4	77.8	79.6	79.1	80.2
16	79.4	79.7	79.3	79.3	79.2	78.4	78.5	79.8	79.6	79.3	79.9	79.6	79.5	81.0	80.2	80.4	80.5	80.1	80.2	79.7	79.3	78.7	79.0	79.4	79.6
17	79.1	79.1	78.9	78.7	79.0	78.3	78.7	79.4	80.7	81.2	81.5	82.4	82.7	82.9	82.9	82.8	82.5	81.9	80.6	79.3	78.0	78.2			

Readings, in degrees absolute, at exact hours, Greenwich Mean Time.

290. Cahirciveen (Valencia Observatory) : North Wall Screen : ht (height of thermometer bulb above ground) = 1.3 metres.

May, 1922.

Table with 25 columns (Day, 1-24, Mean) and 31 rows of temperature readings for May 1922. Values range from approximately 79.7 to 92.0 degrees absolute.

291. Cahirciveen (Valencia Observatory) : North Wall Screen : ht = 1.3 metres.

June, 1922.

Table with 25 columns (Day, 1-24, Mean) and 31 rows of temperature readings for June 1922. Values range from approximately 81.4 to 91.1 degrees absolute.

NOTE.—The initial 2 or 3 of the readings is omitted, i.e., 275.0 degrees absolute is written 75.0.

Readings, in degrees absolute, at exact hours, Greenwich Mean Time.

292. Cahirciveen (Valencia Observatory) : North Wall Screen : ht (height of thermometer bulb above ground) = 1.3 metres.

July, 1922.

Table with 25 columns (1-24) and 1 Mean column. Rows represent days from 1 to 31. Each cell contains a temperature reading in degrees absolute. The Mean row shows the average for each day.

293. Cahirciveen (Valencia Observatory) : North Wall Screen : ht = 1.3 metres.

August, 1922.

Table with 25 columns (1-24) and 1 Mean column. Rows represent days from 1 to 31. Each cell contains a temperature reading in degrees absolute. The Mean row shows the average for each day.

NOTE.—The initial 2 or 3 of the readings is omitted, i.e., 275.0 degrees absolute is written 75.0.

Readings, in degrees absolute, at exact hours, Greenwich Mean Time.

294. Cahirciveen (Valencia Observatory) : North Wall Screen : h_t (height of thermometer bulb above ground) = 1.3 metres.

September, 1922.

Table with 25 columns (Day, 1-24, Mean) and 31 rows (1-30, Mean). Each cell contains a temperature reading in degrees absolute. The mean for the month is 85.1.

295. Cahirciveen (Valencia Observatory) : North Wall Screen : h_t = 1.3 metres.

October, 1922.

Table with 25 columns (Day, 1-24, Mean) and 31 rows (1-31, Mean). Each cell contains a temperature reading in degrees absolute. The mean for the month is 82.7.

NOTE.—The initial 2 or 3 of the readings is omitted, i.e., 275.0 degrees absolute is written 75.0.

Readings, in degrees absolute, at exact hours, Greenwich Mean Time.

296. Cahirciveen (Valencia Observatory) : North Wall Screen : h_t (height of thermometer bulb above ground) = 1·3 metres.

November, 1922.

Day.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	
1	83·8	84·2	84·8	84·8	83·4	81·6	81·3	81·0	81·2	81·3	81·3	81·5	80·5	81·3	80·5	79·9	80·0	79·6	79·6	79·6	80·0	79·5	79·1	78·3	81·3	
2	79·2	78·4	78·1	78·1	78·2	78·5	77·7	76·9	77·4	77·8	80·5	80·7	81·3	81·2	79·9	79·7	79·4	79·2	79·2	79·8	80·0	79·8	78·8	78·0	79·1	
3	77·4	77·5	77·8	78·1	78·0	77·9	78·2	78·1	78·5	79·5	80·2	80·6	81·3	81·3	81·0	79·6	79·5	79·6	77·9	78·4	79·8	79·0	78·5	78·5	79·0	
4	78·6	80·1	79·9	79·9	79·2	79·8	79·2	79·6	79·3	80·2	80·9	81·1	81·2	81·6	81·6	81·0	79·6	79·1	77·1	76·2	75·5	75·7	76·1	79·3	79·2	
5	79·5	80·0	80·6	80·6	80·3	79·9	80·1	80·5	81·2	81·8	82·8	83·5	84·3	84·3	84·7	84·0	84·1	84·5	84·9	84·1	84·6	84·6	83·8	84·0	82·5	
6	83·2	83·2	83·0	83·4	83·4	83·5	83·5	83·6	83·0	83·2	82·6	83·0	82·7	82·4	80·6	81·4	82·7	82·8	83·4	83·3	83·2	82·8	82·7	83·3	82·9	
7	83·3	83·2	83·4	83·5	83·1	82·6	82·8	82·2	82·9	83·0	83·4	83·3	83·4	83·2	82·5	82·0	82·1	81·4	81·3	81·3	81·4	81·5	81·5	81·4	82·5	
8	81·4	81·4	81·6	81·5	81·3	81·5	81·3	80·8	81·0	81·6	82·7	82·8	83·2	83·9	83·3	83·1	82·5	82·5	82·5	82·5	82·5	81·4	80·6	79·4	82·0	
9	78·6	77·5	77·3	78·1	78·2	79·4	80·7	81·3	82·2	82·8	83·4	83·3	83·4	83·3	82·9	83·2	83·4	83·4	83·5	84·0	84·4	84·7	84·8	85·1	81·9	
10	85·3	85·4	85·4	84·6	84·8	84·5	84·3	84·4	84·5	84·6	84·6	85·3	85·2	85·2	84·8	84·5	84·8	83·8	83·1	83·0	83·1	82·6	82·9	82·8	85·5	84·3
11	81·9	82·1	82·3	82·5	82·2	81·1	80·7	79·8	79·7	80·1	81·5	82·7	83·3	83·6	83·3	83·2	82·5	82·5	82·5	82·3	82·2	82·0	82·5	82·6	82·0	
12	82·9	82·9	82·9	82·9	83·2	83·2	83·3	83·5	84·0	84·3	84·3	84·7	84·9	84·6	84·5	84·4	84·2	84·1	84·2	84·3	84·3	84·3	84·5	84·5	83·9	
13	84·5	84·5	84·5	84·5	84·5	84·5	84·4	84·5	84·5	84·6	84·7	84·9	84·9	84·9	85·0	84·9	84·8	84·9	84·9	84·9	84·8	84·7	84·7	84·7	84·7	
14	84·6	84·6	84·5	84·3	84·1	84·0	83·8	83·2	82·5	82·9	83·7	83·9	84·1	84·2	84·3	84·0	83·2	83·2	83·2	81·5	80·4	79·6	79·2	79·4	83·0	
15	78·1	77·8	77·7	77·8	77·8	77·6	77·2	78·4	78·2	79·4	81·3	82·4	83·0	83·8	83·9	83·7	83·2	83·3	83·3	83·3	83·2	83·0	83·2	83·2	80·9	
16	82·9	82·6	82·4	82·3	82·1	81·8	81·5	81·5	81·7	82·2	82·2	82·6	83·0	83·0	83·0	82·8	82·3	80·6	80·2	80·4	80·2	80·4	80·3	80·4	81·8	
17	80·5	80·9	81·2	81·3	81·5	81·6	81·5	81·5	82·0	82·2	82·7	82·9	83·2	83·4	83·6	83·6	83·5	83·5	83·5	83·5	83·2	83·2	83·0	82·2	82·4	
18	82·1	82·6	82·7	82·9	83·1	83·1	83·4	83·9	84·1	84·3	84·2	84·3	84·5	83·5	83·4	83·3	82·6	81·8	81·8	81·3	80·7	81·1	81·1	80·7	82·8	
19	80·5	80·7	81·7	81·3	81·3	80·8	80·9	83·1	83·5	83·5	83·4	83·6	83·2	82·7	83·1	83·1	83·1	82·4	83·1	83·0	83·0	82·4	82·4	82·3	82·4	
20	82·1	81·5	81·0	81·0	80·8	81·3	81·4	81·3	81·4	81·4	82·4	82·5	82·9	82·5	82·0	82·0	81·7	81·6	81·6	81·6	81·5	81·8	81·6	81·5	81·8	
21	81·5	81·7	81·4	81·3	81·0	80·9	80·9	80·9	81·0	81·5	81·9	82·1	82·2	82·3	82·4	82·2	81·6	81·8	81·3	80·9	80·8	81·3	81·2	81·2	81·5	
22	81·4	81·5	82·2	82·3	81·6	81·5	82·2	82·6	82·7	82·7	83·3	83·5	83·9	83·9	83·5	83·1	82·7	82·6	82·7	82·7	82·6	82·8	82·7	82·6	82·6	
23	82·6	82·4	82·5	82·6	82·3	82·5	82·6	82·6	82·7	83·2	83·5	83·7	83·7	83·5	82·5	82·3	82·0	81·8	81·7	81·7	81·6	81·5	81·4	81·3	82·5	
24	81·1	81·1	81·2	80·9	81·2	81·4	81·3	81·2	81·4	81·5	82·1	82·7	83·3	83·5	83·6	83·5	83·4	82·8	82·3	82·2	82·1	81·9	81·6	81·7	82·0	
25	82·4	81·5	80·9	79·6	79·0	77·9	78·5	78·3	78·9	79·6	80·7	81·5	82·6	83·1	82·8	82·0	81·0	80·2	79·1	78·2	76·8	76·5	76·0	76·0	79·9	
26	75·8	76·5	77·3	78·2	78·5	78·5	79·0	80·3	82·1	82·6	83·2	83·7	83·6	83·6	83·5	83·1	82·9	82·6	82·5	82·6	82·3	82·5	82·5	82·4	81·1	
27	82·3	82·5	82·7	82·8	83·1	83·1	82·9	82·9	83·1	83·4	83·5	83·6	83·6	83·5	83·5	82·9	81·9	81·4	82·2	81·2	79·9	78·6	77·8	76·2	82·1	
28	76·5	76·4	76·9	76·5	77·7	78·2	78·7	80·2	82·0	82·9	83·4	83·7	83·9	83·9	83·6	83·5	83·5	83·3	83·5	83·5	83·5	83·5	83·5	83·5	81·3	
29	83·1	83·1	83·4	83·3	83·3	83·0	82·6	82·1	81·9	81·6	81·9	82·3	82·4	82·5	82·7	82·3	82·1	81·5	81·9	81·3	81·6	82·0	82·3	82·3	82·4	
30	82·4	82·0	82·4	82·2	82·6	82·9	82·9	82·8	83·1	83·3	83·4	83·5	82·7	83·3	83·1	82·8	82·7	83·1	83·2	83·3	83·0	83·0	83·0	83·0	82·9	
Mean	...	81·3	81·3	81·5	81·4	81·3	81·3	81·4	81·7	82·1	82·7	83·0	83·2	83·2	83·0	82·7	82·4	82·1	82·0	81·8	81·7	81·6	81·5	81·4	82·0	

297. Cahirciveen (Valencia Observatory) : North Wall Screen : h_t = 1·3 metres.

December, 1922.

Day.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
1	83·1	82·6	83·4	82·8	83·3	82·5	82·9	83·1	83·2	83·4	83·4	83·3	83·2	83·2	83·3	83·2	83·0	83·2	83·1	83·0	82·9	83·0	82·7	83·1	
2	82·5	82·8	82·5	82·5	82·5	82·6	82·9	82·9	82·9	83·0	83·2	83·3	83·2	83·1	82·8	82·6	82·4	82·4	82·2	81·9	81·5	81·4	81·1	81·1	
3	80·8	80·8	80·8	80·8	80·8	80·4	80·6	80·8	81·4	81·8	82·2	82·7	82·7	82·7	82·7	82·5	82·1	81·6	81·0	81·1	81·1	81·1	81·0	81·3	
4	81·4	81·3	81·4	81·8	81·4	81·4	81·3	80·8	81·5	81·5	81·9	82·9	83·1	83·4	83·4	82·8	82·8	82·5	82·4	82·4	82·5	82·5	82·3	82·5	
5	82·5	82·3	82·3	82·4	82·5	82·5	82·6	82·6	82·5	82·9	83·6	83·6	83·8	84·1	84·0	84·0	83·4	83·3	83·5	83·3	82·9	82·8	82·1	82·1	
6	81·6	81·4	80·0	79·5	78·6	77·0	80·1	81·0	81·5	81·7	81·8	82·1	82·3	82·4	82·4	82·1	81·8	81·8	81·3	80·2	79·5	78·4	77·2	76·3	
7	75·6	76·5	77·1	77·3	78·4	78·9	79·3	80·0	80·3	80·5	82·1	82·6	82·7	83·0	82·9	82·6	82·6	82·5	82·4	82·9	82·9	82·9	82·8	82·8	
8	83·1	83·3	83·4	83·4	83·4	83·4	83·6	83·5	83·4	83·5	83·2	83·3	83·6	84·0	83·2	82·9	82·7	82·5	81·9	81·4	81·6	80·2	80·5	80·5	
9	79·7	79·0	77·3	76·6	76·5	76·9	77·4	78·1	78·9	79·5	80·5	81·4	82·1	82·4	82·3	82·2	81·8	81·5	81·5	81·3	81·3	81·2	81·0	80·8	
10	80·9	80·7	80·5	80·4	80·4	81·4	81·6	81·6	81·7	81·9	82·1	81·9	82·1	82·3	82·3	82·3	82·4	82·4	82·4	81·8	81·9	82·4	82·3	82·3	
11	82·2	82·4	82·3	82·3	82·3	82·4	82·7	82·9	83·0	82·8	82·4	82·2	82·4	82·7	82·7	82·8	83·1	83·4	83·6	83·8	83·9	83·9	84·2	82·8	
12	83·4	83·5	83·5	83·9	84·0	83·9	84·1	84·2	84·2	84·3	84·6	84·8	85·0	85·2	85·2	85·3	85·2	85·4	85·4	85·0	85·1	85·3	85·4	85·5	
13	85·7	85·7	85·8	85·4	85·5	85·7	83·4	82·9	83·5	84·8	85·2	85·3	85·3	85·3	85·3	85·2	85·3	85·5	85·2	81·9	84·6	84·5	83·7		

TEMPERATURE : ANNUAL MEANS OF HOURLY VALUES.

From readings, in degrees absolute, at exact hours, Greenwich Mean Time.

298. Cahirciveen (Valencia Observatory) : North Wall Screen : h_t = 1.3 metres.

1922.

Table with 25 columns labeled 1-24 and Mean, and 2 rows of temperature data.

TEMPERATURE : MONTHLY MEANS AND DIURNAL INEQUALITIES.

The departures from the mean of the day are adjusted for non-cyclic change.

299. Cahirciveen (Valencia Observatory) : North Wall Screen : h_t = 1.3 metres.

1922.

Large table with 26 columns (Month, Mean, Hour 1-24) and 12 rows of monthly temperature data.

ABSOLUTE EXTREMES OF TEMPERATURE FOR EACH DAY.

Maximum and minimum for the interval 0 h. to 24 h., Greenwich Mean Time.

300. Cahirciveen (Valencia Observatory) : North Wall Screen : h_t = 1.3 metres.

1922.

Large table with 26 columns (Month, Day, Max, Min) and 31 rows of daily temperature extremes.

NOTE.—The initial 2 or 3 of the reading is omitted, i.e., 275.0 degrees absolute is written 75.0.

Percentages, at exact hours, Greenwich Mean Time, determined as explained on page 13.

301. Cahirciveen (Valencia Observatory) : North Wall Screen : ht (height of thermometer bulbs above ground) = 1.3 metres.

January, 1922.

Day.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.	Vapour Pressure.*
1	95	96	88	88	88	88	88	88	90	88	87	89	89	88	88	86	88	89	89	86	86	88	89	89	88.7	mb. 12.0
2	89	88	89	88	90	95	95	95	96	92	92	91	86	78	82	90	92	83	81	77	71	67	75	70	85.9	11.0
3	68	72	74	66	66	69	66	77	75	69	72	80	83	74	77	74	70	79	75	77	72	68	72	73	72.8	7.8
4	70	60	66	66	68	69	68	64	71	76	73	70	80	73	67	77	80	76	77	76	81	74	74	76	72.1	7.0
5	77	77	81	77	78	83	80	82	83	86	82	78	78	80	82	86	88	83	83	85	83	76	78	88	81.2	8.2
6	88	88	86	89	93	92	88	90	93	80	77	81	81	92	87	94	89	94	97	97	96	97	96	92	89.8	10.2
7	88	77	76	78	78	80	86	84	86	89	90	90	91	91	87	90	87	86	85	90	94	94	90	92	86.6	10.2
8	90	92	83	82	79	79	78	77	82	79	82	85	84	83	87	90	93	93	96	94	98	94	91	88	86.7	10.8
9	87	89	87	90	91	89	88	91	84	86	84	88	88	93	94	94	93	90	90	84	83	80	74	79	87.5	11.6
10	78	82	81	88	90	78	75	80	82	81	77	75	73	71	74	77	67	69	67	72	70	76	69	68	76.1	8.5
11	74	78	76	78	79	77	72	72	70	74	72	68	66	65	66	69	71	69	68	75	70	72	65	71	71.5	7.5
12	74	65	69	71	70	74	78	76	79	78	72	71	71	71	71	68	68	71	70	66	71	76	78	82	72.3	6.2
13	88	90	94	88	89	85	80	77	76	75	68	74	66	66	68	70	78	72	75	64	67	71	72	75	76.3	7.6
14	73	74	72	81	82	80	75	75	77	75	78	78	66	78	82	83	86	89	88	88	88	89	93	94	80.9	8.2
15	96	97	96	97	97	97	95	95	88	89	78	62	78	82	75	84	79	72	66	68	74	67	81	80	83.0	8.4
16	76	84	80	76	86	70	81	80	83	78	84	86	77	74	78	76	74	70	81	76	78	84	68	76	78.2	6.0
17	80	71	67	78	70	84	70	70	74	85	72	68	65	63	70	75	79	78	75	83	88	94	92	90	76.4	6.9
18	96	92	94	84	82	76	71	71	71	72	78	79	84	88	89	89	92	86	86	88	91	91	90	88	84.5	8.5
19	90	92	86	88	86	87	84	79	86	84	86	91	90	90	82	78	80	77	78	80	76	79	78	86	83.9	6.3
20	88	90	88	90	90	90	90	86	82	80	67	80	80	79	85	86	86	88	87	86	89	96	96	92	86.6	6.7
21	90	90	92	88	87	89	82	75	69	68	71	71	78	67	66	72	72	81	82	86	84	85	86	88	80.0	8.8
22	86	88	88	86	87	84	84	82	80	79	79	77	76	77	78	79	79	79	86	84	83	80	79	82	81.9	10.1
23	86	83	80	80	77	75	76	76	75	74	74	74	71	71	71	71	74	75	74	75	74	76	72	73	75.5	9.3
24	73	73	74	76	78	82	77	76	73	73	73	72	74	74	80	76	78	82	77	76	78	80	82	82	76.4	7.1
25	80	84	82	85	85	82	87	82	84	82	82	80	84	88	89	85	90	90	90	90	85	82	72	77	84.1	7.5
26	78	81	82	90	92	87	88	88	88	89	88	83	80	78	79	83	83	84	90	89	79	78	76	78	83.8	9.5
27	78	78	77	76	82	77	80	81	79	86	84	85	87	86	87	84	83	84	80	77	86	89	89	92	82.5	9.1
28	93	93	92	93	96	92	94	93	92	86	84	82	84	82	86	92	93	96	92	90	90	90	89	89	90.2	9.6
29	88	88	82	78	84	86	89	89	86	88	89	89	86	86	85	82	85	82	95	90	92	93	88	89	87.0	8.9
30	88	92	86	86	88	77	86	88	79	83	86	84	89	87	88	89	89	85	85	89	88	88	86	92	86.5	9.1
31	92	92	89	92	92	86	88	86	90	84	89	89	85	79	83	74	63	68	72	71	68	72	69	74	81.5	8.4
Mean ...	83.8	83.7	82.5	83.0	83.9	82.5	81.9	81.6	81.5	81.0	80.0	79.3	79.7	79.2	80.1	81.5	81.5	81.4	81.7	81.7	82.0	80.9	82.8	81.6	†8.6	
Vapour Pressure* ...	mb. 8.7	mb. 8.7	mb. 8.6	mb. 8.6	mb. 8.7	mb. 8.6	mb. 8.4	mb. 8.4	mb. 8.4	mb. 8.4	mb. 8.4	mb. 8.4	mb. 8.6	mb. 8.5	mb. 8.6	mb. 8.5	mb. 8.4	mb. 8.4	mb. 8.4	mb. 8.4	mb. 8.5	mb. 8.5	mb. 8.4	mb. 8.6	mb. †8.5	

302. Cahirciveen (Valencia Observatory) : North Wall Screen : ht = 1.3 metres.

February, 1922.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.	Vapour Pressure.*
1	77	77	75	80	84	84	86	90	89	84	82	80	78	81	84	90	92	86	89	90	92	94	100	98	85.6	9.1
2	97	97	98	94	92	92	94	94	92	84	85	91	92	92	90	88	86	86	86	87	88	83	83	83	90.1	11.7
3	87	86	79	77	81	81	83	81	87	85	82	82	86	86	89	87	76	78	75	80	76	71	75	70	81.1	9.5
4	68	66	66	65	70	73	67	70	68	69	73	67	69	69	76	73	71	73	71	76	72	71	78	74	70.5	7.3
5	78	81	76	78	80	80	80	82	86	85	86	82	81	75	75	78	81	80	81	81	81	77	76	74	79.8	7.2
6	76	76	78	81	81	78	81	77	80	76	78	75	76	78	78	79	78	80	89	90	90	90	92	92	80.8	8.8
7	87	87	80	77	76	77	84	88	89	80	78	76	76	77	76	80	84	90	90	92	93	96	97	97	84.4	9.7
8	96	96	94	96	97	94	94	94	94	94	93	87	86	85	84	88	90	93	90	90	86	83	80	78	90.6	10.1
9	78	72	76	80	80	77	75	79	74	75	72	71	70	70	71	71	75	70	75	75	75	77	74	74	74.5	8.1
10	77	77	76	76	78	77	80	81	78	78	76	74	78	77	78	79	80	80	78	80	79	79	79	80	78.0	8.0
11	80	78	78	77	77	78	81	81	78	78	78	76	80	81	79	80	80	76	74	72	72	75	73	73	77.4	8.9
12	73	74	80	87	86	88	92	90	90	89	89	89	84	80	75	68	64	64	66	72	80	72	70	80	79.0	8.3
13	79	74	78	77	82	80	76	74	79	62	58	64	71	73	76	70	75	81	81	86	88	88	90	90	77.0	6.9
14	92	92	91	90	90	88	87	84	80	78	78	79	80	88	93	94	94	93	94	96	97	97	94	94	89.0	8.4
15	96	94	94	92	88	91	90	92	90	88	84	81	84	85	86	90	88	90	91	91	94	95	97	97	90.3	10.4
16	94	93	96	94	94	93	93	92	92	88	93	92	88	84	83	86	88	86	89	88	86	86	88	90	90.0	9.9
17	90	88	90	86	86	86	81	80	71	68	68	67	82	86	83	84	87	82	84	86	80	79	72	71	81.1	7.1
18	78	75	76	74	76	86	82	79	88																	

Percentages, at exact hours, Greenwich Mean Time, determined as explained on page 13.

303. Cahirciveen (Valencia Observatory) : North Wall Screen : ht (height of thermometer bulbs above ground) = 1.3 metres.

March, 1922.

Day.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.	Vapour Pressure.*
1	81	84	87	87	87	87	87	87	91	87	71	76	79	83	79	82	86	86	71	60	60	63	71	85	79.9	7.5
2	84	76	79	82	76	81	81	84	86	81	84	82	91	93	95	93	93	96	95	95	96	96	92	90	87.4	9.7
3	91	92	92	92	91	88	88	88	88	83	84	88	85	86	86	85	83	82	87	88	82	80	85	86	86.7	10.7
4	80	79	86	81	78	81	76	76	73	71	71	76	73	68	70	71	76	77	79	82	75	87	91	92	77.7	8.3
5	93	92	91	92	89	89	92	91	93	91	84	83	77	72	71	72	74	71	73	78	73	67	75	71	81.9	9.2
6	72	71	77	76	80	78	83	88	77	76	87	90	90	90	87	80	83	81	86	78	75	77	77	74	80.5	8.1
7	78	80	76	75	73	79	74	77	86	81	76	75	80	78	76	79	81	80	82	83	82	83	86	87	79.2	7.6
8	85	83	81	77	76	68	68	73	66	66	62	61	63	62	65	60	66	66	67	69	72	73	75	71	70.1	6.8
9	81	76	76	82	87	85	72	74	79	72	73	77	79	69	85	83	82	73	72	70	68	64	61	68	75.5	7.0
10	66	64	61	65	63	67	67	69	66	65	64	62	62	63	63	65	69	71	72	66	67	69	71	72	65.9	6.2
11	78	75	73	76	81	81	83	80	80	73	73	70	73	75	75	77	74	80	76	77	76	76	78	75	76.4	8.3
12	75	78	77	80	83	83	89	80	79	75	77	78	81	83	85	85	86	88	83	80	81	81	80	80	81.0	9.3
13	85	85	87	84	86	85	82	83	77	76	76	77	70	69	70	68	70	67	69	76	78	77	81	85	77.5	8.9
14	87	85	88	84	85	86	85	79	82	67	70	65	66	68	69	71	74	72	72	77	80	81	84	81	77.5	8.3
15	85	86	85	82	83	83	81	79	76	72	69	66	65	63	63	64	69	74	77	79	77	78	79	80	75.6	9.0
16	79	79	80	82	81	82	80	74	73	74	67	69	70	71	69	72	70	73	75	78	78	79	78	77	75.4	8.5
17	77	75	65	65	66	70	68	72	75	71	69	68	67	66	71	76	76	79	79	78	79	78	79	78	72.8	8.3
18	77	79	78	78	77	77	78	72	73	74	75	73	74	73	73	72	71	73	75	75	74	77	83	82	75.5	8.2
19	79	81	78	78	77	76	83	83	85	76	75	73	69	66	70	70	72	75	77	82	77	79	77	75	76.5	8.0
20	68	66	70	69	65	69	73	71	67	67	62	62	62	62	59	57	60	60	64	64	66	73	74	71	66.1	6.4
21	71	66	67	69	70	71	72	71	71	64	62	62	56	56	55	52	53	51	57	61	65	65	65	68	68.4	5.8
22	71	69	68	71	68	72	75	72	72	75	69	64	58	55	57	63	61	63	62	67	69	71	75	77	67.5	5.5
23	73	73	75	67	75	76	81	83	75	72	63	61	62	68	64	70	73	75	77	79	81	85	91	86	74.2	6.8
24	90	81	82	85	85	91	92	86	78	83	75	77	68	65	71	69	72	76	81	79	71	74	74	83	78.7	8.2
25	77	69	68	73	67	67	72	77	73	69	68	78	66	75	74	69	79	80	81	75	83	77	77	74.2	6.5	
26	73	74	71	71	69	73	80	70	68	70	68	73	75	74	68	69	69	70	72	75	76	75	80	81	72.6	7.5
27	73	85	83	75	74	79	77	76	75	73	76	79	61	60	63	73	66	71	66	63	66	66	67	64	71.6	6.7
28	67	71	68	68	66	69	66	68	70	68	70	68	69	65	60	55	56	58	61	68	78	77	78	76	67.3	6.5
29	76	76	75	77	75	75	74	73	72	69	68	67	68	65	62	63	63	68	69	68	73	73	75	77	70.9	7.1
30	77	79	77	76	75	76	77	72	72	70	70	67	68	66	66	65	70	80	81	79	80	82	82	83	74.5	8.4
31	85	89	89	87	89	86	82	64	73	79	82	73	70	61	58	65	68	70	73	73	74	75	79	76	76.0	7.0
Mean ...	78.4	78.0	77.7	77.6	77.3	78.1	78.5	77.2	76.6	73.9	72.4	72.3	70.9	70.0	70.3	70.8	72.4	73.7	74.5	74.9	75.2	76.3	78.2	78.3	75.2	†7.7
Vapour Pressure* ...	mb. 7.6	mb. 7.6	mb. 7.5	mb. 7.4	mb. 7.3	mb. 7.3	7.3	mb. 7.3	mb. 7.6	mb. 7.7	mb. 7.8	mb. 7.8	mb. 7.9	8.0	mb. 7.9	mb. 7.9	mb. 7.9	mb. 7.9	mb. 7.8	mb. 7.8	mb. 7.6	mb. 7.6	mb. 7.7	mb. 7.6	mb. 7.6	†7.6

304. Cahirciveen (Valencia Observatory) : North Wall Screen : ht = 1.3 metres. April, 1922.

Day.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.	Vapour Pressure.*
1	72	73	73	77	77	79	79	73	68	64	63	57	60	59	61	58	59	59	58	62	62	63	64	67	66.3	5.2
2	68	68	65	65	68	69	69	71	71	69	70	69	68	71	67	67	65	62	64	62	63	65	68	69	67.3	5.8
3	71	73	73	73	75	76	73	76	73	69	65	61	58	56	59	58	60	64	65	68	68	74	79	67.4	5.7	
4	80	83	87	82	80	79	84	81	70	68	67	79	72	69	74	71	70	77	75	78	82	82	87	90	77.6	7.2
5	87	87	89	90	90	88	89	91	87	86	79	71	76	76	73	73	71	68	73	75	75	77	81	83	80.8	7.8
6	85	85	87	85	87	87	89	92	85	75	69	66	65	64	67	67	68	68	66	69	72	72	72	72	75.6	6.7
7	72	77	78	82	81	83	83	85	82	81	82	82	76	77	82	85	83	83	81	79	73	73	77	71	79.5	7.5
8	71	64	63	70	73	78	67	63	74	64	63	66	65	65	59	64	67	71	74	75	75	75	79	83	69.3	6.9
9	81	85	69	73	82	78	79	82	73	73	66	71	70	70	71	70	67	70	77	83	85	87	85	87	76.3	7.7
10	87	84	83	82	75	74	81	68	67	65	65	58	57	54	54	57	59	66	65	70	71	73	76	80	69.8	7.1
11	83	81	86	87	80	83	83	76	76	67	67	87	87	87	90	86	83	76	76	87	71	76	79	83	80.5	7.7
12	85	85	87	87	87	89	87	73	75	73	82	87	83	82	87	87	79	70	73	78	73	78	73	75	80.8	6.6
13	74	80	82	83	87	85	91	91	86	81	79	76	75	73	73	72	70	70	79	82	78	78	76	78.9	7.3	
14	76	80	77	76	85	89	87	89	89	91	88	93	95	88	82	88	87	91	88	83	87	89	88	77	85.9	8.5
15	85	81	83	81	77	76	72	74	72	72	72	76	76	78	72	76	76	76	71	67	71	79	69	68	75.2	7.6
16	64	65	67	66	69	70	75	63	66	70	65	65	73	66	71	68	65	67	67	69	70	78	70	72	68.3	6.6
17	75	68	69	71	73	76	82	78	63	64	64	67	65	64	64	64	65	66	73	81	84	75	83	83	71.3	7.2
18	85	81	83	83	82	85	83	78	72	67	69	68	69	67	64	68	73	76	78	83	84	84	85	86	77.4	7.8
19	85	86	85	86	86	85	84	82	81	76	77	79	79	83	89	93	95	96	95	95	95	96	97	97	87.4	10.0
20	99	92	92	92	87	86	85	78	75	72	70	66	63	67	66	66	70	67	75	83	86	87	89	91	79.5	9.1
21	91	91	91	93	96	95	91	92	93	92	91	78	67	64	66	66	70	77	73	73	83	71	76	75	81.8	9.3
22	81	76	83	80	87	91	91	91	88	89	91	89	89	89	87	85	90	84	88	91	88	91	89	87	87.1	9.9
23	80	78	81	81	79	83	84	88	93	84	86	83	81	79	78	77	71	76	70	79	71	79	70	71	79.6	9.6
24	72	71	75	79	74	74	79	87	70	78	74	80	71	69	68	70	68	70	73	69	73	69	69	75	73.1	7.9
25	77	76	82	78	83	84	87	89	91	93	9															

RELATIVE HUMIDITY.

Percentages, at exact hours, Greenwich Mean Time, determined as explained on page 13.

305. Cahirciveen (Valencia Observatory) : North Wall Screen : h_t (height of thermometer bulbs above ground) = 1.3 metres.

May, 1922.

Day.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.	Vapour Pressure.*	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	90	91	94	94	89	73	71	69	71	68	72	92	96	92	92	89	88	91	91	89	89	87	88	85	6	9.1	
2	92	91	91	88	86	83	92	93	95	89	83	83	79	74	73	71	77	83	82	87	88	89	91	95	85.7	10.3	
3	96	97	96	96	96	92	91	90	90	87	90	82	82	81	79	79	77	79	82	84	89	92	88	87	87.7	11.5	
4	87	84	87	83	81	83	74	78	75	73	70	72	72	74	70	71	73	72	73	74	77	86	87	86	77.6	9.1	
5	86	89	86	79	80	80	80	79	78	76	73	72	70	69	75	75	76	81	86	90	91	89	87	87	80.6	10.0	
6	87	87	87	86	86	87	89	91	95	95	95	96	96	95	96	95	97	96	96	96	97	96	97	97	92.9	12.3	
7	96	97	96	99	99	99	96	91	92	91	90	88	87	85	85	81	76	79	82	87	86	87	89	88	89.6	12.1	
8	91	96	96	96	94	97	99	99	97	95	90	92	89	88	85	84	79	81	85	88	89	90	92	92	90.9	11.9	
9	92	95	92	93	95	93	91	73	69	61	66	69	74	77	81	79	86	90	91	92	95	93	96	95	84.9	12.9	
10	96	95	95	96	96	93	92	93	91	90	84	84	83	85	85	85	83	85	85	90	90	88	89	92	89.4	11.8	
11	92	92	92	90	81	74	76	74	73	73	70	68	66	65	64	64	59	63	64	68	68	71	71	78	73.5	9.9	
12	76	77	76	76	77	79	69	67	65	59	59	59	58	60	60	61	62	61	62	64	68	70	77	77	68.2	7.7	
13	74	75	76	81	82	79	73	68	65	62	60	60	63	61	63	61	61	62	64	68	70	67	74	75	68.5	7.8	
14	81	87	85	85	87	86	87	83	85	79	80	74	76	77	72	76	74	77	78	83	86	85	86	87	81.3	10.4	
15	89	90	90	89	86	81	76	76	72	74	72	71	71	72	72	77	80	82	85	90	91	93	93	95	81.8	11.0	
16	95	95	96	96	96	96	97	97	96	96	94	95	94	95	94	94	94	96	93	92	93	92	92	90	94.6	13.3	
17	92	90	90	91	91	92	92	89	86	85	79	79	80	87	89	87	81	81	83	85	84	82	84	84	86.0	12.0	
18	84	88	82	86	87	82	82	81	79	76	76	71	75	71	75	78	77	82	85	89	90	91	91	90	81.9	11.0	
19	93	93	94	94	93	91	92	93	91	86	85	84	81	84	83	85	87	91	93	96	97	97	96	95	90.5	13.8	
20	96	96	96	96	95	95	94	93	94	94	96	96	95	95	95	94	97	97	95	95	96	97	97	97	95.4	13.7	
21	97	97	97	97	97	97	97	97	97	96	97	96	96	96	95	95	95	96	99	96	95	97	96	96	96.5	14.0	
22	97	99	96	96	95	91	84	79	77	74	75	74	74	72	73	75	72	74	79	78	87	90	90	88	83.0	11.5	
23	88	87	88	89	87	87	90	92	92	92	85	76	72	70	70	68	69	70	70	73	85	85	91	87	81.8	11.3	
24	85	85	88	87	88	88	89	81	78	81	75	74	78	80	87	89	88	85	82	81	82	85	87	87	83.7	11.1	
25	88	93	96	96	97	97	95	93	93	88	88	85	81	84	82	84	84	85	88	88	93	94	95	95	89.9	13.8	
26	93	95	91	95	92	91	90	88	85	84	84	81	78	76	76	76	74	81	79	83	85	87	89	88	85.2	12.7	
27	91	91	91	95	93	92	89	85	77	73	73	81	77	77	76	76	75	78	77	79	84	86	86	88	82.9	11.5	
28	89	89	92	92	92	92	83	80	75	73	75	76	77	75	76	78	65	79	78	80	88	87	87	88	81.9	12.0	
29	89	89	92	91	93	89	82	80	74	71	68	62	65	69	69	67	65	67	73	75	84	82	85	85	77.8	12.2	
30	85	87	81	85	85	85	83	69	65	62	60	58	58	59	56	55	59	64	64	68	74	76	80	79	70.8	13.3	
31	82	79	69	69	73	75	65	67	59	51	48	49	52	49	48	46	44	48	50	53	55	63	65	55	59.4	12.8	
Mean ...	89.3	90.2	89.6	89.9	89.3	87.9	85.8	83.5	81.7	79.2	77.8	77.4	77.3	77.2	77.3	77.2	76.6	79.2	80.5	82.8	85.7	86.6	87.6	87.4	83.2	†11.5	
Vapour Pressure* ...	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	†11.6

306. Cahirciveen (Valencia Observatory) : North Wall Screen : h_t = 1.3 metres.

June, 1922.

I	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.	Vapour Pressure.*	
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	51	53	51	53	59	55	45	47	49	49	57	72	78	71	68	67	70	70	73	75	82	85	87	86	63.2	13.0
2	88	87	82	84	88	85	83	78	74	70	64	64	67	69	68	64	65	69	71	74	73	75	71	74.7	10.5	
3	74	65	73	64	67	70	60	68	63	60	60	63	63	59	65	62	57	66	68	71	75	78	83	82	67.1	9.2
4	85	85	83	85	87	88	86	81	78	73	67	68	68	69	70	69	70	75	79	88	89	88	84	88	79.2	11.0
5	84	83	81	83	86	89	90	81	69	67	71	64	65	69	67	61	61	64	69	73	75	78	81	81	74.7	11.0
6	80	86	87	88	86	89	85	77	74	69	64	64	66	67	69	65	63	67	71	80	84	89	89	76.0	11.9	
7	88	88	90	89	79	74	69	63	67	62	68	74	71	69	70	84	85	84	82	80	83	86	88	91	78.5	13.6
8	91	89	89	91	92	88	82	79	75	71	70	67	66	71	73	75	79	81	81	83	87	88	88	90	81.1	14.9
9	91	92	90	91	92	91	87	79	73	75	73	75	75	75	75	81	81	76	83	89	90	91	93	87	83.5	14.6
10	91	85	80	80	80	78	82	84	86	87	94	97	86	76	70	67	64	66	67	72	74	77	79	79	79.3	11.7
11	86	87	90	90	90	87	80	75	73	74	77	78	77	75	82	82	88	90	89	87	89	88	88	89	83.6	12.3
12	91	93	94	93	93	94	95	94	94	95	95	95	97	95	95	94	95	94	94	95	95	94	88	87	93.7	15.5
13	79	77	70	75	67	65	61	63	59	61	63	57	60	59	55	58	60	61	66	67	68	70	71	71	65.4	8.9
14	73	71	69	71	70	71	69	66	69	67	68	69	70	71	73	80	82	91	92	92	95	95	91	90	76.9	10.8
15	84	89	91	90	87	85	83	88	86	80	79	76	79	78	78	77	76	77	79	81	85	84	84	84	82.6	12.5
16	87	87	87	89	89	87	88	81	80	80	76	78	84	76	75	68	64	65	67	69	70	64	65	65	77.1	10.9
17	65	69	66	71	65	65	68	68	65	69	64	63	67	66	69	66	67	70	73	76	78	79	81	84	69.4	9.7
18	87	88	89	90	92	94	94	94	94	93	92	88	83	81	79	82	84	87	89	92	94	94	93	90	89.2	13.6
19	87	86	91	88	86	89	93	93	91	89	88	93	90	89	89	89	87	89	89	88	91	88	82	78	88.7	13.8
20	80	86	85	85	88	92	90	83	80	78	74	69	66	68	64	62	68	69	71	70	72	74	75	75	75.9	11.6
21	75	75	77	76	77	73	71	76	70	72	78	74	77	79	89	87	78	78	81	82	88	89	87	88	79.2	11.4
22	85	91	84	78	81	87	87	84	84	84	79	81	91	85	86	81	79	84	85	90	88	88	88	87	84.9	12.5
23	87	89	92	84	89	90	90	83	83	89	80	83	83	82	82	78	79	82	84	81	79	77	75	77	83.6	11.9
24	76	81	80	88	89	84	81	79	75	77	79	72	69	68	67	71	69	69								

Percentages, at exact hours, Greenwich Mean Time, determined as explained on page 13.

307. Cahirciveen (Valencia Observatory) : North Wall Screen : ht (height of thermometer bulbs above ground) = 1.3 metres.

July, 1922.

Table with 25 columns for hours (1-24), Mean, and Vapour Pressure. Rows include hourly data for days 1-31 and summary statistics.

308. Cahirciveen (Valencia Observatory) : North Wall Screen : ht = 1.3 metres.

August, 1922.

Table with 25 columns for hours (1-24), Mean, and Vapour Pressure. Rows include hourly data for days 1-31 and summary statistics.

* Computed from the mean temperature and mean relative humidities.

† Mean of the column.

‡ Mean of the row.

Percentages, at exact hours, Greenwich Mean Time, determined as explained on page 13.

309. Cahirciveen (Valencia Observatory) : North Wall Screen : ht (height of thermometer bulbs above ground) = 1.3 metres.

September, 1922.

Table for 309. Cahirciveen (Valencia Observatory) : North Wall Screen : ht = 1.3 metres. September, 1922. Columns: Day, 1-24, Mean, Vapour Pressure.*

310. Cahirciveen (Valencia Observatory) : North Wall Screen : ht = 1.3 metres.

October, 1922.

Table for 310. Cahirciveen (Valencia Observatory) : North Wall Screen : ht = 1.3 metres. October, 1922. Columns: 1-24, Mean, Vapour Pressure.*

* Computed from the mean temperature and mean relative humidities.

† Mean of the column.

‡ Mean of the row.

Percentages, at exact hours, Greenwich Mean Time, determined as explained on page 13.

311. Cahirciveen (Valencia Observatory) : North Wall Screen : ht (height of thermometer bulbs above ground) = 1.3 metres. November, 1922.

Table for 311. Cahirciveen (Valencia Observatory) : North Wall Screen : ht = 1.3 metres. November, 1922. Columns: Day, 1-24, Mean, Vapour Pressure* (mb.). Rows: 1-30, Mean, Vapour Pressure*.

312. Cahirciveen (Valencia Observatory) : North Wall Screen : ht = 1.3 metres. December, 1922.

Table for 312. Cahirciveen (Valencia Observatory) : North Wall Screen : ht = 1.3 metres. December, 1922. Columns: 1-24, Mean, Vapour Pressure* (mb.), Hour G.M.T. Rows: 1-31, Mean, Vapour Pressure*, Hour G.M.T.

* Computed from the mean temperature and mean relative humidities.

† Mean of the column.

‡ Mean of the row.

HUMIDITY : ANNUAL MEANS OF HOURLY VALUES.

223

From the monthly means for exact hours, Greenwich Mean Time.

313. Cahirciveen (Valencia Observatory) : North Wall Screen : ht = 1.3 metres.

1922.

G.M.T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Relative Humidity ...	% 84.4	% 84.3	% 84.1	% 84.3	% 84.4	% 84.3	% 83.8	% 82.9	% 81.6	% 79.9	% 78.7	% 78.0	% 77.6	% 77.3	% 77.7	% 78.3	% 78.6	% 79.7	% 80.6	% 81.8	% 82.7	% 83.1	% 83.6	% 84.0	% 81.5
Vapour Pressure in milli-bars ...	9.8	9.7	9.7	9.7	9.6	9.7	9.8	9.9	10.1	10.1	10.3	10.4	10.5	10.4	10.5	10.4	10.4	10.2	10.2	10.1	10.0	9.9	9.9	9.8	10.0

RELATIVE HUMIDITY : MONTHLY MEANS AND DIURNAL INEQUALITIES.

The departures from the mean of the day are adjusted for non-cyclic change.

314. Cahirciveen (Valencia Observatory) : North Wall Screen : ht = 1.3 metres.

1922.

Month.	Mean.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
Jan.	81.6	+1.9	+1.9	+0.7	+1.2	+2.1	+0.8	+0.2	-0.1	-0.2	-0.7	-1.7	-2.4	-1.9	-2.4	-1.4	-0.1	0.0	-0.1	+0.2	+0.2	+0.3	+0.6	-0.5	+1.4
Feb.	82.4	+1.7	+1.1	+0.7	+0.3	+0.9	+1.1	+1.2	+1.6	+1.3	-1.1	-1.5	-3.1	-2.6	-3.1	-2.7	-2.2	-2.1	-1.0	+1.1	+2.3	+1.5	+1.2	+1.4	+2.0
Mar.	75.2	+3.1	+2.7	+2.5	+2.3	+2.1	+2.9	+3.3	+1.9	+1.4	-1.3	-2.7	-2.9	-4.3	-5.1	-4.8	-4.3	-3.7	-1.3	-0.5	-0.1	+0.2	+1.2	+3.1	+3.3
April	76.5	+3.4	+3.0	+3.8	+3.4	+4.2	+5.0	+4.9	+3.8	+0.8	-1.9	-3.1	-2.8	-3.9	-5.0	-4.9	-3.8	-4.5	-3.6	-2.7	-0.7	-0.1	+0.5	+1.5	+2.9
May	83.2	+5.7	+6.6	+6.0	+6.3	+5.8	+4.4	+2.4	+0.1	-1.7	-4.1	-5.5	-5.8	-5.9	-5.9	-5.8	-5.9	-6.4	-3.7	-2.5	-0.1	+2.8	+3.8	+4.8	+4.7
June	79.4	+3.7	+4.1	+3.9	+4.1	+4.3	+3.3	+1.7	-0.1	-2.5	-3.4	-4.3	-5.1	-4.1	-4.5	-4.9	-5.3	-4.7	-2.7	-0.3	+1.7	+3.6	+3.9	+3.9	+3.6
July	82.2	+4.5	+5.3	+4.4	+4.9	+4.6	+3.9	+3.3	+1.5	-0.8	-3.3	-4.3	-4.3	-5.1	-4.9	-5.2	-5.1	-5.4	-3.3	-1.5	-0.7	+2.2	+3.0	+3.1	+3.3
Aug.	85.5	+3.3	+4.3	+4.1	+4.1	+4.2	+4.1	+3.5	+1.9	-0.5	-2.6	-4.2	-5.2	-6.3	-6.9	-5.6	-5.0	-4.9	-2.6	-0.5	+1.6	+3.0	+3.4	+3.3	+3.5
Sept.	86.2	+3.1	+2.2	+2.7	+2.5	+3.2	+2.9	+3.4	+2.9	+1.2	-0.8	-3.4	-4.4	-5.1	-5.1	-4.0	-3.9	-2.5	-1.7	-1.3	+0.6	+1.5	+1.3	+2.2	+2.5
Oct.	78.3	+2.1	+2.5	+2.4	+2.6	+2.3	+2.1	+2.1	+1.7	+1.3	-0.9	-2.5	-3.5	-3.9	-4.9	-4.4	-3.5	-1.9	-0.5	-0.2	+0.5	+0.7	+1.6	+1.7	+2.1
Nov.	84.7	+1.2	+1.3	+0.8	+1.3	+1.7	+2.4	+2.3	+1.4	+0.9	+0.5	-1.6	-2.5	-2.8	-2.2	-1.6	-0.1	-0.1	0.0	-0.6	-1.5	-0.6	-0.9	0.0	+0.7
Dec.	82.6	+1.1	-0.4	-0.5	+0.5	0.0	+0.5	+0.1	-0.2	+0.3	+0.3	+0.7	+0.1	-0.6	-0.4	-0.7	+0.7	+0.5	-0.7	-1.3	0.0	-0.3	-0.6	+1.0	0.0
Year	81.5	+2.9	+2.9	+2.6	+2.8	+3.0	+2.8	+2.4	+1.4	+0.1	-1.6	-2.8	-3.5	-3.9	-4.2	-3.8	-3.2	-2.9	-1.8	-0.8	+0.3	+1.2	+1.6	+2.1	+2.5

RAINFALL : ANNUAL TOTALS OF HOURLY VALUES.

Amounts, in millimetres; durations, in hours, for periods of sixty minutes between the exact hours, Greenwich Mean Time.

315. Cahirciveen (Valencia Observatory) : H_r (height of receiving surface above M.S.L.) = H (height of station above M.S.L.) + h_r (height of receiving surface above ground) = 9.1 metres + 0.5 metres.

1922.

G.M.T.	0 to 1.	1 to 2.	2 to 3.	3 to 4.	4 to 5.	5 to 6.	6 to 7.	7 to 8.	8 to 9.	9 to 10.	10 to 11.	11 to Noon	Noon to 13.	13 to 14.	14 to 15.	15 to 16.	16 to 17.	17 to 18.	18 to 19.	19 to 20.	20 to 21.	21 to 22.	22 to 23.	23 to 24.	0 to 24.
Amount ...	mm. 79.5	mm. 82.7	mm. 71.4	mm. 61.7	mm. 62.4	mm. 55.3	mm. 52.2	mm. 54.0	mm. 49.8	mm. 52.3	mm. 40.0	mm. 39.3	mm. 37.0	mm. 42.4	mm. 44.8	mm. 53.0	mm. 52.5	mm. 45.8	mm. 59.3	mm. 49.8	mm. 55.9	mm. 67.9	mm. 68.3	mm. 80.7	mm. 1358.0
Duration ...	hr. 45.7	hr. 42.1	hr. 37.6	hr. 31.5	hr. 36.1	hr. 36.1	hr. 36.7	hr. 34.9	hr. 31.6	hr. 29.2	hr. 29.1	hr. 30.2	hr. 27.4	hr. 25.6	hr. 25.1	hr. 33.0	hr. 33.6	hr. 33.2	hr. 35.2	hr. 36.8	hr. 37.4	hr. 35.9	hr. 39.3	hr. 45.4	hr. 828.7

316. Cahirciveen (Valencia Observatory).

NOTES ON RAINFALL.

1922.

Notable Falls of the Year.—There were no falls of a particularly striking nature during the year. The greatest rainfall, both in amount and intensity, was experienced during the night of the 7th–8th July, when a total of more than 44 millimetres was recorded between 19 h. and 4 h. 30 m. The rain was most intense after midnight, more than 30 millimetres of the total falling between 0 h. 30 m. and 4 h.

Dry Periods.—There were no very long dry periods. Between the 10th and 22nd March only 0.6 millimetres of rain fell, during the night of the 14th–15th. Again, from the 27th May to the 6th June, inclusive, only 0.2 millimetres of rain were measured, on the 2nd June, a period of eleven days. Ten consecutive dry days were experienced in October, from the 15th to the 24th, inclusive.

Wet Periods.—Rain fell on every day between the 12th February and the 9th March, an interval of 26 days. Again, from the 11th to the 31st December rain was measured every day; this wet period continued until the 11th January, 1923, increasing the length of the whole wet interval to 32 days.

Amounts, in millimetres, for periods of sixty minutes, between the exact hours, Greenwich Mean Time.

317. Cahirciveen (Valencia Observatory): H_r (height of receiving surface above M.S.L.) = H (height of station above M.S.L.) + h_r (height of receiving surface above ground) = 9.1 metres + 0.5 metres. January, 1922.

Day.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	Dura- 0-24
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.
1	.1	.2	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.5
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.7
3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.7
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.7
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.0
6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.0
7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.3
8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6.4
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3.0
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.6
11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13	.3	1.4	7.8	4.4	3.2	2.3	.6	.7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6.9
14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.9
15	.9	1.0	1.3	2.6	1.7	1.2	2.8	5.2	0.5	1.0	0.2	0.3	...	...	...	...	...	...	...	...	...	...	...	...	...	11.4
16	.1	.7	.2	...	1.2	...	.1	...	1.1	...	.3	...	.8	...	...	...	.4	...	.5	.7	.6	...	...	.4	...	5.5
17	.3	.2	...	...	...	.5	...	.1	...	.5	.1	...	...	...	...	...	...	.1	...	...	1.4	5.7	1.8	.1	...	3.6
18	1.8	7.3	1.1	.1	...	.1	...	.1	...	...	...	...	.1	.7	.1	...	.3	.1	...	.2	.6	.4	.7	.8	...	5.8
19	.1	...	1.0	...	...	...	...	...	...	.8	1.7	1.6	.4	.5	.1	...	...	.3	...	...	...	.2	.3	.4	...	5.6
20	.1	.1	.2	...	...	1.0	...	...	...	...	...	.4	...	...	...	1.9	3.1	2.4	1.4	.5	1.0	2.9	.8	1.4	...	10.5
21	...	.6	2.9	...	2.9	.4	...	...	...	...	...	...	...	...	...	...	...	...	.1	...	.1	...	...	...	...	2.3
22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23	.2	.4	...	.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.9
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	...	...	...	...	...	.5	.6	.7	.1	...	.1	.1	.1	2.4	2.0	...	...	...	...	...	...	...	...	...	...	4.6
26	...	...	...	.6	.4	.4	...	...	...	...	...	...	...	.2	...	...	...	...	1.6	...	...	...	...	...	...	1.5
27	...	...	...	...	.4	.2	...	1.4	...	1.5	.2	.6	1.5	3.7	1.2	.9	1.9	.8	.1	...	...	...	...	...	...	11.1
28	...	.4	2.0	2.0	2.9	.4	.7	.8	1.8	...	1.6	.3	.9	.6	.8	4.4	4.2	6.8	...	...	...	.3	.4	.1	...	12.3
29	.6	.3	.1	...	...	...	...	.4	...	...	.7	.9	.4	...	...	...	...	...	...	...	...	...	...	...	...	3.0
30	.1	.6	...	.1	.1	1.5	...	.5	...	...	1.6	.4	.5	.1	...	...	.4	...	...	...	...	...	...	...	...	2.8
31	.4	...	.1	.4	...	...	...	1.2	.2	...	.2	.1	.5	...	.5	.3	...	...	...	.1	...	...	...	...	...	2.3
Sum.	5.0	15.7	17.4	11.7	13.2	8.9	5.3	11.4	3.9	4.4	7.0	4.9	5.7	9.3	5.7	10.9	15.9	11.6	5.7	2.5	5.1	9.7	4.6	3.8	199.3	109.2
Total Duration.	4.3	6.3	6.0	5.0	5.7	6.1	3.7	4.7	2.8	3.1	4.5	4.8	4.5	3.7	4.0	5.7	6.5	5.7	4.3	3.7	4.6	3.4	2.6	3.5	109.2	

318. Cahirciveen (Valencia Observatory): $H_r = 9.1$ metres + 0.5 metres.

February, 1922.

	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.	
1	...	...	...	.2	.1	...	.3	...	...	...	...	...	...	...	.3	.2	.6	1.7	2.8	2.7	3.0	.8	...	...	12.7	7.7
2	.1	.2	.2	...	...	1.6	.7	.6	.1	...	...	.1	1.1	1.0	.1	...	...	...	.2	.3	.3	...	...	...	...	3.9
3	.1	.1	...	...	.1	.4	...	.2	.2	...	.4	...	.4	...	1.3	1.3	...	...	.1	.1	...	...	...	...	...	2.8
4	...	...	...	...	...	...	...	...	...	...	.2	...	.2	.1	.1	...	...	...	.1	...	...	...	...	...	...	0.6
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.2	.3	.6	1.0	1.7	...	...	4.1
7	.3	.7	...	...	...	...	...	...	...	...	.3	...	...	...	...	...	1.7	1.8	1.9	1.8	4.1	.4	.2	...	...	8.0
8	.3	...	...	.4	...	...	...	...	...	...	.2	.2	...	...	.3	1.0	1.1	1.4	.3	...	...	...	...	...	...	5.5
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	...	...	...	...	...	...	...	.4	1.1	.6	.7	1.3	2.1	...	...	...	...	.1	...	...	.6	...	...	.1	...	4.4
13	.1	...	...	...	.6	.4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.7	...	1.2
14	...	.3	.1	.1	.3	.2	...	.5	.1	...	...	...	...	...	...	.2	.4	1.2	1.1	1.9	.6	...	.1	.2	...	6.3
15	...	.1	.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.2	1.3	.6	1.0	...	3.3
16	.9	.7	1.4	2.1	.3	...	...	.2	...	...	.5	.2	...	...	...	...	...	...	...	...	...	...	...	...	...	4.5
17	...	1.1	...	.3	2.0	.3	.1	.9	...	.5	...	...	.3	.4	.1	1.6	.7	...	.1	.2	.2	...	.1	...	...	3.3
18	...	...	...	...	.5	.3	...	...	...	...	.2	...	...	...	...	...	...	...	.1	.2	.2	...	.1	...	...	1.5
19	...	...	...	...	...	...	...	.4	...	.2	.4	.5	.1	...	...	...	...	...	.1	.1	...	...	...	...	...	2.2
20	.1	.6	...	...	...	...	.1	...	.2	...	...	.1	.6	...	...	.4	.2	...	1.3	...	...	2.7	1.1	...	...	3.3
21	.8	2.0	.2	2.6	.5	...	.2	...	...	...	.2	...	.2	.7	.7	...	.4	...	.8	...	...	.4	.2	.4	...	5.0
22	.1	...	...	...	...	.2	...	.2	1.6	.6	.2	.3	.9	1.1	...	2.2	2.7	.5	.3	.7	.2	.6	.2	.4	...	10.1
23	...	...	...	...	...	...	...	.2	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.6
24	...	.1	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.1	1.9	.2	...	.2	3.0	...	2.9
25	.8	2.3	2.8	3.3	2.5	2.6	.5	1.3	1.1	1.4	2.2	.5	.7	.2	...	.1	...	...	...	...	...	.7	1.8	1.8	...	16.1
26	1.4	6.1	.5	...	.6	...	...	...	...	...	1.1	...	.3	...	...	...	.1	...	.4	...	...	.2	10.7	10.7	...	3.1
27	...	...	...	...	...	1.6	1.0	...	.8	1.3	...	.2	...	.4	...	...	...	...	.1	...	...	.5	.3	...	...	2.3
28	...	.7	.3	...	...	...	.8	.8	...	...	...	...	...	...	...	...	...	.1	...	1.0	...	...	...	...	...	0.9
Sum.	5.0	15.0	5.8	9.0	7.5	7.6	3.7	5.7	5.8	5.2	5.7	3.3	6.7	4.0	2.2	6.6	5.6	5.4	9.9	12.1	7.3	13.8	7.1	10.0	170.0	103.6	
Total Duration.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	
G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24		

RAINFALL.

Amounts, in millimetres, for periods of sixty minutes between the exact hours, Greenwich Mean Time.

321. Cahirciveen (Valencia Observatory) : H_r (height of receiving surface above M.S.L.) = H (height of station above M.S.L.) + h_r (height of receiving surface above ground) = 9.1 metres + 0.5 metres.

May, 1922.

Day.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	Duration. 0-24	
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.	
1	.4	.8	.3	.1	...	...	...	...	...	...	...	.4	.7	1.3	.9	.3	...	...	.1	.1	...	...	...	...	5.4	5.9
2	1.3	1.9
3	.8	1.4	.4	...	.8	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.4	.1	.1	...	6.3	4.3
4	...	...	.2	...	.2	...	...	...	...	...	...	...	.2	...	...	...	...	...	...	...	.1	1.1	3.0	2.4	7.3	3.7
5	.3	...	1.1	.6	...	...	.2	.2	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.5	1.6
6	...	...	...	...	...	...	...	...	...	.5	.1	.7	.5	.1	...	...	...	...	...	...	.2	...	...	...	2.1	3.0
7	.1	.1	.2	.3	.1	.1	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.0	3.3
8
9
10
11
12
13
14	...	...	...	...	...	.4	.1	...	...	.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.8	0.5
15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.2	1.2	.4	.5	2.3	2.5
16	2.3	1.2	2.8	1.9	2.0	2.1	2.4	.1	...	...	...	...	...	...	.2	...	...	...	...	...	...	...	...	...	15.0	6.8
17	...	...	...	...	.1	.3	.2	...	...	...	...	...	...	.5	.5	.3	...	...	...	...	.1	...	...	...	2.0	1.6
18	...	1.1	...	...	.1	.3	...	...	...	...	...	...	...	...	...	...	...	...	.1	.2	.1	...	.3	.3	2.5	1.9
19	.2	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.8	.4	...	...	...	1.5	2.0
20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.0	5.6	2.0	3.5	2.2	.1	1.5	15.9	5.0
21	.1	.3	.1	.2	.3	.5	.2	.2	.2	...	...	...	...	...	.7	1.5	1.2	.6	.6	1.8	1.4	2.5	5.0	2.7	20.1	14.1
22	.5	.9	.5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.9	2.1
23	...	...	...	.1	...	...	.1	.1	.1	.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.7	0.9
24	...	...	.1	.1	.1	.1	...	...	.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.7	1.1
25	...	.1	.3	.1	.2	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.8	2.5
26	.4	.5	.6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.5	2.1
27
28
29
30
31
Sum.	5.1	6.5	6.6	3.4	3.9	4.0	3.5	0.7	1.3	1.2	0.3	1.1	1.4	1.9	2.3	2.1	1.2	1.6	6.4	4.9	8.4	7.1	9.0	7.7	91.6	66.8	
Total Duration.	hr. 5.2	hr. 6.0	hr. 5.5	hr. 3.3	hr. 4.2	hr. 3.4	hr. 3.2	hr. 1.0	hr. 1.2	hr. 0.9	hr. 0.5	hr. 1.2	hr. 2.2	hr. 1.4	hr. 2.3	hr. 1.8	hr. 1.0	hr. 1.4	hr. 2.3	hr. 3.2	hr. 3.8	hr. 3.7	hr. 3.1	hr. 5.0	hr. 66.8		

322. Cahirciveen (Valencia Observatory) : $H_r = 9.1$ metres + 0.5 metres.

June, 1922.

	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.	
1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	0.2
3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8	...	...	...	.1	.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.4	0.7
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.0	0.4
11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	...	...	...	...	.1	.2	.2	...	.2	.2	.1	.3	...	...	...	...	...	...	.2	...	.5	.8	.5	.2	3.5	4.4	
13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.1	.3	.3	1.5	.1	.2	...	2.5	2.9
15	.1	...	.2	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.4	0.5
16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20	...	...	...	...	...	.3	.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.6	0.9
21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.1	.2	...	...	0.6	0.6
22	...	.1	...	...	...	...	...	...	...	...	...	...	.1	...	.1	...	...	.3	.4	.5	...	...	...	...	...	1.5	0.9
23	.2	.3	.4	...	...	.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.2	0.7
24	...	...	...	...	.2	...	...	...	...	...	...	...	...	...	...	.2	...	.1	.1	...	.3	.1	.5	.4	...	1.9	1.4
25	...	...	...	...	.2	...	...	...	...	1.1	1.0	...	...	...	.3	...	1.0	.9	...	...	.2	...	.8	.4	...	5.9	4.5
26	.7	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.8	0.7
27	...	...	...	.1	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.2	0.3
28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.1	.8	1.4	...	...	...	...	2.3	1.0
29	.3	...	.4	.5	.6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.1	.5	...	...	.2	...	2.7	2.1
30	.1	...	...	.1	.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.7	1.3	3.9	4.7	12.4	4.7	
Sum.	1.4	0.5	1.0	0.9	1.7	0.7	0.6	0.1	0.6	1.4	1.1	1.2	0.2	0.1	0.5	0.3	1.0	1.4	1.1	1.7	6.2	2.5	5.9	5.9	38.0	26.9	
Total Duration.	hr. 1.1	hr. 0.3	hr. 1.0	hr. 1.0	hr. 1.7	hr. 1.1	hr. 0.8	hr. 0.2	hr. 0.8	hr. 1.2	hr. 0.5	hr. 0.5	hr. 0.2	hr. 0.1	hr. 0.8	hr. 0.3	hr. 0.7	hr. 1.1	hr. 1.0	hr. 1.7	hr. 3.6	hr. 2.1	hr. 2.7	hr. 2.4	hr. 26.9		
G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	—	

Amounts, in millimetres, for periods of sixty minutes between the exact hours, Greenwich Mean Time.

323. **Cahirciveen (Valencia Observatory) :** Hr (height of receiving surface above M.S.L.) = H (height of station above M.S.L.) + hr (height of receiving surface above ground) = 9.1 metres + 0.5 metres. **July, 1922.**

Day.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	Dura- tion. 0-24
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.
1	3.4	...	...	...	...	...	1	9	2	...	...	1.1	...	...	...	2	...	...	...	...	...	...	1	1	6.1	2.3
2	1.7	1	2	3	...	...	2	2	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	2.8	1.6
3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	5.6	7.5	1	13.9	2.4
4	...	2	1	...	2	1	2	...	1	...	...	...	...	...	...	2	...	1	...	...	...	...	...	...	1.1	0.9
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	1	...	...	9	...	...	...	1.2	0.8
6	4	...	...	1	...	2	...	1	...	...	...	...	...	1	...	...	...	7	4	...	...	8	...	1.8	4.6	1.8
7	4	1.1	1	2	...	2	...	1	...	...	...	...	...	...	...	...	...	...	1	6	1.2	1.5	3.6	3.6	12.7	6.2
8	6.9	5.8	10.7	7.7	2.5	...	3.1	3.3	2.8	4	...	4	8	3	...	3	2	...	...	1	...	...	...	45.3	10.3	
9	4	...	...	...	...	...	...	1.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.7	0.4
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	0.2	0.4
12	3	3	1	...	...	1	1	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.3	1.2
13	...	...	...	...	...	1.5	1.5	1	...	9	1.4	2.1	2.9	3	1	...	...	...	...	...	...	...	...	...	10.8	6.2
14	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	0.2
15	...	6	...	4	...	3	2	...	...	2	...	9	...	...	...	...	...	...	...	...	...	...	...	...	2.6	1.7
16	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.3	0.2
17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19	...	...	...	...	...	...	...	1.9	...	3	1.4	1.2	...	...	...	7	3	4	1.2	8	1	3	3	1	1.7	5.2
20	...	...	...	...	2	...	2	1.9	...	3	1.4	1.2	...	...	...	7	3	4	1.2	8	1	3	3	1	8.7	6.5
21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.7	2	...	...	...	...	1.9	0.7
23	4	...	1	1	3	...	5	3	...	...	...	...	...	...	2.2	1.4	5	...	...	...	...	...	...	...	5.8	3.8
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1.8	2.0	0.9
26	6	2	...	...	1.3	1.5	9	2.3	7	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7.7	5.1
27	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.2	0.2
28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	5	0.6	0.9
29	1.3	5	2	1	4	1	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	2.8	4.8
30	...	...	...	...	...	...	...	...	...	...	...	...	2.4	6	...	...	...	...	...	5	4	2	3	...	4.4	1.8
31	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	2	2	1	...	1.0	1.0
Sum.	16.1	9.0	11.7	8.9	5.0	4.1	7.0	10.8	4.0	2.0	2.9	5.7	3.7	3.1	2.9	2.8	1.2	1.6	3.7	3.1	8.8	10.6	4.8	8.0	141.5	67.5
Total Dura- tion.	hr. 5.3	hr. 3.2	hr. 3.4	hr. 3.0	hr. 2.2	hr. 2.8	hr. 3.6	hr. 4.2	hr. 2.5	hr. 1.9	hr. 1.4	hr. 3.2	hr. 1.8	hr. 2.6	hr. 0.7	hr. 2.3	hr. 2.3	hr. 1.6	hr. 2.9	hr. 3.1	hr. 3.9	hr. 3.7	hr. 2.3	hr. 3.6	hr. 67.5	

324. **Cahirciveen (Valencia Observatory) :** Hr = 9.1 metres + 0.5 metres.

August, 1922.

	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.
1	2	2.1	...	...	...	...	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.6	0.9
2	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2	1	1	3	4	1	1.6	2.6
3	1.0	9	8	1.9	3.6	1.3	1.8	3.5	1.9	2.5	5	1	...	...	1	1.8	1.8	1.7	3	...	...	...	...	25.5	13.6	
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	4	...	...	...	...	...	...	...	0.7	0.6
6	...	...	...	...	...	...	...	...	...	...	1	1	...	1	...	...	...	...	...	...	...	...	...	...	0.3	0.5
7	...	...	...	...	...	...	...	...	...	...	...	...	5.1	3.5	6	1.1	1.8	4	3	...	...	...	...	12.8	4.5	
8	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	0.2
9	...	...	...	3	...	...	1.2	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.8	1.3
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	5	5	1.7	1.5	1.1	5.7	5.6	
12	1.6	1.3	1.4	1.3	5.2	6.0	2.1	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...	19.5	7.1	
13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	3	1.0	4.1	2.4	8.1	3.2	
16	1.7	0.1	0.1	...	...	...	...	...	...	...	...	...	...	...	...	6	4	2	3	...	...	...	...	3.4	4.0	
17	...	...	2	...	2	...	...	2	...	2	...	6	2	1	...	...	...	...	...	...	...	1	...	1.8	1.5	
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	4	3	0.8	1.7	
19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	7	3	6	1.8	1.9	
22	4	1	1	...	...	...	...	...	...	1	1	...	...	...	3	1.2	9	1.0	1.3	9	2	...	...	6.6	6.5	
23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24	...	...	...	2	5	4	...	1.6	2	...	...	...	...	...	...	...	...	...	1	2	1	...	1	3.4	3.7	
25	1	1	1	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.5	0.5
26	...	...	...	...	2	4	7	2	3	1	4	2	8	5	7.5	1.0	5	8	6	5	...	...	...	14.7	11.0	
27	...	...	...	...	...	...	...	...	1	...	4	4	3	...	...	...	...	...	...	1.0	...	...	...	1.8	0.8	
28	...	3	2	...	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.8	1.4	
29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2.1	3.1	3.1	3.9	3.0	6	2	2	1	16.4	6.2
30	...	...	...	...	...	...	...	...	...	...	...	...	...	3	2	3	...	...	...	...	...	2	2	5	1.7	1.1
31	3	7	1	...	...	...	...	...	2	3	...	5	...	...	...	...	...	...	1	...	...	...	...	...	2.2	1.5
Sum.	5.3	5.7	3.0	3.8	9.4	8.5	6.5	4.3	4.3	3.4	1.1	1.3	1.7	0.7	13.2	7.2	7.8	9.0	10.5	6.8	4.4	4.2	7.1	5.5	134.7	81.9
Total Dura- tion.	hr. 4.2	hr. 3.8	hr. 2.5	hr. 2.3	hr. 2.6	hr. 4.7	hr. 4.3	hr. 2.8	hr. 3.5	hr. 2.1	hr. 1.9	hr. 1.8	hr. 0.9	hr. 0.4	hr. 2.1	hr. 3.6	hr. 4.3	hr. 5.8	hr. 5.7	hr. 5.7	hr. 4.7	hr. 3.2	hr. 5.0	hr. 4.0	hr. 81.9	
G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	—

RAINFALL.

Amounts, in millimetres, for periods of sixty minutes between the exact hours, Greenwich Mean Time.

325. Cahirciveen (Valencia Observatory) : H_r (height of receiving surface above M.S.L.) = H (height of station above M.S.L.) + h_r (height of receiving surface above ground) = 9.1 metres + 0.5 metres. **September, 1922.**

Day.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	Duration. 0-24	
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.	
1	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.3	0.4
2	2.0	1.7
3	6	5	5	1.5	1.9	8	3	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6.3	6.4
4
5	...	...	...	...	...	...	...	1	3	...	...	...	...	...	3	6	1	...	...	...	...	...	...	...	1.4	1.5
6
7
8
9	1	0.1	0.2
10
11	1	...	1	1	3.4	4.1	1.6
12	9	2.1	4	...	3	8	5	4	1.4	6	1	...	...	5	...	...	9	2	2	...	...	2	3	...	10.0	6.5
13	5	1	2.9	5.7	2.3	1.7	7	1	2	...	1.3	...	1	2	4	8	6	6	4	9	4	4	5	4	21.2	15.7	
14	7	1.5	2.1	9	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	3	...	...	5.8	3.9
15	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	0.6	1.5
16	4	4	2	2	3	4	5	4	2.8	4.0
17	5	1	...	...	...	...	1	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1.3	0.9
18	...	...	4	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	6	...	...	...	1.0	5	2.7	1.9
19	1.1	2	1.5	8	1.0	...	2	...	...	...	1.0	4	...	6	...	...	...	1	1	...	...	...	...	...	7.0	4.2
20	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	0.3	0.4
21
22
23
24
25	...	...	1.3	1.0	1.3	1.9	7	2	1.3	2.4	...	...	...	...	...	...	...	...	...	...	6	1	3	...	11.1	6.2
26	7	1.1	8	1.4	5	3	4	2	2	3	4	1.0	2	3	1.2	1.1	1.2	3	...	...	2.6	1.3	1.2	5	17.2	13.0
27	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.5	0.8
28
29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.3	5	1	4	1	7	1.3	2.1	2.1	9	9.5	6.5
30	5	3	...	...	...	...	1	...	...	...	...	...	8	2	...	3	...	...	...	...	...	...	...	...	2.2	3.3
Sum.	6.7	6.3	10.1	11.4	7.8	5.7	3.1	1.4	3.4	3.3	2.8	1.7	1.0	2.4	3.4	3.1	3.2	1.8	1.6	1.7	5.3	4.7	7.6	6.9	106.4	80.6	
Total Duration.	7.6	4.8	5.0	4.4	4.9	3.8	4.8	2.1	2.5	1.6	2.7	1.1	1.2	2.3	2.2	2.8	2.6	2.1	2.5	2.1	3.1	3.6	5.1	5.7	80.6	...	

326. Cahirciveen (Valencia Observatory) : $H_r = 9.1$ metres + 0.5 metres. **October, 1922.**

	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.	
1	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.2	...	
2	1	...	...	...	...	...	...	...	0.1	0.1
3	1.2	3.2	3.7	2	...	...	...	...	8.9	2.5
4	1	1	1	2	3	2	2	1	1	...	...	1.4	...	...	...	...	...	...	...	...	...	...	...	...	...	2.8	6.5
5	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	0.1
6
7
8
9
10
11	3	1	...	1	1	1	4	3	3	1.1	8	1.7	1.9	1.3	8.5	7.6	
12	7	7	4	...	...	1	8	3	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	3.3	5.0	
13	1	...	8	1.1	7	1.0	2	2	1	...	4	...	...	...	...	...	...	8	6.2	5.3	
14	1.7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.7	0.5
15
16
17
18
19
20
21
22
23
24
25
26	...	1	7	...	3	2	...	...	...	2	3	9	1.0	9	6	1.1	4	5	1	...	...	...	...	1	7.4	8.5	
27
28
29
30
31	3	...	...	...	4	1.6	...	...	...	1	1.1	6	1.3	2.4	2.7	5.9	16.4	7.0	
Sum.	2.5	1.0	1.2	0.2	0.6	0.6	1.7	0.5	1.2	1.5	1.4	2.0	3.0	2.8	0.8	1.2	1.2	2.2	4.7	5.4	2.3	5.2	5.4	8.7	57.3	43.7	
Total Duration.	1.7	1.9	1.8	0.5	1.2	1.2	2.1	1.7	1.2	1.3	2.2	1.9	1.9	2.0	1.3	1.2	1.7	1.7	2.5	2.9	2.2	2.3	2.6	2.7	43.7	...	
G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	—	

Amounts, in millimetres, for periods of sixty minutes between the exact hours, Greenwich Mean Time.

327. Cahirciveen (Valencia Observatory): H_r (height of receiving surface above M.S.L.) = H (height of station above M.S.L.) + h_r (height of receiving surface above ground) = 9.1 metres + 0.5 metres.

November, 1922.

Day.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	Duration. 0-24		
1	3.0	.1	.2	.3	.2	...	...	...	...	...	...	...	...	...	...	.1	...	.1	...	...	...	...	...	...	...	4.0	2.0	
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.4	...	...	...	...	...	...	...	2.0	3.3	5.7	2.2	
3	6.9	2.6	.4	...	...	...	...	...	...	...	...	...	...	...	...	...	.5	...	2.7	.6	...	...	...	...	...	13.9	4.0	
4	...	...	...	.3	...	...	...	...	...	...	...	...	...	...	...	...	.1	...	...	...	...	...	...	...	...	0.4	0.4	
5	...	...	.1	...	.1	3.3	.8	1.3	1.4	5.5	4.0	1.6	.7	.2	...	1.3	...	.4	.2	...	...	...	...	...	1.7	22.6	9.4	
6	2.0	1.0	.5	...	.2	.1	...	...	.7	.3	.1	...	...	...	.2	.9	...	.4	...	...	...	...	.1	.3	6.8	4.5		
7	.2	1.6	.1	...	...	...	...	...	...	.2	...	...	...	...	...	...	...	...	...	...	...	...	.1	.7	3.4	2.4		
8	.5	.1	.8	.5	.1	.1	.3	...	...	...	...	...	...	...	...	.5	.1	...	...	...	...	...	...	...	...	3.0	3.6	
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.3	1.2	1.5	3.1	1.6	.3	.1	...	...	...	8.1	5.4	
10	4.0	7.2	5.9	1.4	.1	.2	1.4	.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	20.5	5.7	
11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13	...	...	...	...	.1	.3	.6	.2	.2	.1	.2	.1	.2	.2	.3	.3	...	...	.2	...	...	...	...	...	...	...	4.4	8.6
14	.3	.6	...	.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.1	1.1
15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	...
16	...	...	...	...	...	...	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	...
17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.3	0.4
20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.1	.2	.3	...	...	...	...	...	...	...	...	...	0.6	1.3
21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.3	0.1
22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23	...	...	...	...	...	...	...	...	...	...	...	...	...	.6	1.6	.1	...	...	...	...	...	...	...	...	...	...	2.3	0.9
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
26	...	...	...	.4	.2	...	.1	.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.9	1.0
27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
30	...	...	...	...	...	...	...	.1	.4	.2	.9	.4	.3	...	...	...	...	...	...	...	...	...	...	...	...	...	2.3	3.3
Sum.	16.9	13.2	8.0	3.1	1.0	4.0	3.9	2.1	2.7	6.3	5.2	2.1	1.4	1.1	2.2	4.1	2.2	2.4	6.2	2.5	0.7	0.5	2.4	6.6	100.8	56.3		
Total Duration.	5.0	3.9	3.2	2.5	1.7	2.1	2.8	3.3	3.0	2.1	2.6	2.0	1.7	0.9	1.9	2.3	1.9	1.7	2.4	1.5	1.3	0.7	1.9	3.9	56.3			

328. Cahirciveen (Valencia Observatory): $H_r = 9.1$ metres + 0.5 metres.

December, 1922.

	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.		
1		
2		
32	.1	...	.2	...	...	...	...	...	...	...	...	...	0.5	0.5	
44	...	...	.2	...	...	...	...	...	...	...	...	...	...	...	.2	.1	...	...	...	...	...	0.9	0.7	
51	...	.1	...	...	...	.3	...	...	...	...	.2	...	...	...	...	...	...	...	...	...	...	...	...	...	0.7	0.8	
6	
74	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.5	0.4	
84	1.0	1.5	.6	...	...	...	...	...	...	...	...	...	...	...	...	...	3.5	2.3	
9	
10	
117	.7	.3	.1	.1	.3	.8	.7	1.6	...	...	...	...	...	...	5.3	3.9	
122	.2	.2	.1	...	...	0.7	1.0	
13	2.1	1.1	1.8	4.2	1.3	.2	.6	.8	1.3	1.4	.3	...	...	...	.7	.4	.3	.6	...	...	17.1	9.8	
144	.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.6	0.6	
15	1.9	1.2	...	.1	...	...	...	...	...	...	...	...	3.2	1.5	
16	1.04	2.5	.1	.3	.3	.2	.4	5	5.7	2.6
173	...	...	...	.3	1.5	1.2	.5	.2	...	.3	.1	.1	.1	1.9	...	...	...	...	...	...	...	0.5	4.2	
1822	.4	.13	.2	.33	.16	.5	.2	4	4.4	2.8
191	.3	...	...	.7	1.6	.1	.9	.2	.3	.3	...	...	...	...	...	...	...	...	...	4.5	2.5	
20	.4	.1	.1	.3	.1	.1	...	...	1.0	2.1	...	.1	.7	.5	1.6	1.8	.8	...	...	.1	...	...	...	...	...	...	9.8	5.2
215	1.2	1.5	2.8	5.4	2.7	...	...	...	...	...	1.0	.3	.2	.2	.1	.2	.2	.4	...	...	...	16.7	6.7	
222	2.1	.8	.4	1.1	5.3	2.6	1.2	.4	...	...	...	...	1.2	...	...	...	...	...	.2	.2	...	...	...	16.1	6.8	
232144	1	1.2	0.8
242	...	...	...	...	.7	...	.7	.3	...	...	...	...	...	.3	.1	1.7	2.8	2.6	9.4	4.0		
25	2.4	1.6	.6	1.0	.7	...	1.8	.321	2	8.9	4.8
2636	.5	1.065	4	4.5	1.7
274	.6	...	1.1	2.0	...	...	...																	

DURATION OF BRIGHT SUNSHINE.

For periods of sixty minutes, between the exact hours, of Local Apparent Time.

331. Cahirciveen (Valencia Observatory) : hs (height of recorder above ground) = 12.8 metres.

March, 1922.

Day.	3 to 4.	4 to 5.	5 to 6.	6 to 7.	7 to 8.	8 to 9.	9 to 10.	10 to 11.	11 to Noon.	Noon to 13.	13 to 14.	14 to 15.	15 to 16.	16 to 17.	17 to 18.	18 to 19.	19 to 20.	20 to 21.	Total for Day.	Per cent. of Possible.
	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	—	—	—	4	8	2	...	...	...	—	—	—	1.4	13
2	—	—	—	1	...	...	...	...	...	...	—	—	—	0.1	1
3	—	—	—	9	...	—	—	—	0.9	8
4	—	—	—	...	3	1.0	7	6	1.0	1.0	1.0	2	...	...	...	—	—	—	5.8	53
5	—	—	—	—	—	—
6	—	—	—	1	...	...	...	4	4	...	...	—	—	—	...	0.9	8
7	—	—	—	...	1	7	7	7	6	4	7	7	2	...	...	—	—	—	4.8	43
8	—	—	—	...	1	5	6	9	1.0	1.0	1.0	1.0	7	5	...	—	—	—	7.3	65
9	—	—	—	...	2	6	7	8	6	5	3	...	...	...	...	—	—	—	3.7	33
10	—	—	—	...	5	1.0	1.0	1.0	1.0	1.0	1.0	8	2	...	—	—	—	...	8.5	75
11	—	—	—	—	—	—
12	—	—	—	...	6	1.0	5	4	8	1.0	5	...	...	...	—	—	—	...	4.8	42
13	—	—	—	...	6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	5	...	—	—	—	9.1	78
14	—	—	—	...	3	...	3	4	5	7	5	...	...	...	—	—	—	...	2.7	23
15	—	—	—	...	7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1	—	—	—	9.8	83
16	—	—	—	...	9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2	...	—	—	—	9.1	77
17	—	—	—	...	7	1.0	1.0	2	6	7	2	...	...	...	—	—	—	...	4.4	37
18	—	—	—	1	...	...	...	...	...	...	...	—	—	—	...	0.1	1
19	—	—	—	...	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8	...	—	—	—	9.8	80
20	—	—	—	2	1	6	9	1.0	8	4	—	—	—	4.0	31
21	—	—	1.0	1.0	1.0	1.0	9	1.0	1.0	1.0	1.0	8	4	...	—	—	10.1	83
22	—	—	...	1	3	1	6	2	2	5	1	...	4	2	...	—	—	—	2.7	22
23	—	—	1	9	9	2	1.0	9	8	1	...	...	—	—	—	4.9	40
24	—	—	2	5	7	5	7	2	1	...	...	...	—	—	—	2.9	24
25	—	—	1	4	5	6	1	4	3	5	3	...	...	—	—	—	3.5	28
26	—	—	...	2	1.0	1.0	1.0	7	8	8	1.0	8	1.0	1.0	5	...	—	—	9.8	79
27	—	—	5	9	6	4	9	1.0	5	9	5	6	...	—	—	—	6.8	54
28	—	—	...	4	1.0	1.0	1.0	1.0	8	7	1.0	1.0	1.0	6	3	...	—	—	9.8	78
29	—	—	...	5	1.0	1.0	1.0	1.0	9	1.0	1.0	1.0	1.0	4	...	—	—	—	10.8	85
30	—	—	6	3	2	...	...	2	9	2	...	...	...	—	—	—	2.4	19
31	—	—	7	9	8	3	...	...	—	—	—	2.7	21
Sum.	—	—	...	1.2	11.2	16.1	16.7	15.4	15.6	18.6	18.6	15.8	12.9	9.4	2.1	...	—	—	153.6	—
Mean.	—	—	...	0.04	0.36	0.52	0.54	0.50	0.50	0.60	0.60	0.51	0.42	0.30	0.07	...	—	—	4.95	43

332. Cahirciveen (Valencia Observatory) : hs = 12.8 metres.

April, 1922.

	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	—	—	...	3	1.0	1.0	1.0	9	6	9	7	4	...	...	...	—	—	—	6.8	53
2	—	—	2	1.0	3	1	...	...	1	...	...	—	—	—	1.7	13	
3	—	—	1	5	9	1.0	1.0	9	1.0	5	3	...	—	—	—	7.2	55	
4	—	—	...	3	1.0	1.0	1.0	6	1.0	1.0	4	5	5	4	7	...	—	—	8.4	64	
5	—	—	7	3	1.0	1.0	1.0	2	9	8	1.0	1.0	1.0	2	—	—	9.1	69	
6	—	—	...	2	4	1.0	1.0	1.0	1.0	8	...	2	2	...	...	—	—	—	5.8	44
7	—	—	—	—	—	
8	—	—	...	3	...	4	...	2	2	6	8	9	1.0	1.0	8	...	—	—	6.2	46	
9	—	—	...	7	9	7	9	1.0	1.0	7	1.0	1.0	1.0	1.0	1.0	2	—	—	11.1	83	
10	—	—	...	8	1.0	1.0	7	1.0	9	4	5	...	...	...	...	—	—	—	6.3	47
11	—	—	1	1	...	...	...	...	4	7	1.0	1	—	—	—	2.4	18	
12	—	—	3	1.0	...	—	—	—	1.3	10	
13	—	—	...	3	9	...	...	3	1	3	8	8	1.0	1.0	3	—	—	—	5.8	42
14	—	—	3	...	...	...	...	—	—	—	0.3	2	
15	—	—	3	1	...	...	1	...	...	...	—	—	—	0.5	4	
16	—	—	...	3	1.0	7	8	6	5	8	9	6	6	5	1	...	—	—	7.4	53	
17	—	—	...	3	1	5	3	3	9	1.0	1.0	1.0	1.0	1.0	6	...	—	—	7.0	50	
18	—	—	...	1	9	8	4	1.0	1.0	1.0	1.0	1.0	1.0	8	2	...	—	—	9.2	66	
19	—	—	1	...	...	...	...	...	...	...	...	...	—	—	—	0.1	1	
20	—	—	2	1	5	1.0	1.0	1.0	1.0	1.0	1.0	1	—	—	—	7.9	56	
21	—	2	1.0	1.0	1.0	1.0	1.0	7	6	5	1	...	—	6.1	43	
22	—	4	...	4	2	...	...	—	—	1.0	7	
23	—	6	...	...	...	7	...	...	2	5	1	...	—	—	—	2.1	15	
24	—	2	3	5	6	5	8	8	8	8	5	4	6	...	—	—	6.8	47	
25	—	1	...	...	...	—	—	—	0.1	1	
26	—	...	3	9	6	8	4	7	1.0	1.0	8	6	5	2	4	...	—	—	8.2	57	
27	—	...	2	4	2	4	9	1.0	1.0	1.0	6	1.0	8	2	5	2	...	—	8.4	58	
28	—	2	6	1.0	8	1.0	9	4	8	2	2	1.0	7	4	...	—	8.2	56	
29	—	...	5	5	2	6	5	1.0	1.0	6	8	7	1.0	1.0	1.0	7	...	—	10.1	69	
30	—	2	...	...	5	5	8	1.0	1.0	1.0	1.0	2	...	—	—	7.2	49	
Sum.	—	...	1.0	5.2	9.6	12.3	11.4	14.9	16.6	15.9	15.3	15.1	14.6	14.6	13.7	2.5	...	—	162.7	—	
Mean.	—	...	0.03	0.17	0.32	0.41	0.38	0.50	0.55	0.53	0.51	0.50	0.49	0.49	0.46	0.08	...	—	5.42	39	
Hour L.A.T.	3 to 4.	4 to 5.	5 to 6.	6 to 7.	7 to 8.	8 to 9.	9 to 10.	10 to 11.	11 to Noon.	Noon to 13.	13 to 14.	14 to 15.	15 to 16.	16 to 17.	17 to 18.	18 to 19.	19 to 20.	20 to 21.	Total for Day.	Per cent of Possible.	

For periods of sixty minutes, between the exact hours, of Local Apparent Time.

333. Cahirciveen (Valencia Observatory) : h_s (height of recorder above ground) = 12.8 metres. May, 1922.

Day.	3 to 4.	4 to 5.	5 to 6.	6 to 7.	7 to 8.	8 to 9.	9 to 10.	10 to 11.	11 to Noon.	Noon to 13.	13 to 14.	14 to 15.	15 to 16.	16 to 17.	17 to 18.	18 to 19.	19 to 20.	20 to 21.	Total for Day.	Per cent. of Possible.	
	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%	
1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	—	—	—	—	—	—	—	—	2	—	7	1.0	6	—	—	—	—	—	—	2.5	17
3	—	—	—	—	—	—	—	1	9	1.0	1.0	1.0	1.0	9	1	—	—	—	7.0	47	
4	—	—	4	9	4	8	1.0	1.0	8	1.0	9	1.0	1.0	7	9	—	—	—	10.8	72	
5	—	—	1	5	3	1.0	6	1.0	1.0	9	5	1.0	9	3	—	—	—	—	8.1	52	
6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
7	—	—	—	—	8	2	—	—	—	—	7	1.0	1.0	1.0	1.0	1.0	—	—	6.7	44	
8	—	—	—	—	—	—	3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	9	1	—	—	8.3	55	
9	—	—	7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	5	2	—	—	—	—	10.4	68	
10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	0.1	1	
11	—	—	—	—	1	1.0	1.0	8	7	3	4	1.0	1.0	1.0	1.0	5	—	—	8.8	57	
12	—	—	2	5	1	—	4	6	6	1.0	1.0	8	3	5	1.0	1.0	2	—	8.2	53	
13	—	—	1	—	2	—	2	4	1	—	—	1.0	1.0	1.0	1.0	3	—	—	5.3	34	
14	—	—	—	—	2	6	8	1	2	9	6	4	5	1.0	1.0	4	—	—	6.7	43	
15	—	—	—	—	6	3	—	2	—	9	8	—	—	—	—	—	—	—	2.8	18	
16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	0.2	1	
17	—	—	—	—	6	1	6	1.0	6	2	—	1	6	9	7	3	—	—	5.7	36	
18	—	—	4	2	2	1.0	7	7	8	2	6	—	—	—	—	—	—	—	4.8	31	
19	—	—	—	—	—	4	1	—	4	5	—	—	1	—	—	—	—	—	1.5	10	
20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
22	—	—	6	1.0	1.0	1.0	1.0	1.0	8	9	4	—	—	4	2	—	—	—	8.3	52	
23	—	—	—	—	—	—	2	—	3	1.0	7	1.0	1.0	1.0	9	7	—	—	6.8	43	
24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
25	—	—	—	—	—	1	—	—	3	2	1	2	1	2	—	—	—	—	1.2	7	
26	—	—	1	—	7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	9	1.0	9	1.0	—	—	11.6	70	
27	—	6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	7	—	15.3	95	
28	—	2	1.0	9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	7	—	14.8	92	
29	—	7	1.0	1.0	1.0	1.0	9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8	8	7	—	14.9	92	
30	—	5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	9	1.0	8	7	—	14.9	92	
31	—	7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	5	5	7	—	14.4	89	
Sum.	...	2.7	7.6	9.0	11.2	13.5	13.8	14.9	15.7	17.0	16.4	17.5	16.5	16.1	14.8	9.6	3.8	...	200.1	—	
Mean.	...	0.09	0.25	0.29	0.36	0.44	0.45	0.48	0.51	0.55	0.53	0.56	0.53	0.52	0.48	0.31	0.12	...	6.46	42	

334. Cahirciveen (Valencia Observatory) : h_s = 12.8 metres.

June, 1922.

	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	...	2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	5	...	7	1.0	1.0	1.0	1.0	1.0	1.0	11.5	70
2	3	1.0	9	9	1.0	1.0	9	5	...	...	6.6	40
3	1	...	5	5	1	2	...	2	...	1	2	1.0	9	8	...	...	4.6	28
4	1	5	5	9	9	7	3	...	...	...	...	3.9	24
5	2	2	2	...	1	1	2	2	7	5	...	...	...	2.4	15
6	...	5	5	5	8	4	1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	6	...	12.4	75
7	1	1	7	7	1.0	1.0	4	...	...	...	...	...	...	4.0	24
8	3	5	4	8	9	8	4	5	6	1	1	9	8	3	...	...	7.4	45
9	...	2	8	6	1.0	1.0	8	6	8	5	1.0	9	9	7	2	...	...	...	10.0	60
10	6	1.0	1.0	2	4	...	...	...	3.2	19
11	...	4	1.0	5	...	...	...	...	...	2	...	...	...	...	1	...	...	...	2.2	13
12
13	1	4	5	1	1.0	1.0	1.0	1.0	1.0	1.0	5	5	3	...	...	8.4	51
14	1	3	...	5	8	...	...	...	...	...	...	...	...	...	...	...	1.7	10
15	1	1	3	5	6	8	7	6	1.0	1.0	5	...	6.2	37
16	1	1	...	5	5	5	...	...	...	1.7	10
17	3	...	4	1.0	9	9	9	1.0	1.0	1.0	1	...	...	...	7.5	45
18	1	...	...	...	...	...	0.1	1
19
20	6	8	1.0	6	6	1.0	6	9	...	1	2	...	...	6.4	38
21	1	1.0	...	...	1	...	1.2	7
22	1	...	2	...	1	...	...	...	...	0.4	2
23	1	...	1	...	1	1	1	2	1	...	...	...	...	...	...	0.8	5
24	1	...	4	7	4	6	9	8	5	7	8	5	4	3	...	...	7.1	43
25
26	2	9	8	9	1	3	1	...	...	...	3.3	20
27	0.0	...
28	1	...	...	...	...	...	...	1	6	1.0	1.0	1.0	3	...	...	...	5.1	31
29	2	6	8	1.0	6	7	1.0	4	1	4	2	2	...	...	...	...	6.2	37
30	1	...	...	...	...	...	0.1	1
Sum.	...	1.3	4.2	4.2	5.6	6.8	6.2	9.0	10.1	11.0	11.5	13.3	12.3	13.4	9.4	4.7	1.4	...	124.4	—
Mean.	...	0.04	0.14	0.14	0.19	0.23	0.21	0.30	0.34	0.37	0.38	0.44	0.41	0.45	0.31	0.16	0.05	...	4.15	25
Hour L.A.T.	3 to 4.	4 to 5.	5 to 6.	6 to 7.	7 to 8.	8 to 9.	9 to 10.	10 to 11.	11 to Noon	Noon to 13.	13 to 14.	14 to 15.	15 to 16.	16 to 17.	17 to 18.	18 to 19.	19 to 20.	20 to 21.	Total for Day.	Per cent. of Possible.

For periods of sixty minutes, between the exact hours, of Local Apparent Time.

335. Cahirciveen (Valencia Observatory) : h_s (height of recorder above ground) = 12.8 metres. July, 1922.

Day.	3 to 4.	4 to 5.	5 to 6.	6 to 7.	7 to 8.	8 to 9.	9 to 10.	10 to 11.	11 to Noon.	Noon to 13.	13 to 14.	14 to 15.	15 to 16.	16 to 17.	17 to 18.	18 to 19.	19 to 20.	20 to 21.	Total for Day.	Per Cent. of Possible.		
1	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	6.8	41	
2	...	...	...	...	...	7	2	...	8	1.0	9	1.0	7	9	6	...	...	...	...	5.9	36
3	...	...	...	5	7	9	5	5	6	3	1.0	8	...	...	...	...	...	...	...	5.8	35
4	...	...	6	2	2	...	2	4	3	1	1.0	6	1.0	6	1.0	9	2	...	...	7.3	44
5	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	0.1	1
6	...	...	8	1	7	5	9	7	5	1.0	9	9	4	8	5	3	5	...	...	9.5	58
7	...	1	4	...	...	...	...	...	4	2	1.0	7	3	...	...	...	...	...	...	3.1	19
8
9	...	...	1	...	...	8	...	6	4	1	...	...	1	...	...	...	...	...	...	2.1	13
10	...	7	8	1.0	1.0	1.0	1.0	9	...	9	9	9	7	5	1.0	6	8	...	...	12.7	77
11	...	2	1	...	...	...	2	4	...	...	...	...	...	...	...	...	...	...	...	0.9	5
12	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	0.2	1
13	...	...	...	...	...	...	...	...	...	...	...	1	4	4	...	...	...	...	...	0.9	6
14	...	...	1	...	...	...	4	3	1	3	1	2	5	9	7	2	...	...	...	3.8	23
15	...	...	1	6	...	...	...	2	9	7	9	9	8	3	...	...	...	...	...	6.3	39
16	...	1	...	4	1	7	7	8	4	6	7	1.0	5	...	...	...	...	...	...	6.0	37
17	...	...	...	...	4	2	...	...	...	5	1	1.0	6	1.0	1.0	8	...	...	...	5.6	35
18	...	3	6	2	1.0	6	4	1.0	9	8	7	6	8	3	7	2	...	...	...	9.1	56
19	...	...	...	...	...	5	6	9	2	...	...	...	...	...	...	...	...	...	...	2.2	14
20	—
21	—	...	1	1	1	...	1	1	2	7	1.0	1.0	6	...	3	7	...	—	—	5.0	31	
22	—	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	0.1	1
23	—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	—	—	0.3	2
24	—	...	...	1	2	...	...	2	...	7	8	1.0	1.0	1.0	1.0	1.0	2	—	—	7.2	45
25	—	...	...	...	...	...	...	...	...	7	2	...	...	...	...	...	...	...	...	0.9	6
26	—	...	...	...	...	...	...	...	...	2	2	8	1.0	1.0	6	1.0	1	—	—	4.9	31
27	—	...	...	...	...	2	...	...	...	1	...	...	2	5	3	9	1	—	—	2.3	15
28	—	5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	4	8	...	...	...	...	...	...	10.7	68
29	—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	3	—	—	0.5	3
30	—	...	...	3	8	1.0	3	...	...	...	2	1.0	9	2	3	2	...	...	...	5.2	33
31	—	...	2	8	8	8	9	1.0	1.0	1.0	1.0	1.0	9	2	...	...	...	...	...	9.6	62
Sum.	...	1.9	4.9	5.3	7.0	8.9	7.5	9.2	8.4	11.1	13.6	14.9	13.3	10.1	9.3	7.1	2.5	...	...	135.0	—
Mean.	...	0.06	0.16	0.17	0.23	0.29	0.24	0.30	0.27	0.36	0.44	0.48	0.43	0.33	0.30	0.23	0.08	...	...	4.35	27

336. Cahirciveen (Valencia Observatory) : h_s = 12.8 metres.

August, 1922.

	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%	
1	—	...	...	1	...	3	1	1	4	1.0	1.0	1.0	1.0	...	...	...	...	...	...	5.0	32	
2	—	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	1
3	—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	—	...	...	...	...	...	...	...	...	...	1	2	1	1	2	...	...	...	...	...	0.7	5
5	—	...	...	...	...	...	1	...	1	6	...	...	...	...	...	...	...	...	...	...	0.8	5
6	—	...	...	1	1	...	...	...	...	1	...	...	...	...	2	...	2	—	—	...	0.7	5
7	—	...	4	...	3	9	4	7	6	6	2	...	...	...	...	...	...	...	...	...	4.1	27
8	—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	0.5	3
9	—	...	...	...	2	6	9	1.0	1.0	1.0	1.0	1.0	1.0	9	1.0	1.0	...	...	...	...	10.6	71
10	—	...	...	8	1.0	1.0	1.0	1.0	8	1.0	1.0	1.0	6	1.0	1.0	1.0	2	—	—	...	12.4	83
11	—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	—	...	...	...	...	0.7	1	2	3	6	1.0	1.0	1.0	1.0	7	...	...	...	...	...	5.6	38
13	—	...	1	...	3	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	0.6	4
14	—	...	...	2	...	...	...	2	4	1.0	1.0	1.0	1.0	5	1	...	...	...	...	...	5.4	37
15	—	...	2	...	2	5	1	3	4	7	6	8	5	...	...	...	...	...	...	...	4.3	29
16	—	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	0.1	1
17	—	...	...	...	3	1	9	8	6	6	6	7	4	3	3	...	...	...	...	...	5.6	38
18	—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19	—	...	...	...	...	...	...	7	...	2	1	1	7	3	4	...	...	...	...	...	2.5	17
20	—	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	1
21	—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23	—	...	...	1.0	7	7	3	9	4	8	...	3	2	...	...	...	...	...	...	...	5.3	37
24	—	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	0.2	1
25	—	...	...	...	...	2	4	6	4	4	1.0	1.0	1.0	1.0	7	—	—	—	—	...	6.7	48
26	—	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27	—	...	...	3	1	9	1.0	7	7	8	8	1.0	7	8	3	...	...	...	...	...	8.1	58
28	—	...	...	6	8	5	4	9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	7	—	—	...	...	10.9	79
29	—	...	...	2	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.3	2
30	—	...	...	8	3	8	9	5	7	2	2	8	7	8	7	3	...	...	...	...	7.7	56
31	—	...	...	2	4	2	7	1	2	7	3	4	5	2	...	...	...	...	...	...	3.9	29
Sum.	—	...	0.7	4.1	5.0	6.7	7.8	7.5	8.7	10.3	9.0	11.3	9.9	8.8	7.2	4.8	0.4	—	—	...	102.2	—
Mean.	—	...	0.02	0.13	0.16	0.22	0.25	0.24	0.28	0.33	0.29	0.36	0.32	0.28	0.23	0.15	0.01	—	—	...	3.30	23
Hour L.A.T.	3 to 4.	4 to 5.	5 to 6.	6 to 7.	7 to 8.	8 to 9.	9 to 10.	10 to 11.	11 to Noon.	Noon to 13.	13 to 14.	14 to 15.	15 to 16.	16 to 17.	17 to 18.	18 to 19.	19 to 20.	20 to 21.	Total for Day.	Per cent. of Possible.		

For periods of sixty minutes, between the exact hours, of Local Apparent Time.

337. Cahirciveen (Valencia Observatory) : h_s (height of recorder above ground) = 12.8 metres.

September, 1922.

Day.	3 to 4.	4 to 5.	5 to 6.	6 to 7.	7 to 8.	8 to 9.	9 to 10.	10 to 11.	11 to Noon.	Noon to 13.	13 to 14.	14 to 15.	15 to 16.	16 to 17.	17 to 18.	18 to 19.	19 to 20.	20 to 21.	Total for Day.	Per cent. of Possible.	
	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%	
1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.1	15
2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.3	24
3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.4	10
4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.1	1
5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.1	1
6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.2	77
7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.2	55
8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.7	74
9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.8	6
10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.3	87
11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.7	5
12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.3	18
13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.1	9
15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.4	50
16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.1	1
17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.3	66
18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.1	1
19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.4	3
22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.0	8
23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.3	19
25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.6	30
26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
27	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.2	10
28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.2	36
29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sum.	—	—	—	1.8	3.6	4.2	5.1	6.5	9.1	10.0	10.7	10.2	7.3	6.3	2.8	0.3	—	—	—	77.9	—
Mean.	—	—	—	0.06	0.12	0.14	0.17	0.22	0.30	0.33	0.36	0.34	0.24	0.21	0.09	0.01	—	—	—	2.60	20

338. Cahirciveen (Valencia Observatory) : h_s = 12.8 metres.

October, 1922.

	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%	
1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.7	23
2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.9	8
3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.1	1
4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.4	4
5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.3	47
6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.1	19
7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.0	63
8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.1	73
9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.9	35
10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.1	83
11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.6	33
13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.2	86
15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.6	43
16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.0	85
17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.3	31
18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.9	56
19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.9	47
20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.4	72
21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.9	18
22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.4	63
23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.4	33
24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.8	8
25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.6	6
26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
27	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.9	80
28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.3	84
29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.9	60
30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.0	82
31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.8	8
Sum.	—	—	—	—	1.9	13.6	16.3	16.9	17.1	17.3	16.7	14.7	11.4	5.6	—	—	—	—	—	—	131.5	—
Mean.	—	—	—	—	0.06	0.44	0.53	0.55	0.55	0.56	0.54	0.47	0.37	0.18	—	—	—	—	—	—	4.24	40
Hour L.A.T.	3 to 4.	4 to 5.	5 to 6.	6 to 7.	7 to 8.	8 to 9.	9 to 10.	10 to 11.	11 to Noon.	Noon to 13.	13 to 14.	14 to 15.	15 to 16.	16 to 17.	17 to 18.	18 to 19.	19 to 20.	20 to 21.	Total for Day.	Per cent. of Possible.		

For periods of sixty minutes, between the exact hours, of Local Apparent Time.

339. Cahirciveen (Valencia Observatory) : h_s (height of recorder above ground) = 12.8 metres.

November, 1922

Day.	3 to 4.	4 to 5.	5 to 6.	6 to 7.	7 to 8.	8 to 9.	9 to 10.	10 to 11.	11 to Noon.	Noon to 13.	13 to 14.	14 to 15.	15 to 16.	16 to 17.	17 to 18.	18 to 19.	19 to 20.	20 to 21.	Total for Day.	Per cent. of Possible.
	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	—	—	—	—	7	5	6	5	7	3	7	...	—	—	—	—	4.0	42
2	—	—	—	—	1.0	1.0	1	1	2	...	...	...	—	—	—	—	2.4	25
3	—	—	—	—	2	9	8	8	1	2	...	...	—	—	—	—	3.0	32
4	—	—	—	—	2	4	2	8	1.0	1.0	9	6	...	—	—	—	5.1	54
5	—	—	—	—	1	...	...	...	—	—	—	—	0.1	1
6	—	—	—	—	1	2	6	7	4	1	...	...	—	—	—	—	2.1	23
7	—	—	—	—	5	6	7	2	...	...	...	...	—	—	—	—	2.0	22
8	—	—	—	—	1	5	2	7	1.0	6	...	...	—	—	—	—	3.1	34
9	—	—	—	—	1	...	...	...	...	...	...	—	—	—	—	0.1	1
10	—	—	—	—	1	7	3	...	...	2	1	...	—	—	—	—	1.4	15
11	—	—	—	—	...	1	2	4	1	3	1	...	...	...	—	—	—	—	1.2	13
12	—	—	—	—	—	—	—	—
13	—	—	—	—	—	—	—	—
14	—	—	—	—	...	3	1.0	1.0	1.0	1.0	1.0	1.0	5	...	—	—	—	—	6.8	77
15	—	—	—	—	...	4	1.0	1.0	8	2	...	...	...	...	—	—	—	—	3.4	39
16	—	—	—	—	...	3	7	2	...	...	...	...	...	...	—	—	—	—	1.2	14
17	—	—	—	—	—	—	—	—
18	—	—	—	—	1	1	4	2	7	5	...	...	—	—	—	—	2.0	23
19	—	—	—	—	2	...	—	—	—	—	0.2	2
20	—	—	—	—	—	—	—	—
21	—	—	—	—	—	—	—	—
22	—	—	—	—	1	9	...	3	...	...	...	—	—	—	—	1.3	15
23	—	—	—	—	—	—	—	—
24	—	—	—	—	—	—	—	—
25	—	—	—	—	8	2	2	2	...	...	—	—	—	—	1.4	17
26	—	—	—	—	1	1	1	...	...	...	...	—	—	—	—	0.3	4
27	—	—	—	—	2	4	1	...	...	—	—	—	—	0.7	9
28	—	—	—	—	3	...	...	...	...	...	...	—	—	—	—	0.3	4
29	—	—	—	—	—	—	—	—
30	—	—	—	—	1	...	...	...	...	—	—	—	—	0.1	1
Sum.	—	—	—	—	...	1.5	6.8	7.8	8.2	5.3	6.2	4.2	2.2	...	—	—	—	—	42.2	—
Mean.	—	—	—	—	...	0.05	0.23	0.26	0.27	0.18	0.21	0.14	0.07	...	—	—	—	—	1.41	16

340. Cahirciveen (Valencia Observatory) : h_s = 12.8 metres.

December, 1922.

	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%	
1	—	—	—	—
2	—	—	—	—
3	—	—	—	—	3	3	...	2	...	...	...	...	...	...	...	...	0.8	10
4	—	—	—	—	4	4	2	2	...	...	...	...	...	...	...	...	0.8	10
5	—	—	—	—	1	...	...	...	...	...	...	...	...	...	...	...	0.1	1
6	—	—	—	—	...	2	1.0	1.0	1.0	7	...	...	...	...	...	...	...	...	...	3.9	49
7	—	—	—	—	2	1	...	...	...	...	...	...	...	...	...	0.3	4
8	—	—	—	—	1	1	...	...	...	...	...	...	...	...	0.2	3
9	—	—	—	—
10	—	—	—	—
11	—	—	—	—
12	—	—	—	—
13	—	—	—	—
14	—	—	—	—	2	6	2	4	...	...	...	...	...	...	...	...	1.4	18
15	—	—	—	—
16	—	—	—	—	1	1	...	...	1	...	...	...	...	...	...	...	0.3	4
17	—	—	—	—
18	—	—	—	—	2	...	...	...	...	...	...	...	...	...	...	0.2	3
19	—	—	—	—	3	3	2	2	...	...	...	...	...	...	...	...	0.8	10
20	—	—	—	—
21	—	—	—	—	5	1.0	8	...	...	...	...	...	...	...	...	...	2.3	30
22	—	—	—	—	2	1.0	...	...	...	...	...	...	...	...	...	...	0.2	3
23	—	—	—	—	...	1	9	5	7	4	1	...	...	...	...	...	...	...	...	2.7	35
24	—	—	—	—	...	4	5	8	3	...	...	...	...	...	...	...	...	...	...	2.0	26
25	—	—	—	—	...	5	7	2	2	...	...	...	...	...	...	...	...	...	...	1.6	21
26	—	—	—	—	...	6	2	9	1	1	1	...	...	...	...	...	...	...	...	2.0	26
27	—	—	—	—
28	—	—	—	—
29	—	—	—	—	6	6	...	...	...	...	...	...	...	...	...	...	...	1.2	15
30	—	—	—	—	2	5	1	7	4	...	...	...	...	...	...	...	...	1.9	24
31	—	—	—	—	...	6	5	8	2	5	1.0	2	...	...	...	...	...	...	...	3.8	49
Sum.	—	—	—	—	...	2.4	4.8	7.1	5.4	3.8	2.8	0.2	...	...	...	...	...	...	26.5	—	
Mean.	—	—	—	—	...	0.08	0.15	0.23	0.17	0.12	0.09	0.01	...	...	...	...	...	...	0.85	11	

Annual Total.	—	5.9	18.4	30.8	55.3	86.6	105.1	121.6	134.6	140.4	136.7	130.6	104.4	85.1	59.3	29.0	8.1	—	1251.9	—
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Annual Mean.	—	.02	.05	.08	.15	.24	.29	.33	.37	.38	.37	.36	.29	.23	.16	.08	.02	—	3.43	28
--------------	---	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	---	------	----

Hour L.A.T.	3 to 4.	4 to 5.	5 to 6.	6 to 7.	7 to 8.	8 to 9.	9 to 10.	10 to 11.	11 to Noon.	Noon to 13.	13 to 14.	14 to 15.	15 to 16.	16 to 17.	17 to 18.	18 to 19.	19 to 20.	20 to 21.	Total for Day.	Per cent. of Possible.
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Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°): Speed in metres per second.

341. Cahirciveen (Valencia Observatory):

Ha (height of cups of anemograph above M.S.L.) = Height of ground above

Table for Cahirciveen (Valencia Observatory) showing wind direction and speed in m/s for each hour of the day from 1 to 31, with a 'Mean ...' row at the bottom.

342. Cahirciveen (Valencia Observatory) : Ha = 12 metres + 14 metres.

Table for Cahirciveen (Valencia Observatory) with Ha = 12m + 14m, showing wind direction and speed in m/s for each hour of the day from 1 to 28, with a 'Mean ...' row at the bottom and a G.M.T. row at the very bottom.

WIND : DIRECTION AND SPEED.

Averages for periods of sixty minutes centered at the exact hours, Greenwich Mean Time.

M.S.L. + ha (height of anemograph above ground) = 12 metres + 14 metres.

January, 1922.

Table for January 1922 showing wind direction and speed data for days 1 to 31. Columns include days 13-24, Mean, and Day. Each day's data consists of two rows of wind speed and direction measurements in m/s.

February, 1922.

Table for February 1922 showing wind direction and speed data for days 1 to 28. Columns include days 13-24, Mean, and Day. Each day's data consists of two rows of wind speed and direction measurements in m/s.

Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°): Speed in metres per second.

343. Cahirciveen (Valencia Observatory) :

Ha (height of cups of anemograph above M.S.L.) = Height of ground above

Table with 22 columns (Day, 1-11, Noon) and 2 rows per column (° and m/s). It contains wind speed data for each day from 1 to 31, including a 'Mean ...' row at the bottom.

344. Cahirciveen (Valencia Observatory) : Ha = 12 metres + 14 metres.

Table with 22 columns (Day, 1-11, Noon) and 2 rows per column (° and m/s). It contains wind speed data for each day from 1 to 30, including a 'Mean ...' row at the bottom.

Averages for periods of sixty minutes centered at the exact hours, Greenwich Mean Time.

M.S.L. + ha (height of anemograph above ground) = 12 metres + 14 metres.

March, 1922.

Table for March 1922 showing wind speed (m/s) and direction (degrees) for 24 hours (13-24) and a Mean Day. Each hour has two columns of data. The mean day is 6.3.

April, 1922.

Table for April 1922 showing wind speed (m/s) and direction (degrees) for 24 hours (13-24) and a Mean Day. Each hour has two columns of data. The mean day is 5.5.

Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°) : Speed in metres per second.

345. Cahirciveen (Valencia Observatory) :

H_a (height of cups of anemograph above M.S.L.) = Height of ground above

Table with columns: Day, 1., 2., 3., 4., 5., 6., 7., 8., 9., 10., 11., Noon. Each column contains two sub-columns for wind speed and direction.

346. Cahirciveen (Valencia Observatory) : H_a = 12 metres + 14 metres.

Table with columns: G.M.T., 1., 2., 3., 4., 5., 6., 7., 8., 9., 10., 11., Noon. Each column contains two sub-columns for wind speed and direction.

Averages for periods of sixty minutes centered at the exact hours, Greenwich Mean Time.

M.S.L. + ha (height of anemograph above ground) = 12 metres + 14 metres.

May, 1922.

Table with columns 13-24 and Mean/Day, containing wind speed data for May 1922.

June, 1922.

Table with columns 13-24 and Mean/Day, containing wind speed data for June 1922.

Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°) : Speed in metres per second.

347. Cahirciveen (Valencia Observatory) : Ha (height of cups of anemograph above M.S.L.) = Height of ground above

Table with 25 columns (Day, 1-11, Noon) and 25 rows (1-31). Each cell contains wind speed and direction data. A 'Mean ...' row is at the bottom of the data section.

348. Cahirciveen (Valencia Observatory) : Ha = 12 metres + 14 metres.

Table with 25 columns (G.M.T., 1-11, Noon) and 25 rows (1-31). Each cell contains wind speed and direction data. A 'Mean ...' row is at the bottom of the data section.

Averages for periods of sixty minutes centered at the exact hours, Greenwich Mean Time.

M.S.L. + ha (height of anemograph above ground) = 12 metres + 14 metres.

July, 1922.

Table for July 1922 showing wind direction and speed data for days 1 to 31. Columns include day numbers (13-24) and wind speed in m/s. Includes a 'Mean' column and a 'Day' column for the month.

August, 1922.

Table for August 1922 showing wind direction and speed data for days 1 to 31. Columns include day numbers (13-24) and wind speed in m/s. Includes a 'Mean' column and a 'Day' column for the month.

Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°) : Speed in metres per second.

349. Cahirciveen (Valencia Observatory) :

Ha (height of cups of anemograph above M.S.L.) = Height of ground above

Table with 13 columns (Day, 1-11, Noon) and 2 rows per day (direction in degrees, speed in m/s). Includes a 'Mean' row at the bottom.

350. Cahirciveen (Valencia Observatory) : Ha = 12 metres + 14 metres.

Table with 13 columns (Day, 1-11, Noon) and 2 rows per day (direction in degrees, speed in m/s). Includes a 'Mean' row at the bottom and a 'G.M.T.' row at the very bottom.

Averages for periods of sixty minutes centered at the exact hours, Greenwich Mean Time.

M.S.L. + ha (height of anemograph above ground) = 12 metres + 14 metres.

September, 1922.

Table with 25 columns (13-24, Mean, Day) and 30 rows of wind speed data for September 1922. Each cell contains wind speed in m/s at two different heights.

October, 1922.

Table with 25 columns (13-24, Mean, Day) and 30 rows of wind speed data for October 1922. Each cell contains wind speed in m/s at two different heights.

Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°) : Speed in metres per second.

351. Cahirciveen (Valencia Observatory):

Ha (height of cups of anemograph above M.S.L.) = Height of ground

Table with 13 columns (Day, 1-11, Noon) and 2 rows per day (° and m/s). Rows 1-30 show daily wind data. A 'Mean ...' row is at the bottom.

352. Cahirciveen (Valencia Observatory) : Ha = 12 metres + 14 metres.

Table with 13 columns (G.M.T., 1-11, Noon) and 2 rows per day (° and m/s). Rows 1-31 show daily wind data. A 'Mean ...' row is at the bottom.

Averages for periods of sixty minutes centered at the exact hours, Greenwich Mean Time.

above M.S.L. + h_a (height of anemograph above ground) = 12 metres + 14 metres.

November, 1922.

Table with columns 13-24, Mean, Day. Rows contain wind speed data for November 1922.

December, 1922.

Table with columns 13-24, Mean, Day. Rows contain wind speed data for December 1922.

353. Cahirciveen (Valencia Observatory) : $H_a = 17$ metres + 13 metres.

1922.

Day.	Jan.		Feb.		Mar.		April.		May.		June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.
1	m/s. 19	h. m. 17 30	m/s. 18	h. m. 19 35	m/s. 25	h. m. 18 5	m/s. 18	h. m. 0 25	m/s. 14	h. m. 15 55	m/s. 14	h. m. 12 15	m/s. 21	h. m. 20 35	m/s. 14	h. m. 1 45	m/s. 13	h. m. 14 25	m/s. 6	h. m. 15 50	m/s. 21	h. m. 0 50	m/s. 15	h. m. 6 30
2	22	2 30	24	21 5	21	22 25	17	17 55	14	23 40	17	9 5	18	4 25	11	9 30	8	23 50	9	23 50	11	5 20	6	1 45
3	21	21 10	23	7 5	22	2 30	17	13 50	21	20 45	9	1 10	16	21 0	14	8 10	10	2 30	13	14 25	18	21 25	6	12 30
4	18	0 10	19	0 25	26	22 25	10	11 25	21	5 55	8	13 50	16	2 20	8	13 40	7	17 35	15	23 25	15	9 10	6	13 40
5	13	0 30	11	21 20	26	3 15	9	16 5	18	3 15	6	17 50	13	23 50	9	13 0	11	4 10	16	0 50	18	8 40	12	13 15
6	11	3 40	19	23 15	19	6 20	10	23 45	20	4 10	7	12 20	16	7 30	6	3 10	10	17 30	8	3 20	22	20 55	7	0 45
7	17	21 45	22	13 0	17	16 40	11	23 20	16	2 0	12	14 35	12	0 35	14	14 10	8	15 45	6	13 50	19	0 40	8	17 40
8	23	0 50	12	23 5	20	4 10	15	5 45	5	12 40	9	0 15	27	9 15	12	14 10	11	10 55	5	13 55	10	16 20	12	11 40
9	24	5 50	11	13 35	22	15 15	12	0 5	15	11 55	7	16 55	15	0 1	11	9 0	8	15 10	5	8 5	17	17 5	4	21 35
10	15	8 40	14	23 50	17	0 10	9	11 50	7	4 0	11	14 35	6	13 15	10	13 35	8	17 0	9	23 10	18	2 20	13	19 10
11	11	20 25	14	4 55	8	14 50	12	11 30	13	15 0	11	14 25	11	14 15	15	23 50	13	23 15	16	20 10	8	22 45	18	18 40
12	20	22 50	14	14 45	11	19 50	12	12 50	14	9 25	13	22 25	11	11 20	15	1 40	20	17 5	21	20 0	13	16 50	20	23 25
13	19	16 20	14	8 30	18	12 55	8	23 45	9	0 40	16	6 10	18	10 5	8	1 0	23	6 30	23	6 35	11	22 0	22	1 45
14	12	3 10	13	17 50	12	18 45	25	9 10	10	15 35	12	22 45	11	14 10	8	13 45	19	0 5	15	0 5	3	21 5	9	0 45
15	24	7 55	14	20 55	13	22 5	27	15 30	17	20 55	15	6 20	12	5 50	20	23 15	15	1 10	20	18 20	6	17 10	13	13 30
16	24	4 40	10	0 30	16	18 40	24	9 20	15	1 35	13	15 35	12	0 20	20	0 10	15	11 25	20	8 55	8	7 20	20	18 5
17	19	23 25	19	12 35	17	6 40	9	0 5	16	15 55	15	7 45	9	15 15	16	9 30	16	8 35	20	19 15	9	19 20	20	0 35
18	21	1 55	15	24 0	13	1 20	9	17 50	13	23 55	11	4 0	7	13 50	14	9 15	17	23 10	27	12 40	11	15 10	25	18 40
19	17	17 5	25	21 10	15	22 55	13	11 20	15	6 30	12	22 55	13	17 10	10	13 40	22	2 40	20	2 40	11	13 35	21	2 0
20	27	19 50	26	0 35	21	5 20	10	1 40	16	9 30	18	6 10	17	8 40	11	8 30	11	13 50	15	11 40	5	6 0	19	3 5
21	23	2 5	23	3 55	16	13 50	13	18 30	10	20 35	12	13 0	9	14 50	8	14 15	11	3 55	17	15 55	6	21 55	25	23 55
22	27	20 30	22	21 45	13	13 40	10	1 45	12	6 0	17	14 10	9	15 45	11	15 15	6	22 10	11	1 40	8	3 25	32	6 55
23	28	0 25	19	22 25	7	17 10	26	23 0	15	7 55	14	7 5	9	2 45	12	12 15	6	1 40	11	10 30	7	1 5	24	0 45
24	21	16 35	26	9 0	21	23 50	25	3 50	9	23 5	19	19 30	9	16 30	17	22 15	21	23 50	9	4 50	4	5 40	25	23 40
25	23	8 25	22	22 0	24	19 15	18	12 25	13	15 45	16	4 10	14	22 55	16	3 40	26	3 50	15	19 50	5	0 45	27	1 55
26	19	2 10	24	0 55	17	15 30	17	10 20	12	0 35	12	9 45	19	6 40	15	5 30	22	2 20	21	18 40	9	15 0	21	14 35
27	23	9 25	22	14 0	18	16 50	16	14 30	7	15 25	12	14 40	8	13 5	13	11 15	19	5 55	15	7 0	8	3 35	25	14 10
28	23	14 5	27	2 50	13	0 1	15	13 15	6	14 55	14	23 55	18	22 25	7	12 15	13	15 15	15	15 15	9	17 40	21	15 15
29	18	0 45	—	—	9	13 45	12	16 0	4	15 10	16	2 30	16	0 25	17	17 40	17	21 30	†	23 15	11	23 25	18	23 10
30	17	10 30	—	—	12	10 10	14	9 10	9	15 40	19	23 15	15	22 25	11	21 10	11	1 0	†	0 45	17	7 45	23	0 35
31	21	13 55	—	—	17	22 30	—	—	10	13 50	—	—	15	7 45	11	11 30	—	—	18	23 15	—	—	20	6 20

† Defective record.

DISTRIBUTION OF WIND SPEED: EXTREME VELOCITIES AS RECORDED BY THE DINES TUBE ANEMOGRAPH.

354. Cahirciveen (Valencia Observatory) : $H_a = 17$ metres + 13 metres.

1922.

Month.	DISTRIBUTION OF WIND.								EXTREME VELOCITIES.						
	More than 17.2 m/s.		10.8 to 17.1 m/s.		5.5 to 10.7 m/s.	1.6 to 5.4 m/s.	0 to 1.5 m/s.	No Record.	Highest Hourly Wind.			Highest Gust.			
	Dates of Occurrence.	Duration.	No. of Days.	Duration.	Duration.	Duration.	Duration.	Duration.	Veer from N.	Speed.	Mid. Time.	Speed.	Time.		
Jan. ...	—	hr. 0	23	hr. 158	hr. 383	hr. 189	hr. 14	hr. 0	150	m/s. 16	day. 20	hour. 19	m/s. 28	day. 23	h. m. 0 25
Feb. ...	—	0	15	161	315	158	38	0	190	16	24	10	27	28	2 50
Mar. ...	—	0	16	69	383	247	43	2	210	17	5	3	26	5	3 15
April ...	15th	1	7	54	304	272	89	0	350	17	15	15	27	15	15 30
May ...	—	0	5	22	366	227	129	0	190	13	6	4	21	4	5 55
June ...	—	0	3	7	384	271	58	0	180	12	30	23	19	24	19 30
July ...	8th	2	6	32	284	340	86	0	350	18	8	9	27	8	9 15
Aug. ...	—	0	3	4	271	388	81	0	190	12	16	1	20	15	23 15
Sept. ...	—	0	9	74	253	264	129	0	150	16	25	4	26	25	3 50
Oct. ...	—	0	10	60	369	230	85	0	110	15	18	9	27	18	12 40
Nov. ...	—	0	5	27	173	343	177	0	290	13	6	19	22	6	20 55
Dec. ...	22nd	5	15	125	313	205	96	0	220	19	22	4	32	22	6 55
Year ...	3 days	8	117	793	3,798	3,134	1,025	2	220	19	Dec. 22	4	32	Dec. 22	6 55

MINIMUM TEMPERATURE "ON THE GRASS" DURING THE INTERVAL 18H. TO 9H. G.M.T.

Readings in degrees absolute.

355. Cahirciveen (Valencia Observatory).

1922.

Day.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>
1	80·6	74·7	75·2	72·1	75·9	83·3	83·4	82·4	81·4	78·9	79·8	80·3
2	84·1	80·4	74·7	74·1	79·6	83·0	83·3	82·9	82·6	78·1	73·2	80·6
3	78·1	79·8	80·4	73·7	80·6	80·2	81·3	84·1	83·7	83·0	75·9	78·1
4	76·7	76·7	75·8	70·9	78·4	77·4	81·9	86·4	83·6	85·8	74·7	78·1
5	76·3	72·0	79·7	75·7	77·2	78·6	78·1	84·2	85·7	83·6	72·7	80·2
6	79·1	76·7	76·5	70·5	82·6	78·9	80·9	...	79·8	81·9	81·4	73·4
7	77·1	80·2	74·5	76·9	82·9	79·8	79·9	80·9	78·7	80·9	80·2	73·7
8	80·7	78·1	75·0	74·5	78·1	84·7	80·9	83·1	77·2	77·9	79·7	80·8
9	78·2	77·6	73·8	73·4	77·9	82·1	81·4	82·6	84·9	75·4	74·5	73·9
10	78·2	73·7	74·1	71·9	79·7	80·9	77·2	83·1	78·7	77·3	82·4	79·1
11	77·3	78·1	78·3	76·3	79·9	76·8	78·4	77·2	79·6	77·6	77·3	79·2
12	...	79·7	78·7	73·2	79·0	85·4	85·1	83·9	83·1	84·2	79·1	81·4
13	75·6	75·3	74·7	72·1	78·1	81·3	81·9	83·5	82·0	84·7	83·1	83·9
14	73·2	72·7	74·0	74·8	79·2	79·8	81·6	82·6	81·9	82·9	81·3	77·4
15	78·5	79·1	75·1	77·7	81·7	82·3	79·8	81·9	80·2	84·0	74·6	72·4
16	73·4	79·6	74·5	75·3	83·2	80·8	81·2	84·6	82·1	83·0	80·3	73·0
17	72·9	75·6	78·7	75·3	...	82·4	80·9	83·3	81·9	83·1	77·1	74·3
18	76·9	75·3	79·6	72·0	80·2	83·9	78·7	83·4	79·3	81·8	79·1	76·3
19	72·3	79·0	73·0	77·4	82·4	84·2	80·7	86·4	84·2	79·3	75·9	77·5
20	69·6	74·8	77·4	80·2	84·7	84·3	85·7	77·5	83·7	74·8	76·4	74·2
21	76·4	72·8	70·3	75·7	84·7	81·6	83·1	84·9	85·3	76·8	79·6	74·2
22	76·8	74·8	70·1	77·6	81·7	83·4	81·4	85·3	85·3	74·0	77·9	76·2
23	81·6	81·3	73·0	78·1	82·7	82·3	83·7	82·1	84·6	75·1	79·3	75·9
24	78·4	83·2	77·7	76·3	77·8	82·3	82·6	84·1	78·3	80·1	79·7	73·7
25	...	79·5	73·6	77·9	84·8	80·4	82·9	83·3	83·9	78·1	74·8	79·0
26	76·1	77·6	74·2	75·1	83·6	83·4	85·6	77·5	83·0	79·7	73·7	76·4
27	77·7	75·0	75·4	74·3	77·6	84·5	82·8	82·6	84·7	76·4	79·2	75·8
28	77·7	75·3	74·8	74·8	78·4	82·1	76·1	...	79·1	73·6	73·6	74·2
29	77·7	—	71·8	70·8	78·1	80·1	85·9	78·0	74·5	72·6	80·4	78·3
30	75·6	—	75·3	74·0	79·5	82·0	81·9	78·8	83·1	75·3	79·5	74·7
31	76·0	—	78·2	—	81·4	—	82·3	79·3	—	...	—	76·3
Mean ...	77·0	77·1	75·4	74·8	80·2	81·7	81·6	82·4	81·9	79·3	77·9	76·9

NOTES:—(1) The initial 2 of the readings is omitted, *i.e.*, 275·0 degrees absolute is written 75·0.

(2) The minimum refers to the interval from 18h. the previous day to 9h. on the day to which it is entered.

356. Cahirciveen (Valencia Obs.).

January, 1922.

Day.	7h.			9h.			13h.			15h.			18h.			21h.			Remarks.
	Predom- inant type.	Amount.	Weather.	Predom- inant type.	Amount.	Weather.	Predom- inant type.	Amount.	Weather.	Predom- inant type.	Amount.	Weather.	Predom- inant type.	Amount.	Weather.	Predom- inant type.	Amount.	Weather.	
1	St.	10	...	St.	10	...	St.	10	...	St.	10	...	St.	10	...	St.	10	...	● early : o and ≡ ⁰ p :
2	St.	10	● ≡ ⁰	St.	10	●	St.	10	...	St.	10	...	St.	10	●	St.-Cu.	5	...	d & ≡ ⁰ early : o a : o & ● ⁰ p :
3	St.-Cu.	5	...	St.-Cu.	10	...	St.-Cu.	8	...	St.-Cu.	8	p	St.-Cu.	7	...	St.-Cu.	5	...	Fair early : fair and Δ p day.
4	St.-Cu.	2	...	St.-Cu.	8	...	St.-Cu.	8	p	St.	10	p	St.-Cu.	3	...	St.	7	p	Fine early : fair & p a : o & p to b p :
5	St.	10	p	St.	9	...	St.-Cu.	8	...	St.-Cu.	10	...	St.	10	...	St.	10	...	p early : o to c a : o p :
6	St.	5	...	St.	10	●	St.-Cu.	7	...	St.-Cu.	8	...	St.	10	●	St.	10	●	p early : o to c a : o & d p :
7	St.	5	...	St.	10	...	St.	10	...	St.	10	...	St.	10	...	St.	10	●	Fair early : o to c a : o p :
8	St.-Cu.	10	...	St.-Cu.	10	...	A.-St.	10	...	St.	10	●	St.	10	●	St.	10	●	● early : o a : ● p :
9	St.	10	●	St.	10	...	St.	10	...	St.	10	●	St.	10	...	St.	10	...	● early : ● to p day.
10	St.-Cu.	6	...	St.-Cu.	9	...	Cu.	5	...	Cu.	7	...	St.-Cu.	2	...	St.-Cu.	9	...	p early : o to b day : ∪ p :
11	St.-Cu.	9	...	St.-Cu.	9	...	Cu.	3	...	Cu.	7	...	St.-Cu.	6	...	St.-Cu.	5	...	o to b a : fair p :
12	Ci.	1	[	Ci.	1	...	St.-Cu.	7	...	St.-Cu.	8	...	St.-Cu.	8	...	St.-Cu.	9	...	∪ early : fine to fair day : ∪ & ∪ p :
13	St.-Cu.	10	●	St.	10	...	Cu.	5	...	St.-Cu.	7	...	St.-Cu.	6	...	St.-Cu.	5	...	● early : fair day : ∪ & ∪ p :
14	A.-Cu.	10	...	St.-Cu.	8	...	St.-Cu.	6	...	St.	10	●	St.-Cu.	10	...	St.	10	●	p early : c to o day : ● n :
15	St.	10	●	St.	10	●	Cu.-Nb.	8	...	Cu.	8	...	St.-Cu.	8	p	Cu.-Nb.	10	...	● early : p. Δ & q day : ∞ & Δ n :
16	Cu.-Nb.	10	...	Cu.-Nb.	7	...	St.	8	...	St.-Cu.	7	...	St.-Cu.	6	...	Cu.-Nb.	7	...	p & Δ early : & day.
17	Cu.	7	...	St.-Cu.	7	...	A.-Cu.	4	...	St.-Cu.	4	...	A.-St.	10	...	St.	10	...	p & Δ early : ● p and n :
18	Cu.	1	...	Cu.	3	...	St.-Cu.	8	p ▲	St.-Cu.	7	...	St.-Cu.	10	...	A.-St.	10	...	● early : p & Δ day.
19	St.-Cu.	7	...	St.	10	...	St.	9	p *	St.-Cu.	8	...	St.-Cu.	7	...	St.-Cu.	9	*	p early : p, Δ, *, ● a : p Δ & * p :
20	St.-Cu.	1	[	Ci.-Cu.	3	...	A.-Cu.	8	...	St.	10	●	St.	10	●	St.	10	●	p & early : ● to p n :
21	A.-St.	8	...	St.-Cu.	8	...	St.-Cu.	6	...	St.-Cu.	6	...	St.-Cu.	8	...	St.-Cu.	7	p	● early : fair day : p p :
22	St.-Cu.	9	...	St.-Cu.	10	...	St.-Cu.	10	...	St.-Cu.	10	...	St.-Cu.	10	...	St.-Cu.	10	...	Dull day.
23	St.-Cu.	9	...	St.-Cu.	8	...	A.-Cu.	5	...	A.-Cu.	7	...	St.-Cu.	10	...	St.-Cu.	10	...	p early : fair to o day.
24	St.-Cu.	10	d ⁰	St.-Cu.	9	...	St.-Cu.	8	...	St.-Cu.	10	...	St.-Cu.	10	...	St.-Cu.	10	...	Fair to o day.
25	St.-Cu.	10	● *	St.-Cu.	10	●	St.	10	●	St.	10	●	A.-Cu.	3	...	St.	1	...	● early : & a o to fine p :
26	St.	2	...	St.-Cu.	8	...	St.-Cu.	5	...	St.-Cu.	6	...	St.-Cu.	10	...	St.	2	...	p early : fair a : o & ● to fine p :
27	St.	8	p	St.	9	p	St.	10	●	St.	10	●	St.	10	●	St.	8	...	● early & day.
28	St.	10	...	St.	10	●	St.	10	●	St.	10	●	St.	9	...	St.	10	...	● early & day : p n :
29	St.	8	...	St.	10	...	A.-St.	10	...	A.-St.	10	...	A.-St.	10	...	Cu.	3	...	p early : ● ⁰ a : p to fine p :
30	St.	7	...	Cu.	8	...	St.	10	p	St.-Cu.	10	...	St.-Cu.	4	...	St.-Cu.	4	...	p early & a : fair p :
31	Cu.	6	...	St.-Cu.	6	...	St.	10	p	St.	10	●	St.-Cu.	7	...	Cu.	2	...	p early & a : fair to fine p :
Mean Cloud Am't	—	7.3	—	—	8.4	—	—	7.9	—	—	8.4	—	—	8.2	—	—	7.7	—	

357. Cahirciveen (Valencia Obs.).

February, 1922.

1	Cu.	2	...	A.-Cu.	8	...	St.-Cu.	8	...	St.	10	●	St.	10	●	St.	10	●	Fine early : c a : ● p :
2	St.	10	●	St.	9	...	St.	10	●	St.	10	...	St.	10	...	St.	10	p q	p early : ● a : p p :
3	St.-Cu.	5	q	St.	9	...	St.-Cu.	7	p	St.-Cu.	9	p	St.-Cu.	7	...	St.-Cu.	3	...	p early & day fine n :
4	Cu.	3	...	St.-Cu.	6	...	St.-Cu.	5	...	Cu.	8	p	St.-Cu.	2	...	Cu.	4	...	Fine to fair day.
5	St.-Cu.	1	...	Cu.	1	...	Ci.-Cu.	7	...	Ci.-Cu.	8	...	A.-St.	10	...	St.	10	...	Fine early : fair day : o n :
6	A.-St.	10	∞	A.-St.	10	...	St.-Cu.	8	...	St.-Cu.	9	...	St.-Cu.	10	...	A.-St.	10	●	o to c day : p to ● n :
7	St.-Cu.	10	...	St.-Cu.	10	...	St.-Cu.	10	...	St.-Cu.	10	...	St.	10	...	Nb.	10	...	p early : o a : ● p :
8	A.-St.	8	...	A.-St.	10	...	A.-St.	10	...	A.-St.	10	...	St.	10	●	St.-Cu.	10	...	p early : o to c a : ● p :
9	St.-Cu.	5	...	Ci.-Cu.	8	...	A.-Cu.	5	...	A.-Cu.	5	...	St.-Cu.	4	...	St.	2	...	Fair day : fine n :
10	St.-Cu.	7	...	St.-Cu.	8	...	Ci.-Cu.	7	...	St.-Cu.	7	...	St.-Cu.	4	...	St.-Cu.	9	...	Fair day : o n :
11	A.-St.	10	...	St.-Cu.	10	∞	St.-Cu.	10	∞	St.-Cu.	10	∞	St.-Cu.	10	∞	St.-Cu.	9	...	o & ∞ ⁰ day.
12	St.-Cu.	10	∞	St.	10	...	St.	10	● ⁰	St.	10	...	St.-Cu.	10	...	St.-Cu.	10	p	o & ∞ early : ● a : o p :
13	St.-Cu.	7	...	St.-Cu.	9	...	St.-Cu.	7	...	St.-Cu.	4	...	St.-Cu.	4	...	Cu.	7	p	p early : fair day : p n :
14	Cu.	6	...	Cu.	7	∅	St.-Cu.	8	∅	St.	9	● ⁰	St.	10	● ≡ ⁰	St.	10	...	p early : o & v a : ● p :
15	Fr.-St.	10	...	St.	10	...	St.-Cu.	10	...	St.	10	...	St.	10	...	St.	10	● ⁰	p ⁰ early : o day : ● n :
16	St.	10	...	A.-St.	10	...	A.-St.	10	...	St.-Cu.	8	...	St.-Cu.	8	...	St.-Cu.	5	...	p early & a : ⊕ : a : fair p :
17	St.-Cu.	9	...	St.-Cu.	8	...	St.	9	p ▲	St.	9	p ▲	St.-Cu.	8	...	St.-Cu.	7	...	p ² early : p & ▲ day.
18	St.-Cu.	7	...	St.-Cu.	8	...	A.-Cu.	8	...	Ci.	7	...	A.-St.	10	p	St.	10	...	p early : fair day : p n :
19	St.	10	p ⁰	St.	10	...	F.-St.	4	...	Cu.	4	...	St.	3	...	Cu.	6	...	p early & a : fair p : p n :
20	St.-Cu.	7	...	St.-Cu.	8	...	St.	8	p ▲	St.	8	p	St.-Cu.	8	...	St.	10	...	p early : p & ∞ p : p n :
21	Cu.	8	...	Ci.-Cu.	8	...	St.	10	p ▲	St.-Cu.	9	p ▲	St.-Cu.	8	...	St.	4	...	∞ & Δ early : p, Δ & * day.
22	A.-St.	10	...	A.-St.	10	●	St.	10	●	A.-St.	10	...	St.	10	●	St.	10	...	p early & day.
23	A.-St.	10	p	Ci.-St.	9	...	St.-Cu.	8	...	St.-Cu.	6	...	St.	8	...	Cu.	7	...	p early : p to ● day.
24	St.	10	...	St.	10	...	St.	10	...	St.	10	...	St.	10	...	St.	10	...	p early : o a : ● p and n :
25	A.-St.	10	● ⁰	A.-St.	10	●	St.	10	●	St.-Cu.	9	...	St.-Cu.	1	...	St.	10	...	● early & a : fair to fine p : ● n :
26	Cu.	4	...	A.-Cu.	7	...	St.-Cu.	8	...	Cu.	6	...	St.-Cu.	8	p	Cu.	3	...	● ² early : fair to p Δ a : fair to fine p :
27	St.-Cu.	9	...	St.-Cu.	10	p	St.-Cu.	7	...	St.-Cu.	8	...	A.-Cu.	7	...	St.-Cu.	3	...	p early : fair & Δ a : fair to fine & p p :
28	Cu.	6	...	Cu.	5	...	A.-St.	10	...	A.-St.	8	...	A.-St.	7	...	Cu.	3	...	p early : bc to o & ⊕ a : c, ∞ to b p :
Mean Cloud Am't	—	7.7	—	—	8.5	—	—	8.4	—	—	8.3	—	—	7.7	—	—	7.6	—	
G.M.T.	7h.			9h.			13h.			15h.			18h.			21h.			

358. Cahirciveen (Valencia Obs.).

Day.	7h.			9h.			13h.			15h.			18h.			21h.			Remarks.
	Predominant type.	Amount.	Weather.	Predominant type.	Amount.	Weather.	Predominant type.	Amount.	Weather.	Predominant type.	Amount.	Weather.	Predominant type.	Amount.	Weather.	Predominant type.	Amount.	Weather.	
1	St.	10	...	St.	10	...	St.-Cu.	8	...	St.-Cu.	8	...	St.	10	●	Cu.	5	...	o to c : a : ● p : fair n :
2	Ci.	2	...	St.-Cu.	8	...	St.	10	...	St.	10	●	St.	10	...	St.	10	...	Fine early : p to ● p :
3	St.-Cu.	10	...	St.-Cu.	9	...	A.-St.	10	...	A.-St.	10	...	A.-Cu.	3	...	St.-Cu.	10	...	p early : o a : o to b p : p n :
4	Cu.	7	...	Cu.	2	...	St.-Cu.	5	...	Ci.-St.	8	...	St.-Cu.	10	...	St.	10	● ⁰	Fine a : c to o p : ● n :
5	Nb.	10	●	St.	10	●	St.	10	p	Ci.-St.	10	...	St.-Cu.	9	...	Cu.	6	...	● early : o day : fair n :
6	St.-Cu.	8	...	St.-Cu.	8	...	St.	10	●	St.	8	...	St.-Cu.	7	...	Cu.	8	...	p early : p to ● day : ⊞ p :
7	St.-Cu.	6	...	St.-Cu.	4	...	St.-Cu.	7	p ⁰	St.-Cu.	6	...	St.-Cu.	7	...	St.	10	...	p early : p to fair day.
8	Cu.	5	...	St.-Cu.	3	...	St.-Cu.	5	...	St.-Cu.	6	...	St.-Cu.	7	...	Cu.	7	p ⁰	p early : fine to fair day.
9	Cu.	5	...	Cu.	7	...	St.-Cu.	7	p	St.	10	p	St.-Cu.	6	...	St.-Cu.	8	...	p early : p to ● day.
10	A.-Cu.	5	...	Cu.	1	...	A.-St.	2	...	St.-Cu.	6	...	St.-Cu.	7	...	St.-Cu.	9	...	Fair to fine day : o n :
11	St.-Cu.	10	...	St.-Cu.	9	...	St.	10	...	St.-Cu.	10	...	St.-Cu.	10	...	St.-Cu.	10	...	Dull day.
12	St.-Cu.	10	●	St.-Cu.	6	...	St.-Cu.	9	...	St.-Cu.	9	...	St.-Cu.	9	...	St.-Cu.	10	...	o to c day.
13	Fr.-St.	1	∞	Cu.	2	∞	A.-Cu.	2	∞	St.-Cu.	1	∞	A.-Cu.	5	∞	A.-Cu.	2	∞	Fine and ∞ day.
14	St.	7	∞	St.-Cu.	7	∞	A.-Cu.	5	∞	A.-Cu.	6	∞	St.	10	∞	A.-St.	7	∞	Fair, ∞ & dry day.
15	Fr.-St.	1	∞	—	0	∞	Cu.	2	∞	Cu.	1	∞	A.-Cu.	2	∞	—	0	∞	Fine, ∞, & dry day : p n :
16	—	0	∞	Cu.	1	∞	Cu.	1	∞	Cu.	2	∞	A.-Cu.	2	∞	St.	4	∞	Fine & ∞ day.
17	Fr.-St.	2	∞	Cu.	5	∞	St.-Cu.	7	∞	St.-Cu.	8	∞	St.	10	∞	St.	4	∞	Fine to fair & ∞ day.
18	St.	10	∞	St.-Cu.	9	∞	St.	10	∞	A.-St.	10	∞	St.-Cu.	8	∞	—	0	∞	Fair to fine & ∞ day.
19	Ci.	2	∞	—	0	∞	—	0	∞	—	0	∞	Cu.	3	∞	St.	8	∞	Fine & ∞ day.
20	St.	8	...	St.-Cu.	8	...	St.-Cu.	8	...	St.-Cu.	7	...	St.-Cu.	3	...	Fr.-St.	3	...	Fair to fine & dry day.
21	Cu.	2	...	Cu.	2	...	St.-Cu.	5	...	St.-Cu.	5	...	St.-Cu.	3	...	Cu.	1	...	Fine, dry day : p :
22	Ci.-Cu.	4	...	Ci.-Cu.	5	...	A.-Cu.	8	...	St.-Cu.	9	...	A.-St.	7	...	St.-Cu.	10	...	⊞ early : fair, dry day : ⊕ a :
23	St.-Cu.	8	...	A.-Cu.	8	...	A.-Cu.	7	...	A.-Cu.	4	...	St.-Cu.	7	...	St.	10	...	Fair early & day : p n :
24	Nb.	10	●	St.	9	p	St.-Cu.	6	...	St.	8	p	St.-Cu.	8	p	Cu.	4	...	● early : p day & n :
25	Cu.	8	p▲	Cu.	8	p▲	St.-Cu.	6	...	St.-Cu.	10	p	St.	8	p▲	Cu.	8	p	p, ▲ & q, early, & day.
26	Cu.	5	...	Cu.	2	...	St.-Cu.	8	...	Cu.	5	...	Cu.	3	...	St.-Cu.	1	...	p, Δ & q early : fine p : p n :
27	Cu.-Nb.	7	...	Cu.	7	...	St.-Cu.	5	...	St.-Cu.	5	...	St.-Cu.	7	...	Cu.	8	p	p early : Δ a : fair p :
28	St.-Cu.	5	...	St.-Cu.	6	...	Cu.	3	...	Cu.	3	...	St.-Cu.	4	...	St.	1	...	Fine day : p :
29	St.	1	...	—	0	...	St.-Cu.	5	...	St.-Cu.	3	...	A.-Cu.	2	∞	St.	2	∞	⊞ early : fine, dry day, ∞ p.
30	St.-Cu.	7	∞	A.-Cu.	8	∞	St.-Cu.	9	∞	St.-Cu.	7	∞	A.-Cu.	7	...	St.-Cu.	8	∞	Fair & ∞ early & day.
31	A.-St.	10	∞	A.-St.	10	∞	St.-Cu.	7	...	Cu.	6	...	St.-Cu.	10	∞	St.	9	∞	Fair & dry day with ∞.
Mean Cloud Am't	—	6.0	—	—	5.6	—	—	6.4	—	—	6.5	—	—	6.6	—	—	6.2	—	

359. Cahirciveen (Valencia Obs.).

1	Cu.	2	∞	Cu.	1	∞	Cu.	7	...	St.-Cu.	8	...	St.-Cu.	8	...	Ci.-St.	4	...	Fine & ∞ early : fine, dry day.
2	St.-Cu.	10	∞	St.-Cu.	10	∞	St.-Cu.	8	∞	St.-Cu.	10	∞	A.-Cu.	8	∞	A.-Cu.	9	∞	o to c & ∞ day.
3	Ci.-Cu.	9	∞	St.-Cu.	8	∞	Cu.	3	∞	St.-Cu.	5	∞	St.-Cu.	5	∞	St.-Cu.	8	∞	Fine, dry day with haze.
4	St.-Cu.	4	...	Cu.	3	...	Ci.-Cu.	6	∅	Ci.-Cu.	6	∅	Ci.-St.	6	∅	Cu.	7	...	⊞ early : fine, v, & p, day.
5	St.	8	p	St.	9	p	St.-Cu.	7	...	St.-Cu.	7	...	Cu.	2	∅	Cu.	2	∅	p early : fair a : fine & ∅ p :
6	St.-Cu.	7	p▲	Ci.-Cu.	5	...	Ci.-Cu.	7	∅	St.-Cu.	10	∅	A.-St.	10	∅	Ci.-St.	10	∅	⊞ & Δ early : fair, dry day & ∅ : ⊞ p :
7	St.	10	●	St.	10	...	St.-Cu.	10	...	St.-Cu.	10	●	A.-St.	10	●	St.-Cu.	10	∅	● early : o & ● to d p :
8	A.-St.	8	...	A.-St.	8	...	A.-St.	7	...	A.-Cu.	6	...	Cu.	3	...	Cu.	1	...	c to o early : fair a : fine p :
9	St.-Cu.	7	...	St.-Cu.	7	...	A.-Cu.	7	...	Ci.	2	...	Cu.	1	...	Cu.	3	...	Δ p early : fair a : fine p :
10	A.-Cu.	6	...	A.-Cu.	6	...	St.-Cu.	6	...	St.-Cu.	7	...	St.-Cu.	8	...	St.-Cu.	10	...	Fine & ⊞ early : fair day.
11	St.-Cu.	9	...	St.-Cu.	10	...	A.-St.	10	●	A.-St.	10	...	St.-Cu.	6	...	Cu.	5	p	o early : ● a : fine p :
12	A.-St.	10	...	A.-St.	10	...	St.-Cu.	10	...	St.-Cu.	10	●	A.-Cu.	3	...	Cu.	4	...	o & v early : ● a : fine p :
13	St.-Cu.	7	∅	St.-Cu.	8	...	St.-Cu.	8	∅	St.-Cu.	8	∅	Ci.	5	∅	Ci.	5	∅	Δ p early : fair & v day.
14	St.	10	★	St.	10	●	St.	10	...	St.-Cu.	8	...	St.	10	...	St.-Cu.	9	...	● early & day.
15	St.-Cu.	10	● ⁰	St.-Cu.	10	...	St.-Cu.	9	p ⁰	St.-Cu.	9	...	A.-Cu.	8	p	Cu.	7	...	● & ● early : ● to p day.
16	Cu.	7	...	Cu.	6	...	Cu.	7	p▲	Cu.	6	...	Cu.	7	...	Cu.	5	...	p & q early : Δ & q a : fine p :
17	St.-Cu.	8	...	St.-Cu.	8	...	St.-Cu.	6	...	Ci.-St.	3	...	Ci.-St.	3	∅	Ci.	2	...	Fair early & a : fine p :
18	St.-Cu.	9	...	St.-Cu.	6	...	St.-Cu.	2	∅	Ci.-St.	2	∅	Ci.-Cu.	5	∅	A.-St.	3	...	Fair early : fine & ∅ day.
19	Ci.-Cu.	8	...	Ci.-St.	8	...	A.-St.	10	...	St.	10	●	St.	10	●	St.	10	●	Fair & ⊕ a : ● p and n :
20	St.-Cu.	8	...	St.-Cu.	8	...	Cu.	3	...	Cu.	2	...	A.-St.	3	...	Ci.-Cu.	3	...	● early : fine day.
21	St.	10	●	St.	10	●	St.-Cu.	5	...	St.-Cu.	3	...	St.-Cu.	2	...	St.-Cu.	6	p	● early : fine day.
22	A.-St.	10	...	A.-St.	10	...	St.-Cu.	10	...	St.-Cu.	9	...	St.	7	...	St.-Cu.	8	...	● early & a : o to c & p p :
23	St.	10	...	St.	8	...	St.	8	∞	St.	10	∞	St.-Cu.	9	∞	Cu.	7	p	o to c a : o to c & p p :
24	Cu.	8	p▲	St.-Cu.	9	...	St.-Cu.	8	...	St.-Cu.	7	...	St.-Cu.	8	...	Fr.-Cu.	6	...	p & q early & day.
25	St.-Cu.	10	● ⁰	St.	10	●	St.	10	...	St.	10	...	St.	8	...	A.-Cu.	7	...	p to ● early : o to c & p p :
26	St.-Cu.	5	...	St.-Cu.	8	...	St.-Cu.	4	...	St.-Cu.	6	...	A.-Cu.	3	...	A.-Cu.	7	p	p early : fair a : fine & Δ p p and n :
27	St.-Cu.	7	...	St.-Cu.	8	p ⁰	St.-Cu.	5	...	St.-Cu.	6	...	St.-Cu.	6	...	Cu.	7	...	p early : fair a : fair & p n :
28	St.-Cu.	7	...	St.-Cu.	7	...	St.-Cu.	7	p▲	St.-Cu.	7	...	St.-Cu.	3	...	Cu.	7	p	p early : fair & Δ p a and p :
29	St.-Cu.	5	...	St.-Cu.	5	...	St.-Cu.	8	∅	Cu.	5	∅	Cu.	4	∅	Cu.	2	...	Fine & ⊞ early : fair, dry and ∅ day.
30	St.-Cu.	9	...	St.-Cu.	9	p	Cu.	7	...	Cu.	2	...	Cu.	4	...	St.-Cu.	2	...	p early : fair a : fine p : p n :
Mean Cloud Am't	—	7.9	—	—	7.8	—	—	7.2	—	—	6.8	—	—	5.8	—	—	5.9	—	
G.M.T.	7h.			9h.			13h.			15h.			18h.			21h.			

360. Cahirciveon (Valencia Obs.).

May, 1922.

Day.	7h.			9h.			13h.			15h.			18h.			21h.			Remarks.
	Predom- inant type.	Amount.	Weather.	Predom- inant type.	Amount.	Weather.	Predom- inant type.	Amount.	Weather.	Predom- inant type.	Amount.	Weather.	Predom- inant type.	Amount.	Weather.	Predom- inant type.	Amount.	Weather.	
1	St.-Cu.	10	...	St.-Cu.	10	...	St.	10	●	St.	10	●	St.	10	● ⁰	St.	10	...	● ⁰ early : ● ⁰ to d day.
2	St.	10	● ⁰ ● ⁰ ● ⁰ ● ⁰	St.	10	...	St.	9	...	St.-Cu.	6	...	St.-Cu.	10	...	St.	10	● ⁰	o, m & d early : fair day : ● n :
3	St.	10	...	St.	10	●	St.-Cu.	5	...	A.-Cu.	6	...	St.-Cu.	7	...	A.-Cu.	8	p	● to p early : fair day : p p :
4	Cu.	4	...	Cu.	3	...	St.-Cu.	5	...	St.-Cu.	5	...	St.-Cu.	5	...	A.-St.	10	...	p ⁰ early : fine day : ● n :
5	St.	10	p	Cu.	2	...	St.-Cu.	5	...	St.-Cu.	6	...	A.-St.	8	...	St.	10	...	p early : fine a fair p : o n :
6	St.	10	...	St.	10	≡ ⁰	St.	10	≡ ⁰ ● ⁰	St.	10	≡ ⁰	St.	10	≡ ⁰	St.	10	≡ ⁰ ● ⁰	o ≡ ⁰ early : ≡ & ● a : ≡ & d p :
7	St.	10	...	St.	10	...	St.-Cu.	9	...	Ci.-Cu.	5	...	Ci.-Cu.	4	...	St.-Cu.	4	...	o & d early & a : fair p :
8	St.	10	...	St.	10	≡	St.	3	...	Ci.-St.	4	∞	A.-Cu.	5	∞	A.-Cu.	3	∞	Fair to ≡ early : fine & ∞ p :
9	A.-Cu.	3	p	A.-Cu.	4	...	A.-St.	1	...	St.-Cu.	4	∞	St.	10	≡	St.	10	≡	Fine & p early : fine a : ≡ p :
10	St.	10	...	St.	10	...	St.	10	...	St.	10	...	St.-Cu.	8	...	St.-Cu.	10	...	≡ early : ● a : o to c p :
11	St.-Cu.	10	...	St.-Cu.	5	...	St.-Cu.	7	...	St.-Cu.	5	...	Cu.	5	...	A.-Cu.	2	∞	o early : fair a : fine & ∞ p :
12	St.-Cu.	7	...	St.-Cu.	8	...	St.-Cu.	6	...	St.-Cu.	7	...	St.-Cu.	5	...	Cu.	1	...	Fair dry day & ⊕ : fine n :
13	St.-Cu.	8	...	St.-Cu.	9	...	St.-Cu.	9	...	St.-Cu.	7	...	St.-Cu.	5	...	St.-Cu.	10	...	o to c a : dry & bc to o p :
14	St.-Cu.	9	...	St.-Cu.	7	...	St.-Cu.	6	...	St.-Cu.	8	...	St.-Cu.	6	...	St.-Cu.	10	...	p early : fair day : o n :
15	St.-Cu.	9	...	St.-Cu.	8	...	St.-Cu.	8	...	St.-Cu.	10	...	St.-Cu.	10	...	St.	10	●	o early : c a : o to ● n :
16	St.	10	● ⁰	St.	10	● ⁰ ≡ ⁰	St.	10	≡ ⁰	St.	10	≡ ⁰	St.	10	≡ ⁰	St.	10	...	● early : o, ≡ ⁰ & d day.
17	St.	9	...	St.	8	...	St.-Cu.	10	...	St.-Cu.	8	...	St.-Cu.	4	...	St.	8	...	p early : o to c & p day.
18	St.-Cu.	8	...	St.-Cu.	4	...	St.-Cu.	7	...	St.-Cu.	7	...	A.-St.	10	...	A.-St.	10	...	p early : fair a : o to d p :
19	St.	9	≡ ⁰	St.	9	≡ ⁰	St.	8	...	St.	10	...	St.	10	...	St.	10	≡ ⁰	o ≡ ⁰ & ● ⁰ early : c a : ≡ ⁰ d to ● ⁰ p :
20	St.	10	≡ ⁰	St.	10	● ⁰ ≡ ⁰	St.	10	≡ ⁰	St.	10	≡ ⁰	St.	10	● ⁰ ≡ ⁰	Nb.	10	●	o, ≡ ⁰ , d to ● ⁰ day.
21	St.	10	● ⁰ ≡ ⁰	St.	10	● ⁰ ≡ ⁰	St.	10	≡ ⁰	St.	10	●	St.	10	●	St.	10	●	o, ≡ ⁰ & d early : ● p and n :
22	Cu.	3	...	Cu.	3	...	St.-Cu.	5	...	St.-Cu.	8	...	St.-Cu.	7	...	St.-Cu.	9	...	St.-Cu. : fine to fair day.
23	St.	10	● ⁰	St.	10	● ⁰	Cu.	5	...	Cu.	6	...	Cu.	4	...	St.-Cu.	4	...	d early : fair day.
24	A.-St.	10	...	A.-St.	10	● ⁰	St.	10	...	A.-St.	10	● ⁰	St.	10	...	St.-Cu.	9	...	d early : dull day.
25	St.	10	● ⁰	St.	10	...	St.-Cu.	8	...	St.-Cu.	8	...	St.	10	...	St.	10	≡ ⁰	d early : fair day : o to ≡ ⁰ n :
26	St.	10	...	St.-Cu.	5	...	St.-Cu.	6	...	St.-Cu.	6	...	Ci.-Cu.	6	...	Ci.-Cu.	2	...	● ⁰ early : fair day : fine n :
27	Ci.-Cu.	2	...	Ci.-Cu.	2	...	Ci.-Cu.	3	...	Ci.-Cu.	2	...	Ci.-Cu.	1	...	Ci.	1	...	Fine & early : fine day.
28	St.-Cu.	3	...	A.-Cu.	4	...	Ci.-Cu.	2	...	Ci.-Cu.	2	...	Ci.-Cu.	4	...	Ci.-Cu.	3	...	Fine & p p early : fine day.
29	Ci.-Cu.	4	p	Ci.-Cu.	4	...	A.-St.	3	...	A.-St.	3	...	A.-Cu.	4	...	Ci.	2	...	Fine & p p early : fine day.
30	—	0	p ∞	—	0	∞	A.-St.	1	...	A.-Cu.	3	...	A.-St.	6	...	Ci.	5	...	Fine & p p early : fine, dry day.
31	Ci.-Cu.	1	p	Ci.-Cu.	1	...	A.-St.	3	...	A.-St.	3	...	A.-Cu.	3	...	Ci.	7	∞ ⁰	Fine & p early : fine, dry day.
Mean Cloud Am't	—	7.7	—	—	7.0	—	—	6.6	—	—	6.7	—	—	7.0	—	—	7.4	—	

361. Cahirciveon (Valencia Obs.).

June, 1922.

1	—	0	...	A.-St.	1	∞	St.-Cu.	7	...	St.-Cu.	4	...	St.-Cu.	6	...	St.-Cu.	9	...	Fine & ∞ early : fair day : o n :
2	St.	10	...	St.-Cu.	9	...	St.-Cu.	5	...	St.-Cu.	5	...	St.-Cu.	8	...	Ci.-Cu.	7	...	d early : fair day.
3	St.-Cu.	9	...	St.-Cu.	8	...	St.-Cu.	9	...	St.-Cu.	8	...	St.-Cu.	2	...	St.-Cu.	8	...	o to c early & a, c to b p :
4	St.	10	...	St.	10	...	St.-Cu.	8	...	St.-Cu.	6	...	St.-Cu.	9	...	St.-Cu.	9	...	o early : fair day.
5	St.-Cu.	10	...	St.-Cu.	9	...	St.-Cu.	8	...	St.-Cu.	8	...	St.-Cu.	3	...	St.-Cu.	9	...	o early : fair a : c to b p :
6	St.-Cu.	8	...	St.-Cu.	6	...	St.-Cu.	3	...	St.-Cu.	1	∞	—	0	...	Ci.	2	∞	Fair early & a : fine p :
7	A.-St.	8	...	A.-St.	8	...	St.-Cu.	3	∞	St.-Cu.	8	∞	St.	10	∞	St.	10	...	● ⁰ early : c to b & ∞ a : c to o p :
8	St.-Cu.	8	...	St.-Cu.	6	...	St.-Cu.	6	...	St.-Cu.	6	...	St.-Cu.	3	...	St.-Cu.	7	...	Fair early : fair to fine p :
9	St.-Cu.	8	...	St.-Cu.	6	...	St.-Cu.	5	...	St.-Cu.	4	...	St.-Cu.	6	...	Ci.-Cu.	9	...	Fair & T a : fair p : o n :
10	St.-Cu.	10	...	St.	10	∞	St.	10	p	A.-Cu.	8	...	Ci.-St.	8	...	A.-Cu.	6	...	o & p a : fair & ⊕ p :
11	Ci.-St.	8	p	A.-St.	10	...	St.	10	...	St.	10	...	St.	10	...	St.	10	...	∞ early : dull day.
12	St.	10	...	St.	10	● ⁰	St.	10	...	St.	10	...	St.	10	≡ ⁰	St.	10	● ⁰	d early & a, p to ● ⁰ p :
13	St.-Cu.	8	...	St.-Cu.	8	...	Cu.	3	...	St.-Cu.	3	...	A.-Cu.	7	...	A.-St.	10	...	Fair to fine & ∞ day : o n :
14	A.-Cu.	8	...	A.-Cu.	8	...	St.-Cu.	10	...	St.-Cu.	10	...	St.	10	≡ ⁰	St.	10	●	c to o a : ≡ ⁰ p to ● ⁰ p :
15	St.	10	...	St.-Cu.	10	...	St.-Cu.	7	...	St.-Cu.	7	...	St.-Cu.	5	...	St.-Cu.	3	...	p early : fair to fine day.
16	St.	10	...	St.-Cu.	8	...	St.-Cu.	8	...	St.-Cu.	8	...	St.-Cu.	7	...	St.-Cu.	10	...	o early : fair day : o n :
17	St.-Cu.	10	...	St.-Cu.	9	...	St.-Cu.	7	...	St.-Cu.	3	...	St.-Cu.	9	...	St.	10	...	o early : fair to fine day : o n :
18	St.	10	≡ ⁰	St.	10	≡ ⁰	St.	10	...	St.-Cu.	9	...	St.	10	● ⁰ ≡ ⁰	St.	10	● ⁰ ≡ ⁰	o & ≡ ⁰ early : o day : o & ≡ ⁰ n :
19	St.	10	...	St.	10	...	St.	10	...	St.	10	...	St.	10	...	St.	10	...	o & d early : dull day.
20	St.	10	...	St.	10	...	St.-Cu.	3	...	Cu.	3	...	St.-Cu.	7	...	Cu.	7	...	o & d early : fine to fair day.
21	St.-Cu.	10	...	St.-Cu.	10	...	St.-Cu.	10	...	St.-Cu.	10	...	St.-Cu.	7	...	A.-Cu.	8	...	o & p ⁰ day : c n :
22	St.-Cu.	10	...	St.-Cu.	10	...	St.	10	...	St.	10	...	St.	10	...	Cu.	8	...	o & p day.
23	St.	9	...	St.-Cu.	9	...	St.	9	...	St.-Cu.	8	...	St.-Cu.	8	...	St.-Cu.	10	...	o to c day.
24	St.	9	...	St.-Cu.	6	...	St.-Cu.	8	...	St.-Cu.	5	...	St.-Cu.	6	...	Ci.-Cu.	7	...	p ⁰ early : fair a : p p :
25	A.-St.	10	...	St.	10	p ⁰	A.-St.	10	p ⁰	A.-St.	10	...	St.	10	● ⁰	St.	10	≡ ⁰	p early : p to ● day.
26	St.	10	≡ ⁰	St.	10	...	St.-Cu.	7	...	St.-Cu.	7	...	St.-Cu.	7	...	St.	10	...	o & d early : fair day.
27	St.	10	...	St.	10	● ⁰	St.	10	≡ ⁰ ● ⁰	St.	10	● ⁰ ≡ ⁰	St.	10	...	St.	10	...	o to ≡ ⁰ day.
28	St.	10	...	St.-Cu.	10	...	St.-Cu.	8	...	St.-Cu.	7	...	St.-Cu.	5	...	Cu.	4	...	o early : fair day : p n :
29	St.-Cu.	10	...	St.-Cu.	3	...	St.-Cu.	8	...	St.-Cu.	7	...	St.-Cu.	8	...	St.	10	● ⁰	p early : fair p : p n :
30	St.	10	...	St.-Cu.	10	...	St.-Cu.	10	...	St.-Cu.	10	...	St.-Cu.	10	...	St.	10	●	p ⁰ early : o day : ● : p and n :
Mean Cloud Am't	—	9.1	—	—	8.5	—	—	7.7	—	—	7.2	—	—	7.4	—	—	8.4	—	
G.M.T.	7h.			9h.			13h.			15h.			18h.			21h.			

362. Cahirciveen (Valencia Obs.).

July, 1922.

Table with columns for Day, 7h., 9h., 13h., 15h., 18h., 21h., and Remarks. Rows 1-31 and Mean Cloud Am't.

363. Cahirciveen (Valencia Obs.).

August, 1922.

Table with columns for Day, 7h., 9h., 13h., 15h., 18h., 21h., and Remarks. Rows 1-31 and Mean Cloud Am't.

366. Cahirciveen (Valencia Obs.).

Table with 17 columns: Day, 7h., 9h., 13h., 15h., 18h., 21h., Remarks. Each hour column contains sub-columns for Predominant type, Amount, and Weather. Remarks contain detailed weather observations and codes.

365. Cahirciveen (Valencia Obs.).

Table with 17 columns: Day, 7h., 9h., 13h., 15h., 18h., 21h., Remarks. Each hour column contains sub-columns for Predominant type, Amount, and Weather. Remarks contain detailed weather observations and codes.

366. Cahirciveen (Valencia Obs.).

November, 1922.

Table with columns for Day, 7h, 9h, 13h, 15h, 18h, 21h, and Remarks. Rows 1-30 show cloud amounts and weather types (St.-Cu., A.-St., Cu., Ci.-Cu., Fr.-St., Nb., etc.) for each hour, along with mean cloud amount (8.5) and G.M.T. (7h, 9h, 13h, 15h, 18h, 21h).

367. Cahirciveen (Valencia Obs.).

December, 1922.

Table with columns for Day, 7h, 9h, 13h, 15h, 18h, 21h, and Remarks. Rows 1-31 show cloud amounts and weather types (St.-Cu., A.-St., Cu., Ci.-Cu., Fr.-St., Nb., etc.) for each hour, along with mean cloud amount (8.4) and G.M.T. (7h, 9h, 13h, 15h, 18h, 21h).

M.O. 259
(Section IV.)

Air Ministry
METEOROLOGICAL OFFICE

THE
OBSERVATORIES' YEAR BOOK
1922

Comprising the results obtained from autographic records and eye observations at the observatories at Aberdeen, Eskdalemuir, Cahirciveen (Valencia Observatory), Richmond (Kew Observatory), and Benson.

SECTION IV.—RICHMOND

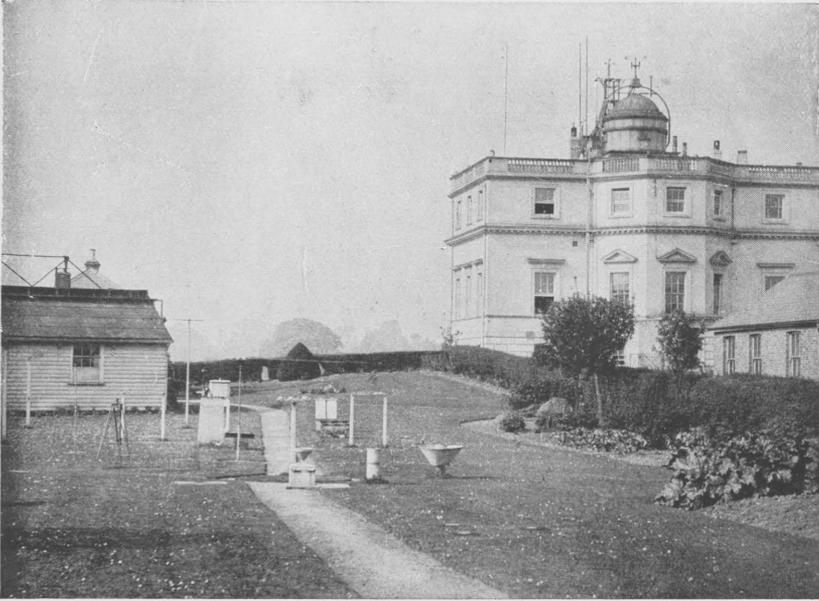
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FIG. 4.



Kew Observatory.—MAIN BUILDING, AND METEOROLOGICAL INSTRUMENTS ON THE EXPOSURE LAWN.

FIG. 5.



Kew Observatory.—MAGNETIC HUT, EXPOSURE LAWN, AND EXPERIMENTAL HUT.

SECTION IV.

RICHMOND (KEW OBSERVATORY).

Latitude	51° 28' N.
Longitude	0° 19' W.
G.M.T. of Local Mean Noon	12h 1m.

Heights in Metres above Sea Level.

Barometer	10·4
Raingauge	5·5
Robinson Cup Anemograph	25
Dines Tube Anemograph	25

Heights in Metres above Ground.

Thermometer Bulbs	3·0
Sunshine Recorder	13·3
Robinson Cup Anemograph	20
Dines Tube Anemograph	20

INTRODUCTION.

SITE.

The Observatory, which derives its name from an earlier Observatory situated in Kew Palace Grounds about a mile ($1\frac{1}{2}$ km.) from the present building, was built in 1769 and has had continuous meteorological records since 1868. It is situated in the Old Deer Park, Richmond (Surrey), about 10 miles (16 km.) to the west of the City of London. It lies within a bend of the river Thames, and is distant about 300 metres on the north and west sides of the Observatory, which stands on a low artificial mound whose level is about $1\frac{1}{2}$ metres higher than that of the surrounding park. The nature of the soil and subsoil is clay and gravel. Kew Gardens, which are extensively wooded, lie to the east-north-east, the nearest point of the Gardens being about 600 metres away. The town of Richmond, to the south-east, is about 1,100 metres distant. On the south-east side of the Park is the main road from Richmond to Kew. Old Deer Park is mainly open pasture. Round the Observatory a golf course has been laid out. Another open area partly wooded, Syon Park, lies to the north-north-east across the river. Richmond Park is about $1\frac{1}{2}$ miles ($2\frac{1}{2}$ km.) to the south-east. For a general view of the Observatory building and the exposure lawn, with the disposition of the various screens and instruments, see Figs. 4 and 5.

METEOROLOGY.

The elements dealt with in the following tables are: atmospheric pressure, temperature, humidity, rainfall, sunshine, solar radiation, wind speed and direction, earth temperature, minimum temperature on the grass, level of underground water, and a diary of cloud and weather.

For brief descriptions of most of the instruments from which values of the above elements have been obtained and of the methods of tabulating the records, reference should be made to the General Introduction (pp. 9-16). The following notes supplement, where necessary, the information contained therein.

Notes on Instruments.

Pressure.—The barograph is mounted in the Magnetograph room (in the basement of the Observatory) where the diurnal variation of temperature is very small. The barograph magnifies barometric changes in the ratio $1.553 : 1$, i.e. the equivalent change of ordinate to a change of 1 mm. in the height of the barometer is 1.553 mm. The "residual correction," which is obtained from the control observations taken daily with the standard Newman barometer at 9h, 15h and 21h, is applied to the hourly measurements made on any one photographic sheet. The Newman barometer is compared from time to time with the two large mercury standards belonging to the Observatory, which used to be the ultimate standards for the whole country when the testing of barometers was done at Kew Observatory. A zero correction is based on these comparisons. The correction applied during 1922 was + 0.2 millibar (+ .006 mercury-inch). On a few occasions when an unexpected loss of trace occurred, the missing hourly values were derived from the Dines Float Barograph. There were only seven hours in the year in which this was necessary.

Temperature.—The thermograph is mounted in the West Room on the first floor of the Observatory. The thermometers are exposed in the screen attached to the north wall of the Observatory main building. The height of the bulbs of the recording thermometers above ground level immediately outside the building is approximately 3 metres (10 feet). The scale values are not identical for the dry and wet-bulb curves, being 1 mm. = 0.2715a for the former, and 1 mm. = 0.2901a for the latter. Control eye-readings of the standard thermometers are taken daily at 9h, 15h and 21h. The standard thermometers in the screen have their freezing point readings redetermined annually in January, and corrections are applied according to the results. When failure occurs of the dry-bulb trace recourse is had to the trace from the Callendar platinum thermometer recorder, the thermometer of which is in the north-wall screen adjacent to the mercury thermometers. Only seven hours had to be thus dealt with during the year. When the wet-bulb trace is missing or defective, the missing values are derived from the dry-bulb trace and the records of a hair hygograph. Sixty-five hours had thus to be dealt with during the year. The loss was principally due to doubtful behaviour of the wet-bulb thermometer when near the freezing point of water. In a few cases, failure was due to imperfect moistening of the wet-bulb muslin. Publication of hourly values of wet-bulb temperatures was discontinued in 1907.

Rainfall.—The rainfall results are derived mainly from the Beckley self-recording raingauge. The receiving area is 100 sq. in. (645 cm.²) approximately. In tabulating the records, readings are taken by estimation to 0.1 mm.

Sunshine.—The sunshine recorder is mounted on the south parapet of the roof.

Solar Radiation.—Observations are made with an Ångström pyrheliometer, which measures the intensity of the radiation received from the sun by a surface which is normal to the line drawn from the instrument to the sun. The observations are made within half an hour of noon on all days except those of fog or thick haze. The conditions of the intervening atmosphere are indicated in the table in the column "sky." The amount of radiation is given in milliwatts per square centimetre in the column headed "total." For conversion to the unit more ordinarily employed abroad, the following relation may be used, 1mw. per sq. cm. = 0.01435 gramme-calorie per sq. cm. per minute. The vertical component, i.e. the radiation received per square centimetre of the earth surface, is also given.

Wind Speed and Direction.—The Robinson Cup Anemograph from which the results are mainly derived is exposed on the roof of the Observatory (see Fig. 4). Data missing owing to imperfections of the trace or other causes are replaced by results from the Dines tube anemograph, the head of which is approximately at the same height as the Robinson anemograph cups.

Earth Temperature.—This is determined by two thermometers of which the bulbs are at depths of 30 cm. (1 foot) and 122 cm. (4 feet), respectively. Readings are taken at 9h each day. The thermometers are of a sluggish type, the bulbs being enclosed in wax, and are suspended by chains inside iron tubes sunk in the garden. The surface is grass, which is kept short throughout the year.

Minimum Temperature on the Grass.—The grass minimum thermometer is set at 18h and read at 9h on the succeeding day, the reading being assigned to the day of reading.

Notes on the Meteorological Tables.

Pressure.—The highest and lowest of the mean daily values throughout 1922 were 1040·9 mb. on November 16th and 975·4 mb. on December 30th. The range in Table 381, *i.e.* the algebraic difference between the extreme hourly values, varies somewhat irregularly from month to month, the largest range, 1·43 mb. in May, being nearly double the lowest, 0·77 mb. in January. As usual, the type of the diurnal variation differs widely in different months, though a distinct double oscillation is always recognisable. In 7 months out of the 12 the principal maximum appears at 9h, 10h or 11h, 10h being the hour of its occurrence for the year as a whole; but in 4 of the remaining 5 months it appears at 23h. In the case of the year* the principal minimum occurs at 16h. It occurs in the afternoon in 8 months, and in the forenoon in 4 months. The differences between different months and seasons are most clearly brought out by considering the Fourier coefficients calculated from the diurnal inequalities of the several months.

The inequality is supposed to be given by the equivalent formulæ—

$$a_1 \cos 15t^\circ + b_1 \sin 15t^\circ + a_2 \cos 30t^\circ + b_2 \sin 30t^\circ + \dots$$

$$c_1 \sin (15t^\circ + \alpha_1) + c_2 \sin (30t^\circ + \alpha_2) + \dots$$

t being the time in hours elapsed since the first midnight of the day. The curves being tabulated according to Greenwich time, the values of the Fourier coefficients, as originally calculated, referred to Greenwich time. In Table A, p. 260, however, the phase angles refer really to local mean time, allowance having been made for the difference between Greenwich and local time. It has not been thought necessary to record here the values of the a and b coefficients, which remain available at the observatory for future use. In addition to the monthly and seasonal values, the arithmetic mean of the twelve monthly values for the amplitudes c_1 , c_2 , c_3 and c_4 are also given. In cases such as that of the 12-hour wave, where the variation in the phase angle throughout the year is small, the result from the mean diurnal inequality for the year gives an adequate idea of the real importance of the term. But when the phase angle is as variable as it is in the case of the 24-hour wave, the contributions from the different months to the mean diurnal inequality for the year cancel out to such an extent that a very inadequate idea is conveyed. The variations in the 24-hour phase angle would seem to have been greater than usual, as the arithmetic mean value of c_1 is above the average for the period 1871 to 1882, while the value of c_1 for the mean diurnal inequality of the year is considerably below the normal for that period of years and also for the longer period 1871 to 1915. The summer season showed a lesser variability of phase angle than the others, and it is to this that it owes its relatively large value for c_1 .

While the 12-hour term phase angle α_2 is much less variable than α_1 , it has very sensibly different values for the three seasons. As usual, the summer value is the lowest, and the equinoctial the highest. The values of c_2 for the year and the seasons seem all a little below the average.

* The apparent inconsistency between the figures for the representative day in Table 380, and the diurnal inequality for the year in Table 381, is due to the large non-cyclic correction entailed by the fact that the pressure at 0h. on January 1st exceeded that at 24h. on December 31st by 30·3 millibars.

The phase angle α_3 has, as usual, a large comparatively regular annual variation. It is the transition between the high values of winter and much lower values of summer, that leads to the very low values of c_3 exhibited in the equinoctial months. The value of c_3 in the mean diurnal inequality for the year gives an even more inadequate idea than usual of the relative importance of the 8-hour term.

The phase angle α_4 is also highly variable. The variations are of a less regular character than those of α_3 , and probably owe more to accident. It is the greater variability of α_4 in the winter months that is the principal reason why the value of c_4 for equinox so largely exceeds that for winter. But little weight attaches to values of c_4 and α_4 for individual months.

Table 382 records the highest and the lowest pressure for each day of the year. The highest pressure of the year, 1042.4 mb., was recorded on November 16, and the lowest pressure, 968.5 mb., on March 8. Thus the range for the year was 73.9 mb. The largest range of pressure experienced in any one month was 61.8 mb. in December, the mean of the 12 monthly ranges being 43.0 mb. The mean daily range for each month is deducible from the values of the mean maximum and the mean minimum in the last line of Table 382. These mean daily ranges vary from 8.79 mb. in April to 4.39 mb. in June. Allowing equal weight to the several months, the mean daily range for the year is 7.15 mb. This is nearly 10 times the range of the regular diurnal inequality for the year given in Table 381. This helps to bring out the smallness of the regular changes of barometric pressure as compared with the irregular changes.

TABLE A.

*Diurnal Variation of Barometric Pressure. Fourier Coefficients.*Richmond (Kew Observatory), Longitude $0^\circ 19' W$.

Month or Season.	c_1	α_1	c_2	α_2	c_3	α_3	c_4	α_4
	mb.	° ' "	mb.	°	mb.	°	mb.	°
January .. ..	.174	19 13	.225	139.9	.125	359	.048	196
February .. ..	.120	221 53	.428	138.3	.127	341	.050	35
March .. ..	.427	116 35	.349	129.9	.021	263	.068	50
April .. ..	.269	316 4	.366	165.3	.014	127	.057	7
May .. ..	.555	18 35	.335	141.0	.097	166	.009	312
June .. ..	.444	25 47	.343	138.0	.109	165	.014	295
July .. ..	.164	111 11	.239	142.6	.140	146	.011	43
August .. ..	.168	346 46	.307	139.2	.100	134	.045	285
September .. ..	.155	302 52	.364	156.7	.017	269	.043	309
October .. ..	.064	20 33	.379	159.3	.076	347	.004	331
November .. ..	.399	80 10	.384	161.2	.121	349	.007	65
December .. ..	.434	219 15	.218	150.1	.147	332	.051	159
Arithmetic Mean .. ..	.281	..	.328	..	.091	..	.034	..
Year .. ..	.099	34 8	.321	147.2	.014	8	.009	4
Winter .. ..	.054	153 34	.308	147.4	.128	345	.016	140
Equinox .. ..	.043	30 29	.355	153.3	.019	326	.033	10
Summer .. ..	.284	25 16	.306	140.0	.109	152	.016	300

Note.—*Winter* comprises the four months, January, February, November, December.

Equinox the months March, April, September, October, and *Summer* May to August.

Temperature.—The highest and lowest of the mean daily values throughout the year were 296.4a (74.1° F.) on May 23rd, and 271.3a (28.9° F.) on January 24th. The mean temperature of the representative day of the year was 282.66a (49.4° F.).

Fourier coefficients were calculated from the inequality data, as in the case of barometric pressure. The amplitudes and phase angles are given in Table B, p. 261. The small variation in the 24-hour term phase angle is emphasised by the smallness in the excess of the arithmetic mean value of c_1 over the value from the mean diurnal inequality for the year. The 24-hour term is the dominant one, especially in summer.

Absolutely considered, the 12-hour term is largest in the equinoctial season, but relative to the 24-hour term it is most important in winter. The small value of c_2 in May arises apparently from a change then occurring in the phase angle; the resulting phase angle for the month is of doubtful significance. The 8-hour term is largest in the summer and least in the equinoctial season, a large change of phase angle occurring in the latter. The summer and winter 8-hour waves are nearly opposite in phase.

The 6-hour wave phase angle is very variable throughout the year, with the result that while the summer value and the arithmetic mean of the 12 monthly values of c_4 are very sensible, the amplitude for the mean diurnal inequality of the entire year is practically zero.

The highest temperature of the year, $303.3a$ ($86.5^\circ F.$), was recorded at an unusually early date, May 24th. The lowest temperature, $269.8a$ ($26.2^\circ F.$), was recorded on two dates, January 18th and April 2nd. The highest and lowest temperatures of the year were thus recorded within 52 days of one another. The range of temperature for the year was $33.5a$ ($60.3^\circ F.$). The largest range of temperature in any one month was $28.6a$ ($51.5^\circ F.$) in May, the mean of the twelve monthly ranges being $18.5a$ ($33.3^\circ F.$). The mean daily range for each month is deducible from the values of the mean maximum and the mean minimum. These mean daily ranges vary from $11.5a$ in May to $4.3a$ in December. Allowing equal weight to the several months, the mean daily range for the year is $7.37a$ ($13.3^\circ F.$). This is only 44 per cent. larger than the range in the mean diurnal inequality for the year.

TABLE B.

*Diurnal Variation of Temperature. Fourier Coefficients.*Richmond (Kew Observatory), Longitude $0^\circ 19' W.$

Month or Season.	c_1	α_1	c_2	α_2	c_3	α_3	c_4	α_4
	a.	o	a.	o	a.	o	a.	o
January	1.085	222 18	.478	37.1	.210	193	.028	334
February	1.739	222 54	.607	37.6	.161	194	.069	165
March	1.679	227 58	.595	27.9	.057	322	.083	208
April	2.796	222 42	.544	52.9	.185	19	.057	216
May	4.910	222 41	.021	280.1	.440	37	.155	28
June	3.751	223 33	.120	184.4	.330	31	.099	18
July	3.020	226 53	.109	124.3	.240	22	.138	17
August	3.063	223 51	.340	65.9	.213	22	.030	347
September	2.864	227 46	.607	44.6	.183	0	.116	214
October	2.426	227 54	.793	53.2	.098	277	.134	212
November	1.885	229 0	.594	34.0	.164	210	.034	118
December	0.793	219 53	.458	44.8	.181	201	.051	43
Arithmetic Mean	2.501	..	.439	..	.205	..	.083	..
Year	2.499	224 52	.404	45.4	.071	20	.004	354
Winter	1.373	224 26	.533	38.3	.178	199	.018	105
Equinox	2.440	226 23	.625	45.3	.105	350	.098	213
Summer	3.685	224 0	.093	95.9	.304	30	.104	19

Note.—*Winter* comprises the four months January, February, November, December.

Equinox the months March, April, September, October, and *Summer* May to August.

Relative Humidity.—The highest mean daily value of relative humidity was 98.3 per cent. on January 22nd, and the lowest 55.7 per cent. on June 1st. The highest mean daily value of vapour pressure was 17.7 mb. on May 22nd, and the lowest 3.4 mb. on January 24th.

In the inequalities of relative humidity for the summer months, and for the year as a whole, only a single oscillation is clearly visible in the 24 hours, the

maximum occurring in the forenoon and the minimum in the early afternoon, but most months show traces of a double oscillation with a secondary minimum in the morning.

Rainfall.—As the irregularity of the figures in Table 412 shows, there is a good deal that must be regarded as accidental in the hourly figures for any one year. The total amount for the year, 567·6 mm. (22·35 in.), is in no way remarkable. Of this, 334·2 mm., or 59 per cent., fell in the afternoon. The average rate of rainfall, when rain occurred, was 1·15 mm. per hour, being 1·25 mm. per hour for the afternoon as against 1·04 mm. per hour for the forenoon.

The monthly totals of rainfall varied from 83·8 mm. (3·30 in.) in July to 19·0 mm. (0·75 in.) in October, and the monthly durations from 67·6 hours in April to 12·2 hours in May. The greatest rainfall in any one (Greenwich) day was 16·2 mm. (0·64 in.) on August 6th.

Sunshine.—May, with a total of 290·6 hours of sunshine, 60 per cent. of the possible, was the sunniest month of the year; while November, with a total of 40·2 hours, 15 per cent. of the possible, was the least sunny. The longest duration of sunshine on any one day was 14·7 hours on May 28. The total for the preceding day, May 27th, was only 0·4 hours less, and on both days there was continuous record from 5h to 19h. The total duration on August 26th was 2 hours less than on May 28th; but the percentage of the possible, 91, was the same on the two days, being the highest of the year. In the year as a whole there were 71 days in which no sunshine was recorded. Of these, 13 occurred in January and 17 in November. In July and August, though the total monthly duration was poor, there was no single day absolutely devoid of sunshine.

Solar Radiation.—The highest value of the total radiation was 88·8 mw/cm.² on August 23rd, the highest value of the vertical component being 77 mw/cm.² on June 29th.

Wind Speed and Direction.—April 15th, with an average velocity of 11·0 metres per second, was the most windy day of the year. At the other end of the scale the two successive days November 21st and 22nd had each an apparent mean wind velocity of only 0·5 metres per second. At low velocities, however, the effects of friction are apt to be large and uncertain. The mean monthly velocities varied from 4·97 metres per second in March, to 2·30 metres per second in November, the mean of the twelve monthly means being 3·64 metres per second.

On the average of the twelve months the mean hourly values were as follows, the highest and lowest values being in heavy type :—

Hour ..	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	12h	
Velocity..	2·92	2·77	2·92	2·74	2·94	2·88	3·25	3·50	3·86	4·19	4·71	4·71	m/s
Hour ..	13h	14h	15h	16h	17h	18h	19h	20h	21h	22h	23h	24h	
Velocity..	4·90	4·69	4·73	4·28	4·23	3·77	3·73	3·27	3·26	2·99	3·05	2·84	m/s

For the twelve hours ending with 18h the mean velocity was 4·24 metres per second, as against 3·03 metres per second for the remaining twelve hours.

The highest instantaneous value of the wind velocity for each day, as recorded by the Dines tube anemograph, and the time of its occurrence to the nearest 5 minutes was not available subsequent to December 3rd owing to the instrument being out of action. The highest velocity of the year, 25 metres per second, was recorded at 2h. 30m. on March 1st.

During the year there was no occasion on which the mean wind velocity for any 60-minutes centering at an exact hour G.M.T. exceeded 17·1 metres per second, and there were only 39 such hours, distributed over 12 days, when the mean velocity exceeded 10·8 metres per second. If the highest hourly velocities in Table 451 be compared with the corresponding velocities from the cup anemograph in Tables 438–449, it will be found that the latter are on the average slightly the larger; but the differences between the two sets of values are mostly very small, being less than 0·5 metres per second in 8 months out of the twelve.

Earth Temperature.—In examining the results, it has to be borne in mind that there is a very sensible regular diurnal variation of temperature at 30 cm. depth, the amplitude varying with the season, and, moreover, the mean value for the day is not found at 9h. This is no doubt partly accountable for the irregular variation in the differences between the mean monthly values at 30 cm. depth in Table 452, and the monthly mean values of air temperature in Table 396. The algebraic excess of the temperature at 30 cm. depth over the air temperature varies only from +1·0a in August to –1·4a in May. The diurnal variation of temperature at 122 cm. depth is very small, and the differences between the mean monthly temperatures at that depth and the corresponding air temperatures show a fairly regular progression throughout the year. The algebraic excess of the temperature at 122 cm. depth over the air temperature varies from +3·2a in October to –4·2a in May. The underground temperature is the higher except in the 4 months May to August, and in the year as a whole it is the higher by 0·6a. The mean monthly temperature at 122 cm. exceeds that at 30 cm. during the same months in which it exceeds the air temperature. The algebraic excess of the temperature at 122 cm. varies in this case from +3·5a in November to –2·8a in May. At 30 cm. depth, the highest and lowest temperatures recorded during the year were 291·0a on June 1st, 2nd, 3rd, and 274·4a on February 14th and 15th. At 122 cm. depth the highest and lowest temperatures were 287·7a on August 26th, and 278·7a on February 1st. The absolute range during the year thus reduces from 33·5a (60·3° F.) in the screen to 16·6a (29·9° F.) at 30 cm. depth, and to 9·0a (16·2° F.) at 122 cm. depth.

Grass Minimum Temperature.—The mean of the monthly means is 276·04a (37·5° F.). The monthly mean fell below the freezing point of water in April and November, being 272·2a (30·6° F.) in the latter month. The highest mean monthly value, that for July, exceeds the lowest by only 9·2a (16·6° F.). The lowest grass minimum temperature of the month exceeded the freezing point of water in only three months, viz., June, July and August. The lowest temperature recorded during the year was 265·0a (17·6° F.) on February 14th. The difference between the lowest temperature and the mean temperature for the month was remarkably uniform, varying only from 6·1a in July and November to 8·7a in September.

Level of Underground Water.—Table 454 gives the mean daily value of the level of underground water and the highest and lowest levels attained during each month. The heights are reckoned from mean sea level. The level actually measured is the surface of water in a pipe which passes down through the floor of the basement into the ground immediately under the Observatory.* The water level depends partly on the local rainfall, and partly on the level of water in the river Thames. The height of the river depends partly on the rainfall throughout the whole Thames Valley and partly on the tides. A fortnightly fluctuation can be recognised throughout a considerable part of the year.

The general tendency in the water level was to rise from the minimum appearing in January to the maximum appearing in April, the total rise in the level from January 20th to April 19th being 102 cm. During the last seven months the fluctuations were comparatively small. Taking the whole year, there was a rise in the level of about 30 cm.

* A description of the instrument is given in the Annual Supplement to the *Geophysical Journal*, 1914.

Diary of Cloud and Weather.—As explained in the footnotes, observations are lacking at 15h on Sundays and a few other days. The last line in each monthly table gives the mean amount of cloud for each of the six hours of observation. The following mean data are derived from these:—

Mean Amount of Cloud from Six Observation Hours.

Month	Jan.	Feb.	Mar.	Apl.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Cloud..	7·4	6·3	7·3	7·0	4·5	6·4	7·5	7·5	7·3	5·9	7·3	7·4	6·8

Mean Amount of Cloud for the Year at the Six Observation Hours.

Hour ..	7h	9h	13h	15h	18h	21h
Cloud..	7·0	7·0	7·2	7·5	6·4	5·7

May was thus much the least cloudy month of the year, while July and August were slightly more cloudy than January and December. At 21h in May the mean amount of cloud was only 2·8, while at 15h in August it was 8·4, or three times as much. For the year as a whole 15h was the most cloudy hour.

ATMOSPHERIC ELECTRICITY.

The instruments in use throughout the year in connection with atmospheric electricity have been the Kelvin water-dropper and the Benndorf radium collector electrographs, the Kelvin portable electrometer No. 80, the electrostatic voltmeters Nos. 1684 and 1685, a Wilson universal electrometer and two Ebert aspiration apparatus.

The portable electrometer and the electrostatic voltmeters are used for converting the electrogram readings into true potential gradient in the open. The apparatus for the absolute observations consists essentially of a long insulated rod, carrying a lighted fuse at the end, connected to the electrometer or voltmeter. Readings are taken with the fuse at one metre and at two metres above the ground, the grass on which is kept short. The site is in the Observatory garden, as remote as possible from trees or buildings. If no change occurred in the position or environment of the water-dropper—the instrument the curves from which are regularly tabulated—a constant ratio might persist between the potential at the spot where the jet breaks into drops (the variations in which we aim at recording) and the corresponding potential observed with the absolute instruments. But the assumption of a constant ratio is unsafe, and the practice is to calculate a factor for each month based on the absolute observations which are taken in the garden on all convenient dry days.

The data appearing in Table 467 have hitherto been published in the *Geophysical Journal*. They include for each month the character figure assigned from consideration of the whole day's curve, the air-earth current, and the charges per c.c. of the more mobile positive and negative ions caught by the Ebert apparatus. The last three items are derived from observations extending over some 20 minutes near 15h. Of the character figures, 0 simply denotes the absence of negative potential, 1 implies the existence of negative potential at one or at more times during the day, but with a total duration of less than 3 hours, while 2 implies the existence of negative potential with a total duration exceeding 3 hours. There are few days on which the potential gradient curves do not show numerous short period oscillations, superposed on the regular diurnal variation. In fact the absence of such oscillations can usually be accepted as evidence of imperfect insulation in the electrograph. Thus character 0 does not connote the absence of irregular oscillations, as it does in the case of magnetic curves. Still it is unusual on days free from negative potential to have the large

rapid oscillations which usually accompany negative potential. The duration of negative potential and the amplitudes of the extreme negative voltages are much greater on some days of character 2 than others; and even in the case of character 1 the duration of negative potential may be anything from 1 or 2 minutes to 3 hours. Thus these numerals, and still more the monthly means of the character figures, have no precise physical significance. At the same time, the monthly mean gives a fairly satisfactory rough idea of the greater or less prevalence of negative potential throughout the month. According to this criterion, April showed much more negative potential than any other month. As explained later, it was necessary in this month to employ for the calculation of the diurnal inequalities several 24-hour periods which were not Greenwich days (see p. 266). At the other end of the scale, June, September and November had all a mean character figure of 0.43. Of these November had the largest number, 20, of days wholly free from negative potential.

There were two February days to which no character figure could be assigned owing to lack of trace. Of the remaining 363 days there were 179, or 49 per cent., which were free from negative potential, while 150 were of character 1, and 34 of character 2. Taking the yearly totals we should get 0.60 as the mean character for the year.

The air-earth current and the ionic charges are not observed if there is rain. The air-earth current is not measured unless the potential gradient is positive, and on very damp days the insulation of the Ebert apparatus is apt to break down. Data are available for about half the days of the year.

The conditions under which the air-earth current is measured are maintained as uniform as possible, but they differ from the conditions under which the vertical current passes from the air to the earth in a freely exposed situation. The presumption is that the results obtained would require to be multiplied by a factor to represent the true air-earth current. The mean monthly values observed vary from 1.03 in August and October to 0.49 in November. For the year, allowing the same weight to each month, the mean is 0.74, the unit being 10^{-16} ampere per square centimetre.

As the days when electric charge measurements were made only for ions of one sign were very few, it was deemed best to derive the monthly means only from those days when ions of both signs were measured. The monthly means thus obtained for the positive charges varied from .79 in August to .38 in December, while they varied in the case of the negative charges from .59 in August to .27 in December. For the year, allowing equal weight to the several months, the means are 0.54 for the positive, and 0.41 for the negative charges, in terms of the unit 10^{-16} coulomb per cubic centimetre.

Table 468 also gives data hitherto published in the *Geophysical Journal*. They are derived from measurements of the electrograms taken with a mean value scale as in late years. They represent 60-minute means at the exact hours 3h, 9h, 15h, and 21h G.M.T. Blanks indicate that the trace was in some way defective. On some occasions the curve, though existent, is so oscillatory that no satisfactory estimate is possible of the mean value of the ordinate. Such occasions are indicated by the letter z. If there is no doubt as to the sign of the mean value, though a numerical measure is unobtainable, the sign is indicated by a + or a - attached to the z. The symbol $z \pm$ indicates that there were oscillations on both sides of the zero line, and that the sign of the mean value was uncertain. Occasionally a gap in the record from the Kelvin electrograph could be filled by reference to the corresponding Benndorf trace, but such occasions were rare.

The extreme hourly mean values in Table 468 are + 1345 v/m at 21h on April 8, and - 1195 v/m at 15h December 27. But much higher instantaneous values were recorded, and possibly even higher mean hourly values might have been obtained from the occasions when the trace was too oscillatory to be measured.

Of the two sets of mean monthly values at 3h, 9h, 15h and 21h given in Table 468 at the foot of each month's data, the first set (*a*) represents the arithmetic means of all the positive potentials in the column, the second set (*b*) represents the algebraic mean derived from all days on which all four hours were represented. The last line gives the mean value for each month as derived from the (*a*) and the (*b*) values, respectively.

Most meteorological elements when analysed into Fourier waves of periods 24, 12, 8. . . hours, have the 24 and 12-hour waves dominant as compared with the others, and the same is true of potential gradient. Whatever their phase angles may be, the 24, 12 and 8-hour waves contribute exactly nothing to a daily mean based on the readings at 3h, 9h, 15h and 21h. The 6-hour wave is in identically the same phase at 3h, 9h, 15h and 21h, so its contribution to a daily mean derived from these four hours may be anything from zero up to the full value of c_4 , the amplitude of the wave. According to the analysis made of the potential gradient data from 1898 to 1912 at Kew the arithmetic means of the twelve monthly values of the amplitudes of the first four Fourier waves were: $c_1 = 28.47$ v/m, $c_2 = 49.02$ v/m, $c_3 = 9.53$ v/m, $c_4 = 6.96$ v/m. It has also been found that the first four Fourier waves suffice to represent the diurnal inequality with fairly high precision. Thus what we should expect *a priori* is that a mean derived from the values of the potential gradient at 3h, 9h, 15h and 21h will show differences of the order of 5 v/m from the true daily mean. Taking the quiet day results in Table 469 and considering the seasons and the year, it was found that the mean from the four hours specified was in each case in excess of the true daily mean, the respective values of the excess being:—

Winter 1.1 v/m, Equinox 8.5 v/m, Summer 3.8 v/m, Year 4.5 v/m. There is thus a strong presumption that the values in the last line in Table 468 make a close approach to the monthly means we should have got if the whole 24 hours of the day had been included. In other words, the values (*a*) may be expected to give very approximately the true monthly mean from all days when negative potentials are excluded, while the values (*b*) may be expected to give very approximately the true monthly mean when negative potentials are included. But a reservation is necessary in both cases, for the highly oscillatory occasions such as are met with during thunderstorms have been omitted, and this omission may have a sensible effect.

If the monthly means in Tables 468 and 469 be compared it will be found that in most months the quiet day mean is appreciably the highest, and the mean from all complete days appreciably the lowest. For the year as a whole, we have 293 v/m from the positive potentials and 271 v/m from the complete days in Table 468, as compared with 318 v/m from the quiet days.

The diurnal inequalities and the mean monthly and annual values in Table 469 are based on the curves of quiet days selected from those entirely free from negative potential. Other objects aimed at in the selection of the days are freedom from large irregular movements, absence of indications of inferior insulation in the electrograph, and the avoidance, so far as possible, of large non-cyclic changes. The quiet days numbered 10 in each month; but to complete that number in April it was necessary to include several 24-hour periods which did not commence at midnight. All the hourly measurements on which Table 469 depends were taken with a mean-value scale, the mean ordinate being estimated for a 60-minute interval centering at the hour G.M.T. Non-cyclic corrections were applied in the usual way. These are given in Table 469 for each month except April, when the 24-hour periods had to be separately considered.

The mean value and the inequality for any single month are largely dependent on the weather prevailing during the selected days. The mean value for the year, 318 v/m, is nearly the same as in 1920, but is 37 v/m in excess of the value for 1921. The mean values from the winter months of 1921 and 1922 were practically identical, but the mean value from the six months March to August, 1922, was 51 v/m in excess of the mean for the corresponding six months of 1921. The abnormality lies apparently with 1921, not with 1922. It was probably associated with the exceptional purity of the atmosphere of the former period brought about by the coal strike.

The principal minimum occurs in the early morning in all the seasons, and in every single month, except May and July, when it occurs at 15h. A depression in the early afternoon is sufficiently visible in every month except November, which shows a somewhat abnormal variation. The principal maximum occurs in the

forenoon in the summer and winter seasons and the four summer months; but in the majority of months, in the equinoctial season and in the year as a whole, it occurs in the afternoon. The excess of the afternoon maximum in the case of the year is very small.

ATMOSPHERIC POLLUTION.

Tables 470 and 471 give results derived from the Owens' atmospheric pollution recorder.* The instrument is situated in the same building as the electrograph, and the level of the air it samples is about $1\frac{1}{2}$ metres above that of the adjacent ground. The weights of the pollution are not obtained directly, but are deduced from shade numbers 0, 1, 2, etc., assigned to records on filter paper through which a measured volume of air has been drawn. Shade number 1, answered to 0.32 milligrams per cubic metre, according to Dr. Owens' determinations.

Table 470 gives mean hourly values derived from all the days of the month for which complete records were obtained. There were 342 such days in the year. The highest and lowest of these hourly values are in heavy type.

Table 471 gives diurnal inequalities derived from the data in Table 470 after the application of non-cyclic corrections. The principal reason for computing the diurnal inequalities was to facilitate comparison with the corresponding diurnal variations in barometric pressure and the potential gradient of atmospheric electricity.

Atmospheric pollution is so much higher in some individual days than in the average day that there is inevitably a considerable accidental element in Tables 470 and 471. An outstanding example was afforded by January 22. On that day the mean value for the day and the largest of the hourly values were, respectively, 2.2 and 6.4 milligrams per cubic metre. The latter value is more than double the next highest hourly value obtained during the year. These exceptionally high values occur during fog.

The nature of the diurnal variation is most easily recognised in Table 471. There is usually a well marked double oscillation, but the hours of the principal maximum and minimum vary markedly with the season. In six successive months, including the summer season, the principal maximum occurred at 7h, but in most of the other months, and in the winter season, it occurred in the afternoon. On the other hand, in most months, including all the winter months, the principal minimum occurred in the morning, but in May, June and September, and in the summer season, it occurred in the early afternoon.

TERRESTRIAL MAGNETISM.

Absolute observations of declination, dip and horizontal force have been taken usually once a week. The instruments employed have been the Jones' unifilar magnetometer with declination magnet K.O.90, collimator magnet K.C.1 and mirror magnet A.N, and the Barrow dip circle No. 33, with $3\frac{1}{2}$ -inch needles. In the absolute observations of horizontal force, deflections were made at three distances, 22.5, 30 and 40 cms., and values were calculated for the distribution constants P and Q from all the observations of the year. The values obtained of late years have been as follows:—

Year.	P.	Q.	Mean Value at 22.5, 30 and 40 cms. of $\log_{10} (1 + Pr^2 + Qr^4)$
1918	+1.683	-1565	$\bar{1}.99965$
1919	+1.496	-1525	$\bar{1}.99958$
1920	+0.971	-1280	$\bar{1}.99950$
1921	+0.272	-1054	$\bar{1}.99930$
1922	+1.809	-1642	$\bar{1}.99966$

* A description of the instrument is given in the *Report of the Advisory Committee for Atmospheric Pollution* for 1917-1918.

Values for earlier years will be found in the Report for the year 1920. Numerical increases in P and Q tend to neutralise one another. The fluctuations shown are probably in part accidental. Originally the values obtained for 1921 were employed when reducing the observations of 1922. The substitution of the values appropriate to 1922 would have entailed a correction of $+7.6\gamma$ to the values of H. On the other hand, a redetermination which had been made of the moment of inertia of the Jones' collimator magnet indicated the necessity of a correction of -8.9γ owing to decline of the moment below the assumed value. The resultant correction being thus -1.3γ , a correction of -1γ was applied to the provisional values.

The Adie magnetographs have remained in regular operation during the year. The scale value of the declination magnetograph remained as in previous years $1 \text{ mm.} = 0.87'$. The scale value found for the H magnetograph in January was $1 \text{ mm.} = 5.8\gamma$. On July 26th a change of sensitiveness to $1 \text{ mm.} = 4.0\gamma$ was made unintentionally when altering the mirror carried by the magnet with the object of bringing the trace further up the sheet. The change having been detected, the sensitiveness was again altered on August 4th. Subsequent redeterminations of the equivalent of 1 mm. of ordinate gave 5.5γ on August 9th and 11th, and 5.6γ on August 14th and 23rd. By the end of the year the sensitiveness had become nearly $1 \text{ mm.} = 5.7\gamma$. As in previous years, a temperature correction of 3.1γ per 1° C. was applied to the readings of the horizontal force curves. The base values of the D and H curves were derived from the absolute observations in the usual way. Scale value determinations were also made of the V magnetograph in January and March and at the end of the year, the individual results varying only between 11.5γ and 11.7γ for the value of 1 mm. The method of determining the scale values was that due to Broun, an auxiliary magnet being used to deflect the D and H magnets at the same distances and under like conditions and similarly with the D and V magnets. The D, H and V magnets are alike in size and shape, and the deflection distances relatively large, viz., 85 cm. for H and D, and 75 cm. for V and D. The disturbance of the magnetic curves by artificial electric currents has been much as in the previous year. The publication of diurnal inequalities of D and H has thus been continued.

Particulars of the magnetic character of individual days on the international scale "0" (quiet), "1" (moderately disturbed) and "2" (highly disturbed), as contributed quarterly to Prof. van Everdingen, at De Bilt, for utilisation in the international lists, appear in Table 476. It also gives the number of days in each month to which the several characters were assigned, and the numerical mean of the character figures treated as if ordinary arithmetical quantities. As there is a wide range in the disturbance to which any one figure is attached, and an uncertain personal element in assigning the figure, the monthly means should be regarded as giving only a general indication of the disturbance prevailing.

The mean character figure is slightly greater than in 1921, there being 9 more days of character 2. The distribution of highly disturbed days was fairly normal, there being 24 in the equinoctial months, as compared with 18 in the winter months and 11 in the summer months. March and February were the most disturbed months, while December, June and November were the quietest.

The following were amongst the most disturbed days of the year: January 8th, 9th, 24th; March 1st, 2nd, 5th, 13th, 14th; April 9th, 22nd; July 26th, 27th; August 11th, 12th; September 14th; October 5th, 31st. No disturbance, however, was at all of the same order as that of May 14th-15th, 1921.

In arriving at the international character figures, all three elements, D, H and V, are taken into account. But at Kew Observatory large disturbance in V is rare and is always accompanied by large disturbance in D and H, thus it is immaterial whether the V curves are considered or not. But on individual occasions disturbance may be much more prominent in H than in D, and conversely.

When compiling the weekly chronicle now prepared for Mining Engineers, D only is under consideration, also the object in view is somewhat different. In the case of

Mining Engineers the precise period of the day which is disturbed is important. Two-hour periods are dealt with, and when character 2 is assigned to a particular day, the periods during which the D curve has that character are particularised. The number of these disturbed periods at different hours of the day during 1922 was as follows:—

Hour ..	0-2h	2-4h	4-6h	6-8h	8-10h	10-12h	12-14h	14-16h	16-18h	18-20h	20-22h	22-24h
Disturbed occasions ..	18	19	12	7	3	2	3	16	20	23	22	16

This represents a total for the year of 161 occasions, i.e. 322 hours, considered highly disturbed. The corresponding total for 1921 was 248 hours. Of the 322 disturbed hours during 1922, March contributed 82 and October 46, the total from the four equinoctial months being 174, or 54 per cent. of the whole. The contribution from November and December was nil. The twelve hours, 4h-16h, contributed only 27 per cent. of the disturbed hours, as compared with 31 per cent. in the previous year.

The data for Mining Engineers are issued within a few days of the end of the week, so that the characters have to be settled for only a few days at a time; also D alone is considered. The days thus awarded characters 0, 1 and 2 numbered, respectively, 167, 157 and 40, giving a mean character figure for the year of 0.65, as compared with 0.54 for 1921.

Prior to 1919 diurnal inequalities were given only for the five international quiet days, and before taking the readings the curves were smoothed by hand. A change of procedure appeared desirable when D inequalities were prepared from all ordinary days. Accordingly, all the curves are now measured with a mean value scale, the 60-minute intervals employed centering at exact hours G.M.T.

In all the inequalities the non-cyclic change has been allowed for in the usual way, i.e. by assuming it to come in at a uniform rate throughout the day. Particulars as to the size of the non-cyclic changes are given in Table 477. In addition to the results for 1922 there are data for the previous ten years, so far as are available, so as to cover a complete sunspot period. Results for D' (the ordinary day declination) were available only from 1918: As usual, the non-cyclic changes in D' and D (i.e. the quiet day declination) vary irregularly from month to month; but in the case of D, there is a decided positive balance in the year as a whole. This implies a slight tendency to the west—i.e. in the opposite direction to the secular change—on quiet days. As is usual on quiet days, the non-cyclic change in H has a decided tendency to be positive, no single month giving a negative value. The mean value for the year, as a whole, was exceeded in each of the seven preceding years, and is decidedly below the mean for the 11-year period. The values in the year near sunspot minimum, 1913, were smaller.

The diurnal inequalities of declination from ordinary days, i.e. all days except those highly disturbed, are given in Table 472. Of the 40 days omitted as highly disturbed, 18 occurred in the equinoctial months, 10 in the winter months, and 12 in the summer months.

The diurnal inequalities for D and H from the international quiet days are given in Tables 473 and 474. The international quiet days in 1922 had the following dates:—

January ..	3	4	15	21	22	July.. ..	8	11	12	21	22
February ..	7	11	23	24	25	August ..	2	3	17	18	28
March ..	7	8	9	23	24	September ..	2	22	23	24	26
April ..	4	5	6	7	19	October ..	1	16	18	19	22
May ..	2	3	15	30	31	November ..	6	7	13	18	26
June ..	10	11	15	24	25	December ..	3	8	16	22	23

The units employed in the inequality tables are $1'$ in D and 1γ (1×10^{-5} C.G.S.) in H. In the case of D the minus sign means that the magnet points to the east of its mean position for the day. Inequalities are given for each month of the year, for the year as a whole, and for three seasons defined as in previous years. The

maximum and minimum hourly values are in heavy type. There is, as usual, a distinct difference in character between the diurnal inequalities of *D* on quiet and ordinary days; the easterly deviation near midnight is decidedly smaller in the quiet days. The difference is especially marked in the winter months. At that season the principal minimum (i.e. the easterly extreme) has a tendency to shift from the morning to the late evening hours. In Table 472 it occurs before midnight in October and the four winter months, whereas in Table 473 December is the only month showing the phenomenon. The easterly extreme in the winter season appears at 22h for ordinary days, but for quiet days it appears at 8h, the same hour as for the other seasons and the year. In Table 472 the principal maximum (westerly extreme) appears at 14h in June and July, and in the summer season; in other months and seasons the maximum appears at 13h. In the case of quiet days 13h is the time of the maximum in all the seasonal inequalities, but the maximum appears at 14h in March, May and October, while in July the values for 13h and 14h are equal.

In the case of *H*, Table 474, it is the hour of the minimum which shows the least dependence on the season. It appears at either 10h or 11h in the seasonal inequalities and in the inequalities of ten individual months. In February and December, however, the hours of occurrence are abnormal. The principal maximum appears in the forenoon in the winter season and in February, March and April, otherwise it appears in the afternoon. In most of the winter and equinoctial months the forenoon and afternoon maxima are fairly comparable, but in the summer months the forenoon maximum is rather inconspicuous.

Table 475 is intended to give a general picture of the chief magnetic phenomena of the year, and a survey of the phenomena for 1922 and the previous ten years, thus including an 11-year period. As we have just been discussing the diurnal inequalities, attention is first claimed by the ranges, *A.D*'s., and non-cyclic changes. By *A.D.* (average departure) is meant the arithmetic mean of the 24 hourly departures from the mean of the day. It is a quantity which is less dependent than the range on the accident of how the times of maximum and minimum happen to lie relative to the nearest hour G.M.T. The data under *D'* relate to the declination from the ordinary days, those under *D* to the declination from quiet days. It will be noticed that while the *D* range exceeds the *D'* range in several months, and falls but little short of it in the summer and equinoctial seasons, the average departure under *D'* is invariably the greater, the excess being usually substantial. This means that when attention is confined to the range of the inequality the influence of disturbance on the regular diurnal variation of declination at Kew is apt to be under-estimated. As compared with 1921, the declination ranges show on the whole a decided reduction, though there are some individual months in which the 1922 range is the larger. The decline is more decided for the ordinary days than for the quiet days. In the case of *H*, both the range and the average departure show a decline in amplitude for the year 1922 as a whole, but it is very small. The decline is quite large in all four winter months, but June and July had much larger ranges in 1922 than in 1921. The ranges in *D* and *H* and the average departure in *D* in 1922 were only about 65 per cent. of the corresponding quantities in 1917, the year of sunspot maximum. For the average departure in *H* the percentage was only 57.

The data in the earlier columns of Table 475 are of interest chiefly in connection with the secular change. The data for *D*, *H*, *N* (north component) and *W* (west component) are derived from the hourly measurements of the curves of the international quiet days. The values of *I* (inclination) are derived from the absolute observations corrected to the mean of the day. The values of *V* and *T* (total force) are derived by combining the values of *I* and *H*. The mean monthly values of declination from the ordinary and the quiet days were the same in five months, but in the other seven months the quiet day value was in excess, the mean excess for the twelve months being $0.1'$. Comparing the yearly means in Table 475, we see that the fall in declination from 1921 to 1922 was $11.1'$, equalling the fall from the previous year which exceeded all previous values. The average for the

10 years 1912 to 1922 was $9\cdot8'$, as compared with an average fall of only $5\cdot8'$ between 1902 and 1912. In H there was a fall of 5γ , so that the element continues to decline from the maximum reached in 1913, but at a very slow rate. In I the figures show a fall of $0\cdot1'$ from 1921, but this is too small a difference to rely on. The change in this element since 1916 has been almost microscopic. The remarkably regular decline of D during the year naturally implies a correspondingly regular fall in W. This element has fallen 534γ , or some 12 per cent. of its present value, since 1912. Instrumental uncertainties enter more into the values of V and T than into those of D and H, and are probably responsible for at least a considerable part of the irregularities apparent in the secular change of these elements. The apparent fall in these elements during the year was somewhat below the mean from 1912 to 1922.

Tables 478 and 479 give the mean yearly values of declination, inclination, horizontal force and vertical force at a number of observatories, the publications from which are received at Kew Observatory. Table 479 includes mainly stations for which there were no data for years subsequent to 1919. Data for 1922 were not to hand for a considerable number of the stations.

Judging by the data available, the fall in declination throughout the north-west of Europe from 1921 to 1922 varied very little from place to place, and was nearly the same as in the previous year. At Greenwich as at Kew it was practically the same. Taking the eight stations Rude Skov, Eskdalemuir, Stonyhurst, De Bilt, Valencia, Kew, Greenwich and Val Joyeux, we find the mean value of declination change from 1920 to 1921 to be $11\cdot3'$, while the mean annual fall at the same stations between 1915 and 1920 was only $9\cdot4'$. The fall of declination at Tortosa has been nearly as large as at the more northern stations, but on the western side of the Iberian peninsula, as evidenced by the results from Coimbra and San Fernando, it has been considerably less. The results for the other elements show a much greater apparent variability in the secular change throughout north-western Europe. In the case of inclination, the eight stations mentioned above show on the average a fall of $0\cdot1'$ from 1920 to 1921, but the changes at individual stations vary from $-1\cdot9'$ at Valencia to $+1\cdot6'$ at Rude Skov. The total change of inclination between 1915 and 1920 was a rise at all the eight stations except Greenwich, where the value appeared stationary, and Valencia, where there was a small fall, but it averaged only $0\cdot3'$ at Kew, $0\cdot4'$ at Stonyhurst, and $0\cdot5'$ at Eskdalemuir. Inclination would thus appear to be at present very nearly stationary throughout at least the British Isles. In the case of the horizontal force, taking the same eight stations, the change from 1920 to 1921 was on the average a fall of 4γ , but the changes at the individual stations varied from -19γ at Rude Skov to $+15\gamma$ at Stonyhurst. The eight stations agree in showing a fall of horizontal force between 1915 and 1920, the average value of the mean annual fall being 13γ , the results from Val Joyeux, Greenwich and Kew being almost identical.

The fact that the changes over a 5-year period at the different stations appear much more in harmony than the changes from one year to the next is at least suggestive of instrumental and observational uncertainties.

SEISMOLOGY.

Table C, shown below, gives a résumé of the results obtained during the year from the Milne seismograph in the basement. The boom points north and south, so the instrument measures tilting in the east-west direction. Observations to determine the sensitiveness made on January 25th, June 9th and October 17th, gave results in close agreement, the mean value found for the angle of tilt answering to 1 mm. ordinate on the trace being $0\cdot52''$. Observations made on the oscillation period on these three occasions gave a mean of 17·0 seconds. In an instrument of this type it is difficult, if not impossible, to discriminate between the different kinds of waves, and there is often considerable uncertainty as to the time of commencement. Thus the information given below is limited to the time of the largest movement and its amplitude. Numerical measurements are not given if the measured amplitude

is less than 1 mm. The letters *a*, *b*, *c* denote amplitudes on an increasing scale, *a* representing an amplitude not exceeding 0.2 mm., *b* an amplitude of at least 0.2 mm., but less than 0.5 mm., and *c* an amplitude of at least 0.5 mm., but less than 1.0 mm. The amplitude is partly determined by the approach in the period of the earthquake wave to the natural period of the boom, but a large amplitude is never experienced unless the earthquake has been a really considerable one. On November 11, the limit of registration, 17 mm., was exceeded. This was much the largest movement recorded during the year.

TABLE C.—SEISMOLOGICAL DIARY.

Richmond (Kew Observatory).

Times G.M.T.

1922.

Maximum.			Date.	Maximum.			Date.	Maximum.			Date.	Maximum.			Date.	Maximum.		
Time.	Amp.			Time.	Amp.			Time.	Amp.			Time.	Amp.			Time.	Amp.	
h. m.	mm.		h. m.	mm.		h. m.	mm.		h. m.	mm.		h. m.	mm.		h. m.	mm.		
Jan. 1	21 23	<i>b</i>	Mar. 4	13 36	<i>b</i>	May 2	12 8	<i>b</i>	July 2	14 33	1.0	Sep. 1	13 47	<i>a</i>	Nov. 4	4 37	<i>c</i>	
6	15 7	2.2	8	17 53	<i>b</i>	4	10 13	<i>c</i>	3	6 31	<i>a</i>	1	20 14	6.4	7-8	0 6	1.8	
6	20 19	<i>b</i>	10	12 7	<i>c</i>	5	1 20	<i>a</i>	5	21 15	<i>a</i>	4	18 50	<i>b</i>	9	0 12	<i>b</i>	
9	5 42	2.5	10	17 38	<i>a</i>	6	13 23	<i>a</i>	10	10 0	<i>a</i>	6	23 8	<i>b</i>	11	*5 35	>17.0	
10	14 39	<i>b</i>	12	18 2	1.4	9	14 21	<i>a</i>	11	14 37	<i>a</i>	8	6 48	<i>a</i>	11	19 16	<i>c</i>	
17	4 11	2.9	15	3 48	<i>a</i>	11	1 59	<i>a</i>	13	6 6	<i>b</i>	8	15 10	<i>a</i>	12	8 15	<i>b</i>	
19-20	23 11	<i>b</i>	21	16 59	<i>a</i>	11	7 14	<i>b</i>	19	13 51	<i>b</i>	14	20 23	2.3	13	4 6	<i>b</i>	
22	5 0	<i>b</i>	24	12 34	<i>c</i>	11	11 19	<i>a</i>	22	16 46	<i>b</i>	16	23 39	1.9	17	12 6	<i>c</i>	
26	10 18	<i>b</i>	28	4 24	<i>c</i>	12	20 43	<i>b</i>				17	8 22	1.2	18	19 48	<i>b</i>	
31	14 1	4.4	29	9 26	<i>a</i>	15	21 17	<i>a</i>				17	10 57	1.4				
			31	10 40	<i>a</i>	16	9 7	<i>b</i>				17	22 59	<i>a</i>				
						22	19 1	<i>b</i>				18	7 18	<i>a</i>				
												24	12 48	<i>b</i>				
												28	22 59	<i>b</i>				
												29	19 18	<i>b</i>				
Maximum.			Date.	Maximum.			Date.	Maximum.			Date.	Maximum.			Date.	Maximum.		
Time.	Amp.			Time.	Amp.			Time.	Amp.			Time.	Amp.			Time.	Amp.	
h. m.	mm.		h. m.	mm.		h. m.	mm.		h. m.	mm.		h. m.	mm.		h. m.	mm.		
Feb. 14	12 36	<i>b</i>	Apr. 2	20 20	<i>b</i>	June 2	21 30	<i>b</i>	Aug. 5	4 33	<i>a</i>	Oct. 11	15 43	3.4	Dec. 2	4 42	<i>c</i>	
14	13 47	<i>b</i>	5	11 16	<i>b</i>	12	5 37	2.9	6	1 50	<i>a</i>	14	1 15	<i>a</i>	6	14 17	<i>c</i>	
14	14 42	<i>a</i>	6	4 9	<i>b</i>	27	15 39	<i>b</i>	8	4 5	<i>b</i>	15	0 50	1.3	7	*17 45	<i>c</i>	
15	9 53	<i>b</i>	6	9 7	<i>a</i>				11	8 36	1.5	16	16 43	<i>c</i>	8	*3 0	<i>b</i>	
16	3 1	<i>a</i>	7	16 53	<i>b</i>				11	14 48	<i>a</i>	17	7 37	<i>b</i>	8	*23 30	<i>b</i>	
16	4 7	<i>c</i>	8	20 55	2.7				13	0 25	6.4	24	22 11	1.5	15	0 30	<i>b</i>	
19	22 9	<i>b</i>	11	2 9	<i>b</i>				13	13 1	<i>b</i>	27	15 22	<i>c</i>	17	1 22	<i>b</i>	
			11	4 48	<i>c</i>				25	11 56	<i>b</i>				18	13 19	<i>c</i>	
			16	13 48	<i>b</i>				25	20 1	<i>c</i>				23	23 32	<i>b</i>	
			23	22 34	<i>a</i>				26	8 1	<i>b</i>				25	5 19	<i>b</i>	
			25	23 21	<i>b</i>				29	3 47	<i>a</i>				31	8 10	1.3	
			26	2 2	<i>a</i>				29	18 1	1.0							
			26	5 1	<i>c</i>													

* Time marking apparatus failed, so times only approximate.

Readings in millibars at exact hours, Greenwich Mean Time.

368. Richmond (Kew Observatory) : H_b (height of barometer cistern above M.S.L.) = 10.4 metres.

January, 1922.

Table with 25 columns (Day 1-25) and 25 rows (Station Level 1-25). Includes mean values for station level and sea level.

369. Richmond (Kew Observatory) : H_b = 10.4 metres.

February, 1922.

Table with 25 columns (Day 1-25) and 25 rows (Station Level 1-25). Includes mean values for station level and sea level.

NOTE.—When pressure exceeds 1000 mb. the leading figure 1 is not printed, i.e., 1005.6 mb. is written 005.6. This rule does not, however, apply to monthly means.

Readings in millibars at exact hours, Greenwich Mean Time.

370. Richmond (Kew Observatory) : Hb (height of barometer cistern above M.S.L.) = 10.4 metres.

March, 1922.

Table for Richmond (Kew Observatory) in March 1922. Columns: Day (1-31), Station Level (1-31), Mean (Station level), Mean (Sea level). Rows: Hourly pressure readings (mb.) and monthly means.

371. Richmond (Kew Observatory) : Hb = 10.4 metres.

April, 1922.

Table for Richmond (Kew Observatory) in April 1922. Columns: Day (1-30), Station Level (1-30), Mean (Station level), Mean (Sea level), G.M.T. (1-24, Mean). Rows: Hourly pressure readings (mb.) and monthly means.

NOTE.—When pressure exceeds 1000 mb. the leading figure 1 is not printed, i.e., 1005.6 mb. is written 005.6. This rule does not, however, apply to monthly means.

Readings in millibars at exact hours, Greenwich Mean Time.

372. Richmond (Kew Observatory) : H_b (height of barometer cistern above M.S.L.) = 10.4 metres.

May, 1922.

Table with 25 columns (Day, 1-24, Mean) and 31 rows (Station Level 1-31). Includes mean values for station and sea level.

373. Richmond (Kew Observatory) : H_b = 10.4 metres.

June, 1922.

Table with 25 columns (Day, 1-24, Mean) and 31 rows (Station Level 1-31). Includes mean values for station and sea level.

NOTE.—When pressure exceeds 1000 mb. the leading figure 1 is not printed, i.e., 1005.6 mb. is written 005.6. This rule does not, however, apply to monthly means.

Readings in millibars at exact hours, Greenwich Mean Time.

374. Richmond (Kew Observatory) : H_b (height of barometer cistern above M.S.L.) = 10.4 metres.

July, 1922.

Table with 25 columns (Day 1-25) and 25 rows (Station Level 1-25). Includes mean values for station level and sea level.

375. Richmond (Kew Observatory) : H_b = 10.4 metres.

August, 1922.

Table with 25 columns (Day 1-25) and 25 rows (Station Level 1-25). Includes mean values for station level and sea level.

NOTE.—When pressure exceeds 1000 mb. the leading figure 1 is not printed, i.e., 1005.6 mb. is written 005.6. This rule does not, however, apply to monthly means.

Readings in millibars at exact hours, Greenwich Mean Time.

376. Richmond (Kew Observatory) : H_b (height of barometer cistern above M.S.L.) = 10.4 metres.

September, 1922.

Table for Richmond (Kew Observatory) in September 1922. Columns: Day, Station Level (1-30), Mean (Station level), Mean (Sea level). Rows: Daily pressure readings in millibars.

377. Richmond (Kew Observatory) : H_b = 10.4 metres.

October, 1922.

Table for Richmond (Kew Observatory) in October 1922. Columns: Day, Station Level (1-31), Mean (Station level), Mean (Sea level), G.M.T. Rows: Daily pressure readings in millibars.

NOTE.—When pressure exceeds 1000 mb. the leading figure 1 is not printed, i.e., 1005.6 mb. is written 005.6. This rule does not, however, apply to monthly means.

Readings in millibars at exact hours, Greenwich Mean Time.

378. Richmond (Kew Observatory) : Hb (height of barometer cistern above M.S.L.) = 10.4 metres.

November, 1922.

Table for Richmond (Kew Observatory) in November 1922. Columns: Day (1-30), Station Level (1-30), Mean (Station level), Mean (Sea level). Rows: Daily pressure readings in millibars.

379. Richmond (Kew Observatory) : Hb = 10.4 metres.

December, 1922.

Table for Richmond (Kew Observatory) in December 1922. Columns: Day (1-31), Station Level (1-31), Mean (Station level), Mean (Sea level), G.M.T. (1-24, Mean). Rows: Daily pressure readings in millibars.

NOTE.—When pressure exceeds 1000 mb. the leading figure 1 is not printed, i.e., 1005.6 mb. is written 005.6. This rule does not, however, apply to monthly means.

ANNUAL MEANS OF HOURLY VALUES.

From readings in millibars at exact hours, Greenwich Mean Time.

380. Richmond (Kew Observatory) : Hb = 10.4 metres.

1922.

Table with 24 columns representing hours from 1 to 24, and rows for Station Level and Sea Level. Values are in millibars, with some values in bold (e.g., 013.57, 012.82, 014.84, 014.08).

PRESSURE AT STATION LEVEL : MONTHLY MEANS AND DIURNAL INEQUALITIES.

The departures from the mean of the day are adjusted for non-cyclic change.

381. Richmond (Kew Observatory) : Hb = 10.4 metres.

1922.

Table showing monthly means and diurnal inequalities for 1922. Columns include Month, Mean, and hours 1-24. Values are in millibars, with bold values indicating extremes (e.g., 1006.69, 0.60, 0.40).

ABSOLUTE EXTREMES OF PRESSURE AT STATION LEVEL FOR EACH DAY.

Maximum and Minimum for the interval 0h. to 24h., Greenwich Mean Time.

382. Richmond (Kew Observatory) : Hb = 10.4 metres.

1922.

Large table showing absolute extremes of pressure for each day of 1922. Columns represent months (Jan-Dec) and rows represent days (1-31). Each day has maximum and minimum values in millibars, with bold values indicating the day's extremes.

NOTE.—When pressure exceeds 1000 mb. the leading figure 1 is not printed, i.e., 1005.6 mb. is written 005.6. This rule does not, however, apply to monthly means.

TEMPERATURE.

Readings, in degrees absolute, at exact hours, Greenwich Mean Time.

383. Richmond (Kew Observatory) : North Wall Screen : ht (height of thermometer bulb above the ground) = 3.0 metres.

January, 1922.

Table with 26 columns (Day, 1-24, Mean) and 31 rows (1-31) showing temperature readings in degrees absolute. Includes a Mean row at the bottom.

384. Richmond (Kew Observatory) : North Wall Screen : ht = 3.0 metres.

February, 1922.

Table with 26 columns (Day, 1-24, Mean) and 28 rows (1-28) showing temperature readings in degrees absolute. Includes a Mean row and a G.M.T. row at the bottom.

NOTE.—The initial 2 or 3 of the readings is omitted, i.e., 275.0 degrees absolute is written 75.0.

TEMPERATURE.

Readings, in degrees absolute, at exact hours, Greenwich Mean Time.

385. Richmond (Kew Observatory) : North Wall Screen : ht (height of thermometer bulb above the ground) = 3.0 metres.

March, 1922.

Table with 25 columns (Day, 1-24, Mean) and 31 rows (1-31). Each cell contains a temperature reading in degrees absolute. The Mean row shows a value of 77.5.

386. Richmond (Kew Observatory) : North Wall Screen : ht = 3.0 metres.

April, 1922.

Table with 25 columns (Day, 1-24, Mean) and 31 rows (1-31). Each cell contains a temperature reading in degrees absolute. The Mean row shows a value of 77.7.

NOTE—The initial 2 or 3 of the readings is omitted, i.e., 275.0 degrees absolute is written 75.0.

Readings, in degrees absolute, at exact hours, Greenwich Mean Time.

387. Richmond (Kew Observatory): North Wall Screen: ht (height of thermometer bulb above the ground) = 3.0 metres.

May, 1922.

Table with 25 columns (Day, 1-24, Mean) and 31 rows (1-31). Each cell contains a temperature reading in degrees absolute.

388. Richmond (Kew Observatory) : North Wall Screen : ht = 3.0 metres.

June, 1922.

Table with 25 columns (Day, 1-24, Mean) and 31 rows (1-31). Each cell contains a temperature reading in degrees absolute.

NOTE.—The initial 2 or 3 of the readings is omitted, i.e., 275.0 degrees absolute is written 75.0.

TEMPERATURE.

Readings, in degrees absolute, at exact hours, Greenwich Mean Time.

389. Richmond (Kew Observatory) : North Wall Screen : *h*_t (height of thermometer bulb above the ground) = 3.0 metres.

July, 1922.

Day.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean		
	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>		
1	85.8	85.5	85.4	84.8	85.3	85.9	86.7	87.5	88.6	89.3	88.2	89.8	90.1	90.1	90.3	90.9	89.1	89.5	88.7	88.3	88.1	87.7	87.8	87.3	87.9		
2	86.1	86.8	87.1	85.9	86.1	86.7	87.2	88.4	88.6	89.1	90.2	90.6	91.1	90.4	91.9	90.8	89.7	89.1	89.0	87.7	86.6	85.4	85.9	85.5	88.2		
3	85.3	85.1	85.1	85.5	86.0	86.1	87.1	87.1	87.9	88.3	89.5	90.3	91.9	91.8	90.9	91.3	91.5	91.6	90.8	89.0	87.1	86.3	85.0	84.1	88.1		
4	82.6	82.4	81.6	82.5	83.4	84.5	86.3	86.8	86.9	88.2	88.7	89.0	88.5	88.8	88.8	88.6	89.1	89.3	88.9	87.4	86.0	85.6	85.5	85.0	86.4		
5	84.5	84.1	84.0	83.7	85.2	86.9	87.3	88.0	88.2	89.4	89.5	89.8	88.3	87.3	86.0	85.4	85.2	85.6	87.3	88.9	89.5	89.5	89.7	89.8	87.1		
6	89.9	89.9	90.1	89.0	88.5	88.5	88.6	89.2	88.8	89.3	87.2	86.5	85.1	85.4	87.0	87.3	88.0	87.4	86.6	85.3	84.9	84.5	84.0	83.5	87.4		
7	83.1	82.9	83.1	82.9	83.5	84.0	85.2	86.5	87.9	87.0	86.6	88.1	89.0	90.0	89.9	85.4	85.2	85.0	85.4	85.2	84.4	83.6	83.8	83.5	85.5		
8	83.6	83.6	83.6	83.9	84.0	85.1	86.0	87.4	88.7	89.3	90.7	91.0	91.1	91.5	90.5	88.4	90.0	88.9	87.8	87.0	86.1	85.5	85.0	85.0	87.2		
9	84.6	84.9	84.5	84.5	84.9	85.1	84.6	84.9	85.9	87.2	87.6	87.7	87.1	87.1	87.5	88.0	87.9	89.2	87.9	86.9	86.2	85.6	85.1	84.5	86.2		
10	84.1	83.2	82.5	82.1	83.2	84.3	85.0	86.0	86.9	87.8	89.6	90.4	91.3	91.2	91.6	91.5	92.0	92.1	90.6	89.5	87.8	86.9	85.2	85.2	87.5		
11	84.6	83.8	82.9	82.6	83.0	83.4	85.5	87.0	88.8	91.0	91.6	92.6	90.2	89.5	90.1	91.8	92.4	91.6	91.4	88.8	87.2	86.3	85.5	84.9	87.8		
12	84.5	84.2	83.6	82.6	82.4	84.4	86.8	89.0	90.2	91.2	92.5	93.6	94.4	94.7	94.1	94.5	95.0	94.2	92.6	91.1	89.8	88.2	87.6	87.0	89.5		
13	86.7	85.8	85.6	85.7	85.9	86.1	87.1	88.4	89.3	90.2	89.6	91.0	91.1	91.5	90.9	90.5	88.4	88.6	88.2	88.1	87.5	87.1	86.8	86.5	88.0		
14	86.1	85.4	85.0	85.0	85.3	85.6	85.7	86.2	86.6	87.1	88.0	88.9	89.6	89.4	89.1	88.9	90.2	91.0	90.0	88.2	86.9	86.0	86.5	86.0	87.4		
15	85.9	85.8	85.6	83.5	83.0	83.3	83.9	84.6	86.2	87.9	88.9	89.6	90.0	90.2	90.0	90.7	87.9	87.9	88.0	87.0	85.9	85.2	84.7	83.9	86.7		
16	83.4	82.6	82.0	81.4	81.5	83.1	84.5	85.8	86.6	87.3	87.3	87.0	87.5	87.3	87.5	87.5	86.8	86.5	86.1	85.9	85.3	84.7	85.1	85.2	85.3		
17	85.3	85.0	84.9	84.8	85.0	85.7	86.9	87.3	88.6	88.5	90.1	88.7	90.1	90.2	90.7	90.3	90.1	90.7	90.1	89.6	87.6	86.1	86.1	86.1	87.7		
18	86.1	85.1	84.4	84.8	85.4	84.8	84.2	85.1	84.5	84.9	85.9	86.0	86.0	88.7	89.8	90.6	91.1	90.4	90.7	89.1	87.9	86.0	85.4	84.6	86.8		
19	84.0	83.5	82.8	82.3	82.6	83.6	85.1	87.3	88.9	89.4	90.2	91.0	92.0	92.3	92.7	93.1	93.4	93.7	92.7	90.9	89.5	88.1	87.0	86.0	88.4		
20	85.3	84.6	84.0	83.4	83.9	85.0	86.5	88.0	89.0	90.0	90.3	91.5	92.9	93.6	94.2	93.9	94.0	94.4	92.6	91.1	89.9	88.7	88.0	87.4	89.2		
21	87.5	87.7	87.9	87.8	88.0	88.2	89.0	90.0	91.0	92.2	94.0	95.3	96.6	97.0	96.3	95.1	93.0	92.9	92.6	91.7	90.8	89.5	88.3	87.5	91.2		
22	88.0	88.1	87.9	88.0	88.1	88.6	89.1	89.3	89.9	90.1	90.9	92.0	94.0	93.7	92.9	90.5	90.0	90.2	90.3	89.3	88.4	87.9	88.0	87.5	88.5		
23	87.8	87.5	87.4	87.1	87.2	87.4	87.9	87.9	88.4	89.1	89.3	91.0	89.1	89.1	89.4	90.0	89.4	89.0	88.5	88.0	87.7	87.5	87.5	87.5	88.5		
24	87.4	87.2	86.1	85.3	84.6	84.6	84.7	84.3	83.9	84.9	85.9	87.2	87.5	87.3	87.8	87.6	88.3	87.7	87.3	86.8	84.7	83.8	84.4	84.8	86.1		
25	84.5	83.9	83.6	83.9	84.0	84.6	85.4	86.9	89.0	89.1	90.4	90.7	91.7	92.7	93.5	94.0	94.0	93.9	92.5	91.2	90.0	88.3	87.2	86.1	88.8		
26	86.0	85.6	85.9	86.1	86.2	87.0	88.4	88.5	90.0	91.0	91.5	91.8	91.9	93.0	92.0	91.4	91.1	89.6	88.6	88.0	87.5	87.5	87.6	87.6	88.9		
27	87.6	87.7	87.6	87.5	87.2	87.5	88.0	88.9	90.3	91.1	92.0	92.2	92.8	93.0	93.5	93.2	93.3	92.5	91.4	90.8	90.2	89.4	88.4	87.6	90.2		
28	87.1	86.9	86.4	85.5	84.9	85.5	86.5	87.9	89.5	90.0	90.6	91.5	92.2	93.0	93.0	93.7	94.0	94.6	93.0	90.5	88.7	88.1	86.4	86.0	89.4		
29	85.2	84.5	84.2	83.0	84.8	86.0	87.7	89.9	91.0	92.6	94.2	94.5	95.0	94.6	94.4	94.0	92.9	93.1	91.9	91.4	91.3	91.3	91.3	91.3	91.2	90.3	
30	91.2	91.1	90.9	90.6	90.5	90.4	91.0	91.4	92.3	89.6	89.3	90.9	91.1	92.0	92.4	92.4	92.0	91.8	90.8	90.6	88.8	87.5	86.2	85.5	90.5		
31	84.4	83.9	83.4	83.3	83.7	85.3	86.2	87.9	89.0	89.6	90.9	91.3	92.4	90.5	92.0	92.1	89.1	89.9	89.7	87.9	86.7	85.6	85.2	84.3	87.7		
Mean	85.7	85.4	85.1	84.8	85.1	85.7	86.6	87.5	88.4	89.1	89.7	90.3	90.6	90.8	91.0	90.8	90.5	90.4	89.7	88.7	87.7	86.9	86.5	86.0	88.1		

390. Richmond (Kew Observatory) : North Wall Screen : *h*_t = 3.0 metres.

August, 1922.

1	2	3	4	5	6	7	8	9	10	11	12	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>	<i>a.</i>
84.1	83.5	83.1	82.3	82.6	83.9	85.4	86.8	88.2	88.5	90.0	90.0	89.5	90.0	89.4	89.1	89.2	90.8	89.6	88.1	87.5	86.6	86.1	85.3	87.0	87.0
84.5	83.1	83.0	82.5	82.5	83.1	84.3	86.4	87.9	89.0	88.8	90.1	90.1	91.1	91.4	91.1	90.5	89.7	88.1	87.5	87.0	86.4	86.1	85.6	87.1	87.1
85.2	84.7	84.3	84.1	84.7	85.8	86.6	87.5	88.8	89.3	90.0	92.6	92.6	92.4	90.9	90.1	88.5	88.5	88.5	87.6	87.0	86.4	86.1	85.6	86.1	87.7
85.6	85.8	85.2	85.0	85.0	85.6	86.0	86.6	87.1	87.4	88.1	89.3	90.4	90.1	91.1	91.5	90.0	89.6	89.4	88.7	88.2	88.1	87.1	86.4	87.9	87.9
85.8	86.1	86.0	84.6	83.8	84.1	84.4	85.4	87.5	88.4	90.2	89.8	91.0	92.0	92.5	92.3	92.0	91.6	90.0	88.9	88.4	87.9	87.6	87.3	88.2	88.2
87.1	86.8	86.8	86.6	86.3	86.8	87.6	88.9	89.9	90.2	90.1	89.5	89.2	89.4	88.5	88.5	88.5	88.5	88.0	87.4	87.6	87.4	87.7	88.1	88.1	88.1
88.5	88.6	88.5	87.9	87.9	87.4	86.8	86.5	86.9	87.1	88.3	88.7	89.1	89.8	90.0	91.8	91.6	92.0	91.4	89.8	88.5	87.0	86.9	86.0	85.6	88.6
85.5	84.6	85.0	85.6	86.1	86.6	87.0	88.8	89.8	90.8	92.0	90.4	91.9	93.2	93.8	93.1	93.3	93.7	93.1	91.7	89.6	88.2	87.7	87.0	86.0	88.9
85.4	85.6	85.6	84.8	84.5	84.6	85.4	87.3	87.1	88.6	89.1	89.6	90.4	90.4	87.4	87.5	87.6	87.5	86.7	86.2						

Readings, in degrees absolute, at exact hours, Greenwich Mean Time.

391. Richmond (Kew Observatory) : North Wall Screen : ht (height of thermometer bulb above the ground) = 3.0 metres.

September, 1922.

Table with 25 columns (Day, 1-24, Mean) and 31 rows (1-30, Mean). Each cell contains a temperature reading in degrees absolute. The mean for the month is 85.8.

392. Richmond (Kew Observatory) : North Wall Screen : ht = 3.0 metres.

October, 1922.

Table with 25 columns (Day, 1-24, Mean) and 31 rows (1-30, Mean, G.M.T.). Each cell contains a temperature reading in degrees absolute. The mean for the month is 81.9.

NOTE.—The initial 2 or 3 of the readings is omitted, i.e., 275.0 degrees absolute is written 75.0.

Readings, in degrees absolute, at exact hours, Greenwich Mean Time.

393. Richmond (Kew Observatory): North Wall Screen: ht (height of thermometer bulb above the ground) = 3.0 metres.

November, 1922.

Table with 25 columns (Day, 1-24, Mean) and 30 rows (1-30). Each cell contains a temperature reading in degrees absolute. The Mean row shows the average for each day.

394. Richmond (Kew Observatory): North Wall Screen: ht = 3.0 metres.

December, 1922.

Table with 25 columns (Day, 1-24, Mean) and 31 rows (1-31). Each cell contains a temperature reading in degrees absolute. The Mean row shows the average for each day.

NOTE.—The initial 2 or 3 of the readings is omitted, i.e., 275.0 degrees absolute is written 75.0.

TEMPERATURE: ANNUAL MEANS OF HOURLY VALUES. From readings, in degrees absolute, at exact hours, Greenwich Mean Time.

395. Richmond (Kew Observatory): North Wall Screen: ht = 3.0 metres.

Table with 25 columns (1-24 hours and Mean) and 1 row of data for Richmond (Kew Observatory) in 1922.

TEMPERATURE: MONTHLY MEANS AND DIURNAL INEQUALITIES. The departures from the mean of the day are adjusted for non-cyclic change.

396. Richmond (Kew Observatory): North Wall Screen: ht = 3.0 metres.

Table with 25 columns (Month, Mean, Hour 1-24) and 12 rows of data for Richmond (Kew Observatory) in 1922, showing monthly means and diurnal inequalities.

ABSOLUTE EXTREMES OF TEMPERATURE FOR EACH DAY. Maximum and Minimum for the interval oh. to 24h., Greenwich Mean Time.

397. Richmond (Kew Observatory): North Wall Screen: ht = 3.0 metres.

Large table with 25 columns (Month, Day, Max, Min) and 31 rows of data for Richmond (Kew Observatory) in 1922, showing absolute extremes of temperature for each day.

NOTE.—The initial 2 or 3 of the readings is omitted, i.e., 275.0 degrees absolute is written 75.0.

Percentages, at exact hours, Greenwich Mean Time, determined as explained on page 13.

398. Richmond (Kew Observatory) : North Wall Screen : h_t (height of thermometer bulb above the ground) = 3·0 metres.

January, 1922.

Day.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.	Vapour Pressure.*	
1	% 88	% 89	% 88	% 82	% 85	% 85	% 85	% 83	% 84	% 85	% 82	% 75	% 77	% 77	% 78	% 78	% 78	% 78	% 80	% 81	% 79	% 81	% 81	% 83	% 81·9	mb. 9·6	
2	82	82	83	83	83	84	83	81	78	76	73	70	75	68	70	69	73	73	59	63	59	62	64	68	73·7	9·8	
3	68	73	69	68	71	72	74	76	82	85	81	79	73	68	71	67	78	77	79	83	79	75	72	64	74·4	6·1	
4	65	64	65	62	63	65	70	55	60	60	57	55	57	51	51	56	59	61	59	58	60	59	59	61	59·7	4·0	
5	58	61	67	72	71	72	72	76	79	81	71	64	65	64	65	65	66	66	67	67	68	70	70	70	68·4	4·5	
6	69	69	74	75	80	82	84	86	84	84	81	82	76	75	78	80	83	86	91	90	90	93	96	93	82·1	6·0	
7	92	92	93	96	98	98	99	100	97	95	96	98	94	95	100	96	95	97	98	98	97	100	99	100	96·9	8·0	
8	100	100	100	100	100	99	100	100	100	99	97	93	77	73	72	70	71	81	85	91	89	88	92	89	94	90·0	9·4
9	97	98	100	96	96	96	96	90	89	90	88	83	79	79	80	79	80	83	84	82	80	83	84	86	87·6	11·7	
10	85	91	91	90	92	92	88	90	88	82	79	75	66	62	66	74	84	86	90	91	87	87	87	88	83·7	9·6	
11	88	93	95	89	90	86	90	89	87	85	80	72	70	74	73	73	75	67	85	77	71	76	76	75	81·0	6·8	
12	74	73	73	76	76	75	75	79	75	73	71	68	67	67	69	73	78	78	81	87	89	97	93	93	77·1	5·7	
13	93	92	96	91	89	92	93	95	95	96	96	96	90	94	94	97	96	94	96	97	90	89	87	87	93·3	5·2	
14	89	87	83	76	76	79	79	83	85	82	80	79	77	72	77	79	79	85	92	87	87	92	85	83	82·3	5·9	
15	82	77	79	80	82	84	77	80	80	71	80	78	85	91	90	92	96	97	96	95	95	94	93	92	85·9	5·6	
16	90	94	86	83	84	83	80	83	84	83	76	74	70	72	69	72	73	73	79	78	80	79	78	80	79·5	5·9	
17	83	85	84	96	93	96	95	84	81	83	82	79	71	70	70	73	82	85	84	87	87	87	93	93	83·7	5·6	
18	94	90	98	94	93	92	87	98	92	79	82	82	82	81	76	79	83	94	97	93	94	98	98	94	97	90·2	6·4
19	95	98	97	95	98	96	94	97	95	96	96	91	88	92	92	91	92	97	93	92	93	95	95	98	94·4	9·6	
20	94	95	95	98	98	98	97	100	100	100	99	98	97	95	70	73	83	85	88	90	90	90	89	88	92·3	7·6	
21	89	85	87	89	87	87	87	85	87	87	91	93	93	95	95	95	96	98	96	96	97	97	97	100	91·8	9·1	
22	97	100	100	98	99	100	100	100	100	100	100	98	97	91	85	94	100	100	100	100	100	100	100	100	98·3	7·7	
23	97	97	97	100	100	98	96	94	92	85	83	83	84	83	86	85	81	76	77	77	75	73	75	73	87·2	6·6	
24	72	72	71	65	65	69	69	64	59	61	61	57	57	59	54	62	62	59	59	61	59	59	67	73	63·2	3·4	
25	81	85	83	85	85	83	83	87	91	91	93	92	93	94	94	97	94	93	97	96	97	96	98	100	90·6	7·5	
26	98	100	97	98	97	96	96	100	97	95	95	91	88	88	94	93	98	100	98	97	100	100	100	100	96·5	10·1	
27	100	100	100	100	100	100	100	100	100	100	100	100	97	95	93	88	88	90	90	95	93	94	94	97	96·5	8·7	
28	100	100	100	96	100	94	95	98	95	94	90	89	84	80	81	82	83	84	85	86	85	87	92	93	89·7	9·4	
29	91	94	93	97	95	94	95	94	90	89	84	84	80	81	82	83	84	89	85	85	90	95	93	94	89·5	9·3	
30	94	95	97	97	93	95	97	94	97	97	94	83	80	81	90	92	85	86	92	89	94	95	94	94	91·9	9·1	
31	100	100	100	100	100	98	98	98	97	100	94	92	85	86	87	89	90	91	94	95	98	97	97	98	95·1	9·1	
Mean ...	87·3	88·1	88·5	88·0	88·4	88·4	88·2	88·3	87·8	86·6	84·9	81·5	79·4	78·9	79·0	80·7	83·6	84·6	85·7	85·9	85·8	86·9	86·6	87·6	85·4	†7·5	
Vapour Pressure* ...	mb. 7·1	mb. 7·1	mb. 7·1	mb. 7·1	mb. 7·0	mb. 7·1	mb. 7·1	mb. 7·0	mb. 7·1	mb. 7·4	mb. 7·5	mb. 7·5	mb. 7·5	mb. 7·5	mb. 7·5	mb. 7·5	mb. 7·5	mb. 7·5	mb. 7·3	mb. 7·3	mb. 7·3	mb. 7·2	mb. 7·2	mb. 7·2	mb. 7·3	†7·3	

399. Richmond (Kew Observatory) : North Wall Screen : h_t = 3·0 metres.

February, 1922.

Day.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.	Vapour Pressure.*
1	% 98	% 99	% 99	% 99	% 98	% 100	% 98	% 98	% 98	% 94	% 93	% 72	% 67	% 67	% 65	% 72	% 82	% 85	% 89	% 89	% 91	% 92	% 95	% 98	% 89·1	mb. 7·3
2	100	97	94	94	97	94	95	95	95	97	95	96	95	96	95	91	88	92	92	81	84	83	83	82	94·4	9·9
3	93	93	91	90	92	87	86	83	88	86	87	87	78	70	70	73	78	81	84	83	83	83	82	93	84·0	9·8
4	81	83	86	86	90	91	91	95	93	91	90	96	93	91	87	89	92	92	83	73	79	73	73	73	86·5	6·7
5	71	71	72	72	78	76	78	78	78	68	58	66	60	58	59	64	62	61	55	61	64	51	45	57	65·5	3·8
6	64	71	67	69	67	67	74	76	76	67	57	62	65	64	65	66	70	72	76	74	76	76	74	69·2	4·1	
7	83	83	84	87	83	74	70	76	76	72	68	64	69	69	69	69	72	72	75	77	75	75	70	74·6	4·6	
8	68	71	74	76	72	74	71	71	76	75	61	56	57	56	53	55	59	61	68	64	67	69	66	66·3	4·4	
9	66	67	68	69	69	75	77	65	63	58	56	50	57	57	53	56	65	70	77	78	76	77	76	75	66·5	4·8
10	73	72	71	71	72	71	67	67	66	62	61	59	54	58	57	55	63	67	72	79	81	83	83	79	68·4	5·0
11	79	81	81	81	85	89	89	84	81	71	66	60	57	60	55	58	63	68	72	72	76	75	77	75	73·2	5·2
12	72	79	75	73	72	74	74	77	69	69	75	73	66	65	66	66	69	72	73	75	77	77	88	72·2	4·5	
13	84	87	87	85	91	93	91	87	87	81	81	71	73	70	67	70	75	81	88	83	89	93	95	93	83·3	6·2
14	93	94	94	94	93	96	93	99	91	85	79	72	68	62	60	64	73	72	76	76	72	73	76	73	80·8	5·5
15	71	74	71	74	75	78	82	77	73	72	75	79	83	87	93	94	97	97	97	98	97	100	100	84·5	7·7	
16	98	98	100	100	100	100	100	100	100	96	91	88	85	85	91	91	92	93	95	95	93	92	93	93	94·7	10·4
17	95	95	96	96	95	95	93	93	93	91	92	87	84	83	78	76	81	84	73	77	78	83	85	83	87·1	9·9
18	85	87	87	85	92	89	85	84	82	75	68	61	59	60	58	56	58	67	72	75	76	77	81	81	75·0	6·3
19	83	87	85	87	91	88	89	87	85	91	93	94	91	93	95	92	91	91	88	88	81	84	81	66	87·8	7·9
20	73	81	80	77	80	85	85	83	73	66	66	64	58	58	60	63	70	76	82	92	90	91	92	93	76·0	6·8
21	90	90	87	85	85	85	81	82	89	87	81	75	57	57	58	73	80	82	90	93	93	97	93	97	82·7	7·9
22	97	91	93	91	90	85	84	84	84	84	79	70	64	65	64	65	75	81	84	87	93	95	90	90	82·8	7·9
23	87	88	86	86	87	90	92	91	90	89	81	71	77	76	80											

RELATIVE HUMIDITY.

Percentages, at exact hours, Greenwich Mean Time, determined as explained on page 13.

400. Richmond (Kew Observatory) : North Wall Screen : ht (height of thermometer bulb above the ground) = 3.0 metres.

March, 1922.

Table for Richmond (Kew Observatory) in March 1922. Columns include Day (1-31), hours (1-24), Mean, and Vapour Pressure* (mb.). Rows show daily relative humidity percentages for each hour and monthly averages.

401. Richmond (Kew Observatory) : North Wall Screen : ht = 3.0 metres.

April, 1922.

Table for Richmond (Kew Observatory) in April 1922. Columns include Day (1-30), hours (1-24), Mean, and Vapour Pressure* (mb.). Rows show daily relative humidity percentages for each hour and monthly averages.

* Computed from the mean temperature and mean relative humidity.

† Mean of the column.

‡ Mean of the row.

RELATIVE HUMIDITY.

Percentages, at exact hours, Greenwich Mean Time, determined as explained on page 13.

402. Richmond (Kew Observatory) : North Wall Screen : ht (height of thermometer bulb above the ground) = 3.0 metres.

May, 1922.

Day.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.	Vapour Pressure.*	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	81	84	85	85	89	90	88	83	80	66	60	68	71	75	70	71	87	84	85	93	91	90	90	93	81.3	8.1	
2	93	94	93	93	93	89	85	82	79	73	70	65	63	59	56	54	51	51	59	66	72	79	80	82	74.4	8.1	
3	83	84	87	84	89	81	81	80	80	83	77	81	70	74	79	86	91	91	93	96	87	89	92	84.3	9.7		
4	93	97	93	95	94	93	87	77	73	67	65	56	63	71	77	55	50	52	55	55	62	68	77	80	73.4	9.1	
5	81	85	86	86	85	85	84	88	87	69	76	64	55	53	49	49	53	55	62	64	63	70	75	80	70.5	8.4	
6	81	83	86	87	88	80	75	72	70	65	61	61	57	56	54	53	50	49	60	63	63	68	75	76	68.1	9.3	
7	85	91	91	91	94	89	85	69	57	53	56	53	48	46	45	45	43	45	50	55	74	82	83	89	67.2	10.2	
8	91	89	93	94	93	92	75	72	63	58	50	46	40	39	35	34	37	37	42	51	55	59	68	72	62.3	11.8	
9	72	69	76	87	82	83	69	67	63	59	58	56	51	47	47	55	58	61	61	71	78	79	79	81	66.9	12.4	
10	82	83	86	89	85	84	82	79	77	72	65	67	65	66	65	66	69	68	69	68	71	78	79	75	74.7	9.3	
11	75	73	74	76	76	77	75	72	66	63	64	63	63	64	62	64	66	69	62	66	74	79	78	77	69.9	7.6	
12	83	84	85	83	80	76	75	66	64	60	57	56	54	51	54	61	69	68	69	72	77	82	78	80	70.1	7.0	
13	80	81	81	81	81	79	70	67	56	55	53	52	50	48	49	49	49	49	55	65	66	68	76	80	64.2	6.6	
14	87	91	93	97	100	97	91	80	69	59	55	54	53	51	51	54	51	50	53	59	65	65	75	79	67.0	8.9	
15	82	86	90	91	93	85	83	77	71	60	59	55	52	50	51	45	49	51	54	61	68	67	72	79	67.8	9.2	
16	80	83	85	85	83	77	71	67	61	55	61	58	57	53	51	49	49	48	56	65	73	81	84	85	67.3	9.4	
17	82	85	91	93	93	92	96	91	92	90	89	88	86	86	82	75	63	69	73	78	80	84	86	85	84.5	12.0	
18	86	86	87	86	86	83	80	74	70	74	61	61	65	58	57	61	56	57	61	63	70	75	82	91	72.0	10.8	
19	91	91	89	87	86	83	86	86	83	85	84	78	69	57	53	53	51	54	59	66	72	78	81	84	75.4	12.3	
20	87	89	89	91	88	82	74	70	70	70	68	64	63	58	55	53	52	51	57	71	79	80	86	90	72.8	13.7	
21	94	96	92	97	97	90	80	76	68	65	59	53	48	43	40	43	42	44	47	58	67	72	78	89	68.3	15.8	
22	88	93	93	96	92	86	73	69	63	59	45	43	39	38	38	37	39	41	57	61	62	71	75	73	64.1	17.7	
23	76	83	83	89	90	79	71	65	61	49	48	52	46	45	41	40	39	39	45	63	63	67	67	74	61.4	17.4	
24	89	83	85	88	93	86	79	71	64	57	51	48	47	46	41	43	46	39	47	57	64	68	75	77	64.3	17.6	
25	79	86	81	81	90	90	88	82	74	70	68	64	55	59	65	59	62	60	64	75	81	73	74	75	73.2	17.3	
26	81	83	85	88	88	93	90	87	84	73	68	64	58	56	57	60	61	61	60	71	76	82	79	75	74.2	13.8	
27	77	82	89	91	91	75	69	58	56	56	54	53	49	47	44	47	48	45	52	49	52	56	59	74	61.4	11.1	
28	82	84	85	77	73	69	64	55	54	52	52	50	45	43	45	48	49	50	49	51	60	59	76	79	60.4	10.9	
29	82	87	91	95	93	85	67	60	52	50	47	44	41	42	41	41	40	42	47	51	61	76	79	80	62.2	12.7	
30	82	91	92	93	93	88	79	70	56	54	43	42	41	39	39	36	39	39	53	57	61	65	79	78	62.9	14.1	
31	83	85	90	94	86	77	72	67	60	56	44	43	41	41	40	40	40	45	47	55	58	63	69	73	61.3	14.9	
Mean	...	83.5	85.8	87.3	88.7	88.5	84.3	79.0	73.7	67.9	64.0	60.3	58.3	55.0	53.6	52.5	52.5	53.2	53.7	58.1	64.3	69.5	73.3	77.5	80.5	69.4	11.5†

Vapour Pressure.*	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
...	10.4	10.4	10.2	10.2	10.3	10.4	10.9	11.1	11.1	11.1	11.1	11.5	11.4	11.6	11.4	11.6	11.6	11.6	11.4	11.1	11.0	11.0	10.9	10.9	11.0	11.0	11.0

403. Richmond (Kew Observatory) : North Wall Screen : ht = 3.0 metres.

June, 1922.

Day.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.	Vapour Pressure.*	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	77	85	87	92	91	81	72	59	46	36	33	39	37	38	35	36	41	39	38	41	48	57	61	63	55.7	14.0	
2	66	68	73	76	77	72	71	67	62	57	52	55	58	63	53	45	44	49	57	67	70	69	69	64	62.6	15.2	
3	65	69	69	72	72	72	69	68	63	61	57	54	53	50	43	43	47	51	55	60	61	62	63	66	60.2	10.7	
4	67	75	83	83	79	73	70	59	57	54	49	48	47	43	43	40	41	40	39	47	62	69	71	78	58.8	10.1	
5	78	78	82	85	92	76	69	57	55	49	49	45	43	42	40	40	42	42	47	57	62	77	71	78	60.7	11.3	
6	72	75	78	84	85	78	64	61	53	49	42	41	41	40	41	41	42	42	47	53	58	65	68	72	58.1	11.5	
7	76	80	81	84	86	80	73	66	58	54	47	39	37	35	33	35	38	43	45	53	62	70	70	73	59.1	11.7	
8	79	82	88	89	85	79	74	69	61	57	51	53	56	49	64	61	56	61	63	65	68	73	81	86	68.5	11.7	
9	86	86	85	88	91	87	85	76	73	74	67	54	52	50	46	47	47	48	47	63	61	68	68	74	67.9	13.7	
10	84	76	80	84	83	85	77	72	62	55	54	52	54	49	51	46	49	71	68	70	75	76	83	82	68.1	12.7	
11	79	78	78	80	78	70	63	58	58	53	44	43	41	41	40	37	37	39	41	60	72	77	81	85	59.6	10.7	
12	90	87	86	89	84	85	78	68	52	46	42	39	39	37	35	38	37	37	39	43	49	72	75	83	59.7	12.1	
13	82	87	90	88	87	83	77	69	60	61	65	63	85	83	78	71	68	75	84	87	82	84	81	84	78.0	11.8	
14	86	87	86	83	82	78	79	78	75	74	71	72	71	71	71	69	71	70	71	69	74	72	73	77	77	75.6	9.4
15	87	95	96	96	96	95	92	93	93	87	85	83	80	79	79	77	79	76	77	75	73	74	76	81	84.3	11.0	
16	87	87	92	92	91	81	75	69	58	51	48	45	43	47	45	48	49	51	53	66	73	74	73	79	65.7	11.0	
17	80	72	72	75	69	67	63	60	56	54	55	54	54	53	51	48	49	47	52	54	57	62	65	65	60.0	9.0	
18	67	65	70	71	71	73	65	63	58	55	55	57	51	51	45	43	45	49	56	60	64	69	72	77	60.2	9.7	
19	81	82	84	84	83	83	79	75	69	66	64	60	54	52	49	47	48	47	49	59	63	67	71	77	66.3	14.3	
20	80	81	85	85	88	86	80	80	80	73	63	62	56	55	55	57	59	52	51	57	63	74	81	82	70.1	12.7	
21	81	85	83	83	81	81	76	73	61	54	55	50	45	44	42	41	43	41	45	50							

Percentages, at exact hours, Greenwich Mean Time, determined as explained on page 13.

404. Richmond (Kew Observatory): North Wall Screen: ht (height of thermometer bulb above the ground) = 3.0 metres.

July, 1922.

Table for Richmond (Kew Observatory) in July 1922. Columns: Day (1-31), 1-24, Mean, Vapour Pressure.*. Rows: Daily data with percentages and vapour pressure values.

Summary row for Vapour Pressure.* with values in mb. for each day and a mean value of 12.8.

405. Richmond (Kew Observatory): North Wall Screen: ht = 3.0 metres.

August, 1922.

Table for Richmond (Kew Observatory) in August 1922. Columns: Day (1-31), 1-24, Mean, Vapour Pressure.*. Rows: Daily data with percentages and vapour pressure values.

Summary row for Vapour Pressure.* and Hour G.M.T. with values in mb. for each day and a mean value of 12.8.

* Computed from the mean temperature and mean relative humidity.

† Mean of the column.

‡ Mean of the row.

Percentages, at exact hours, Greenwich Mean Time, determined as explained on page 13.

406. Richmond (Kew Observatory) : North Wall Screen : ht (height of thermometer bulb above the ground) = 3.0 metres.

September, 1922.

Table with 26 columns (Day 1-26) and 23 rows (hours 1-24, Mean, Vapour Pressure*). Contains relative humidity percentages and mean values for Richmond (Kew Observatory) in September 1922.

407. Richmond (Kew Observatory) : North Wall Screen : ht = 3.0 metres.

October, 1922.

Table with 26 columns (Day 1-26) and 23 rows (hours 1-24, Mean, Vapour Pressure*). Contains relative humidity percentages and mean values for Richmond (Kew Observatory) in October 1922.

* Computed from the mean temperature and mean relative humidity.

† Mean of the column.

‡ Mean of the row.

RELATIVE HUMIDITY.

Percentages, at exact hours, Greenwich Mean Time, determined as explained on page 13.

408. Richmond (Kew Observatory) : North Wall Screen : *h*t (height of thermometer bulb above the ground) = 3·0 metres.

November, 1922.

Day.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.	Vapour Pressure.*	
1	87	89	89	86	82	84	91	85	89	91	89	91	92	92	93	91	81	78	68	72	76	79	82	78	85·0	9·0	
2	75	81	83	83	85	71	85	85	81	64	61	61	60	62	61	59	67	69	76	75	74	77	78	88	73·6	6·1	
3	81	80	80	80	81	83	80	85	85	88	93	95	90	90	85	89	87	87	88	89	93	93	97	88	86·6	7·2	
4	91	95	91	87	86	80	78	78	75	71	58	55	57	60	61	62	68	71	74	80	85	85	89	87	76·0	6·2	
5	91	91	93	94	94	94	94	97	93	89	85	76	72	71	72	76	79	91	89	94	93	93	94	90	87·7	6·9	
6	89	91	93	91	93	96	96	96	95	83	80	79	80	79	84	92	84	86	85	82	85	82	85	87	87·3	10·3	
7	87	89	89	94	97	95	94	86	82	79	76	76	70	68	69	76	76	76	79	81	85	90	91	91	82·8	9·3	
8	91	91	93	95	97	95	97	99	93	89	91	88	91	79	77	80	83	83	90	94	95	94	95	94	90·5	9·3	
9	95	95	95	97	95	95	97	99	99	93	85	76	66	68	72	70	80	90	99	99	99	99	100	99	89·9	8·5	
10	100	97	97	95	93	93	89	86	83	80	86	91	87	83	92	93	95	95	96	93	95	95	96	97	92·0	10·6	
11	97	99	97	100	100	100	97	95	95	91	87	82	78	75	76	78	87	94	99	91	90	93	95	92	91·3	9·5	
12	95	99	100	99	99	99	99	99	99	99	99	97	93	91	93	94	95	95	95	94	94	94	97	100	96·4	7·4	
13	94	95	95	91	91	91	91	91	93	87	79	74	73	77	80	91	92	95	97	97	97	97	97	97	97	89·5	7·5
14	97	97	99	99	99	99	99	99	97	99	99	99	97	99	99	97	99	97	97	97	97	97	97	97	97	98·1	6·3
15	99	99	100	99	100	99	99	99	97	99	97	99	91	89	91	83	93	94	91	99	92	97	95	99	95·8	7·8	
16	99	97	97	97	96	99	97	99	97	96	99	99	100	99	99	99	97	99	97	97	99	97	91	91	97·5	7·1	
17	93	91	87	86	83	86	90	90	87	86	87	86	80	81	81	75	75	78	84	87	87	94	91	92	85·7	8·8	
18	91	92	94	91	87	87	89	92	87	79	76	75	73	73	70	71	72	73	75	79	81	85	89	81	85	81·3	9·2
19	88	89	88	87	95	91	89	90	85	82	81	79	78	76	78	81	84	89	90	93	94	93	91	90	90	86·7	8·4
20	87	87	89	89	82	82	81	85	84	86	85	77	77	77	79	81	81	84	86	87	86	87	89	91	84·1	8·5	
21	92	90	90	92	93	94	93	95	94	93	92	88	85	88	87	91	92	91	89	92	94	89	87	91	90·9	9·5	
22	93	94	93	94	94	91	93	93	93	87	85	85	85	78	71	76	78	79	86	85	87	86	87	91	86·8	8·8	
23	93	93	93	93	94	94	94	94	90	82	79	76	74	75	79	82	85	85	90	94	94	97	97	97	97	88·4	8·6
24	99	95	97	97	99	97	94	94	93	91	84	72	70	72	74	76	80	81	74	75	77	76	76	79	84·6	7·9	
25	83	83	83	89	81	95	94	90	86	89	87	77	71	67	66	73	76	81	85	83	81	83	81	83	81	81·9	5·5
26	85	83	87	85	85	89	93	88	85	83	79	76	73	73	75	87	85	84	79	78	79	77	77	79	81·7	6·5	
27	79	75	75	75	73	69	73	75	72	71	67	65	65	65	67	70	77	75	79	80	81	83	85	87	74·1	4·9	
28	89	89	91	95	95	93	91	87	81	78	83	80	79	76	74	72	76	72	76	75	81	79	76	75	81·8	8·5	
29	80	81	85	81	83	84	84	85	79	71	74	70	66	66	67	70	76	77	79	80	82	83	83	85	77·7	8·7	
30	85	90	87	87	90	90	90	91	89	86	80	80	73	77	73	71	77	75	75	72	73	77	79	81	81·3	8·3	
Mean	90·2	90·6	91·0	90·9	90·7	90·8	91·0	91·0	88·4	85·4	83·5	80·8	78·2	77·5	78·2	79·9	82·3	84·1	85·5	86·3	87·4	88·2	88·6	89·2	86·2	†8·0	
Vapour Pressure.†	7·5	7·6	7·5	7·5	7·7	7·7	7·7	7·7	7·8	8·0	8·2	8·4	8·5	8·5	8·5	8·4	8·3	8·2	8·0	7·9	7·8	7·7	7·7	7·6	†7·9		

409. Richmond (Kew Observatory) : North Wall Screen : *h*t = 3·0 metres.

December, 1922.

Day.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.	Vapour Pressure.*	
1	86	86	86	87	95	95	91	90	90	79	76	76	74	74	91	94	89	87	85	92	91	91	91	90	86·7	9·2	
2	90	90	89	91	91	90	90	90	87	86	83	78	76	78	81	84	85	86	92	97	96	95	89	83	87·5	9·3	
3	83	82	85	86	85	85	84	86	86	78	77	77	77	72	66	70	67	71	71	84	75	79	79	83	78·7	8·6	
4	85	86	85	89	87	87	87	87	89	91	91	76	76	72	73	75	77	74	75	73	76	77	78	78	81·0	8·5	
5	79	80	83	80	80	83	87	86	83	81	79	81	77	77	80	81	82	81	78	78	79	81	78	63	80·2	9·0	
6	64	65	64	65	69	69	69	69	71	69	64	67	67	67	69	72	74	74	76	78	78	78	83	81	70·5	7·2	
7	81	81	87	91	97	91	97	95	90	91	87	82	77	71	73	75	77	79	79	79	79	84	81	83	83·6	7·5	
8	79	80	81	84	85	85	86	83	90	91	89	86	89	86	81	83	83	83	83	85	85	91	95	93	85·5	8·0	
9	95	95	91	94	91	93	93	93	99	95	97	95	92	83	81	85	85	87	91	93	93	91	93	89	91·5	6·2	
10	89	87	85	85	85	87	85	88	87	87	85	82	79	79	77	77	77	78	79	80	80	76	74	70	82·0	7·2	
11	73	71	73	75	73	73	73	69	72	75	74	73	73	73	75	77	79	78	82	79	80	81	83	80	75·4	6·4	
12	79	79	80	79	83	81	79	77	80	80	80	83	83	84	84	86	86	86	87	89	87	91	89	89	83·1	8·3	
13	91	95	93	89	91	91	89	87	85	85	85	84	85	85	86	84	83	85	85	83	86	86	86	86	86	86·9	10·5
14	86	87	84	84	84	83	85	83	85	86	89	88	85	85	84	85	91	88	88	87	85	87	88	91	86·0	9·6	
15	91	91	91	93	93	89	91	95	95	94	93	85	81	81	79	89	89	91	93	91	90	90	91	93	90	90·1	9·2
16	97	96	93	93	91	88	85	84	82	78	79	79	79	79	80	77	73	75	81	86	91	93	93	93	85·5	8·9	
17	94	93	94	90	93	89	88	87	87	83	81	81	75	78	83	85	80	84	88	93	93	95	94	99	88·2	7·8	
18	99	95	99	99	100	99	99	99	99	99	97	93	91	89	88	89	86	86	86	85	85	85	93	90	93	93·3	9·4
19	93	91	90	91	91	87	85	8																			

RELATIVE HUMIDITY AND VAPOUR PRESSURE : ANNUAL MEANS OF HOURLY VALUES.

From the monthly means, for exact hours, Greenwich Mean Time.

410. Richmond (Kew Observatory) : North Wall Screen : ht = 3.0 metres.

1922.

G.M.T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Relative Humidity ...	% 86.3	% 87.2	% 87.7	% 88.1	% 88.2	% 87.3	% 85.3	% 82.6	% 79.0	% 75.4	% 72.0	% 69.3	% 67.4	% 66.5	% 66.8	% 68.0	% 70.1	% 72.5	% 75.3	% 78.3	% 80.6	% 82.6	% 84.1	% 85.3	% 78.6
Vapour Pressure in millibars ...	mb. 9.1	mb. 9.1	mb. 9.1	mb. 9.0	mb. 9.0	mb. 9.0	mb. 9.1	mb. 9.2	mb. 9.3	mb. 9.3	mb. 9.4	mb. 9.4	mb. 9.4	mb. 9.4	mb. 9.6	mb. 9.6	mb. 9.6	mb. 9.7	mb. 9.6	mb. 9.4	mb. 9.4	mb. 9.4	mb. 9.3	mb. 9.2	mb. 9.4

RELATIVE HUMIDITY : MONTHLY MEANS AND DIURNAL INEQUALITIES.

The departures from the mean of the day are adjusted for non-cyclic change.

411. Richmond (Kew Observatory) : North Wall Screen : ht = 3.0 metres.

1922.

Month.	Mean.	Hour G.M.T.																							
	%	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
Jan.	85.4	+2.0	+2.8	+ 3.2	+2.7	+3.1	+3.1	+2.8	+2.9	+2.4	+1.2	-0.5	-3.9	-6.0	- 6.5	-6.4	-4.7	-1.8	-0.8	+0.2	+0.4	+0.3	+1.4	+1.1	+2.1
Feb.	79.7	+3.7	+5.2	+4.8	+4.9	+ 5.7	+5.2	+5.2	+4.3	+2.7	-0.4	-4.5	-7.4	-9.2	- 9.7	- 9.7	-8.1	-4.2	-1.4	+0.7	+1.4	+2.3	+2.6	+2.9	+3.1
Mar.	78.4	+6.7	+6.7	+6.3	+7.7	+7.6	+ 8.4	+7.5	+6.3	+1.9	-1.5	-6.1	-9.3	-10.9	- 11.6	-11.5	-10.6	-8.5	-4.7	-2.2	+0.6	+2.9	+3.4	+5.1	+6.1
April	76.2	+9.3	+10.4	+10.7	+ 11.3	+10.7	+10.8	+8.7	+4.7	-1.0	-5.2	-8.7	-10.3	-13.2	- 14.1	-13.7	-12.3	-11.0	-8.0	-2.6	+0.5	+2.9	+5.2	+6.9	+7.8
May	69.4	+14.1	+16.4	+17.9	+ 19.3	+19.1	+14.9	+9.6	+4.3	-1.5	-5.4	-9.1	-11.1	-14.4	-15.8	- 16.9	-16.8	-16.1	-15.7	-11.2	-5.0	+0.2	+3.9	+8.2	+11.3
June	67.6	+12.2	+13.2	+15.1	+ 16.6	+16.2	+12.6	+7.3	+1.9	-3.7	-6.7	-9.6	-11.8	-11.3	-12.8	- 13.4	-13.2	-12.4	-10.9	-9.0	-3.5	+0.7	+5.2	+7.2	+10.0
July	76.0	+10.8	+12.4	+13.3	+ 13.5	+12.4	+10.3	+6.5	+1.9	-2.3	-6.3	-8.2	-10.5	-12.4	-12.2	- 12.9	-11.4	-9.6	-9.3	-7.2	-2.7	+1.9	+5.3	+7.3	+9.5
Aug.	77.9	+10.2	+11.3	+11.8	+12.5	+ 13.2	+11.8	+8.6	+3.8	-0.3	-5.3	-9.3	-12.4	-14.8	- 16.3	-13.6	-13.6	-11.7	-8.9	-4.7	+0.1	+3.3	+6.0	+8.7	+9.7
Sept.	81.6	+9.9	+9.9	+9.3	+9.6	+10.8	+ 10.9	+8.8	+5.4	+1.0	-5.1	-10.1	-12.3	-14.1	-15.3	- 15.9	-14.1	-11.7	-6.0	-1.7	+1.8	+4.9	+6.7	+8.0	+9.4
Oct.	79.5	+7.2	+8.0	+8.7	+8.8	+8.9	+ 9.1	+ 9.1	+6.7	+1.8	-3.0	-8.0	-12.0	-13.8	- 15.8	-14.5	-12.2	-8.1	-2.9	-1.0	+1.9	+3.1	+4.9	+6.5	+6.6
Nov.	86.2	+3.8	+4.2	+ 4.7	+4.6	+4.4	+4.5	+4.7	+4.7	+2.1	-0.9	-2.8	-5.4	-8.0	- 8.7	-8.0	-6.3	-3.9	-2.1	-0.7	+0.2	+1.3	+2.1	+2.5	+3.0
Dec.	85.0	+2.2	+2.5	+2.3	+2.4	+ 3.0	+2.7	+2.4	+1.9	+2.0	+0.6	-1.7	-4.2	-5.6	- 6.2	-5.2	-3.1	-2.1	-1.6	-0.1	+1.4	+1.0	+2.0	+1.8	+1.5
Year	78.6	+7.7	+8.6	+9.0	+9.5	+ 9.6	+8.7	+6.8	+4.1	+0.4	-3.2	-6.5	-9.2	-11.1	- 12.1	-11.8	-10.5	-8.4	-6.0	-3.3	-0.2	+2.1	+4.1	+5.5	+6.7

RAINFALL : ANNUAL TOTALS OF HOURLY VALUES.

Amounts, in millimetres, for periods of sixty minutes, between the exact hours, Greenwich Mean Time.

412. Richmond (Kew Observatory) : H_r (height of receiving surface above M.S.L.) = H_r (height of station above M.S.L.) + h_r (height of receiving surface above ground) = 5.5 metres + 0.53 metres.

1922.

G.M.T.	0 to 1.	1 to 2.	2 to 3.	3 to 4.	4 to 5.	5 to 6.	6 to 7.	7 to 8.	8 to 9.	9 to 10.	10 to 11.	11 to Noon	Noon to 13.	13 to 14.	14 to 15.	15 to 16.	16 to 17.	17 to 18.	18 to 19.	19 to 20.	20 to 21.	21 to 22.	22 to 23.	23 to 24.	0 to 24.
Amount ...	mm. 13.5	mm. 16.7	mm. 17.5	mm. 19.2	mm. 34.4	mm. 19.9	mm. 21.1	mm. 12.4	mm. 23.5	mm. 18.3	mm. 21.3	mm. 15.6	mm. 19.7	mm. 16.5	mm. 33.9	mm. 34.3	mm. 38.7	mm. 25.7	mm. 24.7	mm. 30.8	mm. 36.7	mm. 27.9	mm. 24.6	mm. 20.7	mm. 567.6
Duration ...	hr. 14.4	hr. 16.7	hr. 21.5	hr. 19.0	hr. 23.8	hr. 21.9	hr. 23.0	hr. 16.8	hr. 17.6	hr. 15.3	hr. 18.6	hr. 15.3	hr. 17.6	hr. 17.3	hr. 26.9	hr. 25.9	hr. 25.2	hr. 22.7	hr. 18.6	hr. 21.9	hr. 24.4	hr. 23.4	hr. 25.1	hr. 19.3	hr. 492.2

413. Richmond (Kew Observatory).

NOTES ON RAINFALL.

1922.

During the year the largest continuous falls of rain were 20 mm. on July 5th-6th, 14 mm. on September 19th and 14 mm. on December 20th-21st.

On April 22nd a continuous fall of 7 mm. extended over 13 h. 36 m. Rain also fell continuously on July 5th-6th for 12 h. 48 m., on December 31st for 9 h. 42 m., on December 20th-21st for 9 h. 12 m., and on April 3rd for 8 h. 36 m.

On May 25th there was a fall of 10 mm. in a time which may have been as short as 36 minutes, but some uncertainty was introduced in the trace by the failure of the Stonhurst discharger to act. Another rapid fall occurred on July 22nd, when 8 mm. fell in 1 h. 12 m., a mean rate of 6.7 mm. per hour. On this occasion, and again on August 6th, a fall of 5 mm. occurred in 36 m.

The shortest time required for 10 mm. to fall was 2 h. 48 m. on July 7th. On August 6th the rate was very little less, 10 mm. falling in 2 h. 54 m., while on September 19th there was a fall of 10 mm. in 3 h. 6 m.

Amounts, in millimetres, for periods of sixty minutes between the exact hours, Greenwich Mean Time.

416. Richmond (Kew Observatory): H_r (height of receiving surface above M.S.L.) = H (height of station above M.S.L.) + h_r (height of receiving surface above ground) = 5.5 metres + 0.53 metres. March, 1922.

Table with 25 columns for hourly rainfall (0-1 to 23-24) and 2 columns for total rainfall and duration. Rows represent days from 1 to 31. Includes a summary row and a total duration row.

417. Richmond (Kew Observatory) : H_r = 5.5 metres + 0.53 metres.

April, 1922.

Table with 25 columns for hourly rainfall (0-1 to 23-24) and 2 columns for total rainfall and duration. Rows represent days from 1 to 30. Includes a summary row and a total duration row.

Amounts, in millimetres, for periods of sixty minutes between the exact hours, Greenwich Mean Time.

418. Richmond (Kew Observatory) : H_r (height of receiving surface above M.S.L.) = H (height of station above M.S.L.) + h_r (height of receiving surface above ground) = 5.5 metres + 0.53 metres. May, 1922.

Day.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	Dura- 0-24	
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.	
1	1.9	.2	.3	.5	.2	.2	...	...	3.3	2.3	
2	
34	1.0	.5	...	...	...	.3	2.6	1.1	...	...	...	...	...	...	6.3	4.0	
42	.1	1.1	.1	...	...	...	...	...	...	...	...	1.5	0.5	
53	.6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.9	0.7	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
178	1.4	.5	.3	.3	.1	.3	...	...	.2	...	...	...	...	...	...	...	...	...	...	...	...	3.9	4.0	
18	
193	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.3	0.1	
20	
21	
22	
23	
24	
25	(9.8)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9.8	0.6	
26	
27	
28	
29	
30	
31	
Sum.	0.8	1.4	10.8	0.3	0.3	0.7	0.9	0.4	1.0	0.7	0.2	0.1	1.1	0.4	4.5	1.3	0.3	0.5	0.6	0.2	...	...	26.0	12.2	
Total Dura- tion.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.
	1.0	1.0	1.4	0.4	0.4	0.6	0.5	0.4	0.6	0.7	0.1	0.1	0.2	0.3	2.0	1.2	0.2	0.5	0.5	0.1	...	...	12.2		

419. Richmond (Kew Observatory) : $H_r = 5.5$ metres + 0.53 metres. June, 1922.

	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.		
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	.6	1.0	.4	.3	.2	.8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3.4	5.0
16	
17	
18	
19	
20	
21	
22	
23	1.0	.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24	
25	
26	
27	
28	
29	
30	
Sum.	0.6	1.0	0.4	0.3	0.2	1.8	0.7	0.4	0.4	0.2	0.4	0.2	2.6	2.4	0.7	1.3	1.3	1.2	2.7	2.3	2.1	1.4	0.4	...	25.0	21.4	
Total Dura- tion.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.
	0.7	1.0	1.0	1.0	0.5	1.0	1.1	1.0	1.0	0.3	0.6	0.1	0.9	1.8	1.2	0.9	1.3	0.9	1.0	1.5	1.0	1.0	0.6	...	21.4		
G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	—	

RAINFALL.

Amounts, in millimetres, for periods of sixty minutes between the exact hours, Greenwich Mean Time.

420. Richmond (Kew Observatory) : H_r (height of receiving surface above M.S.L.) = H (height of station above M.S.L.) + h_r (height of receiving surface above ground) = 5.5 metres + 0.53 metres. July, 1922.

Day.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	Duration.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.
1	0.2	0.4
2	3.8	2.5
3	1.6	2.8
4	1.6	1.9
5	11.4	9.6
6	9.1	4.4
7	14.5	3.4
8	0.8	0.7
9	3.9	2.9
10
11	0.1	...
12
13	0.8	0.4
14	5.8	7.2
15	7.9	4.3
16
17
18	2.1	2.5
19
20
21	0.3	0.2
22	8.6	1.4
23	2.1	2.0
24	3.9	3.0
25
26	2.5	3.4
27
28
29
30	1.3	2.3
31	1.5	0.7
Sum.	3.2	5.3	6.3	3.5	4.0	1.9	2.4	2.5	1.4	0.8	3.7	1.1	0.8	2.8	2.2	10.0	12.7	4.8	3.6	1.9	2.9	2.8	1.0	2.2	83.8	56.0
Total Duration.	1.8	2.1	3.8	3.0	2.8	2.8	2.9	2.7	2.0	1.4	2.4	0.9	0.6	2.6	2.7	3.3	8.9	2.3	2.5	2.3	2.7	2.3	1.2	1.0	56.0	

421. Richmond (Kew Observatory) : H_r = 5.5 metres + 0.53 metres.

August, 1922.

	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.	
1	0.1	...
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
Sum.	0.9	1.4	0.4	0.8	1.8	1.4	0.8	0.7	3.9	3.0	1.3	0.8	0.4	1.7	4.8	8.0	2.3	0.4	1.5	5.3	1.9	4.5	3.0	1.7	52.7	42.3	
Total Duration.	1.0	1.9	1.2	2.1	2.4	2.4	2.7	1.4	2.2	0.9	1.0	0.7	0.8	0.8	3.1	4.0	1.8	0.7	2.0	1.3	1.2	1.3	3.3	2.1	42.3		
G.M.T.	0.1	1.2	2.3	3.4	4.5	5.6	6.7	7.8	8.9	9.10	10.11	11.12	12.13	13.14	14.15	15.16	16.17	17.18	18.19	19.20	20.21	21.22	22.23	23.24	0.24	—	

Amounts, in millimetres, for periods of sixty minutes, between the exact hours, Greenwich Mean Time.

422. Richmond (Kew Observatory) : H_r (height of receiving surface above M.S.L.) = H (height of station above M.S.L.) + h_r (height of receiving surface above ground) = 5.5 metres + 0.53 metres.

September, 1922.

Table with 25 columns for hourly intervals (0-1 to 24) and 30 rows for days (1-30). Columns include rainfall in mm. and Duration in hr. Summary row shows totals for each column and Grand Totals for the month.

423. Richmond (Kew Observatory) : H_r = 5.5 metres + 0.53 metres.

October, 1922.

Table with 25 columns for hourly intervals (0-1 to 24) and 31 rows for days (1-31). Columns include rainfall in mm. and Duration in hr. Summary row shows totals for each column and Grand Totals for the month.

Amounts, in millimetres, for periods of sixty minutes, between the exact hours, Greenwich Mean Time.

424. **Richmond (Kew Observatory)** : H_r (height of receiving surface above M.S.L.) = H (height of station above M.S.L.) + h_r (height of receiving surface above ground) = 5.5 metres + 0.53 metres. **November, 1922.**

Day.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	Duration. 0-24
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.
12	.1	1.6	1.6	1.4	1.5	1.6	1.2	.8	.6	.1	...	...	...	...	...	...	...	10.7	8.5
2
3
4	.5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	
66	2.7	1.2	.2	...	...	...	...	...	...	1.5	1.2	.1	...	.1	...	.5	...	...	...	8.1	4.4
74	.4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.8	1.2
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
Sum.	0.5	...	...	...	1.0	3.1	1.7	0.4	1.8	1.9	2.7	1.9	2.0	1.3	2.9	3.1	0.8	0.8	1.2	2.3	3.4	1.2	0.6	1.4	36.0	31.4
Total Duration.	hr. 0.5	hr.	hr.	hr.	hr. 0.8	hr. 1.7	hr. 1.2	hr. 0.7	hr. 1.1	hr. 1.3	hr. 2.0	hr. 1.8	hr. 2.0	hr. 1.4	hr. 3.0	hr. 3.4	hr. 1.6	hr. 1.9	hr. 1.1	hr. 1.0	hr. 1.9	hr. 1.2	hr. 0.8	hr. 1.0	hr. 31.4	...

425. **Richmond (Kew Observatory)** : $H_r = 5.5$ metres + 0.53 metres. **December, 1922.**

	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.	
1	.2	...	...	...	.4	.1	...	...	...	...	...	...	...	...	1.2	.2	.2	...	...	.2	...	...	...	...	...	2.5	4.7
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	.2	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18	.4	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19	.1	...	.4	.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20	...	.3	1.6	2.1	1.1	1.0	.8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	1.3	.6	.8	1.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23	...	...	...	...	0.7	0.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
30	...	1.9	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
31	2.0	0.9	.1	...	...	.2	.6	.7	1.1	1.0	.9	1.2	2.1	.5	.7	.1	...	...	...	...	...	...	...	...	...	...	...
Sum.	4.2	3.9	3.2	3.4	2.2	1.5	1.5	1.1	1.6	2.2	1.2	1.8	4.6	1.8	6.5	2.5	2.4	5.3	1.1	1.3	4.7	4.5	5.1	4.4	72.0	61.9	
Total Duration.	hr. 2.6	hr. 3.5	hr. 3.4	hr. 1.6	hr. 2.9	hr. 2.0	hr. 1.7	hr. 1.3	hr. 1.5	hr. 2.4	hr. 1.5	hr. 1.7	hr. 3.0	hr. 2.0	hr. 3.5	hr. 2.8	hr. 2.8	hr. 2.6	hr. 1.4	hr. 2.3	hr. 3.1	hr. 4.6	hr. 4.8	hr. 2.9	hr. 61.9	...	
G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	—	

426. Richmond (Kew Observatory) : hs (Height of recorder above ground) = 13.3 metres.

January, 1922.

Table for Richmond (Kew Observatory) in January 1922. Columns include Days, hourly sunshine duration (3 to 4 to 21), Total for Day, Per cent. of Possible, and Radiation (Sky, Total, Vertical).

427. Richmond (Kew Observatory) : hs = 13.3 metres.

February, 1922.

Table for Richmond (Kew Observatory) in February 1922. Columns include Hour L.A.T., hourly sunshine duration (3 to 4 to 21), Total for Day, Per cent. of Possible, and Radiation (Sky, Total, Vertical).

For periods of sixty minutes, between the exact hours, of Local Apparent Time.

428. Richmond (Kew Observatory) : hs (Height of recorder above ground) = 13.3 metres.

March, 1922.

Day.	3 to	4 to	5 to	6 to	7 to	8 to	9 to	10 to	11 to	Noon	13 to	14 to	15 to	16 to	17 to	18 to	19 to	20 to	21.	Total for Day.	Per cent. of Possible.	Radiation, Ångström Pyrheliometer.		
	4.	5.	6.	7.	8.	9.	10.	11.	Noon to 13.	14.	15.	16.	17.	18.	19.	20.	21.	Sky.	Total.			Vertical.		
	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%		mw/cm ² .	mw/cm ² .
1	—	—	—	6	6	...	4	1.6	15	
2	—	—	—	...	7	9	9	1.0	9	7	7	6	9	7.3	67	Clear	76.9	40
3	—	—	—	
4	—	—	—	1	1.0	2	1.3	12	
5	—	—	—	
6	—	—	—	...	...	...	2	5	3	7	3	...	...	...	...	...	...	...	2.0	18	...	...
7	—	—	—	...	2	6	8	9	1	...	...	...	8	5	...	...	...	...	3.9	35	...	...
8	—	—	—	...	...	...	...	...	...	...	5	4	3	...	...	...	...	...	1.2	11	...	...
9	—	—	—	...	5	9	1.0	1.0	1.0	9	8	9	1.0	1.0	2	9.2	81	Clear	84.8	47	
10	—	—	—	...	3	1.0	1.0	1.0	1.0	4	6	8	9	1.0	...	...	...	...	8.0	70	...	...
11	—	—	—	9	1.0	1.0	1.0	1.0	1.0	1.0	6	8.5	74	Clear	70.3	40	
12	—	—	—	...	...	...	2	2	...	7	9	1.0	1.0	3	...	...	...	...	4.3	37	...	...
13	—	—	—	...	...	...	...	...	...	...	...	3	1	...	...	...	...	...	0.4	3	...	...
14	—	—	—	1	9	8	9	9	...	1	3.7	32	Cl.	20.8	12	
15	—	—	—	
16	—	—	—	
17	—	—	—	...	...	...	...	...	...	...	...	4	6	...	...	...	...	...	1.0	80	...	...
18	—	—	—	...	...	...	...	...	...	8	1.0	1.0	8	...	...	...	...	...	3.6	30	...	...
19	—	—	—	
20	—	—	—	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	0.3	2	...	...
21	—	—	—	...	...	...	1	1	6	5	5	9	...	...	...	...	...	...	2.7	22	...	...
22	—	—	—	...	...	4	...	2	3	7	9	7	9	1.0	3	...	...	...	5.4	44	...	...
23	—	—	—	...	1.0	1.0	1.0	1.0	1.0	9	8	1.0	7	3	8.7	71	Cl.	62.7	40	
24	—	—	—	...	2	1.0	1.0	5	2	...	1	1	...	...	...	...	...	...	3.1	25	...	...
25	—	—	—	1	2	3	6	7	8	9	1	...	1	3.8	31	Clear	79.4	51	
26	—	—	—	...	...	...	2	6	8	8	6	...	...	...	...	...	...	...	3.0	24	...	...
27	—	—	—	...	...	...	...	1	...	5	8	8	7	...	...	...	...	...	2.9	23	...	...
28	—	—	—	...	...	5	3	1	2	4	5	...	...	...	...	...	...	...	2.0	16	...	...
29	—	—	—	...	4	...	7	3	2	1	1	...	...	...	...	...	...	...	1.8	14	...	...
30	—	—	—	
31	—	—	—	
Sum.	—	—	0.0	0.4	2.9	8.0	8.1	9.3	9.1	10.9	12.7	10.4	10.7	6.4	0.8	0.0	—	—	89.7	—	—	—	—	
Mean	—	—	0.00	0.01	0.09	0.26	0.26	0.30	0.29	0.35	0.41	0.34	0.35	0.21	0.03	0.00	—	—	2.89	27	—	—	—	

429. Richmond (Kew Observatory) : hs = 13.3 metres.

April, 1922.

Day.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	Total for Day.	Per cent. of Possible.	Radiation, Ångström Pyrheliometer.		
	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	Sky.	Total.			Vertical.		
	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%		mw/cm ² .	mw/cm ² .	
1	—	—	—	...	...	...	...	3	3	6	7	1	2	...	...	...	...	...	3.2	25	...	...	
2	—	—	—	...	4	1.0	1.0	1.0	1.0	1.0	7	5	9	1.0	5	...	...	...	9.0	70	...	...	
3	—	—	—		
4	—	—	—	...	3	1.0	8	6	8	8	7	8	7	8	...	...	...	...	7.3	56	...	...	
5	—	—	—	...	7	1.0	1.0	9	5	1	2	3	6	1	5.4	41	Cloud	78.3	55		
6	—	—	—	5	8	5	7	7	9	2	4	4.7	36	Cloud	65.9	46		
7	—	—	—		
8	—	—	—	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	0.5	4	...	...	
9	—	—	—	...	...	...	...	...	...	5	2	...	5	...	...	...	...	...	1.2	9	...	...	
10	—	—	—	...	...	1	5	1	6	8	1.0	9	8	5	8	...	...	...	6.1	46	...	...	
11	—	—	—	...	...	...	...	1.0	8	9	4	8	3	...	...	...	...	...	4.2	31	...	...	
12	—	—	—	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	0.3	2	...	...	
13	—	—	—	...	5	1.0	1.0	1.0	7	4	1	...	...	...	...	...	...	...	4.7	35	...	...	
14	—	—	—	...	...	3	2	...	4	1.0	1.0	3	...	...	...	...	...	...	3.2	23	...	...	
15	—	—	—	...	5	1.0	1.0	8	5	6	9	9	5	2	...	...	...	...	6.9	50	...	...	
16	—	—	1	7	5	1	1	...	3	...	...	...	...	...	...	...	...	...	1.8	13	...	...	
17	—	—	2	4	3	5	4	5	...	2	8	2	4	...	6	...	...	...	4.5	32	...	...	
18	—	—	...	2	7	5	4	1	3	1	3	6	4	...	...	...	...	...	3.6	26	...	...	
19	—	—	1	8	1.0	1.0	1.0	1.0	9	9	9	1.0	6	10.2	78	Cl.	71.0	54		
20	—	—	—	9	1.0	1.0	1.0	1.0	1.0	1.0	4	1.0	2	9.5	67	Haze	65.6	50		
21	—	—	—	2	9	1.0	1.0	8	6	5	1	8	6	1	4	3	...	...	7.3	52	...	...	
22	—	—	—		
23	—	—	—	7	1.0	6	6	6	6	8	...	2	3	2	6	1	...	...	6.3	44	...	...	
24	—	—	1	1.0	8	6	4	4	7	6	8	9	9	8	1	4	8.5	59	Clear	86.9	68		
25	—	—	1	7	9	8	7	1.0	8	5	6	2	...	...	...	...	...	...	6.3	44	...	...	
26	—	—	—	...	...	1	2	2	6	8	5	...	...	7	5	4	...	...	4.0	28	...	...	
27	—	—	—	...	1	1	7	6	7	2	...	2	1	3	2	3.2	22	Cl.	65.8	52		
28	—	—	—	...	4	1	6	9	8	7	9	1	...	8	1	...	...	...	6.3	43	...	...	
29	—	—	—	...	4	1.0	1.0	1.0	1.0	8	9	7	5	5	7.8	53	Haze	66.3	53		
30	—	—	—	...	8	9	1	8	8	1	5	...	...	2	1	3	...	...	4.7	32	...	...	
Sum.	—	0.0	0.5	5.8	10.7	12.9	15.7	15.5	14.3	15.0	13.4	11.6	9.8	7.3	5.9	2.3	0.0	—	140.7	—	—	—	—		
Mean	—	0.00	0.02	0.19	0.36	0.43	0.52	0.52	0.48	0.50	0.45	0.39	0.33	0.24	0.20	0.08	0.00	—	4.69	34	—	—	—		
Hour L.A.T.	3 to 4.	4 to 5.	5 to 6.	6 to 7.	7 to 8.	8 to 9.	9 to 10.	10 to 11.	11 to Noon	Noon to 13.	13 to 14.	14 to 15.	15 to 16.	16 to 17.	17 to 18.	18 to 19.	19 to 20.	20 to 21.	Total for Day.	Per cent. of Possible.	Radiation, Ångström Pyrheliometer.				

For periods of sixty minutes, between the exact hours, of Local Apparent Time.

430. Richmond (Kew Observatory) : h_s (Height of recorder above ground) = 13.3 metres.

May, 1922.

Table for Richmond (Kew Observatory) in May 1922. Columns include Day, hours (3 to 21), Total for Day, Per cent. of Possible, and Radiation (Sky, Total, Vertical) in mw/cm².

431. Richmond (Kew Observatory) : h_s = 13.3 metres.

June, 1922.

Table for Richmond (Kew Observatory) in June 1922. Columns include Day, hours (1 to 30), Total for Day, Per cent. of Possible, and Radiation (Sky, Total, Vertical) in mw/cm².

Summary table for the entire period. Columns include Hour L.A.T., hours (3 to 21), Total for Day, Per cent. of Possible, and Radiation (Sky, Total, Vertical) in mw/cm².

For periods of sixty minutes, between the exact hours, of Local Apparent Time.

432. Richmond (Kew Observatory) : hs (Height of recorder above ground) = 13.3 metres.

July, 1922.

Table for Richmond (Kew Observatory) in July 1922. Columns include Day, hours (3 to 4 to 21), Total for Day, Per cent. of Possible, and Radiation (Sky, Total, Vertical) in mw/cm².

433. Richmond (Kew Observatory) : hs = 13.3 metres.

August, 1922.

Table for Richmond (Kew Observatory) in August 1922. Columns include Day, hours (3 to 4 to 21), Total for Day, Per cent. of Possible, and Radiation (Sky, Total, Vertical) in mw/cm².

Summary table for Hour L.A.T. with columns for hours (3 to 4 to 21), Total for Day, Per cent. of Possible, and Radiation (Sky, Total, Vertical) in mw/cm².

DURATION OF BRIGHT SUNSHINE.

For periods of sixty minutes, between the exact hours, of Local Apparent Time.

434. Richmond (Kew Observatory) : hs (Height of recorder above ground) = 13.3 metres.

September, 1922.

Table for Richmond (Kew Observatory) in September 1922. Columns include Day (1-30), hours (3 to 21), Total for Day, Per cent. of Possible, and Radiation (Sky, Total, Vertical) in mw/cm².

435. Richmond (Kew Observatory) : hs = 13.3 metres.

October, 1922.

Table for Richmond (Kew Observatory) in October 1922. Columns include Hour L.A.T. (1-31), hours (3 to 21), Total for Day, Per cent. of Possible, and Radiation (Sky, Total, Vertical) in mw/cm².

Direction expressed in degrees from North ($E = 90^\circ, S = 180^\circ, W = 270^\circ, N = 360^\circ$): Speed in metres per second.

438. Richmond (Kew Observatory):

H_a (height of cups of anemograph above M.S.L.) = Height of ground above

Day.	1.		2.		3.		4.		5.		6.		7.		8.		9.		10.		11.		Noon.		
	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	
1	235	3.9	235	3.9	235	4.9	235	6.2	230	6.2	230	6.9	230	7.2	235	6.2	255	6.9	240	6.2	240	6.2	255	7.5	
2	245	7.5	245	7.5	245	7.5	245	7.5	255	8.5	260	8.9	265	10.2	260	9.2	260	9.5	265	8.9	270	8.5	270	8.5	
3	305	3.3	295	4.3	295	5.6	295	4.6	300	6.2	305	6.2	300	5.6	290	4.3	295	3.3	290	3.6	290	5.2	280	6.2	
4	325	6.9	315	6.9	320	7.9	330	7.9	320	7.5	325	6.6	325	7.2	320	6.9	330	6.9	325	8.9	330	9.5	330	9.2	
5	315	7.2	320	6.6	325	6.9	325	7.2	315	6.6	325	5.6	325	5.6	325	5.2	325	5.6	330	6.9	335	6.6	335	6.6	
6	315	3.3	315	2.6	—	1.3	315	1.6	—	1.3	—	1.3	315	1.6	—	1.3	315	2.3	320	2.6	320	2.6	320	2.6	
7	—	1.3	320	1.6	250	3.3	190	3.3	190	3.6	190	3.3	190	2.3	190	3.0	195	4.6	195	4.9	195	4.3	195	4.9	
8	205	2.3	205	2.0	—	1.0	205	1.6	—	1.3	205	2.6	205	4.9	205	4.6	210	6.6	230	4.6	235	5.9	255	6.2	
9	240	3.3	240	2.3	240	1.6	240	3.0	240	4.6	240	4.9	245	5.6	240	6.2	240	6.9	230	6.6	235	6.6	240	6.9	
10	230	7.5	240	5.2	250	4.3	265	3.0	265	3.3	265	2.6	265	2.6	265	2.6	265	3.0	260	3.0	265	4.6	275	3.3	
11	260	2.6	260	3.0	250	3.3	250	3.3	250	3.3	250	2.6	250	3.0	250	2.6	250	3.3	250	3.3	250	4.9	250	5.2	
12	320	4.9	320	4.9	315	4.3	305	3.6	295	3.9	305	4.3	315	3.0	290	3.9	305	3.9	325	6.6	330	7.2	335	6.2	
13	—	1.0	—	1.0	—	1.0	—	0.7	—	1.0	—	1.0	—	0.7	—	0.3	—	0.0	—	0.3	—	0.3	—	1.0	
14	355	2.3	—	1.3	355	2.0	355	2.3	355	2.6	315	1.6	220	1.6	200	2.0	195	2.3	185	2.3	150	2.3	150	2.3	
15	70	2.0	70	3.0	70	3.0	70	2.3	—	1.3	70	1.6	70	2.3	70	2.0	70	1.6	120	3.3	145	3.0	150	4.6	
16	275	6.9	255	5.2	265	6.2	270	6.2	270	5.9	270	5.6	270	6.2	265	3.9	265	4.9	260	4.9	265	6.6	275	6.2	
17	260	3.6	255	3.9	255	4.3	270	4.3	265	3.6	265	3.6	275	3.3	285	3.6	310	4.3	310	2.6	300	3.9	300	4.3	
18	—	1.3	—	1.3	300	1.6	—	1.0	—	1.0	—	1.3	—	0.7	—	0.3	250	3.0	185	3.9	185	3.9	185	4.3	
19	180	6.6	180	6.2	175	8.2	175	4.9	175	5.2	175	7.2	175	7.2	175	6.9	175	8.9	185	8.2	185	9.5	200	7.9	
20	—	1.3	—	1.3	—	0.7	—	1.0	—	1.3	—	1.3	180	2.3	—	1.3	—	1.3	—	0.7	—	0.3	—	0.3	
21	165	4.6	150	4.6	155	3.9	155	4.6	155	4.9	165	5.6	170	6.6	160	7.9	165	7.5	165	8.5	160	7.2	165	6.9	
22	—	1.0	—	0.7	—	0.3	—	0.3	—	0.3	—	0.3	—	0.3	—	0.3	—	0.3	—	0.3	—	0.0	—	0.7	
23	—	1.3	105	1.6	105	2.0	105	2.0	105	1.6	100	2.6	80	5.6	80	5.9	75	6.6	80	8.2	70	8.2	75	7.9	
24	75	8.2	65	8.2	65	9.2	65	9.8	75	9.8	70	9.8	60	9.5	65	9.2	65	10.8	65	9.8	70	10.8	65	9.2	
25	70	7.9	70	7.9	75	9.5	80	9.8	85	10.8	85	8.9	85	9.5	85	7.5	90	7.5	95	5.9	95	6.6	95	7.2	
26	155	2.3	155	1.6	155	1.6	155	1.6	155	1.6	155	2.0	—	1.3	140	2.0	100	2.3	—	1.0	—	1.0	135	2.0	
27	85	6.2	85	5.2	85	6.6	85	4.9	90	6.9	90	5.2	90	6.2	90	5.9	100	5.2	95	4.6	95	4.9	95	4.6	
28	110	2.3	—	1.3	—	0.7	110	2.0	155	3.0	165	2.3	165	2.6	165	2.3	170	3.0	180	4.3	180	3.9	180	5.9	
29	185	4.3	190	3.0	180	2.6	—	1.0	—	1.3	180	2.0	180	2.0	—	1.3	—	1.3	185	—	1.3	185	1.3	190	3.6
30	—	0.3	—	0.7	—	0.7	—	1.0	—	1.3	—	1.3	—	1.3	—	0.7	—	1.0	—	0.3	260	2.3	205	3.0	
31	—	1.0	—	1.3	205	2.0	—	0.7	—	1.0	—	1.3	205	2.0	205	2.0	205	2.0	190	2.6	175	3.6	175	3.0	
Mean ...	—	3.8	—	3.5	—	3.8	—	3.7	—	3.9	—	3.9	—	4.2	—	3.9	—	4.4	—	4.5	—	4.9	—	5.1	

439. Richmond (Kew Observatory) : $H_a = 5$ metres + 20 metres.

Day.	1.		2.		3.		4.		5.		6.		7.		8.		9.		10.		11.		Noon.	
	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.
1	—	0.7	—	1.0	—	0.3	210	1.6	—	1.3	210	1.6	—	1.3	210	1.6	210	1.6	220	2.0	245	4.9	275	4.6
2	255	2.3	215	3.0	205	3.6	200	3.3	195	3.9	185	5.2	170	4.9	175	5.2	175	4.6	170	5.9	175	4.9	185	4.3
3	215	6.9	225	5.2	225	5.2	220	5.9	230	4.9	230	4.6	235	4.9	235	4.3	230	4.9	240	3.9	255	6.6	265	5.9
4	260	4.6	260	4.6	265	4.3	260	3.9	270	3.6	280	3.3	280	3.3	35	4.3	50	5.2	75	6.9	75	5.6	75	4.6
5	70	5.9	70	6.2	65	6.6	65	6.6	70	6.9	70	6.9	70	6.9	70	5.2	65	4.3	60	4.3	55	5.6	50	3.0
6	55	2.0	—	1.3	—	1.3	—	0.7	—	0.3	—	1.0	—	0.3	—	0.7	55	1.6	75	3.3	140	3.6	145	2.6
7	—	0.3	—	1.0	—	0.7	—	0.3	—	0.3	—	0.3	185	1.6	—	1.3	—	0.7	185	2.3	185	3.6	185	3.9
8	155	1.6	155	2.0	155	1.6	155	1.6	—	1.0	155	1.6	155	2.0	155	1.6	—	1.3	155	2.6	155	4.6	165	4.6
9	115	2.0	115	2.0	—	1.3	—	1.0	115	2.3	105	3.3	105	4.6	100	4.9	95	5.2	85	5.9	95	6.6	95	6.6
10	85	4.3	85	4.6	85	2.0	85	3.3	85	3.3	85	2.6	85	2.6	85	2.3	85	2.6	85	4.3	85	3.6	85	4.3
11	80	2.0	80	2.0	80	3.0	80	2.6	80	2.0	80	1.6	80	1.6	80	2.0	80	2.3	85	2.6	90	2.3	90	3.3
12	90	2.3	—	1.3	90	4.3	90	3.6	90	3.3	90	3.3	90	3.6	90	3.3	90	3.6	90	5.6	105	6.6	90	5.9
13	—	1.0	90	2.3	120	1.6	—	1.3	—	0.3	—	0.3	—	1.0	135	2.6	160	2.0	175	3.6	225	4.3	265	4.6
14	—	0.7	—	1.0	—	1.3	—	0.7	—	1.3	270	1.6	—	0.7	—	0.7	—	1.0	—	0.7	270	1.6	270	2.0
15	215	2.0	215	2.6	205	2.6	205	2.6	205	2.6	205	2.3	205	3.3	205	4.9	210	7.2	200	7.5	195	7.9	200	7.9
16	—	1.0	275	2.0	275	1.6	—	1.0	275	1.6	275	1.6	275	1.6	265	2.0	250	2.6	230	3.6	225	3.9	225	4.3
17	225	4.6	220	3.9	220	3.9	220	3.3	215	5.6	210	5.2	210	6.9	210	6.2	205	6.9	205	6.6	210	6.6	215	4.6
18	225	4.6	220	3.3	200	4.3	205	5.6	205	6.9	225	6.2	255	4.6	260	4.6	245	5.2	245	6.6	270	7.5	275	8.2
19	270	2.0	270	2.0	270	2.0	270	2.6	270	2.0	270	2.0	—	1.3	265									

Averages for periods of sixty minutes, centered at the exact hours, Greenwich Mean Time.

M.S.L. + ha (height of anemograph above ground) = 5 metres + 20 metres.

January, 1922.

13.		14.		15.		16.		17.		18.		19.		20.		21.		22.		23.		24.		Mean	Day.	
°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	m/s.		
260	9.5	260	8.2	260	9.5	265	7.9	250	7.5	240	6.6	245	7.9	255	7.5	255	7.5	255	6.9	255	8.2	250	6.2	6.8	1	
275	7.2	285	6.6	290	7.2	280	5.2	330	5.6	320	4.9	315	5.6	310	4.6	305	4.9	305	5.2	295	3.6	290	4.3	7.0	2	
285	7.5	285	7.2	285	6.9	295	6.2	290	4.9	285	4.6	305	6.6	300	5.6	315	5.2	325	4.9	325	5.2	325	5.2	5.3	3	
325	8.5	325	8.5	330	6.9	330	7.5	325	6.2	330	5.9	330	5.6	330	4.9	325	6.2	310	5.2	305	6.2	305	5.9	7.1	4	
330	8.2	330	6.2	330	5.2	330	4.6	325	4.3	325	3.6	325	4.3	325	3.3	325	3.9	325	3.6	325	4.3	320	3.0	5.5	5	
320	2.6	320	2.6	320	2.0	320	1.6	320	1.6	—	0.7	—	1.0	—	0.3	—	0.3	—	0.3	—	1.0	—	0.7	1.7	6	
195	4.3	195	2.3	195	2.3	195	2.6	195	1.6	195	2.6	195	2.0	—	1.0	—	1.3	195	1.6	—	1.3	205	1.6	2.7	7	
265	6.6	270	5.2	270	5.9	270	3.9	270	2.0	270	1.6	270	2.0	265	3.0	260	3.0	255	2.6	255	3.0	245	3.6	3.5	8	
235	7.2	235	7.9	230	7.5	235	7.5	235	7.9	235	6.9	235	6.6	225	7.5	225	8.5	230	7.9	230	8.5	230	7.5	6.2	9	
275	5.6	280	5.2	280	3.9	275	2.6	265	3.0	260	3.0	260	2.3	260	3.3	260	2.6	260	2.6	260	2.0	260	3.0	3.6	10	
245	5.6	255	4.9	260	4.6	265	4.3	275	3.9	275	4.9	335	4.6	315	4.6	315	6.6	315	5.6	335	3.9	320	3.9	4.1	11	
335	6.2	345	6.2	355	5.2	355	3.6	355	2.3	355	2.0	355	2.0	—	1.0	—	0.7	—	0.7	—	1.0	—	0.3	3.7	12	
—	0.3	—	0.7	—	0.3	—	0.3	—	0.7	—	0.3	—	0.0	—	0.3	—	0.7	—	1.3	—	1.0	—	1.0	0.6	13	
125	3.0	120	2.3	120	2.3	120	2.0	—	1.0	—	1.0	—	0.3	—	1.3	—	1.0	—	1.3	—	85	2.3	80	3.0	1.9	14
160	6.2	165	4.6	165	5.2	170	7.2	165	7.5	155	6.9	155	6.9	170	7.2	175	6.9	185	3.9	245	5.6	270	6.6	4.3	15	
275	7.5	275	6.2	270	5.6	270	4.6	275	4.6	265	3.3	265	3.6	265	3.6	265	3.9	265	3.6	265	3.9	265	3.6	5.2	16	
305	4.3	310	3.9	300	4.3	300	3.0	300	2.0	300	2.3	300	2.6	—	1.3	—	1.3	—	1.0	—	0.7	300	1.6	3.1	17	
180	5.2	180	7.5	180	5.9	180	6.2	175	5.6	165	6.2	175	7.9	175	6.2	180	5.6	180	4.9	180	5.2	180	4.9	3.9	18	
195	4.9	195	4.3	200	2.6	200	2.3	200	3.0	200	2.0	195	3.0	180	3.3	180	2.6	180	3.0	180	2.3	—	1.0	5.1	19	
—	0.3	175	2.0	180	4.6	170	3.6	170	2.6	170	2.3	170	2.3	170	3.3	175	3.0	175	2.3	175	3.3	175	4.6	1.9	20	
170	6.9	175	5.2	180	5.9	185	5.2	185	3.6	185	2.3	185	3.3	195	2.3	—	1.0	—	1.3	—	1.3	195	1.6	4.8	21	
—	1.0	—	0.0	—	1.3	—	1.0	110	1.6	110	1.6	110	2.0	110	2.6	110	3.0	90	4.9	—	1.0	90	2.0	1.1	22	
70	7.9	65	6.9	70	7.5	65	8.5	65	9.2	65	8.2	75	10.5	85	5.9	90	6.6	90	6.9	90	9.2	80	7.2	6.1	23	
65	9.2	70	8.9	60	8.9	65	9.2	65	9.8	70	9.2	75	10.2	80	8.9	85	10.2	80	7.9	80	6.9	70	7.2	9.2	24	
105	6.9	105	7.2	100	7.9	100	7.2	110	7.5	125	7.5	135	3.3	155	3.3	155	3.0	155	2.3	155	2.6	155	2.0	6.8	25	
135	2.3	125	3.0	95	4.3	95	4.6	85	5.2	75	6.6	85	6.6	90	5.2	90	5.9	90	5.2	90	6.6	90	7.2	3.4	26	
90	3.6	100	4.6	120	5.9	105	5.2	115	6.6	115	6.6	110	7.2	120	6.2	110	6.9	115	5.2	110	6.6	110	3.6	5.7	27	
185	4.3	180	4.9	155	3.3	140	4.3	140	3.9	135	5.9	125	4.3	135	4.9	140	4.9	140	4.6	145	4.6	160	4.3	3.6	28	
195	3.0	185	2.3	160	4.3	145	2.3	145	2.3	110	3.3	95	3.3	65	3.0	60	3.0	25	3.0	15	2.6	15	1.6	2.5	29	
230	2.0	220	2.6	—	1.3	210	2.0	195	3.0	195	3.0	195	2.6	230	2.3	—	1.3	205	1.6	—	0.3	205	1.6	1.6	30	
180	3.6	195	4.6	210	3.3	210	3.0	210	3.0	210	2.0	210	2.0	—	1.3	210	1.6	—	1.3	—	1.3	—	1.0	2.1	31	
—	5.2	—	4.9	—	4.9	—	4.5	—	4.3	—	4.1	—	4.3	—	3.8	—	4.0	—	3.6	—	3.7	—	3.6	4.2		

February, 1922.

13.		14.		15.		16.		17.		18.		19.		20.		21.		22.		23.		24.		Mean	Day.	
°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	m/s.		
285	5.6	285	4.9	285	4.9	290	2.3	290	1.6	290	1.6	290	2.6	255	2.0	—	1.0	—	1.3	—	1.0	—	1.3	2.2	1	
195	4.6	200	3.6	205	3.9	200	7.2	235	5.9	235	2.6	225	4.6	225	3.3	225	4.6	220	4.6	220	6.2	220	6.6	4.4	2	
260	6.6	265	6.9	260	6.6	255	5.9	260	5.9	250	3.9	255	4.6	255	3.9	255	4.6	250	5.6	245	4.9	260	4.3	5.3	3	
75	6.2	75	6.2	75	5.6	75	5.6	75	4.6	75	4.6	65	4.6	60	4.6	55	4.3	55	4.6	60	5.2	65	4.9	4.8	4	
50	4.3	45	4.9	40	4.6	45	4.9	55	3.3	50	3.9	50	4.6	55	3.3	55	3.0	55	3.3	55	3.3	—	1.0	4.8	5	
160	2.6	180	3.0	185	3.0	185	3.3	185	1.6	185	1.6	—	0.7	—	1.0	—	0.3	—	1.0	—	0.7	—	0.7	1.6	6	
185	5.2	185	4.9	185	5.6	185	4.3	180	4.9	180	2.6	175	2.6	175	3.0	160	3.0	155	2.0	155	2.0	155	2.0	2.4	7	
170	5.9	175	4.6	175	3.3	175	2.6	175	3.0	140	3.6	115	3.6	115	3.3	115	3.0	115	2.6	115	2.0	115	2.0	2.7	8	
90	7.5	80	6.6	75	7.9	75	7.9	75	7.9	75	6.6	80	6.6	85	6.2	85	4.9	85	3.9	85	3.9	85	3.6	5.0	9	
85	5.2	85	3.6	85	3.0	85	3.0	85	3.0	85	2.3	85	3.3	85	3.3	85	3.9	85	3.0	85	2.3	85	2.3	3.3	10	
90	5.2	90	4.6	90	4.6	80	5.2	75	5.6	75	4.6	75	8.2	80	6.9	80	5.2	90	4.6	90	3.3	90	2.3	3.7	11	
90	5.2	90	4.9	85	3.3	85	2.3	85	2.0	85	1.6	—	0.7	—	0.3	—	0.7	—	1.0	—	0.7	—	0.7	3.0	12	
270	2.6	270	2.6	270	2.6	270	2.6	270	1.6	—	1.0	—	1.3	270	1.6	—	1.0	—	1.0	—	0.7	—	1.3	1.9	13	
270	2.0	270	2.3	270	2.6	270	2.0	270	2.3	—	1.0	—	1.0	—	1.3	—	1.3	—	1.3	—	265	2.0	215	2.6	1.4	14
200	6.6	200	6.6	210	6.9	210	6.2	205	4.3	205	3.3	220	3.6	270	2.3	275	2.3	275	1.6	275	1.6	275	1.6	4.2	15	
215	4.6	210	4.3	210	3.6	210	3.9	210	4.3	215	5.2	220	4.9	220	4.6	220	4.9	220	4.9	225	4.6	225	4.3	3.3	16	
240	5.2	260	4.3	260	4.3	255	3.0	250	3.9	250	3.3	245	5.2	255	3.9	250	3.9	245	3.3	240	3.9	240	3.9	4.7	17	
270	8.5	280	6.6	265	5.6	290	4.9	290	4.6	270	2.0	270	2.3	270	2.3	270	2.6	270	2.6	270	2.6	270	3.0	4.9	18	
200	7.2	200	5.2	200	4.9	205	5.9	215	7.2	215	6.0	220	7.2	230	6.2	260	6.6	260	4.3	260	6.9	270	4.9	4.4	19	
235	8.9	235	6.6	245	6.2	245	5.2	240	4.3	240	2.6	215	6.9	220	2.6	220	3.3	220	3.0	215	3.6	215	4.3	4.7	20	
225	8.9	210	8.2	200	8.5	185	6.9	190	8.2	185	5.6	255	4.3	265	3.0	255	2.6	220	2.6	215	3.0	215	2.6	6.1	21	
245	6.9	230	6.6	235	7.2	220	7.2	215	7.2	215	6.6	220	6.9	205	5.6	200	5.6	205	6.2	215	7.2	225	5.6	5.9	22	
235	5.9	225	5.6	220	6.6	220	5.6	220	5.2	225	4.6	220	5.9	225	4.6	225	4.6	230	4.3	225	4.6	225				

Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360° : Speed in metres per second.

440. Richmond (Kew Observatory) :

Ha (height of cups of anemograph above M.S.L.) = Height of ground above

Table with 22 columns (Day, 1-11, Noon) and 2 rows per column (° and m/s). Rows represent days from 1 to 31. Includes a 'Mean ...' row at the bottom. Data is presented in a grid format with wind speed and direction for each hour.

441. Richmond (Kew Observatory) : Ha = 5 metres + 20 metres.

Table with 22 columns (G.M.T., 1-11, Noon) and 2 rows per column (° and m/s). Rows represent days from 1 to 30. Includes a 'Mean ...' row at the bottom. Data is presented in a grid format with wind speed and direction for each hour.

Averages for periods of sixty minutes, centered at the exact hours, Greenwich Mean Time.

M.S.L. + ha (height of anemograph above ground) = 5 metres + 20 metres.

March, 1922.

13.		14.		15.		16.		17.		18.		19.		20.		21.		22.		23.		24.		Mean	Day.
°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	m/s.	m/s.
205	10.5	205	11.5	220	8.2	205	6.2	205	6.9	210	5.2	215	5.6	225	3.9	275	5.9	305	6.6	295	5.9	275	3.9	7.4	1
285	6.2	280	6.2	285	4.9	275	5.2	290	2.6	290	2.0	270	2.3	265	2.6	—	1.3	265	2.6	260	2.6	215	2.6	3.8	2
220	6.6	225	5.6	220	5.6	215	5.9	220	7.5	220	5.2	215	7.5	220	7.2	220	8.5	215	7.5	205	8.9	210	8.2	6.2	3
220	7.2	265	5.6	245	3.6	240	4.3	240	3.9	260	4.3	255	3.9	255	2.6	250	3.0	250	2.3	240	3.3	230	3.6	5.7	4
210	10.8	210	10.8	215	12.8	210	11.1	215	11.1	215	12.1	210	12.5	210	11.8	210	12.8	210	10.2	210	10.8	210	9.5	8.9	5
200	5.6	205	6.2	200	5.9	195	6.6	200	5.9	200	4.6	200	5.9	205	5.2	200	4.6	205	6.2	215	3.9	210	3.9	5.3	6
240	5.6	225	4.3	200	3.9	205	3.6	225	4.6	225	3.9	230	3.6	220	4.9	220	4.9	220	4.9	215	5.6	215	5.6	5.9	7
280	10.2	280	9.2	275	9.5	270	8.5	250	8.2	245	7.9	235	7.5	245	7.5	260	8.2	255	5.6	255	5.2	255	4.6	8.0	8
245	4.9	240	4.6	235	5.2	235	3.9	235	3.0	235	2.0	—	1.3	—	1.3	—	1.0	—	0.7	—	0.7	—	0.3	3.4	9
360	6.9	360	6.6	360	6.2	360	5.2	360	4.9	360	3.6	360	2.0	360	2.0	360	2.0	360	2.0	360	2.0	—	1.0	4.2	10
325	2.6	345	2.3	345	2.3	335	2.0	330	2.3	—	1.3	—	0.3	—	0.3	—	0.0	—	0.7	—	1.0	—	0.7	2.2	11
55	3.6	75	4.3	80	5.6	95	5.2	100	5.2	95	4.9	95	3.6	95	3.9	85	4.3	75	6.2	70	4.3	70	4.9	2.5	12
60	9.5	55	7.9	55	9.2	60	8.5	60	8.5	60	8.5	55	10.2	55	8.9	55	10.8	60	8.9	60	8.9	60	7.5	8.3	13
75	8.2	80	7.5	85	7.2	90	5.9	85	7.5	80	5.9	80	5.9	75	4.3	75	4.9	75	4.3	75	6.6	70	6.6	6.6	14
65	7.2	65	4.3	60	5.9	50	5.6	60	5.6	60	5.6	60	6.2	75	7.5	65	6.9	60	5.9	60	5.6	60	5.2	6.0	15
75	3.3	75	3.9	75	3.0	75	2.6	70	3.6	70	2.6	65	3.0	65	2.0	—	1.3	65	3.6	60	4.9	55	3.9	3.3	16
60	3.9	70	5.2	85	5.6	90	6.6	85	5.9	85	5.2	85	4.9	85	6.2	75	5.9	80	5.9	85	5.9	85	4.9	4.4	17
100	5.2	85	5.9	85	7.2	90	6.2	85	5.6	70	5.9	80	5.6	80	5.6	75	7.2	75	5.9	75	5.2	75	3.6	5.4	18
55	3.6	50	3.6	45	4.6	45	4.3	40	4.6	35	4.9	35	4.6	45	5.2	40	4.6	40	5.6	55	4.6	50	3.6	4.2	19
10	7.2	15	6.6	5	6.9	10	5.6	5	6.6	360	5.6	360	3.9	360	3.0	360	2.3	360	2.6	360	3.3	360	3.6	5.4	20
25	7.5	35	7.9	35	8.9	25	8.9	25	8.5	25	8.2	30	8.5	30	7.2	30	7.5	25	6.9	25	8.5	25	7.9	6.0	21
35	10.2	35	10.2	35	10.5	40	10.8	35	9.2	30	8.9	30	7.2	40	7.2	35	6.9	30	6.9	30	6.9	30	5.6	8.4	22
20	7.5	20	7.2	20	7.9	20	6.9	20	6.6	20	5.9	15	4.9	15	4.6	15	4.3	15	3.6	15	3.0	15	1.6	6.1	23
215	4.3	215	4.6	225	5.9	220	5.9	195	5.6	190	3.9	190	4.3	185	5.2	185	5.6	185	5.9	185	6.6	180	6.6	3.7	24
300	4.6	290	4.6	295	4.9	295	4.6	285	3.0	290	3.0	290	2.3	290	1.6	—	1.3	—	0.7	—	0.7	—	0.7	2.9	25
335	4.3	325	4.6	345	4.6	345	3.3	355	4.3	360	3.9	360	4.3	360	4.9	360	5.2	360	4.6	360	3.6	360	3.6	2.6	26
305	6.2	330	6.9	350	5.2	360	3.9	355	3.3	355	1.6	360	3.0	360	2.0	360	1.6	360	1.6	360	1.6	360	2.3	3.3	27
85	3.6	45	5.2	40	3.6	40	4.3	35	5.6	40	3.9	25	4.3	20	3.9	30	3.6	30	3.0	—	0.7	30	1.6	3.7	28
330	4.3	330	5.2	330	5.2	335	3.0	335	3.9	335	3.0	335	2.3	335	2.0	335	2.3	335	1.6	335	1.6	335	1.6	2.9	29
300	3.3	300	3.0	300	2.6	300	2.3	—	1.0	—	1.0	—	1.3	—	1.0	—	0.7	—	0.7	—	1.0	—	0.7	2.1	30
95	6.2	105	6.6	110	5.9	110	5.6	105	5.9	115	5.6	95	6.6	85	8.2	85	9.2	85	8.5	85	8.2	80	6.9	5.2	31
—	6.1	—	6.1	—	6.1	—	5.6	—	5.5	—	4.9	—	4.8	—	4.6	—	4.8	—	4.6	—	4.6	—	4.1	5.0	

April, 1922.

13.		14.		15.		16.		17.		18.		19.		20.		21.		22.		23.		24.		Mean	Day.
°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	m/s.	m/s.
45	6.9	55	7.5	55	5.9	55	3.9	55	3.9	45	4.3	40	4.6	40	3.0	40	1.6	—	1.3	—	0.7	—	0.7	5.9	1
145	2.6	160	4.6	155	4.3	145	3.6	140	4.3	145	3.3	145	2.3	125	3.6	120	2.0	120	1.6	120	3.3	115	4.9	2.2	2
75	8.2	70	7.5	70	6.6	65	6.9	55	7.5	55	6.9	50	7.9	45	6.6	40	7.2	35	6.2	25	6.2	20	6.9	7.6	3
315	5.9	310	5.6	305	4.9	305	4.9	290	3.9	335	2.3	—	1.3	—	1.3	—	1.3	—	1.0	345	2.0	345	1.6	4.4	4
255	2.3	255	1.6	250	2.6	255	3.3	255	2.0	245	2.6	225	4.6	220	4.9	220	3.9	220	3.0	220	3.0	240	2.3	2.4	5
335	4.3	345	2.3	355	2.3	345	2.3	—	1.3	—	1.0	—	1.0	—	1.0	—	1.3	—	0.7	—	1.3	—	1.0	2.4	6
105	6.9	105	6.2	95	6.9	95	6.9	85	6.9	80	5.9	70	6.2	70	3.9	70	4.3	70	3.0	70	2.6	70	2.0	4.1	7
335	3.6	335	3.0	330	2.6	330	2.3	330	1.6	—	0.3	—	0.3	340	4.9	—	1.3	—	1.0	—	1.0	—	0.7	2.2	8
80	3.0	80	2.0	80	2.6	85	4.3	110	5.6	130	2.0	135	2.6	130	2.6	130	2.6	—	1.3	—	1.3	130	1.6	2.3	9
105	6.2	115	5.6	115	6.2	90	5.9	90	6.2	115	4.3	95	5.6	90	4.3	90	4.3	90	2.6	90	3.3	90	2.0	3.8	10
110	2.6	115	2.6	105	2.0	105	1.6	—	1.3	—	0.7	—	1.0	—	0.7	—	1.0	—	1.0	—	1.0	105	1.6	2.1	11
190	7.9	185	6.9	185	7.5	185	6.9	185	8.9	190	9.5	190	8.2	195	9.8	195	10.2	215	10.2	220	8.5	210	8.5	5.8	12
235	5.2	230	4.9	225	4.9	215	5.6	215	3.3	215	2.3	—	0.7	180	3.0	120	3.6	120	2.3	195	7.2	205	8.9	4.9	13
165	9.5	175	11.1	175	9.8	175	8.5	180	6.6	195	4.6	180	5.6	175	5.9	190	6.6	180	7.5	175	9.5	185	9.5	7.1	14
195	12.5	190	11.5	185	11.5	185	13.4	190	14.1	195	13.4	200	11.1	205	9.5	200	7.2	200	8.2	205	7.5	205	7.5	11.0	15
220	5.6	230	3.3	245	3.0	270	1.6	310	3.9	5	5.6	5	3.9	5	3.3	5	3.3	5	3.3	5	3.9	360	5.2	5.8	16
350	6.6	355	6.9	10	5.9	355	6.2	360	5.2	360	3.9	360	4.6	10	3.6	10	2.3	10	1.6	10	2.0	10	2.6	5.1	17
355	7.5	350	7.5	350	8.5	360	7.2	355	7.2	355	6.9	360	7.2	360	5.9	360	5.6	355	5.6	355	5.6	360	4.6	5.9	18
30	6.6	25	6.6	5	6.9	15	6.6	20	5.2	5	6.6	5	4.9	5	3.3	5	3.0	5	2.6	5	2.0	5	1.6	5.2	19
35	3.3	10	2.6	5	3.0	5	3.6	5	3.6	15	4.6	75	4.3	80	3.0	80	3.0	80	2.6	—	1.0	—	0.0	2.5	20
65	2.0	—	1.0	—	1.0	—	1.3	—	0.3	—	1.0	—	0.3	150	3.6	170	3.3	170	2.6	—	0.7	—	0.7	1.6	21
265	2.6	295	3.3	305	3.3	320	4.3	335	5.6	340	4.6	350	3.6	350	2.6	350	2.3	350	2.0	—	1.3	340	2.6	2.2	22
250	5.6	240	6.9	225	7.2	230	5.9	235	7.9	255	5.9	255	5.2	250	4.9	235	6.2	235	5.2	235	5.6	245	4.6	4.3	23
280	8.5	280	9.2	270	8.9	265	7.9	270	6.2	280															

Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°) : Speed in metres per second.

442. Richmond (Kew Observatory) :

H_a (height of cups of anemograph above M.S.L.) = Height of ground above

Table with 25 columns (Day, 1-11, Noon) and 2 rows per hour (° and m/s). Contains wind direction and speed data for Richmond (Kew Observatory) from day 1 to 31.

443. Richmond (Kew Observatory) : H_a = 5 metres + 20 metres.

Table with 25 columns (G.M.T., 1-11, Noon) and 2 rows per hour (° and m/s). Contains wind direction and speed data for Richmond (Kew Observatory) at H_a = 5 metres + 20 metres from day 1 to 30.

Averages for periods of sixty minutes, centered at the exact hours, Greenwich Mean Time.

M.S.L. + ha (height of anemograph above ground) = 5 metres + 20 metres.

May, 1922.

Table with columns for days 13-24 and Mean Day, showing wind speed and direction data for each hour.

June, 1922.

Table with columns for days 13-24 and Mean Day, showing wind speed and direction data for each hour in June 1922.

Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360) : Speed in metres per second.

444. Richmond (Kew Observatory) :

Ha (height of cups of anemograph above M.S.L.) = Height of ground above

Day.	1.		2.		3.		4.		5.		6.		7.		8.		9.		10.		11.		Noon.		
	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	
1	245	3.0	245	3.9	240	3.9	230	3.3	225	3.3	215	3.6	210	5.6	200	5.9	200	6.9	195	6.6	200	6.9	200	8.5	
2	195	4.9	195	4.9	205	4.3	230	3.0	235	3.0	225	4.6	225	4.9	225	6.6	225	6.9	225	6.2	215	8.2	210	8.2	
3	230	3.3	230	3.0	230	2.0	230	2.0	215	3.6	200	3.6	185	4.9	195	6.2	190	5.2	195	5.9	205	6.9	205	7.5	
4	—	0.7	—	0.3	—	0.7	—	0.7	—	260	2.3	255	2.3	225	2.6	200	4.6	195	5.2	190	6.2	190	6.6	205	7.2
5	220	3.3	220	3.0	220	3.6	220	3.0	220	4.3	220	3.9	215	5.2	210	5.2	205	4.9	210	4.9	200	4.9	190	4.6	
6	180	9.2	175	6.9	190	10.8	205	11.8	210	9.2	195	7.9	200	9.8	195	11.1	190	9.2	205	10.2	230	11.5	235	8.9	
7	245	3.3	245	3.0	245	3.3	245	3.0	245	2.3	245	3.3	235	4.6	235	5.6	235	5.6	235	4.3	230	4.9	235	4.6	
8	—	0.7	230	1.6	—	1.0	230	1.6	—	1.3	155	3.0	155	2.6	155	3.3	155	3.6	150	4.3	160	6.9	175	6.9	
9	195	8.2	200	7.9	195	8.9	190	7.5	195	8.5	205	7.2	225	6.6	245	5.6	240	6.6	245	6.9	250	8.2	240	7.9	
10	240	2.6	240	2.3	240	2.6	240	2.3	240	3.6	240	2.3	240	2.3	240	3.3	240	3.0	245	2.3	245	3.0	245	2.6	
11	—	0.3	—	0.3	—	0.3	—	0.3	—	0.3	—	0.3	—	0.3	—	0.3	—	0.3	175	1.6	120	1.6	135	1.6	
12	—	0.3	—	0.3	—	0.3	—	0.0	—	0.0	—	0.3	—	0.7	105	1.6	120	2.0	—	1.3	185	1.6	220	2.0	
13	—	1.0	—	0.3	—	0.3	—	0.7	—	0.7	—	1.0	—	1.0	230	2.0	205	3.0	200	4.9	205	4.3	195	3.6	
14	200	2.0	200	1.6	200	1.6	—	1.3	—	1.0	200	2.0	200	1.6	200	1.6	175	2.0	130	3.0	140	3.0	140	2.3	
15	—	1.3	—	1.0	280	2.6	320	2.6	330	1.6	—	1.3	330	2.3	310	3.0	295	3.9	295	3.6	315	4.6	300	4.3	
16	290	2.3	290	2.0	290	2.0	290	2.0	290	2.6	285	3.6	285	3.6	290	4.6	290	5.6	295	6.6	280	6.6	275	6.9	
17	295	4.6	295	3.0	295	3.3	290	3.0	290	3.6	295	3.9	305	4.6	315	3.9	315	3.6	305	3.6	290	3.6	270	3.9	
18	260	3.0	245	2.0	225	2.3	195	3.3	200	3.6	215	3.6	235	3.6	275	4.9	320	5.2	315	4.3	300	4.9	300	5.2	
19	310	2.0	310	2.0	305	2.0	305	1.6	—	1.3	—	1.3	305	3.6	300	3.3	285	3.9	285	3.9	280	4.6	295	4.6	
20	285	1.6	285	1.6	285	2.0	285	2.0	285	2.6	285	2.0	275	2.6	245	3.6	235	3.9	230	4.9	225	4.6	225	4.3	
21	225	4.3	225	3.6	225	3.0	225	2.6	225	3.6	225	3.3	225	3.9	225	3.6	215	3.6	195	3.0	210	5.2	205	4.3	
22	—	0.7	—	0.7	—	0.7	—	0.7	—	0.3	—	0.3	—	0.0	—	0.7	—	0.3	—	0.3	—	1.3	205	3.3	
23	210	2.6	210	2.3	210	2.6	210	1.6	210	1.6	210	1.6	210	1.6	—	1.0	—	1.3	—	1.0	—	1.3	—	1.0	
24	—	1.0	290	2.3	20	3.0	45	3.6	55	4.3	65	4.3	55	3.9	50	4.3	35	4.6	15	4.6	15	4.3	10	3.6	
25	—	1.0	—	1.3	—	1.3	—	1.3	—	1.0	—	1.3	—	1.0	—	1.3	20	2.0	305	2.3	265	3.6	270	3.6	
26	—	0.7	—	1.0	—	1.0	310	2.0	310	1.6	310	1.6	285	2.6	265	3.0	255	3.3	235	5.2	230	6.2	230	5.2	
27	225	3.0	225	2.3	225	2.6	235	2.3	245	2.6	245	2.0	245	3.0	255	2.0	265	2.3	275	1.6	280	2.3	275	2.3	
28	345	2.0	345	2.3	345	2.6	345	2.3	345	1.6	—	1.0	—	0.7	345	2.0	345	1.6	350	2.0	360	2.0	355	2.0	
29	—	0.7	—	0.7	—	0.3	—	1.0	230	3.3	225	2.3	225	2.6	225	3.6	215	5.2	220	6.9	220	6.2	220	6.9	
30	220	4.3	225	3.0	225	2.3	235	2.6	230	3.6	225	3.6	225	3.6	225	3.3	225	3.6	240	3.0	255	2.0	260	2.3	
31	275	2.0	275	2.0	275	2.0	275	2.3	275	2.3	250	3.6	235	3.9	240	4.9	240	5.6	235	5.2	230	5.9	230	6.2	
Mean ...	—	2.6	—	2.3	—	2.5	—	2.5	—	2.7	—	2.8	—	3.3	—	3.8	—	4.0	—	4.2	—	4.8	—	4.7	

445. Richmond (Kew Observatory) : Ha = 5 metres + 20 metres.

Day.	1.		2.		3.		4.		5.		6.		7.		8.		9.		10.		11.		Noon.		
	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	
1	240	3.0	240	2.6	240	3.0	240	2.0	240	2.0	240	3.0	240	3.3	240	3.6	230	3.6	225	4.6	225	5.2	250	4.9	
2	235	1.6	—	0.7	240	2.0	—	1.3	240	1.6	—	1.3	240	1.6	250	1.6	260	1.6	245	2.3	270	3.0	280	3.0	
3	—	1.3	—	1.3	—	1.0	—	0.3	—	1.3	—	1.3	—	1.3	—	265	2.3	210	3.6	215	3.3	220	2.6	215	2.6
4	—	0.7	—	1.0	—	1.0	—	0.7	—	1.0	—	0.7	—	1.3	—	0.7	—	1.0	215	1.6	215	2.0	—	1.0	
5	—	0.3	—	1.0	—	0.7	—	0.7	—	1.3	—	1.3	215	2.6	215	2.0	215	2.0	—	1.3	65	3.0	65	3.3	
6	80	4.9	80	5.2	80	4.3	80	3.3	80	3.6	80	4.9	80	6.6	75	7.5	80	7.5	75	8.2	75	8.2	75	8.2	
7	85	2.3	85	1.6	—	1.0	—	1.0	—	1.0	205	2.6	230	3.6	245	4.3	250	4.3	240	4.6	240	5.6	240	5.6	
8	—	0.7	—	0.3	220	1.6	—	1.3	—	1.0	—	1.0	—	1.0	—	0.7	220	2.0	220	4.3	215	3.9	200	3.3	
9	235	2.0	235	2.3	235	1.6	235	2.3	235	2.6	240	3.6	250	2.6	260	3.3	265	3.9	240	5.2	250	4.3	240	4.6	
10	350	2.6	—	1.3	350	2.0	350	2.3	350	1.6	350	1.6	350	2.0	350	2.3	350	2.3	360	2.3	5	2.0	10	2.6	
11	—	0.3	—	0.3	—	0.3	—	0.3	—	1.0	—	1.0	—	0.7	—	1.0	—	0.7	15	2.3	—	0.7	120	3.3	
12	200	1.6	—	1.3	—	1.0	—	1.0	—	0.3	—	0.7	200	1.6	200	3.6	200	3.6	195	4.6	195	6.6	195	5.9	
13	200	3.6	210	3.0	215	2.3	285	2.3	—	1.3	—	1.3	295	1.6	280	2.0	280	2.6	265	2.6	260	3.3	260	3.3	
14	—	1.3	—	1.3	—	1.0	—	0.7	—	1.0	—	0.7	—	1.0	—	0.3	—	1.3	305	1.6	—	1.0	—	1.0	
15	5	2.0	5	2.0	5	1.6	—	1.0	—	1.3	—	1.0	—	1.3	5	2.0	5	2.3	345	2.0	315	4.3	320	4.3	
16	285	1.6	285	1.6	285	1.6	—	1.0	—	1.3	285	1.6	275	2.6	225	4.6	225	6.6	225	6.6	215	7.5	215	7.9	
17	210	4.9	205	4.3	205	3.9	205	2.6	205	3.3	205	5.9	210	6.6	215	6.2	215	5.9	220	5.6	245	4.6	250	5.6	
18	260	3.0	260	2.6	260	3.3	260	2.0	260	2.3	260	2.3	260	2.6	270	4.6	275	4.3	250	4.6	270	5.6	280	5.6	
19	—	1.3	—	1.0	—	1.0	—	0.7	—	0.7	—	1.3	—	0.7	—	1.3	—	1.3	275	1.6	—	1.3	245	1.6	
20	255	1.6	255	1.6	255	2.3	—	1.3	—	1.0	—	0.3	255	2.0	255	1.6	255	3.0	205	2.3	250	3.3	260	2.0	
21	—	0.3	—	0.3	—	0.3	—	0.0	—	0.7	—	0.0	—	0.0	—	0.3	—	0.7	—	0.3	—	1.0	—	1.3	
22	—	0.0	—	0.0	—	1.0	—	0.7	—	0.3	—	0.0	—	1.3	355	1.6	305	1.6	265	2.6	265	3.0	270	4.3	
23	225	4.9	240	3.6	255	2.6	255	3.6	260	3.6	275	3.9	285	5.2	295	4.6	300	6.6	305	6.9	295	6.2	305	6.9	
24	285	3.0	285	1.6	275	2.6	270	2.6	270	3.3	270	2.3	270	2.6	270	3.0	270	3.3	240	3.9	230	5.2	225	5.9	
25	245	3.6	250	2.6	250	4.3	255	3.0	260	3.6	265	3.3	270	4.3	275	4.3	275	5.2	285	4.9	285	5.2	280	4.3	
26	—	1.3	—	1.0	325	2.0	—	1.0	325	1.6	—	1.3	325	2.0	—	1.3	28								

Averages for periods of sixty minutes, centered at the exact hours, Greenwich Mean Time.

M.S.L. + ha (height of anemograph above ground) = 5 metres + 20 metres.

July, 1922.

Table with columns for days 13-24, Mean, and Day. Rows contain wind speed data in m/s for various stations and heights.

August, 1922.

Table with columns for days 13-24, Mean, and Day. Rows contain wind speed data in m/s for various stations and heights.

Directions expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°) : Speed in metres per second.

446. Richmond (Kew Observatory) : (Ha height of cups of anemograph above M.S.L.) = Height of ground above

Table with 12 columns for days (1-30) and Noon, and 2 columns for wind speed (m/s). Each day has 12 sub-columns for wind direction and speed at 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and Noon. Includes a Mean row at the bottom.

447. Richmond (Kew Observatory) : Ha = 5 metres + 20 metres.

Table with 12 columns for days (1-31) and Noon, and 2 columns for wind speed (m/s). Each day has 12 sub-columns for wind direction and speed at 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and Noon. Includes a Mean row and a G.M.T. row at the bottom.

Averages for periods of sixty minutes, centered at the exact hours, Greenwich Mean Time.

M.S.L. + ha (height of anemograph above ground) = 5 metres + 20 metres.

September, 1922.

Table with columns 13-24, Mean, Day. Rows contain wind speed data in m/s for each hour of the day.

October, 1922.

Table with columns 13-24, Mean, Day. Rows contain wind speed data in m/s for each hour of the day.

Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°) : Speed in metres per second.

448. Richmond (Kew Observatory) :

H_a (height of cups of anemograph above M.S.L.) = Height of ground above

Day.	1.		2.		3.		4.		5.		6.		7.		8.		9.		10.		11.		Noon.	
	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.
1	—	1.3	220	2.3	215	2.3	215	3.0	200	5.6	200	6.9	195	8.9	195	9.5	195	10.5	195	11.8	195	11.1	195	10.2
2	295	3.6	295	2.6	295	3.3	290	3.0	290	3.3	280	3.9	280	2.3	280	2.3	270	3.3	275	4.3	280	5.6	275	4.9
3	—	1.3	—	0.7	—	0.7	—	0.3	—	1.0	—	1.3	—	1.3	—	1.3	—	1.0	—	1.3	265	2.6	265	2.3
4	—	1.3	15	2.3	340	2.6	340	2.6	335	5.2	345	4.9	345	5.9	360	4.9	340	4.6	325	3.9	325	5.6	320	5.2
5	300	1.6	—	1.0	300	1.6	300	1.6	—	0.0	—	0.0	—	0.0	—	0.0	—	0.3	—	0.3	—	1.3	300	1.6
6	195	7.9	190	7.5	190	6.9	190	5.6	190	7.2	190	6.2	180	5.9	180	4.3	190	5.6	225	8.5	225	9.2	220	8.9
7	245	4.6	245	3.3	245	3.3	245	3.0	245	3.9	250	3.9	260	4.3	270	4.9	270	5.2	280	5.9	280	5.2	285	5.2
8	260	3.0	260	2.0	260	2.0	—	1.3	—	1.0	—	0.7	—	0.7	—	0.3	—	1.3	—	0.7	—	0.7	—	1.0
9	—	1.3	—	1.0	260	1.6	260	2.3	260	2.3	260	2.0	—	1.0	—	1.0	—	1.0	—	1.0	260	1.6	260	1.6
10	215	2.0	190	3.0	190	3.9	190	3.0	185	4.9	185	4.9	185	4.9	185	6.9	190	7.2	190	8.2	190	7.9	190	7.2
11	—	0.7	—	1.0	—	1.0	—	1.0	210	1.6	—	0.7	—	1.3	—	1.0	—	0.7	—	0.3	—	1.3	210	1.6
12	—	0.7	—	1.0	—	0.7	—	1.0	—	0.7	—	1.0	—	1.0	—	0.7	—	0.3	—	1.0	—	1.3	—	1.3
13	—	0.3	—	0.7	—	0.7	—	0.7	—	1.3	—	1.0	—	1.0	—	0.3	—	1.3	360	2.6	360	1.6	—	0.7
14	—	0.0	—	0.7	—	0.7	—	0.7	—	0.3	—	0.7	—	0.7	—	0.7	—	1.0	—	0.7	—	1.3	—	1.0
15	—	1.3	—	0.7	—	0.7	—	0.7	—	1.0	—	0.3	—	0.7	—	1.0	—	0.7	—	1.0	—	0.3	5	1.6
16	—	1.0	—	0.7	—	1.0	—	0.0	—	1.0	—	0.7	—	1.3	50	1.6	—	0.3	—	1.0	50	1.6	335	2.0
17	285	2.0	305	3.0	340	3.0	350	1.6	350	2.0	—	1.0	—	1.0	—	1.3	—	1.3	—	1.3	320	2.0	315	2.0
18	315	2.3	—	1.3	—	1.3	315	2.6	315	3.6	315	3.3	315	3.3	315	2.0	315	2.3	320	5.6	345	4.6	350	3.3
19	—	1.0	—	1.0	5	1.6	—	1.3	—	1.0	—	1.0	—	1.0	5	1.6	5	2.3	5	2.0	5	1.6	5	1.6
20	355	2.0	—	1.3	315	1.6	—	0.7	—	1.3	—	1.0	—	1.0	—	1.0	315	1.6	315	1.6	—	0.7	—	1.0
21	—	1.0	—	1.0	—	1.0	—	0.7	—	0.0	—	0.0	—	0.3	—	0.0	—	0.0	—	0.3	—	0.3	—	0.0
22	—	0.3	—	0.0	—	0.3	—	0.3	—	0.0	—	0.7	—	0.3	—	0.3	—	1.3	315	2.0	—	0.7	—	0.7
23	—	0.3	—	0.3	—	0.7	—	1.3	—	0.3	—	0.7	—	0.7	—	1.0	—	1.3	140	1.6	180	2.0	—	1.3
24	—	1.3	205	2.6	205	2.0	—	1.0	205	2.0	205	1.6	205	2.0	—	1.3	205	1.6	205	2.3	275	2.0	335	3.6
25	—	0.7	—	0.7	—	0.3	—	0.7	—	0.7	—	0.3	—	0.0	—	0.0	—	0.0	—	1.3	—	1.3	25	1.6
26	—	0.3	—	0.0	—	0.0	—	0.0	—	0.7	255	2.0	255	1.6	255	2.3	255	2.6	260	3.9	270	4.6	270	4.9
27	350	3.6	350	3.6	350	3.9	350	3.0	350	2.6	350	2.0	—	1.0	350	1.6	350	2.6	345	2.3	345	3.9	340	4.6
28	335	2.3	295	2.3	275	2.6	265	2.6	255	3.0	255	2.6	255	2.0	255	3.9	270	5.6	285	4.9	295	5.6	300	5.2
29	280	4.3	285	2.6	275	3.0	270	3.0	275	3.3	275	2.6	285	3.9	295	3.0	295	3.6	315	5.2	305	4.6	305	4.3
30	—	1.3	—	1.0	—	0.3	240	1.6	—	1.3	—	1.3	—	1.0	—	1.0	—	1.3	—	1.3	—	1.0	—	1.3
Mean ...	—	1.8	—	1.7	—	1.8	—	1.7	—	2.1	—	2.0	—	2.0	—	2.0	—	2.4	—	2.9	—	3.1	—	3.1

449. Richmond (Kew Observatory) : H_a = 5 metres + 20 metres.

G.M.T.	1.		2.		3.		4.		5.		6.		7.		8.		9.		10.		11.		Noon.	
	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.
1	230	5.6	225	5.6	225	4.9	230	5.6	240	4.9	240	3.0	240	2.3	240	2.3	245	3.0	255	3.9	275	4.3	290	3.3
2	310	1.6	310	1.6	310	3.0	310	1.6	310	1.6	310	2.3	310	2.0	310	1.6	310	1.6	—	1.0	315	1.6	315	2.0
3	—	1.3	—	1.0	330	1.6	330	1.6	—	1.0	—	1.0	—	1.0	—	1.0	—	1.3	—	1.3	—	1.3	—	1.0
4	—	1.0	—	0.7	—	1.0	—	1.0	—	1.0	—	1.3	—	1.0	—	1.0	—	1.3	—	1.0	—	0.7	330	2.0
5	—	1.3	310	2.0	310	2.0	310	2.0	310	2.3	310	1.6	310	2.0	300	2.3	255	3.0	260	2.0	265	3.0	275	3.6
6	310	7.9	315	6.9	315	7.9	315	7.2	320	6.9	320	6.9	320	6.9	325	5.9	315	6.6	310	7.5	310	6.2	310	6.2
7	340	3.9	340	2.3	340	1.6	—	1.0	340	2.3	—	1.3	—	1.3	—	1.3	340	1.6	335	1.6	300	2.6	290	3.3
8	325	5.9	325	3.9	325	3.9	325	3.3	325	3.3	340	3.3	15	3.0	20	2.0	20	2.0	—	1.0	—	1.0	—	1.0
9	—	0.7	—	0.7	—	0.3	—	0.0	—	0.0	—	0.0	—	0.0	—	0.0	—	0.0	—	0.0	—	0.0	—	0.3
10	20	2.0	15	2.3	15	1.6	15	2.0	15	2.6	15	1.6	15	2.6	15	1.6	15	2.0	5	2.3	—	1.3	5	2.3
11	—	0.7	—	1.0	—	1.3	—	1.3	—	1.3	—	1.0	360	1.6	—	1.3	—	1.0	—	1.3	290	2.0	260	2.3
12	220	2.6	220	2.6	220	3.6	205	3.9	200	3.6	200	3.9	200	5.2	200	5.6	210	5.9	210	6.6	210	6.6	200	6.9
13	215	6.6	215	6.2	215	6.2	220	6.6	220	7.9	220	6.9	225	7.9	225	6.6	225	7.9	225	6.9	225	6.9	230	5.9
14	225	4.9	225	4.6	225	5.6	225	4.3	225	5.2	225	3.9	220	4.6	220	5.9	215	4.9	215	6.6	215	5.9	210	4.6
15	235	3.0	230	3.9	225	3.6	225	2.0	225	3.0	225	1.6	—	1.0	—	1.0	—	0.3	—	0.3	—	0.7	—	1.3
16	225	2.0	225	2.6	225	3.0	225	2.0	225	2.3	215	3.3	210	6.2	220	6.2	220	6.2	220	6.2	225	7.5	230	8.2
17	205	2.0	210	2.3	235	3.6	245	4.3	250	3.0	250	3.3	250	3.3	250	3.6	250	3.9	250	3.6	260	3.9	255	3.6
18	130	2.3	—	1.3	—	1.3	—	0.7	—	1.0	—	0.7	—	1.3	315	2.0	280	2.0	—	1.0	275	2.6	250	3.3
19	205	3.9	210	3.6	230	3.3	245	3.6	230	4.3	220	5.6	220	4.6	220	5.2	220	6.2	220	6.6	235	6.2	230	5.6
20	185	3.6	160	4.6	145	6.9	120	7.2	130	6.6	155	7.5	170	10.5	175	11.5	185	9.2	240	10.5	250	9.8	255	9.2
21	240	4.3	245	3.9	245	3.6	245	3.9	250	3.3	250	3.3	250	3.9	245	4.6	240	5.2	220	5.9	220	4.6	215	4.3
22	200	9.2	205	6.9	205	7.2	215	7.5	215	7.2	215	4.3	210	5.6	210	5.9	205	5.2	200	6.9	205	8.5	205	8.9
23	190	9.2	190	9.8	190	10.5	200	9.5	210	8.5	215	6.2	220	7.2	230	5.2	230	4.9	230	4.9	240	4.9	245	5.2
24	235	4.6	235	3.3	245	3.6	245	4.3	245	2.6	245	3.0	245	2.6	245	3.0	245	3.0	245	3.3	245	3.0	250	3.6
25	—	1.0	—	1.3	240	3.3	220	3.3	205	4.3	205	3.9	200	4.9	200	5.6	210	7.2	215	9.2	210	11.1	215	10.5
26	250	3.3	250	2.3	250	2.6	250	3.0	250	2.6	250	3.3	250	4.3	250	4.3	245	3.9	240	2.6	240	4.3	240	3.6
27	235	3.9	230	3.9	225	3.0	225	3.0	225	3.6	215	5.2	205	5.9	210	5.9	200	5.6	200	7.5	200	7.9	200	7.2
28	240	4.6	240	4.3	245	4.6																		

Averages for periods of sixty minutes, centered at the exact hours, Greenwich Mean Time.

M.S.L. + ha (height of anemograph above ground) = 5 metres + 20 metres.

November, 1922.

Table for November 1922 showing wind data for days 1 through 30. Columns include hour, wind speed in m/s, and direction. A summary row at the bottom shows averages for each day.

December, 1922.

Table for December 1922 showing wind data for days 1 through 31. Columns include hour, wind speed in m/s, and direction. A summary row at the bottom shows averages for each day.

450. Richmond (Kew Observatory) : $H_a = 5$ metres + 20 metres.

1922.

Day.	Jan.		Feb.		Mar.		April.		May.		June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.
1	m/s. 16	h. m. 14 25	m/s. 9	h. m. 14 15	m/s. 25	h. m. 2 30	m/s. 16	h. m. 9 45	m/s. 11	h. m. 12 50	m/s. 9	h. m. 18 10	m/s. 15	h. m. 14 10	m/s. 12	h. m. 12 10	m/s. 6	h. m. 14 5	m/s. 8	h. m. 2 10	m/s. 20	h. m. 10 5	m/s. 9	h. m. 3 40
2	20	6 25	15	16 40	12	12 5	8	14 15	6	14 50	7	21 5	17	16 25	7	17 5	9	14 55	3	14 10	10	11 10	5	18 0
3	15	13 5	14	15 30	14	23 50	15	6 40	12	13 50	8	11 35	13	13 10	10	15 45	5	11 45	7	23 50	5	23 50	4	14 15
4	19	11 0	10	13 25	17	2 35	13	0 25	17	16 5	6	20 15	13	12 45	4	16 30	7	16 15	8	18 10	13	14 15		
5	14	2 55	11	6 5	22	19 5	8	19 10	21	10 10	5	18 45	17	21 5	8	13 35	5	0 55	9	12 40	12	23 55		
6	6	1 35	6	10 10	16	0 25	7	2 15	11	15 35	11	16 5	23	3 25	12	19 55	6	17 30	14	13 50	16	12 30		
7	9	11 35	10	13 45	23	4 25	11	17 25	7	15 5	14	14 55	14	10 45	11	12 10	9	12 15	15	9 55	13	12 45		
8	13	12 20	9	13 5	22	17 40	12	19 45	9	12 30	13	10 45	18	14 10	11	18 20	9	15 40	11	11 45	5	0 55		
9	15	22 5	11	12 10	10	12 50	9	16 40	7	17 10	9	12 20	16	11 25	11	13 55	11	16 30	10	12 0	4	5 45		
10	14	0 50	7	1 20	14	10 45	9	15 45	9	8 15	10	17 20	7	12 30	6	12 25	15	15 25	8	14 50	14	10 45		
11	16	18 25	12	19 5	5	13 25	7	10 35	11	19 45	9	10 35	6	12 35	10	13 20	6	13 30	5	15 20	5	13 40		
12	13	11 45	11	10 30	9	21 45	17	20 0	13	16 30	7	21 45	7	14 25	14	19 10	12	19 20	9	13 30	3	11 40		
13	3	21 45	9	11 40	18	21 40	15	2 45	9	10 25	15	11 35	10	16 15	7	12 0	10	14 55	12	11 55	5	9 40		
14	5	12 25	5	15 20	14	1 25	17	15 15	10	14 45	15	8 35	6	10 50	7	20 10	11	19 20	7	13 55	2	14 35		
15	15	17 0	13	11 25	12	0 10	23	17 10	9	14 5	9	11 25	10	17 0	9	13 25	12	10 0	10	16 20	6	12 45		
16	14	0 45	9	17 35	8	0 40	16	0 50	13	15 0	6	11 30	15	19 15	13	11 50	14	23 10	12	9 50	5	18 25		
17	9	3 10	13	10 5	9	21 5	13	11 25	13	17 5	11	16 20	9	13 5	13	12 40	18	14 0	17	21 25	6	16 35		
18	11	18 20	15	4 15	11	20 50	14	15 15	13	13 45	9	7 45	11	8 15	12	18 5	9	8 50	17	16 5	9	15 20		
19	17	11 20	13	20 40	9	21 10	13	10 40	15	14 15	10	15 50	9	12 5	6	10 25	15	12 30	20	10 5	4	9 10		
20	9	20 5	15	12 45	15	17 10	7	11 10	8	14 0	11	12 10	9	10 35	6	10 15	15	3 15	13	1 20	4	9 40		
21	15	9 40	18	8 25	18	15 5	6	20 35	10	17 40	11	17 55	10	13 10	5	20 55	10	14 15	14	14 5	4	22 35		
22	9	21 55	14	11 25	19	11 5	11	16 50	11	14 25	13	12 5	7	13 45	10	16 55	9	20 30	12	13 25	5	13 50		
23	17	19 0	15	5 10	16	8 45	15	17 20	9	15 0	12	14 30	7	13 0	14	13 0	12	17 55	11	11 40	4	14 45		
24	17	8 55	15	19 15	11	22 40	18	14 10	6	14 25	15	13 55	10	4 15	11	13 25	8	15 5	10	12 45	9	11 50		
25	15	5 5	14	23 45	12	16 20	15	9 55	9	14 20	18	13 25	8	13 15	10	9 10	9	11 20	9	11 55	4	23 40		
26	10	23 30	18	10 35	10	21 30	14	2 20	10	11 45	10	12 0	11	13 10	9	17 30	12	12 30	11	15 50	14	15 15		
27	12	19 0	17	14 55	13	13 40	9	12 10	7	12 25	13	17 25	6	17 25	10	15 35	7	9 50	12	15 25	7	11 50		
28	10	20 15	18	6 20	14	14 15	7	11 5	7	15 40	12	1 55	5	12 25	5	18 25	5	19 25	13	15 20	12	17 25		
29	8	0 10	—	—	9	13 45	6	19 5	7	11 35	17	15 0	13	14 50	6	12 55	11	11 15	22	11 20	12	10 5		
30	6	11 15	—	—	7	11 50	7	8 5	5	18 35	13	12 10	8	0 25	15	21 5	9	23 15	16	14 50	9	24 0		
31	8	14 10	—	—	15	22 20	—	—	7	17 50	—	—	13	14 35	9	15 0	—	—	6	14 15	—	—		

Dines' Tube instrument out of action from December 4th to the end of the year.

DISTRIBUTION OF WIND SPEED: EXTREME VELOCITIES AS RECORDED BY THE DINES TUBE ANEMOGRAPH.

451. Richmond (Kew Observatory) : $H_a = 5$ metres + 20 metres.

1922.

Month.	DISTRIBUTION OF WIND.								EXTREME VELOCITIES.				
	More than 17.1 m/s.		10.8 to 17.1 m/s.		5.5 to 10.7 m/s.	1.6 to 5.4 m/s.	Less than 1.6 m/s.	No Record	Highest Hourly Wind			Highest Gust.	
	Dates of Occurrence.	Duration.	No. of Days.	Duration.	Duration.	Duration.	Duration.	Duration.	Veer from N.	Speed.	Mid. Time.	Speed.	Date.
	hr.	hr.		hr.	hr.	hr.	hr.	hr.	°	m/s.	day. hour.	m/s.	d. h. m.
Jan. ...	—	0	0	0	235	368	141	0	90	11	24 9	20	2 6 25
Feb. ...	—	0	0	0	234	368	70	0	180	10	26 11	18	26 10 35
Mar. ...	—	0	4	17	279	371	77	0	210	13	1 3	25	1 2 30
April ...	—	0	1	8	175	357	180	0	190	13	15 17	23	15 17 10
May ...	—	0	0	0	76	403	265	0	255	10	5 10	21	5 10 10
June ...	—	0	0	0	117	480	123	0	105	9	7 16	18	25 13 25
July ...	—	0	1	1	125	444	174	0	200	11	6 3	23	6 3 25
Aug. ...	—	0	0	0	72	427	245	0	{ 70 } 225	8	{ 6 11 } 16 13	15	30 21 5
Sept. ...	—	0	0	0	73	406	241	0	260	9	{ 17 14 } 17 14	18	17 14 0
Oct. ...	—	0	2	5	140	416	183	0	80	13	29 11	22	29 11 20
Nov. ...	—	0	0	0	46	318	356	0	210	10	1 10	20	1 10 5
Dec.* ...	—	0	4	8	196	411	129	0	{ 175 } 195	11	{ 20 8 } 21 23	†	† † †
Year ...	—	0	12	39	1,768	4,769	2,184	0	210	13	Mar. 1 3	25	Mar. 1 2 30

* Values from Robinson Cup Anemograph.

† Dines' Tube instrument out of action from December 4th to end of year.

452. Richmond (Kew Observatory). Readings, in degrees absolute, at 9h., Greenwich Mean Time.

1922.

Table with 13 columns (Jan-Dec) and 2 rows per month (30 cm, 122 cm). Each cell contains two numerical values representing temperature readings at different depths.

The initial 2 or 3 of the readings is omitted ; i.e., 275.0 degrees absolute is written 75.0.

MINIMUM TEMPERATURE "ON THE GRASS" DURING THE INTERVAL 18H. TO 9H. G.M.T.

Readings, in degrees absolute.

453. Richmond (Kew Observatory).

1922.

Table with 12 columns (Jan-Dec) and 1 row per month. Each cell contains a single numerical value representing the minimum temperature.

HEIGHT IN CMS. ABOVE M.S.L. OF SURFACE OF UNDERGROUND WATER.

Daily Means and Extremes for Months.

454. Richmond (Kew Observatory).

1922.

Table with 12 columns (Jan-Dec) and 2 rows per month (cm. mean, cm. extremes). Each cell contains two numerical values representing height in centimeters.

The initial 2 or 3 of the readings is omitted ; i.e., 275.0 degrees absolute is written 75.0.

Note.—The minimum refers to the interval from 18h. on the previous

Extremes for the months :—Jan., 166, 157 ; Feb., 259, 212 ; Mar., 233, 183 ; Apr., 259, 212 ; May, 234, 203 ; June, 211, 183 ; July, 196, 182 ; Aug., 206, 187 ; Sep. 200, 180 ; Oct., 203, 182 ; Nov., 101, 170 ; Dec., 104, 160.

455. Richmond (Kew Obs.).

January, 1922.

Table with columns for Day, 7h., 9h., 13h., 15h., 18h., 21h., and Remarks. It contains 31 rows of weather observations for Richmond in January 1922, including cloud types, amounts, and weather conditions.

456. Richmond (Kew Obs.).

February, 1922.

Table with columns for Day, 7h., 9h., 13h., 15h., 18h., 21h., and Remarks. It contains 28 rows of weather observations for Richmond in February 1922, including cloud types, amounts, and weather conditions.

Note.—On Sundays, Good Friday and Christmas Day, observations are not recorded at 15h. * Mean for 26 days only. † Mean for 24 days only.

457. Richmond (Kew Obs.).

March, 1922.

Table with columns for Day, 7h., 9h., 13h., 15h., 18h., 21h., and Remarks. Each hour column contains sub-columns for Predominant type, Amount, and Weather. Remarks include cloud codes and time intervals.

458. Richmond (Kew Obs.).

April, 1922.

Table with columns for Day, 7h., 9h., 13h., 15h., 18h., 21h., and Remarks. Each hour column contains sub-columns for Predominant type, Amount, and Weather. Remarks include cloud codes and time intervals.

* Mean for 27 days only.

† Mean for 24 days only.

459. Richmond (Kew Obs.).

Table with columns for Day, 7h., 9h., 13h., 15h., 18h., 21h., and Remarks. Rows 1-31 show hourly cloud observations and weather conditions.

460. Richmond (Kew Obs.).

Table with columns for Day, 7h., 9h., 13h., 15h., 18h., 21h., and Remarks. Rows 1-31 show hourly cloud observations and weather conditions.

* Mean for 27 days only.

† Mean for 26 days only.

461. Richmond (Kew Obs.).

July, 1922.

Table with columns for Day, 7h., 9h., 13h., 15h., 18h., 21h., and Remarks. Each hour column contains sub-columns for Predominant type, Amount, and Weather. Remarks include cloud codes and weather observations.

462. Richmond (Kew Obs.).

August, 1922.

Table with columns for Day, 7h., 9h., 13h., 15h., 18h., 21h., and Remarks. Each hour column contains sub-columns for Predominant type, Amount, and Weather. Remarks include cloud codes and weather observations.

* Means for 26 days only.

† Means for 27 days only.

463. Richmond (Kew Obs.).

September, 1922.

Table for Richmond (Kew Obs.) in September 1922. Columns include Day, Predominant type, Amount, Weather for hours 7h, 9h, 13h, 15h, 18h, 21h, and Remarks. Includes a Mean Cloud Am't row at the bottom.

464. Richmond (Kew Obs.).

October, 1922.

Table for Richmond (Kew Obs.) in October 1922. Columns include Day, Predominant type, Amount, Weather for hours 7h, 9h, 13h, 15h, 18h, 21h, and Remarks. Includes a Mean Cloud Am't row at the bottom.

* Mean for 26 days only.

465. Richmond (Kew Obs.).

November, 1922.

Table with columns for Day, 7h., 9h., 13h., 15h., 18h., 21h., and Remarks. Each hour column contains sub-columns for Predominant type, Amount, and Weather. Remarks include cloud codes and time intervals.

466. Richmond (Kew Obs.).

December, 1922.

Table with columns for Day, 7h., 9h., 13h., 15h., 18h., 21h., and Remarks. Each hour column contains sub-columns for Predominant type, Amount, and Weather. Remarks include cloud codes and time intervals.

* Mean for 26 days only.

† Mean for 25 days only.

467. Richmond (Kew Observatory).

Table with columns for months JANUARY through JUNE. Each month has sub-columns for Char-acter, Air-Earth Current, and Ionic Charge per cc. x 10^16. Rows list days 1-31 with numerical data.

Table with columns for months JULY through DECEMBER. Each month has sub-columns for Char-acter, Air-Earth Current, and Ionic Charge per cc. x 10^16. Rows list days 1-31 with numerical data.

Mean Values for periods of sixty minutes, centered at the exact hours, Greenwich Mean Time.

468. Richmond (Kew Observatory).

1922.

Day.	January. Factor 2·31.				February. Factor 2·15.				March. Factor 2·29.															
	3h.	9h.	15h.	21h.	3h.	9h.	15h.	21h.	3h.	9h.	15h.	21h.												
1	170	115	140	115	290	475	315	660	110	310	±	-490												
2	55	140	200	425	250	-80	290	435	240	295	250	740												
3	55	185	255	255	105	240	225	290	110	155	265	195												
4	70	225	225	380	-130	-90	580	580	70	125	±	755												
5	170	310	340	465	225	355	450	780	180	15	155	110												
6	395	540	410	395	435	450	290	660	30	405	280	±												
7	-370	-70	495	580	500	580	240	555	85	250	-450	590												
8	455	225	255	395	225	620	435	685	-85	-365	240	-405												
9	70	210	270	210	635	950	830	740	140	390	225	895												
10	100	425	270	455	555	925	860	805	390	405	350	590												
11	225	455	270	255	685	845	750	555	460	740	310	195												
12	270	540	510	395	—	—	—	—	265	335	405	490												
13	410	875	905	750	—	—	345	635	225	390	545	475												
14	—	635	465	625	635	700	290	595	265	490	785	530												
15	395	370	370	55	200	250	-55	-80	210	435	505	505												
16	—	370	295	440	200	570	305	240	280	660	530	575												
17	255	455	540	565	160	200	345	410	225	460	685	575												
18	565	850	395	70	225	435	240	620	310	615	730	590												
19	-295	70	440	-425	395	265	275	240	320	350	365	380												
20	210	635	355	210	145	460	240	515	195	0	380	615												
21	—	—	—	—	105	±	355	±	310	420	530	685												
22	480	635	510	225	250	450	275	200	310	475	420	600												
23	480	510	550	525	130	240	240	265	295	630	490	685												
24	310	540	610	550	90	200	200	290	240	295	155	-15												
25	—	610	-100	395	120	345	315	290	110	460	240	520												
26	—	425	425	-15	145	130	-170	330	55	545	155	30												
27	240	270	440	-255	240	515	210	240	295	295	280	645												
28	100	495	370	-85	40	265	290	370	335	730	±	685												
29	100	455	410	465	—	—	—	—	210	435	210	265												
30	185	295	380	380	—	—	—	—	195	420	390	435												
31	425	565	-225	565	—	—	—	—	490	785	320	225												
(a)	258	428	396	391	279	455	353	479	232	411	377	503												
(b)	213	397	372	305	270	411	331	450	234	385	351	434												
Mean for day	(a) 368				(b) 322				(a) 392				(b) 365				(a) 381				(b) 351			

Richmond (Kew Observatory).

1922.

Day.	April. Factor 2·25.				May. Factor 2·29.				June. Factor 2·18.															
	3h.	9h.	15h.	21h.	3h.	9h.	15h.	21h.	3h.	9h.	15h.	21h.												
1	-55	720	650	1,065	55	265	225	320	95	450	105	305												
2	500	445	195	625	140	335	170	140	160	480	185	145												
3	235	55	210	400	240	240	155	240	105	160	135	120												
4	110	400	275	555	195	250	0	240	55	215	65	80												
5	390	680	220	305	110	70	170	195	65	215	65	120												
6	-360	390	180	330	265	310	225	520	135	410	265	335												
7	220	470	-1,010	540	320	320	155	180	265	465	305	385												
8	210	250	210	1,345	195	475	125	180	320	440	560	345												
9	540	415	275	455	110	420	125	210	95	120	80	135												
10	345	555	305	695	110	210	420	365	135	120	120	175												
11	445	775	525	390	225	225	645	295	160	160	105	160												
12	150	235	-360	-15	170	545	210	365	65	215	135	295												
13	-15	265	235	390	240	225	180	265	105	145	105	95												
14	110	320	235	95	100	170	110	225	40	185	215	305												
15	85	195	-70	180	140	280	125	225	160	215	400	345												
16	55	140	-220	55	225	210	225	335	255	505	145	95												
17	85	235	235	415	30	125	250	310	80	160	105	120												
18	195	290	235	125	—	70	195	250	105	135	80	145												
19	95	445	—	445	—	—	140	210	15	105	120	120												
20	375	470	220	540	210	240	170	310	135	120	105	215												
21	110	445	430	210	180	250	195	155	160	160	80	95												
22	±	40	-220	195	155	240	110	335	185	160	95	185												
23	110	220	140	125	-15	15	170	210	95	200	105	225												
24	110	210	220	180	140	490	195	250	145	135	120	200												
25	95	220	55	-815	210	335	225	140	95	120	105	135												
26	70	265	±	390	110	195	140	155	95	135	160	135												
27	110	320	±	250	195	225	170	155	135	120	120	160												
28	250	320	±	30	110	125	100	110	95	185	105	-865												
29	110	375	150	-415	125	265	170	110	200	185	±	280												
30	165	110	110	150	170	380	125	110	185	175	135	160												
(a)	203	342	253	388	166	258	187	243	131	219	153	193												
(b)	173	355	146	317	160	265	189	244	128	221	153	154												
Mean for day	(a) 297				(b) 248				(a) 214				(b) 215				(a) 174				(b) 164			

NOTE.—The Potential Gradient is reckoned as positive if the potential increases upwards. For indeterminate potential gradient the following notation is used: ±, Indeterminate, positive value; ±-, Indeterminate, negative value; ±±, Indeterminate in magnitude and sign.

(a) Mean from all positive readings.

(b) Mean from all complete days using both positive and negative readings.

Mean Values for periods of sixty minutes centered at the exact hours, Greenwich Mean Time.

468. Richmond (Kew Observatory).

1922.

Day.	July. Factor 2.32.				August. Factor 2.31.				September. Factor 2.11.															
	3h.	9h.	15h.	21h.	3h.	9h.	15h.	21h.	3h.	9h.	15h.	21h.												
1	185	185	140	225	140	240	55	140	260	335	-25	360												
2	85	155	100	55	185	340	140	285	260	325	-255	375												
3	130	155	115	215	155	300	140	355	350	325	130	220												
4	200	115	100	225	85	470	225	70	140	230	195	325												
5	225	185	100	0	215	400	370	340	205	325	140	205												
6	30	170	100	170	170	270	170	130	50	260	245	260												
7	140	215	z ±	400	270	140	140	370	170	515	295	295												
8	130	225	70	140	140	215	170	270	170	270	180	295												
9	55	70	55	155	155	240	z ±	225	90	260	205	295												
10	140	240	115	155	155	325	255	340	130	230	115	310												
11	225	370	85	130	270	325	z ±	310	170	285	285	195												
12	140	170	100	115	225	270	100	130	350	505	170	-270												
13	55	185	215	215	140	255	155	185	90	295	245	425												
14	140	100	155	385	155	510	270	300	295	415	270	-170												
15	-270	325	170	525	200	300	185	170	50	230	195	155												
16	170	55	15	70	200	215	170	355	130	310	155	130												
17	115	225	140	255	115	185	200	225	50	65	105	180												
18	55	85	200	225	170	285	170	270	130	220	140	385												
19	115	215	140	130	300	340	130	240	115	-245	40	40												
20	170	200	155	255	55	185	155	185	15	205	170	270												
21	130	155	140	115	140	385	155	340	105	155	180	155												
22	115	285	100	285	70	225	130	270	15	155	170	105												
23	115	130	15	115	55	270	185	170	180	245	230	310												
24	0	240	225	285	155	310	85	225	40	105	195	230												
25	130	340	140	240	100	215	155	270	555	140	180	260												
26	155	225	115	130	240	440	170	370	130	130	180	140												
27	100	270	130	455	115	185	170	325	25	40	90	230												
28	115	310	130	115	-45	185	170	225	65	155	195	105												
29	200	240	140	215	140	240	140	170	155	325	245	325												
30	85	115	85	170	115	z ±	—	55	205	450	270	270												
31	200	225	70	355	100	285	z ±	495																
(a)	128	200	119	210	158	285	169	252	156	250	186	245												
(b)	115	199	119	204	150	285	169	249	156	242	164	214												
Mean for day.	(a) 164				(b) 159				(a) 216				(b) 213				(a) 209				(b) 194			

Richmond (Kew Observatory).

1922.

Day.	October. Factor 2.28.				November. Factor 2.37.				December. Factor 2.22.															
	3h.	9h.	15h.	21h.	3h.	9h.	15h.	21h.	3h.	9h.	15h.	21h.												
1	125	265	280	30	320	-365	60	435	95	490	-135	245												
2	180	100	280	265	235	565	305	685	230	410	245	245												
3	250	350	265	350	395	420	190	655	135	205	270	545												
4	140	320	140	z -	305	305	320	625	230	420	325	365												
5	70	280	110	305	495	580	365	-405	150	460	420	270												
6	195	265	490	445	85	205	z -	z ±	120	365	355	355												
7	265	430	430	530	145	350	420	465	340	475	285	260												
8	180	320	295	350	235	510	405	—	175	205	775	750												
9	250	500	445	460	—	—	350	290	680	695	545	460												
10	375	110	530	640	145	235	275	75	230	420	285	380												
11	320	560	195	335	525	465	320	305	110	300	325	410												
12	280	445	235	420	350	480	290	405	110	205	220	190												
13	280	305	280	475	405	450	235	75	110	260	300	285												
14	350	430	475	250	755	800	685	725	165	270	380	365												
15	235	390	—	—	685	555	525	405	15	270	435	395												
16	—	—	615	420	700	685	580	450	220	270	175	245												
17	280	405	570	460	205	565	420	420	55	315	545	-25												
18	350	335	490	560	290	365	290	275	80	800	475	505												
19	280	615	560	460	175	260	290	220	z ±	460	475	460												
20	-100	210	265	235	235	450	395	305	15	150	365	490												
21	235	210	515	420	320	190	235	190	220	530	300	-315												
22	225	210	375	570	245	350	580	85	z ±	95	z ±	270												
23	155	545	445	585	235	380	555	350	70	315	285	515												
24	445	560	420	445	365	540	405	580	190	460	315	545												
25	265	460	530	—	395	420	755	540	420	220	95	190												
26	—	1,170	560	710	395	420	-100	365	245	515	355	680												
27	545	545	420	545	260	555	480	540	270	-260	-1,195	625												
28	180	725	560	615	395	320	305	365	110	420	420	-355												
29	335	490	460	335	235	465	305	525	95	325	175	95												
30	100	250	530	545	290	565	480	565	40	380	460	530												
31	210	545	320	515					325	-490	-55	610												
(a)	254	411	403	438	338	445	387	405	181	370	356	403												
(b)	245	385	394	429	351	421	369	377	181	325	267	340												
Mean for day.	(a) 377				(b) 363				(a) 394				(b) 380				(a) 328				(b) 278			

(a) Mean from all possible readings.

(b) Mean from all complete days, using both positive and negative readings.

The Potential Gradient is reckoned as positive if the potential increases upwards. For indeterminate potential gradient the following notation is used: z +, Indeterminate, positive value; z - Indeterminate, negative value; z ± Indeterminate in magnitude and sign.

The departures from the mean of the day are adjusted for non-cyclic change.

SELECTED QUIET DAYS.

469. Richmond (Kew Observatory).

1922.

Table with 24 columns (Hour 1-24) and 13 rows (Month and Season). Rows include Jan, Feb, Mar, Apr, May, June, July, Aug, Sept, Oct, Nov, Dec, Year, Winter, Eqnx, and Sumr. Values are in v/m.

AIR POLLUTION: HOURLY MEANS FOR EACH MONTH (milligrams per cubic metre).

COMPLETE DAYS ONLY.

470. Richmond (Kew Observatory).

1922.

Table with 24 columns (Hour 1-24) and 13 rows (Month and Season). Rows include Jan, Feb, Mar, Apr, May, June, July, Aug, Sept, Oct, Nov, Dec, Year, Winter, Eqnx, Spring Autm., and Sumr. Values are in mg/m³.

AIR POLLUTION: DIURNAL INEQUALITIES (milligrams per cubic metre).

The departures from the mean of the day are adjusted for non-cyclic change.

471. Richmond (Kew Observatory).

1922.

Table with 24 columns (Hour 1-24) and 13 rows (Month and Season). Rows include Jan, Feb, Mar, Apr, May, June, July, Aug, Sept, Oct, Nov, Dec, Year, Winter, Eqnx, and Sumr. Values are in mg/m³.

DIURNAL INEQUALITIES OF DECLINATION AND HORIZONTAL FORCE.

Departures from the mean of the day corrected for non-cyclic change.

Table 472: Richmond (Kew Observatory). Declination (Measured positive towards the West) (Ordinary days). 1922. Columns: Month and Season, Hour G.M.T. (1-24), Midt. Rows: Jan. to Dec., Year, Winter, Eqnx., Sumr.

Table 473: Richmond (Kew Observatory). Declination (Quiet days). 1922. Columns: Month and Season, Hour G.M.T. (1-24), Midt. Rows: Jan. to Dec., Year, Winter, Eqnx., Sumr.

Table 474: Richmond (Kew Observatory). Horizontal Force (Quiet days). 1922. Columns: Month and Season, Hour G.M.T. (1-24), Midt. Rows: Jan. to Dec., Year, Winter, Eqnx., Sumr.

475. Richmond (Kew Observatory).

1922.

Month, Season or Year.	ELEMENT.			FORCE.				RANGE OF INEQUALITY.			AVERAGE DEPARTURE.		
	Quiet days D and H, absolute observations I.			North.	West.	Vertical.	Total.	"Ordinary" Days. D.	Quiet days.		"Ordinary" Days. D.	Quiet Days.	
	Declination (West).	Inclination.	Horizontal Force.						D.	H.		D.	H.
January ...	14 13.9	66 57.5	18394	17829	4522	43246	46995	4.05	3.63	14.4	0.88	0.78	3.8
February ...	14 12.9	66 58.4	18397	17834	4518	43285	47032	5.32	4.08	12.4	1.26	0.92	2.9
March ...	14 12.0	66 57.9	18396	17834	4513	43265	47013	7.67	8.05	25.7	1.86	1.46	6.6
April ...	14 11.1	66 57.5	18402	17841	4509	43265	47016	9.32	9.46	29.9	2.29	1.77	6.4
May ...	14 9.9	66 57.5	18397	17838	4502	43253	47003	9.14	9.93	34.8	2.13	2.02	8.1
June ...	14 9.6	66 56.7	18399	17840	4501	43230	46982	9.60	10.06	48.5	2.42	2.36	11.0
July ...	14 8.0	66 57.0	18394	17837	4491	43229	46979	9.55	9.23	42.1	2.12	1.94	9.0
August ...	14 7.3	66 57.2	18392	17836	4487	43231	46981	9.34	7.25	29.8	2.28	1.59	7.6
September ...	14 6.7	66 57.7	18386	17831	4483	43234	46981	7.34	7.54	29.7	1.79	1.55	5.9
October ...	14 5.6	66 58.3	18387	17834	4477	43258	47003	6.88	6.09	23.1	1.78	1.35	4.2
November ...	14 4.9	66 58.5	18393	17840	4475	43279	47025	4.34	4.29	13.4	0.98	0.90	2.6
December ...	14 3.5	66 57.6	18390	17839	4467	43240	46988	3.71	2.87	11.4	0.84	0.62	3.3
Winter ...	14 8.8	66 58.0	18393	18835	4495	43262	47010	4.33	3.50	9.8	0.97	0.77	2.7
Equinox ...	14 8.9	66 57.8	18393	17835	4495	43255	47003	7.67	7.49	23.9	1.91	1.50	5.0
Summer ...	14 8.7	66 57.1	18395	17838	4495	43236	46986	9.09	9.06	36.6	2.21	1.94	8.4
Year 1922	14 8.8	66 57.6	18394	17836	4495	43251	47000	6.55	6.68	22.3	1.67	1.40	4.7
1921	14 19.9	66 57.7	18399	17827	4555	43266	47016	7.51	7.07	22.6	1.83	1.47	4.8
1920	14 31.0	66 57.9	18410	17822	4615	43297	47049	8.12	7.91	28.3	2.10	1.83	6.5
1919	14 40.9	66 57.7	18416	17815	4667	43305	47058	8.73	8.52	28.0	2.26	1.84	6.3
1918	14 50.4	66 58.4	18429	17814	4720	43361	47115	9.31	9.23	30.1	2.28	1.91	7.7
1917	14 59.6	66 58.0	18437	17809	4770	43366	47122	—	10.18	34.0	—	2.16	8.3
1916	15 8.8	66 57.5	18457	17816	4823	43395	47156	—	8.73	30.0	—	1.84	7.0
1915	15 18.4	66 56.6	18463	17808	4874	43376	47141	—	7.30	24.8	—	1.60	5.7
1914	15 27.8	66 55.8	18488	18818	4929	43406	47179	—	6.13	22.2	—	1.30	4.9
1913	15 37.0	66 55.8	18505	17822	4982	43449	47226	—	6.87	18.1	—	1.45	4.0
1912	15 46.5	66 56.5	18498	17801	5029	43454	47227	—	6.36	20.2	—	1.22	4.6

MAGNETIC CHARACTER OF EACH DAY.

476. Richmond (Kew Observatory).

1922.

Date	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1	0	1	2	1	0	0	1	1	0	0	2	1	—
2	1	1	2	1	0	1	1	0	0	1	2	0	—
3	0	2	2	0	0	2	1	0	1	1	1	0	—
4	0	1	1	0	0	0	0	0	0	1	1	0	—
5	0	1	2	0	0	1	0	1	0	2	0	1	—
6	0	1	0	0	0	1	0	0	0	2	0	1	—
7	1	0	0	0	2	0	1	0	2	2	0	0	—
8	2	1	0	1	2	0	0	0	2	1	0	0	—
9	2	2	0	2	2	0	0	1	1	1	0	0	—
10	1	1	2	2	1	0	0	1	1	1	1	1	—
11	1	0	1	1	1	0	0	2	1	0	0	2	—
12	0	2	1	2	0	1	0	2	0	0	0	1	—
13	0	1	2	1	0	0	0	1	1	1	0	0	—
14	0	1	2	1	0	0	1	1	2	1	0	2	—
15	0	2	0	1	0	0	1	1	1	0	0	1	—
16	2	2	0	0	2	1	1	0	0	0	0	0	—
17	2	1	2	0	1	1	1	0	0	1	0	0	—
18	1	1	1	0	0	1	1	0	0	0	0	0	—
19	1	0	1	0	0	0	1	0	0	0	0	0	—
20	1	1	1	0	0	0	0	1	2	1	0	0	—
21	0	1	0	1	1	0	0	0	1	1	1	0	—
22	0	1	1	2	1	0	0	1	0	0	0	0	—
23	0	0	0	1	1	0	1	1	0	0	0	0	—
24	2	0	0	1	1	0	1	1	0	2	0	0	—
25	2	0	2	1	1	0	1	0	0	1	0	1	—
26	1	1	1	2	1	0	2	1	0	0	2	—	—
27	1	1	1	1	0	1	2	1	1	1	1	0	—
28	0	1	0	0	0	1	2	0	1	1	2	0	—
29	0	1	1	1	0	1	2	1	0	0	2	0	—
30	1	1	2	1	0	1	1	1	1	1	1	0	—
31	1	1	1	1	0	1	1	1	1	2	0	—	—
No. of o's.	14	6	10	11	18	18	12	13	16	11	20	21	170
No. of r's.	11	17	11	14	9	11	15	16	10	15	6	7	142
No. of 2's.	6	5	10	5	4	1	4	2	4	5	4	3	53
Mean Chretr.	0.74	0.96	1.00	0.80	0.55	0.43	0.74	0.65	0.60	0.81	0.47	0.42	0.68

NON-CYCLIC CHANGE (24h.-0h.).

477. Richmond (Kew Observatory)

1922.

Month, Season or Year.	Ordinary Days.	Quiet Days.	
		D.	H.
Jan. ...	-0.38	-0.26	+1.9
Feb. ...	+0.30	-0.22	+3.7
Mar. ...	+0.37	+0.75	+0.7
Apr. ...	-0.28	+0.32	+3.7
May ...	+0.43	+0.76	+2.3
June ...	-0.21	-0.80	+4.0
July ...	0.00	+0.36	+3.9
Aug. ...	+0.02	+0.04	+0.8
Sept. ...	+0.19	-0.10	+4.6
Oct. ...	-0.26	-0.06	+2.3
Nov. ...	-0.07	+0.40	+1.0
Dec. ...	0.00	+0.22	+0.1
Winter...	-0.04	+0.03	+1.7
Equinox	0.00	+0.23	+2.8
Summer	+0.06	+0.14	+2.7
Year 1922	+0.01	+0.13	+2.4
1921	+0.03	+0.07	+3.6
1920	+0.04	+0.16	+3.3
1919	-0.11	+0.04	+5.4
1918	-0.04	-0.11	+4.0
1917	—	+0.13	+4.0
1916	—	-0.02	+3.0
1915	—	-0.21	+2.6
1914	—	+0.03	+1.1
1913	—	+0.01	+2.1
1912	—	+0.04	+2.0

478. MEAN VALUES, FOR THE YEARS SPECIFIED, OF THE MAGNETIC ELEMENTS AT OBSERVATORIES WHOSE PUBLICATIONS ARE RECEIVED AT KEW OBSERVATORY, RICHMOND.

Place.	Latitude.	Longitude.	1922.				1921.				1920.			
			Declination.	Inclination.	Horizontal Force.	Vertical Force.	Declination.	Inclination.	Horizontal Force.	Vertical Force.	Declination.	Inclination.	Horizontal Force.	Vertical Force.
Sitka (Alaska) ...	57 3	135 20 W.	30 29.1 E.	74 22.4	18560	55631	30 28.5 E.	74 22.6	18570	55679	30 28.2 E.	74 22.1	15574	55662
Rude Skov ...	55 51	12 27 E.	...	...	...	...	7 45.2 W.	69 1.2	17105	44607	7 57.2 W.	68 59.6	17124	44596
Eskdalemuir ...	55 19	3 12 W.	16 25.8 W.	69 40.0	16680	45012	16 37.3 W.	69 40.3	16695	45062	16 45.7 W.	69 39.5	16706	45084
Stonyhurst ...	53 51	2 28 W.	15 30.9 W.	68 42.4	17305	44402	15 41.6 W.	68 43.0	17315	44449	15 52.9 W.	68 43.5	17300	44433
Potsdam ...	52 23	13 4 E.	7 7.6 W.	66 35.7	18577	42918	7 18.9 W.	66 34.5	18591	42911	7 29.4 W.	66 33.5	18606	42912
Seddin ...	52 17	13 1 E.	7 8.9 W.	66 32.7	18615	42903	7 20.5 W.	66 31.6	18629	42898	7 31.2 W.	66 30.6	18645	42899
De Bilt (Utrecht) ...	52 5	5 11 E.	...	...	...	...	11 13.6 W.	66 52.6	18389	43065	11 24.2 W.	66 51.8	18397	43056
Valencia (Ireland) ...	51 56	10 15 W.	18 57.0 W.	68 3.0	17849	44289	19 6.5 W.	68 3.4	17848	44299	19 17.9 W.	68 5.3	17840	44353
Kew (Richmond) ...	51 28	0 19 W.	14 8.8 W.	66 57.6	18394	43251	14 19.9 W.	66 57.7	18399	43266	14 31.0 W.	66 57.9	18410	43297
Greenwich ...	51 28	0 0	13 46.7 W.	66 52.3	18442	43176	13 57.6 W.	66 53.0	18449	43218	14 8.6 W.	66 53.6	18454	43249
Val Joyeux (near Paris) ...	48 49	2 1 E.	...	...	...	...	12 42.6 W.	64 40.0	19670	41548	12 53.0 W.	64 41.6	19666	41591
Munich ...	48 9	11 37 E.	...	...	...	...	7 53.6 W.	...	...	...	8 3.8 W.	...	...	...
Pola ...	44 52	13 51 E.	...	...	...	...	6 38.6 W.	60 10.3	22094	38537	...	...	...	...
Agincourt (Toronto) ...	43 47	79 16 W.	...	...	...	...	6 50.6 W.	74 44.5	15839	58065	6 45.4 W.	74 44.6	15865	58166
Tortosa ...	40 49	0 30 E.	11 39.7 W.	57 35.5	23314	36725	11 49.1 W.	57 37.6	23301	36754	11 59.3 W.	57 39.4	23291	36781
Coimbra ...	40 12	8 25 W.	...	...	...	...	15 13.4 W.	58 19.2	23110	37448	15 21.5 W.	58 22.8	23087	37496
Cheltenham (Maryland) ...	38 44	76 50 W.	6 27.7 W.	70 57.6	19020	55115	6 22.4 W.	70 56.5	19069	55200	6 18.5 W.	70 55.4	19118	55285
San Fernando ...	36 28	6 12 W.	13 41.6 W.	53 50.1	25033	...	...	...	...	...	...	...	...	...
Tsingtau ...	36 4	120 19 E.	...	...	...	...	...	...	...	...	4 12.9 W.	52 7.0	30817	39610
Tucson (Arizona) ...	32 15	110 50 W.	...	...	...	...	...	...	...	...	13 48.0 E.	59 27.6	26910	45610
Lu-kia-pang ...	31 19	121 2 E.	...	...	...	...	...	...	...	...	3 21.4 W.	45 30.7	33175	33773
Dehra Dun ...	30 19	78 3 E.	1 43.2 E.	45 8.6	32927	33091	1 47.1 E.	45 4.2	32945	33025	1 52.0 E.	44 59.9	32951	32949
Hongkong* ...	22 18	114 10 E.	0 21.5 W.	30 46.0	37279	22194	0 19.8 W.	30 45.8	37295	22199	...	...	...	...
Honolulu (Hawaii) ...	21 19	158 4 W.	9 57.1 E.	39 24.4	28794	23658	0 22.6 W.	30 45.0	37190	22125	0 20.8 W.	30 46.4	37174	22137
Toungoo ...	18 56	96 27 E.	0 29.7 W.	23 7.2	39156	16717	9 55.3 E.	39 24.5	28824	23683	9 53.2 E.	39 25.1	28847	23711
Alibag (Bombay) ...	18 39	72 52 E.	0 12.6 E.	25 5.0	36967	17303	0 26.8 W.	23 7.0	39132	16704	0 23.7 W.	23 7.7	39114	16707
Vieques (Porto Rico) ...	18 9	65 26 W.	...	...	...	...	0 15.9 E.	24 59.5	36956	17226	0 20.3 E.	24 54.7	36922	17147
Antipolo ...	14 36	121 10 E.	...	...	...	...	...	...	...	...	3 46.1 W.	51 22.7	27827	34832
Kodai-Kanal ...	10 14 S.	77 28 E.	1 58.7 E.	4 40.1 S.	37878	3093	...	...	...	...	0 35.9 E.	16 11.7	38100	11065
Batavia ...	6 11	106 49 E.	...	...	...	...	1 54.2 W.	4 38.5 S.	37832	3071	1 49.9 W.	4 36.1 S.	37787	3042
Apia (Samoa) ...	13 48	171 46 W.	10 13.6 E.	30 5.6	35241	20423	...	...	...	...	0 47.0 E.	31 53.7	36796	22899
Mauritius ...	20 6	57 33 E.	10 39.9 W.	52 36.2	23019	30112	...	...	...	...	...	...	...	...
Pilar ...	31 40	63 53 W.	...	...	...	...	10 30.7 W.	52 37.1	23061	30185	10 20.3 W.	52 40.1	23093	30278
Christchurch, N.Z. ...	43 32	172 37 E.	17 8.3 E.	68 11.2	22217	55507	...	...	...	...	7 28.6 E.	25 41.3	25297	12168
							17 4.6 E.	68 10.3	22241	55528	17 1.7 E.	68 9.2	22261	55525

* The values for 1920 and the second set of values for 1921 refer to the old magnetic hut; the first set of values for 1921 and the values for 1922 refer to the new hut.

479. ADDITIONAL VALUES FOR EARLIER YEARS.

Place.	Latitude.	Longitude.	1919.				1918.				1917.			
			Declination.	Inclination.	Horizontal Force.	Vertical Force.	Declination.	Inclination.	Horizontal Force.	Vertical Force.	Declination.	Inclination.	Horizontal Force.	Vertical Force.
Sitka (Alaska) ...	57 3	135 20 W.	30 26.7 E.	74 23.2	15578	55748	30 24.9 E.	74 23.8	15580	55790	30 24.7 E.	74 24.8	15584	55866
Meanook ...	54 37	113 21 W.	27 41.1 E.	77 54.2	12944	60400	27 44.3 E.	77 54.5	12938	60393	27 46.1 E.	77 55.0	...	...
Prague ...	50 5	14 25 E.	...	...	...	...	...	...	...	...	7 5.3 W.	...	...	...
Munich ...	48 9	11 37 E.	8 13.7 W.	...	...	...	8 23.2 W.	...	...	...	8 32.0 W.	...	...	...
O'Gyalla (Pesth) ...	47 53	18 12 E.	...	...	...	...	5 21.9 W.	...	20917	...	5 31.0 W.	...	20945	...
Pola ...	44 52	13 51 E.	7 1.6 W.	60 9.3	22111	38539	7 11.0 W.	60 9.0	22113	38533	7 19.2 W.	60 6.8	22124	38494
San Fernando ...	36 28	6 12 W.	14 8.5 W.	53 44.6	25101	...	14 12.4 W.	54 2.2	24976	34423	14 21.1 W.	54 9.0	24986	34580
Tucson (Arizona) ...	32 15	110 50 W.	13 47.8 E.	59 27.0	26940	45644	13 47.1 E.	59 26.5	26982	45701	13 46.1 E.	59 26.4	27021	45763
Helwan ...	29 52	31 21 E.	1 30.6 W.	41 9.6	29941	26175	1 38.4 W.	41 6.1	29948	26126	1 45.7 W.	41 1.9	29963	26076
Vieques (Porto Rico) ...	18 9	65 26 W.	3 39.9 W.	51 17.7	27905	34825	3 34.0 W.	51 10.9	27985	34783	3 27.0 W.	51 2.7	28066	34714
Antipolo ...	14 36 S.	121 10 E.	0 36.1 E.	16 10.1 S.	38107	11048	0 35.5 E.	16 5.0 S.	38115	10986	0 35.9 E.	16 7.7 S.	38088	11014
Batavia ...	6 11	106 49 E.	0 46.0 E.	31 50.2	36728	22806	0 46.0 E.	31 46.2	36716	22739	0 45.9 E.	31 42.0	36724	22682
Pilar ...	31 40	63 53 W.	7 57.4 E.	25 40.1	25350	12183	8 5.6 E.	25 39.5	25398	12200	8 13.7 E.	25 41.0	25450	12240
Melbourne ...	37 50	144 58 E.	...	...	...	...	...	...	...	...	8 3.2 E.	67 50.9	22961	56400

Air Ministry
METEOROLOGICAL OFFICE

THE
OBSERVATORIES' YEAR BOOK
1922

Comprising the results obtained from autographic records and eye observations at the observatories at Aberdeen, Eskdalemuir, Cahirciveen (Valencia Observatory), Richmond (Kew Observatory), and Benson.

SECTION V.—BENSON

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UPPER AIR TEMPERATURES.

SOUNDINGS WITH REGISTERING BALLOONS, 1922.

Lat. 51° 37' N. Long. 1° 7' W. Height above M.S.L. 57 metres.

480. Benson. T = Temperature in Degrees absolute above 200a. P = Pressure in millibars. H = Height in kilometres above M.S.L.

No.	388.	389.	390.	391.	392.	394.	396.	399.	400.	402.	404.	405.
Date.	Jan. 17.	Jan. 18.	Jan. 18.	Feb. 10.	April 6.	May 11.	May 17.	May 18.	July 22.	Sept. 7.	Sept. 11.	Sept. 12.
Start G.M.T. ...	15 h. 34 m.	7 h. 30 m.	15 h. 30 m.	15 h. 40 m.	17 h. 40 m.	18 h. 15 m.	18 h. 7 m.	18 h. 12 m.	12 h. 10 m.	17 h. 48 m.	17 h. 37 m.	7 h. 37 m.
H_t = Greatest Height ...	6.5 km.	3.2 km.	3.7 km.	9.5 km.	7.7 km.	11.2 km.	11.3 km.	12.8 km.	16.4 km.	14.1 km.	15.4 km.	12.5 km.
T_t = Corresponding Temp....	27 a.	59 a.	53 a.	22 a.	34 a.	13 a.	24 a.	21 a.	29 a.	21 a.	19 a.	23 a.
P_t = Corresponding Pressure	411 mb.	669 mb.	609 mb.	291 mb.	357 mb.	213 mb.	212 mb.	170 mb.	103 mb.	143 mb.	114 mb.	179 mb.
Place of Fall ...	Wokingham, Berks.	Tetworth, Oxon.	Aylesbury, Bucks.	Fosbury, Hungerford.	Ashstead, Surrey.	Wickford, Essex.	Witchford, I. of Ely.	Barham, Canterbury.	Babraham, Cambs.	Alresford.	Swanage.	Earley, Reading.
Distance ...	32 km.	13 km.	32 km.	45 km.	69 km.	104 km.	120 km.	170 km.	106 km.	55 km.	124 km.	24 km.
Bearing ...	140°	40°	45°	220°	120°	90°	48°	105°	58°	183°	208°	145°
Geostrophic Wind— Time G.M.T. ...	18 h.	7 h.	18 h.	18 h.	18 h.	18 h.	18 h.	18 h.	13 h.	18 h.	18 h.	7 h.
Speed ...	11 m/s.	22 m/s.	22 m/s.	11 m/s.	7 m/s.	11 m/s.	13 m/s.	11 m/s.	Calm.	4 m/s.	Calm.	13 m/s.
Deg. from N. ...	320°	210°	200°	135°	295°	130°	250°	280°	—	60°	—	215°
Wind (Anemometer)— Speed ...	3.5 m/s.	3.0 m/s.	10.0 m/s.	2.2 m/s.	Calm.	2.2 m/s.	3.7 m/s.	3.0 m/s.	Calm.	2.2 m/s.	Calm.	3.3 m/s.
Deg. from N. ...	320°	180°	180°	100°	—	70°	260°	270°	—	30°	—	90°
Type of Tropopause	—	—	—	—	—	2.	2.	1.	1.	1.	1.	1.
H_c = Height of ,, ...	—	—	—	—	—	10.7 km.	9.1 km.	11.0 km.	10.8 km.	11.5 km.	11.5 km.	11.0 km.
P_c = Pressure at ,, ...	—	—	—	—	—	234 mb.	293 mb.	225 mb.	237 mb.	214 mb.	211 mb.	224 mb.
T_c = Temp. at ,, ...	—	—	—	—	—	13 a.	24 a.	20 a.	23 a.	15 a.	14 a.	22 a.
P_9 (Pressure at 9 km.) ...	—	—	—	312 mb.	—	303 mb.	299 mb.	308 mb.	312 mb.	317 mb.	308 mb.	306 mb.
P_s (Pressure at M.S.L.) ...	1003 mb.	1007 mb.	1004 mb.	1030 mb.	1015 mb.	1013 mb.	1006 mb.	1017 mb.	1010 mb.	1027 mb.	1016 mb.	1007 mb.
T_m (Mean Temp. 1 to 9 km.)	—	—	—	257 a.	—	253 a.	252 a.	255 a.	260 a.	260 a.	256 a.	256 a.

481.

NOTES.

Date.	No.	Notes	Screen Temp.	Humidity
Jan. 17	388	Sky almost clear; slight Ci. Balloon lost sight of at about 3 km. Azimuth 142°. Pressure Distribution. High over Azores and N. of Scandinavia. Several "lows" in the trough between Iceland and Italy.	275	75%
Jan. 18	389	Cold morning with slight inversion at surface. Some Ci. Cu. Pressure Distribution. High over Azores and N. of Scandinavia. Small "low" in N. Sea, filling up. Main circulation round a large "low" S. of Iceland.	272	84%
Jan. 18	390	Overcast. Raining since 13 h. 30 m. Lost in clouds at about 400 m. Pressure Distribution. High over Azores and N. of Scandinavia. Large "low" S. of Iceland.	277	90%
Feb. 10	391	Steady inversion from surface to a max. temp. of 285 a. at 1.06 km. Clear overhead, some Ci. from W. Pressure Distribution. Large "high" over Prussia and the Baltic for several days previously.	277	60%
April 6	392	Half clouded. Ci. moving fast from WNW. Cu. during day. Pressure Distribution. "High" over S. England and N. France. "Lows" arriving off mouth of Channel.	279	79%
May 11	394	Overcast. Went into clouds at about 1.2 km. Upper winds nearly opposite to gradient wind. Pressure Distribution. Shallow "low" nearly stationary over France.	281	78%
May 17	396	Raining through day with heavy Cu., clearing at 18 h. Pressure Distribution. Large "low" W. of Scotland moving NE.	286	95%
May 18	399	Small inversion at 1.95 km. "bc" with Ci. after fine day. Pressure Distribution. Large "low" N. of Scotland moving NE.	288	60%
July 22	400	Slight rain, previously overcast. Pressure Distribution. Light indefinite gradient over considerable area.	291	
Sept. 7	402	Slight inversion at surface, another at 2.68 km. Weather cloudy. St. Cu. and Ci. from NNE. Pressure Distribution. Large "high" S. of Iceland.	289	71%
Sept. 11	404	Small inversion at surface and another inversion at 2.14 km. Calm. Cloudy, with St. Cu. at about 2.1 km. Pressure Distribution. Indefinite region between Azores "high" and a "high" over Russia.	287	80%
Sept. 12	405	Inversion at surface, another small one at 2.13 km. Weather fine with A. Cu. from W. Pressure Distribution. Same as on 11th, but with a "low" developing NW. of Ireland.	283	92%

UPPER AIR TEMPERATURES.

SOUNDINGS WITH REGISTERING BALLOONS, 1922.

Lat. 51° 37' N. Long. 1° 7' W. Height above M.S.L. 57 metres.

480. Benson. T = Temperature in Degrees absolute above 200a. P = Pressure in millibars. H = Height in kilometres above M.S.L.

No.	406.	407.	408.	410.	412.	413.	414.	415.	416.	418.	419.	420.
Date.	Sept. 13.	Sept. 14.	Sept. 15.	Sept. 16.	Oct. 5.	Oct. 11.	Oct. 17.	Oct. 18.	Oct. 28.	Nov. 16.	Nov. 25.	Dec. 20.
Start G.M.T.	7 h. 0 m.	7 h. 8 m.	7 h. 17 m.	6 h. 57 m.	17 h. 55 m.	17 h. 40 m.	17 h. 35 m.	17 h. 12 m.	16 h. 55 m.	16 h. 10 m.	17 h. 5 m.	10 h. 3 m.
H_t = Greatest Height ...	10.4 km.	17.4 km.	12.6 km.	18.6 km.	16.9 km.	10.9 km.	14.6 km.	16.3 km.	9.0 km.	17.5 km.	12.6 km.	12.5 km.
T_t = Corresponding Temp...	28 a.	27 a.	27 a.	28 a.	20 a.	19 a.	12 a.	19 a.	28 a.	11 a.	5 a.	27 a.
P_t = Corresponding Pressure	236 mb.	84 mb.	174 mb.	72 mb.	90 mb.	226 mb.	129 mb.	98 mb.	296 mb.	82 mb.	170 mb.	170 mb.
Place of Fall	Aylesbury.	Godalming.	Ascot.	Lewes.	Old Charlton, Kent.	Brighton.	Newport, Mon.	Cannington, Bridge-water.	Arborfield.	Bursledon, Hampshire.	Edenbridge, Kent.	Whittlesea.
Distance	29 km.	59 km.	39 km.	113 km.	79 km.	110 km.	126 km.	164 km.	28 km.	81 km.	93 km.	124 km.
Bearing	46°	144°	127°	136°	102°	142°	269°	251°	150°	189°	118°	35°
Geostrophic Wind— Time G.M.T.	7 h.	7 h.	7 h.	7 h.	18 h.	18 h.	18 h.	18 h.	18 h.	18 h.	18 h.	10 h.
Speed	16 m/s.	13 m/s.	13 m/s.	13 m/s.	11 m/s.	7 m/s.	20 m/s.	20 m/s.	16 m/s.	9 m/s.	4 m/s.	35 m/s.
Deg. from N.	270°	15°	350°	245°	270°	210°	120°	110°	90°	310°	295°	345°
Wind (Anemometer)— Speed	4.7 m/s.	Calm.	5.7 m/s.	2.9 m/s.	3.5 m/s.	Calm.	7.7 m/s.	8.2 m/s.	2.6 m/s.	Calm.	Calm.	14.0 m/s.
Deg. from N.	225°	—	310°	180°	260°	—	70°	70°	50°	—	—	285°
Type of Tropopause	I	I	I	I	I	I?	I	I	—	I	I	I
H_c = Height of ,, ...	9.5 km.	8.5 km.	9.9 km.	11.7 km.	8.8 km.	10.7 km.	11.7 km.	9.3 km.	—	12.1 km.	12.2 km.	9.2 km.
P_c = Pressure at ,, ...	273 mb.	318 mb.	263 mb.	211 mb.	310 mb.	231 mb.	205 mb.	290 mb.	—	195 mb.	182 mb.	278 mb.
T_c = Temp. at ,, ...	23 a.	27 a.	19 a.	16 a.	23 a.	18 a.	13 a.	23 a.	—	11 a.	5 a.	20 a.
P_9 (Pressure at 9 km.) ...	293 mb.	294 mb.	302 mb.	315 mb.	299 mb.	300 mb.	311 mb.	303 mb.	298 mb.	319 mb.	306 mb.	288 mb.
P_s (Pressure at M.S.L.) ...	983 mb.	988 mb.	1008 mb.	1021 mb.	1009 mb.	1016 mb.	1017 mb.	1021 mb.	1020 mb.	1041 mb.	1038 mb.	975 mb.
T_m (Mean Temp. 1 to 9 km.)	252 a.	252 a.	253 a.	261 a.	252 a.	251 a.	258 a.	251 a.	248 a.	259 a.	251 a.	251 a.

481.

NOTES.

Date.	No.	Description	Screen Temp.	Humidity
Sept. 13	406	Cloudy with St. Cu. and low St. from S.W. Went into cloud at 200 m. <i>Pressure Distribution.</i> A "low" centred N. of Ireland.	282	95%
Sept. 14	407	Surface inversion extending up to 240 m. Overcast with low St. and mist. Went into cloud at 200–300 m. <i>Pressure Distribution.</i> The "low" reached S.E. England in the night and extended towards N.E.	281	100%
Sept. 15	408	Overcast with St. and St. Cu. High St. Cu. from N.W. Isothermal patch 1.3–1.7 km. <i>Pressure Distribution.</i> The "low" moved N.E. and over Jutland on morning of 15th.	284	80%
Sept. 16	410	Slight inversion below 500 m. Inversion at 1,260 m. in both Sussex and Oxon. Overcast, St. Cu. from W.N.W. at about 1.8 km. Previous to 6.20, "bc" with A.Cu. and Ci. from N.W. <i>Pressure Distribution.</i> "High" over Azores. "Lows" over Faroe and the Baltic.	279	93%
Oct. 5	412	Overcast with St. Cu. Ci. and Cu. in afternoon moving from about W.S.W. at about 20 m/s. <i>Pressure Distribution.</i> A "high" off Spain, another over Scandinavia. A "low" moving from N.W. to S.E. between them.	285	89%
Oct. 11	413	Pronounced inversion up to 100–200 m. Small inversion at 3.34 km. Weather "b." Ci. from W.N.W. <i>Pressure Distribution.</i> Large calm "high" region over France and Denmark. "Low" near Iceland.	278	85%
Oct. 17	414	Slight inversion at 1.4 km. Very small lapse rate, surface to 4 km. Very steep lapse rate in stratosphere for short distance at 14 km. Clear sky previously, some St. Cu. developed at between 1 and 2 km. ht. at time of start. <i>Pressure Distribution.</i> Steady condition, with a "low" off Spain and a "high" over Scandinavia.	282	74%
Oct. 18	415	Small inversion at 2.43 km. Weather "bc" with St. Cu. <i>Pressure Distribution.</i> Same as on Oct. 17.	281	72%
Oct. 28	416	Pronounced inversion at surface. Small inversion at 3.05 km. Weather "b" with some Fr. Cu. Shower and squall at 15 h., fine after. <i>Pressure Distribution.</i> A "low" developing off N. Spain and remaining about stationary. "High" in Iceland region.	274	87%
Nov. 16	418	Very pronounced inversion at 0.54 km. both in Hampshire and Oxon. Double inversion in Stratosphere with steep lapse rate between them. Thick fog all day with very high steady pressure. Fog cleared at about time of ascent, showing half clouded sky. <i>Pressure Distribution.</i> A steady "high" over British Isles.	277	100%
Nov. 25	419	Pronounced inversion at surface. Another smaller pair at 1.14 and 1.89 km. Calm "bx." <i>Pressure Distribution.</i> A large "high" over S.W. England and Ireland. "Low" in Scandinavian region.	270	
Dec. 20	420	Probable inversion below 1 km. Slight inversion at 1.6 km. Very small lapse rate, surface to 2 km. Trough line of secondary passed at about 9 h. with wind shift S. to W. and temp. drop. <i>Pressure Distribution.</i> —A large "low" S. of Iceland with a secondary moving N.E. across the Midlands.	276	94%

T = Temperature in Degrees Absolute. P = Pressure in millibars. H = Height in kilometres above M.S.L.

No.	388.	389.	390.	391.	392.	394.	396.	399.	400.	402.	404.	405.
Date.	Jan. 17.	Jan. 18.	Jan. 18.	Feb. 10.	April 6.	May 11.	May 17.	May 18.	July 22.	Sept. 7.	Sept. 11.	Sept. 12.

482. Benson. HEIGHTS AND TEMPERATURES CORRESPONDING WITH ISOBARIC SURFACES. 1922.

Pressure.	H.		T.		H.		T.		H.		T.		H.		T.		H.		T.		H.		T.		
	km.	a.	km.	a.	km.	a.	km.	a.	km.	a.	km.	a.	km.	a.	km.	a.	km.	a.	km.	a.	km.	a.	km.	a.	
100	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
200	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
300	9.30	24	...	9.06	24	8.98	25	9.16	27	9.26	33	9.36	28	9.17	29	9.11	23	9.11	23
400	...	...	...	...	...	...	7.34	40	6.90	35	7.11	40	7.04	37	7.20	43	7.25	47	7.37	45	7.19	44	7.13	45
500	5.19	36	...	...	...	...	5.74	49	5.35	43	5.51	52	5.45	50	5.59	54	5.60	57	5.74	57	5.56	54	5.50	53
600	3.91	46	...	...	...	...	4.36	62	4.04	50	4.14	60	4.10	59	4.21	62	4.21	65	4.35	67	4.19	62	4.13	63
700	2.78	55	2.87	61	2.84	59	3.16	71	2.90	56	2.96	67	2.92	67	3.01	69	3.00	71	3.14	73	3.00	69	2.94	69	
800	1.77	61	1.84	68	1.80	66	2.08	79	1.89	63	1.92	72	1.86	72	1.95	74	1.93	77	2.07	75	1.94	72	1.88	73	
900	0.86	67	0.90	71	0.88	70	1.11	84	0.96	73	0.97	77	0.92	79	1.01	79	0.97	83	1.11	83	1.00	79	0.93	81	
1000	...	...	0.06	73	...	...	0.25	79	...	...	0.11	81	...	...	0.14	87	0.08	90	0.23	89	0.14	87	0.06	83

483. Benson. PRESSURES AND TEMPERATURES AT GIVEN HEIGHTS. 1922.

Heights.	P.		T.		P.		T.		P.		T.		P.		T.		P.		T.		P.		T.	
	mb.	a.	mb.	a.	mb.	a.	mb.	a.	mb.	a.	mb.	a.	mb.	a.	mb.	a.	mb.	a.	mb.	a.	mb.	a.	mb.	a.
18.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9.0	...	...	...	...	...	...	312	27	...	...	303	25	299	24	308	27	312	34	317	31	308	30	306	31
8.0	...	...	...	...	...	...	362	34	...	...	352	33	348	29	357	35	360	41	366	39	357	38	354	39
7.0	...	...	...	...	...	...	418	43	...	...	407	41	403	37	411	43	414	49	421	47	411	45	407	45
6.0	443	30	...	...	...	...	480	48	...	...	456	38	468	48	464	46	472	51	474	56	483	55	471	51
5.0	514	37	...	...	...	...	550	55	...	...	526	45	535	55	532	53	541	57	541	61	551	62	539	57
4.0	593	45	...	...	...	...	628	65	...	...	604	50	611	61	608	59	617	63	616	66	627	69	616	63
3.0	680	52	688	60	684	58	713	72	691	55	697	67	693	65	701	69	700	71	712	73	700	69	694	69
2.5	726	57	735	63	730	61	760	75	739	59	742	69	738	69	747	71	745	73	758	73	746	71	740	73
2.0	776	59	784	67	780	65	808	79	789	63	791	72	786	71	795	73	794	77	806	75	795	71	788	73
1.5	829	63	835	70	831	68	859	82	841	67	842	74	837	74	846	74	844	79	858	79	845	75	838	76
1.0	885	66	890	71	886	69	912	85	896	73	896	77	891	79	901	78	896	83	912	83	900	79	891	80
0.5	942	70	947	74	944	73	970	81	954	77	953	81	947	82	957	82	952	87	968	89	956	83	948	83
G.L. 0.06	996	75	1000	72	997	77	1023	77	1007	79	1006	81	999	86	1010	87	1003	91	1020	89	1009	87	1000	83

Note.—The temperatures are derived from the original tabulations which are generally made to the nearest half-degree and are shown to the nearest whole degree.

484. Benson. LAPSE RATE OF TEMPERATURE BETWEEN GIVEN HEIGHTS. Degrees absolute per kilometre. 1922.

Kilometres.	...		...		...		...		...		...		...		...		...		...		...
17 to 18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16 to 17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15 to 16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14 to 15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13 to 14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12 to 13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11 to 12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10 to 11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9 to 10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8 to 9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7 to 8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6 to 7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5 to 6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4 to 5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3 to 4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2.5 to 3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2 to 2.5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1.5 to 2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1 to 1.5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
0.5 to 1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
0.06 to 0.5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Note.—The lapse rates are derived from the original tabulations which are generally made to the nearest half-degree and are shown to the nearest whole degree. * Probably due to the screen temperature being higher than the air outside, very likely under conditions prevailing at the time.

T=Temperature in Degrees Absolute. P=Pressure in millibars. H=Height in kilometres above M.S.L.

No.	406.		407.		408.		410.		412.		413.		414.		415.		416.		418.		419.		420.	
Date.	Sept. 13.		Sept. 14.		Sept. 15.		Sept. 16.		Oct. 5.		Oct. 11.		Oct. 17.		Oct. 18.		Oct. 28.		Nov. 16.		Nov. 25.		Dec. 20.	

482. Benson. HEIGHTS AND TEMPERATURES CORRESPONDING WITH ISOBARIC SURFACES—continued. 1922.

Pressure.	H.		H.		H.		H.		H.		H.		H.		H.		H.		H.		H.		H.	
Millibars.	km.	a.	km.	a.	km.	a.	km.	a.	km.	a.	km.	a.	km.	a.	km.	a.	km.	a.	km.	a.	km.	a.	km.	a.
100	...	...	16.23	27	...	...	16.48	23	16.18	20	...	...	...	...	16.20	19	...	...	16.24	09	...	...	...	...
200	...	...	11.59	31	11.67	25	12.00	19	11.66	26	...	...	11.82	13	11.73	25	...	...	12.00	11	11.66	05	11.38	27
300	8.84	27	8.85	28	9.04	23	9.34	34	8.99	23	9.00	25	9.24	27	9.06	24	8.95	28	9.40	25	9.12	23	8.73	21
400	6.86	40	6.91	37	7.09	40	7.31	48	7.06	36	7.07	37	7.27	44	7.13	38	7.00	36	7.44	41	7.19	37	6.81	36
500	5.27	50	5.32	51	5.50	51	5.65	58	5.48	49	5.49	49	5.64	57	5.53	50	5.43	45	5.83	55	5.60	49	5.22	50
600	3.91	61	3.96	61	4.13	61	4.26	67	4.12	59	4.15	59	4.25	67	4.18	57	4.10	55	4.45	65	4.27	57	3.86	61
700	2.73	67	2.77	68	2.94	67	3.04	73	2.94	67	2.98	62	3.03	72	3.01	65	2.94	58	3.24	73	3.10	64	2.65	71
800	1.67	73	1.72	73	1.88	74	1.97	76	1.88	73	1.93	70	1.96	77	1.96	70	1.92	62	2.16	77	2.05	69	1.59	73
900	.72	80	.77	81	.94	78	1.03	76	.94	79	.99	77	1.01	77	1.12	74	1.01	70	1.20	82	1.13	69	.65	?
1000	...	...	...	...	.07	84	.17	79	.07	84	.13	83	.15	81	.17	81	.16	77?	.34	77	.30	73	...	...

483. Benson. PRESSURES AND TEMPERATURES AT GIVEN HEIGHTS—continued. 1922.

Heights.	P.		P.		P.		P.		P.		P.		P.		P.		P.		P.		P.		P.	
Kilometres.	mb.	a.	mb.	a.	mb.	a.	mb.	a.	mb.	a.	mb.	a.	mb.	a.	mb.	a.	mb.	a.	mb.	a.	mb.	a.	mb.	a.
18.0	...	...	...	...	...	...	79	27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17.0	...	...	89	27	...	...	92	25	...	...	...	...	...	...	...	...	...	...	88	10	...	...	...	...
16.0	...	...	104	27	...	...	108	23	103	20	...	...	...	...	103	19	...	...	104	9	...	...	...	...
15.0	...	...	121	27	...	...	126	21	120	21	...	...	...	...	121	19	...	...	123	9	...	...	...	...
14.0	...	...	140	29	...	...	147	20	140	22	...	...	141	12	141	19	...	...	144	10	...	...	...	...
13.0	...	...	163	29	...	...	172	20	163	23	...	...	166	13	165	21	...	...	170	13	...	...	...	...
12.0	...	...	189	31	190	25	200	19	190	25	...	...	194	13	192	23	...	...	200	11	189	5	182	25
11.0	...	...	219	32	221	24	234	21	221	27	...	...	228	15	224	25	...	...	234	15	223	9	212	25
10.0	252	29	253	31	258	19	272	29	257	27	258	20	267	21	260	25	...	...	274	21	262	16	247	23
9.0	293	25	294	28	302	23	315	35	299	23	300	25	311	29	303	24	298	28	319	29	306	24	288	20
8.0	340	33	342	29	350	32	363	43	348	29	350	31	360	37	352	31	346	31	369	37	355	33	335	26
7.0	393	39	396	37	405	41	417	49	404	36	404	37	415	45	407	39	400	36	426	45	411	39	389	34
6.0	452	45	455	45	466	47	478	57	465	45	466	44	476	54	469	46	462	41	488	53	473	46	449	43
5.0	519	52	522	53	534	54	545	61	534	53	535	51	544	61	537	52	531	49	558	61	544	51	516	52
4.0	593	59	597	61	610	61	620	69	610	61	612	59	620	68	615	58	608	55	635	69	621	59	590	60
3.0	676	66	680	67	694	67	704	73	694	67	697	61	703	72	701	65	694	57	721	74	709	65	670	68
2.5	720	69	725	68	740	69	750	75	740	69	744	65	742	74	747	67	741	59	767	75	756	67	714	72
2.0	767	72	772	71	788	73	797	76	788	72	793	69	796	77	797	69	792	62	816	78	805	69	760	73
1.5	817	73	823	75	839	75	848	77	839	75	845	72	847	77	849	71	845	65	867	81	858	70	810	73
1.0	869	77	875	79	893	77	903	77	893	79	899	76	901	77	904	74	901	70	923	83	915	69	861	76
0.5	925	80	930	83	949	81	960	80	949	82	956	81	958	79	961	79	959	75	980	78	975	73	917	?
G.L. 0.06	976	82	981	81	1001	84	1014	79	1001	85	1009	78	1010	82	1014	81	1013	74	1036	77	1030	70	975	?

Note.—The temperatures are derived from the original tabulations which are generally made to the nearest half-degree and are shown to the nearest whole degree.

484. Benson. LAPSE RATE OF TEMPERATURE BETWEEN GIVEN HEIGHTS—continued. 1922.
Degrees absolute per kilometre.

17 to 18	...	...	...	-2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16 to 17	...	0	...	-3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	-1	...	...	...	...	...
15 to 16	...	0	...	-1	...	...	...	...	1	...	...	...	...	...	0	...	...	...	0	...	...	...	...	...
14 to 15	...	2	...	-1	...	...	...	...	1	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...
13 to 14	...	0	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	3	...	...	...	...	...
12 to 13	...	2	...	-1	...	...	...	...	2	...	...	...	...	...	-1	...	...	...	-1	...	...	...	...	...
11 to 12	...	1	...	-1	...	...	...	...	3	...	...	...	...	...	2	...	...	...	1	...	...	...	...	...
10 to 11	...	-1	...	-5	...	...	...	...	7	...	...	...	...	...	6	...	...	...	0	...	...	...	...	-1
9 to 10	-3	-3	...	4	...	...	...	...	7	...	...	...	...	5	...	...	...	...	-1	...	...	...	...	-3
8 to 9	7	1	...	9	...	...	...	...	7	...	...	...	...	5	...	...	...	...	8	...	...	...	...	6
7 to 8	7	8	...	9	...	...	...	...	6	...	...	...	...	7	...	...	...	...	8	...	...	...	...	8
6 to 7	5	9	...	6	...	...	...	...	7	...	...	...	...	9	...	...	...	...	7	...	...	...	...	9
5 to 6	7	7	...	7	...	...	...	...	7	...	...	...	...	7	...	...	...	...	6	...	...	...	...	9
4 to 5	7	7	...	7	...	...	...	...	8	...	...	...	...	8	...	...	...	...	7	...	...	...	...	8
3 to 4	7	7	...	6	...	...	...	...	5	...	...	...	...	7	...	...	...	...	2	...	...	...	...	8
2.5 to 3	6	2	...	3	...	...	...	...	3	...	...	...	...	4	...	...	...	...	3	...	...	...	...	8
2 to 2.5	6	6	...	9	...	...	...	...	2	...	...	...	...	6	...	...	...	...	5	...	...	...	...	3
1.5 to 2	3	8	...	4	...	...	...	...	2	...	...	...	...	6	...	...	...	...	5	...	...	...	...	-1
1 to 1.5	8	7	...	5	...	...	...	...	7	...	...	...	...	8	...	...	...	...	7	...	...	...	...	6
0.5 to 1	5	8	...	7	...	...	...	...	7	...	...	...	...	9	...	...	...	...	-9	...	...	...	...	?
0.06 to 0.5	5	-3	...	7	...	...	...	...	-2	...	...	...	...	7	...	...	...	...	-2	...	...	...	...	?

Note.—The lapse rates are derived from the original tabulations which are generally made to the nearest half-degree and are shown to the nearest whole degree.