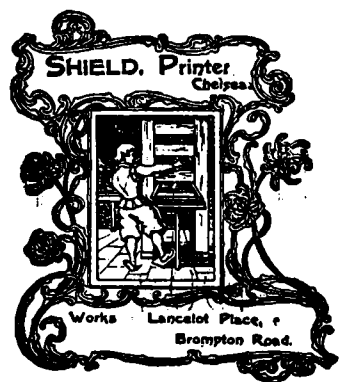
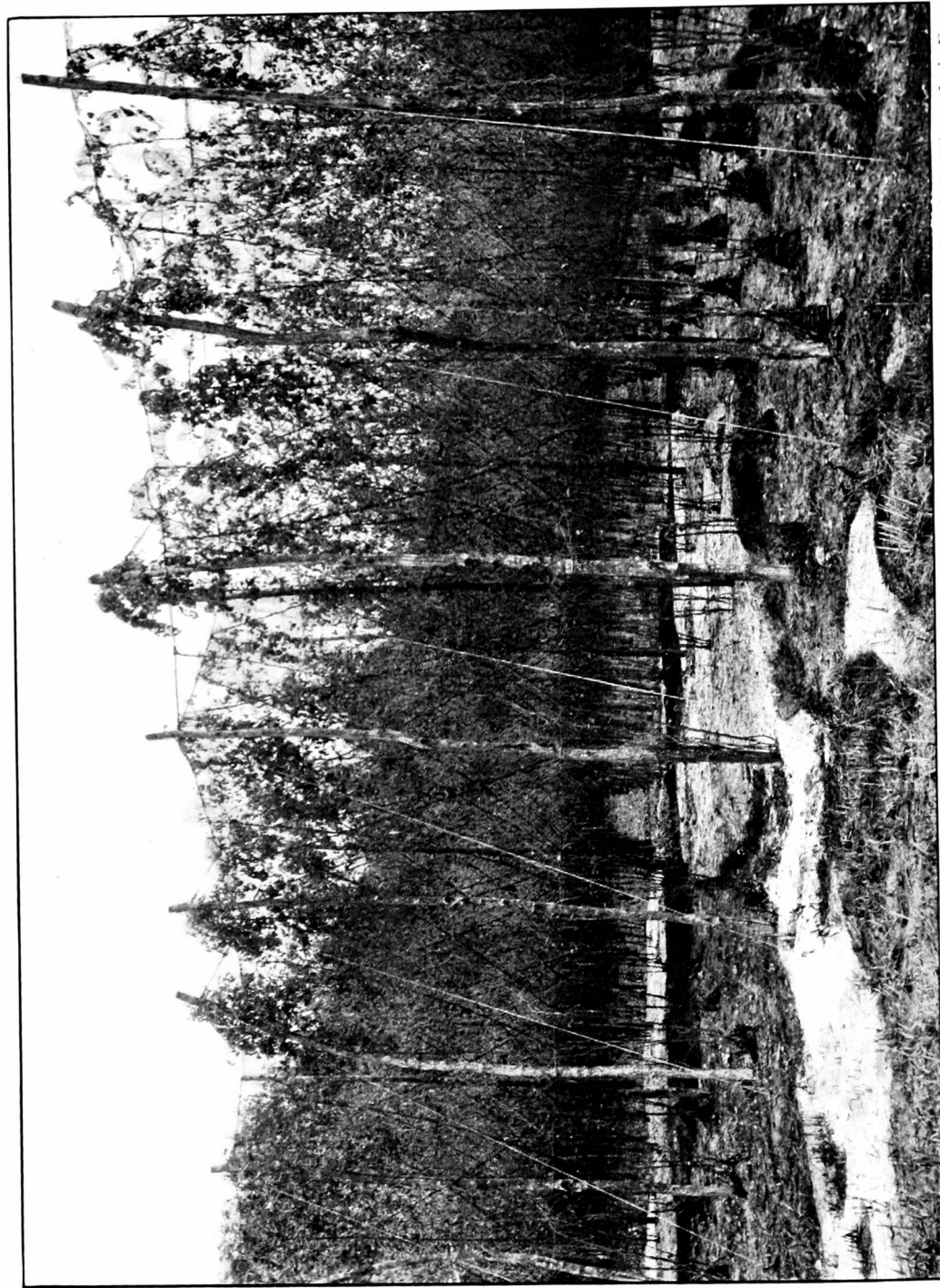


**BRITISH RAINFALL,  
1902.**





EFFECTS OF THE MAIDSTONE HAILSTORM OF SEPTEMBER 10TH. 1902.



*Photograph by De Ath and Dunk, Maidstone.*

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BRITISH RAINFALL, 1902.

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ON  
THE DISTRIBUTION OF RAIN  
OVER THE  
BRITISH ISLES,  
DURING THE YEAR  
1902,

AS OBSERVED AT ABOUT 3500 STATIONS IN  
GREAT BRITAIN AND IRELAND,

WITH ARTICLES UPON VARIOUS BRANCHES OF RAINFALL WORK.

COMPILED BY  
H. SOWERBY WALLIS,  
AND  
HUGH ROBERT MILL,  
D.Sc., LL.D.

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LONDON:  
EDWARD STANFORD, 12, 13 & 14, LONG ACRE, W.C.  
1903.

### ERRATA IN BRITISH RAINFALL, 1901.

- Page 60. Delete last line.
- „ [79]. Line 32—Tavistock, Whitchurch. *For* April 7th *read* April 2nd.
- „ [169]. Lea Bridge. Transfer to Essex.
- „ [174]. Sandwich (Word). *For* 17·89 in. *read* 18·07 in.
- „ [211]. Haslingden (Calf Hey). *For* 38·30 in. *read* 41·93 in. ; the former value is the average of two records.
- „ [211]. Worthdale (Watersheddles). Gauge defective ; delete the record.
- „ [216]. Oakworth (Oldfield). Gauge defective ; delete the record.
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### ERRATUM IN BRITISH RAINFALL, 1902.

- Page [167]. Lea Bridge. Transfer to Essex.
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## P R E F A C E.

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WE have succeeded in fulfilling the desire expressed in the prefaces to the last two issues of *British Rainfall* to return to July as the month of publication, and the final letter-press goes to the printer earlier this year than that of any other volume since *British Rainfall*, 1888. Reference to that year will show that the number of rainfall stations has increased by 40 per cent. during the intervening fifteen years. Owing to the greatly augmented public interest in subjects Meteorological and to the vastly greater number of records printed in publications of all sorts, from the Transactions of Learned Societies to Parish Magazines, this increase of nearly one-half in the number of stations represents at least an equal increase in the labour of tabulation and discussion.

That the general interest in the record of a year's rainfall must to some extent wane even in the six months necessary for its preparation is inevitable, but we see no possibility of greater expedition, and we believe that no other work of similar character and magnitude is issued so promptly.

The constant and uninterrupted care essential throughout the whole course of preparation—if the work is to maintain the high standard of accuracy after which we have always striven—has shown that the time has now arrived when I must resign the active editorship to the able hands of DR. MILL, for the increasing frequency of interruptions due to illness would result in either serious delay or dangerous lapses of supervision.

DR. MILL has for nearly three years been intimately associated with me in the work and is thoroughly conversant with every detail

of the Organization, and I hand over to him the control with full confidence of its continued growth and success.

I cannot let pass this last opportunity of putting on record my high appreciation of the public spirit displayed by the Observers in maintaining this national work, and of expressing my hearty thanks for their courtesy and consideration to me personally during more than thirty years even under circumstances in which I have had to undertake the ungracious task of criticising their returns.

H. SOWERBY WALLIS.

62, CAMDEN SQUARE, LONDON, N.W.

*June 27th, 1903.*

## R E P O R T.

---

**General Work.**—We do not purpose dealing at all fully with this subject, but would refer readers to recent issues, especially the 1900 volume, where considerable space was devoted to it. All checks which the experience of forty years has proved to be useful and practicable have been applied to the records, and much correspondence with observers has resulted, we are happy to say, in many cases without yielding any evidence of inaccuracy, so that some amounts which appear curiously at variance with neighbouring stations may be accepted without hesitation. In reading the proofs, again, no pains have been spared; for example, the general tables, before final printing off, have been read four times against the original returns, and where records appear in more than one part of the volume, the different parts have been read against each other as well as against the returns. The tables of monthly rainfall have been not only read with the returns but have been checked by casting the printed figures, to make sure that the monthly values added to the correct total for the year. In the General Tables there is this year, perhaps, an unusual number of entries printed in italics. These records are not absolutely perfect, but the defect is so slight as not to justify omitting them and thereby breaking a record which perhaps extends over many years. In two cases the gauges were blown over and one day's rain had to be computed; in another, owing to illness, the gauge was not read on January 1st, and the fall for part of the months of December and January had to be apportioned by comparison with other records. These and similar trivial defects are indicated by the different type.

**Additional Observers.**—In spite of the appearance on every one of the small summary forms of the request that correspondents will send us the name of any fresh observers known to them, we are constantly met by the supposition that additional records are not desired except in remote districts. In such regions, it is true, they

are doubly valuable, but there is no part of the British Isles where useful information would not be yielded by an increased number of stations, to say nothing of the security against important places becoming unrepresented owing to interruption of existing records. The number of returns printed this year shows a very marked increase, as is usually the case after a year of abnormal rainfall; and we are happy to say that these waves of increase have not in the past been followed by a falling off. If those authorities who believe in the applicability of the Brückner, or any other, cycle to the British Isles will continue to discuss it, whether it prove a true or a false guide in forecasting, it will, as is so often the case, result in indirect benefit by stimulating the general interest in Meteorology and tending to augment the ranks of observers.

**Rules.—Date of Entry.—Rainy Days.**—We are always happy to send a copy of Rules to observers, and hope that any not having one for reference will send us a post card asking for a copy. Rule IX. is perhaps more frequently neglected than any other, and we again reprint it and would strenuously urge its invariable observance.

IX.—DATE OF ENTRY.—The amount measured at 9 a.m. on any day is to be set against the previous one; because the amount registered at 9 a.m. of, say, 17th contains the fall during 15 hours of the 16th, and only 9 hours of the 17th.

The last column of the General Tables is one in which we feel less satisfaction than in any other part of the work. The blanks are far too numerous and we almost feel that some of the figures printed would be more honoured by their absence. It seems impossible to persuade observers that their number of rainy days cannot be correct unless they rigidly observe the rule to examine their gauges every morning, *even when they know that it has not rained*. The discussion of rainy days in the present volume has much interested us, and we hope that it will stimulate observers to greater care in the matter.

**Rainfall of Snowdonia.**—Mr. Gethin Jones is continuing his Herculean task of recording the rainfall of the eastern slopes of Snowdon, but unfortunately, owing to ill-health, he was unable to visit some of the more remote gauges in the depth of last winter and the gauges overflowed. We are, however, indebted to him for six highly important returns.



**Self-Recording Gauges.**—A new self-recording rain gauge, at moderate cost, has recently been placed on the market by Mr. Halliwell, of Southport, of which many observers speak very highly. We are at present trying one and hope to give further details in a subsequent volume. It records on a drum turning once a week, and the scale is 5 inches for each inch of rain and 2 inches for each 24 hours. It is also made with the drum to revolve in 24 hours.

**Desiderata.**—We live in a continuous struggle between the desire to attack additional problems and to issue *British Rainfall* at an earlier date, and until we and our assistants can work twenty-four hours a day all the year round we must leave much undone that is desirable. Two problems are ever weighing upon us—(1). The treatment of the records seasonally, so as to illustrate more clearly their bearing upon, and relation to, agriculture; and (2) The determination of the fluctuation of annual rainfall for as long a period as possible. Most of our readers are familiar with the long diagram giving the rainfall from 1725 onwards, which appeared from time to time in *British Rainfall* until 1891. At that time a serious error was detected in one of the most important of the oldest long records, the result of which was to still further lower the abnormally low values from 1740 to 1760, and we have wished to make an exhaustive redetermination of the values. It would entail much labour in piecing together short records, and with much doubt as to the final value, we have hesitated to devote to it time that could be ill spared.

**Finance.**—As regards finance we will say little more than that we are satisfied the Organization will not languish so long as it deserves to succeed.

The subscriptions show a slight increase (up to date of writing) over last year, but the old friends of the Organization pass to their rest, and it necessarily takes time for the newer ones to become sufficiently interested to contribute towards the cost of supplying their less wealthy associates with the reprint of the General Tables, which form the essential part of the volume.

The work increases more rapidly than the income, and there are many hopeful problems which cannot be attacked for want of funds, but we highly appreciate the assistance received, and heartily thank our friends for enabling us to lay before the nation a volume of which we feel none of our correspondents need be ashamed.

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## ON THE RAINFALL AT CAMDEN SQUARE FOR THE 45 YEARS, 1858 TO 1902.

By H. SOWERBY WALLIS.

WITH the completion of the year 1902, the rainfall record at Camden Square extends over 45 years, a period long enough to justify a somewhat full discussion of the results.

Table I. gives in the first two columns the total rainfall for each year and the number of rainy days, and in the last two columns the percentage that each of these values is of the average for the whole period. From it the following items call for special mention:—

	Rainfall.		Rainy days.	
	Inches.	Per cent. of av.	No.	Per cent. of av.
Average 45 years.....	24·99	100	160·5	100
Wettest year 1878 .....	34·08	136	172	107
„ 2 years, 1878-9 ...	33·95	136	176·5	110
„ 3 „ 1878-80 ...	32·73	131	170	106
„ 5 „ 1877-81 ...	30·85	123	172	107
„ 10 „ 1872-81 ...	28·42	114	174	108
Driest year, 1864 .....	16·93	68	110	69
„ 2 years, 1863-4 .....	19·26	77	121	75
„ 3 „ 1897-99 .....	21·03	84	149	93
„ 5 „ 1898-02 .....	21·30	85	150	93
„ 10 „ 1893-02 .....	22·21	89	154	96

Thus we see that the wettest year had rather more than twice as much rain as the driest. That in the two wettest years nearly two and three-quarter years' rain fell, and in the three wettest years nearly four years' rain fell. In the driest two years little more than a year and a half's rain fell, while the deficiency in the three driest years was also little more than half a year's rain. The wettest five years had 47·75 in. more rain than the driest five, and the wettest ten years had 62·11 in. more rain than the driest ten.

Another point that strikes us in this table is the disproportion between the amount of rainfall and the number of rainy days. Thus in the wettest year the rain exceeded the average by 36 per cent.,

but the rainy days by only seven per cent. The most notable instances of this disproportion are:—

1878,	rainfall	136	per cent. of the average ;	rainy days	107	per cent.
1874,	„	75	„ „ „ „ „ „	„	102	„
1880,	„	121	„ „ „ „ „ „	„	98	„
1879,	„	135	„ „ „ „ „ „	„	113	„
1902,	„	83	„ „ „ „ „ „	„	101	„
1881,	„	112	„ „ „ „ „ „	„	95	„
1898,	„	71	„ „ „ „ „ „	„	87	„

Here we have both wet years with a relatively small number of rainy days, and dry years with a relatively large number. If we take the average of the ten wettest (not consecutive) years the rainfall shows an average excess of 24 per cent., but the rainy days of only 13 per cent. ; similarly the ten driest (not consecutive) years show an average deficiency of 22 per cent. and the rainy days of only 11 per cent.

The greatest number of rainy days was 204 in 1872 and 1860, and these are the only years with rain on as many as 200 days, while the smallest numbers are 107 in 1858 and 110 in 1864 ; no other year had as few as 125 wet days. The number of rainy days ranges from 67 per cent. of the average to 127 per cent., or rather less than the total fall, which varies from 68 per cent. to 136 per cent., the lower limit being practically the same in both cases but the maximum 9 per cent. higher in the case of the rainfall.

Out of the 45 years

3	had a rainfall more than 30	per cent. above the average.
3	„ „ between 20 and 30	„ „ „
9	„ „ „ 10 and 20	„ „ „
8	„ „ „ „ and „	„ below „
5	„ „ „ 20 and 30	„ „ „
1	„ „ more than 30	„ „ „

while 16, or roughly one-third, had a fall within ten per cent. of the average.

An important question that arises is how far these values may be accepted as representing the true averages for an indefinitely long period. We know that the fall has been generally deficient for nearly 20 years, but that prior to that there was a long series of wet years and, still earlier, 1872 the most uniformly excessively wet year in the annals of British Rainfall. There is therefore some justification for assuming that these inequalities equalize each other in the 45 years under discussion.

While considering this question we will deal with the fall in the

different months (see Table II.) as well as with the total in the year.

The late George Dines—than whom there was never a more reliable authority—from an exhaustive discussion of all the available records determined the mean rainfall of London for the 60 years 1813 to 1872\*, and we have a satisfactory and continuous record for Greenwich for the 60 years 1840 to 1899. From these we may take for comparison the four following sets of figures :—

	45 years. Camden Square, 1858-1902.	90 years. 45 years Dines, 1813-1857, 45 years Camden, 1858-1902.	60 years, Dines, 1813-1872.	60 years. Greenwich, 1840-1899.
January .....	1·96	1·87	1·91	1·97
February .....	1·64	1·58	1·50	1·48
March .....	1·67	1·56	1·52	1·48
April .....	1·63	1·67	1·66	1·58
May .....	1·88	1·96	2·07	1·93
June.....	2·19	2·04	2·01	1·94
July .....	2·36	2·39	2·32	2·48
August.....	2·35	2·31	2·27	2·34
September .....	2·27	2·29	2·35	2·21
October .....	2·64	2·72	2·74	2·84
November .....	2·27	2·33	2·28	2·28
December .....	2·13	2·00	1·93	1·82
Year.....	24·99	24·72	24·56	24·35

The first fact that strikes us from this is that the 45 years at Camden Square gives a mean annual fall 0·43 in. greater than Dines's mean and 0·64 in. greater than the 60 years at Greenwich ; but inasmuch as Camden Square is in the vicinity of the northern heights of London, we should naturally expect a somewhat greater fall.

In his exhaustive discussion of the fluctuation of rainfall based on records in all parts of the world,† Sir A. Binnie shows that the mean of any period of 35 years will not vary more than  $1\frac{3}{4}$  per cent. from the true mean, and if we prolong his curve for another ten years we have for 45 years practically one per cent. + or — as the extreme limit of error of the mean of that period. These values are fully substantiated as regards England in various articles by the late G. J. Symons in the 39 volumes of *British Rainfall* which he edited. We are, therefore, justified in accepting 25 inches as the True Mean Annual Fall of rain at Camden Square.

Turning now to the distribution of the fall throughout the months

\* See *Quarterly Weather Report*, July to September, 1873.

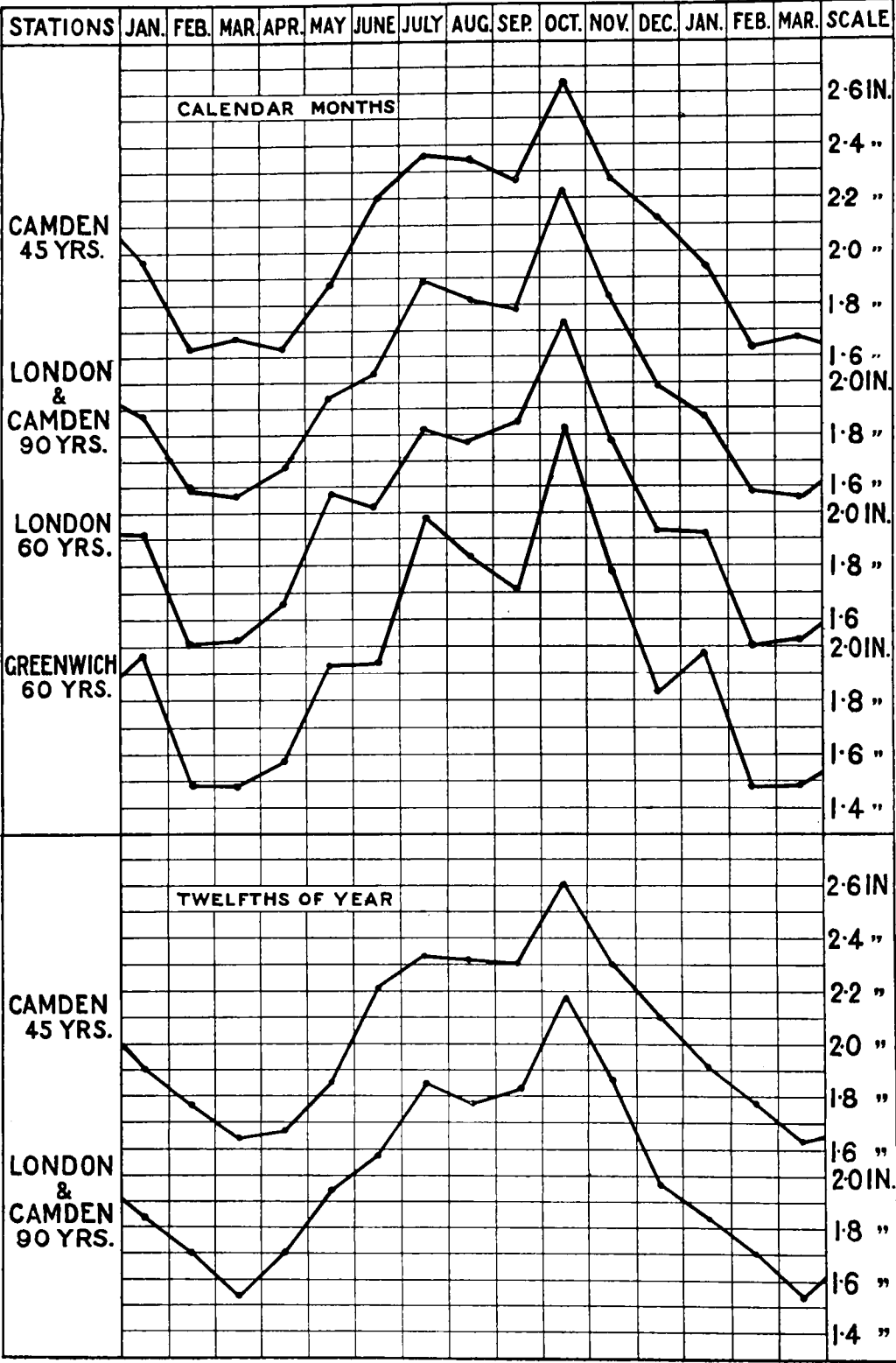
† Minutes of Proceedings Inst. C.E., Vol. CIX., Part III.





# MONTHLY RAINFALL AT CAMDEN, LONDON & GREENWICH

for Various Periods from 45Years to 90 Years.



of the year, we see that there is considerable variation in the different columns, which may perhaps be best exhibited by setting them out in the order of wetness, placing the mean for the 90 consecutive years, 1813-1902, first as being most reliable.

	90 years, 1813-1902, Dines and Camden.	60 years, 1840-1899, Greenwich.	60 years, 1813-1872, Dines.	45 years, 1858-1902, Camden.	No. of instances.
1.	March.	March.	February.	April.	March 2.
2.	February.	February.	March.	February.	February 3.
3.	April.	April.	April.	March.	April 3.
4.	January.	December.	January.	May.	January 2.
5.	May.	May.	December.	January.	May 2.
6.	December.	June.	June.	December.	June 2. Dec. 2.
7.	June.	January.	May.	June.	June 2.
8.	September.	September.	August.	November.	September 2.
9.	August.	November.	November.	September.	November 2.
10.	November.	August.	July.	August.	August 2.
11.	July.	July.	September.	July.	July 3.
12.	October.	October.	October.	October.	October 4.

This shows clearly that October is the wettest month of the year, but that even 60 years is not long enough to determine the relative wetness of the different months. Whether 90 years is long enough is left doubtful. These values can be more easily grasped in the form of a diagram, and we think that the first point that will strike our readers is the great difference between the curves; bearing in mind the fact that the shortest period represented is 45 years. See, for instance, the rise in May in the London (Dines) curve for 60 years and in January in the Greenwich curve for 60 years, both of which practically disappear in the curve for 90 consecutive years obtained by combining the London (Dines) and Camden records. It seems evident from the record for 90 years that what may be called the normal curve is a fairly smooth one, with a minimum in March and a maximum in October, with an excrescence upon it caused by summer thunderstorms in June, July and August which causes a secondary maximum in July. It is a fortunate circumstance that the 45 years over which the Camden record extends yield a curve more accordant with the curve for 90 years than does either of the periods of 60 years, and this we think may be accepted as an indication that throughout the article the Camden values are exceptionally representative of an indefinitely long period.

The curves already referred to are distorted by the varying length of the months in our erratic calendar, and if corrected to the value for equal months (*i.e.*, one-twelfth of the year), the curves become smoother; notably that for Camden, for the record for 90 years still

shows, not only a considerably greater range, but various additional inequalities which might be summed up by saying that all the features are exaggerated. How far this is due to variation between the two places, and how far to variation of the rainfall in the two halves of the period, it would be difficult to say, and we do not purpose going further into it now, as our main object is to show that the Camden values for the period available are sufficiently near to the truth to give a thoroughly sound basis for discussion and are not distorted by any aggregation of exceptional rainfalls.

The order of the wetness of the months (corrected to uniform length) is evidently October first, followed after an appreciable interval by November, July, August and September with no material variation between them; June and December follow next with small steps; then come January and May with probably equal rainfall; and February, April and March complete the year with very little difference between the last named two.

*Average monthly rainfall for 45 years at Camden Square, and 90 years Camden Square and London, corrected to months of equal length.*

	Camden, 45 years.	Camden and London, 90 years.		Camden, 45 years.	Camden and London, 90 years.
January .....	1·92 in.	1·84 in.	July .....	2·32 in.	2·35 in.
February ...	1·77 „	1·70 „	August .....	2·31 „	2·27 „
March.....	1·64 „	1·53 „	September ...	2·31 „	2·32 „
April .....	1·66 „	1·70 „	October .....	2·59 „	2·68 „
May.....	1·85 „	1·93 „	November ...	2·31 „	2·36 „
June .....	2·22 „	2·08 „	December ...	2·09 „	1·96 „

This order is materially altered if number of rainy days be considered as the test of wetness instead of total rainfall, as will be seen by reference to the first section of Table II., where January and December come first, followed by October; while the summer months May, June and July show fewest wet days and practically the same number if corrected to equal length.

In the second section of Table II. is given the wettest of each of the twelve months during the 45 years and the greatest fall on any day in each of the months. June and August have each yielded more than 6·50 in. and October and December more than 6·00 in., July and September more than 5·00 in., while February and March are the only months that have never yielded as much as 4·00 in. June has yielded as much as 3·28 in. on one day and April and July more than 2·50 in. on one day, while February and March again are the only months in which a fall of an inch has never occurred in the

rainfall day. The table also shows that each of the months has at some time had rain on more than 20 days, while September and December show instances of 27 rainy days.

In the third section of Table II. the opposite extremes are set out, and it shows that October and November are the only months in which the fall has never been as little as half an inch. In May it has once fallen considerably below .25 in., while February gives an illustration of a practically rainless month. Eight of the months have yielded at least one instance of as few rainy days as four, while October shows a minimum of seven days and December of eight days. The smallest number in any month of the 45 years is one day in February, 1891. The next smallest number is two in September, and as this month has a maximum of 27 days (equalled only by December and exceeded by no month) it shows the greatest variability in number of rainy days, viz., 25. October, with a range of only 16 days from seven to 23, shows the least variability; showing that October attains its supremacy of wetness by steady, persistent rain rather than by occasional deluges. All the months have passed at some time without having a day on which as much as .20 in. of rain has fallen, while January, February, March and April have all escaped with less than .10 in.

A little space may well be devoted to a consideration of the very wet and very dry months, and we have tabulated all months in which the total rainfall exceeded 5.00 in. or was less than .40 in.

*Months in which the total Rainfall exceeded 5.00 in.\**

Year.	Month.	Rainfall.	Rainy days.	Max. fall.
1860	June	5.47 in.	25	.87 in.
1865	October	6.22 ,,	22	1.05 ,,
1868	December	5.12 ,,	27	.53 ,,
1871	September	5.28 ,,	13	1.22 ,,
1872	October	5.20 ,,	20	1.05 ,,
1876	December	6.25 ,,	23	1.61 ,,
1878	June	6.71 ,,	15	3.28 & 1.13
„	August	6.72 ,,	22	1.41 ,,
1879	„	5.11 ,,	16	.82 ,,
1880	July	5.10 ,,	23	.85 ,,
„	October	5.78 ,,	20	.99 ,,
1896	September	5.51 ,,	22	.73 ,,
1901	July	5.04 ,,	8	2.85 ,,

In the 45 years there were thirteen months in which more than five inches of rain fell. None of them occurred in January, February,

\* Since writing, June, 1903, has yielded another instance, viz. : 6.43 in. on 10 days ; max. fall, 1.48 in.

March, April, May or November ; while there are two instances each in June, July, August, September and December, and three instances in October, emphasizing the wetness of October.

The variable character of these wet months is shown by the fact that in one of them rain fell on only 8 days and in four of them on less than 20 days, while the average number in the thirteen instances is also slightly less than 20. Similarly in six of these wet months out of the thirteen there was no day with as much as an inch of rain and in only one of them was there more than one day with a fall of an inch.

*Months in which the total Rainfall was less than .40 in.*

Year.	Month.	Rainfall.	Rainy days.	Max. fall.
1862 .....	February .....	.31 in. ....	5 .....	.10 in.
1864 .....	December .....	.36 ,, .....	8 .....	.12 ,,
1865 .....	April .....	.33 ,, .....	5 .....	.11 ,,
1874 .....	March .....	.39 ,, .....	12 .....	.08 ,,
1880 .....	January .....	.31 ,, .....	5 .....	.19 ,,
„ .....	May .....	.26 ,, .....	5 .....	.21 ,,
1891 .....	February .....	.01 ,, .....	1 .....	.01 ,,
1893 .....	March .....	.32 ,, .....	6 .....	.13 ,,
„ .....	April .....	.24 ,, .....	3 .....	.20 ,,
1895 .....	February .....	.12 ,, .....	4 .....	.06 ,,
„ .....	May .....	.34 ,, .....	5 .....	.12 ,,
„ .....	June .....	.30 ,, .....	4 .....	.20 ,,
1896 .....	February .....	.30 ,, .....	8 .....	.08 ,,
„ .....	May .....	.14 ,, .....	3 .....	.12 ,,
1898 .....	September .....	.33 ,, .....	4 .....	.20 ,,

In the 45 years there were fifteen months with less than .40 in. of rain, and naturally they are, on the whole, the reverse of the wet months. July, August, October and November show no instances. January, June, September and December each yield one instance ; March and April each two instances ; May three and February four instances, the latter being clearly the result of the shortness of the month.

June, September and December give instances of both extremes, while November yields no instance of either more than 5.00 in. or less than .40 in.

Table III. is an attempt to indicate the relative variability of the different months, and although the period is much too short to give absolute values the results are interesting as an approximation.

In Col. 2 is given the mean rainfall in each of the months, which expressed as a percentage would of course be 100 ; in Col. 5 is given the greatest rainfall in each month of the 12, and in Col. 10 is given

the least rainfall in each month of the 12. Col. 6 shows that in April and June the fall has been as great as three times the average (304 and 307 per cent. respectively). In May, August and December it has risen above 250 per cent., or two-and-a-half times the average, while in November it has barely exceeded twice the average. In Column 11 the opposite extreme is given, and we see that November has fallen only slightly below a quarter of the average, while May has fallen to 7 per cent. and February to 1 per cent. The difference between Columns 6 and 11 shows the extreme percentage-variation of the rainfall of each of the months. The months run :—

June variation	293	per cent.		March	variation	201	per cent.
April	289	„		July	197	„	
December	276	„		November	181	„	

Thus June, April and December are the months of greatest fluctuation in their rainfall, and March, July and November the months of least fluctuation. The remaining columns show the relation of the fall in the wettest day in each month to the total, *e.g.*, col. 4 shows that in July the wettest day will normally yield 32 per cent.—or one-third—of the total, while in January it will yield only 23 per cent.—or one quarter. Col. 8 shows that the greatest fall on record for any day in April and June is one-and-a-half times the average fall for the month, while in February and October the greatest daily fall is only half the average for the month. Col. 9 shows the wettest day in April and July yielded more than half as much as the total for the wettest of those months. Cols. 13 and 14 give similarly the relation of the lowest maximum fall to the average and to the driest month, and cols. 15 and 16 give respectively the relation of the highest max. fall and the lowest max. fall to the average max. fall.

Table IV. illustrates the relation of the rainfall and the number of rainy days in the different months to the average yearly values. It shows that, normally,  $10\frac{1}{2}$  per cent. of the year's rain falls in October,  $9\frac{1}{2}$  per cent. in July and August, 9 per cent. in June, September and November,  $8\frac{1}{2}$  per cent. in December,  $7\frac{1}{2}$  per cent. in January and May, and  $6\frac{1}{2}$  in February, March and April.

In the wettest months the fall in June and August has risen to nearly 27 per cent. of the fall of an average year, and October and December have reached 25 per cent. of an average year's fall, while

February, March and November are the only months in which the fall has never approached one-fifth of the total of an average year. The minimum column shows that any month may yield as little as 2 per cent. of the annual average.

Of the rainy days  $9\frac{1}{2}$  per cent. occur normally in each of the three months, January, October and December, about  $8\frac{1}{2}$  per cent. each in February, March, August and November, and about  $7\frac{1}{2}$  each in the remaining months. In July, August, September and December the rainy days may rise above 16 per cent. of the average number for a year, in January, February, March and June above 15 per cent., and in all the remaining months above 13 per cent. of the total for an average year.

Table IV. also deals with the various other fractions of the year. It shows that in the first six months the normal fall is only 44 per cent. of the year's total, while 56 per cent. falls in the second six months. In the first half-year the amount may rise to 78 per cent. or fall to 22 per cent. of the average annual total. In the summer six months the average fall is 51 per cent. of the average yearly total, and it may rise to 96 per cent. or fall below 28 per cent. In other words in a wet summer six months the rainfall may be within 5 per cent. of a whole year's fall, while in a dry summer it may be little more than a quarter of a year's fall. In the winter six months the average is 49 per cent., but the extremes are both lower than in summer; the wettest six winter months had little more than three-quarters of a year's fall, while the driest had less than a quarter of a year's rain.

The table gives also the fall divided into four quarters of three months and also into seasons of three months. It is unnecessary to go through these seriatim and we will refer only to the more striking values. Each succeeding three months shows an increasing fall:—January—March, 5·27 in.; April—June, 5·70 in.; July—September, 6·98 in.; October—December, 7·04 in.; while the wettest of these three monthly periods has been April to June, with 15·57 in., or nearly two-thirds (62·3 per cent.) of a normal year's fall, and this three months gives also the lowest value, 7·1 per cent. of the annual average.

The normal wetness of the seasons is—

Autumn...	September—November,	7·17 in.,	or 28·7 per cent.	of yearly fall.
Summer...	June—August,	6·90	„ 27·6	„ „
Winter ...	December—February,	5·73	„ 22·9	„ „
Spring ...	March—May,	5·19	„ 20·8	„ „



The wettest season has occurred in the summer three months, with 14·07 in., or more than half (56·3 per cent.) a normal year's fall, while the spring season, March to May, has never had more than 40 per cent. of the yearly fall. This season yields the lowest amount, 1·36 in., or little more than 5 per cent. of the yearly average.

The normal distribution of rainy days in the seasons is—

Summer...	June—August,	37·1	or 23·1	per cent. of the yearly average.
Spring ...	March—May,	38·1	„ 23·7	„ „ „
Autumn...	September—November,	41·5	„ 25·9	„ „ „
Winter ...	December—February,	43·8	„ 27·3	„ „ „

The order of the seasons being precisely what would be expected, but the disparity of number perhaps less than would be generally supposed, but it must be remembered that as a rule each of the winter days yields a larger fall and a longer duration of rain, the large value for summer being the result of torrential rains.

This table also shows very clearly how much greater is the variation of rainfall than of rainy days. For we see that the wettest months (June and August) have had as much as 26·8 per cent. of a year's rain, while the greatest percentage of rainy days is 16·8 for September and December. Again in the fractions of the year the greatest percentage of rain is 95·6 (six summer months), while the greatest percentage of wet days is 71·6 (six winter months). These are by no means isolated instances, for almost every entry shows similarly a greater range of rainfall than of rainy days.

In the 45 years 1124·77 inches (or nearly 94 feet) of rain fell on 7221 days, yielding an average rate of nearly 0·156 in. (0·15576) per rainy day, or of 0·068 in. (0·06844) for every day of the whole period. These rates vary in the different months of the year as follows :—

	Average Rainfall.		Per centage of days rainy.
	Per day.	Per rainy day.	
January .....	·063 in.	·128 in.	49
February .....	·058 „	·124 „	47
March.....	·054 „	·125 „	43
April .....	·055 „	·133 „	41
May .....	·061 „	·152 „	40
June .....	·073 „	·187 „	39
July .....	·076 „	·193 „	39
August .....	·076 „	·178 „	43
September....	·076 „	·182 „	42
October .....	·085 „	·176 „	48
November .....	·076 „	·162 „	47
December .....	·069 „	·139 „	49
Year .....	·068 „	·156 „	44

The first column is practically only another way of expressing the

average monthly rainfall, and it shows the same features—a maximum in October, a minimum at March and April, and general uniformity in the summer. The second column shows that a rainy day yields most in July, followed by June, September, August and October; least in February, followed by March, January, April and December. The third column qualifies this, for it shows that while each rainy day in June and July yields on the average a larger amount, in those months only 39 per cent. of the days are rainy, while in December and January smaller amounts occur on 49 per cent. of the days. In fact, the percentage of rainy days would yield a fairly smooth curve with a minimum in summer and a maximum in winter.

Table V. gives a summary of the amounts which fell on all the 7,221 rainy days, showing on how many of them the fall reached  $\cdot 05$  in.,  $\cdot 10$  in.,  $\cdot 25$  in. and so on, the percentage which these are of the total number of rainy days and the percentage which they are of the 16,435 days in the whole period.

Taking the year first we see that on 36·3 per cent. of the rainy days the fall was less than  $\cdot 05$ , and that on 54·6 per cent. of the days, or more than half, the fall was less than  $\cdot 10$  in., while on less than one per cent. (0·8) of the days did it exceed 1·00 in., and on less than 6 per cent. did it exceed  $\cdot 50$  in. Or turning to the percentage of the whole number of days, there are only 20 per cent. of them on which  $\cdot 10$  in. or more fell, only 8·6 per cent. on which more than  $\cdot 25$  in. fell, and only 2·5 per cent. on which more than  $\cdot 50$  in. fell.

These tables show clearly how the largest amounts preponderate in the summer months, but that the winter months also show a large proportion of falls above  $\cdot 50$  in. We might discuss these tables almost indefinitely, but will leave our readers to examine more fully for themselves the characteristics of the different months.

In the 45 years there have been 59 days on which the fall exceeded 1·00 in., or at the rate of very nearly one-and-a-third such falls per annum. In eleven years no such falls were recorded, and there is one instance of three consecutive years (1896-98) without a fall of 1·00 in.; all the other years are isolated. The groups of years in which 1·00 in. falls occurred, are:—

1859 to 1861	.....	3 consecutive years.
1863 „ 1867	.....	5 „ „
1871 „ 1873	.....	3 „ „
1875 „ 1876	.....	2 „ „
1878 „ 1895	.....	18 „ „

These falls occurred as follows :—

1 instance of 5 in a year.				Total	5
1	„	4	„	„	4
4	„	3	„	„	12
10	„	2	„	„	20
18	„	1	„	„	18

The quantities are .—

Above	3·00 in.	1	Between 1·50 in. and 1·75 in.	6
Between 2·00 in. and 3·00 „	„	2	„ 1·25 „ „ 1·50 „	17
„ 1·75 „ „ 2·00 „	„	2	„ 1·00 „ „ 1·25 „	31

In 1878 occurred 5 falls aggregating 10·09 in., max. 3·28 in. and 2·56 in.  
 „ 1879 „ 4 „ „ 4·98 „ „ 1·49 „  
 „ 1886 „ 3 „ „ 4·27 „ „ 1·82 „  
 „ 1899 „ 3 „ „ 3·68 „ „ 1·36 „  
 „ 1880 „ 3 „ „ 3·64 „ „ 1·33 „  
 „ 1865 „ 3 „ „ 3·18 „ „ 1·12 „  
 „ 1901 „ the only other fall exceeding 2·00 in., viz., 2·85 in.

In the four years 1878 to 1881 occurred 14 falls exceeding an inch and aggregating 20·82 in. In other words, nearly a quarter of the days with inch falls in the 45 years were congregated in these four consecutive years—a circumstance altogether unapproached at any other time.

The distribution throughout the months is as follows :—

Month.	No. of entries.	Average fall.	Maximum fall.	
			Amount.	Year.
January .....	4	1·13 in.	1·20 in.	1866
February .....	0	—	—	—
March .....	0	—	—	—
April .....	2	1·82 in.	2·56 in.	1878
May .....	7	1·24 „	1·71 „	1878
June .....	10	1·40 „	3·28 „	1878
July .....	7	1·63 „	2·85 „	1901
August .....	6	1·40 „	1·71 „	1892
September .....	7	1·37 „	1·66 „	1859
October .....	9	1·11 „	1·35 „	1894
November .....	5	1·22 „	1·42 „	1861
December .....	2	1·72 „	1·82 „	1886
Year .....	59	1·35 „	3·28 „	1878

\* June shows the highest number with the highest max. and an

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\* Since writing June, 1903, has yielded another instance of two consecutive days with more than 1·00 in., viz. : 1·12 in. on 13th and 1·48 in. on 14th, and as 1·14 in. fell on 19th it gives the unprecedented record of a month with three falls exceeding 1·00 in.

average mean. October the next highest number with a low max. and a low mean. Next come July, May and September with the same number, but the first named with much higher max. and mean. April and December both show a high max. but a very small number of entries, while February and March do not yield a single instance. It is notable that 1878 yields the max. in three months, the greatest fall in the whole period and also the greatest fall but two. No wonder it comes out as the wettest year in the record.

\* There is only one instance in the 45 years of two days in succession with more than 1·00 in.—namely, June 5th and 6th, 1884, with 1·47 in. and 1·00 in. respectively.

That there is no tendency for falls exceeding an inch to occur during periods otherwise excessively wet is shown by the following table :—

*Months in which more than one fall of an inch has occurred.*

Year.	Month.	Days.	Fall in the 2 days.	Fall in remaining days.	Relation to average.	Total in month.	No. of rainy days.	Relation to average.
1863	June .....	5th & 18th	in. 2·57	in. 2·29	+	in. 4·86	15	+
1878	„ .....	23rd & 30th	4·41	2·30	+	6·71	15	+
1880	September .....	11th & 14th	2·51	1·53	—	4·04	12	—
1884	June .....	5th & 6th	2·47	0·37	—	2·84	7	—
1886	May .....	12th & 24th	2·45	2·34	+	4·79	19	+
1899	November .....	3rd & 5th	2·66	1·47	—	4·13	10	—

This shows that excluding the days of greatest fall the month was in no case abnormally wet, for in half the instances (three out of six) the number of rainy days was less than the average and in only one was it excessive, while the rainfall for the remaining days is also in three instances less than the average for the month and exceeds it by a very moderate amount in the other cases. May, 1886, is the only exception, for both the number of days and the total fall show large excesses, but curiously enough this is the instance in which the two days with more than an inch yielded the smallest total.

The observations having been made at 9 a.m. and 9 p.m. throughout the whole period, we are able to divide the fall into the day 12 hours and the night 12 hours, with the following result :—

\* See footnote p. 27.

*Camden Square Day and Night Rainfall, 1858-1902.*

Months.	Mean Rainfall.	9 a.m. to 9 p.m.	9 p.m. to 9 a.m.	Percentage of Mean.	
				9 a.m. to 9 p.m.	9 p.m. to 9 a.m.
	in.	in.	in.		
January .....	1·957	·890	1·067	46	54
February .....	1·643	·745	·898	45	55
March .....	1·673	·767	·906	46	54
April .....	1·635	·846	·789	52	48
May .....	1·882	·965	·917	51	49
June .....	2·187	1·227	·960	56	44
July .....	2·358	1·395	·963	59	41
August .....	2·352	1·392	·960	59	41
September .....	2·270	1·110	1·160	49	51
October .....	2·638	1·405	1·233	53	47
November .....	2·268	1·095	1·173	48	52
December .....	2·131	1·039	1·092	49	51
YEAR.....	24·994	12·876	12·118	51·5	48·5

This shows that throughout the year there is a slight excess of rain in the day hours, and this holds good throughout the summer months, but there is a reversal of these conditions in the winter, when the rain is greater at night. The values for the different months are very accordant, excepting October, which shows the summer distribution in opposition to the months on each side of it.

During the 45 years there have been 51 periods of ten or more consecutive rainy days, 19 periods of 11 or more rainy days, 13 periods of 12 or more rainy days, 9 periods of 13 or more rainy days, 8 periods of 14 or more rainy days, 5 of 15 or more rainy days, and 3 of 16 or more rainy days, the longest being—

20 consecutive days, Dec. 23rd, 1876, to Jan. 11th, 1877, with 6·01 in. of rain.  
19       ,,       ,,       Sept. 9th, 1866, ,, Sept. 27th, 1866, ,, 2·34 ,,       ,,

The central date of these rainy periods gives a good indication of the frequency of their occurrence at different times of year, and we find that 9 occurred in January, 8 in December, 7 in October, 5 in August, 4 in September, 3 in February, April, May, June and July, 2 in November, and 1 in March. Here we have, as would naturally be expected, a high frequency in winter, but the large number in August and the small number in November appear remarkable.

During the 45 years there have been 51 periods of absolute

drought of 15 or more days' duration, 20 of 20 or more days' duration, and 5 of 25 or more days' duration, the longest being—

1893	.....	March	18th to April	15th	.....	29 days.
1880	.....	August	9th ,, September	5th	.....	28 ,,
1891	.....	February	8th ,, March	6th	.....	27 ,,

There have been 45 partial droughts of more than 28 days' duration, with not more than .01 in. of rain per day, 12 of 40 or more days, and 5 of 50 or more days, the longest being—

1893	February	28th to May	16th, 78 days, with .73 in. of rain.
1895	April	28th ,, June	30th, 64 ,, ,, .64 ,, ,,
1896	April	5th ,, June	2nd, 59 ,, ,, .59 ,, ,,

These droughts are distributed among the four decades as follows —

	Absolute.	Partial.
1860-69	12	10
1870-79	5	9
1880-89	12	12
1890-99	15	11

Showing an excess in the decade 1890—99, but perhaps not so marked as might have been expected, and also a more considerable deficiency in the 1870—79 decade than the yearly rainfall appears to suggest.

To illustrate the distribution of droughts throughout the year we have tabulated the number of instances in which the central date occurs in each month. Of absolute droughts the maximum number 9 occurs in June, followed by 8 in April, 7 in July, 4 in February, May, August, September and November, 3 in March, 2 in October, and 1 in January and December. The partial droughts show a maximum in July, 7, but a greater aggregation in the early months of the year: 6 in May, 5 in February and March, 4 in April, June and December, 3 in August, 2 in January, September and November, and 1 in October. Again emphasizing the wetness of October.

TABLE I.—*Annual Rainfall at Cumden Square for 45 years, 1858 to 1902.*

Year.	Rainfall.				Year.	Rainfall.			
	Inches.	Days.	Percentage of average.			Inches.	Days.	Percentage of average.	
			Rain.	Days.				Rain.	Days.
1858	18·77	107	75	67	1882	27·14	165	109	103
1859	28·20	165	113	103	1883	24·40	164	98	102
1860	32·24	204	129	127	1884	20·35	150	81	94
1861	22·27	151	89	94	1885	26·64	165	107	103
1862	27·57	173	110	108	1886	27·01	176	108	110
1863	21·59	132	86	82	1887	19·21	140	77	87
1864	16·93	110	68	69	1888	27·74	173	111	108
1865	29·48	164	118	102	1889	23·85	169	95	105
1866	31·60	192	126	120	1890	21·23	161	85	100
1867	26·29	153	105	95	1891	28·15	178	113	111
1868	23·40	142	94	89	1892	22·61	158	90	98
1869	25·42	147	102	92	1893	19·80	148	79	92
1870	21·32	139	85	87	1894	27·94	185	112	115
1871	25·02	158	100	98	1895	21·47	137	86	85
1872	33·86	204	135	127	1896	23·52	159	94	99
1873	22·67	160	91	100	1897	22·86	164	92	102
1874	18·82	164	75	102	1898	17·69	140	71	87
1875	28·44	185	114	115	1899	22·54	144	90	90
1876	26·16	173	105	108	1900	23·28	174	93	108
1877	28·17	195	113	122	1901	22·17	128	89	80
1878	34·08	172	136	107	1902	20·84	162	83	101
1879	33·82	181	135	113	Average	24·99	160·5	100	100
1880	30·28	158	121	98					
1881	27·92	152	112	95					





TABLE III. — *Average and Extreme Monthly Rainfall and Maximum Daily Falls for the 45 years 1858-1902.*

Month.	Average.	Mean Max. Fall per cent. of Average.	Max. Total.	Max. Total per cent. of Average.	Highest Max. Fall in 24 Hours.	Max. Fall in 24 Hours per cent. of Average.	Max. Fall in 24 Hours per cent. of Max. Total	Min. Total per cent. of Average.	Lowest Max. Fall in 24 Hrs. per cent. of Average.	Lowest Max. Fall per cent. of Min. Total.	Highest Max. Fall per cent. of Mean Max. Fall.	Lowest Max. Fall per cent. of Mean Max. Fall.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	in.	in.	Per cent.	in.	Per cent.	in.	Per cent.	Per cent.	in.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Jan.	1.957	.454	23	4.736	242	1.200	61	25	.314	16	.091	5	29	264	20
Feb.	1.643	.412	25	3.995	243	.871	53	22	.010	1	.010	1	100	211	2
March	1.673	.432	26	3.686	220	.952	57	26	.320	19	.080	5	25	220	19
April	1.635	.490	30	4.968	304	2.557	156	51	.241	15	.084	5	35	522	17
May	1.882	.578	31	4.792	255	1.705	91	36	.141	7	.119	6	84	295	21
June	2.187	.686	31	6.710	307	3.278	150	49	.301	14	.195	9	65	478	28
July	2.358	.744	32	5.104	216	2.854	121	56	.452	19	.185	8	41	384	25
Aug.	2.352	.673	29	6.719	286	1.710	73	25	.453	19	.142	6	31	254	21
Sept.	2.270	.671	30	5.512	243	1.655	73	30	.334	15	.166	7	50	247	25
Oct.	2.638	.655	25	6.222	236	1.346	51	22	.560	21	.141	5	25	205	22
Nov.	2.268	.587	26	4.654	205	1.415	62	30	.534	24	.169	7	32	241	29
Dec.	2.131	.548	26	6.253	293	1.820	85	29	.356	17	.118	6	33	332	22
Year	24.994	1.318	5.3	34.083	136	3.278	13	10	16.934	68	.751	3	4	248	6

TABLE IV.

*Rainfall and Rainy Days of the Months and Seasons and their relation to the Average Yearly Rainfall.*

	RAINFALL.			RAINY DAYS.			PERCENTAGE OF YEARLY AVERAGE.					
	Aver.	Max.	Min.	Aver.	Max.	Min.	RAIN.			RAINY DAYS.		
							Aver.	Max.	Min.	Aver.	Max.	Min.
January .....	1·96	4·74	·31	15·3	25	5	7·8	19·0	1·2	9·5	15·6	3·1
February ...	1·64	3·99	·01	13·2	24	1	6·6	16·0	0·0	8·2	15·0	0·6
March .....	1·67	3·69	·32	13·4	25	5	6·7	14·8	1·3	8·4	15·6	3·1
April .....	1·63	4·97	·24	12·3	21	3	6·5	19·9	1·0	7·7	13·1	1·9
May .....	1·88	4·79	·14	12·4	22	3	7·5	19·2	0·6	7·7	13·7	1·9
June .....	2·19	6·71	·30	11·7	25	3	8·8	26·8	1·2	7·3	15·6	1·9
July .....	2·36	5·10	·45	12·2	26	3	9·4	20·4	1·8	7·6	16·2	1·9
August .....	2·35	6·72	·45	13·2	26	4	9·4	26·8	1·8	8·2	16·2	2·5
September ...	2·27	5·51	·33	12·5	27	2	9·1	22·0	1·3	7·8	16·8	1·2
October .....	2·64	6·22	·56	15·0	23	7	10·6	24·9	2·2	9·4	14·3	4·4
November ...	2·27	4·65	·53	14·0	22	4	9·1	18·6	2·1	8·7	13·7	2·5
December ...	2·13	6·25	·36	15·3	27	8	8·5	25·0	1·4	9·5	16·8	5·0
Yearly Average	24·99	24·99	24·99	160·5	160·5	160·5	100	100	100	100	100	100
6 months } Jan.-June	10·97	19·49	5·48	78·3	109	45	43·9	78·0	21·9	48·8	67·9	28·0
6 months } July-Dec.	14·02	20·40	8·48	82·2	110	48	56·1	81·6	33·9	51·2	68·5	29·9
6 months } Apr.-Sept.	12·68	23·89	6·91	74·3	108	44	50·7	95·6	27·6	46·3	67·3	27·4
6 months } Oct.-Mar.	12·31	19·62	5·81	86·2	115	55	49·3	78·5	23·2	53·7	71·6	34·3
3 months } Jan.-Mar.	5·27	9·31	2·48	41·9	62	16	21·1	37·2	9·9	26·1	38·6	10·0
3 months } Apr.-June	5·70	15·57	1·77	36·4	57	16	22·8	62·3	7·1	22·7	35·5	10·0
3 months } July-Sept.	6·98	12·95	2·60	37·9	55	21	27·9	51·8	10·4	23·6	34·3	13·1
3 months } Oct.-Dec.	7·04	13·53	2·38	44·3	63	24	28·2	54·1	9·5	27·6	39·2	15·0
3 months } Dec.-Feb.	5·73	12·77	2·49	43·8	65	24	22·9	51·1	10·0	27·3	40·5	15·0
3 months } Mar.-May	5·19	9·98	1·36	38·1	51	17	20·8	39·9	5·4	23·7	31·8	10·6
3 months } June-Aug.	6·90	14·07	2·91	37·1	63	19	27·6	56·3	11·6	23·1	39·2	11·8
3 months } Sept.-Nov.	7·17	11·67	2·96	41·5	55	28	28·7	46·7	11·8	25·9	34·3	17·

TABLE V.—*Rainy Days in the 45 years 1858–1902 arranged according to the Quantities of Rain.*

Months.	·00-·049	·05-·099	·10-·249	·25-·499	·50-·749	·75-·999	1·00-1·249	1·25-1·499	1·50-2·00	Above 2·00
Jan.	256	133	201	78	10	4	4	0	0	0
Feb.	240	123	139	76	13	4	0	0	0	0
Mar.	231	115	171	64	18	2	0	0	0	0
Apr.	217	112	144	59	19	1	1	0	0	1
May	211	100	139	74	21	5	4	2	1	0
June	157	100	148	77	30	6	7	1	1	1
July	178	86	153	91	19	16	3	2	1	1
Aug.	213	93	155	86	24	18	1	4	1	0
Sept.	189	103	138	86	27	13	3	3	1	0
Oct.	228	132	152	115	30	11	8	1	0	0
Nov.	237	103	147	105	29	6	2	3	0	0
Dec.	264	120	180	87	25	5	0	0	2	0
45 years	2621	1320	1867	998	265	91	33	16	7	3 = 7221
Yearly Mean	58·2	29·3	41·5	22·2	5·9	2·0	0·7	0·4	0·2	0·1 = 160·5

*Percentage of Rainy Days on which various amounts fell.*

No. of Wet Days.	·00-·049	·05-·099	·10-·249	·25-·499	·50-·749	·75-·999	1·00-1·249	1·25-1·499	1·50-1·999	2·00 & above
	%	%	%	%	%	%	%	%	%	%
686	37·3	19·4	29·3	11·4	1·4	0·6	0·6	0·0	0·0	0·0
595	40·3	20·7	23·3	12·8	2·2	0·7	0·0	0·0	0·0	0·0
601	38·4	19·1	28·5	10·7	3·0	0·3	0·0	0·0	0·0	0·0
554	39·2	20·2	26·0	10·6	3·4	0·2	0·2	0·0	0·0	0·2
557	37·9	18·0	24·9	13·3	3·8	0·9	0·7	0·3	0·2	0·0
528	29·8	18·9	28·0	14·6	5·7	1·1	1·3	0·2	0·2	0·2
550	32·4	15·6	27·8	16·5	3·4	2·9	0·6	0·4	0·2	0·2
595	35·8	15·6	26·1	14·4	4·0	3·0	0·2	0·7	0·2	0·0
563	33·6	18·3	24·5	15·3	4·8	2·3	0·5	0·5	0·2	0·0
677	33·7	19·5	22·4	17·0	4·4	1·6	1·2	0·2	0·0	0·0
632	37·4	16·3	23·3	16·6	4·6	1·0	0·3	0·5	0·0	0·0
683	38·6	17·6	26·4	12·7	3·7	0·7	0·0	0·0	0·3	0·0
7221	36·3	18·3	25·8	13·8	3·7	1·3	0·5	0·2	0·1	0·0

*Days on which various amounts of Rain fell expressed as Percentages of the total number of Days in the 45 years.*

No. of Days.	·60-·049	·05-·099	·10-·249	·25-·499	·50-·749	·75-·999	1·00-1·249	1·25-1·499	1·50-1·999	2·00 & above	Rain- less Days.
	%	%	%	%	%	%	%	%	%	%	%
1395	18·4	9·5	14·4	5·6	0·7	0·3	0·3	0·0	0·0	0·0	50·8
1270	18·9	9·7	10·9	6·0	1·0	0·3	0·0	0·0	0·0	0·0	53·2
1395	16·6	8·2	12·3	4·6	1·3	0·1	0·0	0·0	0·0	0·0	56·9
1350	16·0	8·3	10·7	4·3	1·4	0·1	0·1	0·0	0·0	0·1	59·0
1395	15·1	7·2	10·0	5·3	1·5	0·4	0·3	0·1	0·1	0·0	60·0
1350	11·6	7·4	11·0	5·7	2·2	0·4	0·5	0·1	0·1	0·1	60·9
1395	12·7	6·2	11·0	6·5	1·4	1·1	0·2	0·1	0·1	0·1	60·6
1395	15·2	6·7	11·1	6·2	1·7	1·3	0·1	0·3	0·1	0·0	57·3
1350	14·0	7·6	10·2	6·4	2·0	1·0	0·2	0·2	0·1	0·0	58·3
1395	16·3	9·5	10·9	8·2	2·1	0·8	0·6	0·1	0·0	0·0	51·5
1350	17·5	7·6	10·9	7·8	2·1	0·4	0·2	0·2	0·0	0·0	53·3
1395	18·9	8·6	12·9	6·2	1·8	0·4	0·0	0·0	0·1	0·0	51·1
16435	15·9	8·0	11·4	6·1	1·6	0·6	0·2	0·1	0·0	0·0	56·1

## THE NUMBER OF RAINY DAYS IN 1902 AS COMPARED WITH THE AVERAGE.

BY HUGH ROBERT MILL, D.Sc., LL.D.

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IN some ways it is more difficult to discuss the number of rainy days than the amount of rainfall. The meaning of the words "rainy day" affects both, but not alike; for if ten days with a rainfall of  $\cdot 01$  in. which should be included were omitted from a record of 25 inches of rain falling on 163 days the total amount would only be wrong by 0.4 per cent., but the total number of days would be wrong by 6.1 per cent.; in other words, the error in the second case would be 15 times greater than in the first. A rainy day is not infrequently omitted from a record when the total rainfall is correctly registered. For instance, in weather when only very slight showers occur, the gauge may not be examined daily or emptied on every occasion when an amount that *appears less* than  $\cdot 005$  is caught, but this accumulates in the gauge and the total is right. In this way there is a tendency for the number of rainy days recorded to be too low rather than too high, unless the most scrupulous care is taken. It has accordingly been necessary in the following discussion to select the stations very carefully—in the first instance, in order to be uniformly distributed over the country, and in the second, to include only those records which we had good reason to believe were based on regular daily readings of the gauge.

In what follows the expression "rainy day" means in every case a period from 9 a.m. on one day to 9 a.m. on the next, during which so much rain fell as to be recorded as  $\cdot 01$  in. The rule as to small quantities defines the meaning further. It runs—

"XII. SMALL QUANTITIES.—The unit of measurement being  $\cdot 01$ , observers whose gauges are sufficiently delicate to show less than that, are, if the amount is under  $\cdot 005$ , to throw it away; if it is  $\cdot 005$  to  $\cdot 010$  inclusive, they are to enter it as  $\cdot 01$ ."

It was found possible to utilize 62 well distributed stations for the discussion of the average number of rainy days in the year for the period of twelve years, 1891-1902, and the figures are set out in Table IV. and on the average map. In order to see how far these twelve years agree with a long period, five stations with complete records for the thirty-eight years 1865-1902 were selected, and these are given in Table I. and summarised in Tables II. and III.

The data given in Table I. are the number of rainy days and the total rainfall for each year at the five stations; the last line gives the mean values, from which it is seen that at Camden Square and Cargen, near Dumfries, the average number of rainy days is 163, at Dublin 196, at Braemar 204, and at Seathwaite 216. Table II. gives the same figures meaned for successive periods of five, ten, and twenty years; and Table III. summarises the whole in two ways—first as actual number of days, and second as ratios in which the mean number of rainy days at each station is taken at 100. In doing this the periods were counted backwards from 1902, so that the group with less than the full number of years comes earliest in each case. The means of the ratios may be taken as a measure of the variability of the number of rainy days, and they show that while the maximum year is 23 per cent. above the average and the minimum year 24·5 per cent. below the average, the extremes of the five year periods were 6 per cent. above and 11·5 per cent. below, for the ten year periods 4 per cent. above and 6·5 per cent. below, and for the twenty year periods 2 per cent. above and 2·5 per cent. below.

The last line of Table III. is the most important for our purpose, for it shows that the twelve year period dealt with in Table IV. was practically identical with the longer period on the average of the five stations. Seathwaite, Dublin, and Cargen came within one per cent. of the long mean, while at Braemar the twelve years showed an average number of rainy days 3 per cent. higher, and at Camden Square an average 4 per cent. lower, than the thirty-eight years.

With regard to actual extremes it may be noted that the largest number of rainy days occurred as follows:—at Seathwaite, 256\* in 1877; at Braemar, 241 in 1882; at Dublin, 238 in 1872; at Cargen, 215 in 1877; and at Camden Square, 204 in 1872. The smallest number of rainy days were:—at Cargen, 116 in 1870; at Camden

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\* This and the other figures in brackets are for Derwent Island, Keswick, used when the Seathwaite record was imperfect.



[illegible]



Square, 128 in 1901 ; at Dublin, 145 in 1870 ; at Braemar, 149 in 1870 ; and at Seathwaite, 177 in 1878. The earlier years at Camden Square gave another instance of 204 rainy days in 1860, and two instances of a smaller number than 128—viz., 110 in 1864 and 107 in 1858.

It is time now to turn to the long list of stations for which the twelve year means are printed in Table IV. With the exception of Camden Square it will be noticed that none of the extreme years of the thirty-eight (1865–1902) occurred in the twelve (1891–1902) at any of the five stations, and we have seen that on the whole the average for the twelve years comes very close indeed to the average of a period more than three times as long. Table IV. may be summarised as follows :—

*Number of Rainy Days and Mean Rainfall.*

Countries.	No. of Stations.	PERIOD 1891-1902.			YEAR 1902.		
		No. of rainy days.	Mean Rain-fall. in.	Mean fall per rainy day. in.	No. of rainy days.	Mean Rain-fall. in.	Mean fall per rainy day. in.
England and Wales.....	28	181	36	·20	184	31	·17
Scotland .....	19	206	44	·21	210	38	·18
Ireland .....	15	216	42	·20	220	39	·18
British Isles.....	62	197	40	·20	200	35	·17

Here it is made quite clear that the number of rainy days in 1902 exceeded the average by 3 or 4 in every division of the United Kingdom, while the amount of rainfall fell short of the average by from 3 to 6 inches, and consequently the average fall per rainy day was ·03 in. less than the normal average.

The map showing the average number of rainy days for the twelve years indicates by a tint the parts of the country where the rainy days usually exceed 200 in the year. This will be observed to include the greater part of Ireland, the south and east coasts being alone excepted, the greater part of Scotland north of the Clyde and Forth, small strips of the east coast being excepted, a patch in western Wales, and another in the English Lake district and the northern Pennines. Along the north-west coast of Ireland and in the north-west of Scotland the number of rainy days exceeds 250, while no part of the British Isles appears to have an average number of rainy days so small as 150. Probably a smaller number of rainy days does occur at some sheltered stations in the east of England, but the figures published above make it very unlikely that there is any extent of country so favoured.

On account of the reasons mentioned in the introduction to this article, the lines of equal number of rainy days cannot be drawn with the confidence with which one can draw lines of equal amounts of rainfall, while the small scale and the small number of stations employed make it necessary to treat the map as merely diagrammatic. As a diagram it expresses in a satisfactory way the regions in which the number of rainy days is respectively greater and less than the average number for the British Isles as a whole.

The second map shows how the number of rainy days in 1902 differed from the average, the figures upon it being the difference between the number of rainy days for 1891-02 and for 1902 as set out in Table IV. The shaded portion includes all those parts of the country in which the number of rainy days for the year exceeded the average, and this it will be noticed is by far the larger part of the surface. It will be seen that the number of days did not reach the average round the coast of Ireland except in the north-east, nor on the north-west of Scotland, South Wales, North Cornwall, Devon, Somerset, Dorset, Wilts, Hampshire, nor the southern half of the upper Thames valley. In addition to this, a narrow belt of country crossing from the south of Scotland and the north-west of England to the east coast at the Wash had rather fewer than the average or just the average number of rainy days.

The number of rainy days bears no obvious relationship to the excess or deficiency of the total amount of rain, as may be seen by comparing the map with that between pp. [154] and [155]. The broad facts of the relationship are brought out in the following comparison of the relation of the number of rainy days and the total fall of 1902 to their respective averages.

*Difference of 1902 from Average, per cent.*

Countries.	No. of Rainy Days.		Total Rainfall.		Fall per Rainy Day.
England and Wales ...	+2 per cent.	...	—18 per cent.	...	—15 per cent.
Scotland .....	+2 „	...	—14 „	...	—14 „
Ireland .....	+2 „	...	—9 „	...	—10 „
British Isles .....	+2 „	...	—15 „	...	—15 „

This shows that over all the number of rainy days was 2 per cent. above the average, while the amount of rain and the average fall per rainy day was 15 per cent. below the average, thus confirming the conclusion arrived at by observers in all parts of the country that the year 1902 was rainy but not wet.

[illegible]



Before leaving the twelve year averages of annual values we may direct attention to the average fall per rainy day given in the third column of Table IV. This varies from  $\cdot 121$  in. at Nairn to  $\cdot 593$  in. at Seathwaite, while the average for the British Isles is  $\cdot 199$  in. In 1902 the lightest fall was at the rate of  $\cdot 097$  in. at Nairn, the heaviest  $\cdot 440$  in. at Seathwaite, while the average over all was  $\cdot 173$  in. It is interesting to notice that in both cases the average intensity of rainfall per rainy day was between four and five times as great at the wet station Seathwaite as at the dry station Nairn.

Table V. extends the investigation to the number of rainy days in each month for 22 representative stations. Twelve years is certainly too short a time on which to found an average of the monthly number of rainy days, but though the results cannot be accurate except by the accident of the period being representative of the true mean, they yet afford valuable indications which are worthy of being put on record.

In each of the great divisions December is the month with most numerous rainy days, the average over all being 20, while June has the smallest number of rainy days, averaging 14. The average range in monthly frequency of rainy days is thus only 6. To group the stations according to countries is obviously unfair, as the real contrast is between east and west. The following gives the average of the five stations with fewest rainy days, most of them in the east of Great Britain, and of the five with most numerous rainy days, all but one in Ireland:--

*Actual number of Rainy Days in Months.*

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Five lowest stations	16	12	14	12	12	12	12	16	12	16	14	17
Five highest stations	21	17	19	18	16	17	19	21	19	21	20	24

All agree in showing December, January, August and October as the months of most frequent rain, while May and June are the months of least frequent rain. February, on account of its being a short month, cannot be compared with the others, and an allowance must be made for the unequal lengths of the months in all cases before a fair comparison is possible. That is done in the following table, which takes in also the average for the British Isles.

*Number of Rainy Days in months reduced to equal length.*

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Five lowest stations	16	13	13	12	12	12	12	15	12	16	14	17
Five highest stations	21	18	19	18	16	17	19	21	19	20	20	24
Mean .....	18	15	16	15	14	14	15	18	16	18	17	20

The more accurate comparison rendered possible by this table shows that August has the largest number of rainy days amongst the summer months, being only equalled at other seasons by January and October and surpassed by December alone. The months with fewest rainy days are May and June, though February, April and July have hardly more.

In 1902 it will be observed from Table V. that the month of May showed a remarkable increase in the number of rainy days in all parts of the British Isles, 21 days instead of 14, or 50 per cent. in excess of the average. March and June had also an unusually large number of rainy days ; January, February, April and December had rather less than the average number of days with rain, while all the months from July to November inclusive may be taken as normal. In the case of England the relatively large number of rainy days is seen to be due to the large excess from May to August, when there was a very exceptional number of rainy days with a comparatively small daily fall, the summer having been persistently rainy though not wet.

To sum up the results of this article in a few words, we may say that the average number of rainy days per annum increases from 150 in the south-east of England to over 250 in the north-west of Ireland and Scotland, and that in all parts of the country the year 1902 had 2 per cent. more rainy days than the average, while the total rainfall was about 15 per cent. less than the average.

TABLE I.—*Number of Rainy Days and Total Rainfall, 1865–1902.*

Year.	LONDON, Camden Square.		BORROWDALE, Seathwaite.		CARGEN [Dumfries.]		BRAEMAR.		DUBLIN, FitzWilliam Sq.	
	No. of Days.	Total Rain.	No. of Days.	Total Rain.	No. of Days.	Total Rain.	No. of Days.	Total Rain.	No. of Days.	Total Rain.
		in.		in.		in.		in.		in.
1865 ...	164	29·48	181	117·49	120	41·19	210	29·72	(216)	(27·46)
1866 ...	192	31·60	234	179·12	148	50·17	226	34·46	214	25·88
1867 ...	153	26·29	(220)	133·31	130	31·08	205	32·36	187	27·24
1868 ...	142	23·40	236	157·11	162	54·35	162	37·23	160	24·94
1869 ..	147	25·42	(219)	150·11	128	50·40	169	31·66	185	27·56
1870 ..	139	21·32	(182)	119·60	116 <sub>m</sub>	39·97	149 <sub>m</sub>	30·38	145 <sub>m</sub>	20·86
1871 ...	158	25·02	(208)	115·15	149	44·54	182	30·35	191	25·37
1872 ...	204 <sub>M</sub>	33·86	(254)	182·05	191	63·50	231	59·25	238 <sub>M</sub>	35·57
1873 ...	160	22·67	203	146·53	168	43·52	206	42·78	189	23·82
1874 ...	164	18·82	222	148·79	174	51·06	200	38·08	186	27·19
1875 ...	185	28·44	186	118·80	168	43·14	205	36·29	205	29·95
1876 ...	173	26·16	(214)	114·03	167	38·03	207	37·03	195	32·66
1877 ...	195	28·17	(256) <sub>M</sub>	180·40	215 <sub>M</sub>	61·42	216	44·42	229	32·15
1878 ...	172	34·08	177 <sub>m</sub>	111·88	158	34·35	158	35·13	202	28·26
1879 ...	181	33·82	213	110·78	160	36·72	(206)	27·68	208	28·86
1880 ...	158	30·28	219	120·12	159	30·77	184	30·47	188	34·51
1881 ...	152	27·92	232	130·58	180	44·51	208	36·52	198	27·03
1882 ...	165	27·14	252	146·09	202	44·43	241 <sub>M</sub>	40·67	227	31·18
1883 ...	164	24·40	219	143·97	185	44·66	225	42·65	188	29·35
1884 ...	150	20·35	230	134·10	190	43·85	218	43·50	187	20·47
1885 ...	165	26·64	205	141·25	161	40·93	197	39·25	198	26·61
1886 ...	176	27·01	212	134·82	183	43·31	207	33·01	220	32·97
1887 ...	140	19·21	199	100·38	143	32·06	193	25·01	160	16·60
1888 ...	173	27·74	202	119·89	159	35·79	217	35·01	190	28·68
1889 ...	169	23·85	208	103·89	168	37·07	197	29·49	193	27·27
1890 ...	161	21·23	228	139·90	185	39·53	214	39·18	200	27·56
1891 ...	178	28·15	225	145·08	163	47·66	189	34·37	184	27·82
1892 ...	158	22·61	215	127·36	176	39·45	203	28·09	196	25·64
1893 ...	148	19·80	221	138·44	175	37·55	217	30·45	174	20·49
1894 ...	185	27·94	229	145·52	178	49·43	216	41·28	209	29·26
1895 ...	137	21·47	200	99·73	136	38·70	217	32·72	194	31·24
1896 ..	159	23·52	214	123·72	147	38·82	198	30·26	194	26·90
1897 ...	164	22·86	218	144·19	167	49·48	207	36·76	210	29·34
1898 ...	140	17·69	225	151·00	158	49·12	216	36·53	194	27·05
1899 ...	144	22·54	216	126·46	136	49·23	213	35·46	186	27·74
1900 ...	174	23·28	228	129·54	207	52·92	229	39·45	216	34·34
1901 ...	128 <sub>m</sub>	22·17	192	110·69	145	42·44	207	31·51	179	26·08
1902 ...	162	20·84	214	94·11	153	37·21	214	31·84	203	29·38
Average 1865–1902	163	25·19	216	132·53	163	43·48	204	35·53	196	27·77
	= 1·55 in. per rainy day.		= 614 in. per rainy day.		= 267 in. per rainy day.		= 174 in. per rainy day.		= 142 in. per rainy day.	

TABLE II.—*Mean Number of Rainy Days and Total Rainfall of Various Periods.*

	LONDON, Camden Square.		BORROWDALE, Seathwaite.		CARGEN [Dumfries.]		BRAEMAR.		DUBLIN, FitzWilliam Sq.	
	No. of Days.	Total Rain. in.	No. of Days.	Total Rain. in.	No. of Days.	Total Rain. in.	No. of Days.	Total Rain. in.	No. of Days.	Total Rain. in.
<b>5 Year Means</b>										
1865-1867	170	29.12	212	143.31	133	40.81	214	32.18	206	26.86
1868-1872	158	25.80	220	144.80	149	50.55	159	37.77	184	26.86
1873-1877	175	24.85	216	141.71	178	47.43	207	39.72	201	29.15
1878-1882	166	30.64	219	123.71	172	38.16	199	34.09	205	29.97
1883-1887	159	23.52	213	130.90	172	40.96	208	36.68	191	25.20
1888-1892	168	24.72	216	127.22	170	39.90	204	33.23	193	27.39
1893-1897	159	23.12	216	130.32	161	42.80	211	34.29	196	27.45
1898-1902	150	21.30	215	122.36	160	46.18	216	34.96	196	28.92
<b>10 Year Means</b>										
1865-1872	162.5	27.04	217.0	144.24	143.0	46.90	180.0	35.67	192.0	26.74
1873-1882	170.5	27.74	217.5	132.80	175.0	42.79	203.0	36.90	203.0	29.56
1883-1892	163.5	24.12	214.5	129.06	171.0	40.43	206.0	34.96	192.0	26.30
1893-1902	154.5	22.21	215.5	126.34	160.5	44.49	213.5	34.62	196.0	28.19
<b>20 Year Means</b>										
1865-1882	167.0	27.43	217.0	137.89	161.0	44.62	192.5	36.35	198.0	28.30
1883-1902	159.0	23.17	215.0	127.70	166.0	42.46	210.0	34.79	194.0	27.24
<b>38 Year Means</b>										
1865-1902	163	25.19	216	132.53	163	43.48	204	35.53	196	27.77



TABLE III.—Mean and Extreme Number of Rainy Days at Five Stations for 38 years.

No. of Days.	CAMDEN SQUARE.			SEATHIWAITE.			CARGEN.			BRAEMAR.			DUBLIN.		
	Max.	Min.	Aver.	Max.	Min.	Aver.	Max.	Min.	Aver.	Max.	Min.	Aver.	Max.	Min.	Aver.
Single years .....	204	128	163	256	177	216	215	116	163	241	149	204	238	145	196
5 year periods* ...	175	150	...	220	212	...	178	133	...	216	159	...	206	184	...
10 " " + ...	170·5	154·5	...	217·5	214·5	...	175	143	...	213·5	179	...	203	192	...
20 " " + ...	167	159	...	217	215	...	166	161	...	210	192	...	198	194	...
PER CENT. OF MEAN.	CAMDEN SQUARE.			SEATHIWAITE.			CARGEN.			BRAEMAR.			DUBLIN.		
	Max.	Min.		Max.	Min.		Max.	Min.		Max.	Min.		Max.	Min.	AVERAGE.
Single years .....	125	78·5		118·5	82		132	71		73	121·5		123	74	75·5
5 year periods* ...	107·5	92		102	98		109	81·5		77·5	105		106	94	88·5
10 " " + ...	104·5	95		100·5	99·5		107·5	87·5		87·5	103·5		104	98	93·5
20 " " + ...	102·5	97·5		100·5	99·5		102	98·5		94	101		102	99	97·5
Proportion of 1902 to }	96			100			99			103			99		
Mean of 1891-1902 .....													99·5		

\* One period of 3 years

+ " " " 8 "

+ " " " 18 "

TABLE IV.—*The Number of Rainy Days, Total Rainfall, and Average Fall per Rainy Day.*

Div.	STATIONS.	Average 1891-1902.			1902.		
		Rainy Days.	Total.	Fall per Rainy Day.	Rainy Days.	Total.	Fall per Rainy Day.
			in.	in.		in.	
I.	London, Camden Square ...	156	22·74	·146	162	20·84	·129
II.	Cranbrook, Hartley .....	167	28·16	·169	152*	23·44	·154
„	Forest Side Vicarage.....	151	31·57	·209	151	30·68	·203
„	Newbury, Welford Park ..	179	29·37	·164	170	27·46	·162
III.	Buckingham, Adstock .....	159	23·27	·146	160	18·45	·115
IV.	Bury St. Edmunds.....	153	24·41	·160	153	21·71	·142
„	Norwich, Essex Street .....	169	24·30	·144	187†	22·07	·118
V.	Portland, The Manse .....	154	25·49	·166	158	17·78	·113
„	Okehampton, Oaklands ...	169	44·79	·265	168	38·33	·228
„	Truro, Royal Institution ...	190	37·85	·199	190	36·10	·190
„	Batheaston .....	180	27·98	·155	175	22·99	·131
VI.	Stroud, Upfield .....	178	27·64	·155	168	25·13	·150
„	Ch. Stretton, Woolstaston..	193	29·66	·154	196	30·51	·156
VII.	Loughborough, Nan Panton	168	24·39	·145	170	24·12	·142
„	Boston, Grand Sluice .. ..	171	22·14	·129	169	22·76	·135
VIII.	Chester, Christleton Hall...	187	27·26	·146	207	27·11	·131
„	St. Michael's-on-Wyre .....	192	35·24	·184	190	30·24	·159
IX.	Barnsley, Church Street ...	186	25·69	·138	186	24·75	·133
„	Arncliffe Vicarage .....	209	60·27	·288	217	42·68	·197
„	Hull, Pearson Park .....	176	25·30	·144	196	22·32	·114
„	Ingleby Greenhow .....	192	30·64	·160	204	24·71	·121
X.	Newcastle, Town Moor .....	172	26·49	·154	182	21·98	·121
„	Borrowdale, Seathwaite ...	216	127·99	·593	214	94·11	·440
XI.	Cardiff, Ely.....	186	40·03	·215	203	35·15	·173
„	Haverfordwest, High Street	203	43·79	·216	178	40·72	·229
„	Rhayader, Nantgwillt .....	215	56·02	·261	208	47·31	·228
„	Llanderfel, Palé.....	216	46·06	·213	221	40·66	·184
„	Llandudno .....	192	30·26	·158	220	24·98	·114
XII.	Cargen [Dumfries].....	162	44·33	·274	153	37·21	·243
XIII.	Marchmont House.....	190	31·68	·167	191	24·38	·128
XIV.	Biggar, Cambus Wallace ...	171	30·16	·176	139	20·97	·151
„	Colmonell.....	180	44·04	·245	187	41·44	·222
„	Glasgow, Queen's Park.....	173	36·51	·211	180	30·81	·171
XV.	Buchlyvie, The Manse .....	229	49·70	·217	273	42·94	·157
„	Inveraray, Newtown.....	233	69·55	·299	253	56·58	·224
„	Islay, Eallabus .....	188	46·37	·247	161	43·65	·271
„	Mull, Quinish.....	227	56·23	·248	236	52·61	·223
XVI.	Dundee, E. Necropolis .....	188	27·76	·148	195	23·82	·122
XVII.	Braemar .....	211	34·06	·161	214	31·84	·149
„	Aberdeen, Cranford .....	227	31·78	·140	252	29·62	·118
„	Keith .....	191	34·06	·178	206	33·95	·165
„	Nairn, School House.....	209	25·33	·121	222	21·45	·097
XVIII.	Glencarron .....	254	89·45	·352	249	82·45	·331
„	Stornoway ..... M O.g.	256	49·21	·192	254	46·30	·182

\* 1902 No. of days for Cranbrook, Swattenden.

† 1902 values for Norwich, Ipswich Road.

TABLE IV.—(continued.)

Div.	STATIONS.	Average 1891-1902.			1902.		
		Rainy Days.	Total.	Fall per Rainy Day.	Rainy Days.	Total.	Fall per Rainy Day.
			in.	in.			
XVIII.	Fort William .....	236	75·02	·318	254	61·55	·242
XIX.	Dunrobin Castle.....	173	31·95	·185	166	25·64	·155
„	Watten.....	208	27·55	·132	207	21·42	·104
XX.	Mallow, Summerhill .....	197	39·66	·201	191	38·87	·203
„	Darrynane Abbey .....	237	46·23	·195	244	39·21	·161
„	Portlaw, Mayfield .....	186	43·28	·233	188	47·92	·256
„	Limerick, Roxborough .....	214	36·02	·170	239	31·28	·131
„	Miltown Malbay.....	232	44·88	·194	231	32·26	·140
XXI.	Carlow, Browne's Hill .....	192	34·77	·181	186	34·50	·185
„	Dublin, Fitzwilliam Square	194	27·94	·144	203	29·38	·145
„	Street [Edgeworthstown]...	216	36·75	·170	246	33·35	·136
XXII.	Ballinasloe .....	219	37·27	·170	231	30·27	·131
„	Clifden, Kylemore House...	225	77·17	·343	201	61·83	·308
„	Crossmolina, Enniscoe .....	258	53·45	·207	267	46·27	·173
„	Collooney, Markree Obs. ...	244	41·70	·171	250	38·36	·153
XXIII.	Seaforde .....	191	37·55	·197	203	42·68	·210
„	Londonderry, Creggan Res.	249	41·15	·165	244	36·48	·150
„	Omagh, Edenfel.....	225	40·59	·180	231	39·25	·170
	AVERAGES.						
	ENGLAND & WALES .....	181	35·57	·197	184	30·56	·166
	SCOTLAND.. .....	206	43·93	·213	210	38·35	·183
	IRELAND .....	216	42·38	·196	220	38·89	·177
	BRITISH ISLES.....	197	39·63	·201	200	34·82	·174



## EVAPORATION.

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THE table of evaporation from a water surface for 1902 includes the same stations as in the preceding year. One additional record has been maintained throughout with a standard tank, but the results being somewhat anomalous, we have, at the request of the observer, reluctantly omitted it, though we highly appreciate his desire that the record should be withheld until a longer period has proved that no disability attaches to it which could render the results misleading.

A slight change has been made in the table by substituting for the totals for past years at the foot, an average value and the difference from the average. The records at most of the stations now extend over five years, and this period, though far too short to give anything like a normal value for the different stations, is long enough to provide a basis of comparison for individual years.

Arranging the stations in the order of average amount, we see that the totals for 1902 run almost identically in the same order except for a slight reversal at London and Croydon.

	Average.		1902.		Difference.	<sup>1902</sup> % of Average.
Downholland ...	21·80 in. ...		20·45 in. ...		—1·35 in. ...	94
Southwold .....	20·87 „ ...		19·62 „ ...		—1·25 „ ...	94
Kennick .....	20·60 „ ...		18·21 „ ...		—2·39 „ ...	88
Otterbourne.....	19·88 „ ...		17·56 „ ...		—2·32 „ ...	88
Camden Square..	16·75 „ ...		14·60 „ ...		—2·15 „ ...	87
Croydon .....	16·33 „ ...		14·74 „ ...		—1·59 „ ...	90
Revesby .....	15·89 „ ...		14·00 „ ...		—1·89 „ ...	88

All the records show a diminished evaporation for 1902, as would naturally be expected from the character of the year, but it appears to be fortuitous as regards amount. The greatest deficiencies are at stations in the south of the country, but Croydon with a small departure from the average is also in the south. Revesby and Southwold are both near the east coast, but the differences from the average are in inverse ratio to the total amount. The percentage differences look rather less discordant than the amounts in inches, but with so small a number of stations it seems impossible to make a useful comparison of the differences.

The unseasonableness of the summer of 1902 suggests the idea

that interesting results might be obtained by dividing the year into the seasons, and we have summarized the records for the periods January to April, May to August, and September to December.

Stations.	Jan. to April.			May to August.			Sept. to Dec.	
	Evapora- tion.	% of Average.		Evapora- tion.	% of Average.		Evapora- tion.	% of Average.
Camden Square...	2·77 in.	110	...	9·12 in.	79	...	2·71 in.	101
Croydon .....	2·90 „	106	...	9·06 „	85	...	2·78 „	94
Otterbourne .....	3·52 „	112	...	10·81 „	81	...	3·23 „	95
Southwold .....	4·19 „	114	...	11·15 „	89	...	4·28 „	92
Kennick .....	3·07 „	91	...	12·32 „	88	...	2·82 „	86
*Revesby .....	2·36 „	99	...	8·86 „	85	...	2·78 „	89
*Downholland .....	3·99 „	100	...	12·66 „	93	...	3·80 „	91

From this we see that in the early months of the year the evaporation was generally above the average, and in the last four months it was generally below, but the actual amounts are small at these seasons and the variations are trivial. On the other hand, about two-thirds of the evaporation occurs in the four middle months of the year (May to August), and for these months 1902 shows a material deficiency varying from 21 per cent. at Camden Square to 7 per cent. at Downholland. Nevertheless, these deficiencies are apparently in no way remarkable, for almost all stations have recorded values nearly approaching them in the corresponding period of other years, even in the short time over which the records extend, viz. : 5 years.

*Summer Four Months of 1902 compared with the same Months of other Years.*

	Cam- den. in.	Croy- don. in.	Otter- bourne. in.	South- wold. in.	Kennick. in.	Revesby. in.	Down- holland. in.
1902 .....	9·12	9·06	10·81	11·15	12·32	8·86	12·66
Previous smallest {	9·15	9·83	11·93	10·93	13·59	10·20	13·67
	1898	1898	1900	1898	1900	1900	1899

At Camden Square the records have been continued under identical conditions for eighteen years, and comparison of 1902 with the monthly averages is as follows :—

*Evaporation at Camden Square.*

	Average, 17 years.				Average, 17 years.		
	1902.	Difference.			1902.	Difference.	
Jan. ...	·09 in.	·16 in.	+·07 in.	July ...	3·06 in.	3·30 in.	+·24 in.
Feb. ...	·25 „	·15 „	—·10 „	Aug. ...	2·34 „	1·71 „	—·63 „
March.	·65 „	·71 „	+·06 „	Sep. ...	1·29 „	1·47 „	+·18 „
April ..	1·50 „	1·75 „	+·25 „	Oct. ...	·59 „	·69 „	+·10 „
May ...	2·40 „	1·78 „	—·62 „	Nov. ...	·23 „	·28 „	+·05 „
June ...	2·95 „	2·33 „	—·62 „	Dec. ...	·06 „	·27 „	+·21 „

\* At these stations the value for 1898 is computed, the record not having commenced.

Or dividing the year into the three periods of four months :—

Period.	Average, 17 years.	1902.	Difference.	
			inches.	per cent.
First four months, Jan.—April .....	2·49 in.	2·77 in.	+ ·28	+11
Second „ May—August ...	10·75 „	9·12 „	—1·63	—15
Third „ Sept.—Dec. ....	2·17 „	2·71 „	+ ·54	+25
Year .....	15·41 in.	14·60 in.	— ·81	— 5

The smallest value for the four summer months in the 17 years was 8·29 in. in 1888, or nearly an inch less than in 1902.

We have this year been favoured by Mr. Baldwin Latham, C.E., with an additional valuable table giving the amount of percolation through 3 ft. of chalk and 3 ft. of gravel at Croydon, and through 3 ft. of chalk at Timsbury and Twyford, near Winchester. By deducting the amount of percolation from the rainfall we obtain the following values for the evaporation from a surface of chalk covered with the natural growth of grass.

	Croydon.	Timsbury.	Twyford.
Rainfall .....	20·67 in.	25·46 in.	27·69 in.
Percolation.....	8·82 „	9·36 „	12·01 „
Evaporation ....	11·85 „	16·10 „	15·68 „

This shows for Croydon an evaporation in 1902 from the chalk of 11·85 in., in comparison with 14·74 in. from water.

The record of percolation at Croydon extends over 24 years, and the average is 10·36 in, yielding by deduction from the average rainfall for the same period an evaporation from chalk of 14·65 inches. Or, roughly, about two inches less than the evaporation from water.

A comparison of the monthly percolation in 1902 with the average shows a small total for the year in accordance with the small total rainfall, but a notable excess of percolation in June as a result of the heavy rainfall of that month.

*Percolation through 3 ft. of Chalk at Croydon.*

	Average.	1902.	Difference.		Average.	1902.	Difference.
Jan...	1·60 in.	·83 in.	— ·77 in.	July...	·33 in.	·00 in.	—·33 in.
Feb...	1·67 „	·45 „	—1·22 „	Aug....	·32 „	·00 „	—·32 „
Mar..	1·22 „	1·18 „	— ·04 „	Sept...	·17 „	·31 „	+·14 „
Apr..	·51 „	·22 „	— ·29 „	Oct....	1·02 „	·35 „	—·67 „
May..	·36 „	·41 „	+ ·05 „	Nov....	1·37 „	1·29 „	—·08 „
Jun...	·20 „	2·37 „	+2·17 „	Dec....	1·59 „	1·41 „	—·18 „

Here we have for the first four months of the year a deficiency of 2·32 in., for the summer four months an excess of 1·57 in., and for the last four months a deficiency of ·79 in.

# EVAPORATION IN 1902.

County Station	London, Camden Sq.	Surrey, Duppas Ho., Croydon	Hampshire, Otterbourne	Suffolk, Southwold	Devon, Kennick, Christow	Lincoln, Revesby Water Works	Lancashire, Downholland	Lancashire, Bolton, Heaton	Yorkshire, Ardley Reservoir
Latitude	51° 32' 30" N.	51° 22' 5" N.	51° 0' 28" N.	52° 20' N.	50° 38' 30" N.	53° 9' N.	53° 34' 38" N	53° 34' 55" N.	53° 43' 10" N.
Longitude	0 8 0 W.	0 6 13 W.	1 19 55 W.	1 41 E.	3 41 20 W.	0 3 W.	3 1 12 W.	2 28 21 W.	1 33 20 W.
Altitude	111 ft.	158 ft.	112 ft.	44 ft.	842 ft.	130 ft.	13 ft.	521 ft.	390 ft.
Observer	H. Sowerby Wallis and Dr. Mill.	Baldwin Latham, C.E.	W. Matthews, C.E.	A. O. Herbert	W. Ingham, C.E.	J. Shaw	J. Baxendell.	R. H. Swindelhurst, C.E.	C. C. Smith, C.E.
Size of tank	6 ft. x 6 ft. 450	1 ft. diameter 5	6 ft. x 6 ft. 450	4 ft. x 4 ft. 200	6 ft. x 6 ft. 450	6 ft. x 6 ft. 450	6 ft. x 6 ft. 450	6 ft. x 6 ft. 450	6 ft. x 6 ft. 450
Capacity (galls.)	3 inches	4 inches	3 inches	3 inches	3 inches	—	2 inches	3 inches	3 inches
Height of lip above ground									
January	in. .16	in. .22	in. .18	in. .70	in. +.08	in. .20	in. .26	in. .05	in. .41
February	.15	.07	.10	.45	.15	+.03	.06	.08	.49
March	.71	.86	.88	1.07	.90	1.64	1.28	.68	1.10
April	1.75	1.75	2.36	1.97	2.10	1.67	2.39	1.71	2.09
May	1.78	1.80	2.26	2.27	2.97	2.88	3.39	2.26	2.30
June	2.33	2.63	2.78	3.05	2.79	2.55	3.10	3.00	2.46
July	3.30	2.86	3.67	3.35	3.84	2.55	3.56	2.54	2.51
August	1.71	1.77	2.10	2.48	2.72	1.76	2.61	2.13	2.00
September	1.47	1.45	2.06	2.07	1.94	1.34	1.80	1.75	1.70
October	.69	.72	.77	1.07	.77	.88	.97	.83	.89
November	.28	.27	.25	.57	.33	.39	.44	.58	.35
December	.27	.34	.15	.57	+.22	.17	.59	.22	.40
Year, 1902	14.60	14.74	17.56	19.62	18.21	14.00	20.45	15.83	16.70
Mean, 1898-02	16.75	16.33	19.88	20.87	20.60	15.89	21.80	...	...
Difference	-2.15	-1.59	-2.32	-1.25	-2.39	-1.89	-1.35	...	...
Year, 1902	20.84	20.67	25.23	19.04	37.36	21.64	25.20	39.33	23.39
Mean, 1898-02	21.30	22.33	25.51	20.61	38.74	22.93	26.96	40.04	...
Difference	-.46	-1.66	-.28	-1.57	-1.38	-1.29	-1.76	-.71	...



*Observations made at Duppas House, Croydon, by Mr. Baldwin Latham,  
M.Inst.C.E.*

1902	Evaporation from 12 in. Evaporator floating in Water.	Condensation in 12 in. Evaporator floating in Water.	Average daily Temperature of Water at 9 a.m. in 12 in. Evaporator floating in Water.	5 in. Evaporator fully exposed in Air. Evaporation.	Average daily Temperature of Water at 9 a.m. in 5 in. Evaporator freely ex- posed in Air.	Temperature of the Dew Point at 9 a.m.
	in.	in.	Deg. F.	in.	Deg. F.	Deg. F.
Jan. ....	·235	·020	38·70	·715	39·48	36·25
Feb. ...	·115	·040	33·28	·455	35·38	30·80
March...	·865	·010	42·48	1·705	42·88	39·39
April ...	1·750	—	47·17	2·970	48·35	40·40
May ...	1·800	—	51·83	2·890	53·76	41·81
June ...	2·630	—	61·74	4·550	65·34	51·01
July ...	2·860	—	64·67	4·360	65·74	53·01
August..	1·775	—	62·16	2·645	62·32	55·08
Sept. ...	1·445	—	57·64	2·345	57·32	51·37
Oct. ....	·730	·010	49·17	·960	48·03	46·63
Nov. ...	·390	·120	43·35	·640	42·73	41·76
Dec....	·340	—	39·70	·610	40·28	37·56
Totals ...	14·935	·200	591·89	24·845	601·61	525·07
Means ...	...	...	49·32	...	50·13	43·76

*Table of Rainfall and Percolation at Duppas House, Croydon, also at the South  
Hants Water Company's Pumping Stations, at Timsbury and Twyford,  
Hants. Mr. Baldwin Latham, M.Inst.C.E.*

NOTE.—The percolation gauges are covered with the natural growth of grass.  
Size of percolation gauges 3' 0" × 3' 0" × 3' 0".

1902	DUPPAS HOUSE, CROYDON.			TIMSBURY.		TWYFORD.	
	Rainfall. Level of Gauge 158·00 above O.D.	Percolation Gauge. <i>Chalk.</i> Level of Gauge 157·00 above O.D.	Percolation Gauge. <i>Gravel.</i> Level of Gauge 157·00 above O.D.	Rainfall. Level of Gauge 96·39 above O.D.	Percolation Gauge. <i>Chalk.</i> Level of Gauge 89·75 above O.D.	Rainfall. Level of Gauge 138·72 above O.D.	Percolation Gauge. <i>Chalk.</i> Level of Gauge 137·49 above O.D.
	in.	in.	in.	in.	in.	in.	in.
Jan. ....	·670	·8350	·7137	·75	1·1891	·88	1·1891
Feb. ...	·810	·4492	·3697	1·63	·9670	1·76	1·2113
March ...	1·725	1·1807	1·0730	2·20	1·3859	2·66	1·5596
April ...	·720	·2201	·1264	1·97	·6608	1·75	·6348
May.....	2·500	·4096	—	2·43	·0113	2·84	·1736
June ...	3·980	2·3665	·9581	3·58	1·6040	3·85	2·0933
July.. ...	1·220	—	—	1·41	·0088	1·54	—
Aug. ...	3·225	—	—	3·24	·0051	3·33	—
Sept. ...	1·105	·3055	—	1·09	·0136	1·01	—
Oct. ....	1·440	·3496	—	2·01	·0121	2·16	·1008
Nov. ...	1·890	1·2938	—	3·25	·9628	3·64	2·6808
Dec.....	1·380	1·4108	1·1357	1·90	2·5369	2·27	2·3655
Total ...	20·665	8·8208	4·3766	25·46	9·3574	27·69	12·0088

## RAINFALL AT THE ROYAL OBSERVATORY, GREENWICH.

Lat., 51° 28' 38" N.

Long., 0° 0' 0"

Communicated by W. H. M. CHRISTIE, Esq., C.B., M.A., F.R.S.,  
Astronomer Royal.

1902	No. of Rainy Days.	MONTHLY AMOUNT OF RAIN COLLECTED IN EACH GAUGE.							
		Osler's Anemometer		On roof of Octagon Room.	On roof of Magnet House.	On roof of Photographic Thermometer Shed.	Gauges partly sunk in the ground.		
		Self-registering Gauge.	Second Gauge.				In Magnetic Pavilion enclosure.	In Observatory Grounds.	
Height above Ground. }	...	50ft. 8in.	50ft. 8in.	38ft. 4in.	21ft. 6in.	10ft. 0in.	5in.	5in.	5in.
Height above Mean Sea Level. }	...	205ft.	205ft.	193ft.	176ft.	165ft.	155ft.	155ft.	155ft.
January .....	9	in. ·285	in. ·207	in. ·370	in. ·468	in. ·597	in ·639	in. ·619	in. ·638
February .....	13	·505	·544	·644	·696	·746	·792	·731	·746
March .....	15	·719	·618	·869	1·144	1·337	1·356	1·334	1·346
April .....	7	·178	·162	·242	·355	·418	·416	·418	·436
May .....	22	1·922	1·962	2·583	3·022	3·339	3·331	3·284	3·325
June .....	15	2·167	2·203	2·763	3·030	3·120	3·095	3·108	3·141
July .....	12	·497	·479	·826	1·043	1·079	1·094	1·068	1·099
August .....	19	2·152	2·107	2·539	2·803	2·901	2·931	2·883	2·898
September .....	8	1·474	1·377	1·513	1·680	1·703	1·652	1·665	1·691
October .....	14	·593	·622	·908	1·116	1·196	1·241	1·188	1·176
November .....	12	·837	·924	1·058	1·285	1·325	1·292	1·304	1·266
December .....	13	·836	·819	1·133	1·297	1·424	1·498	1·452	1·462
Yearly Sums. ...	159	12·165	12·024	15·448	17·939	19·185	19·337	19·054	19·224
No. of Gauge ...	...	1	2	3	4	5	6	7	8

The monthly record terminates at midnight on the last day of the month.

A rainy day is considered to be one on which 0·005 in., or more, is collected in gauge No. 6.

Of the ground gauges 6, 7, and 8, No. 6 is taken as *standard*, No. 7 is the old monthly gauge, and No. 8 is a check gauge added in 1881.

W. H. M. CHRISTIE.

1903, January 22.

## THE STAFF OF OBSERVERS.

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THE number of records published in this volume shows a greater increase than it has fallen to the lot of the editors to record since 1893. This is a healthy sign, for it shows a growing interest in the work of collecting detailed scientific information. The figures given in brackets after the name of each county in the following list indicate the number of perfect records received in time for insertion in *British Rainfall*, 1902, and the totals which appear at the end of this introduction are larger than on any previous occasion, except in the case of Wales.

The number of English records, after remaining practically stationary for three years, has increased by 100, or nearly 4 per cent. The increase has taken place largely in the counties surrounding London, though, curiously enough, not in Middlesex, which for the purpose of these pages includes London north of the Thames. A very welcome increase is also shown in Devonshire, where, in addition to the return of several old records, there are nearly a dozen new gauges, some of them in positions which considerably improve the distribution of stations over the county. In Somerset we regret to note the cessation of the valuable record at Simonsbath on Exmoor, but hope that it may not prove to be a permanent loss.

In Derbyshire there is a very important addition in the rain gauges, established by the Referees under the Stockport Water Act, on the highest portion of the Pennine chain in the famous Peak district. Probably the most difficult of the problems of the distribution of mean rainfall over the country is the action of hills upon the rain-bearing winds, and as most of these gauges are placed at heights over 1500 feet, and one over 2000 feet, results of great scientific interest may be expected.

The record on Fairfield, in the English Lake District, at a height of 2860 feet, the highest gauge in the British Isles with the exception of Ben Nevis, has unfortunately lapsed on account of the lamented death of Mr. Green.

Some important gains are found in the West Riding of Yorkshire, especially in the remote Slaidburn district in the extreme west.

In Wales there has been a slight falling off, the number of records being about 1·5 per cent. less than last year. The loss is mainly in the Snowdon district, and we regret that the cause has been the illness of our indefatigable fellow-worker, Mr. Gethin Jones.

Last year we had occasion to appeal to the patriotism of our Scottish and Irish friends, and it is satisfactory now to be able to state that the highest rate of increase in the number of records has to be placed to the credit of those countries. Scotland has 7 per cent. more returns than in 1901, and Ireland 4·5 per cent. more. We are glad to welcome a considerable number of the gauges maintained in so public-spirited a manner by the Commissioners of the Northern Lighthouses. The difficulties of observing in the exposed situations which lighthouses necessarily occupy are exceptional, so that great care must be exercised by the observers in order to produce a satisfactory record.

The insertions in Ireland include the valuable set of gauges kept up by the Shannon Navigation Board, which had dropped out for a year. They also include several new gauges, some of which had been in use for a few years before the fact of their existence came to our knowledge.

Although both the number and the distribution of rain gauges has been improved in 1902 there is great room for further improvement. Very large stretches of country are still unrepresented, and it would be difficult to name any county in which gaps do not exist that ought to be filled up. Observers would confer a benefit on the Rainfall Organization if they would let us know of the starting of any new gauges in their neighbourhood or of the termination of old records.

*Number of perfect rainfall records published in the volumes of British  
Rainfall for the undermentioned years.*

Years.	England.	Wales.	Scotland.	Ireland.	Gross Total.	Increase over previous year
1860...	163	5	—	—	168	—
1861...	334	9	109	20	472	—
1871...	1038	88	311	67	1504	—
1881 .	1548	131	313	153	2145	—
1891...	2091	168	359	181	2799	23
1892...	2113	178	367	192	2850	51
1893...	2205	193	389	200	2987	137
1894...	2269	184	395	195	3043	56
1895...	2304	196	398	186	3084	41
1896...	2427	209	402	181	3219	135
1897...	2492	223	419	184	3318	99
1898...	2545	237	436	186	3404	86
1899...	2615	252	446	188	3501	97
1900...	2612	248	437	196	3493	—
1901...	2616	253	442	195	3506	13
1902...	2712	248	472	204	3636	130
Difference from 1901.—						
Increase	96	—	30	9	130	130
Decrease	—	5	—	—	—	—

MIDDLESEX (69).

ABSENT RECORDS.

Twickenham (Hampton Road)—*Obsr. moved.*  
 London (Guildhall, E.C.). 2 gauges—*Record interrupted.*  
 Hampstead (The Pryors)—*Record ceased.*  
 Stamford Hill—*Record interrupted.*

INSERTIONS.

Twickenham (Sewage Works) M.  
 Uxbridge (Harefield).  
 Enfield (Ponders End).  
 Rammey Marsh [Waltham Abbey].  
 Potters Bar (Little Heath).

SURREY (159).

Chiddingfold. 2 gauges—*Observer moved.*  
 Okewood Vicarage—*Observer abroad.*  
 Godalming (Peper Harrow)—*Not received.*  
 Croydon (Woburn Road)—*Record ceased.*  
 Worcester Park (Parkside)—*No reply.*  
 Thames Ditton (Giggs Hill)—*Observer dead.*  
 East Molesey—*Record lost.*

Haslemere (Hazelhurst). *Snowdon.*  
 Abinger (Joldwynds, Holmbury).  
 Dorking (High Street).  
 Guildford (Temple Court).  
 Red Hill (Hurstleigh).  
 „ (Linkfield Lane).  
 Reigate (Leith Cottage).  
 „ (Laglands).  
 Betchworth (Sandhills).  
 Banstead (Benhilton).  
 Windlesham (Westwood).  
 Wimbledon (The Windmill).  
 „ Common (The Priory).  
 Upper Norwood (Fox Hill Gardens).

## KENT (140).

Ashurst (Stone Ness)— <i>Record ceased.</i>	Littlestone.
Horsmonden (Broad Ford House)— <i>Obsr. ill.</i>	Cranbrook.
Sevenoaks (Kemsing)— <i>Record ceased.</i>	Lyminge (Greenham).
Knockholt (Kent Waterworks)— <i>2nd gauge unreliable.</i>	Tunbridge Wells (Langton Green).
Broadstairs (Providence House)— <i>Record interrupted.</i>	„ (Colebrook).
Margate (Apsley House)— <i>Observer moved.</i>	Maidstone (Rumwood, Langley).
Rochester (Abbot's Court, Hoo)— <i>Rec. ceased.</i>	„ (W.W., Barming).
„ (Beluncle, Hoo)— <i>House and record burnt.</i>	Herne Bay (Water Works).
	Reculver.
	Meopham.
	Frindsbury (The Shrubbery).
	Blackheath (Eastcombe Villas).

## WEST SUSSEX (41).

Arundel (Warningcamp).
Billingshurst (Hawkhurst Court).

## EAST SUSSEX (80).

Bexhill (Millfield)— <i>Record ceased.</i>	Lewes (Ringmer).
St. Leonards (Branksome House)— <i>Obs.abroad.</i>	Hastings (Filsham Reservoir).
Hurstpierpoint (The College)— <i>Obsr. abroad.</i>	„ (Halton „ ).
	„ (Fairlight „ ).
	Haywards Heath (Braydell Lodge).
	Robertsbridge (Salehurst Vic.).
	Crowborough (Jarvis Brook).
	Balcombe (Highley Manor).
	Crowborough (Steel Cross House).
	„ (Renby Grange).
	Glen Andred [Groombridge].

## HAMPSHIRE (104).

Bonchurch (The Lilies)— <i>Observer moved.</i>	Newport (Grammar School).
Sandown (Belgrave House)— <i>Observer moved.</i>	Ryde (W.W., Knighton).
Southampton (Totton)— <i>No observations.</i>	„ (Beldornie Tower).
Hartley Mauditt Rectory— <i>Record ceased.</i>	Bournemouth (Pleasure Gardens).
Crondall (Warren Corner)— <i>Old g. discontd.</i>	„ (Vale View).
	„ (Kempsey, Bath Rd.). 5 in.
	Christchurch (Southbourne-on-Sea).
	Ringwood (Bisterne).
	Fareham (Belvoir House).
	Chandlers Ford (Fryern).
	Otterbourne (Elderfield).
	Romsey (Timsbury).
	West Liss (Berry Grove).

## BERKS (47).

Maidenhead (Stafferton Lodge)— <i>Obs. moved.</i>	Finchampstead (West Court).
	Bisham Vicarage.
	Wantage (Ardington).
	Wallingford.
	Faringdon (Coxwell Lodge).

## HERTS (59).

Watford (Colne Valley W.W.)— <i>Not received.</i>	Eastbury [Northwood].
	„ (Easby).
	Watford (Weetwood). 2 gauges.
	St. Albans (Frogmore).
	Hatfield (Holwell House).
	Knebworth (Manor House).

## BUCKS (29).

Waddesdon Manor— <i>Observer moved.</i>	Slough (Upton Park).
Olney (Filgrave Rectory)— <i>Observer ill.</i>	Farnham Royal (Broomlands).
	Beaconsfield (Gerrard's Cross).

## OXFORD (45).

Caversham Yard— <i>Not received.</i>	Caversham (Eastfield).
Waterstock— <i>No reply.</i>	Thame (Tythrop House).
Chipping Norton— <i>Observer moved.</i>	Oxford (Banbury Road).
	Chipping Norton (Sarsden).
	„ „ (Heythrop).
	Steeple Aston (Hill House).

## NORTHAMPTON (49).

Towcester (Whittlebury)— <i>No reply.</i>	Towcester (Bradden).
Daventry (Waterloo)— <i>Record imperfect.</i>	Northampton (Balmoral Road).
	„ (Great Billing Rec.).
	Peterborough (Thorpe Hall).

## HUNTS (9).

St. Ives (Slepe House).
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## BEDFORD (17).

Turvey— <i>Observer moved.</i>	Holwell Bury [Hitchin].
	Biggleswade (Langford).
	Bedford (Amphill Road).
	„ (De Parys Avenue).

## CAMBRIDGE (47).

Cambridge (Botanic Gardens)— <i>Rec.unreliable.</i>	Bourne Lodge.
„ (Trinity College)— <i>Return imperfect</i>	Croxton [St. Neots].
Mepal Engine— <i>Return imperfect.</i>	
Wisbech (Gorefield Vicarage)— <i>Return imperfect.</i>	

## ESSEX (79).

Shoeburyness. M.  
 Southend (York Road).  
 Billericay (Burghstead Lodge).  
 „ (Ramsden Hall).  
 Bradwell-on-Sea (Down Hall).  
 Great Leighs.  
 Colchester (Surrey Villa).  
 Manningtree (Lawford).  
 Harwich (Coastguard Station).  
 Bulmer Lodge [Sudbury].

## SUFFOLK (50).

Ipswich (Belstead Hall)— <i>Observer moved.</i>	Ipswich (Rookwood, Copdock).
Framlingham— <i>Observer moved.</i>	„ (Bishop's Hill).
	Cavendish.
	Westleton (St. Helens).
	Weybread [Harleston].

## NORFOLK (52).

Norwich (Essex Street)— <i>Observer dead.</i>	Long Stratton (The Beeches, Fritton).
Sporle (Petygards)— <i>Not received.</i>	Wells (Holkham Hall).
Salhouse— <i>Return imperfect.</i>	
Holt (The Yuccas)— <i>Record ceased.</i>	

## WILTS (46).

Trowbridge (Wingfield)— <i>Observer dead.</i>	Wootton Bassett.
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## DORSET (45).

Portland (The Observatory)— <i>Unaccountably deficient.</i>	Poole (Poole Road, Parkstone).
Chickerell Rectory— <i>No observations.</i>	
Blandford (Whatcombe)— <i>Observer dead.</i>	



## DEVON (120).

Plympton (Hemerdon). 2 gauges— <i>Observer dead.</i>	Salcombe.
Bideford (Northam St. Helen's)— <i>Record lost.</i>	Kingsbridge (Westcombe).
	Brixton (Kitley Gardens).
	Totnes (Fernleigh).
	Newton Abbot (Tuplins).
	Dawlish.
	Dartmoor (Leeden Tor).
	„ (N. Hessary Tor, No. 1).
	Exmouth (Filter Beds).
	E. Budleigh (Oak Hill).
	Exeter (St. Thomas).
	Crediton (Stockleigh Pomeroy).
	Honiton (Combe Raleigh).
	Uffculme.
	Barnstaple (Pilton).

## CORNWALL (50).

Falmouth (Gyllyngvase)— <i>No observations.</i>	Penzance (Trenwainton).
Par Station (Penellick)— <i>Record ceased.</i>	Camborne.
	Par Station (Torfrey).
	West Looe (Bray St. Germans).

## SOMERSET (90).

Taunton (Claremont)— <i>No reply.</i>	Chard (Tatworth).
Bridgwater (Enmore Park)— <i>No reply.</i>	Crewkerne (Merefield House).
Exmoor (Simonsbath)— <i>Observer moved.</i>	South Petherton (Yeabridge).
Wells (The Cedars)— <i>Observer ill.</i>	Taunton (Leigh Court).
	„ (Linden Grove). 2nd g.
	„ (Staplegrove).
	Shepton Mallet (Grammar School).
	Bath (Statutory Hospital).
	Clevedon (The Knoll).

## GLOUCESTER (75).

Clifton (Cecil Road)— <i>Observer moved.</i>	Bristol (Durdham Down).
Stroud (The Acre)— <i>Observer dead.</i>	Chipping Sodbury (The Ridge).
Coleford (The Coombs)— <i>Record ceased.</i>	Cirencester (Cripps Mead).
Gloucester (Denmark Road)— <i>No observations.</i>	Northleach (Leygore Manor).
„ (Lower Barton St.)— <i>Obs. moved.</i>	Gloucester (Belgrave Road).
Cheltenham (Southam Villa)—2 g's. <i>Obsr. dead.</i>	Cheltenham (The Friars).

## HEREFORD (30).

Brinsop Vicarage— <i>Observer dead.</i>	Hereford (Broomy Hill).
	Credenhill.

## SHROPSHIRE (40).

Church Stretton (Longhills)— <i>Record ceased.</i>	Bishop's Castle (Lydham Manor).
Shrewsbury (Berwick Hall)— <i>Not received.</i>	Shrewsbury (Fitz Rectory).
	Ellesmere (The Grange).

## STAFFORD (41).

Burton (Ashby Road)— <i>Observer moved.</i>	Stafford.
Etruria— <i>Gauge out of order.</i>	Betley Hall [Crewe].
	Knypersley [Congleton].
	Leek (Rudyard).

## WORCESTER (38).

Bromsgrove (Lower Bittal Res.).
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## WARWICK (32).

Stratford-on-Avon (Guild St.)— <i>Obsr. moved.</i>	Stratford-on-Avon (Atherstone-
Leamington (The Parade)— <i>Record ceased.</i>	on-Stour).
Henley-in-Arden (Barrells Park)— <i>Not recd.</i>	" " " (Avonfield).
Coventry (Stoke)— <i>Gauge overgrown.</i>	Leamington (Radford House).
Birmingham (Olton)— <i>Observer moved.</i>	

## LEICESTER (27).

Loughborough (Forest Road). 5 in.g.
" (Sewage Farm).

## RUTLAND (5).

Ketton Vicarage— <i>No reply.</i>	
Tinwell, South View [Stamford]— <i>Obs. moved.</i>	

## LINCOLN (68).

Spilsby (Boston Road)— <i>Observer moved.</i>	Spilsby (Ashby Road).
Scampton House— <i>Record lost.</i>	Caistor.
Market Rasen (Tealby)— <i>Not received.</i>	Grimsby (Irby-on-Humber).
North Thoresby Rectory— <i>Observer dead.</i>	

## NOTTS (46).

Southwell (Oxton Hall)—*No reply.*

Newark (Averham Rectory).  
Ollerton (Thoresby Gardens).

## DERBY (60).

Alderwasley—*Old gauge discontinued.*  
Matlock Bath—*Old gauge discontinued.*  
Grassmoor Colliery—*Record unreliable.*  
Buxton (Lightwood)—*No observations.*  
Ernocroft [Compstall]—*Not received.*  
Glossop Hall—*Not received.*

Findern (Mill Hill Farm).  
Ashbourne (Yeldersley Hall).  
Wirksworth.  
Hayfield (Oaken Clough).  
" (Tunstead Clough).  
" (Broad Clough).  
" (Cluther Rocks).  
" (Kinder Top).  
" (Park Hall Moor).  
" (Sandy Heys).  
" (Leygatehead Moor).  
" (Mill Hill).

## CHESHIRE (68).

West Kirby (Caldy Manor)—*Record ceased.*  
Bowdon (Erlesdene). 2 gauges—*No reply.*

Nantwich (Dorfold Hall). *New g.*  
Macclesfield (Wincle).  
Northwich (Lostock Gralam).  
Thurstaston (Dawpool).

## LANCASHIRE (195).

Liverpool (St. John's Gardens)—*Rec. g. not tabulated.*  
Manchester (Stretford)—*Gauge moved.*  
" (Plymouth Grove)—*Obsr. dead.*  
Bolton (Moss Bank)—*Record ceased.*  
Todmorden (Scaitcliffe)—*Observer moved.*  
Worthdale (Watersheddles)—*G. out of order.*  
Garstang (Fairsnape Fell)—*Gauge damaged.*  
Ulverston (Urswick)—*No reply.*  
Cartmel (Aynsome)—*No regular obs.*  
Hawkshead (Esthwaite Lodge)—*Rec. ceased.*  
" ( " Strickland Ease)—*R. ceased.*

Manchester (Moston).  
Milnrow (Piethorne Coldgreave). *2nd g.*  
Southport (Hesketh Park). *Rec. g.*  
Littleborough (Windy Bank).  
" (Blackstone Edge).  
" (Byron Edge).  
Walsden (Warland).  
" (Whiteholme).  
" (Rishworth).  
Over Darwen (Daisy Green) No. 2.  
" (Pickup Bank) No. 2.  
Preston (Brindle Rectory).  
" (Walton-le-Dale W.W.).  
Caton Vicarage.  
" ( " )  
Cartmel (Flookburgh).  
Newby Bridge (Backbarrow).

## YORKSHIRE—WEST RIDING (300).

Leeds (Oliver Hill, Horsforth)—*Obsr. dead.*  
 Shipley (Moor Head)—*No reply.*  
 Oakworth (Oldfield)—*Gauge out of order.*  
 Skipton (Gill Grange, Silsden)—*Record imp.*  
 Ilkley (Amblethorpe)—*Observer dead.*  
 „ (Cherry Bank)—*Record ceased.*  
 Skipton (Marton House)—*Observer moved.*  
 West End Field—*Record imperfect.*  
 Ripley Castle—*No reply.*

Sheffield (W. W., Gleadless).  
 Saddleworth (Dobcross).  
 Slaithwaite (Inglewood).  
 Rishworth (Stott Hall).  
 „ (Great Walden Edge).  
 Sowerby Bridge (Brockwell Triangle).  
 Bradford (Stubden). *New 8 in. g.*  
 Otley (Farnley Hall Gardens).  
 Skipton (Silsden).  
 Weeton (Huby).  
 Skipton (Counter Hill).  
 Slaiddburn (Croasdale Fell).  
 „ (Lamb Fell).  
 „ (Halstead).  
 „ (Crutchember Fell).  
 York (Burton Croft) M.  
 „  
 Low Benthams.  
 Ripon (South Lodge).  
 „ (W. W., Lumley Moor). *New g.*  
 Masham Moor (Leighton). *New g.*  
 „ „ (Roundhills Res.).

## YORKSHIRE—EAST RIDING (22).

Driffild (Beverley Road)—*Observer dead.* |

## YORKSHIRE—NORTH RIDING (45).

Old Malton—*Observer dead.*  
 Bedale (Thorpe Perrow)—*No reply.*  
 Boltby—*Not received.*  
 Fylingdales Vicarage—*Record lost.*

Malton.  
 Aysgarth Vicarage. *8 in. gauge.*  
 Grassholme Res. [Middleton].

## DURHAM (44).

Houghton-le-Spring (Myre Hall). *Not received.* | Barnard Castle (Raby Castle Gdns.)

## NORTHUMBERLAND (44).

Corbridge (Newton Hall)—*Observer moved.*  
 Newcastle (Claremont Road)—*Record imp.*  
 Redewater (Ellis Crag)—*Record imperfect.*  
 Bamburgh—*Record imperfect.*

Bardon Mill (Beltingham Vic.).  
 Stamfordham Vicarage.  
 Rothbury (Brinkburn Priory).

## CUMBERLAND (65).

The Styte B— <i>Gauge damaged by frost.</i>	Wythburn.
„ „ C— <i>Gauge damaged by frost.</i>	Aspatria.
St. Bees— <i>Record lost.</i>	
Cleator Moor Water Works— <i>No reply.</i>	
Cockermouth (Ullock) M— <i>Record unreliable.</i>	

## WESTMORELAND (40).

Orton Vicarage— <i>Record ceased.</i>	Bowness (Lindeth Howe).
Fairfield. 2 gauges— <i>Observer dead.</i>	Morland [Penrith].
	Cliburn Rectory [Penrith].

## MONMOUTH, WALES, AND THE ISLANDS.

## MONMOUTH (28).

Chepstow (Shirenewton Hall)— <i>Obsr. moved.</i>	
Blaenavon— <i>No reply.</i>	

## GLAMORGAN (52).

Pontypridd (The Reservoir)— <i>Rec. deficient.</i>	Lower Penarth.
	Penarth.
	Cardiff (Trade Street).
	Swansea Harbour.

## CARMARTHEN (9).

! Llandilo (Golden Grove Gardens).

## PEMBROKE (8).

Haverfordwest (Haroldston Ho.)— <i>Obs. abroad.</i>	Haverfordwest (Portfield).
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## CARDIGAN (4).

## BRECKNOCK (35).

Brecknock (Llandefaelog-fach)— <i>No. 1 g. discontinued.</i>	Brecknock (Pont-ar-Fran).
Abergwesyn Vicarage— <i>Record interrupted.</i>	

## RADNOR (14).

Woodlands [Glasbury]—*Observer moved.*  
 Knighton—*No reply.*  
 „ (Ystrad House)—*Observer moved.*

## MONTGOMERY (12).

## FLINT (11).

Flint (Highfield, Northop).  
 „ (Plas Evan, „ }  
 Hawarden (Hawarden Bridge).  
 St. Asaph (Pengwern).  
 Rhyl.

## DENBIGH (19).

## MERIONETH (7).

## CARNARVON (22).

Dolwyddelan (Upper Nhadog)	No. 2	} <i>Observations interrupted by illness.</i>
„ (Lower „)	No. 5	
„ (Cwm Edno)	No. 14	
Snowdon (Llydaw)	No. 12	
„ (Glaslyn)	No. 13	
Idwal Lake, South End,	No. 6	
Eigiau Lake (Caedryn)	No. 8	
Bangor (Glasinfryn)— <i>Observer moved.</i>		

## ANGLESEA (7).

Llangristiolus (Lledwigan)—*Record imp.*

## ISLE OF MAN (10).

Douglas (Elsinore)— <i>Gauge moved.</i>		Castletown (Derbyhaven).
		Douglas (Woodside).

## ISLES OF SCILLY (2).

## JERSEY (2).

## GUERNSEY (6).

St. Peter Port (Beaulieu)— <i>Gauge moved</i>		St. Peter Port (Castel, St. George).
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## SCOTLAND.

## WIGTON (8).

	Port Patrick (Killantringan).
	Loch Ryan Lighthouse.

## KIRKCUDBRIGHT (14).

Dalbeattie (Colvend Manse)—*Observer dead.* | Dalry (The Old Garroch). 2nd g.

## DUMFRIES (14).

## ROXBURGH (12).

	Kelso (Holefield).
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## SELKIRK (3).

## PEEBLES (7).

## BERWICK (8).

Longformacus (Rawburn)— <i>Record ceased.</i>		Whitsome Hill.
		West Foulden.

## HADDINGTON (8).

	Dunbar (Barnsness).
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## EDINBURGH (27).

Edinburgh (Royal Botanic Garden)—		Pentland Hills (Swanston).
<i>Record ceased.</i>		Musselburgh (Levenhall).
		Edinburgh (Charlotte Square).

## LINLITHGOW (6).

Linlithgow (Nether Parkley)— <i>Record imp.</i>		Bathgate (Boghead House).
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## LANARK (19).

Hamilton (Ardenclutha)— <i>Observer moved.</i>	
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## AYR (21).

Ailsa Craig— <i>Record deficient.</i>	Dalrymple (Bow Hill). Mauchline (Catrine).
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## RENFREW (30).

## DUMBARTON (3).

Helensburgh (Fernigair)— <i>G. out of order.</i>	Arrochar (The Manse).
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## STIRLING (22).

Strathblane (Craigend Castle)— <i>Obsr. dead.</i>	Falkirk (Cauldhame).
,, (Blanefield)— <i>Not received.</i>	Little Denny Filters. Kippen (Arngomery).

## BUTE (5).

## ARGYLL, MAINLAND (19).

Oban (Kilninver, Bragleenbeg)— <i>No reply.</i>	Ardrishaig. Oban (Arduaine, Kilmelfort). Ballachulish (Glencoe).
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## ARGYLL, INSULAR (22).

Islay (McArthurshead)— <i>Record unreliable.</i>	Kintyre (Campbeltown, Witchburn).
,, (Gruinart School)— <i>Gauge moved.</i>	,, (Killeen Manse). Jura (Feoline). Eriska Island.

## CLACKMANNAN (4).

Tullibody House [Stirling]— <i>No reply.</i>	
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## KINROSS (4).

## FIFE (17).

Inchkeith. Beath (Outh). Isle of May. Cupar (Clatto Reservoir). St. Andrews. Kilmany (Mountquhanie House).
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## PERTH (28).

Balquhiddy (Blaircreach)—*Gauge leaking.* | Callander (Leny).

## FORFAR (37).

Broughty Ferry (Airlie Park)— <i>Gauge moved.</i>	Broughty Ferry (Summerbank).
	Forfar (Littlecauseway).
	Kirriemuir (Longdrum).
	„ (Glen Dye).
	„ (Barney).
	„ (Glen Damff).

## KINCARDINE (12).

Johnshaven (Brotherton).
Crathes (Spyhill).
„ (Cross Roads, Durris)
Durris House [Drumoak].
Banchory (Hirn).

## ABERDEEN (17).

Cromar (Logie Coldstone Manse)— <i>Obsr. dead.</i>	
Ellon (Kermuck)— <i>Record ceased.</i>	
Peterhead (H.M. Prison)— <i>Return imperfect.</i>	

## BANFF (6).

Aberlour.
Craigellachie (Cragganspey).

## ELGIN OR MORAY (6).

## NAIRN (4).

## WEST ROSS AND CROMARTY (15).

Loch Vraon— <i>Record unreliable.</i>	Kinlochewe.
	Ullapool (Drumruinie Lodge).
	„ (Inverpolly Lodge).
	Isle of Lewis (Tiumpanhead).

## EAST ROSS AND CROMARTY (9).

Strathpeffer Spa (Ambatovory).
Kildary (Tarbat House).

## WEST INVERNESS (25).

North Ballachulish (Alltshellach).	
Mucomir (from E. Inverness).	

## EAST INVERNESS (10).

Mucomir— <i>Transferred to W. Inverness.</i>	
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## SUTHERLAND (7).

Golspie, H.R.S.— <i>Record ceased.</i>	
Lairg— <i>No reply.</i>	

## CAITHNESS (5).

Wick (Nosshead)— <i>Record unreliable.</i>	
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## ORKNEY (12).

## SHETLAND (6).

Lerwick.	
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## IRELAND.

## CORK (12).

Dunmanway (Coolkelure)— <i>Observer ill.</i>	
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## KERRY (7).

## WATERFORD (10).

Lismore (Ballygally).	
,, (Mocollop Castle).	

## TIPPERARY (7).

Cahir (Duneske)— <i>Observer moved.</i>	
Nenagh (Kilboy).	

## LIMERICK (4).

Adare Manor—*Not received.* |

## CLARE (11).

| Killaloe.

## WEXFORD (9).

| Wexford (Reclaimed Lands).  
| Enniscorthy (Woodbrook).

## KILKENNY (8).

Graigie (Brandondale)—*Record ceased.* | Kilkenny (Ballycallan).  
Kilkenny (Millmount)—*Record ceased.* | „ (Lavistown House).

## WICKLOW (9).

Bray (San Remo)—*Record imperfect.* |

## CARLOW (3).

## QUEEN'S COUNTY (2).

## KING'S COUNTY (4).

| Parsonstown (Birr Castle). 2nd g.

## KILDARE (4).

| Timolin Vicarage.

## DUBLIN (15).

Dundrum (Lynton)—*Not received.* | Killiney (Winterslow).  
Balbriggan (Laragh)—*Observer dead.* |

## MEATH (6).

Kells (Headfort)—*Not received.* |

## WESTMEATH (4).

## LOUTH (4).

	Drogheda (St. James').
	Dundalk (Farndreg).

## LONGFORD (2).

	Cloondrah.
	Edgeworthstown (Currygrane Ho.).

## GALWAY (10).

Recess Hotel— <i>Observer moved.</i>	Clifden (Kylemore Castle).
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## ROSCOMMON (2).

	Athlone.
	Rooskey.

## MAYO (9).

## SLIGO (4).

## LEITRIM (3).

	Jamestown (Albert Lock).
	Drumshambo.

## CAVAN (4).

Killeshandra (Castle Hamilton)— <i>Record imp.</i>	
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## FERMANAGH (1).

## MONAGHAN (2).

## ARMAGH (4).

Rich Hill (Fruitfield)— <i>Record ceased.</i>	
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DOWN (9).

| Newcastle (Tullymore Park).

ANTRIM (17).

Belfast (Queen's Coll.)—*Record deficient.* |

LONDONDERRY (6).

TYRONE (3).

DONEGAL (9).

| Letterkenny (District Asylum).

## OBITUARY.

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THE following list is so exceptionally short that we fear that the relatives of several of our correspondents who have been called to their rest have failed to communicate with us, and with the increasing strain of modern life this is perhaps natural, but we much regret our resulting inability to pay a tribute to their memory by putting on record their aid in increasing our knowledge of our supply of the first necessary of life.

The list contains the names of two of the few remaining contributors to the first volume of *British Rainfall*, James Glaisher and Alfred Haviland. The first the best-known meteorologist of recent times and actively concerned in the revival of interest in the science, which took place in the first half of last century. A tribute to his memory appeared only recently in the *Meteorological Magazine*. The second a surgeon of wide attainments who advanced his science by masterly investigations of the geographical distribution of disease. Another meteorologist of renown in the early part of last century whose death we have to chronicle is A. Follett Osler, the inventor of the self-recording anemometer and rain gauge which is still in use at Greenwich Observatory.

These deaths reduce the number of original contributors on our list to nine; but several of these ceased to observe many years since, and we fear that in some cases news of their death has never reached us. Of them we may mention—

Mr. B. Barrow.....	Ryde.
Mr. W. Horton Ellis .....	Exeter.
Mr. J. R. Mann .....	Osborne.
Mr. J. Silver .....	White Waltham.
Mr. W. Vicary .....	Exeter.

We shall be much gratified if any of our correspondents can send us information concerning these pioneers of our Organization.

It would be an ungracious task to make any selection of names from those who have all worked for the increase of our knowledge of nature, but as usual we set out those who have been spared to continue their labours for a longer time than usually falls to the lot

of man, and we find that no fewer than eleven of the deceased observers had recorded for 30 or more years :—

Mr. F. Dix .....	of Norwich .....	62 years.
Mr. J. Glaisher .....	„ Croydon.....	59 „
Rev. A. Christopherson .....	„ Colton, Ulverston .....	56 „
Mr. E. J. Collingwood. ....	„ Lilburn Tower .....	47 „
Mr. J. B. Hamilton ...	„ Leny, Callander .....	40 „
Mr. R. A. Iles.....	„ Fairford .....	40 „
Ald. J. F. Roberts .....	„ Plymouth Grove, Manchester	34 „
Rev. G. L. Woolcombe .....	„ Hemerdon, Plympton.....	34 „
Rev. S. P. Warren.....	„ Laragh, Balbriggan.....	32 „
Mr. D. J. Kay.....	„ Drum Park, Irongray.....	31 „
Capt. J. Paul .....	„ Cambus Wallace .....	31 „

We have this year unusual evidence of that longevity of scientific observers of which our late chief so often spoke but which to our great regret he himself did not attain. The veteran Follett Osler was 95, followed closely by Glaisher and Dr. Prior, 93 ; F. Dix, of Norwich, 89 ; D. J. Kay, of Drum Park, 87 ; the Rev. E. T. Williams, of Chepstow, 86 ; Alderman Roberts, late Mayor of Manchester, R. A. Iles, of Fairford, and W. Lane, of Hawkshead, 84 ; and J. B. Hamilton, of Leny, 82 ; while at least three of our most valued correspondents still observing have completed their ninetieth year.

*Observers Deceased to July, 1903.*

NAMES AND STATIONS.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
Balfour, Mrs., Balfour Castle, Shapinsay .....	1888-1902 .....	15
Bone, Mr. T., { Portland Road, Newcastle-on-Tyne.	1880-85. 1887-88,	20
{ Claremont Road, Newcastle-on-Tyne	1890-95 T .....	
Brunskill, Rev. J., { Threlkeld Rectory, Keswick.	C 1896-1902 imp C	18
{ Ormshed, Appleby .....	1882 imp-93 imp T	
Buchanan, Sir J., Craigend Castle, Strathblane ...	C 1894-1902 .....	13
{ Lancaster .....	C 1888 imp -1902 imp T	
Christopherson, Rev. A., { Caton, Lancaster .....	C 1849-51 T .....	56
{ Colton, Ulverston.....	C 1852-76 imp .....	
Clark, Mrs. Bayfield, Wingfield, Trowbridge .....	1874-1902 ... ..	4
Clarke, Col. M. A., Achareidh, Nairn.....	1898-1901 T .....	
Collingwood, E. J., Lilburn Tower, Ilderton.....	1890-1901 C .....	12
Cowan, Insp.-Gen., R. N., Leigh Lodge, Worcester.	1856-1902 .....	47
Dalrymple, Hon Mrs. G. G., Elliston, St. Boswell's, NB	C imp 1894-1902 .....	9
{ Dickleborough, Diss .....	1901-1902 .....	2
Dix, F., { Essex Street, Norwich .....	C 1839-1874 imp T	62
	C 1874 imp -1901 T }	

*Observers Deceased to July, 1903—(continued).*

NAMES AND STATIONS.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
Douglas, W., Inveraray, N.B. ....	1894 T .....	1
Evan-Thomas, Commander, R.N., Caerwnnon, Builth	1896-1901 imp T ..	5
France, C., Oliver Hill, Horsforth, Leeds .....	1879-1901 T .....	23
Gape, Rev. C., Rushall Vicarage, Harleston .....	C 1874 imp-1898 imp T	23
Glaisher, J., F.R.S., {	Royal Observatory, Greenwich	59
	Blackheath .....	
	Heathfield Road, Croydon ...	
Green, T. A., {	Pavement End, Grasmere .....	19
	Fairfield .....	11
Hamilton, J. B., Leny, Callander, N.B. ....	1852-55 imp, 1860 imp-1902 .....	40
Hamond, W., Pensthorpe, Fakenham .....	1885 imp-1902 ...	17
Hardwick, W. A., Giggs Hill, Thames Ditton .....	1893-95 imp T, C 1896 imp-1902 imp T ...	7
Harrison, E., Oaklands, Watford .....	C 1870-94, 1896 & 1897 T	26
Haviland, A., {	Bridgwater .....	2
	Ridgemount, Frimley Green .....	
Iles, R. A., {	Kempsford, Fairford .....	40
	Horcott, Fairford .....	
Kay, Duncan James, Drum Park, Irongray .....	1872-1902 .....	31
Lane, W., Hawkshead .....	C 1873-83 T .....	11
Mills, W. G., Torfrey, Par Station .....	1902 .....	1
Nihill, Miss M. C., Bennington .....	1894, 1896-1902 T	8
*Osler, A. Follett, F.R.S., South Bank, Edgbaston		
Paul, Capt. John, Cambus Wallace, Biggar .....	1872-1902 .....	31
Pease, Sir J. W., Bt., M. P., Hutton Hall, Guisborough	C 1874-1901 C .....	28
Pettigrew, A., Cardiff Castle .....	1876-1902 .....	27
Prior, Dr. R. C. A., Halse House, near Taunton ..	1870-76 all imp 1881 imp	
Ramsden, J. E., Bankfield, Golcar, Huddersfield ..	1869-76, 1882-1901	28
Rathbone, S. G., Bassenfell, Bassenthwaite .....	1898-1902 .....	5
Roberts, Ald. J. F., Plymouth Grove, Manchester	C 1867-1902 imp T ...	34
Shiers, B., Amblethorpe, Ilkley .....	C 1900 imp-1901 ..	1
Taylor, Frank, Ash Lawn, Heaton, Bolton .....	1890-1902 .....	13
Warren, Rev. S. P., Laragh, Balbriggan .....	1866 imp-1901 T ...	32
Watkins, J., Llandovery .....	C 1878 imp-1902 T	24
Watson, J. D., {	Braystones, Ravenglass .....	27
	Irtside, Holm Rook .....	
Williams, Rev. E. T., Caldicot Hall, Portskewett.	1891-1902 .....	11
Wood, Rev. J. Cooper, The Clive Vicarage, Wem.	C 1887 imp-1902 ...	15
Woolcombe, Rev. G. L., {	St. Sennen, Penzance ...	34
	St. Mewan, St. Austell..	
	Hemerdon, Plympton ...	

\* The observations which Mr. Osler maintained appeared under the name of the observers.

NOTE.—C indicates commencement of record and also its continuation, T its termination.



**RAINFALL AND METEOROLOGY**  
**OF**  
**1902.**

### SYMBOLS EMPLOYED.

<i>H.R.S.</i>	- -	Highland Railway Station.
<b>H</b>	- - - -	Hail.
<b>L</b>	- - - -	Lightning.
<b>R</b>	- - - -	Rain, Rainfall.
<b>S</b>	- - - -	Snow.
<b>T</b>	- - - -	Thunder.
<b>TS</b>	- - -	Thunderstorm.
<b>TSS</b>	-	Thunderstorms.

## ON THE METEOROLOGY OF 1902.

### WITH NOTES ON SOME OF THE PRINCIPAL PHENOMENA.

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These Notes should be read in conjunction with those on Heavy Rains in 1902.

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#### JANUARY.

1st.—*Further Barton* (VI). Heavy S.W. gale in even.—*Tenbury, Rochford* (VI). Teme in flood.—*Brampton, Denton House* (X). A gale with R.

4th.—*Drumnadrochit* (XVIII). T.

4th and 5th.—*Southport, Hesketh Park* (VIII). Strong W. to W.S.W. gales.

10th.—*Cauldhame* (XV). S.

10th and 11th.—*Musselburgh, Levenhall* (XIII). S.

11th.—*Southport, Hesketh Park* (VIII). S.—*Goldsborough Hall* (IX). S.

12th.—*Dalry, Blair* (XIV). S.

12th and 13th.—*Lynturk Munse* (XVII). S.

14th.—*Cauldhame* (XV). S.

15th.\*—*Bournemouth, Kempsey* (II). Highest sea level pressure by standard Fortin barometer 30·927 in. at 10.30 a.m.

18th.—*Southport, Hesketh Park* (VIII). Fine solar halo and parhelion and fine lunar halo.

19th.—*Drumnadrochit* (XVIII). S.

22nd—27th.—*Drumnadrochit* (XVIII). S daily.

23rd.†—*Watford, Weetwood* (III). The twelfth consecutive rainless day. The longest dry period during the year.—*E. Harptree, Harptree Court* (V). A curious layer of reddish-yellow dust fell covering smooth surfaces to a depth of ·01 in. or less.

23rd—26th.—*Londonderry, Creggan Res.* (XXIII). S daily.

24th.—*West Dean* (II). Heavy showers and H.—*Clifton, Pembroke Road* (VI). S and H.—*Stroud, Upfield* (VI). T and L between 8 and 10 p.m.—*Bishop's Castle, Castle Street* (VI). S.—*Hemingby* (VII). S at night.—*Bolton, The Park* (VIII). Five to six inches of S.—*Southport,*

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\* See also *Met. Mag.*, February, 1902, p. 4. † *Ibid*, p. 1.

*Hesketh Park* (VIII). S and H.—*Broughton in Furness* (VIII). Slight T and L, H and S.—*Goldsborough Hall* (IX). S.—*Keswick, Bank* (X). S yielding .75 in.—*Brampton, Denton House* (X). A peal of T with L.—*Newport, New Mills* (XI). S, T and L.—*Lower Penarth* (XI). S yielding .19 in.—*Dowlais, Gwernllwyn* (XI). Heavy S and R.—*Llandefaelog-fach* (XI). S in afternoon and night.—*Colmonell* (XIV). S.—*Campbelltown, Redknowe* (XV). S.—*Dunmanway, Coolkelure* (XX). S yielding .58 in.—*Broadford, Hurdlestown* (XX). Heavy S showers.—*Belturbet, Cloverhill* (XXIII). S.

24th and 25th.—*Tavistock, Whitchurch* (V). S and H.—*Penzance, St. Clare* (V). H.—*Glenaladale* (XVIII). S.—*Crossmolina, Enniscoe* (XXII). S and H.—*Markree Observatory* (XXII). Heavy S.

24th—26th.—*Tenbury, Rochford* (VI). S each day.—*Neston, Hinderton* (VIII). S daily.—*Thelwall, Millington House* (VIII). S.—*Monaghan, Rowantree House* (XXIII). S.—*Stewartstown, The Square* (XXIII). S daily.

24th—27th.—*Grange, Belmont* (VIII). S each day.—*Seathwaite Vicarage* (VIII). S daily.—*Upper Midhope* (IX). S daily; two and a half inches deep on 26th.

25th.—*Slough, Upton* (III). S.—*Bridgwater, Pawlett* (V). S.—*Chelford, Astle Hall* (VIII). Four and a half inches of S.—*Broughton-in-Furness* (VIII). Slight T and L and about two inches of S.—*Lochmaddy* (XVIII). S.—*Miltown Malbay* (XX). S and H.

25th and 26th.—*Culham Vicarage* (III). S.—*Southport, Hesketh Park* (VIII). S and H one inch deep. Strong N.W. to N.N.W. gale.—*Balruddery Gardens* (XVI). S.—*Laragh, Glendalough* (XXI). S.

25th—29th.—*Crathes, Pinewood* (XVII). S daily.—*Lynturk Manse* (XVII). S daily.—*Cawdor, Budgate* (XVII). S daily.—*Watten, H.R.S.* (XIX). S daily; 5 to 6 inches deep on 28th.

26th.—*Henley-on-Thames* (III). S.—*Pyrton Manor* (III). S.—*Swerford* (III). S two inches deep.—*Burgh Castle Rectory* (IV). A little S.—*Further Barton* (VI). S.—*Hemingby* (VII). S at night.—*Irby-on-Humber* (VII). S yielding .08 in.—*Chelford, Astle Hall* (VIII). One inch of S.—*Bolton, The Park* (VIII). Five to six inches of S.—*Cartmel, Flookburgh* (VIII). S yielding .15 in.—*Dowlais, Gwernllwyn* (XI). Two inches of S.—*Colmonell* (XIV). S.—*Campbelltown, Redknowe* (XV). S.

26th and 27th.—*Boot Vicarage* (X). S.

27th.—*Findern, The Longlands* (VII). S storm.—*Southport, Hesketh Park* (VIII). S.—*Broughton-in-Furness* (VIII). About two inches of S.

—*Musselburgh, Levenhall* (XIII). S.—*Eigg* (XVIII). S yielding .56 in.  
—*Miltown Malbay* (XX). T and L.

27th and 28th.—*Ballachulish, Ardsheal* (XV). S.—*Forfar* (XVI). S.—*Glenaladale* (XVIII). S.

27th—29th.—*Inveraray Castle* (XV). S.

28th.—*Bishop's Castle, Castle Street* (VI). S.—*Rochdale, Fieldhead* (VIII). In 15 minutes from 2.22 a.m. .14 in. of R fell.—*Dunkeld, Inverbraan* (XVI). S.—*Lochmaddy* (XVIII). Six inches of S.

28th and 29th.—*Scarborough, Scalby* (IX). S. — *Ballachulish, Alltshellach* (XVIII). S.

28th—31st.—*West Dean* (II). Slight S daily.

29th.—*Lechlade* (VI). S.—*Irby-on-Humber* (VII). S yielding .11 in.  
—*Musselburgh, Levenhall* (XIII). S.—*Dalry, Blair* (XIV). S.

29th and 30th.—*Hemingby* (VII). S.

30th.—*Culham Vicarage* (III). S.—*Oxford, Banbury Road* (III). A blizzard for 20 minutes about 4.30 p.m. but no S remained in the gauge.

31st.—*Chelford, Astle Hall* (VIII). S ; blowing hard from N.E.

31st and February 1st.—*Tenterden* (II). N.E. gale.

## FEBRUARY.

1st.—*Tavistock, Whitchurch* (V). E.N.E. gale.—*Glasgow, Queen's Park* (XIV). S.

1st—3rd.—*Broxbourne* (III). S.

2nd.—*Chelford, Astle Hall* (VIII). Strong N.E. gale.

2nd and 3rd.—*Reigate, Woodhatch Lodge* (II). S.—*Wallington* (II). S.—*Slough, Upton* (III). S.—*Henley, Northfield House* (III). S.—*Pyrton Manor* (III). S.—*Lichborough Hall* (III). S.—*Coventry, Kingswood* (VI). S.

2nd—4th.—*Chelmsford, Springfield Place* (IV). S.

2nd—8th.—*Speldhurst Rectory* (II). S.

3rd.—*Abinger Rectory* (II). S.—*West Dean* (II). S.—*Cookham Vicarage* (II). S.—*Berkhamsted, Rosebank* (III). S.—*Ipswich, Copdock* (IV). S.—*Mildenhall* (V). S.—*Penarth* (XI). S.

3rd and 4th.—*Caterham Valley, Bradenhurst* (II). S.

5th—9th.—*Barbon Manor* (X). S each day.

6th.—*Riverhead Vicarage* (II). S.—*Lewes, Southover* (II). S.—*Crowborough* (II). S three inches deep.—*Ventnor* (II). S.—*Kylemore House* (XXII). S.

6th and 7th.—*Athlone, Twyford* (XXI). S.

6th—8th.—*Caterham Valley, Bradenhurst* (II). S daily, two and a half inches deep on 6th.—*Fearn, Lower Pitkerrie* (XVIII). S.—*Maryborough, Bullyfin* (XXI). S daily.

6th—9th.—*Lilliesleaf, Riddell* (XII). S daily.—*Coldstream, The Hirsell* (XIV). S each day.

6th—10th.—*Grange, Belmont* (VIII). S each day.

6th—12th.—*Broughton-in-Furness* (VIII). S daily, except 11th.

6th—13th.—*Watten, H.R.S.* (XIX). S daily.—*Buncrana, Rockfort* (XXII). S daily.

7th.—*Southport, Hesketh Park* (VIII). H.—*Newcastle, Town Moor* (X). S.—*Boot Vicarage* (X). S.—*Penarth* (XI). S.—*Llandefaelog-fach Rectory* (XI). S.—*Dumfries* (XII). S.—*Colmonell* (XIV). Four inches of S.—*Oldcastle, Killeagh Rectory* (XXI). S.—*Monaghan, Rowantree House* (XXIII). S fourteen and a half inches deep.—*Belturbet, Cloverhill* (XXIII). S.—*Lurgan, Belle Vue* (XXIII). S ten inches deep.—*Seaforde* (XXIII). S yielding 1·45 in.—*Banbridge, Milltown* (XXIII). S; yielding 1·24 in.

7th—8th.—*Muswell Hill* (I). S.—*Wallington* (II). S.—*Berkhamsted, Rosebank* (III). S.—*Henley, Northfield House* (III). S.—*Highmore Vicarage* (III). S.—*Culham Vicarage* (III). S.—*Pyrton Manor* (III). S.—*Lichborough Hall* (III). S.—*Tavistock, Whitchurch* (V). S; L in even on 7th.—*Lechlade* (VI). S.—*Keswick, Eskin Place* (X). S storm during the night.—*Maxwelton House* (XII). S.—*Moynalty, Westland* (XXI). S yielding 1·09 in on 7th.

7th—9th.—*Penkridge, Rodbaston* (VI). S.—*Coventry, Kingswood* (VI). S daily.—*Wath-on-Deerne* (IX). S.—*Mullingar, Belvedere* (XXI). S.

7th—11th.—*Stoke, Hartskill* (VI). S each day.—*Neston, Hinderton* (VIII). S daily.—*Hooton Grange* (VIII). S each day.—*Wilmslow, Parksye* (VIII). S each day.—*Northenden, Wythenshawe* (VIII). S each day.—*Pale Gardens* (IX). S each day.—*Crossmolina, Enniscoe* (XXII). S and H.

7th—12th.—*Cheadle, The Heath House* (VI). S daily.—*Thelwall, Millington House* (VIII). S daily.—*Warrington, Training College* (VIII). S.—*Llandudno* (XI). S daily.

8th.—*Staines* (I). S.—*Cookham Vicarage* (II). S.—*Slough, Upton* (III). S.—*Swerford* (III). S one and a half inches deep.—*Ipswich, Copdock* (IV). S.—*Burgh Castle Rectory* (IV). S.—*Mildenhall* (V). S.—*Further Barton* (VI). S.—*Hemingby* (VII). S.—*Chelford, Astle Hall*

(VIII). Two inches of S fell in the morning and two inches more in the evening.—*Keswick, Bank* (X). S yielding .64 in.—*Dowlais, Gwerllwyn* (XI). Three inches of S.—*Cargen* (XII). Ten inches of S interrupting road traffic and causing serious expense to stock farmers.—*West Linton, Rutherford* (XIII). S.—*Dalry, Blair* (XIV). S yielding .24 in.—*Cauldhame* (XV). S.—*Eigg, Kildonan* (XVIII). S.

8th and 9th.—*Southport, Hesketh Park* (VIII). S five-and-a-half inches deep.—*Cartmel, Flookburgh* (VIII). S.—*Upper Midhope* (IX). S.—*Lligwy* (XI). S.—*Inveraray Castle* (XV). S.

8th—10th.—*West Hartlepool, Bradgate* (X). S.

8th—11th.—*Spilsby, Hagnaby Priory* (VII). S.—*Colwyn Bay, Bryn Euryn* (XI). S daily.—*Drumnadrochit* (XVIII). S daily.

8th—12th.—*Lynturk Manse* (XVII). S daily; two inches deep on 9th and 10th.—*Kintail, The Glebe* (XVIII). S each day.

8th—13th.—*Glencarron* (XVIII). S daily, nineteen inches deep on 12th.

9th.—*Middlesbrough, Ormesby* (IX). S.—*Oakley Quarries* (XI). S 9 inches deep.

9th—10th.—*East Harptree Court* (V). S.

10th.—*Chelford, Astle Hall* (VIII). Two inches of fresh S making the depth on the ground on 11th 6 inches.—*Llandefaelog-fach Rectory* (XI). S.

10th—13th.—*Lochmaddy* (XVIII). S; an inch deep on 9th.

11th.—*Horsley, Woodcote Lodge* (II). S.—*Hemingby* (VII). S.—*Boot Vicarage* (X). S.—*Borrowdale, Grange* (X). S.—*Eigg, Kildonan* (XVIII.) S.

12th.—*Dalry, Blair* (XIV). S yielding .12 in.

13th.—*Scarborough, Scalby* (IX). S.

13th and 14th.—*Sprowston, Oak Lodge* (IV). S.—*Spilsby, Hagnaby Priory* (VII). S.—*Chelford, Astle Hall* (VIII). Fog.

13th—15th.—*Chelmsford, Springfield Place* (IV). S.

14th.—*Redhill, Hurstleigh* (II). S.—*Lewes, Southover* (II). S.—*Berkhamsted, Rosebank* (III). S.—*Bury St. Edmunds, Westley* (IV). S.—*Burgh Castle Rectory* (IV). S.—*Hemingby* (VII). S.

15th.—*Maidstone, Allington* (II). S four inches deep.

16th.—*Tenterden* (II). Min. temp. the lowest for 7 years. In Stevenson's screen 14°·0, on bare ground 8°·0, on snow 5°·5.

18th.—*Meltham, Harewood Lodge* (IX). Silver thaw.—*Glasgow, Queen's Park* (XIV). S.

19th.—*Datchworth Rectory* (III). Absolute drought for 16 days ended.

19th and 20th.—*West Dean* (II). S.

20th.—*Highmore Vicarage* (III). Frost for 27 consecutive nights ended.

26th.—*Keswick, Bank* (X). S yielding .63 in.

26th—28th.—*Lilliesleaf, Riddell* (XII). S daily.

28th.—*Further Barton* (VI). T and H.

### MARCH.

1st.—*Little Saxham* (IV). Severe TS and 1.01 in. of R and H, .50 in. of which fell between 4 and 5 p.m.

2nd.—*Wallington* (II). Sheet L.—*Thixendale* (IX). T, L and heavy storm from 5.30 to 6.30 p.m.

3rd and 4th.—*Burgh Castle Rectory* (IV). Thick fog.

5th.—*Further Barton* (VI). Thick fog till 1 p.m.—*Goldsborough Hall* (IX). Dense fog all day.

5th and 6th.—*Bolton, The Park* (VIII). Fog.

6th.\*—*Christchurch, Winkton Lodge* (II). On the western horizon after sunset appeared a bright crimson sun pillar on a cloudless sky. It retained a vertical position as it gradually sank, being well defined and dome shaped at the top.—*Further Barton* (VI). Thick fog till noon. Very fine sun pillar from 5.45 p.m. to 6.15 p.m.—*Stroud, Harescombe Grange* (VI). A very bright sun pillar was seen at sunset and remained visible a long time.—*Oystermouth, Newton* (XI). A blood-red sun pillar was seen from 6 to 6.30 p.m. extending 15° above the horizon.

6th and 7th.—*Tavistock, Whitchurch* (V). Sun-pillars seen from 5.50 p.m. to 6.35 p.m. on 6th and from 6.40 p.m. to 6.45 p.m. on 7th.

13th.—*Lochmaddy* (XVIII). Very severe S. to S.W. gale.

15th.—*Chiddingfold* (II). Short and sharp storm from 1.10 to 2.10 a.m. H at 1.34 a.m. Terrific gust at 1.36 a.m. lasting 8 to 10 seconds.

19th—25th.—*Crossmolina, Enniscoe* (XXII). H and S.

20th.—*Cookham Vicarage* (II). H and T.—*Wilmslow, Parksye* (VIII). TS and H.—*Southport, Hesketh Park* (VIII.) H. Strong S.W. to W. gale.—*Llandefaelog-fach* (XI). S at night.—*Broadford, Hurdlestown* (XX). S and H.

20th and 21st.—*Swerford* (III). Large H stones.—*Broughton-in-Furness* (VIII). Gale with H, S and sleet.—*Upper Midhope* (IX).

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\* See also *Met. Mag.*, April, 1902, p. 33.



H and S.—*Dowlais, Gwenllwyn* (XI). Stormy with H and R, and T on 21st.

20th—22nd.—*Croydon, Duppas House* (II). H and R.—*Kew Observatory* (II). R and H.—*Treherbert, Tyn-y-waun* (XI). S, H and T.

20th—23rd.—*Bishop's Castle* (VI). S and H.—*Markree Observatory* (XXII). H daily.

20th—24th.—*Abergwesyn Vicarage* (XI). H and S.

20th—25th.—*Wolsingham* (X). S daily except 21st.

21st.—*Kensington, Edith Road* (I). T in afternoon.—*Berkhamsted, Rosebank* (III). H.—*Highmore Vic.* (III). T and H.—*Alderbury* (V). T and heavy H at 3 p.m.—*Dowlais, Gwernllwyn* (XI). H, S, T.

21st and 22nd.—*Southport, Hesketh Park* (VIII). S and H.—*Grange, Belmont* (VIII). H and R.—*Lynturk Manse* (XVII). S.

21st—23rd.—*Auchen Castle* (XII). S.

22nd.—*Ipswich, Copdock* (IV). H.—*Eskdale Vicarage* (X). S.—*Llandefaelog-fach* (XI). S.

23rd.—*Ryde, Beldornie Tower* (II). Slight TS.—*Bournemouth, Kempsey* (II). H showers. T heard to the N.E. at 4.56 p.m.—*Swerford* (III). Large H.—*Burgh Castle Rectory* (IV). Heavy H storms.—*Waterford, Brook Lodge* (XX). H.—*Ballyfin* (XXI). S.—*Carrickmines, Claremont* (XXI). H.—*Woodlawn* (XXII). S.

23rd and 24th.—*Belturbet, Cloverhill* (XXIII). S.

23rd—25th.—*Barbon Manor* (X). S each day.

23rd—26th.—*Colmonell* (XIV). S or H showers.

24th.—*Kensington, Edith Road* (I). S.W. gale at night.—*Berkhamsted, Rosebank* (III). H.—*Sturminster Marshall, Bailie House* (V). H storm at 9.10 a.m.

24th and 25th.—*Lochmaddy* (XVIII). S.—*Stewartstown, The Square* (XXIII). S.

24th—26th.—*Shap, Reagill* (X). S.

25th.—*Tenterden* (II). N.N.W. gale.—*Dalry, The Old Garroch* (XII). Four inches of S.—*Dalry, Blair* (XIV). S yielding .24 in.—*Inveraray Castle* (XV). S.

25th and 26th.—*Cauldhame* (XV). S and sleet.

25th—28th.—*Auchen Castle* (XII). S.

26th and 27th.—*Ballachulish, Alltshellach* (XVIII). S.

27th.—*Balruddery Gardens* (XVI). S.—*Forfar* (XVI). S.

28th.—*Southport, Hesketh Park* (VIII). Fine solar halo and parheliion.

29th and 30th.—*Lynturk Manse* (XVII). S.

## APRIL.

2nd.—*Tavistock, Whitchurch* (V). Sun pillar  $5^{\circ}$  high from 6.50 to 7.15 p.m.—*Cirencester, Further Barton* (VI). Heavy W. gale in even with H, R and sleet.

2nd and 3rd.—*Lynturk Manse* (XVII). S.—*Horn Head* (XXIII). Heavy S.

3rd.—*Southport, Hesketh Park* (VIII). H.—*Upper Midhope* (IX). T, L and very heavy H.—*Thixendale* (IX). S.—*Shap, Reagill* (X). Heavy S showers.—*Llandovery* (XI). H.—*Llandudno* (XI). T and L; heavy H at 6.20 p.m.—*Musselburgh, Levenhall* (XIII). S and sleet.—*Balruddery Gardens* (XVI). S.

3rd and 4th.—*Douglais, Gwernllwyn* (XI). H.—*Forfar* (XVI). S.—*Crathes, Pinewood* (XVII). S and sleet.

3rd—5th.—*Cheadle, The Heath House* (VI). S and H.

4th.—*Meltham, Harewood Lodge* (IX). T and L at 5.50 p.m.

5th.—*Burgh Castle Rectory* (IV). Gale at night and T.—*Norwich, Brundall* (IV). T and L.—*Southport, Hesketh Park* (VIII). S.

6th.—*Tenterden* (II). N.N.W. gale.

12th.—*Crathes, Pinewood* (XVII). S on hills.—*Lynturk Manse* (XVII). S nearly one and a half inches deep in the morning and more during the day, the ground being still white on morning of 13th.

13th.—*Colmonell* (XIV). H, T and L.—*Monymusk Manse* (XVII). S on the hills.

16th.—*Broxbourne* (III). T and H and very local R.

17th.—*Ipswich, Copdock* (IV). T.—*Campden Hidcote* (VI). T.

19th.—*Cauldhame* (XV). T and L.

20th.—*Clifton, Pembroke Road* (VI). H.—*Bishop's Castle, Castle Street* (VI). TS.—*Chelford, Astle Hall* (VIII). TS.—*Upper Midhope* (IX). TS from 6 to 7.30 p.m., with H and R.—*Meltham, Harewood Lodge* (IX). TS from 5.30 to 6 p.m.—*Goldsborough Hall* (IX). TS in the even. Very vivid L but little R.—*Knaresborough, Farnham* (IX). T and L.—*Baldersby* (IX). T and L at 7 p.m.—*Newport, New Mills* (XI). T and L.—*Treherbert, Tyn-y-waun* (XI). T.

20th and 21st.—*Cirencester, Further Barton* (VI). Rough and squally with T.

21st.—*Wakefield, Stanley Grange* (IX). TSS with vivid L.—*West Hartlepool, Bradgate* (X). TS.

23rd.—*Bishop's Castle, Castle Street* (VI). TS.—*Hemingby* (VII). T.—*Bolton, The Park* (VIII). T.—*Southport, Hesketh Park* (VIII). TS.

*Goldsborough Hall* (IX). T.—*Brampton, Denton House* (X). Distant T.—*Dowlais, Guernllwyn* (XI). L, T, R and heavy H showers.—*Inveraray, Newtown* (XV). T.—*Balquhiddier, Stronvar* (XVI). H showers and T.—*Markree Observatory* (XXII). H showers and T.

24th.—*Norwich, Brundall* (IV). TS and H.

27th.—*Chelford, Astle Hall* (VIII). Gale from E.

27th and 28th.—*West Dean* (II). Severe N.E. gale.

29th.—*Southport, Hesketh Park* (VIII). Fine solar halos of unusual form.

# MAY.

1st.—*Chelford, Astle Hall* (VIII). H.—*Lynturk Manse* (XVII). S showers.

1st—4th.—*Bishop's Castle, Castle Street* (VI). H daily.

2nd.—*Chelford, Astle Hall* (VIII). T and H.—*Thixendale* (IX). T with H.—*Reagill* (X). Cross Fell covered with S.

2nd and 3rd.—*Grange, Belmont* (VIII). L, T and H.

3rd.—*Wallington* (II). T, L and H.—*Broxbourne, Stafford House* (III). T, L and H.—*Oxford, Banbury Road* (III). T, and H.—*Swerford* (III). H, L and T.—*Rendlesham Hall* (IV). Sharp TS.—*Norwich, Brundall* (IV). T, L and large H.—*Findern, The Longlands* (VII). TS 2 to 4 p.m.—*Wilmslow, Parksyde* (VIII). TS and H.—*Rochdale, Fieldhead* (VIII). .08 in. of R fell in 9 minutes.—*Southport, Hesketh Park* (VIII). H.—*Meltham, Harewood Lodge* (IX). TS at 4.30 p.m.—*Brampton, Denton House* (X). T.

3rd and 4th.—*Highmore Vicarage* (III). H.—*Crathes, Pinewood* (XVII). H and S.

3rd—5th.—*Blakeney* (IV). H and S.

3rd—6th.—*Lynturk Manse* (XVII). S each day ; an inch deep on the 5th.

3rd—8th.—*Ipswich, Copdock* (IV). H or S daily, T on 3rd.

4th.—*Odsey [Royston]* (III). TSS.

5th.—*Wallington* (II). S.—*Hythe* (II). H and S.—*Rendlesham Hall* (IV). T, L and H.—*Chelford, Astle Hall* (VIII). H storms.—*Upper Midhope* (IX). S and H.—*Cauldhame* (XV). T and L.—*Forfar* (XVI). S and H.

5th and 6th.—*Lilliesleaf, Riddell* (XII). S and sleet, two inches deep at night on 5th.—*Crathes, Pinewood* (XVII). S on the ground.

5th—7th.—*Thixendale* (IX). S.

5th—8th.—*West Dean* (II). H, S and sleet showers.

5th—9th.—*Croydon, Duppas House* (II). H daily and T on 7th, 8th and 9th.

6th.—*Caterham Valley* (II). S about 1 p.m.—*Portsmouth, Milton* (II). H and S.—*Burgh Castle Rectory* (IV). S between 6 and 7 a.m. whitening the ground.—*Mildenhall* (V). S.—*Bishop's Castle, Castle Street* (VI). S and H.—*Coventry, Kingswood* (VI). S.—*Findern, The Longlands* (VII). S storm.—*Chelford, Astle Hall* (VIII). Heavy S storm.—*Southport, Hesketh Park* (VIII). H.—*Upper Midhope* (IX). S.—*Doncaster, Magdalens* (IX). Slight S storm.—*Goldsborough Hall* (IX). S, H and T.—*Llandinam, Plas Dinam* (XI). S.—*Llangyhanfal, Plas Draw* (XI). S, H and T.—*Colmonell* (XIV). H.—*Monymusk Manse* (XVII). S; the hills white on 5th and 7th.

6th and 7th.—*Emsworth, Redlands* (II). T and L.—*Little Saxham* (IV). H, S and T.—*Ashburton, Druid* (V). L.—*Wath-on-Dearne* (IX). S.—*Reagill* (X). S showers.—*Dowlais, Gwernllwyn* (XI). H.

7th.—*Caterham Valley* (II). TSS.—*Clapham Park, New Park Road* (II). Ball lightning fell to S.E. at 2.55 p.m.—*Ryde, Beldornie Tower* (II). T, L and H.—*Highmore Vicarage* (III). T, S and H.—*Oxford, Banbury Road* (III). S and H.—*Swerford* (III). Storm of wind, R, S and H about 4 p.m. coming from N. It was so dark for 10 minutes that lamps had to be used.—*Odsey [Royston]* (III). TS.—*Rochdale, Fieldhead* (VIII). In 10 minutes 10 in. of R fell.—*Southport, Hesketh Park* (VIII). TS.

7th and 8th.—*Kew Observatory* (II). R and H.—*Highmore Vicarage* (III). H; T on 7th.—*Glyncorrwg* (XI). H.

8th.—*Hassocks, Pyecombe* (II). At 1.18 p.m. clouds of hot steam poured out of the ground on the S. slope of Wolstonbury Hill for several minutes, such as had never before been experienced by residents here. It was not continuous but in small patches and children rushed from one to the other and danced in the warmth. A cold N. wind was blowing and no other signs of electrical or atmospheric disturbance were noticed.—*Thixendale* (IX). Aurora.

9th.—*Chelford, Astle Hall* (VIII). Frost and H.—*Southport, Hesketh Park* (VIII). H.

10th.—*Watford, Weetwood* (III). The eleventh consecutive rainy day, followed after two days by R on eight more days.

11th and 12th.—*Barbon Manor* (X). S and H.

11th—13th.—*Alford, Lynturk* (XVII). S and H showers daily.

12th.—*Hemingby* (VII). H storms.

12th and 13th.—*Highmore Vic.* (III). H.—*Reagill* (X). S on mountains.—*Crathes, Pinewood* (XVII). S.

13th.—*Blakeney* (IV). S.—*Coventry, Kingswood* (VI). S.—*Goldsbrough Hall* (IX). S.—*Monymusk Manse* (XVII). S.

13th and 14th.—*West Dean* (II). S and great havoc caused by frost.—*Slough, Upton* (III). Excessively destructive frost. Potatoes were blackened, asparagus shoots killed, gooseberries and strawberries injured and hardy azaleas had all their blossom spoilt.

14th.—*Tenterden* (II). Min. temp. in screen 29°·5, the lowest in May since observations began in 1877.—*Marlborough, Mildenhall* (V). Severe frost.—*Bishop's Castle, Castle Street* (VI). S.

15th and 16th.—*Reagill* (X). S showers.

15th—17th.—*Harptree Court* (V). H storms.

17th.—*Wallington* (II). T and H.—*Norwich, Brundall* (IV). Severe TS.—*Bishop's Castle, Castle Street* (VI). TS.—*Tenbury, Rochford* (VI). T, H and heavy showers.—*Coventry, Priory Row* (VI). T and much H.—*Chelford, Astle Hall* (VIII). T, H and R.—*Ormskirk, Aughton Springs* (VIII). TS with 1·18 in. of H, S and R all between 6 and 7 p.m.—*Dowlais, Gwernllwyn* (XI). Heavy H showers.—*Carrickmines, Claremont* (XXI). T, L and H.

17th and 18th.—*Ashburton, Druid* (V). H.—*Church Stretton, Woolstaston* (VI). TSS.—*Waterford, Brook Lodge* (XX). T and H.—*Broadford, Hurdlestown* (XX). T.—*Ballinasloe* (XXII). T, L and H.

18th.—*Lewes, Bedford Lodge* (II). TS and H.—*Emsworth, Redlands* (II). T and H.—*Sturminster Marshall, Bailie House* (V). Sharp H storm.—*Southport, Hesketh Park* (VIII). H.—*Upper Midhope* (IX). Heavy H.

18th and 19th.—*Highmore Vic.* (III). H.—*Campden, Hidcote* (VI). TSS.—*Eskdale Vicarage* (X). S on Scafell.

21st.—*Lynturk Manse* (XVII). A period of 23 consecutive rainy days ended.

22nd.—*Keswick Old Hall* (IV). R fell on 23 consecutive days ending on this date.—*Harptree Court* (V). H storms.

25th and 26th.—*Halton Gardens* (III). Duration of sunshine 12 hours each day.

29th.—*Southport, Hesketh Park* (VIII). H and fine solar halo.

30th.—*Broxbourne* (III). T.—*Trumpington* (III). TS and 1·42 in. of R at least 1·30 in. of which fell in 20 minutes.—*Cambridge, Benet Place* (III). R 1·30 in. the greater part of which fell in two bursts with a short interval and all in less than 30 minutes.—*Cambridge,*

*Sidney Street* (III). R 1·33 in. In 10 minutes from 6.48 p.m. quite 1·10 in. fell; being the heaviest fall remembered.—*Swaffham* (IV). TS.—*Horncastle, Bucknall* (VII). T.

30th and 31st.—*Ipswich, Copdock* (IV). T and L.—*Norwich, Brundall* (IV). TSS, severe on 31st.—*Hemingby* (VII). W. gale and TSS.—*West Linton, Rutherford* (XIII). N.N.E. gale.

31st.—*Rendlesham Hall* (IV). Much T and L after 8 p.m.—*Burgh Castle Rectory* (IV). Severe TS till 2 a.m.

## JUNE.

1st.—*Chipping Norton, Kingham* (III). In 20 minutes half an inch of R fell.—*Little Saxham* (IV). TS at 3 a.m.—*Church Stretton, Woolstaston* (VI). T, L and heavy R.—*Worcester, Diglis Lock* (VI). Heavy TSS.—*King's Heath, Cambridge Road* (VI). In 12 minutes between 4 and 5 p.m. ·54 in. of R fell.—*Horncastle, Bucknall* (VII). TS from 4 a.m. to 6 a.m.—*Doncaster, Magdalens* (IX). TS.—*Lower Penarth* (XI). TS at midday and ·37 in. of R in 20 minutes.—*Swansea, Glanmor Crescent* (XI). In a TS ·88 in. of R fell between 0.5 p.m. and 1.5 p.m.—*Dowlais, Gwernllwyn* (XI). T, H and R.—*Llangyhanfal, Plas Draw* (XI). T and E. gale.—*Llandudno* (XI). TS in morning.—*Colmonell* (XIV). T and L.—*Waterford, Brook Lodge* (XX). T and 1·14 in. of R.

1st—3rd.—*Tunbridge Wells, Boarshead* (II). T.

1st—4th.—*Norwich, Brundall* (IV). T.

2nd and 3rd.—*Heathfield, Tottingworth Park* (II). T.

3rd.—*Tenterden* (II). Slight TS.—*Hythe* (II). TS.—*Sheppey, Leysdown* (II). Heavy TS.—*Christchurch, Winkton Lodge* (II). Sunset with brilliant colouring and after glow like the Krakatoa sunsets.—*Colchester, Lexden* (IV). TS at 4.30 a.m.—*Bury St. Edmunds, Westley* (IV). T.—*Horncastle, Bucknall* (VII). TS, 6 a.m. to 9 a.m.

3rd and 4th.—*Hemingby* (VII). TSS.

4th.—*Tenterden* (II). TS.—*Sudbury, Friars Street* (IV). Severe TS early.

4th—6th.—*Crathes, Pinewood* (XVII). T.

6th—16th.—*Kensington, Edith Road* (I). In 11 consecutive days the temp. did not rise above 60°.

7th.—*Redhill, Oxford Road* (II). T and L from 3 to 4 p.m.—*Redhill, Hurstleigh* (II). TS and severe H storm.—*Cookham Vicarage* (II). T.—*Oxford, Magdalen Coll.* (III). Heavy TS at mid-day.—*Oxford, Banbury Road* (III). TS from 0.30 to 1 p.m. with H, which lay in

patches afterwards.—*Swerford* (III). H and T.—*Cirencester, Further Barton* (VI). Squally with H, R and T.—*Coventry, Priory Row* (VI). H storm with T.

8th.—*Watford, Weetwood* (III). The twelfth consecutive rainy day, followed after two days by R on six more days.

12th.—*Southport, Hesketh Park* (VIII). TS.

13th.—*Ipswich, Woolverstone Park* (IV). TS and remarkable R from noon to 2 p.m., .45 in.—*Burgh Castle Rectory* (IV). In about half an hour from 2 p.m. .25 in. of R fell.

14th.—*Redhill, Hurstleigh* (II). TS.—*Wallington* (II). T and L.—*Lynmouth, Rock House* (V). T and vivid L.—*Bishop's Castle, Castle Street* (VI). TS and H.—*Irby-upon-Humber* (VII). Between 3.5 and 4 p.m. .30 in. of R fell.—*Findern, The Longlands* (VII). TS.—*Bolton, The Park* (VIII). T and L.—*Newport, New Mills* (XI). T and L.

15th.—*Meltham, Harewood Lodge* (IX). TS at 3 p.m.

16th.—*Cookham Vicarage* (II). T.—*Highmore Vicarage* (III). TS.—*Fingringhoe, Ballast Quay Farm* (IV). In an hour from 11 a.m. 1.53 in. of R and H fell.—*Colchester, Lexden* (IV). T and slight H.—*Bury St. Edmunds, Westley* (IV). T.—*Cirencester, Further Barton* (VI). T and L.—*Dowlais, Gwernllwyn* (XI). L and T.—*Bishop's Castle, Castle Street* (VI.) TS and H.—*Church Stretton, Woolstaston* (VI). T with H.—*Tenbury, Rochford* (VI). T and L.—*Dowlais, Gwernllwyn* (XI). L, T and R.

17th.—*Redhill, Oxford Road* (II). T and L between 3 and 4 p.m.—*Redhill, Hurstleigh* (II). TS.—*Tavistock, Whitchurch* (V). Solar halo and parhelion.

17th and 18th.—*West Dean* (II). White frost.

19th.—*Chelford, Astle Hall* (VIII). Gale from E.

22nd.—*Watford, Weetwood* (III). R fell on 41 out of the 54 days, ending on this date.

25th.—*Cork, Wellesley Terrace* (XX). T and L.

29th.—*Wisbech, Bank House* (III). In less than half an hour .90 in. of R fell.—*Wem, The Rectory* (VI). TS and .43 in. of R between 3 and 5 p.m.—*Findern, The Longlands* (VII). TSS.—*Knaresborough, Farnham* (IX). T and L.—*Thixendale* (IX). T and L.—*Llandudno* (XI). TS 4.30 to 5.30 p.m.—*Llwydiarth Esgob* (XI). TS at 4.45 p.m. with .53 in. of R in 45 minutes.

29th and 30th.—*Chelford, Astle Hall* (VIII). T.

30th.—*Abinger Rectory* (II). TS.—*Redhill, Hurstleigh* (II). TS.—*Caterham Valley, Bradenhurst* (II). TS.—*Wallington* (II). T and L.—

*Tenterden* (II). Slight TS 5 to 6 p.m., L at 9 p.m.—*Crowborough* (II). TS and 1·01 in. of R.—*Broxbourne* (III), L.—*Cambridge, Benet Place* (III). Absolute drought for 15 days ended.—*Dowlais, Gwernllwyn* (XI). L and R.—*Forfar* (XVI). T.—*Crathes, Pinewood* (XVII). TS at 4.20 p.m.—*Lynturk Manse* (XVII). TS.

## JULY.

1st.\*—*Uxbridge, Harefield Park* (I). In 38 minutes ·63 in. of R fell.—*Wallington* (II). T and L.—*Tenterden* (II). Slight TS and heavy R in evening.—*Funtlington* (II). In 16 minutes from 6.30 p.m. ·42 in. of R fell.—*Crowborough* (II). TS.—*Emsworth, Redlands* (II). T.—*Broxbourne* (III). T.—*Datchworth Rectory* (III). In 90 minutes 1·01 in. of R fell.—*Hitchin, The Chilterns* (III). R 1·40 in., of which 1·20 in. fell in 2 hours.—*Felixstowe, West View* (IV). Heavy TSS.—*Sudbury, Friars Street* (IV). Severe TS.—*Ipswich, Copdock* (IV). T, L and 1·65 in. of R.—*Ipswich, Clare Lodge* (IV). Between 0.45 p.m. and 2.45 p.m. 2·62 in. of R fell during a TS.—*Rendlesham Hall* (IV). Heavy storms of T, L and R.

8th.—*Brampton, Denton House* (X). T.

9th.—*Rochdale, Fieldhead* (VIII). In 5 minutes ·06 in. of R fell.—*Monymusk Manse* (XVII). R 1·25 in., mostly between 2.30 p.m. and 5 p.m.—*Cawdor, Budgate* (XVII). T and 1·06 in. of R.—*Markree Observatory* (XXII). H and sleet showers.

10th.—*Wallington* (II). T and L.—*Sheppey, Leysdown* (II). TS and H.—*Winslow, Addington* (III). T and H.—*Highmore Vic.* (III). TS.—*Rendlesham Hall* (IV). TS.—*Norwich, Brundall* (IV). TS and drenching showers of R.—*Bishop's Cannings* (V). T and H.—*Clifton, Pembroke Road* (VI). T with H.—*Hull, Pearson Park* (IX). T and H at midday.

16th—18th.—*Crathes, Pinewood* (XVII). T.

17th.—*Lynturk Manse* (XVII). TS in the afternoon, with large H stones.—*Monymusk Manse* (XVII). Severe TS, R 1·30 in.—*Cawdor, Budgate* (XVII). T.

19th.—*Sheppey, Leysdown* (II). T at night.—*Ipswich, Copdock* (IV). T and L.—*Rendlesham Hall* (IV). TS with H and heavy R. Total 2·04 in., of which 1·50 in. fell in an hour.—*Framlingham* (IV). Heavy local storm of R, (2·13 in.), causing much damage.—*St. Germans, Trethill* (V). R 2·06 in., most of which fell in a few hours at night.

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\* See also *Met. Mag.* July, 1902, p. 89.



19th and 20th.—*Liskeard, Dean Terrace* (V). R commenced at 3 p.m. on 19th and continued to 10 a.m. on 20th, by which time 2·39 in. had fallen. No T or L.—*Liskeard, Trevillis* (V). Continuous R from 3 p.m. to 11 a.m. Total 2·14 in.

20th and 21st.—*Thixendale* (IX). Very cold and stormy.

21st and 22nd.—*West Dean* (II). Heavy gale from N.W. with very low temp.

23rd.—*Knarborough, Farnham* (IX). Between 3.30 p.m. and 4 p.m. ·55 in. of R fell containing much black sediment.—*Cauldhame* (XV). TS and ·24 in. of R in 8 minutes.—*Forfar, Lilyfield* (XVI). In 40 minutes ·20 in. of R fell.

24th.—*Blair Atholl* (XVI). S on the mountains.

25th.—*Llandudno* (XI). T at 5.30 p.m.—*Cork, Wellesley Terrace* (XX). TS and 1·86 in. of R, being the greatest fall since December 23rd, 1895.—*Oldcastle, Killeagh Rectory* (XXI). In 9 hours from 10 p.m. 1·48 in. of R fell.

25th and 26th.—*Ballybrack, Streamville* (XXI). R began at 9 p.m. on 25th and in eight hours 1·85 in. fell, while in 24 hours 2·20 in. fell. This is the greatest fall since the record began in 1877.

26th.—*Wallington* (II). Severe gale and much damage to trees.—*Colchester, Lexden* (IV). S.W. gale, trees much battered.—*Belfast, Springfield* (XXIII). R 1·76 in., of which 1·75 in. fell between 11 a.m. and 6 p.m.

27th.—*Norwich, Brundall* (IV). TS.

28th.—*Hartley Wintney* (II). Strong W. gale.

30th.—*Lynmouth, Rock House* (V). A water spout was seen in the evening.—*Brampton, Denton House* (X). T.

31st.—*Lynmouth, Rock House* (V). A water spout was seen at 8.30 a.m.

#### AUGUST.

1st.—*Tenterden* (II). Pond even lower than in October, 1901.—*Chedington Court* (V). R 1·09 in., all falling in 2 hours 30 minutes.—*Ashburton, Druid* (V). TS.—*North Cadbury Rectory* (V). T.

2nd.—*Chelford, Astle Hall* (VIII). T.—*Montrose, Sunnyside Asylum* (XVI). T at 4 p.m.

6th.—*Colchester, Lexden* (IV). T.—*Sudbury, Friars Street* (IV). Severe TS and 1·14 in. of R; more than 1·00 in. fell in 40 minutes.—*Ipswich, Copdock* (IV). T, L and 1·13 in. of R.—*Rendlesham Hall* (IV). TS with H, R 1·11 in.—*Bishop's Castle, Castle Street* (VI). TS.—*Findern, The Longlands* (VII). TS.—*Rochdale, Fieldhead* (VIII). In

35 minutes ·20 in. of R fell.—*Broadford, Hurdlestown* (XX). T and L in afternoon.—*Miltown Malbay* (XX). TS.

6th and 7th.—*Bury St. Edmunds, Westley* (IV). Distant T.—*Norwich, Brundall* (IV). T.

7th.—*Burgh Hall* [Yarmouth] (IV). R 1·83 in., of which 1·48 in. fell in 70 minutes from 3.30 p.m. — *Burgh Castle Rectory* (IV). L, T and 1·84 in. of R. In 40 minutes from 3.30 p.m. ·80 in. fell, and in the next hour ·68 in. making a fall of 1·48 in. in 1 hour 40 minutes.—*Tilney St. Lawrence, Aylmer Hall* (IV). R 1·74 in., of which 1·18 in. fell in 30 minutes.—*Chelford, Astle Hall* (VIII). T.—*Limerick, Ballyneety* (XX). Between noon and 5 p.m. 3·70 in. of R is reported to have fallen.

8th.—*Tenterden* (II). TS. — *Ulcombe Place* (II). H and distant T.—*Lewes, Bedford Lodge* (II). TS and H.—*Heathfield, Tottingworth Park* (II). Terrific TS. L entered the belfry of Heathfield Church passed down a winding stairway and through a wall into the heating apparatus where it split two 4 inch pipes.—*Ryde, Beldornie Tower* (II). T.—*Ipswich, Copdock* (IV). T and L.

11th.—*Cirencester, Further Barton* (VI). French beans damaged by frost.

14th.—*Sheppey, Leysdown* (II). TS.—*Chichester, Chilgrove* (II). Between 2 and 3 p.m. 1·30 in. of R fell.—*Cirencester, Further Barton* (VI). T and L.—*King's Heath, Cambridge Road* (VI.) In 40 minutes from 5.52 p.m. ·80 in. of R fell.—*Lower Penarth* (XI). In 30 minutes ·35 in. of R fell.

15th—17th.—*North Cadbury Rectory* (V). Following solar and lunar halos on 15th and 16th, T, L and ·49 in. of R were recorded on 16th, and on 17th ·22 in. fell in 15 minutes at 3.15 p.m. and ·15 in. between 5.30 p.m. and 5.40 p.m.

16th.\*—*Haslemere, Hazelhurst* (II). TS with 1·11 in. of R.—*Sheppey, Leysdown* (II). TS and 1·14 in. of R at night.—*Maresfield, Forest Lodge* (II). TS and 1·05 in. of R.—*Crowborough* (II). TS and very heavy R at 11 p.m., 1·51 in.—*Ryde, Beldornie Tower* (II). TS and 1·20 in. of R.—*Emsworth, Redlands* (II). TS.—*Mildenhall* (V). T and L.—*Winterbourne Steepleton* (V). TS.—*Ashburton, Druid* (V). TS.—*Tavistock, Whitchurch* (V). T and L.—*St. Martin's, Les Blanchés* (XI). TS with ·61 in. of R between 5.30 and 7.15 p.m.

16th and 17th.—*Polapit Tamar* (V). T.

16th—18th.—*Crowborough, Uckfield Lodge* (II). Severe TS at

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\* See also *Met. Mag.*, September, 1902, p. 118.

11.15 p.m. and 1.51 in. of R on 16th, .10 in. on 17th and 1.49 in. on 18th.

17th.—*Swerford* (III). T at 4.30 p.m. and 5.15 p.m., and in 15 minutes from 5.5 p.m. .45 in. of R fell.—*Ashburton, Druid* (V). T and heavy R.—*Honiton, Combe Raleigh* (V). R 1.65 in., almost wholly between 11 p.m. and 9 a.m.—*Tatworth* (V). TS and 1.30 in. of R.—*Clifton, Pembroke Road* (VI). In a quarter of an hour at 3 p.m. .25 in. of R fell.—*Cirencester, Further Barton* (VI). T and L.—*Stroud, Upfield* (VI). T and L at 4 p.m.—*King's Heath, Cambridge Road* (VI). In 4 minutes .23 in. of R fell.—*Chelford, Astle Hall* (VIII). TS.—*Wilmslow, Parksye* (VIII). L and T.

18th.\*—*King's Heath, Cambridge Road* (VI). In 8 minutes .25 in. of R fell.—*Cauldhame* (XV). T and L.—*Strathmiglo* (XVI). In half an hour 1.35 in. of R fell.—*Balquhiddie, Stronvar* (XVI). T and L, 2 to 3 p.m.—*Dunkeld, Inverbraan* (XVI). Between 1 p.m. and 5 p.m., and mostly between 2 p.m. and 4.30 p.m., 1.25 in. of R fell in a TS.—*Forfar* (XVI). In 4 hours .81 in. of R fell.

19th.—*Horsley, Woodcote Lodge* (II). Heavy TS and .96 in. of R.—*Hartley Wintney* (II). TS.—*Cookham Vicarage* (II). T.—*Broxbourne* (III). T.—*Datchworth Rectory* (III). T and H.—*Winslow, Addington* (III). T.—*Ipswich, Copdock* (IV). T and L.—*Bury St. Edmunds, Westley* (IV). TS.—*Norwich, Brundall* (IV). TSS.—*Ludgershall, Conholt Park* (V). In 26 minutes .41 in. of R fell.—*Honiton, Combe Raleigh* (V). TS with .63 in. of R between 10.45 a.m. and 1.30 p.m.—*Tatworth* (V). TS and 1.38 in. of R.—*Dundee, Balruddery* (XVI). R 1.44 in., all of which fell in about 2 hours during a TS.

20th.—*Lindfield, Wood Knoll* (II). In about 12 minutes .22 in. of R fell.—*Rochdale, Fieldhead* (VIII). In 13 minutes .09 in. of R fell.—*Hull, Pearson Park* (IX). T, L and heavy H.—*Brampton, Denton House* (X). T.

27th.—*Colchester, Lexden* (IV). T.—*Horncastle, Bucknall* (VII). Severe TS from 5 to 8 p.m.—*Findern, The Longlands* (VII). TS with H.—*Chelford, Astle Hall* (VIII). TS.—*Grange, Belmont* (VIII). L, T and H.—*Northallerton* (IX). H.—*Lilliesleaf, Riddell* (XII). Heavy TS and .90 in. of R.

27th and 28th.—*Knaresborough, Farnham* (IX). T.

28th.—*Swerford* (III). Between 3.15 and 4.40 p.m. .33 in. of R fell, without T.—*Horncastle, Hemingby* (VII). T, H and 1.50 in. of R.

29th.\*—*Liskeard, Trevillis* (V). From 8 to 10 p.m. .62 in. of R fell.

\* See also *Met. Mag.* September, 1902, p. 119.

## SEPTEMBER.

2nd.\*—*Tenterden* (II). Pond risen 8 inches in three weeks.—*Chelford, Astle Hall* (VIII). T and heavy R.—*Sheskin [Carrick-on-Suir]* (XX). R 3·55 in., mostly between 9 p.m. and 7 a.m. on 3rd. No similar fall is known in this district since 12th August, 1868, when 3·34 in. fell at Cappoquin.—*Greystones, Knockdolian* (XXI). Unusually heavy R 2·93 in.—*Ballytore, Timolin Vic.* (XXI). R 3·13 in., including heavy H for 10 minutes in the afternoon, which fell to a depth of several inches; the stones were of great size and mostly irregular in shape, some weighing two ounces. The storm was quite local, no H falling a mile to N. or S.—*Ballybrack, Streamville* (XXII). R 2·67 in., the greatest fall in 24 hours since the record began in 1877.—*Lurgan, Belle Vue* (XXIII). R 2·00 in.; nearly all fell in less than 12 hours.—*Belfast, Queen's College* (XXIII). The greatest R recorded since observations began in 1866, viz. 2·04 in. in 10 hours 30 minutes. On 3rd 78 in. more fell in 3 hours 30 minutes.—*Horn Head* (XXIII). T.

2nd and 3rd.\*—*Belfast, Springfield* (XXIII). In 12 hours 3·35 in. of R fell.

3rd.—*Cirencester, Further Barton* (VI). L.—*Spilsby, East Keal Manor* (VII). In 5 minutes from 9.19 a.m., 22 in. of R fell, i.e., at the rate of 2·64 in. per hour.—*Chelford, Astle Hall* (VIII). Severe gale from S.W.—*Broughton-in-Furness* (VIII). Violent S.E. gale doing much damage.—*Brampton, Denton House* (X). A heavy gale doing considerable damage.—*Douglas, Woodville* (XI). Violent gale uprooting trees and causing great destruction of fruit and corn.—*Islay, Eallabus* (XV). Between 1 a.m. and 4 p.m. 2·93 in. of R fell. There was much flooding and many bridges were damaged.—*Drumnadrochit* (XVIII). Strong gale from S.E. and S.—*Invershin* (XIX). S.W. gale and L.

3rd and 4th.—*Goldsborough Hall* (IX). Strong gale from S.—*Musselburgh, Levenhall* (XIII). S.E. gale.

4th.—*Lilliesleaf, Riddell* (XII). Sudden and very strong gale. Trees and telephone wires broken in many places and gardens seriously damaged.

5th.—*Emsworth, Redlands* (II). TS 3.30–4.15 p.m.—*Cirencester, Further Barton* (VI). L.

6th.—*St. Wenn Vicarage* (V). R 1·70 in., the greater part of which fell in two heavy downpours each lasting about half an hour.

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\* See also *Met. Mag.* September, 1902, p. 120.

9th.—*Wallington* (II). Sheet L at 9 p.m.—*Emsworth, Redlands* (II). T and L at 9 p.m.—*Tavistock, Whitchurch* (V). TS in evening.—*Winterbourne Steepleton* (V). T and L.—*Polapit Tamar* (V). Heavy TS in evening.—*St. Martin's Les Blanchés* (XI). Two distinct TSS, the first slight but the second violent, from 6 to 8 p.m. during which time .53 in. of R fell.

9th and 10th.—*Stroud, Upfield* (VI). TSS and 1.21 in. of R on 10th.

10th.\*—*Chertsey, Ottershaw* (II). Very partial TS. More than 3.00 in. of R fell at Addlestone, 2 miles E., only a few drops at Chobham, 2 miles W., and half an inch here.—*Weybridge, Heathfield* (II). R 3.10 in., all between 2.40 p.m. and 4.10 p.m.—*Weybridge, St. Mary's Lodge* (II). In about 5 hours 3.18 in. of R fell, which is the heaviest fall in 24 hours in the record extending back to 1876.—*Wallington* (II). T at 4 p.m., heavy R 4.30 to 7 p.m. Water 4 ft. deep under the railway bridge. R 1.70 in.—*Thames Ditton, Weston Green* (II). Heavy TS and 2.40 in. of R and H, of which 2.20 in. fell between 3.30 p.m. and 5.30 p.m. The H, which was composed of lumps of clear ice of angular shape of an average diameter of half an inch, did great damage to vegetation and houses, blocking the gutters and pipes; roads badly damaged by rush of water.—*Surbiton, Vronvelin* (II). Between 4 and 4.30 p.m. 2.00 in. of R fell, doing great damage to gardens and roads.—*Norwood, Fox Hill Gardens* (II). R 2.72 in., nearly all of which fell between 4 p.m. and 7.30 p.m.—*Ulcombe Place* (II). T and L.—*Maidstone, Mount House* (II). Remarkable TS with 1.47 in. of R in 50 minutes.—*East Malling, Broadwater* (II). 1.08 in. of R and H which did much damage to hops and fruit.—*Maidstone, Allington* (II). R storm; 1.05 in. fell within an hour from 3 p.m.—*Slough, Upton* (III). TS, a house near, struck by L and the roof damaged.—*Dorchester* (III). TS and 1.30 in. of R.—*Stanton St. John, Woodperry* (III). TS and 1.92 in. of R which, being followed by .54 in. on 11th, was disastrous to farmers, many ricks being unthatched.—*Swerford* (III). T and .84 in. of R.—*Lynmouth, Rock House* (V). In 15 minutes, from 4.45 p.m., .37 in. of R fell.—*Cirencester, Further Barton* (VI). L and T at intervals from 2 p.m. to 7 p.m.

11th.—*Odsey [Royston]* (III). T and L.—*Fingringhoe, Ballast Quay Farm* (IV). R 3.41 in., the bulk of which fell in a cloudburst between 2 a.m. and 4 a.m. At Wyvenhoe half a mile away 4.05 in. was registered in

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\* See also *Met. Mag.*, October, 1902, p. 140.

the 24 hours ending 6 p.m.—*Felixstowe, West View* (IV). R 1·75 in. The storm was quite local but very torrential for about two hours from 4 a.m.

16th.—*Lynmouth, Rock House* (V). Heavy H storm at 8.30 a.m.—*Meltham, Harewood Lodge* (IX). TS at 6 a.m.

17th.—*Chelford, Astle Hall* (VIII). T and heavy R.

21st.—*Tavistock, Whitchurch* (V). L and T.—*Oystermouth, Newton* (XI). TS.

22nd.—*Dowlais, Gwernllwyn* (XI). L, T, R.

23rd.—*Pembroke Dock, County School* (XI). R 1·32 in., of which 1·00 in. fell in little more than an hour.—*Colmonell* (XIV). T and L.—*Horn Head* (XXIII). T and 1·10 in. of R.

30th.—*Throcking Rectory* (III). Absolute drought for 14 days, ended.

## OCTOBER.

2nd.—*Gerrards Cross, Gurteen* (III). Absolute drought for 17 days, ended.

3rd.—*Hedsor* (III). Absolute drought for 17 days, ended.

4th.—*Bournemouth, Kempsey* (II). Unusually cold. Max. temp. 48°·5.—*St. Neots, Great Paxton* (III). Absolute drought for 22 days, ended.—*Tavistock, Whitchurch* (V). H and L.

9th.—*Tavistock, Whitchurch* (V). Gale from E, and T and L.—*Penzance, St. Clare* (V). TS and 1·16 in. of R.—*St. Wenn Vicarage* (V). TS and 1·13 in. of R.

11th.—*Lahinch, Moy House* (XX). Absolute drought for 18 days ended.

14th.—*Betchworth, The Holmes* (II). In 10 minutes ·18 in. of R fell.—*Blisworth, Grafton House* (III). T, L and H between 0.50 p.m. and 1.5 p.m.—*Ipswich, Copdock* (IV). T.—*Chelford, Astle Hall* (VIII). TS.—*Rochdale, Fieldhead* (VIII). In 10 minutes ·11 in. of R fell.—*Crathes, Pinewood* (XVII). Gale and heavy R.

14th — 16th. — *Broughton-in-Furness* (VIII). Very wild; strong winds and heavy showers.—*Lochmaddy* (XVIII). Very stormy.

15th and 16th.—*Southport, Hesketh Park* (VIII). Strong W.S.W. to W.N.W. gale.—*Musselburgh, Levenhall* (XIII). Wet with very strong wind.

16th.—*Chelford, Astle Hall* (VIII). N.W. gale and R.

22nd.—*Southport, Hesketh Park* (VIII). Strong N.W. gale.

26th.—*Chelford, Astle Hall* (VIII). N.W. gale and R.—*Southport, Hesketh Park* (VIII). Strong W.N.W. gale.

## NOVEMBER.

2nd.—*Chelford, Astle Hall* (VIII). Dahlias, &c., cut by frost.

6th.—*Cirencester, Further Barton* (VI). L at 8 p.m.—*Chelford, Astle Hall* (VIII). S.E. gale.

7th.—*Winterbourne Steepleton* (V). Heavy H.

8th.—*Lynmouth, Rock House* (V). H.—*Hereford, Burghill Court* (VI). In 3 hours from 9 a.m. .84 in. of R fell.—*Rochdale, Fieldhead* (VIII). In 40 minutes .32 in. of R fell.—*Seathwaite Vic.* (VIII). T and 1.48 in. of R.—*Borrowdale, Seathwaite* (X). Distant TS with H at 7.30 p.m., R 2.45 in.—*Lower Penarth* (XI). In 20 minutes .49 in. of R fell.—*Dowlais, Gwernllwyn* (XI). Very stormy with H and R, 1.51 in.

9th.—*Lower Penarth* (XI). In 5 minutes .14 in. of R fell.

19th.—*Bournemouth, Kempsey* (II). Exceptionally cold. Temp. at 2 p.m. 32°·8, max. 33°·5.

20th.—*Bournemouth, Kempsey* (II). Temp. at 2 p.m. 32°·7.

22nd.—*Winterbourne Steepleton* (V). Heavy H.

27th—29th.—*Eskdale* (X). H.

28th.—*Lynmouth, Rock House* (V). Between 3.30 a.m. and 9 a.m. .97 in. of R fell.—*Blair Atholl* (XVI). R 1.50 in., being the heaviest fall in 24 years.

28th and 29th.—*Haverfordwest* (XI). H and L.

## DECEMBER.

1st.—*Miltown Malbay* (XX). TS.

2nd.—*Southport, Hesketh Park* (VIII). H.

3rd.—*Witley, Fernside* (II). Fog and darkness like night from noon to 1.15 p.m. Wind N.E.—*Thixendale* (IX). S.

3rd and 4th.—*Tenterden* (II). S.—*Sheppey, Leysdown* (II). S.—*Winchelsea, The Friars* (II). S.—*Woodbridge, Melton Asylum* (IV). S.—*Norwich, Brundall* (IV). S.—*Reepham, Whitwell Vicarage* (IV). S.

3rd—5th.—*Crowborough* (II). S; four inches deep on 5th.—*Hull, Pearson Park* (IX). H, S and sleet.

4th.—*Tenterden* (II). Heavy fall of S.—*Tunbridge Wells, Boarshead* (II). S five and three-quarter inches deep.—*Swerford* (III). Sharp frost and slight S, the first of the winter.

4th and 5th.—*Maidstone, Allington* (II). S six inches deep.—*Pickering* (IX). S.

12th.—*Miltown Malbay* (XX). TS.

14th.—*Chelford, Astle Hall* (VIII). S.W. gale.—*Shap, Reagill* (X). R 2·77 in.—*Newport, Burrishoole House* (XXII). TS and heavy H.

14th and 15th.—*Eskdale* (X). Sca Fell covered with H.

15th.—*Polapit Tamar* (V). Heavy H.—*Chelford, Astle Hall* (VIII). Great gale of wind and R from S.S.W.—*Rochdale, Fieldhead* (VIII). In 2 minutes 13 in. of R fell, being at the rate of 3·90 in. per hour.

16th.—*Cirencester, Further Barton* (VI). Strong S.W. gale.—*Rydal, The Stepping Stones* (X). In four days, ending on this date, 6·44 in. of R fell.

17th.—*Tenterden* (II). S.W. gale and T.—*Thixendale* (IX). Remarkable mildness ; min. temp. 40°.

18th.—*Southport, Hesketh Park* (VIII). Strong W. gale.

25th.—*Southport, Hesketh Park* (VIII). Strong W.S.W. gale.

27th.—*Coldstream, The Hirsell* (XIV). S.—*Inveraray, Newtown* (XV). T and L with H.

27th and 28th.—*Blair Atholl* (XVI). S.—*Horn Head* (XXIII). S

27th—29th.—*Miltown Malbay* (XX). T, L and H.

27th—30th.—*Omagh, Edenfel* (XXIII). S and heavy sleet.

28th.—*Tenterden* (II). T and L at 4.30 p.m.—*Eastbourne, Glenthorne* (II). Between 4.15 p.m. and 5 p.m. 36 in. of R and H fell, preceded by three vivid flashes of L and loud T.—*Wendover, Halton Gardens* (III). S.—*Clifton, Pembroke Road* (VI). H storm.—*Thixendale* (IX). A tornado lasting about 5 minutes with S.—*Cauldhame* (XV). T, L and S.—*Invershin* (XIX). T and L.—*Broadford, Hurdlestown* (XX). T, L, H and S.—*Ballinasloe* (XXII). N.W. gale and squalls of S, L in evening.—*Belturbet, Cloverhill* (XXIII). S.—*Stewartstown, The Square* (XXIII). S.

28th and 29th.—*Ashburton, Druid* (V). L.—*Penzance, St. Clare* (V). H.—*Cirencester, Further Barton* (VI). L.—*Chelford, Astle Hall* (VIII). Sleet and strong wind from N.W.—*Southport, Hesketh Park* (VIII). H and whole W. to S.W. gale.—*Pickering* (IX). S.—*Barbon Manor* (X). S.—*Newport, New Mills* (XI). S.—*Dundee, Balruddery* (XVI). S.—*Mountrath, Ballyfin* (XXI). S.—*Crossmolina, Enniscoe* (XXII). H.—*Markree Observatory* (XXII). S, H, T and L.

28th—30th.—*Polapit Tamar* (V.) S, H and R ; TS at 2.20 p.m. on 28th.—*Woolstaston* (VI). S.—*Wath-on-Dearne* (IX). S.—*Dowlais, Gwernllwyn* (XI). S three and a quarter inches deep on 29th.—*Auchen Castle* (XII). S.



28th—31st.—*Llandudno* (XI). H daily, T and L on 30th.

29th.—*Eskdale* (X.) S.—*Dowlais, Gwernllwyn* (XI). S three and a quarter inches deep.—*Laragh, Glendalough* (XXI). S.

29th and 30th.—*Llangyhanfal, Plas Draw* (XI). S. — *Clifden, Kylemore House* (XXII). H.

30th.—*Tenterden* (II). L.—*Cheadle, The Heath House* (VI). S.

30th and 31st.—*Douglas, Woodville* (XI). T, L and H.

31st.—*Tenterden* (II). Water in pond risen 8 inches in 4 months.

## OBSERVERS' NOTES ON THE MONTHS.

## JANUARY.

I. *Kensington, Edith Road.* A warm and very dry month R 1·16 in. below, and temp. 3°·1 above, the average.

II. *Haslemere, Hazelhurst.* An open month without S. Warm till 12th and again later. R 1·58 in. below, or less than half, the average. Fifteen sunless days, while from 7th to 13th inclusive, there was less than one hour of sunshine. Frost in shade on 10, and on grass on 14, days.—*Wallington.* Warm and very dry. The relative humidity is the lowest January value excepting 1886. The shade max. and min. and the mean temp. are the highest for January excepting 1890, 1898 and 1899, the wind force is the highest except 1890, while the R is the least except 1892 and 1896. R 1·21 in. below the average. Duration of sunshine 52·9 hours, being 10·7 hours above the average. Mean temp. 3°·4 above the average.—*Sheppey, Leysdown.* Mild on the whole. No frost during the first 12 days.—*Crowborough.* The first 12 days were remarkably mild, the mean max. temp. being nearly 47°, and the mean min. 38°·4. The remainder was variable until the last week, when it became colder. The mean max. temp. for the month was 43°·4, and the mean min. 35°·3. Frost on 8 days. Slight S on the 26th, also a fall of an inch on the 30th. N.E. gale on 31st.—*Bournemouth, Kempsey.* Fine, dry and mild, with an exceptionally high barometer on 14th, 15th and 16th. Total R 1·06 in.—*Christchurch, Winkton Lodge.* Dry and fairly bright, with equable temp. Frost in the middle and at the end. Calm and pleasant weather throughout.—*West Dean.* Fine and mild, with some very short cold spells. Except on 1st and 31st there were no gales. R below, and mean temp. about 2°·5 above, the average. Great prevalence of W. wind. At the close a very cold N.E. gale, and some S from 28th to 31st.

III. *Slough, Upton.* R an inch below the average.—*Farnham Royal.* Prevailing wind W. and N.W. Temp. high for the time of year. R below the average, with no heavy falls.—*Culham Vicarage.* Dry,

with a good deal of variation of temp. There have been only 7 Januaries as dry, or drier, in this district since 1851.—*Sverford*. There were 10 sunless days. S fell on 4 days, H on 1 day, fog on 2 days.—*Blisworth, Grafton House*. Mild and dry, very little S.

IV. *Colchester, Lexden*. Generally mild till the 24th, then cold N. to E. winds. Frost on grass only once before the 12th.—*Sudbury, Friars Street*. Mild for the season, with very little frost.—*Copdock, Rookwood*. Marked by dry weather and anti-cyclonic conditions. Temp. about the average. S on 6 days.—*Bury St. Edmunds, Westley*. Dry and mild, with little frost. Only 9 days with temp. below 32°. Ponds nearly empty. W. winds on 24 days.

V. *Bishops' Cannings*. R 1·02 in., and rainy days 5, below the average.—*Tarstock, Whitchurch*. Dry and rather warm, with the smallest daily range of temp. (7°·0) observed in any month. The mean temp. ranged from 49°·0 on 2nd to 32°·7 on 31st. Prevailing wind W. Gales on 5 days, S on 6, H on 4 and fog on 7 days.—*Okehampton, Oaklands*. Mild and dry.—*Wellington, The Avenue*. A variable month, the early part generally very mild, the latter part having some cold snaps, with violent winds from N.E. on the last 2 days. R about an inch below the average.—*Glastonbury, Wells Road*. Exceptionally dry and mild. R 1·63 in. below the average of 10 years.

VI. *Clifton, Pembroke Road*. R 1·25 in. below the average. Westerly winds prevailed till the 30th, but strong from N.E. on 31st.—*Cirencester, Further Barton*. On the whole dull, dry and quiet. Wintry conditions set in during the last few days, with violent easterly wind.—*Chipping Campden, Hidcote*. Very dry, but dull and sunless. R much below the average.—*Bishop's Castle, Castle Street*. R below the average. Stormy at the beginning, cold and frosty at the end.—*Tenbury, Rochford*. Fine on the whole; cold at times.

VII. *Horncastle, Bucknall*. Very dry; temp. about the average.—*Hodsock Priory*. Mild, with very little R. Some frost and S in the last week. R less than half the normal amount.

VIII. *Chelford, Astle Hall*. Mild and wet to the 12th, then three days of frost, and mild again to the 24th, when severe frost set in and continued to the end.—*Bolton, The Park*. Mild, with three cold days from 13th and again during the last week. Mean temp. 39°·3, or 1°·8 above the average. R ·60 in. above the average. Duration of sunshine 26·7 hours, being rather above the average; of this amount the last three days contributed 13 hours. S on 5 days.—*Southport, Hesketh Park*. On the whole fairly normal. Sea winds unusually prevalent.

Mean temp.  $1^{\circ}8$  above the average. Very warm periods from the 1st to the 10th, and from the 20th to 23rd, cold on 13th and 14th, and towards the close. Frost in screen on 9 days, and on grass on 18 days. Ice upon the lake on 4 days. Sunshine 3 hours above, R  $\cdot 32$  in. below, the average. — *Chatburn, Middlewood*. R  $\cdot 49$  in. above the average. — *Broughton-in-Furness*. Dull and showery in the early part, followed by sharp frost on 13th and 14th; again mild and showery to 23rd, then H and S with sharp frosts on 24th and 25th cleared rapidly by wind and R. The last few days fine and sunny. — *Seathwaite Vicarage*. Mostly very mild with average R. Only two days of sharp frost before the closing week, which was very wintry.

IX. *Langsett, Upper Midhope*. Mild as a whole until the 24th, then very wintry. Keen frost on 10 nights. High wind on 17 days. — *Goldsborough Hall*. Dry, with very little R or S, nearly one third of the total falling on 1st. Mild till the 24th, followed by cold weather to the end, with keen frosts and strong N.E. winds.

X. *Beltingham*. Showery and very mild from 1st to 9th, frost and a little S from 10th to 14th, mild and fine from 15th to 19th, windy and squally on 20th, dull and drizzly from 21st to 23rd, fine and frosty, with slight S showers from 24th to the end.

XI. *Chepstow, Shirenewton Hall*. Dry, with great extremes. R  $1\cdot 53$  in. less than the average. — *Llanfrechfa Grange*. Warm on the whole, with very little frost. Temp at 9 a.m. below freezing on only 7 days. Deficient R. Monmouth springs and reservoirs all low, being a serious prospect for the summer, if dry. — *Haverfordwest*. The first 5 days were wet after which pressure rose, but with no improvement in the weather, and unusual mildness and dampness continued to the 13th. On the 15th the shade temp. fell to  $23^{\circ}3$ , followed by a rapid thaw the temp. rising  $20^{\circ}$  in less than 24 hours; gloomy cold weather prevailed afterwards until the last 3 days, which were bright and cold. Duration of sunshine 44 hours.

XII. *Cargen [Dumfries]*. Very dull and sunless.

XVI. *Coupar Angus*. R  $1\cdot 17$  in. below the average. With the exception of a few cold nights following the 12th, the temp. was generally very high until the 26th when severe frost set in and the lowest temp. of the season, viz.  $9^{\circ}$ , occurred on the morning of the 31st. — *Blair-Atholl*. Day temperature above, and night temperature slightly below, the average.

XVII. *Crathes, Pinewood*. Particularly bright and warm until the 25th, when S commenced and fell daily till 29th.

XIX. *Bettyhill*. The S storm which began on the 24th was preceded by a week of mild weather. Intense frost prevailed during the last week.—*Watten, H.R.S.* Very stormy, squally and boisterous ; intense frost at the close.

XX. *Cork, Wellesley Terrace*. R 2·40 in. less than the average. Mean temp. about normal.—*Derry Castle*. R 18 per cent. above, but rainy days 14 per cent. fewer than, the average of 10 years.—*Miltown Malbay*. Rather dry on the whole. The early half mild, the latter very cold, and part inclement.

XXI. *Ballindoney*. Fine and open, with no heavy falls of R or S, and no severe frost.—*Kilkenny, Sion Villa*. Fine and seasonable, many lovely bright days though very cold. Frost from 15th to 18th and 25th to 31st. Smart S showers on 24th and 25th. Fog on 18th. Gales on 1st, 10th, 25th and 27th.—*Ballybrack, Streamville*. Warm and springlike to the 24th when it turned cold, but remained fine and bright. R 1·07 in. less than the average of 20 years.—*Rathmines, Leinster Road*. The fifth mild January in succession, the last week was, however, very cold. Very little S. Frost on 9 days.

XXIII. *Belfast, Springfield*. Favourable for farmers, the changes from S and frost to R being advantageous. The finest January since 1898.

#### \* FEBRUARY.

I. *Kensington, Edith Road*. Very cold and dry, the coldest month since February, 1895. Temp. 3°·3 below, and R ·53 in. below, the average.—*Muswell Hill*. R ·37 in. below the average of 29 years.

II. *Haslemere, Hazelhurst*. The first three weeks were very wintry, with light N. and N.E. winds ; then mild with S.W. wind. R ·35 in. below average. S on five days, never deep but lasting long in consequence of continued frost. Skating began on 10th and ended on 20th. Frost in shade for 29 consecutive nights ending 22nd. Dry up to the 21st ; wells reported dry and water carried.—*Abinger Hall*. Very dry and cold throughout. Intense frost from 9th to 13th.—*Caterham Valley, Bradenhurst*. R or S on 14 days. S visible on the ground for a fortnight.—*Wallington*. Very cold and dry and rather wanting in sunshine. Only three Februaries in the record had a lower mean temp., viz., 1886, 1888 and 1895, and only one an equally high relative humidity, viz., 1886. R ·65 in. below the

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\* See also *Met. Mag.*, March, 1902, p. 17.

average. Duration of sunshine 53·5 hours, or 8·6 hours less than the average.—*Lewes, Saxonbury*. Cold and dry; frost and fog to the 21st with S on 3rd, 6th and 14th; mild and showery after.—*Bournemouth, Kempsey*. Remarkably cold, especially the days. Mean max. temp. 41°·0. Mean min. temp. 32°·3. Skating from the 13th to 19th. Partial drought for 43 days from January 10th, with ·41 in. of R.—*Christchurch, Winkton Lodge*. Dry till towards the close when from 22nd to 28th 1·20 in. of R fell. Temp. low in the middle and very even. Many days of complete sunshine. Sunday 9th especially beautiful.—*West Dean*. The severe frost, which began on January 25th, lasted without a break till February 22nd, when a rapid thaw took place and the last week was very wet and mild. Persistent fog was the chief characteristic. Mean temp. about 6° below the average, and a great contrast to that of January.

III. *Farnham Royal*. Prevailing wind N. and E. Temp. rather low. R below the average, no heavy falls. Snowstorm on the 3rd and S and R on the 8th.—*Culham Vicarage*. Dry and cold till the last week. R considerably less than the average.—*Oxford, Banbury Road*. Very cold, with frost every night from 1st to 20th, and the max. temp. 39°.—*Swerford*. S on 11 days, 14 sunless days, fog on 10 days.—*Blisworth, Grafton House*. Very wintry, though no great fall of S. Severe frosts from 1st to 20th, milder with heavy and much needed R from 22nd to the end.

IV. *Colchester, Lexden*. Much dull, cold weather with no spring-like days. Persistent night frosts till 22nd, severe on the 15th and 16th.—*Sudbury, Friars Street*. Very cold in the middle, the temp. in screen falling to 6° on the night of the 15th. Milder towards the end. L on 28th.—*Ipswich, Copdock*. A curious month, with an almost entire absence of wind after the 2nd, and very dry, with continuous frost until the 22nd. A good deal of bright sunshine. S on 3 days. Mean temp. 34°·4.—*Bury St. Edmund's, Westley*. Very cold till 23rd. Frost on 22 days.

V. *Bishop's Cannings*. R 1·14 in., and rainy days 2, below the average. Springs very low and no drains or ditches running.—*Winterbourne Steepleton*. Very low temp. with N. and E. winds during the first three weeks, afterwards foggy and warmer with heavy R. Frost on 19 consecutive days.—*Tavistock, Whitchurch*. Cold and dry, with 9 rainless days from 11th to 19th; 21 consecutive frosty nights from January 29th to February 18th. E. winds were most prevalent. S on 6 days. S lay on Dartmoor from 2nd to 17th. Fog on 6 days.—

*Okehampton, Oaklands.* Dry and frosty.—*Wellington, The Avenue.* R about 1·00 in. below the average. The month opened with violent winds from N.E. and very cold weather prevailed until the last week, when a mild spell set in with R. Little S fell.—*Bridgwater, Pawlett.* R 1·03 in. less than the average of 7 years.

VI. *Cirencester, Further Barton.* The wintry conditions ushered in by the violent E. gales of the end of January and the first two days of February, continued till the 22nd, when a gradual rise of temp. took place. Dry with much gloom and mist and, after the first two days, a marked absence of strong wind.—*Campden, Hidcote.* R less than the average; almost rainless from 4th to 21st. Severe frost on 14th, S on 3rd and 7th.—*Bishop's Castle, Castle Street.* An unseasonable month. Bright and frosty from 10th to 16th. Foggy and dull, with no sun from 16th to 27th.—*Church Stretton, Woolstaston.* Cold on the whole, with little sunshine.—*Tenbury, Rochford.* Continuous frost from 1st to 20th. severe on 13th. E. wind very frequent. S or sleet on 2nd, 3rd, 7th, 8th and 18th.

VII. *Hodsock Priory.* A very sharp spell of frost from the 7th to 17th, with a min. temp. of 5°·2 in the screen on the 12th, and three times below zero on the snow. Though the frost was not so severe or prolonged as in 1895, no other recent February has been so cold or had such low minima.

VIII. *Chelford, Astle Hall.* Frost and S till the 19th, when mild weather set in.—*Bolton, The Park.* Cold and dull, with heavy S. Mean temp. the lowest since 1895 and 1°·6 below that of any other February in 16 years. Total fall of S upwards of 10 inches, and it lay on the ground from 7th till 22nd. Mean temp. 33°·6, or 3°·9 below the average. Bright sunshine was recorded on 9 days; total 21·8 hours, or only 42 per cent. of the average. R just the average. Fog on 9 days.—*Southport, Hesketh Park.* Unusually cold. Mean temp. 3°·8 below the average. Particularly severe weather during the central part of the month, very much warmer at the close. Extreme range of temp., the greatest in February in 30 years. Frost in screen on 16 days, and on grass or S on 22 days. Ice upon the lake on 25 days, the greatest thickness being 4·4 inches on the 18th and 19th. Sunshine 17 hours below, and R ·61 in. below, the average. Mean amount of ozone the smallest in any February.—*Chatburn, Middlewood.* R 1·73 in. below the average.—*Broughton-in-Furness.* Very cold on the whole, especially from 7th to 18th, with S about three inches deep all the time. N. or E. winds every day except the 28th. Mean temp. 34°·0.

IX. *Upper Midhope.* Very wintry till 22nd, keen frost on 7 nights, very foggy from 18th to 27th and very mild on 28th.—*Goldsborough Hall.* Very dry with R or S on only 8 days. The first week was very dull with frosty nights and N.E. winds. Severe frosts prevailed from 9th to 17th, with bright sunshine. From the 17th to the end was very dull with heavy fog in the mornings.—*Hull, Pearson Park.* Much cloud but a small R. Very wintry weather with slight falls of S in the middle. Fog on 7 days.—*Thixendale.* A period of very cold and severe weather commenced on the 2nd.

X. *West Hartlepool, Bradgate.* A spell of severe weather commenced on 7th, with heavy S which lay till the 20th. The remainder of the month was overcast with very little wind, but with slight moisture and fog and “sea fret.” Prevailing wind N.W., and W. during the frost.—*Beltingham Vicarage.* R below the average. Fairly fine and mild till 7th, then severe frost till the 19th with very cold nights but bright days. Much milder in the latter part.—*Melmerby Rectory.* From the 3rd to 21st there was a remarkably long period of frost with total absence of R.—*Brampton, Denton House.* A dry month, R 1·48 in. below the average of the 10 years, 1890-99.

XI. *Chepstow, Shirenewton Hall.* A very cold dry spell occurred in the middle of the month. R ·55 in. below the average. Mean amount of ozone 1·8, the lowest ever recorded.—*Llanfrechfa Grange.* Unusually cold and foggy. Sharp frosts prevailed till the 21st. Warmer afterwards.—*Llangyhanfal, Plas Draw.* Low night temp. occurred from 1st to 21st, with bright sunshine by day from 12th to 20th. From 21st to the end was temperate and mild. S fell on 6th and 4 subsequent days covering the ground to a depth of 4 or 5 inches.

XII. *Cargen.* Frost each night from 7th to 18th.—*Lilliesleaf, Riddell.* R about the average. A disagreeable month. After the S fell on 7th, fine weather and fairly hard frost prevailed for 14 days, during which the S remained perfectly white and sparkling.

XIII. *Musselburgh, Levenhall.* Alternation of thaw and frost for the first five days, then steady frost till the morning of the 19th, afterwards no frost except on 25th.

XV. *Tighnabruaich.* Very wintry, the wind blowing from northerly or easterly points on 26 days.—*Ballachulish, Ardsheal.* R 3·80 in. below the average.

XVI. *Montrose, Sunnyside Asylum.* Severe frost during the first half, with bright sunny days.

XVII. *Crathes, Pinewood.* S on the ground from 1st to 15th, and



fresh falls daily from 9th to 12th. Daily fogs from 18th to 22nd.—*Aberdeen, Cranford.* Cold, with little sunshine.—*Lynturk Manse.* From 1st to 6th there was a rise from the extremely low temp. of the end of January, but from 7th to 15th the minima were again very low. After the 15th the temp. rose, the min. being rarely much below 32°.

XVIII. *Eigg, Kildonan.* S and frost in the first half; mild and fine in the latter part.

XX. *Dunmanway, Coolkelure.* Mild at the beginning, followed by frost in the second week, after which it was wet and mild till the end.—*Derry Castle.* R 38 per cent. below, and rainy days 23 per cent. fewer than, the average of 10 years.

XXI. *Ballindoney.* R fell on only 10 days, but was exceedingly heavy on several of them. Very cold, with severe frost from 8th to 15th. No snow. From 21st to 23rd, 1·93 in. of R fell, and on 26th, 1·42 in.—*Kilkenny, Sion Villa.* The first half fine, with frost nearly every day. S on 9th. Very dense fog on 12th. Storms on 1st, 6th, 16th and 26th. With the exception of ·24 in. on 7th, the month's rain fell between 16th and 27th.—*Ballybrack, Streamville.* Cold and dry to the 20th, and from that date to the end, wet and warmer. R ·26 in. more than the average of 20 years.—*Rathmines, Leinster Road.* The third cold February in succession. Strong cold easterly winds prevailed during the first few days, followed until the 16th by the most severe frost since 1895, the temp. falling below 20° on three successive nights. The remainder mild and damp.

XXIII. *Belfast, Springfield.* An average month; notable for the rather long spell of S and frost, which lasted about 10 days.

## MARCH.

I. *Kensington, Edith Road.* Very warm, with average R. Temp. 3°·3 above the average.—*Muswell Hill.* R ·41 in. above the average of 29 years.

II. *Haslemere, Hazelhurst.* Fine, mild and open, with average R and a good deal of sun. Wind variable. Frost in shade on 9 days and on grass on 17. H on 21st and 22nd.—*Wallington.* Very warm and comparatively dry and sunny. The mean min. in shade and on grass have only twice been exceeded in March since 1886. R ·15 in. below the average. Duration of sunshine 120·4 hours, or 5·4 hours above the average.—*Polegate, Alciston.* Free from severe frost, and

favourable for agriculture. Strong S.W. winds towards the end.—*Lewes, Saxonbury*. Bright and calm, with frost and some fog to the 14th, when there was a S.S.W. gale with heavy R; showery and mild after. S.W. gale on 24th.—*Christchurch, Winkton Lodge*. Very bright. R moderate. Prevailing wind S.W., which made it warm but stormy. T on 23rd.—*West Dean*. Rather cold and damp with a great deal of fog. No R from 2nd to 13th, but continually damp and foggy. Wind almost entirely from W. or N.W. Severe gales on 23rd, 24th and 25th. R slightly in excess of the average. March dust absent. H on 3 days. S on 1 day.

III. *Hitchin, Wratten*. Absence of N. and E. winds. Slight frost on only 6 days, or 8 below the average number.—*Farnham Royal*. Prevailing winds N.W. and S.W. Temp. rather low. R below the average; no heavy falls. Bar. high in the first half of the month, then low.—*Abingdon, Culham*. Changeable, with R below the average, although there were some wet days and rain fell on more than half the days. The R for the six months ending March was three and a half inches less than the average; the water supply will therefore be scanty.—*Oxford, Banbury Road*. A mild month; vegetation forward.—*Swerford*. Two sunless days; fog on 7 days. Large H on 20th, 21st and 23rd. *Blisworth, Grafton House*. Very pleasant and comparatively mild. Winds S.W. or W.

IV. *Colchester, Lexden*. Unsettled and rather mild, with but little E. wind.—*Ipswich, Copdock*. Extraordinarily mild; mean temp.  $43^{\circ}8$ , with little frost. Light winds and anticyclonic conditions during the earlier part. A good deal of wind, mostly westerly, during the latter. A fair quantity of sunshine.—*Rendlesham Hall*. Much fog; strong winds and gales at the end.

V. *Winterbourne Steepleton*. Temp. very equable and less wind than usual.—*Tavistock, Whitchurch*. Warm, damp, cloudy and wet. R fell on every day but two, after the 7th. Prevailing wind N.W. S on 2 days; H on 6; solar halos on 6 days.—*Okehampton, Oaklands*. Mild, and the latter part wet.

VI. *Cirencester, Further Barton*. The first fortnight was unusually quiet, but a rough period occurred from 18th to 20th, and the weather remained unsettled to the end. On the whole, warm and spring-like.—*Campden, Hidcote*. Very little frost during the month and the first part very dry.—*Bishop's Castle, Castle Street*. Fine and pleasant till the 19th; colder and stormy afterwards.—*Tenbury, Rochford*. Fine and mild on the whole. Much of the R fell at night.

VII. *Hodsock Priory*. Mild, with very little frost, no S, normal R and sunshine.

VIII. *Chelford, Astle Hall*. Wet and mild till the 23rd, when it turned colder.—*Bolton, The Park*. On the whole mild and humid, with little bright sunshine. From 20th to 24th showers of S and H fell at intervals, but on the 24th the temp. rose again. Mean temp.  $2^{\circ}5$  above the average, and only twice exceeded in 16 years. Duration of sunshine 59·7 hours, or more than 20 hours below the average. R a quarter of an inch above the average.—*Southport, Hesketh Park*. Warm, cloudy and humid, sea winds greatly preponderating. Mean temp.  $2^{\circ}5$  above average. Frost in screen on 2 days, and on grass on 15 days. Sunshine 31 hours below, and R ·15 in. below, the average.—*Chatburn, Middlewood*. R ·08 in. below the average.—*Broughton-in-Furness*. Mild on the whole, with few of the cold winds usual in March. E. wind on only 5 days.

IX. *Upper Midhope*. Fine and mild to the 19th, wintry from 20th to 26th. Seven frosty nights. The R for the quarter ending 31st was the smallest in 8 years.—*Goldsborough Hall*. Very little R or S fell, the total being just under an inch. Dense fogs on 1st, 2nd, 3rd and 5th. After the 18th the weather was unsettled and much colder, and from 20th to 22nd stormy with S.—*Hull, Pearson Park*. Generally cloudy or overcast with slight fogs. The latter part characterized by light winds and much warmer than the earlier part. Duration of sunshine 54 hours.

X. *West Hartlepool, Bradgate*. The first three weeks were fine and unusually free from E. wind, but even with S.W. winds later, little R fell. Till 22nd the temp. never fell below  $32^{\circ}$ .—*Eskdale*. There were only about five really bright days in the month, and the latter part was much colder than the first 12 days. Till 13th there were only a few S drifts on Sea Fell, but on April 1st it was thickly laceworked with S as low as about 1250 ft. above sea level.—*Brampton, Denton House*. Damp and sunless. Though R fell on 27 days, the total was only ·42 in. above the average of 10 years.

XII. *Cargen*. Damp and dull. The ground very wet and little sowing done.

XVI. *Montrose, Sunnyside Asylum*. A favourable month for field operations.

XVII. *Crathes, Pinewood*. The weather up to the 20th was warm and spring-like, but from that date to the end was bitterly cold with S on 24th, 26th and 29th.

XIX. *Bettyhill*. Very cold and changeable, with showers of S or H; strong winds on several occasions.

XX. *Derry Castle*. R 5 per cent. above, and rainy days 17 per cent. in excess of, the average of 10 years.

XXI. *Ballindoney*. Mild, with no very heavy falls of R. S only on 22nd. Frost on 4 nights.—*Kilkenny, Sion Villa*. Fine seasonable weather, especially in the first half. Early fogs on 6th, 7th, 11th and 14th. Storms on 8th and from 18th to 24th. Heavy squalls on 12th and 13th. Frost 19th. Smart H showers 20th and 23rd, and very cold for the last ten days of the month.—*Ballybrack, Streamville*. Unusually warm and dry. R .84 in. less than the average of 20 years.—*Rathmines, Leinster Road*. The warmest March since 1893, but very changeable, R falling on every day but four after the 8th. Cold and harsh in the third week.

XXII.—*Westport, Murrisk Abbey*. Agricultural operations very backward and little prospect of advancement.

XXIII. *Belfast, Springfield*. Almost constant R, with frost at intervals. S at the end, but only transitory. On the whole, satisfactory for farmers.

#### APRIL.

I. *Kensington, Edith Road*. Another very dry month, of normal temp. R 1.17 in. below the average.—*Muswell Hill*. R 1.19 in. below, or less than one-third of, the average of 29 years.

II. *Haslemere, Hazelhurst*. R .27 in. less than the average. Wind principally N.W. or N.E., but S.W. from 16th to 25th.—*Redhill, Oxford Road*. In the four months from January 1st, only 4.98 in. of R fell on 47 days, the average for 35 years being 8.80 in. on 59 days.—*Wallington*. Dry, with about average temp., and comparatively sunless. The only drier April in the record was in 1893, and the only Aprils with less sunshine were in 1888 and 1889; owing to want of R vegetation did not make much progress. R .77 in. below, or less than half, the average. Duration of sunshine 118.1 hours, or 41.8 hours below the average.—*Sheppey, Leysdown*. Cold, with slight R. Very cold from 5th to 13th, the temp. not rising above 38° on the 10th. Bitterly cold N.E. gale from 24th to 28th.—*Lewes, Saxonbury*. Mild and calm in the first week, then colder, with white frosts, fog and sunny days; very warm in the third week, and bright after, with cold N.E. wind.—*Christchurch, Winkton Lodge*. A very bright

month, only seven cloudy days; frost in the middle; winds mostly easterly. Vegetation backward.—*West Dean*. Very cold and winterly, with scarcely any spring warmth. Great preponderance of E. and N.E. winds, an unusual number of cold nights. Heavy falls of R on 14th and 21st, but otherwise less than the average. The month was colder than March, and vegetation at the end was very backward.

III. *Farnham Royal*. Prevailing wind S.W. Temp, rather low. R below the average, no heavy falls. Bar. rather low all the month.—*Winslow, Addington*. Dry and cold. Dense fog on 17th, high wind on 27th and 28th. The total R for the four months of 1902, 3·96 in., is the least on record, excepting 1892, when it was 3·10 in. only.—*Abingdon, Culham*. Dry on the whole, and very cold at times. Hardly any really warm weather.—*Blisworth, Grafton House*. Strong, drying winds.

IV. *Ipswich, Copdock*. Dry, and on the whole cold, with a bright warm spell from 15th to 25th. A large number of grass frosts, but curious freedom from frost in shade, in spite of the prevalence of N. winds. Drought was becoming very serious at the close.—*Norwich, Brundall*. Very cold in the second week and at the close. The third week was warm and genial.

V. *Winterbourne Steepleton*. Generally cold and ungenial.—*Taristock, Whitchurch*. Windy and rather cold, with about average R. The number of frosty nights in shade and on grass is the greatest in April since observations began in 1893.—*Lynmouth, Rock House*. Cold on the whole, but an unusually warm week from 19th to 26th. A lunar rainbow was seen at 11 p.m. on 21st.—*Bridgwater, Pawlett*. R ·92 in. below, or little more than half, the average.

VI. *Clifton, Pembroke Road*. R ·60 in. less than the average. From 6th to 14th, and from 25th to 29th, were two periods of dry E. winds, with cold nights; mild and showery between.—*Cirencester, Further Barton*.—Very cold, with many high winds and few genial days. Vegetation very backward.—*Coventry, Priory Row*. Favourable on the whole, being fine and dry generally. The R fell very opportunely, having been much wanted.

VII. *Hodsock Priory*. Bright, with a normal mean temp., but with a good deal of N.E. wind, and no really warm days; a moderate excess of R.

VIII. *Chelford, Astle Hall*. Cold, frosty weather till the 15th, then unsettled, with R, T, and gales.—*Bolton, The Park*. Normal weather, showing very slight variation from the average in pressure,

temp., sunshine, or R. Until the 14th the temp. was below the average, frost in shade occurring on 3rd, 7th, 8th, and 10th, but afterwards more genial conditions prevailed. R  $\cdot 12$  in. above the average. Duration of sunshine 128 $\cdot 5$  hours, or 8 hours above the average. E. wind on 12 days.—*Southport, Hesketh Park*. Sunny, with a rather large daily range of temp., and low relative humidity, but in every other respect remarkably normal. Mean temp.  $0^{\circ} 1$  below average. Frost in screen on four days, and on grass on 19 days. Sunshine 46 hours above, and R  $\cdot 16$  in. below, the average.—*Chatburn, Middlewood*. R  $\cdot 84$  in. below the average.—*Broughton-in-Furness*. Rather cold and dry on the whole, with about one-third less than the average R. Many bright sunny days, but often with cold E. wind.

IX. *Upper Midhope*. Very cool, with heavy R on four days. Very wintry from 3rd to 5th.—*Goldsborough Hall*. The early part was dry and cold, with frosty nights and strong N.W. winds, afterwards unsettled and cold.

X. *Brampton, Denton House*. Cold and sunless, with very little grass. R  $\cdot 32$  in. below the average 1890-99.

XI. *Aberystwith, Gogerddan*. Cold, with moderate R and much frost, warmer during the last ten days.

XVII. *Aberdeen, Cranford*. Cold and wet.—*Lynturk Manse*. The lack of R in the winter months began to be felt, the ground being very dry, and the springs low. The April R produced signs of recovery.

XIX. *South Ronaldshay, Roeberry*. The first half was fine, the latter half windy and changeable.

XX. *Darrynane Abbey*. Very changeable for the first few days, followed by a few fine warm days, after which it was again very changeable. Fine and warm from 24th to the end.—*Derry Castle*. R 19 per cent. below, and rainy days 17 per cent. fewer than, the average.

XXI. *Ballindoney*. Fine, with R on only ten days. No S. Heavy H storms on 23rd. Frost on eight days. On 21st 1 $\cdot 95$  in. of R fell in 19 hours.—*Kilkenny, Sion Villa*. Very changeable throughout. Much fine but bitterly cold weather. A lovely period from 8th to 15th. Early frosts on 2nd, 16th, and 17th. H on 12th. On 13th a regular deluge, with H, which lasted only a few minutes. Gale at night on 19th.—*Ballybrack, Streamville*. The early part was fine and cold, but from the 18th was wet, with high N.E. winds. R  $\cdot 70$  in. above the average of 20 years.—*Rathmines, Leinster Road*. Although there was

a good deal of bright sunshine the month was ungenial, resembling an average March. Ground frost occurred every night till the 18th.

XXIII. *Belfast, Springfield.* Cold and damp, with frequent H showers. Vegetation very backward.

## MAY.

I. *Kensington, Edith Road.* The coldest May in 19 years, and rather wet, with 22 rainy days. Temp.  $3^{\circ}8$  below the average.—*Muswell Hill.* R  $\cdot 70$  in. above the average of 29 years.

II. *Haslemere, Hazelhurst.* R on 22 days, the total being  $\cdot 64$  in. above the average. Prevailing wind N.W. Growth retarded by low temp. Frost in shade on 6 days, on grass on 11.—*Red Hill, Oxford Road.* R  $\cdot 93$  in. above the average. Mean temp.  $3^{\circ}5$  below the average.—*Wallington.* The coldest May in the record. During the first 22 days the shade max. did not reach  $60^{\circ}$ . The mean temp., mean max., and duration of sunshine were the lowest values on record. It was also wet. R  $\cdot 88$  in. above the average. Duration of sunshine 120.0 hours, or 80.6 hours less than the average. Mean temp.  $4^{\circ}2$  below the average.—*Maidstone, Ulcombe Place.* The mean max. temp., the absolute max., and the mean min., during the first three weeks, were all lower than the corresponding values for the first three weeks of April.—*Sheppey, Leysdown.* Very cold till 20th, with a fortnight of E. and N.E. winds, which withered the young growth of trees and hedges. The latter part was warmer, but with many showery days; frost on 5th and 13th.—*Lewes, Saxonbury.* Very cold, with frost and R storms till 21st, with TSS and H on 4th, 11th, and 18th. Sharp frost on 14th, which destroyed fruit. Very warm from 24th to 27th.—*Ryde, Beldornie Tower.* Cold, wet and disappointing.—*Bournemouth, Kempsey.* Very cold, especially the days, and persistently so up to the 22nd. Mean max.  $57^{\circ}2$ .—*Christchurch, Winkton Lodge.* A good deal of sunshine, but many showers, though no heavy falls. Frost on 14th, in the midst of wet weather, did great damage to the fruit blossom, and the subsequent strong winds from N.W. blew off much that was left. During the week from 23rd to 28th, temp. rose to  $71^{\circ}$ , and as there was no rain it was delightful.—*West Dean.* Very cold and unsettled, with H, sleet, and S showers, and very destructive night frosts. R not quite up to the average, but falling on 20 days.

III. *Watford, Eastbury.* Wet, cold and miserable.—*Farnham Royal.* Prevailing winds S.W. and N.W. Temp. low for the time of year.

R about the average, no heavy falls. Bar. fairly high.—*Wendover, Halton Gardens*. Cold N. or N.W. winds from 1st to 21st, afterwards W. and S.W. Duration of sunshine 144 hours.—*Winslow, Addington*. Cold till 20th, then rather warmer to the end. Frost on the 14th did considerable damage, potato tops being cut down and open strawberry blossom destroyed.—*Abingdon, Culham*. Cold and stormy up to the 22nd. The R of the first three weeks was very cold, and often fell as H, and did little good. That of the last ten days was very beneficial.—*Oxford, Banbury Road*. Very cold, and flowering shrubs were very backward. R about the average, but rainy days above it.—*Blisworth, Grafton House*. Extremely cold till the 22nd. S shower on 6th. The last 10 days warmer, very growing weather.

IV. *Sudbury, Friars Street*. Very wet and unseasonable, only four days being without R. T on 2nd, 3rd, 17th, and 30th. S on 7th.—*Ipswich, Copdock*. Wet, and extraordinarily cold till the last week, then pleasantly warm by contrast. Wind N. to W. almost throughout. Mean temp.  $48^{\circ}6$ , only just above that of April. The weather on the whole was typically that of April.—*Rendlesham Hall*. Wet and cold till 21st, afterwards warm, with showers.—*Burgh Castle Rectory*. Cold till about the 20th, checking vegetation, and only five days without R. Great growth after 23rd.—*Blakeney*. Prevailing winds N.W. to N.E., and as a rule very cold weather.

V. *Alderbury*. Very cold; vegetation backward.—*Bishop's Cannings*. R .92 in. above the average.—*Winterbourne Steepleton*. Very cold in the early part, followed on 23rd by sudden warmth.—*Tavistock, Whitchurch*. Cold, showery, cloudy, and damp, but with less than average R. The mean temp. is the lowest, and the number of grass frosts the greatest, in May in ten years. N.W. wind was most prevalent. Gales on three days. S on three, L on three, and solar halos on seven, days.—*Polapit Tamar*. Exceptionally cold and unseasonable, particularly the first three weeks. R for the first five months of the year 1.48 in. below the average.—*Okehampton, Oaklands*. A growing and genial month.—*Wellington, The Avenue*. R about .50 in. above the average, and fairly frequent. One of the coldest Mays on record, the temp. in shade not rising to  $60^{\circ}$  until the 22nd, the latter part was generally more genial. Strong winds at times.

VI. *Cirencester, Further Barton*. Cold N., N.E., and N.W. winds, with frequent morning frosts in the first half, culminating on 14th in a severe frost, which did much injury to vegetation. A change to warmer weather on the 22nd.—*Campden, Hidcote*. Cold, with sharp



frost at times.—*Bishop's Castle, Castle Street.* Cold till the 21st. Much improved weather from 25th, and wonderful growth in the last three days.—*Tenbury, Rochford.* Very cold and unseasonable, with continuous E. winds.—*Coventry, Priory Row.* Cold and sunless in the early part, finer and warmer towards the close.

VII. *Hodsock Priory.* The first three weeks were cold, with N. winds, the last ten days mild; a moderate excess of R, but a deficiency of sunshine. On the 6th a shower of S, with unusual darkness. Grass did not grow much till near the end of the month.

VIII. *Chelford, Astle Hall.* Cold and stormy weather to the 20th, then mild and warm to the end of the month.—*Bolton, The Park.* Cold, with slight range of temp., and the proportion of N. and E. winds decidedly above the average. Mean temp.  $5^{\circ}4$  below the average of 16 Mays, and the lowest in that time. Duration of sunshine 153.3 hours, or 2.5 below average. R 1.49 in. above, or more than twice, the average. H on five days.—*Southport, Hesketh Park.* Cold, equable, wet, and rather windy. N.W. winds unusually prevalent. Mean temp.  $3^{\circ}1$  below the average. Frost in screen on two days, and on grass on ten days, the grass min. falling to  $21^{\circ}8$  on 10th. Mean daily range the smallest in any May. Sunshine three hours below, and R 1.32 in. above, the average, rainy days unprecedentedly numerous.—*Chatburn, Middlewood.* R .49 in. above the average. *Broughton-in-Furness.* Very cold, with little sunshine, and rather strong winds. Most of the R fell in very cold showers.

IX. *Upper Midhope.* Very cool to the 22nd. The only really mild day was the 23rd.—*Goldsborough Hall.* Cold and unsettled, with strong N. and N.W. winds. S, H, and frost at times in the first half.—*Thixendale.* Very cold up to the 23rd, then a sudden rise of temp., the max being  $76^{\circ}$ .—*Middlesbrough, Ormesby.* May was very cold, with N.N.E. and N.W. winds, and snow on 4th, 5th, 12th and 13th.

X. *West Hartlepool, Bradgate.* The earlier half was cold, with persistent N.E. or N. winds. The latter half irregular, but with three warm days.—*Beltingham Vicarage.* Very cold, dull and cheerless throughout.—*Eskdale.* Very cold, with only about three really bright and warm days, and occasional S showers in the first half.—*Brampton, Denton House.* Cold and sunless. Though R fell on 22 days yet it was .14 in. below the average of ten years.

XI. *Llanfrefchfa Grange.* Cold winds for the most part, much warmer from the 23rd.—*Llandoverly.* Very cold, and the season very

late. H on four occasions.—*Aberystwith, Gogerddan*. Very cold winds, chiefly N. and N.W. Good rains but lack of sun. Scarcely any growth of vegetation.

XIII. *Musselburgh, Levenhall*. Cold and unseasonable, with high winds, chiefly N. and N.E. Mean max. temp. barely 56°.

XIV. *Dalry, Blair*. Cold, sunless and backward, with average R. In the last two days rough wind from N. and E., with heavy showers, did much damage to tender foliage.

XV. *Tighnabruaich*. Cold, with high winds, chiefly from N. or N.E. Normal R.—*Ballachulish, Ardsheal*. R .56 in. above the average.

XVI. *Blair Atholl*. Remarkably cold. Mean temp. 6° lower than in May, 1901.

XVII. *Aberdeen, Cranford*. Cold, wet and sunless, with northerly winds, at times strong.—*Monymusk, The Manse*. Unusually cold and wetter than in recent years.—*Lynturk Manse*. Notable for the high R, the unbroken succession of rainy days from 1st to 21st, and the unseasonable S and H showers, continuing till the middle of the month, with low temp.

XVIII. *Eigg, Kildonan*. Exceptionally cold, and towards the end wet and stormy in addition.

XIX. *Bettyhill*. Exceptionally cold and dry, with some very stormy days.

XX. *Cork, Wellesley Terrace*. The temp. was the lowest for May in 20 years, and greatly retarded vegetation. The month also more than sustained its character as the driest of the year.—*Darrynane Abbey*. Very cold and ungenial, except for a few fine days between 23rd and 30th. Vegetation very backward.—*Waterford, Brook Lodge*. Dry, cold and backward.—*Derry Castle*. R 2 per cent. above, and rainy days 25 per cent. in excess of, the average.

XXI. *Ballindoney*. Cold and wintry. Between 1st and 20th the temp. never reached 60°. A little warmer afterwards. R fell on 16 days, but was heavy only on 31st. Heavy H on 17th and 18th. TS on 17th.—*Kilkenny, Sion Villa*. Fairly fine, but a cold month. H on 3rd, 18th and 19th; very heavy on 18th. Early fog on 10th. T on 11th. Squally on 16th and 18th. Milder weather towards the close of the month.—*Ballybrack, Streamville*. The coldest May for 16 years. R .29 in. above the average of 20 years.—*Rathmines, Leinster Road*. One of the coldest, harshest, and cloudiest Mays on record, persistent N. wind till 14th, afterwards variable. The mean temp. was below

average, and but for a few mild days in the last week would have been the lowest on record. H on several days.

XXII. *Markree Observatory.* The early part was much drier than the latter, which had frequent R and high wind.

XXIII. *Belfast, Springfield.* Very disappointing, and the wettest May since 1898. H showers and wintry gales were prevalent throughout, while R was almost incessant.

## JUNE.

I. *Staines, Belle Vue.* R far in excess of that of any other June during the 18 years observed.—*Kensington, Edith Road.* The wettest June in 19 years, R 1·77 in. above the average. The first three weeks were extremely cold, but the heat of the last week brought the mean temp. nearly up to the average.—*Muswell Hill.* R 1·04 in. above the average of 29 years.

II. *Haslemere, Hazelhurst.* Warm early in the month, getting gradually cold, with R on most days and little sun, but real summer weather with bright sunshine from the 24th to 30th. R 1·22 in., or more than 50 per cent., above the average. Winds variable. Frost on grass on 10th.—*Abinger Hall.* Very showery till 20th, with distant T at times. A heavy hay crop was got in in splendid condition.—*Redhill, Oxford Road.* R 2·50 in. above the average.—*Wallington.* Exceedingly wet and cold; the wettest June in the record. Excepting 1886 and 1898 the mean temp. is the lowest June value, while the duration of sunshine is the least excepting 1888. R 2·70 in. above the average. Duration of sunshine 159·5 hours, being 46·5 hours below the average.—*Sheppey, Leysdown.* The first half was unsettled, with frequent R and rather low temp.—*Lewes, Saxonbury.* Fog, mist and R to the 22nd, then hot and dry. Slight TSS on 2nd, 3rd, 7th and 30th.—*Bournemouth, Kempsey.* Cold and rainy. Very cold days from the 6th to the 18th. Hot and sunny from the 25th. Mean max. 62°·7.—*Christchurch, Winkton Lodge.* The middle of the month was very showery with low temp., the finest days being 26th and 27th, brilliant to look at, but with a fierce E. wind.—*West Dean.* Very cold and winterly, with temp. continuously below the average till 23rd, when a short spell of warm, dry weather occurred, which was invaluable to haymakers.

III. *Watford, Eastbury.* From 1st to 16th can only be described as appalling; there were only 3 days without R, and 3·23 in. fell on

the other 13.—*Farnham Royal*. Prevailing winds S.E. and E. Temp. low till the last week, when it was high. R above the average. Barometer low till the last week, when it was high.—*Winslow, Addington*. Damp and cool in the first part, hot and dry in the latter.—*Abingdon, Culham*. Dull and rainy up to the 23rd, but the last week hot and dry. R not a great deal more than the average considering the number of wet days.—*Oxford, Banbury Road*. R and rainy days slightly above, and temp. below, the average.—*Swerford*. Thick fog on three mornings. Three sunless days. Distant T on six days.—*Blisworth, Grafton House*. R all day on 6th, 12th and 14th. Very cold from 8th to 16th; fires necessary; the last ten days very warm and sunny.—*Pitsford, Sedgebrook*. R .58 in. above the average. Very wet and cold weather from 4th to 18th, after which date it improved.

IV. *Colchester, Lexden*. Very wet and cold till 18th, then hot and dry to the close. Splendid hay crop and weather to harvest it.—*Sudbury, Friars Street*. Very unsettled at the beginning; fine and hot at the end.—*Ipswich, Copdock*. The first 17 days were very wet and bitterly cold for June, the mean temp. being only  $53^{\circ}4$ . Afterwards fine, dry and warm, with E. winds prevailing. The R did much good and the cold little harm. Mean temp.  $57^{\circ}7$ . T on two days.

V. *Bishop's Cannings*. R 1.06 in., and rainy days 2, above the average.—*Winterbourne Steepleton*. Unusually wet and cold with the exception of the first three days and the last week. Mean temp.  $2^{\circ}9$  below the average of 9 years.—*Tavistock, Whitchurch*. Cold, damp, showery and cloudy, with R slightly above the average. S.E. winds most prevalent. Solar halos on 4 days; fog on 5 days.—*Okehampton, Oaklands*. The early part was cold and wet, an agreeable change taking place in the last ten days.—*Lynmouth, Rock House*. Warm from 1st to 5th, cold from 6th to 20th, then warm to the end, especially from 24th.—*North Cadbury Rectory*.—The largest June R in six years, and it mostly fell in the week beginning the 12th. The first four days were fairly warm, then followed low maxima to the 17th, with much R from 12th to 16th. Seasonably warm from 18th to 22nd, and distinctly hot from 23rd to the end. Water in pond higher on 20th than at any time during the previous winter and spring.—*Glastonbury, Wells Road*. R 1.67 in. above the average of 10 years.

VI. *Cirencester, Further Barton*. Unusually cold and dreary weather till the last week.—*Campden, Hidcote*. Very cold, with occasional white frosts and more R than usual.—*Bishop's Castle, Castle Street*. Dull, cloudy and cold till the 23rd. Warm with cloudless skies later.

—*Woolstaston*. Sunless and cold for the first three weeks. Vegetation generally extremely backward.—*Tenbury, Rochford*. Very cold, wet, dull and unseasonable up to the 21st.—*Coventry, Priory Row*. Dull, cold and rainy in the early part, but brilliant weather set in on 24th with increasing heat.

VII. *Hodsock Priory*. The first part was cold, dull and showery, the last ten days fine and warm, the only summer weather during the year. R only about half the average.

VIII. *Chelford, Astle Hall*. Cold and wet to the 17th, then warm and very hot towards the end, with T,—*Bolton, The Park*. Until the 19th the weather was cloudy, with temp. below the average, and very little sunshine. From 23rd to the end brilliant sunshine and high temp. The prevailing winds were E. or N., and at no time exceeded 15 miles an hour. Mean temp.  $0^{\circ}5$  below the average. Frost on grass on 9th and 10th. Duration of sunshine 132.5 hours, or 28.3 hours below the average. R 1.03 in. below the average.—*Southport, Hesketh Park*. Mainly characterized by remarkable prevalence of E. winds, with a smaller R than usual, but a deficiency of sunshine. Mean temp.  $0^{\circ}1$  below the average. Very cold weather from the 7th to the 17th; exceptionally warm throughout the last week. Frost on grass on two nights. Sunshine 30 hours below, and R .68 in. below, the average.—*Chatburn, Middlewood*. R 1.60 in. below the average.—*Broughton-in-Furness*. Dull, cold and cheerless, with slight showers on most days till the 23rd; afterwards fine, sunny and hot.—*Seathwaite Vicarage*. Unusually low temp. till the last week, when it was exceptionally high.

IX. *Upper Midhope*. Dull, cool, foggy and damp to the 21st. Hot and dry in the last 9 days; very hot on 28th. The R for the six months ending 30th was the least in 8 years.—*Goldsbrough Hall*. The first three weeks were very dull and cold, with temp. above  $60^{\circ}$  on only 10 days. From 22nd to the end was fine and warm.—*Arncliffe Vicarage*. Very cold and dry, with little sunshine until the last week.

X. *West Hartlepool, Bradgate*. Half the month was unusually wet, R falling on every day but two from 1st to 16th.—*Beltingham Vic.* Cold and dull till about the 20th, with little R. Very warm from 21st to the end.—*Eskdale*. Although only 1.34 in. of R fell, there was not the slightest sign of drought. The R came so evenly that fields and gardens made up to a great extent for the long, cold spring.—*Brampton, Denton House*. Cold, with little sun until the 24th, when summer opened and crops grew amazingly. R 1.16 in. below the

average, 1890-99.—*Shap, Reagill*. The first half was dull and very cold; the last week hot.

XI. *Llandovery*. The first three weeks were exceptionally cold.—*Aberystwith, Gogerddan*. Very wet for the first three weeks; extremely hot in the last week.—*Haverfordwest*. The first 4 days were a slight improvement on the ungenial conditions of May; the temp. rose to 68° on the 3rd, but did not again reach 60° until the 18th. The mean temp. was unusually low.—*Llangyhanfal, Plas Draw*. Generally cold until the 22nd, when the temp. rose and the weather continued hot till the end.

XII. *Curgen*. Notwithstanding abnormally high temp. in the last week, the mean temp. is among the lowest of the past 45 Junes. The absence of sun was very marked.

XIV. *Maybole, Knockdon Farm*. There was not one summer-like day before the 23rd, but from that date the weather was exceptionally fine for the W. of Scotland.

XV. *Tighnabruaich*. R much less than the average. Prevailing winds N.E., E., and S.E.; gale on 19th and 20th.—*Ballachulish, Ardsheal*. R 1·80 in. below the average.

XVI. *Blair Atholl*. Temp. much below average till the 17th, then rather above to the end.

XVII. *Lynturk Manse*. Up to the 18th the weather was broken and cold; thereafter it was very fine. Including 3 days at the end of May, there were 19 consecutive wet days.—*Monymusk Manse*. The first half was wet and changeable, but some very fine days with great heat occurred in the second half.

XVIII. *Eigg*. Unusually dry.—*N. Uist, Loch Maddy*. Generally very cold, with sudden changes near the end. Prevailing winds N. and N.E.—*Drumnadrochit*. The first half was ungenial, but from the 24th to the end was hot, especially the 25th, 26th, 27th and 30th.

XIX. *Bettyhill*. Cold, with occasional showers, during the earlier half. Some brilliant days toward the end.—*South Ronaldshay, Roeberry*. Very cold, with N. and N.E. winds. Mean temp. 3°·2 below the average.

XX. *Dunmanway, Coolkelure*. Very low temp. until the last four days. Grass and crops very late and backward.—*Cork, Wellesley Terrace*. R ·50 in. above the average. Although the last six days were warmer than the average, the mean temp. is the lowest for June in the past 20 years. Distant TS on 25th, after which a change to warm weather occurred.—*Darrynane Abbey*. Very cold and ungenial

during the first part; fine and very warm in the last week.—*Waterford, Brook Lodge*. The first three weeks were very cold and wet.—*Derry Castle*. R 43 per cent. below, but rainy days exactly, the average.

XXI. *Ballindoney*. Very cold, with a great deal of R up to the 22nd; then very fine and warm till the end. Distant TS on 3rd. Severe rainstorm on 1st, yielding 1·06 in.—*Kilkenny, Sion Villa*. A fine month, but very cold up to the 15th. T on 3rd, 7th, and 14th.—*Ballybrack, Streamville*. Exceptionally cold and wet up to the 22nd; then dry and hot to the end. R ·70 in. above the average of 20 years.—*Rathmines, Leinster Road*. Cold, and but for the last week, which was brilliantly fine and warm, it would have been the coldest June on record. Miserable weather till 24th, with an unprecedented amount of cloud. Mean temp. 2°·9 below the average. TS on 29th.

XXII. *Markree Observatory*. Cold, with high wind at times in the early part, changing on 24th to fine and bright weather.

XXIII. *Belfast, Springfield*. A very disappointing month for the farmer, R being almost incessant and vegetation very backward.

## JULY.

I. *Kensington, Edith Road*. The seventh consecutive dry July. Temp. 1°·4, and R 1·07 in., below the average.—*Muswell Hill*. R 1·48 in. below the average of 29 years.

II. *Haslemere, Hazelhurst*. Cold, with little feeling of summer. No specially heavy R, the total being 1·49 in. below, or less than half, the average. Max. temp. below 60° on three days, and below 70° on 20 days.—*Wallington*. Cold and dry. The coldest July since 1892, and the driest since 1899. Mean temp. 1°·4 below average. R 1·40 in. below, or less than half, the average. Duration of sunshine 192·3 hours, or 17·8 hours less than the average.—*Redhill, Oxford Road*. R ·78 in. below the average of 35 years. Mean temp. 1°·3 below the average of 22 years.—*Sheppey, Leysdown*. R about the average, and evenly distributed throughout the month. Rather low temp. the max. on 21st only reaching 56°.—*Lewes, Saxonbury*. Dry as a whole. Bright, calm and hot from 4th to 18th. TS on 10th, gale on 26th and 27th.—*Bournemouth, Kempsey*. Cold, and sunshine much broken. Only three really hot days (7th, 8th and 15th), and an exceptionally strong gale on the 26th.—*Christchurch, Winkton Lodge*. Only two hot days, 8th and 15th, the rest of the month cool and damp. Winds strong from N.W.—*West Dean*. Very cold. Except

for two brief periods from 5th to 10th, and from 13th to 16th, the temp. was much below the average. Great absence of sunshine; excessively cold nights and high winds, characterised the month. R much below the average.

III. *Farnham Royal*. Prevailing winds S.W., and N.W. Temp. below average, but one or two hot days. R slightly below the average, no heavy falls.—*Halton Gardens*. Duration of sunshine 204 hours; 13 hours were recorded each day on 14th, 15th and 16th, but none on 9th, 20th, 21st and 22nd. Wind throughout W.S.W. and S.—*Abingdon, Culham*. Dry, with several threatenings of R, which came to nothing. Not much sunshine.—*Oxford, Banbury Road*. Very dry, but mostly unsettled. Great variation of temp., the max. varying from 58° to 87°.—*Pitsford, Sedgebrook*. R 2·22 in. below the average.

VI. *Sudbury, Friars Street*. Low temp. during the greater part, with little sunshine.

V. *Tavistock, Whitchurch*. Cold, with about average R. Out of the first 18 days 16 were dry, and only ·32 in. of R fell, but afterwards there were only two rainless days. N.W. winds were most prevalent.—*Polapit Tamar*. Unseasonably cold and rather dry.—*Lynmouth, Rock House*. Fairly warm, but much cooler than the two preceding Julys.

VI. *Cirencester, Further Barton*. Remarkably cold and dry, excepting a few hot days about the 6th and 14th. The night temp. unusually low. No TSS.—*Ross, The Graig*. On the whole dry, but not specially settled and considerably colder than for the last six years. Only seven Julys since 1818 have had less R. The first half was quite warm, with the exception of five days, but from 18th to the end, except the 25th, was very cold. The wind on 26th was the strongest remembered in July.—*Church Stretton, Woolstaston*. Cold, with a few hot days. Min. temp. 10° lower than in July, 1901.—*Tenbury, Rockford*. A fairly fine month. R ·23 in. below the average.—*Coventry, Priory Row*. Temp. and weather very variable, but for the most part cool and sunless.

VII. *Horncastle, Hemingby*. The most unseasonable July since 1892. T heard only on 19th.—*Hodsock Priory*. Cold and cloudy, with a few warm days, a rather deficient R, and absence of TSS. Very slow weather for haymaking.

VIII. *Chelford, Astle Hall*. A few warm days, but on the whole cold and wet.—*Bolton, The Park*. The coldest July for ten years. On only three days was the temp. above 70°, while on three days it



was below 50°. No TSS. Mean temp. 5° below the average. R .25 in. above the average. Duration of sunshine 114.9 hours, or 36 hours below the average.—*Southport, Hesketh Park*. Cold and sunless, with unusual prevalence of W. and N.W. winds. Mean temp. 2°·5 below the average. Frost on grass on the 2nd. Sunshine 56 hours below, and R .83 in. below, the average.—*Chatburn, Middlewood*. R .50 in. above the average.—*Broughton-in-Furness*. Very dull on the whole, with cloudy skies and cool winds. One or two hot sunny days, but temp. mostly low. A good deal of R, but no TSS.—*Seathwaite Vicarage*. Generally cool and somewhat rainy.

IX. *Goldsborough Hall*. Very dull and cold, with R on 18 days. the temp. exceeded 70° on only seven days.

X. *Beltingham Vicarage*. Dull and cold throughout.—*Brampton, Denton House*. A sunless month, and though R fell on 21 days, yet it was only .36 in. above the average of ten years.—*Shap, Reagill*. Very dark and dull, without any great amount of R, except on a few days.

XI. *Llanfrechfa Grange*. Fine and warm, and unusually little R.—*Aberystwith, Gogerddan*. Cold on the whole, especially at night, and rather wet. Wind chiefly N. or N.W., and cold, with lack of sun.

XII. *Moniaive, Maxwellton House*. R .57 in. below the average. Mean temp. 2° below the average.

XV. *Tighnabruaich*. Cold, with a full supply of moisture. R 3.32 in. more, and temp. 6°·4 lower, than in July, 1901.

XVII. *Aberdeen, Cranford*. Cold and wet, with very little sunshine. Garden produce practically spoiled.—*Monymusk Manse*. Cold, wet and backward.

XVIII. *N. Uist, Lochmaddy*. Generally dull, cold and showery, with little sunshine. Prevailing wind N.E. to E.—*Drumnadrochit*. R less than the average. Very unseasonable, being cold with little sunshine. H showers on 24th.

XIX. *Bettyhill*. Generally wet and cold, with occasional fine bright days.—*Dunmanway, Coolkelure*. Remarkable for dryness and low temp., the latter believed to be a record. Plenty of sunshine, but cold winds from N.W. and N.

XX. *Derry Castle*. R 34 per cent. below, and rainy days 39 per cent. fewer than, the average.

XXI. *Ballindoney*. Very fine and warm till 17th, with R on only three days. Cold from 19th to the end, with very heavy R. Great rainstorm on 25th, 1.95 in. falling between 6 p.m. and 9 a.m. on 26th. Between 10 a.m. and 3 p.m. on 26th 1.15 in. more fell, causing great

floods and damage.—*Kilkenny, Sion Villa*. Fine, but very sudden changes from mild to very cold weather. H shower on 9th.—*Ballybrack, Streamville*. Warm and dry to the 17th, then wet and cold to the end.—*Rathmines, Leinster Road*. Abnormally cool and cloudy. For the last fortnight the weather resembled October rather than July. Of the R 80 per cent. fell on three days, so that the month was generally dry.

XXIII. *Belfast, Springfield*. Heavy R brought the total from the beginning of the year to about the average.

#### AUGUST.\*

I. *Kensington, Edith Road*. Wet, unsettled and rather chilly. R .69 in. above, and temp. 1°·1 below, the average.—*Muswell Hill*. R 3·09 in. above the average of 29 years.

II. *Haslemere, Hazelhurst*. Sunshine deficient, and R on 19 days, the total being 1·05 in. above the average. Wind principally westerly.—*Abinger Hall*. Very showery, but the showers mostly very light. Most of the corn was cut, but fine weather was needed for stacking it. Potato disease worse than for many years.—*Wallington*. Calm, cool, wet and sunless. The calmest and most sunless August on record, and with one exception the cloudiest. R .89 in. above the average. Duration of sunshine 119·6 hours, being 78·7 hours below the average. Mean temp. 1°·9 below the average.—*Maidstone, Ulcombe Place*. The feature of the month was the gathering of heavy clouds on most days, which passed off without R.—*Sheppey, Leysdown*. Temp. below the average, many sunless days and several falls of about .50 in. of R, in addition to 1·14 in. on 16th.—*Chichester, Chilgrove*. R 7·04 in., being the greatest in August in 68 years, excepting 1894, when 7·58 in. fell.—*Lewes, Saxonbury*. Calm, with mist, fog, R and low temp. TSS on 8th and 16th. On the 18th occurred the heaviest R (1·26 in.) in 24 hours since October 21st, 1901.—*Bournemouth, Kempsey*. Very wet, the total R being 4·77 in. on 19 days, while the average is about 2·50 in. Cold days, the temp. only once exceeding 70°.—*Christchurch, Winkton Lodge*. R 4·51 in. and the wettest month of the year. Only 4 days with sunshine throughout; 14 days without R, and 13 without sun. T on 16th. Wind mostly westerly.—*West Dean*. Very dull, cold, wet and stormy, and as unlike a summer month as could well be imagined. A N.W. gale occurred on 11th, with excessively low temp.

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\* See also *Met. Mag.*, Sept., 1902, p. 117.

The shade temp. fell below 45° on 9 days.—*Hartley Wintney*. The wettest August since 1891. Low temp. Prevailing wind westerly. No ozone registered.

III. *Farnham Royal*. Prevailing winds S.W. and N.W. Temp. low for the time of the year. R a little above the average; no very heavy falls, the heaviest being 1·03 in. on the 18th.—*Winslow, Addington*. R on many days, and very hindering to harvest operations.—*Abingdon, Culham*. Wet and unsettled, with many rainy days (23), though no great quantity fell in 24 hours. Very little sunshine.

IV. *Colchester, Lexden*. Continuous cool, damp weather. Sunshine deficient and temp. low save for four days in the last week.—*Sudbury, Friars Street*. Cold and unseasonable, with little sunshine.—*Ipswich, Copdock*. Cheerless and wet, with extraordinarily little sun. On 23 days the amount of cloud varied from 8 to 10. On 3 days only did the temp. reach or exceed 71°. A marked absence of wind. T and L on 3 days.—*Cavendish*. Very wet, R 4·09 in., causing great delay in harvesting.—*Burgh Castle Rectory*. One of the wettest Augusts for many years. R 4·89 in.—*Norwich, Brundall*. The coldest August since 1888.—*Blakeney*. Dull, wet and cold weather, most unfavourable for harvest.

V. *Bishop's Cannings*. R ·02 in. below, and rainy days 4 above, the average. Very late harvest, wheat cutting not being general till the 11th; carrying was stopped after 29th by R.—*Yatesbury*. The wettest month of the year yet, with ·25 in. less than the average R.—*Tavistock, Whitchurch*. Showery, cold and damp, with R slightly below the average. The temp. rose to or above 70° on only 3 days. Prevailing winds W. and S.W.—*Lynmouth, Rock House*. Fairly warm, but no intense heat. Although R fell on 19 days, the total is the lowest in 5 years.

VI. *Cirencester, Further Barton*. Sunless and cold, with almost daily R and frequent cold nights. A worse harvest month it would be difficult to conceive.—*Campden, Hidcote*. The greatest R and the greatest number of wet days in August since 1897.—*Church Stretton, Woolstaston*. Wet, damp and foggy on the whole, with little sunshine.—*Bromsgrove, Barnt Green*. The wettest August since 1879. R 4·94 in.—*Tenbury, Rochford*. Very wet, cold and unseasonable, with very little sunshine. R 1·22 in. above the average.

VII. *Horncastle, Hemingby*. The worst August since 1887.—*Hodsock Priory*. Cold, dull and wet; the mean temp. lower than in any of the last 26 years except 1885. Harvest did not commence till

about the 20th. The wettest August since 1881, with the exception of 1900.

VIII. *Chelford, Astle Hall*. Cold and wet to the 13th; then warm and fine with T to the end.—*Bolton, The Park*. Singularly changeable and cold. The mean temp. is  $2^{\circ}8$  below the average and the lowest in August since 1889. Duration of sunshine 111 hours, or 6 hours below the average. R 1.44 in. less than the average.—*Southport, Hesketh Park*. Cold, but dry, N.W. winds being unusually prevalent. Mean temp.  $2^{\circ}4$  below, sunshine 7 hours below, and R 1.74 in. below, the average.—*Chatburn, Middlewood*. R 2.68 in. below the average.—*Broughton-in-Furness*. Very equable temp., the max. being singularly uniform but not high. R one-third below the average, but rainy days normal.—*Seathwaite Vicarage*. A uniformly cool month, of small R, but spread over a large number of days.

IX. *Upper Midhope*. Neither very hot nor very cool. Out of a total R of 3.77 in. the fall of 5 days amounted to 3.00 in. TS on 27th.—*Goldsborough Hall*. Very dull and unsettled throughout. Only on one day did the temp. reach  $70^{\circ}$ , and on eight days it fell below  $40^{\circ}$ . *Hull, Pearson Park*. Very unsettled generally and frequently overcast and ungenial with some cold nights.—*Thixendale*. Generally dull, dreary and cold, and especially so from 7th to 14th.

X. *Brampton, Denton House*. A sunless month and very slow hay weather. R fell on 14 days, but in small quantities, the total being 2.75 in. below the average of 10 years.

XI. *Llanfrechfa Grange*. About average R, but an excess of rainy days. R fell inconveniently for the harvest, much corn being injured. Potatoes much diseased.—*Aberystwith, Gogerddan*. Much R, little sunshine and cold nights till the last week, when the weather improved.

XII. *Curgen*. Cold and sunless. Harvest not commenced.

XIII. *Musselburgh, Levenhall*. Unseasonably cold, the shade temp. only once rising to  $70^{\circ}$ .

XV. *Tighnabruaich*. Normal conditions of R, wind and temp.—*Ballachulish, Ardsheal*. R 1.26 in. below the average.

XVII. *Aberdeen, Cranford*. Cold, wet and with little sunshine; bad weather for harvest.—*Lynturk Manse*. Cold and ungenial, with great lack of sunshine, so that crops made little progress.—*Monymusk Manse*. An unusually wet and backward August.

XX. *Dunmanway, Coolkelure*. Rather low temp.; otherwise a fine growing month.—*Derry Castle*. R 65 per cent. below, and rainy days 33 per cent. fewer than, the average.

XXI. *Ballindoney*. Another most unsummerlike month, with a good deal of R. The temp. fell to  $36^{\circ}$  on the nights of 4th and 5th. Heavy rainstorms on several days.—*Kilkenny, Sion Villa*. Fine on the whole, though frequent R. Very heavy on 5th, 6th and 7th, causing much damage to corn crops. Heavy R again on 17th,  $\cdot 42$  in. falling in 3 hours to 2 p.m. T on 13th.—*Ballybrack, Streamville*. Temp. low. R  $\cdot 53$  in. less than the average of 20 years.—*Rathmines, Leinster Road*. Although finer than June or July, with a fair amount of sunshine, it was the coldest August since 1879. Mean temp.  $3^{\circ}0$  below the average.—*Athlone, Twyford*. R  $2\cdot 21$  in., being the driest August since 1884, when the total was  $1\cdot 98$  in.

XXIII. *Belfast, Springfield*. The most pleasant month of the summer, and the finest August since 1899. R less than the average.

#### SEPTEMBER.

I. *Kensington, Edith Road*. Very fine and dry, with normal temp. R  $1\cdot 25$  in. below the average.

II. *Haslemere, Hazelhurst*. A fine sunny month. R  $1\cdot 69$  in. below, or less than half, the average. Wind W. or S.W. until 26th, then N.W. and cold to the 30th. S.W. gale on 3rd. T on 23rd. One frost on grass.—*Redhill, Oxford Road*. R  $2\cdot 00$  in. less than, or little more than a quarter of, the average. Mean temp.  $0^{\circ}9$  below the average.—*Wallington*. Cold, with about the average amount of sunshine, and rather more R than usual, though the second half of the month was singularly dry. Mean temp.  $1^{\circ}8$  below average. R  $\cdot 33$  in. above average. Duration of sunshine  $159\cdot 8$  hours, showing a deficiency of less than half an hour.—*Sheppey, Leysdown*. More than half the total R fell on the 2nd, followed by fine weather to the 10th, when a TS occurred, after which it was very fine to the end, but with cold E. and N.E. winds in the last week.—*Lewes, Saxonbury*. Bright, calm days, with fog, warm after the 16th. T on 5th, TS on 9th.—*Christchurch, Winkton Lodge*. Bright, but cold, frost on the 18th, preceded by stormy weather. Severe thunder rain on 5th,  $\cdot 50$  in. fell between 2 and 3 o'clock, bright afterwards.—*West Dean*. Cold, and generally dry, with fog on 17 days, and very cold nights. Little R fell except on 2nd, 9th and 11th. Delicate plants were cut down by frost early in the month.

III. *Farnham Royal*. Prevailing wind N.W. and N.E. Temp. rather low. R below the average, no heavy falls. Bar. fairly high all

the month.—*Wendover, Halton Gardens.* S. and S.W. winds to the 12th, N. and N.W. afterwards. The nights generally cold.—*Culham Vicarage.* A dry month, with the exception of 9th, 10th and 11th, and fairly sunny.—*Swerford.* One sunless day; fog on eight days. Distant T on two days.—*Blisworth, Grafton House.* Fine, with the exception of a few days. Several misty mornings, followed by beautiful days.

IV. *Sudbury, Friars Street.* Rather unsettled at the beginning, finer towards the end.—*Ipswich, Copdock.* Cold for September, and a prevalence of N. winds. A charming ten days from 17th to 26th, with plenty of sun, though no high temp.—*Rendlesham Hall.* Fine and dry, with N.E. and S.E. winds.—*Norwich, Brundall.* Rather colder than the average. Nearly all the R fell on the 2nd and 11th, there being practically none after the 12th.

V. *Bishop's Cannings.* R .72 in., and rainy days three, below the average. Although not a wet month, the two wet periods, 9th to 11th, and 15th to 17th, hindered the carrying of corn a great deal.—*Tavistock, Whitchurch.* Cold, and rather dry. S.E. winds most prevalent. Temp. rose above 70° on two days. Solar halos on three days; fog on three days.—*Polapit Tamar.* Rather wet in the first half.—*Okehampton, Oaklands.* Wet and cold, and harvest operations much delayed.—*Lynmouth, Rock House.* A warm month. Cold on 18th, and cold wind on the last few days.

VI. *Cirencester, Further Barton.* A fairly normal month, the latter half much the finer.—*Bishop's Castle.* R below the average, but much cloud, gloom, and low temp.—*Tenbury, Rochford.* Fairly fine, but cold for the time of year.—*Coventry, Priory Row.* Damp, showery and difficult harvest weather, improving in the last week.

VII. *Hodsock Priory.* Rather dry, with normal temp. Showers in the second week hindered harvest, which was only just finished at the end of the month.

VIII. *Chelford, Astle Hall.* Hot up to the 9th, then unsettled to the 23rd, and the remainder fine and warm.—*Bolton, The Park.* During the first ten days the temp. was above normal, very little R fell, and there was a fair amount of bright sunshine. From the 11th the temp. was decidedly lower, and R fell on eight successive days. From the 24th to the end was dry and fairly bright. Temp. average. R 1.34 in., or about 30 per cent., below the average. Bright sunshine 11 hours below the average.—*Southport, Hesketh Park.* Exceptionally dry, E. winds predominating. Normal in nearly all other features.

Mean temp.  $0^{\circ}\cdot5$  below average. Frost on grass on three nights. Sunshine one hour below, and R  $2\cdot35$  in. below, the average.—*Chatburn, Middlewood*. R  $2\cdot60$  in. below the average.—*Broughton-in-Furness*. Dry on the whole, though there were 19 days on which R fell. The last week was delightfully fine and sunny, with rather cold nights. R  $3\cdot26$  in. below, or little more than one-third of, the average.

IX. *Upper Midhope*. More than half the R fell from 10th to 16th. Five days of high wind and six days of thick fog.—*Goldsborough Hall*. The first few days were dull and unsettled, the 7th and 8th were the warmest days, and thence to the 23rd was dull and unsettled, R falling on 12 days; from 23rd to 29th was very fine. Although R fell on 16 days, the total is less than an inch.

X. *West Harilepool, Bradgate*. Colder and less satisfactory than usual, with a great fall of temp. after the 24th.—*Beltingham Vicarage*. Cold and dull, except from 24th to 26th, which was warm and sunny. Harvest was not completed at the end.—*Eskdale Vicarage*. Many cold, dull days, clearing at night, and several hard frosts.—*Brampton, Denton House*. A great gale on the 3rd did much damage to buildings and trees, and much hay was blown away, even stacks being blown over. This was another sunless month. R fell on 15 days, but in such small quantities that the total fall is  $2\cdot75$  in. below the average of ten years.

XI. *Llanfrefcha Grange*. Very cold and ungenial.—*Aberystwith, Gogerddan*. A small R, very cold winds and little sunshine. R much needed.

XIII. *Musselburgh, Levenhall*. The first week was marked by a heavy gale, which lasted nearly three days. As the month advanced the weather improved, though haze was frequent.

XIV. *Dalry, Blair*. The whole month was cold, wet and sunless, and a sharp frost occurred on 13th.

XV. *Ballachulish, Ardsheal*. R  $\cdot72$  in. below the average.

XVII. *Crathes, Pinewood*. On the whole deficient in sunshine, with frequent fogs in the latter part.—*Lynturk Manse*. The whole month cold and damp, with very little sunshine.—*Monymusk Manse*. Dull and heavy, with frequent R, and an absence of fine sunshine.

XIX. *Bettyhill*. A fine harvest month on the whole.

XX. *Cork, Wellesley Terrace*. R below the average. Total from January 1st,  $2\cdot09$  in. less than the mean. Mean temp.  $2^{\circ}\cdot5$  below the average. The first hoar frost of the season on the morning of the 18th.—*Derry Castle*. R 72 per cent. below, and rainy days 32 per

cent. fewer than, the average.—*Miltown Malbay*. Dry, except the first three days, the fall of the six other rainy days being inappreciable, and none of it reaching the springs, which were low or dried up everywhere in West Clare. The reservoir supplying Miltown Malbay Waterworks ran dry, and the inhabitants had to go some miles into the country to buy water. All hilly and dry pastures were burned up. Total R since January 1st 18·91 in., or less than half the average.

XXI. *Ballindoney*. The month opened with torrents of R, but on 2nd the heaviest fall occurred since the record began in 1895, 2·35 in. falling in 9 hours between 10 p.m. on 2nd, and 7 a.m. on 3rd. Great floods occurred in this county. Another heavy fall of ·85 in. occurred on 22nd. A cold month.—*Kilkenny, Sion Villa*. On 2nd light misty R to noon, when it cleared up until 6.30 p.m. Then at 7 p.m. down came torrents of R, lasting through the night and until 6 a.m. on 3rd. Storm all through night; 2·12 in. registered. The rest of month was fine, except 21st and 22nd, which were wet and stormy. Fogs in early morning from 25th to 29th. Average temperature. Max. 72°, min. 50°.—*Ballybrack, Streamville*. R 1·84 in., or nearly 50 per cent., above the average of 20 years, due to a fall of 2·67 in. on 2nd.—*Rathmines, Leinster Road*. Although the temp. was slightly below the average, this was the finest month of the summer, and but for the great R of 2nd, when 75 per cent. of the total fell, it would have been very dry. A fair amount of bright sunshine. T on 3rd.

## OCTOBER.

I. *Kensington, Edith Road*. Very dry, with normal temp. R 1·41 in. below the average.

II. *Haslemere, Hazelhurst*. A large proportion of dull, rainy weather, without much R, the total being 1·59 in. less than the average. Eleven sunless days. Frost on grass on three nights.—*Wallington*. Cloudy and sunless, with a small rainfall and large number of rainy days. Mean temp. about the average, the mean max. being 1°·3 below, and the mean min. 1°·3 above, the normal. Marked absence of frost, dahlias being untouched at the close. R 1·43 in. below, or little more than half, the average. Duration of sunshine 55·3 hours; 45·1 hours less than the average.—*Sheppey, Leysdown*. Exceptionally cold in the first week, very unsettled in the middle, but with no great quantity of R, fine and calm, but dull at the end.—*Lewes, Saxonbury*. Dry and calm as a whole, with some fog and mist. Cool at first, but warmer



and brighter towards the end. Very high wind on 15th.—*Christchurch, Winkton Lodge*. Changeable and showery, but many bright days. Temp. low at the end, mild in the middle, with dampness.—*West Dean*. Fine generally, rather mild and very quiet. Only one day of excessive R, and the total much below the average. Night frosts were frequent, but not severe. More fog than usual.

III. *Slough, Upton*. Dull and overcast, with half the average R, and two-thirds the average sunshine, but great atmospheric humidity. Many villages in south Bucks and Surrey were reported short of water.—*Farnham Royal*. Prevailing winds S.W. and N.W. Temp. fairly high. R slightly below the average, no heavy falls.—*Wendover, Halton Gardens*. N. or N.W. winds throughout. Frost on seven nights.—*Culham Vicarage*. A dry month, though R fell on 16 days, but the amounts were small, and the total is considerably below the average, and the water supply is getting short in many places. No frost to injure vegetation.—*Swerford*. Six sunless days. Fog on six days.

IV. *Colchester, Lexden*. Generally dull and mild. W. gale on 15th.—*Sudbury, Friars Street*. Unsettled throughout.—*Ipswich, Copdock*. A large number of days on which some R fell, but yielding a small total, and an extraordinarily small amount of sunshine. On 12 days there was not a sight of blue sky, and on only six days was there more than a few minutes sunshine.—*Burgh Castle Rectory*. The last few days were marked by the soft lovely atmosphere, characteristic of October, but the month generally was gloomy.—*Blakeney*. Remarkable for the number of wet days, although many of the falls were small. From 10th to 22nd there were 13 consecutive wet days.

V. *Bishop's Cannings*. R 1.92 in. below, and rainy days about, the average.—*Winterbourne Steepleton*. Rather sunless generally, but without extremes of temp. A lunar rainbow was seen at 7.40 p.m. on 16th.—*Tavistock, Whitchurch*. Showery, damp, cloudy, and rather cold, small variation of temp., and less than average R, though there were 18 consecutive days from 12th to 29th of which only one was rainless. The first grass frost was on the 31st, being the latest date on record.—*Polapit Tamar*. Generally damp, though the R was less than the average.—*Okehampton, Oaklands*. Mild, with a fair quantity of R.

VI. *Cirencester, Further Barton*. On the whole quiet, and generally mild, with no extremes. R about two-thirds of the average.—*Campden, Hidcote*. More than the average R, and not much sunshine.—*Bishop's Castle, Castle Street*. Dull, with N.E. winds till 10th; the middle

and end more genial, with W. and S.W. winds. No frost.—*Tenbury, Rochford*. Fairly fine on the whole, with no frost to injure nasturtiums or dahlias. R 40 in. below the average.

VII. *Market Overton*. Mild and damp, with very little sunshine.—*Hodsock Priory*. Mild, and very dull, without a single frost in the screen, for the first time in October during 27 years. R fell almost daily for the first three weeks, though the amounts were small, and the total less than the average.

VIII. *Chelford, Astle Hall*. Wet, with a good deal of wind.—*Bolton, The Park*. Mild and humid, with heavy R, and very little sunshine. For 11 days the wind was E. or N.E., afterwards W. Mean temp.  $48^{\circ}4$ , or  $1^{\circ}5$  above the average, and only twice exceeded in 16 Octobers. Duration of sunshine 35.4 hours, or 25 hours less than the average. R 1.40 in. above the average.—*Southport, Hesketh Park*. Mild, and very dull and equable. Mean temp.  $1^{\circ}3$  above average. Frost on grass on seven days. Sunshine no less than 39 hours below, and R .83 in. below, the average.—*Broughton-in-Furness*. Many rainy days, but one-third less than the average R. Very mild, and many flowers in bloom at the close.—*Seathwaite Vicarage*. Mild and rainy, with no great downfalls.

IX *Upper Midhope*. Very wet and windy.—*Goldsborough Hall*. Very dull and unsettled throughout, and very little frost. Strong N.E. winds at the beginning. R fell on 26 days, but the total is not excessive.—*East Layton Hall*. Very damp and sunless, marked by absence of any great fluctuation of temp., and entire absence of frost.

X. *West Hartlepool, Bradgate*. A period of 19 consecutive rainy days ended on 17th, but there was little R during the remainder, and the temp. was equable.—*Brampton, Denton House*. The first ten days were dry, which allowed the corn harvest to be well finished. R fell on 20 days, yet the total was barely up to the average 1890-99.

XI. *Llanfrechfa Grange*. Cold till 10th, warmer afterwards.—*Aberystwith, Gogerddan*. Cold, with very little sunshine and plenty of R.

XII. *Cargen*. A dull and damp month.

XV. *Ballachulish, Ardsheal*. R 1.35 in. above the average.

XVII. *Aberdeen, Cranford*. Wet, with light winds and little sunshine.

XVIII. *Lynturk Manse*. Cold and damp throughout. Frequent frosts at night.

XX. *Derry Castle*. R 14 per cent. below, and rainy days 5 per cent. fewer than, the average.

XXI. *Ballindoney*. Fairly fine, with R less than the average. Very dull, with little or no sunshine.—*Kilkenny, Sion Villa*. Dull, dark, and very damp. Early fog on 13th, loud T, with L, that afternoon at 5.30, followed by torrents of R four hours later. Half gales on 14th, 15th and 16th.—*Ballybrack, Streamville*. Damp and close. R .42 in. less than the average of 20 years.—*Rathmines, Leinster Road*. An average October, with R on most days, and very small range of temp. Persistent E. wind during the first ten days.

### NOVEMBER.

I. *Kensington, Edith Road*.—Dry and rather warm. R .61 in. below, and temp 1°·0 above, the average.—*Muswell Hill*. R .68 in. below the average of 29 years.

II. *Haslemere, Hazelhurst*. Mild except for a short spell of cold from 18th to 22nd. Fifteen sunless days. Frost in shade on 6 nights, on grass on 10. R .27 in. below the average.—*Caterham Valley, Bradenhurst*. Dull, sunless and misty.—*Wallington*. An average month as regards shade max. temp. and sunshine, with warm nights and R again short. Mean temp. 0°·8 above the average. R 1·04 in. below the average. Duration of sunshine 52·4 hours, being 1·1 hours above the average.—*Lewes, Saxonbury*. Calm as a whole. Frost from 12th to 20th, with cold N.E. wind, fog and sleet. The rest of the month damp, with fog, mist and R.—*Christchurch, Winkton Lodge*. Cold and dull; wet in the early part. A great deal of E. wind. Lunar rainbow visible on 7th.—*West Dean*. Very wet and foggy, excepting a spell of fine, dry cold weather from 11th to 22nd, it being abnormally cold from 17th to 21st, the temp. not rising above 39° and the ground being continuously frozen. Slight S on 18th, 19th and 20th.

III. *Slough, Upton*. A month of great atmospheric humidity, but the under soil remained very dry until the close.—*Farnham Royal*. Prevailing winds N. and N.E. Temp. rather higher than the normal. R about the average, but no heavy falls.—*Culham Vicarage*. Wet at the beginning and end and mostly mild, except for a few days in the middle.—*Blisworth, Grafton House*. A sudden burst of winter, with frost and cold winds from 17th to 22nd. Roads dry and in good condition. Slight S shower at 10 a.m. on 20th. Constant R from 24th to 30th.

IV. *Colchester, Lexden.* Very little sunshine and often cold, especially from 16th to 23rd. Some mild days coincident with the days of R.—*Sudbury, Friars Street.* Fairly mild at the beginning, colder towards the end.—*Ipswich, Copdock.* Damp, dismal and sunless, but mild except for a cold spell with N.E. winds from 16th to 22nd.—*Rendlesham Hall.* Very dry; much E. wind and frost.—*Burgh Castle Rectory.* Little frost, but very dry except for three or four days. East wind rather prevalent. Some lovely sunsets, but sun generally obscured.

V. *Bishops Cannings.* R .74 in. below, and rainy days 1 above, the average. The observer's well pumped dry on the 22nd, and others were very low.—*Tavistock, Whitchurch.* Wet, stormy and damp, with about average, but very variable, temp. Gales on 11 days.

VI. *Cirencester, Further Barton.* Mild, with constant small rains till the 11th; then cold, dry and frosty till the 20th; after which daily R and higher temp. till the end.—*Woolstaston.* Severe frost from 18th to 24th, with E. wind; afterwards very mild.

VII. *Hodsock Priory.* The first half mild and dry, the third week bright and frosty, the last dull and damp, with a good deal of R.—*Findern, The Longlands.* Very frosty in the first part, strong E. winds in the middle, and very showery in the latter part.

VIII. *Chelford, Astle Hall.* Fair, pleasant weather to the 18th, then very cold to the 22nd, and the remainder wet.—*Bolton, The Park.* E. wind on no fewer than 18 days. Temp. above the average, except between 16th and 23rd, the mean being  $1^{\circ}$  above the average. Frost in shade on only 2 days. Bright sunshine on 11 days, but the total only 68 per cent. of the average. R 1.30 in. below the average.—*Southport, Hesketh Park.* A dry month, with a remarkable prevalence of S.E. winds. Mean temp.  $1^{\circ}0$  above the average. Frost in screen on 5 days, and on grass on 10 days. Ice upon the lake on 3 days. Sunshine 1 hour below, and R 1.42 in. below, the average. Underground water unprecedentedly low for November.—*Chatburn, Middlewood.* R 1.74 in. below the average.—*Broughton-in-Furness.* R about .50 in. less than the average, but rainy days in excess. Mild on the whole, the third week being sunny, with slight frosts at night. E. winds prevailed.—*Seathwaite Vicarage.* An open month, with about average R. The third week was cold and windy.

IX. *Upper Midhope.* Mild for the first 15, and last 8, days; very wet and foggy for the last 7 days. Ground frost on five nights.—*Goldsborough Hall.* R considerably below the average. E. or S.E.

winds prevailed throughout, with little bright weather, there being only 9 days with sunshine. Very little frost.—*East Layton Hall*. Very fair on the whole, more than a fortnight being bright and fine, but a change to mist, low temp. and some R took place towards the end.—*Middlesbrough, Ormesby*. A very small R, but not a dry atmosphere. Rainless for 12 days from 11th to 23rd., and cold from 17th to 23rd, with S.E. wind.

X. *Bamburgh*. The majority of the days were dull and cold, but a few were bright and fair, and some foggy. Prevailing wind S.E. A little frost about 22nd.—*Brampton, Denton House*. Mild and dry, many days being warm and sunny. R fell on 12 days, the total being only .95 in., or one-third of the average of 10 years.

XI. *Llanfrechfa Grange*. Very fine during part of the month, but the remainder misty and foggy. Very low temp. from 18th to 23rd ; warmer after.

XIII. *Musselburgh, Levenhall*. The first 6 days were mild and fairly bright, followed by windy and showery weather. From 16th to 23rd was colder but bright, with frost each night ; then mild and damp to the end.

XVII. *Aberdeen, Cranford*. A favourable month ; light southerly winds and only two frosty nights.

XIX. *Watten, H.R.S.* Cloudy, with cold winds from S.E., and little sunshine.

XX. *Kenmare, Derreen*. The heaviest November R in 26 years.—*Derry Castle*. R 6 per cent. below, but rainy days 14 per cent. in excess of, the average.

XXI. *Bullindoney*. The wettest month of the year, and very dull. R fell on 19 days ; on 6th 1.35 in. fell, on 7th 1.02 in. fell. Fairly fine and cold between the 14th and 20th, but from 21st R fell heavily nearly every day ; between 21st and 25th 1.76 in. fell, and between 27th and 30th 2.00 in. more fell ; the rainfall for the whole month being 8.35 in., nearly double the average of 5 years.—*Kilkenny, Sion Villa*. Very wet ; dull, very dark days and generally very cold throughout. Frosts on 2nd, 20th and 23rd. Storms on 9th, 13th and 21st. Half-a-gale on 22nd. Fog on 16th.—*Ballybrack, Streamville*. Damp, with prevalent E. winds. R 1.43 in. above the average.—*Rathmines, Leinster Road*. Mild, the mean temp. being 1°·2 above the average. The temp. exceeded 50° on 19 days, and frost occurred only once. The first few days were dry and mild, the third week was dry and cold, with keen E. winds ; the remainder wet and unpleasant.

XXIII. *Edenfel, Omagh*. Very mild and wet for the first fortnight, thence to the end drier and colder, but still gloomy with little sunshine.

## DECEMBER.

I. *Kensington, Edith Road*. Very dry and rather warm. R .69 in. below, and temp.  $1^{\circ}8$  above, the average. Mean daily range the smallest on record.

II. *Haslemere, Hazelhurst*. R 1.82 in. less than the average. Wind N. or E. early in the month, afterwards N.W. or S.W. Frost in shade on 14 nights, on grass on 16.—*Caterham Valley, Bradenhurst*. Sunless and dark.—*Wallington*. Dry, warm, cloudy and sunless. The shade and grass minima, and the mean temp. have only twice been higher in December since the record began. R .92 in. below the average and the smallest, with two exceptions, in the record. Duration of sunshine 19 hours, being 19.9 hours less than the average, and the least in December excepting 1890. Mean temp.  $2^{\circ}0$  above the average.—*Lewes, Saxonbury*. Frosty to the 12th, with S on 4th; fog and mist with R after. T on 19th, distant TS on 28th.—*Bournemouth, Kempsey*. Very cold from the 4th to the 9th. Max. temp. on 5th  $32^{\circ}1$ , and on 6th  $32^{\circ}2$ . Min. temp. on 7th  $21^{\circ}3$ .—*Christchurch, Winkton Lodge*. Another cold and dull month. Wet in the middle. Wind mostly S.W., otherwise N.E. Floods in the Valley of the Avon in the early part of the month. Stormy in the middle of the month, but no gales so-called.—*West Dean*. Very cold from 2nd to 13th, then very mild till after Christmas, when it again became cold, ending with a N.W. gale and showers of S and sleet.

III. *Farnham Royal*. Prevailing wind N.W. and S.W. Temp. high for the time of the year. R below the average; no heavy falls. Bar. high. Lowest temp.  $22^{\circ}0$ , about the only frost to speak of this month; highest  $57^{\circ}0$ .—*Abingdon, Culham*. Cold at the beginning; mild in the last three weeks. R below the average.—*Oxford, Banbury Road*. Very variable, but on the whole dry and cold.—*Blisworth, Grafton House*. Sharp white frosts, a few S showers and wintry air from 3rd to 12th; the remainder mild. Christmas week mild and beautiful.—*Pitsford, Sedgebrook*. R .94 in. below the average.

IV. *Sudbury, Friars Street*. Rather cold, with frost and S showers, till the 13th, then milder. L on night of 30th.—*Ipswich, Copdock*. Very dull and sunless. A cold spell occurred from 3rd to 12th, other-

wise mild as a whole, particularly so, considering the prevalence of N.E. winds.—*Rendlesham Hall*. Dull, with strong winds from N.E. on many days.—*Burgh Castle Rectory*. A strange month; little sunshine, many gales and high winds, the prevalent direction being easterly.

V. *Bishops Cannings*. R 1·56 in., and rainy days 7, below the average, making a total deficit for the year, of 6·72 in. and of 13 rainy days.—*Tavistock, Whitchurch*. A month of average temp. and R, but with the fewest wet days ever registered in December. Large variations of temp., the daily means ranging from 27°·5 on 7th to 52°·3 on 17th. E. and W. winds prevailed. Gales on 8 days, S on 5, H on 7. TSS on 28th and 29th.—*Okehampton, Oaklands*. An average month, with much R towards the end.—*Glastonbury, Wells Road*. R 1·77 in. below the average of 10 years.—*Bridgwater, Pawlett*. R 2·38 in. below the average of 7 years.

VI. *Cirencester, Further Barton*. After a wet day on 1st, a very bleak, cold, dry period, with harsh, strong E. winds prevailed till the 12th; a rough, stormy week followed, with mild W. winds; then quiet, mild and dry weather till the last few days, when it became colder and unsettled, with R and S.—*Bishop's Castle, Castle Street*. Cold, with frost in the first week, then mild till about the 29th, when S fell heavily, followed by frost.—*Tenbury, Rochford*. Fair as a whole, but dull. Very little frost. Some very mild days. R about 2·00 in. below the average.

VII. *Hodsock Priory*. Except for a rather heavy R on the 1st and for a few days' frost in the first week, the month was dry and mild, with a good deal of wind towards the close.

VIII. *Chelford, Astle Hall*. Frost—at times severe—till the 11th, then milder. Great gale from S.S.W. on 14th and 15th, and generally stormy to the close.—*Bolton, The Park*. Remarkably variable in pressure, temp. and direction of the wind. The cold easterly breezes, which began on November 11th, continued, with the exception of the 2nd until the 13th, when a depression changed the direction of wind to S., with an increase of temp., which remained above normal till the 29th. Mean temp. 1°·5 above the average. Duration of sunshine only 4·9 hours, or less than a third of the average. R 1·29 in. less than the average.—*Southport, Hesketh Park*. Rather dull and mild, with an abnormally high mean bar. pressure. Mean temp. 1°·5 above the average. Frost in screen on 9 days, and on grass on 13 days. Ice upon the lake on 10 days. Sunshine 10 hours below, and R ·23 in.

below, the average. Underground water level extremely low.—*Chatburn, Middlewood*. R .02 in. below the average.—*Broughton-in-Furness*. Bright and frosty for the first part, with light E. and N.E. winds; wild and stormy in the latter part, with strong W. and S.W. winds.

IX. *Upper Midhope*. Very cold from 3rd to 12th, mild from 13th to 27th. Ground frost on 12 nights; very keen on 6th. Wind stormy from 15th to 18th and 25th to 27th.—*Goldsborough Hall*. Very cold in the first week; a spell of warmer weather, with strong south-westerly winds from the 13th to 27th; thence to the end stormy and unsettled. Heavy S.W. gale on 25th. T on 30th.—*East Layton*. A fairly good month. Scarcely any S and no very hard frosts.

X. *Bamburgh*. Wonderfully dry and mild, the prevailing wind being S.E. Little frost.—*Brampton, Denton House*. Dry up to the 14th, after which much R fell. This ended what might be called a drought of nearly two years' duration. R fell on 18 days and was .28 in. above the average of 10 years.

XIII. *Musselburgh, Levenhall*. Frost set in on the 3rd and continued with a fair amount of sunshine till the 10th, then changeable weather with high wind from 13th to 16th. Another spell of high wind from the 23rd to the 29th, and a return to frost toward the end.

XIV. *Dalry, Blair*. Fine, clear and frosty in the early part; cold, dull and wet in the middle; afterwards rough and boisterous S. to S.W. winds with driving showers; frost set in on 30th.

XV. *Ballachulish, Ardsheal*. R .98 in. below the average.

XX. *Derry Castle*. R 5 per cent. below, and rainy days 12 per cent. fewer than, the average.

XXI. *Ballindoney*. Great rainstorm on 1st, yielding .64 in., then fine and very cold till the 11th, with sharp frosts each night. Heavy R between 12th and 19th, .70 in. falling on 14th and .73 in. on 15th; then fairly fine till the end, but dull with no sun. A little S on 28th, 29th and 30th.—*Kilkenny, Sion Villa*. Very dark weather throughout. Thick fog all day on 3rd. Stormy from 13th to the end. Christmas day fine and mild till afternoon, when at 3 o'clock a gale rose and continued into the night. On 14th .50 in. of R fell in 5 hours.—*Ballybrack, Streamville*. R .22 in. less than the average.—*Rathmines, Leinster Road*. The driest month of the year. Unusually stormy, gales occurring on 9 days, and that of 15th to 16th being very severe. Cold spells in the first and last weeks, but the remainder singularly mild.



## OBSERVERS' NOTES ON THE YEAR 1902.

## ENGLAND.

## DIVISION I.—MIDDLESEX.

KENSINGTON, EDITH ROAD.—The eighth consecutive dry year. R 4·98 in. below the average, but there were no droughts, either partial or absolute. Mean temp. exactly the average, due more to the mildness of the nights than to the warmth of the days.

LONDON, WESTBOURNE GROVE, W.—Another dry year, but with a full number of rainy days. A prolonged autumn, the parks up to late in November having the appearance of early October.

## DIVISION II.—SOUTH EASTERN COUNTIES.

HASLEMERE, LOWER STREET.—R 5·98 in. below the average of 30 years, but many wet days in proportion to the R.

HASLEMERE, HAZELHURST.—R 6·27 in. less than the average of 10 years, but there was no absolute drought and the number of rainy days is 41 more than in 1901. Out of the 51 days from May 1st to June 20th, 39 days were rainy, with a total of 5·70 in. The greatest number of consecutive days with R was 12, from October 9th to 20th. August was the wettest month of the year.

HASLEMERE, GRAYSWOOD HILL.—Very cold, ungenial weather, which gave the impression of a wet season, but it was really abnormally dry. Springs very low in autumn.

CHIDDINGFOLD, BEACONSCROFT.—Wells were very low in the autumn and only began to rise in the middle of November.

WITLEY, FERNSIDE.—The smallest R since 1883, and a remarkable absence of sunshine. The unusually long periods of drought in January, February and March told on the wells and caused scarcity of water all the year. The summer was cold and dull, with little T. The R in May and June was above the average and good for hay. The last week in June was perfect summer, after which there was

no more warm weather until October, but it continued mild to the end, with the exception of cold periods from November 17th to 22nd and December 1st to 8th. Christmas day was especially fine and warm, with a brilliant sunset.

HASCOMBE RECTORY.—All the wells in the neighbourhood were lower than in living memory, and many were dry owing to the succession of years of deficient R.

CRANLEIGH COMMON, HOMEFIELD COTTAGE.—The smallest R since 1898. The wettest months were June and August, but May had most rainy days. September was the driest, July the warmest and February the coldest month. The longest period without R was from September 17th to 30th.

FARNHAM, THE BOURNE VICARAGE.—Though supposed to be very wet, the year had 4·82 in. less R than the average of 20 years, much slight or drizzling R producing only small amounts.

GUILDFORD, CRAIGIE, MERROW.—The least R in 7 years, caused not by a small number of rainy days, but by the smallness of the quantities.

REIGATE, WRAY LODGE.—In the four summer months 11·50 in. of R, or practically half the total, fell.

NUTFIELD, HOLMESDALE.—R 2·07 in. less than the average of 15 years, but rainy days 14 more than the average.

WARLINGHAM, EGREMONT.—The year was characterized by great frequency of R as compared with the total fall. There was a marked absence of sunshine and a large number of cloudy days.

CHERTSEY, OTTERS HAW.—Deficient R, the total about 2·00 in. less than the average. There were many rainy days, but the falls were mostly small, never reaching an inch in 24 hours. The wet months were June and August, causing much damage to hay and corn. The other months, except May, had deficient R. Wells were very low all the summer and many failed. No improvement in deep wells at the end of the year.

BAGSHOT, HALL GROVE.—The R was slight in the first four months, and the water in wells scarcely rose to its average height, and many failed in the autumn, but had risen again to their normal height by the end of the year. The R of June, which was above the average, suited the crops in this sandy soil. A wet August delayed the harvest.

WEYBRIDGE, ST. MARY'S LODGE.—A somewhat sunless year, especially when contrasted with its immediate predecessors. The only remarkable feature was the great storm of September 10th, when 3·18 in. of R fell in about 5 hours, making the year's total just above the average.

WALLINGTON,—Dry and sunless, the R being more than three inches below the average of 15 years, and the duration of sunshine 300 hours less than the average for the same period and the smallest in the record.

STREATHAM, WOODFIELD AVENUE.—R 1·50 in. below the average, but the number of rainy days (196) only once exceeded in 11 years viz., in 1894, with 213 days.

CLAPHAM PARK, NEW PARK ROAD.—April was the driest and June the wettest month, though January had least, and May and August the greatest, number of rainy days.

TENTERDEN, SUMMERHILL.—Very dry, cold and sunless. Great scarcity of water, but ponds were filled up and drains had begun to run, at the end.

TENTERDEN.—A year of paradoxes : 27 more wet days than in 1901, but 1·22 in. less rain ; the least fall of any of the past 39 years, except 1898, yet not one absolute or partial drought. The driest time, June 17th to August 15th, with 1·92 in. of R in 60 days. Remarkable absence of heavy falls, only 5 above ·70 in., all in the wet period August 16th to September 5th, when 5·03 in. fell in 3 weeks. Only 4 other falls above ·40 in., and in the showery, weather of May and June the wettest days had less than ·30 in. February very cold, with several falls of S. Exceptionally cold May ; much damage by frost to fruit and tender foliage. June 23rd to July 17th the only hot summer weather, six days with temp. above 80°. August rains brought abundant grass, in complete contrast to 1901. Usual heavy rains of October and November again absent and wells as low as a year ago. Heavy snow on December 4th, followed by a cold week. Total sunshine 1582 hours ; deficiency greatest in May and August. In 1902 the R was more than an inch less than in 1901, yet at the end of the year ponds filled up out of all proportion to the R. On December 4th, 1901, the well here had fallen to 9 inches, and on January 8th, 1902, after 5·55 in. of R, had risen to 15 inches, falling back by February 8th, after 1·03 in. more R, to 11 inches. On December 5th, 1902, the well had

fallen to 11 inches, and on January 9th, 1903, after 2·55 in. of R, it rose to 26 inches, after ·60 in. more R to 42 inches, and after ·22 in. more R to 4 ft. 10 in. by January 30th.

HYTHE, HILLHURST FARM.—R 2·92 in. below the average of 18 years. The wind was N. or E. on 147 days and S. or W. on 218 days.

GOUDHURST VICARAGE.—Dull and wet without heavy R. Spring began late in April. May was cold until towards the end. June was wet and cold—fires lighted again—but turned bright and hot at the close; July cold and wet; August cloudy and dull; September fine for hop-picking; October wet; a cold snap in November; first frosty, then mild, in December.

ACRISE, SCHOOL HOUSE.—A cold, damp and unkindly spring. Five times during the year the R exceeded an inch in 24 hours.

TUNBRIDGE, PRIMROSE HILL.—R considerably below the average, but the large number of rainy days gave the idea that it was a wet year. The summer was very gloomy and cold.

TUNBRIDGE, COLEBROOKE.—During thirty years the springs were never remembered so low as in the last six months, and there was scarcity of water throughout the neighbourhood. Deficiency of sunshine was very marked.

MAIDSTONE, MOUNT HOUSE.—Only three years since 1870 had less R—viz., 1870, 1884 and 1898.

OSPRINGE, LORENDEN.—Wells were still very low at the end. Observer's well was deepened about the end of 1901 and 4 ft. 6 in. of water left in it; this had fallen to 2 feet in April and to 7 inches in November, but was still supplying the small demand made upon it.

ASH, PETTINGS HOUSE.—R about 3·00 in. less than the average, but rainy days about the average. Most of the R fell in the summer, making people think it a wet year. Much wind throughout.

RECVLVER, BROOK.—The first four months were remarkably dry; the remainder had a very uniform R, except August, which had a disastrous fall, causing immense injury to crops. Though nearly an average R, the springs were still very low at the end owing to the dryness of the subsoil.

ST. PETER'S.—Again a deficient R. A strange irony was that in a very dry year the one wet month should be August. There were constant signs of R, which ended in small falls or passed off altogether. The first half of November was balmy and warm.

ELTHAM, CLIEFDEN.—R 2·48 in. below the average of 10 years.

BLACKHEATH, EASTCOMBE VILLAS.—With the exception of 1898, this was the driest year in the record, which extends to 1885. Mean temp. 49°·7, being equal to the average, but the lowest since 1895.

CHICHESTER, WESTGATE MEADOW.—Although a cold, damp summer, the total R was 2·88 in. below the average. The R of the four summer months was 2·21 in. above the average, but the falls for the first and last four months were respectively 2·39 in. and 2·70 in. below the average.

FUNTINGTON.—An artesian well which overflowed on January 15th, in 1901, and on February 8th, 1902, overflowed this winter on December 13th, having only sunk 12 inches during the year, as compared with 30 inches in 1900 and 37 inches in 1901.

CHICHESTER, WATERGATE.—The depth of water in a well in the chalk on December 28th, 1901, was 1½ feet, had risen to 23 feet on May 3rd, sinking to 8 feet by November 8th, when it remained steady till November 28th, after which date it rose rapidly.

MIDHURST, BORDEN WOOD.—There were 50 days on which ·25 in. or more of R fell, and 13 days on which ·50 in. or more fell.

CRAWLEY.—The most striking feature was that it seemed very wet, though the R was much below the average. During the first half the deficiency was most pronounced, the last six months having nearly the average.

EASTBOURNE, STAVELEY CROSS.—In the two years 1901 and 1902 there has been a deficiency of about eighteen inches of R.

FALMER.—Remarkable for absence of sunshine and frequent light R, the total being 7·03 in. below the average of 40 years. It is also the seventh consecutive year below average, the total deficiency in that time being 35·21 in. Quite sufficient to account for most of the deep wells in this district being empty.

HASTINGS, GUESTLING RECTORY.—Though the R was considerably less than the average, the crops scarcely suffered, as nice rains fell from time to time, and neither absolute nor partial drought occurred. Many wells were very low or dry throughout. November and December were very mild, the temp. being much above the average, but with short spells of cold.

MARESFIELD, FOREST LODGE.—The seventh consecutive year with less R than the average of the 45 years ending 1900, which is

31·20 in. For 1902 the deficiency was 5·49 in., for 1901 6·95 in., for 1899 4·55 in., for 1898 9·29 in., and in the other years less. The effect upon the water supply was at times serious, many wells failing. The wettest month of 1902 was August, when 4·82 in. fell, the greatest amount in that month since 1879. The R of May was ·44 in. in excess of the average, and that of June 1·21 in. in excess. The other months show a marked deficiency. Studying the record of 47 years' continuous observation, I utterly fail to find anything like a cycle in the weather.

CROWBOROUGH UCKFIELD LODGE.—The year was wet and damp, the rainy days being 35 more than the average, but the following table shows that the R was deficient :—

	Average 30 years.		1902.		Diff. from average.
January to March .....	7·92 in. ....		5·46 in. ....		− 2·46 in.
April to June .....	6·44 „ ....		8·50 „ ....		+ 2·06 „
July to September .....	7·22 „ ....		7·55 „ ....		+ ·33 „
October to December .....	10·75 „ ....		9·14 „ ....		− 1·61 „
Year .....	32·33 in. ....		30·65 in. ....		− 1·68 in.

The weather during the whole year was unsettled, particularly in the summer. There was a considerable absence of sunshine, and the temp. was below the normal, owing partly to the frequency of rainy days and cold N.E. winds. Frost occurred on 46 days, the longest period being from January 25th to February 20th. S fell on 15 days, the greatest fall, on February 4th, yielded ·30 in. H storms were frequent in May, and S. and S.W. gales were prevalent towards the close of the year.

TICEHURST, WHILIGH.—In the first four months only 5·49 in. of R fell, but copious R in May and the first part of June produced a wonderful amount of grass. August was very wet, hindering harvest. September was dry.

WADHURST, LOWER COUSLEY WOOD.—Wells and ponds very low or nearly empty at the end of November. Wells 50 to 100 feet deep began to refill about December 26th. R 6·56 in. below the average of 21 years. S fell on 12 days.

BOARSHEAD, RENBY GRANGE.—Much cold and wet weather, with frosts, very late in the spring. July and August the only months without ground frost. Early on May 13th a severe frost occurred, which injured most of the fruit trees, potatoes, &c., and blackened the buds on ash trees. The summer was cold, with little sun and

frequent showers, which interfered with harvest operations. November and December were mild, with the exception of two cold spells. A slight fall of S on November 20th found many trees still in leaf and hedges still green.

TOTLAND BAY, WILMINGTON.—R 2·77 in. below the average. January, September and October were dry and August was wet.

OSBORNE, NEWBARN COTTAGE.—Dry as a whole, the R being about 12 per cent. below the average of 45 years. No excessive falls.

SOUTHBOURNE-ON-SEA.—Rainy and cold; only one fortnight at the end of June and beginning of July was really warm and dry. Very cold from December 3rd to 12th.

BOURNEMOUTH, KEMPSEY.—The features of the year were the long partial drought in January and February, the exceptionally high barometer on January 15th, the remarkably cold February, and persistent cold in May.

CHRISTCHURCH, WINKTON LODGE.—An average year, free from extremes of temp. R rather below the average of 11 years. The summer was cool and damp, and gave one the impression of being wetter than the R evidenced. A wet May and June gave an excellent grass crop, and the wettest month of the year—viz., August—spoilt the usual outdoor amusements.

EMSWORTH, REDLANDS.—R ·83 in. less than the average of 19 years. August was the wettest month. No absolute droughts, nor did an inch of R fall in any 24 hours. Exceptionally little S, yielding only ·17 in. for the year.

BISHOPS WALTHAM, HILL PLACE.—R ·58 in. more than the average of the 10 preceding years. There were excesses of half-an-inch in March and November, of 1·73 in. in June, of 1·99 in. in August, and 2·18 in. in May; while the remaining seven months all had less than the average.

PETERSFIELD, FAIRLEY.—R 4·20 in. below the average of 11 years and the least in the record, which commenced in 1891; the rainy days exceeded the average by 11.

EAST LISS, NEWLANDS.—Another dry year (the deficiency being about 5·41 in.), but not droughty, the R in March, May, June and August having been fairly copious.

LIPHOOK, WHITE HILL CHASE.—R five inches below the average.

SWARRATON RECTORY.—The surface level of water in the well was at its highest from about March 11th to April 15th and lowest from October 28th to November 18th.

HARTLEY WINTNEY.—R three inches below the average.

SANDHURST LODGE.—R 1·28 in. less than the average.

SUNNINGHILL, LYNWOOD.—Chiefly remarkable for the very wet summer, nearly 4·00 in. falling in June and more than 4·00 in. in August. No excessive falls.

HUNGERFORD, KINTBURY.—R scanty throughout, and the smallest for eight years, excepting 1898. The wettest month was August, though the largest fall was in November.

BRACKNELL, WARFIELD.—On the whole an average R, but dull, overcast weather prevailed to an unusual degree. Much wind marked the autumn and early winter, which, after a cold spell in November, continued mild up to the end of the year.

WINDSOR, ROYAL GARDENS.—Although the year may be described as wet, owing to frequent R, the total was about  $3\frac{1}{2}$  per cent. less than the average, which has not been reached since 1894, when the great floods occurred.

READING, LONDON ROAD.—R 2·05 in. below the average of 10 years.

YATTENDON COURT.—A very short R in spite of much rainy weather. The season early in the year was one of great promise, which was not realized owing to a cold spring, a dull sunless summer, and a wet August. September was very fine.

MAIDENHEAD, THE FIRS, CASTLE HILL.—Dull, damp and cold generally, but not much heavy R.

LONG WITTENHAM, MANOR HOUSE.—R 7·41 in. below the average of 51 years.

#### DIVISION III.—SOUTH MIDLAND COUNTIES.

WATFORD, WEETWOOD.—R small, but many wet days. The only wet months, June and August, had together more than one-third of the year's fall. May had the greatest number of wet days, August the next.

WATFORD, EASTBURY.—On the whole disagreeable, mainly owing to the cold summer and the heavy R in June and August. Scarcely



any heavy R fell in TSS, which partly accounts for the deficiency. The dryness of the mild weather around Christmas was remarkable, the roads being as in early autumn.

BARNET, HADLEY.—R below the average in spite of a large number of rainy days. The first four months were dry, with severe frosts in February; May was wet and cold till the last week; June was wet and not very warm, excepting a week towards the end, which was brilliant and hot; July was finer; August very wet; and the rest of the year rather dry. One week of frost occurred in both November and December.

ST. ALBAN'S, HERTS COUNTY MUSEUM.—R small, but wet days about the average. June and August, the only wet months, had together more than one-third of the year's fall. May had the greatest number of wet days, August the next.

GREAT BERKHAMSTEAD, ROSE COTTAGE.—R 8·22 in. below the average of 46 years.

GILSTON PARK.—On the whole the season was remarkable for little sunshine, low temp., and frequent R, though in small amounts. Occasional sharp frosts occurred till May 14th, when the temp. fell to 20°.

BAYFORDBURY.—Drought was severely felt in this district; at the end of the year field ponds were mostly dry and the upper Lea nearly stagnant.

BUNTINGFORD, HAMELS PARK.—R much below the average. A very late and cold spring, with much N.E. wind; the summer cool and sunless, and autumn open and mild, with short spells of sharp frost.

SLOUGH, LANGLEY.—Another dry year. The rainy close weather of August caused much damage to cut corn, and in September the ground was so hard and dry that it was difficult to plough.

FARNHAM ROYAL.—The R of the year is below the average, although the spring and summer months were rather wet and cold. The winds were very cold in the spring and cut off a good deal of the fruit that had just formed. There were only two or three really hot days.

HEDSOR.—R 2·13 in. below the average of 10 years. Dry generally and mild throughout the early spring, except for a short spell of wintry weather round February 15th. A cold unseasonable April was followed by a long period of heavy and persistent R, low temp.

and clouded skies, scarcely any bright warm weather occurring until September. The autumn was changeable, cold and mild periods alternating, but there were no gales and a remarkable absence of R.

MARLOW MILLS.—Assuming the average R for 50 years to be 27·50 in., 1902 shows a deficiency of 6·44 in., and the 8 years 1895 to 1902 a total deficiency of 29·83 in., or considerably more than one year's fall.

WINSLOW, BOTOLPH HOUSE.—Exceptionally dry, ponds being very low or dry and wells failing in many places. The number of rainy days was more than the average, but the R was mostly light, there being only one fall of more than an inch.

WINSLOW, ADDINGTON.—The least R in any year since the observations began in 1871. Much dull, sunless weather.

CAVERSHAM, EASTFIELD.—A dry year in spite of a wet summer. Between May 1st and September 16th were 77 wet days, with a serious deficiency of sunshine, delaying and damaging the harvest.

HIGHMORE VICARAGE.—A year of deficient R distributed over an excessive number of days. No heavy falls; no droughts, partial or absolute. No heavy S. Gales few and slight. Frequent H showers in the spring. Total R 2·30 in. less than the average, seven months having a deficiency, which exceeded an inch in February and December. There was an excess in March, May, June, August and November, the greatest being ·94 in. in August. Rainy days 11 above the average.

ABINGDON, CULHAM.—Though R fell on a considerable number of days, the total was much below the average. Springs were exceptionally low at the end, and the outlook was serious, failing a good R early in 1903.

OXFORD, BANBURY ROAD.—Exceptionally dry, yet without either partial or absolute drought. Temp. below the average in most months.

BANBURY, BODICOTE HOUSE.—Although there was a greater number of rainy days than usual, the total fall is 2·54 in. less than the average of 9 years.

BLISWORTH, GRAFTON HOUSE.—R 4·38 in. below the average of 17 years. Rainy days 9 above, and frosty nights 49 below, the average.

MEARS ASHBY.—R 2·78 in. below the average of six years, and the smallest in that period.

SCALDWELL.—R 2·87 in. below the average of 11 years, and the smallest since 1893. The abundant R of May and June produced immense quantities of grass, but that of August seriously damaged the corn.

BURTON LATIMER RECTORY.—R 2·21 in. short of the average of 7 years. The fall in the last six months was very deficient.

KETTERING, HEADLANDS.—Only three previous years in the records extending back to 1864 show so small a R—viz., 1864, 1870 and 1887.

CORBY, WELDON GRANGE.—Remarkable for the large number of rainy days, also for the gloom and low temp. of the summer and the almost total absence of fog.

STAMFORD, COLLYWESTON HOUSE.—Generally speaking, cold with little sunshine. A mild early spring was followed by a cold May and summer. Constant R, but no heavy falls except on August 7th.

STOTFOLD [BALDOCK].—R 4·67 in. less than the average.

BEDFORD.—TSS practically absent in summer ; no fogs and little S. No R between September 18th and October 9th.

CARLTON.—Great scarcity of sunshine throughout. The R for all months except May, June and August was greatly below the average of 9 years. No R fell from September 14th to October 2nd.

#### DIVISION IV.—EASTERN COUNTIES.

UPMINSTER HALL.—R 2·35 in. below the average of 7 years. A dull year with lack of sunshine. A very open winter, dahlias remaining in flower till December 1st, but colder weather set in on 5th and keen wind prevailed till 12th, when it again became mild.

CHELMSFORD, SPERGULA.—R about 5·00 in. below the average.

COLCHESTER, LEXDEN.—The R fell at the time it would cause a strong growth of vegetation—viz., in late spring and in summer. Very cool weather from May to August, except from June 19th to July 9th. Only four days on which the R reached ·50 in. Absolute drought for 17 days ended on September 28th.

BRAINTREE, BOCKING, FENNES.—R again much below the average, but number of rainy days relatively large and believed to be above the average. Absolute drought for 18 days ended on September 30th.

MANNINGTREE, BRADFIELD LODGE.—Although the R exceeded that of 1901 by more than 3·00 in., the springs were still very low, and ponds and ditches almost dry, at the end.

HARWICH, RAMSEY.—An average R, but wells, &c., were very short of water, the greatest R coming in the summer months and soon evaporating.

COPDOCK, ROOKWOOD.—Cold and sunless on the whole, with a great quantity of R during the months from May to August, and very deficient for the remainder though the weather was bad. Much N.E. wind.

BOYTON RECTORY.—Owing to the succession of dry years there was less water in wells at the end than had been known for many years.

CLARE, HAWKEDON RECTORY.—A very cloudy year as a whole. Some attempt at sunshine in June and July, but August with 4·93 in. of R, was the wettest since 1860, when 5·40 in. fell. A fine but dull September. A very cold snap early in December, but afterwards exceptionally mild. On August 8th the max. temp. was 60° and the min. 36°; while on December 16th the max. was 58° and the min. 42°.

ALDBOROUGH, ALDRINGHAM HOUSE.—The remarkable frequency of R and the small total were the features of the year. The summer R was very partial. The level of the water in wells, generally 40 to 50 feet deep, is falling to a serious extent, and the subject of water supply causes anxiety.

BURY ST. EDMUND'S, WESTLEY.—R more than 3·00 in. below the average of 45 years. A year of low temp., but the worst feature was the wet August.

DARSHAM, SIBTON.—Again a year of deficient R, especially in the first three, and last four, months. Only two days of exceptional precipitation—viz., April 5th and July 19th, on each of which more than 1·00 in. fell.

HALESWORTH, RUMBURGH.—Sunshine very deficient. Ponds were never full and were still low at the end of the year.

LOWESTOFT, THE CLYFFE, CORTON.—R about 2·50 in. below the average. Bright sunshine less than in any year on record, commencing with 1890. March was very genial, the usual cold E. winds being absent. December was unusually windy, the anemometer recording 9,000 miles. S fell on 8 days to a total depth of six and a quarter inches.

YARMOUTH, MARKET PLACE.—R 5·84 in. below the average.

SPROWSTON, OAK LODGE.—R about 3·75 in. below the average. May was the only very wet month, though June and August had more than the average. January, February, and March, and September, October and November had less than the average, the three latter being very dry. Rainy days above the average.

EAST DEREHAM.—R deficient. A mild winter and cold spring. Some summer weather in June, but a cold, wet season till September then a fine autumn. High temp. during December except in the early part. Little T.

TILNEY ST. LAWRENCE, AYLMER HALL.—R ·84 in. less than the average of 15 years.

BYLAUGH PARK GARDENS.—R about 3·00 in. below the average.

AYLSHAM, WOODGATE.—A cold summer with a small R, except that of May which caused an abnormal and rapid growth of grass.

NORTH WALSHAM, E. RUSTON GRANGE.—Again a dry year. The greater part of the R fell in summer, greatly retarding haysel and harvest. The summer months were cooler than the average.

BLAKENEY.—R 2·01 in. below the average of eight years. Springs and pits were very low, and some of the latter dry for the first time in memory.

#### DIVISION V.—SOUTH WESTERN COUNTIES.

DONHEAD ST. MARY, CHARLTON HOUSE.—R 1·96 in. below the average of 10 years.

ALDERBURY.—R 2·06 in., and rainy days 11, below the average of 15 years. January was the driest and November the wettest month. June was cold and wet till the 18th, but there were cloudless days and nights from 23rd to 29th.

SALISBURY, BROWN STREET.—A showery summer but no excessive R. No heavy TSS.

WARMINSTER, RYE HILL.—Lack of sunshine characterised the year throughout. A cold, backward spring. A very cold week from June 9th to 17th, then fine to July 18th, after which a stormy period prevailed till the end of August, and corn was much damaged.

AMESBURY, SHREWTON.—R about 14 per cent. below the average, but a cold, cheerless year. Very little S. The R of May, June, August and November exceeded the average by about 60, 100, 40

and 20 per cent. respectively ; the other eight months all had less than the average, January having little more than a quarter, and February, July, September, October and December each little more than half the normal R.

**BRADFORD-ON-AVON.**—Though the R was so small observant persons fancied it was a wet year. Many springs were dry for months at the close, and only began to flow in the new year. On the other hand, although those who mowed early got little hay, the pastures were never burned up.

**BISHOP'S CANNINGS.**—All wells and springs were very low at the end of the year.

**RAMSBURY, THE ROOKERY.**—R again below the average, but a good many rainy days. No fall of an inch occurred.

**WOOTTON BASSETT.**—The smallest R recorded since observations began in 1881.

**WINTERBOURNE STEEPLETON.**—R 3·79 in. less than the average of 10 years. No excessive fall occurred, and it was more evenly distributed than usual, so there was no long interval of drought. August, with 4·39 in. of R, was the wettest in 10 years, and 1·58 in. above the average. The mean temp. of each of the six months April to September was much below the average.

**WIMBORNE, CHALBURY RECTORY.**—R 6·10 inches, or nearly 20 per cent., below the average of 20 years. Rainy days 8 below the average.

**IVYBRIDGE, LANGHAM HILL.**—R very deficient, being about 7·00 in. below the average. June and November were the only months which exceeded the average, the others falling short of it except April and May, which were about average. Remarkably dull and sunless, the only summer weather being the first half of July.

**YELVERTON.**—Cold and damp with R about the average. The R between November 23rd and December 2nd amounted to 7·75 in., and was the heaviest remembered in a similar period.

**TAVISTOCK, WHITCHURCH.**—Cold, cloudy and damp, with more wet days, but less R, than usual. The coldest year since 1895. The mean max. temp. in sun, 95°·2, was the lowest since observations began in May, 1893. November was the wettest, and May the driest, month. January, February, May, August, September and October were dry and March, June and November, wet ; January and March

were warm and February and April to October cold. Gales on 46 days. Frosts in air on 44, and on grass on 103, nights. S on 23 days, H on 33, TSS on 7 and fog on 59 days. Mean temp. 48°·2.

CHUDLEIGH, IDEFORD.—R 3·55 in. less than the average of 15 years, number of rainy days equal to the average. Greatest number of consecutive wet days 12, the average being 16. Greatest number of consecutive dry days also 12, the average being 19.

BOVEY TRACEY, COLEHAYS.—Cold and wet though the R is just about the average.

DAWLISH, MAMHEAD RECTORY.—R 4·19 in. below the average of 10 years.

CHUDLEIGH, TRUSHAM.—R 5·72 in. below the average of 15 years.

KENTON, SOUTHTOWN HOUSE.—R 1·07 in. in defect of the average of 12 years. Little T.

POLAPIT TAMAR [LAUNCESTON].—R 2·40 in. below the average of 22 years.

ROUSDON [LYME REGIS].—R fell on 175 days which is about the average number, but the total is 2·14 in. below the average of 19 years. The R of January was 1·98 in., and that of December 1·78 in., below the average. November was the wettest month with 4·18 in. June was also very wet with 18 rainy days, and 1·37 in. more than the average R. August had 21 rainy days, the most in any month of the year. On ten days the fall exceeded ·50 in. On October 9th ·84 in. fell, and on 10th, ·93 in., this being the wettest day. There were some heavy falls of short duration, and on October 10th in the half hour from 4.15 p.m., ·50 in. fell.

EXETER, HEAVITREE.—R 1·12 in. below the average of 10 years. A wet and unpleasant summer and autumn.

BRAMPFORD SPEKE.—One of the most sunless seasons ever known. Only 26 days of summer weather, from June 23rd to July 18th.

PETROCKSTOW, HEANTON SATCHVILLE.—R 4·89 in. below the average, yet there was less suffering from drought than in any of the past ten years. This is believed to be due to the R being more equally distributed.

TIVERTON, ST. PETER STREET.—A year of frequent showers, but not of continuous, or heavy, R, and the total fall is below the average. A cold spring, a very backward summer, and a long and mild

autumn, lasting till November 18th, when the garden was full of dahlias, roses, heliotrope, nasturtiums, &c. A quart of large, ripe blackberries was gathered on November 4th.

OTTERFORD, OTTERHEAD.—It is hard to persuade people that this was another dry year, but the fall is 3·37 in. less than the average of the preceding 8. May, June, July, August and November had more than the average, but there was a considerable deficiency in the early months.

BIDEFORD, HORWOOD.—Deficient R but much humidity, and an excess of wet days.

REDRUTH, TREVINCE.—R 2·29 in. below the average of 15 years.

REDRUTH, TREWIRGIE.—No absolute or partial drought occurred, though the R was several inches below the average.

EMPACOMBE [DEVONPORT].—R 3·78 in. below the average of 13 years.

LISKEARD, DEAN TERRACE.—R nearly 4·00 in. less than the average of 39 years.

LAUNCESTON, ALTARNON.—R less than the average. Cool, windy and showery, much T and L, and a large number of rainy days but amounts small except in March, April, June and November. Low temp. from February 9th to 15th and December 5th to 8th. Very cold and changeable from April to June 22nd, then a hot dry period throughout July. Showery and cool in August. September and October brought alternate dry weeks and November was dry at first.

TATWORTH.—The year was chiefly remarkable for the continued wet and for absence of sunshine. There was no period of heat during summer.

YEOVIL, WEST COKER.—R about 2·00 in. above the average of 15 years. The spring was very late and cold, and the summer wet with little sunshine.

TAUNTON, LEIGH COURT.—Remarkable for the extreme dryness of the first four months and for the number of wet days in August.

WELLINGTON, THE AVENUE.—R about 2·50 in. below the average. January was fairly mild and dry; February very cold and dry generally until the last week; March mild with almost an average R; April cold at times with about the usual precipitation; May cold with R above the average; June damp and variable; July fine and



hot at times with normal R ; August wet ; September fairly fine with rather more R than usual ; October damp but R much below the average ; November very wet at times but dry and very cold during the middle ; December very cold from 4th to 11th, otherwise fairly mild generally.

MILVERTON, THE NOOK.—R 3·38 in. below the average. No TSS.

NORTH CADBURY RECTORY.—R the least in the last six years, excepting 1898. The first four months were very dry ; the middle four cool, very cloudy, damp and showery, but not very wet ; the last four less wet than usual, and marked by absence of heavy R ; very little S. Ponds very low all the summer and at the close. No droughts.

NORTH PETHERTON, THE OLD RECTORY.—Another dry year and water very scarce ; a great many wells were dry, scarcity of R in the first three months being the chief cause.

BRIDGWATER NURSERIES.—Although the summer was cold and damp, there were no heavy rains and the total was nearly 6·00 in. below the average of 10 years. Absolute drought for 18 days ended on January 22nd.

HOLFORD, WOODLANDS HOUSE.—Chiefly mild at the beginning of the year ; spring late and cold, with a good deal of high and cold wind throughout April and May. Very cold and unseasonable in June excepting the last ten days, which were very hot. The warmer weather lasted during the early part of July, but the rest of the summer was largely damp and chilly. The autumn, and on to the end of the year, while on the whole mild, was very dull, with the exception of two very cold spells of about ten days each in November and December.

BRIDGWATER, PAWLETT.—R 5·22 in. below the average of 7 years.

FROME, MELLS RECTORY.—The smallest R since 1892. A sun pillar was observed on March 11th. The min. temp. in August was the lowest since 1896, and the low min. in the first week of December was the lowest since 1893.

STON EASTON.—R 8·31 in. below the average of 34 years.

E. HARPTREE, HARPTREE COURT.—R 7·75 in., and rainy days 9, below the average of 20 years. The R was fairly evenly distributed and there was no absolute drought, but every month except June and August had deficient R, this being especially the case in the last quarter.

RADSTOCK, CAMERTON COURT.—R about eight inches below the average of 8 years. A dull, wet summer. The springs held out better than in 1901.

AXBRIDGE, THE DOWN, WINSCOMBE.—R below the average, but an unusual number of wet, sunless days during the summer. The wettest month was June, but August had most rainy days.

PENSFORD, SUTTON COURT.—The smallest R of any year in the record. The chief feature was the small amount of sunshine and the low temp. during the summer and autumn.

BATH, FAIRLEY, WESTON.—Although R fell on 160 days the total is the smallest in 6 years and about 4·50 in. below the average.

LONG ASHTON ESTATE OFFICE.—R 8·23 in. below the average of 30 years, all the months except June and August having less than the average.

ABBOTS LEIGH.—R about 6·00 in. below the average of 17 years.

#### DIVISION VI.—WEST MIDLAND COUNTIES.

CLIFTON, PEMBROKE ROAD.—Another “droughty” year, every month except June, August and December having deficient R, the total deficiency being 7·16 in., while the number of rainy days was only seven below the average. Other noteworthy features were severe frost in February, the longest since the great frost of 1895, the cold, late spring, the cold, rainy summer; also the scarcity of sunshine and of any long continuance of fine weather.

BRISTOL, HAMPTON LODGE.—R 4·34 in. below the average of 15 years.

BRISTOL, THE GROVE, FISHPONDS.—Persistently small R, every month except June, August and December, showing a deficiency. In consequence of the summer contributing the wettest periods, together with insufficient sunshine and warmth, there was no serious want of surface moisture.

WESTBURY-ON-TRYM, COTE HOUSE.—R 7·70 in. below the average of 30 years.

CHIPPING SODBURY, THE RIDGE.—Wells and springs were lower in the middle of November than at any other time, and a great scarcity of surface water prevailed in autumn.

WICKWAR RECTORY.—A singular year for absence of sunshine, and yet a deficiency of R, the total being more than 6·00 in. below the average.

FAIRFORD, KEMPSFORD.—R much less than the average. Very cold, dull and damp, with the exception of November, which was very mild and sunny.

CIRENCESTER, DOLLARWARD HOUSE.—R 3·64 in. below the average of 13 years, but so evenly distributed, that vegetation never suffered from lack of moisture. It is curious to compare the stunted crops of 1901, with a R of 12·73 in. in the first half, with the heavy crops of 1902, which had only 11·51 in. in the same period.

FAIRFORD, HATHEROP RECTORY.—R four inches below the average of 33 years. For the last 20 years the fall has been almost always below the average, and sometimes considerably so, while when above the average the excess has been trifling.

GLOUCESTER, BIRDLIP HILL.—R 3·21 in. below the average of 20 years, only five years during that period having had less R. In April, May, June and August, the fall was in excess.

GLOUCESTER, BELGRAVE ROAD.—R 2·24 in. below the average.

GLOUCESTER, CHURCHAM.—Almost entire absence of TSS and no S. Plenty of grass after May.

ROSS, THE GRAIG.—The second dry year in succession, the total for the two being 47·24 in., or 79 per cent. of the average. The only other instances of two successive years with so small an amount are:—

1854-55	...	...	44·54 in.	
1863-64	...	...	44·49 „	—
1892-93	...	...	42·94 „	
1895-96	...	...	47·07 „	—
1898-99	...	...	46·86 „	

August was very wet and the first half of October, June also during the second and third weeks. On the other hand July, January, February and December had much less than average R. The only heavy falls were on August 29th and 30th and on October 9th.

MUCH DEWCHURCH, BRYNGWYN.—A year of light winds constantly changing and causing unsettled weather. An almost entire absence of TSS. Temp. below the average.

LUGWARDINE, THE LAURELS.—Wells much fuller than for years. Practically no S.

CREDENHILL.—Remarkably dry and cold in the spring and early summer. No R to get to the roots of plants till June. In November, the ground at a depth of three feet, was as dry as dust. Springs lower than before remembered in over 30 years.

WEOBLEY, DILWYN.—R slightly above the average of 15 years. No absolute or partial drought occurred.

KINGTON, GRAVEL HILL.—Nearly average R, though irregularly distributed. No very heavy falls, but the number of rainy days rather in excess.

LUDLOW, ASHFORD HOUSE.—R ·29 in. above the average of 11 years. August was by far the wettest month, with R on 27 days. No other month had an excessive fall, and the R was more evenly distributed than usual. Many more wet days than the normal.

BISHOP'S CASTLE, CASTLE STREET.—R above the average. A year of disappointment horticulturally, the lack of sun causing improper ripening.

WEM, THE RECTORY.—Cold and showery throughout, but only on October 9th did a heavy fall of R occur.

BURTON, TRENT COTTAGE.—R 1·10 in. below the mean of 9 years, but the weather was constantly damp and wanting in bright sunshine.

UPTON-ON-SEVERN, THE EADES.—Severe frost occurred from February 11th to 14th, also on May 7th, doing much harm. Most of the summer was very sunless and cool, a week in the latter part of June yielding the only considerable heat. Dahlias and nasturtiums in full bloom until November 12th. Severe frost from December 5th to 8th.

WORCESTER, BELGRAVE ROAD.—Sunless and damp, with average R. On 30 days only did the temp. in shade reach 75° as against 48 in 1901. Little S.

TENBURY, ROCHFORD.—A dull, cold year, with 21 more rainy days than 1901, but a deficit of 3·48 in. of R from the average of six years.

LONG COMPTON, WESTON PARK.—Though considered a wet season by many, it was the driest except 1898, for 8 years.

KENILWORTH, THE SPRING.—R 1·62 in. less than the average of 20 years.

COVENTRY, PRIORY ROW.—Generally sunless with frequent R, but not in large amounts.

#### DIVISION VII.—NORTH MIDLAND COUNTIES.

GUMLEY RECTORY.—The smallest R, with the greatest number of wet days ever remembered.

BELVOIR CASTLE.—The most favourable year for the gardens for a considerable time, chiefly remarkable from a meteorological view for the heavy R of August 5th to 7th, when 3·00 in. fell. The wettest August since 1876.

TOLETHORPE HALL.—R again much below the average. Heavy R in August did great harm to the harvest.

LEADENHAM RECTORY.—Uncertain weather, scarcely a week continuously fine. The nights in summer were cold, and August was the wettest month of the year.

TEMPLE BRUER.—A very cold and wet spring and very few summer days. The harvest was started later than ever before in 42 year's experience.

SPILSBY, ASHBY ROAD.—R ·38 in. below the average of 10 years.

LOUTH, GOSPELGATE.—R 5·29 in. below the average of 37 years.

LOUTH, WESTGATE.—R 2·77 in. below the average of 10 years and the least since 1893.

PLUMTREE, NORMANTON-ON-WOLDS.—R 1·95 in. below, and rainy days 16 above, the average of 11 years.

BINGHAM, WHATTON MANOR.—R ·94 in. below, and rainy days 36 above, the average of 12 years.

NOTTINGHAM, BEESTON FIELDS.—R 4·11 in. below, and rainy days 13 above, the average. Each quarter showed a deficiency, viz. :—1·34 in., ·17 in., ·59 in. and 2·01 in. respectively.

NOTTINGHAM, CARISBROOK HOUSE.—The driest year since 1898, when the R was 20·64 in.

NOTTINGHAM, STRELLEY HALL.—The coldest year since 1892; the duller since 1889. R four inches below the average. Of the last 10 years all except 1900 had much less than the average R.

MANSFIELD.—The least R since 1898, and 3·50 in. less than the average.

SOUTH SCARLE.—R 3·55 in. below, and rainy days exactly, the average of 9 years.

HODSOCK PRIORY.—Except for a very sharp spell of frost in February, the colder months of the year were warmer than usual, while the warmer months, May to September, were colder, the mean for the whole year coming out very close to the average; there was a complete absence of fine summer weather, excepting one week at the end of June. R about 11 per cent. below the average; the only wet

month was August, with a moderate excess in April and May. On the other hand there were no especially dry months, but the number of days with rain was somewhat below the average, and there were few heavy falls. Sunshine was deficient, the only really bright month was April, while August and October were very dull. No gales of consequence.

ETWALL, BLAKELEY LODGE.—In 40 years of farming this was the most trying remembered ; though the R was small there was such a lack of sunshine and drying winds that the land was always wet, and the hay and corn harvests, as well as root cleaning, were most difficult.

HAZELWOOD, CHEVIN.—R .05 in. above the average of 17 years.

CHELLASTON. — A very mild January, with little frost or S. February very cold, severe frost in the first part, milder after. March mild, variable and rather rough. Unsettled, changeable and cold in April and May. June cold and wet till 20th, then fine and hot. The first part of July, dry and warm, afterwards ungenial. August very rainy and cold, bad harvest weather. Generally fine and pleasant in September. October warm, unsettled and windy. November fine generally, mild in the first, and cold in the latter, part. December first part rather cold, second half very stormy, rough and mild.

TIDESWELL, STERNDAL HOUSE.—Little sunshine, constant drizzle, and few TSS. Very mild at the latter end with little or no S.

#### DIVISION VIII.—NORTH WESTERN COUNTIES.

CHESTER, CHRISTLETON HALL. — The year started mild, with occasional frosts and a little S ; frost in February ; March very fine with less rough wind than usual. The spring was exceptionally cold and sunless ; May was very wet and June cold and dull to the 22nd. The summer was bright and hot at the beginning, afterwards cold, dull and unsettled, with deficient sunshine and sharp gales. The autumn was generally dull, with frequent strong winds and the days unusually dark and damp. No frost till November 16th, but keen frost in the first week of December ; milder afterwards.

CHELFORD, ASTLE HALL.—R 2.10 in. less than the average of 20 years.

NESTON, HINDERTON —R about 5 per cent. less than, and rainy days 11 per cent. more than, the average of 33 years.

WILMSLOW, PARKSYDE.—R 4·47 in. less than the average of 25 years. The fall was in excess in April, May, August and October, and deficient in the remaining 8 months. The only days with summer heat were from June 24th to 30th. The absence of fog in November and December was very marked.

AIGBURTH, KELTON.—R 2·58 in. below the average of 27 years.

HEATON MERSEY [STOCKPORT].—A dry year, the R being 3·43 in. below the average of 6 years.

BLUNDELLSANDS, PARK CORNER.—The smallest R recorded in any year since observations began in 1876.

ORMSKIRK, AUGHTON SPRINGS.—Cold and sunless, with very many storms.

SOUTHPORT, HESKETH PARK.—An exceptionally dry year, yet characterized by an unusually large number of days with rain, and by remarkable sunlessness. Mean temp. 0°·5 below the average. Warm in March ; cold or cool in February, May, July and August. Total sunshine 146 hours below the average ; particularly sunless in June, July, October and December ; sunny in April. Stormy in May and December. Total R 8·00 inches below the 30 years' average and smaller than in any year except 1887. The driest month was September, but there were large deficiencies also in August and November ; wet in May. Underground water exceedingly low. TSS on only 3 days. H on 17 days. S on 9 days, the total depth for the year being 7·8 inches. Frost in the screen on 47 days, and on grass on 120 days. Fog on 15 days. Sunshine on 284 days.

HASLINGDEN VICARAGE.—Remarkable, as giving the impression of a wet year and yet being one of the driest on record, with a R nearly 7·50 in. below the average. There was no long spell of fine weather or of heavy R. The rainy days were fairly well distributed, and there was an almost total absence of hot days.

ST. MICHAEL'S-ON-WYRE, VICARAGE.—R 7·40 in. below the average.

CLITHEROE, DOWNHAM HALL.—A very dry year, the R being only 32·68 in., while the average is at least 42·00 in., and the only years with less are 1855, 31·02 in. ; 1885, 32·15 in. ; and 1887 30·38 in. Yet the fields were not burnt up, and there was no difficulty with the works for supplying two villages here with water.

HAMPSON-IN-ELLEL.—R 5·08 in. below the average of 10 years.

CATON, ESCOWBECK.—A very cold and damp year. A bad hay and harvest time, yet not much water to fill up the springs.

GRANGE-OVER-SANDS, BELMONT.—R 7·36 in. below the average of six years. Cool and cloudy, with duration of sunshine 334 hours below 1901. Windermere was frozen over for several days in February, permitting of skating.

CARTMEL, BROUGHTON HALL.—Believed to be the driest year since 1887. Many rainy days, but yielding a small R.

BROUGHTON-IN-FURNESS.—Dull and cold on the whole, with R 12·50 in. less than the average of 10 years. No great R on any one day, and very little T and L. Rainy days 28 more than the average.

BLAWITH VICARAGE.—The first half was the driest and coldest experienced for many years.

CARTMELL FELL VICARAGE.—R 10·75 in. below the average. Very sunless, the ground seeming never to get properly warmed. Though R fell on 220 days, on only two did the fall exceed 1·00 in., and although the total is about half-an-inch less than in 1901, there were 41 more rainy days.

HAWKSHEAD, TOWER BANK, SAWREY.—The smallest R in the Esthwaite Valley since 1887, but the number of rainy days the largest, excepting 1898.

DUDDON VALLEY, SEATHWAITE VICARAGE.—Mild and cool, with a considerable number of rainy days, but a total R much below the average.

#### DIVISION IX.—YORKSHIRE.

LANGSETT MOOR, UPPER MIDHOPE.—The smallest R in the past eight years.

WATH-ON-DEARNE, CHAPEL ST.—R more than an inch below the average. The chief features were a sharp spell of frost in February, and a cool and damp summer, with an almost entire absence of TSS. No excessive R except in August, which had nearly twice the average fall. The last frost of spring was on April 9th, and the first of winter was on November 2nd. Duration of sunshine, 1246 hours.

DONCASTER, MAGDALENS.—Some very severe frost in February, especially from 10th to 14th. March generally above the normal temp. Sharp frosts in April; dull weather in June. Temp. below average in July. August, abnormally wet, cold and dull. September, dry, cold and dull. November and December had unsettled weather, alternating with frost.



BARNSLEY, CHURCH STREET.—R 2·06 in. below the average of 34 years. The summer was cooler than the average. On only 18 days did the temp. reach 70° against an average of 38, and on no occasion did the four-foot earth ther. register 56°.

MELTHAM, HAREWOOD LODGE.—R 15 per cent. below the average, notwithstanding which, the rainy days exceeded the average. February was decidedly dry, but otherwise the fall was evenly distributed. TSS were very few and of trifling intensity, not one occurring in the three summer months. Temp. very slightly below the average, the winter months, except February, being mild, and the summer months cold. An exceptionally cloudy year almost throughout.

DONCASTER, KIRK BRAMWITH.—R ·67 in. less than the average of 10 years, and curiously near in amount to that of 1902.

HEMSWORTH HALL.—R 3·44 in. below the average of 11 years.

CHAPELTHORPE, CRIGGLESTONE.—R 3·08 in. below the average of 7 years.

WAKEFIELD, WALTON.—A damp year with R 5·75 in. below the average of 27 years. Duration of sunshine, 1143 hours, and 263 hours less than in 1901.

ACKWORTH, NOSTELL PRIORY.—Cool, sunless and damp.

WAKEFIELD, STANLEY GRANGE.—January was exceedingly mild, with R below the average. February was the coldest month since February, 1895, and had R below the average. March was very dry, and the mildest for at least 14 years. In April the temp. was normal, and R ·10 in. above the average. The coldest May since 1894, with R ·40 in. above the average. June, the coldest since 1892, with R above the average; the max. temp. on the 10th was only 49°·9, but the last week was bright and warm. July was cold, with no TSS; R ·54 in. below the average. August, R above, and temp. 3°·4 below the mean. On 6th, 7th and 8th, R fell continuously for 49½ hours, totalling 1·78 in. September was dry and warm. A mild October, with R ·20 in. below the average. November and December each had R below the average, bringing the total deficiency to 2·78 in. The duration of sunshine was 308 hours less than in 1901.

HALIFAX, HALL INGS, S. OWRAM.—Although the number of rainy days was rather more than the average, the R was 6·08 in. less than the average of 12 years. On only one day did the fall exceed one inch.

BRADFORD, HORTON.—After a fairly dry spring, the remainder of the year was very unsettled generally, with many rainy days, though not a great depth of R. Remarkable absence of TSS during the summer months.

OTLEY, FARNLEY HALL.—The most damp and sunless year remembered, although the ground remained dry beneath until October.

ILKLEY, EATON ROAD.—R considerably below the average, but many rainy days and much dull weather. The spring was exceptionally late, and was followed by a cold sunless summer. On only two days did the max. temp. reach 75°.

SKIPTON, CRAVEN HERALD OFFICE.—Dull and damp, but a small R.

YORK, BURTON CROFT.—R 5·65 in. below the average, and deficient in every month except May. The summer was dull and cloudy, the only sunny and warm period being the end of June and the first week of July.

KNARESBOROUGH, FARNHAM LODGE.—R 5·56 in. less than the average of 10 years, and the smallest in that time, though 1893 and 1901 had only slightly more. On December 31st there were no fewer than 26 plants in flower.

SETTLE, THE TERRACE.—R very light, being 12·88 in. less than the average of 10 years. Very little bright sunshine throughout.

OUGHTERSHAW HALL.—Though the number of wet days was large, the R was not correspondingly high.

SEDBERGH, BRIG FLATTS.—R 16·41 in. below the average of 24 years, and the least since 1877, excepting 1887. There was an unusually large number of small amounts, and on only two days did the fall reach an inch. A marked absence of sunshine, probably 500 hours less than the average.

SEDBERGH, AKAY.—R about 12·00 in. below the average.

BEVERLEY, EAST RIDING ASYLUM.—R 2·60 in. below the average of 12 years. A cold and wet year, though with a small R. There were no droughts, or heavy falls of R.

HORNSEA, ELIM LODGE.—The smallest R in any year of the past 10.

WETWANG.—With the exception of 1887, when 19·19 in. fell, this was the driest year of the past 21

THIXENDALE.—A noticeable feature was the scarcity of sunshine and large amount of cloud, the R nevertheless was small, and springs in the dales became very low. No very hot weather, and really cold about midsummer.

EASINGWOLD, MARTON VICARAGE.—Although so cloudy a summer, no great quantity of R fell, and on the whole, it was not a wet year.

GILLING, GRIMSTONE MANOR.—A very cold year with less than average R.

BALDERSBY.—R 20 per cent. below the average of 10 years, although the rainy days were more than the average.

THIRSK, SOWERBY.—R 4·43 in. below the average of 20 years. A cold, sunless summer.

BEDALE, BURNESTON.—A damp year, with many days on which rain fell, but as regards total, the driest since the record began in 1891, with about 4·00 in. less than the average R.

AYSGARTH VICARAGE.—A year of very deficient R, the fall being about 12·00 in. below the average, and the smallest in any year since observations began in 1876. There was a slight excess in May, and rather more in December, but every other month had less than the average. Cold drizzle was the prevailing type of R, and in July R fell on 22 days, but on six did not amount to ·005 in. There was no fall of an inch in 24 hours. Up to the end of April the season was not unpromising, but May was miserable, and June was cold till the last week. July was bad for the hay, and the beginning of August, was if anything, worse. Not a single month was really genial, and gardens did worse even than in 1879, when there was much more R in June, July and August.

LEYBURN, BOLTON HALL.—R seriously deficient, and 7·93 in. less than the average ; but owing to the absence of sun in the summer, the land surface appeared to hold an excess of moisture.

NORTHALLERTON, THE LODGE.—Remarkable for the small R, which was 6·70 in. below the average.

RICHMOND, THE GROVE.—Remarkable for the few days on which R fell in the first quarter, viz., 31 only ; also for the persistent R at the end of September and beginning of October, when there were 19 successive rainy days.

INGLEBY MANOR.—A dull and gloomy year, with R 6·52 in. below the average of 19 years, but rainy days above the average. Harvest was interfered with by bad weather.

MIDDLESBROUGH, ORMESBY.—January was dry and seasonable, but cold towards the end. February and March were fine, with small R, and each had cold spells. April was cold at the beginning and end, but warm about the 20th. Very cold northerly winds in May, with S on four days. June was generally cold, but hot towards the end. July, cool and variable, with much R. August, cool and changeable, with much R. Dry and fine on the whole, but cool in September. A wet October. Extremely little R in November, and cold from 17th to 23rd, otherwise warm. December had less R than the average, and was cold in the first half and warm in the latter half. The total R is the smallest since the record began with 1897. S or sleet fell on 14 days, and on February 9th yielded as much as 40 in.

#### DIVISION X.—NORTHERN COUNTIES.

DARLINGTON, HURWORTH GRANGE.—R much below the average, but on the whole evenly distributed, there being neither partial nor absolute droughts, nor specially heavy falls.

DARLINGTON, CLEVELAND PARADE.—R only 76 per cent. of the average. September was the driest and October the wettest month. R fell on only nine days in April. Severe frost from February 9th to 17th.

STOCKTON, ROPNER PARK.—Exceedingly dull, cold and sunless throughout. September was the warmest month.

WEARHEAD.—Exceptional prevalence of E. winds throughout. Very wet in December. No S till December 3rd.

SUNDERLAND, WEST HENDON HOUSE.—The R for 1902 is 5.53 in. less than the arithmetical average, and 5.27 in. below the geometrical mean for the 30 years, 1860-89. Since 1860, inclusive, only three years have had less R, viz.: 1873, 20.09 in.; 1884, 19.12 in.; and 1893, 19.58 in. July was the wettest month with 2.78 in., and March the driest with 0.64 in. On one day only did the fall reach 1.00 in., namely, 1.14 in., on July 26th. No month exceeded the average by .50 in. Some R (or S or H) fell on 252 days, and a measurable quantity on 191. S fell on 17 days only, one of which was May 13th; it reached its maximum depth of five inches on February 13th. Periods of absence for more than half June and November, besides shorter periods, are not included in the following notes. The duration of time that R fell was below the average; the excess was

chiefly from May to July, and the deficiency greatest in March. There were notable deficiencies of S.W. and S. winds, and a marked excess of W. winds. Besides the excess of easterly winds for the last five months, the most striking deviations were the excesses of S.W. winds in March, and W. winds in January. The number of days on which the alternation of sea and land breezes took place, was considerably above the average, the excesses being very marked in April and June. In April there were 10 such cases in 26 days of observation; in June, 6 in 12 days of observation; while in July they were but half the average. The wind force was slightly above the average, with marked excesses in May and January, and a marked deficiency in February; January being the windiest month, December and May coming next. The cloud was much above the average, with excesses in every month except April; greatest in October, December, July, August and May. October was the cloudiest month, the average being 8·0. The fog was slightly above the average, the most marked deviations being the excesses in February and June. The summer was markedly cold, as well as dull. L was unusually scarce. Solar halos were deficient, although seen on 12 days in March. In February and December they were seen on only one day each. There were no periods of drought, either partial or absolute.

RYTON-ON-TYNE.—R about five inches below the average, the falls for January, March and September being particularly small. Heavy falls conspicuously absent.

NEWCASTLE, CLIFTON ROAD.—One of the driest years on record, but considering the small R, the weather was very bad and disappointing.

ROTHLEY CRAG.—The driest year since 1893. R 5·67 in. less than the average of 10 years.

HOWICK HALL.—R nearly 3·00 in. below the average. A dull, sunless summer.

ILDERTON, LILBURN COTTAGE.—Remarkable for lack of sunshine and small R, which had a marked effect on many springs during the autumn months.

PAWSTON [COLDSTREAM].—The driest year of the past 20, the total R being 7·55 in., or 25 per cent., less than the average 1880-99.

MILLOM, LEYFIELD.—Although the rainy days were eight more than the average of 12 years, the R was 5·52 in. less than the average. A long, cold spring was followed by a broken summer.

SEASCALE, WHINTHWAITE.—R 5·95 in. below the average of 13 years, and the smallest in that period.

KESWICK, DERWENT ISLAND.—A dry year, but with a small amount of sunshine. Rainy days nine more than the average. Skating on Derwentwater in February.

KESWICK, SHU-LE-CROW.—R 13·43 in. below, and rainy days nine above, the average of 30 years. February and August had 2·88 in. and 3·31 in. less than their respective averages. The fall of 3·65 in. on December 14th is the heaviest in the record, the previous heaviest having been 3·28 in. on October 6th, 1874.

COCKERMOUTH, ULLOCK.—The lightest R since the record commenced nine years ago, and 13·35 in. less than the average.

MATTERDALE.—The early months were very wintry ; the spring was a failure ; the summer was one of dull, grey skies, but deficient R. October, November and December, were mild and open.

COCKERMOUTH, HIGHAM.—The smallest R since the record began in 1864.

COCKERMOUTH, BROUGHTON GRANGE.—R nearly 25 per cent. below the average, and the smallest during the 30 years recorded, though there were more than the average number of rainy days. The summer was cold, with great prevalence of easterly winds, and much less sunshine than usual.

BASSENTHWAITE, ARMATHWAITE HALL.—R more than 10·00 in. below the average, the autumn months being unusually dry.

GELTSDALE.—The R was only ·47 in. more than in 1901, yet there was no drought or scarcity of water, such as was then the case, as the fall was more evenly distributed. January and February were remarkable for long continued intense frost.

BRAMPTON, DENTON HOUSE.—Characterised as a sunless summer and a year of small rainfall, the total being 9·09 in. below the average of 1890-9. The year 1901 gave a deficiency compared with the same average of 8·39 in., making the total deficiency for the two years 17·48 in. This may almost be called a drought of two years' duration.

WINDERMERE, LINDETH HOWE, STORRS.—Though a dry year, it was very dull, and R fell on many days. In three consecutive days, ending December 16th, 4·41 in. fell.

## DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS.

LLANFRECHFA GRANGE.—Deficient R, otherwise genial ; but not so warm as in previous years.

TREDUNNOCK.—R about 4·00 in. below the average.

ABERGAVENNY, DYNE HOUSE.—R about 6·00 in. below the average, though from the number of rainy days and deficient sunshine the year appeared to be a wet one.

COWBRIDGE, FONMON CASTLE.—R considerably below the average, but an unusually large number of rainy days. Exceptionally wet in June, being only the second month of that name in 18 years with more than 3·00 in. of R. November was the wettest, and April the driest, month.

OYSTERMOUTH, NEWTON.—January was dull, sunless, cold and damp. February cold and dry, with more sun, and sharp frost. March fine at the beginning, afterwards wet and mild, with stormy winds towards the close. April and May were cold and dull. June began with a TS and then continued dull and cold till 23rd, when fine and hot weather began, broken by spells of dull, wet and sometimes stormy weather. Unsettled all through summer and autumn. First frost on November 18th, then wet and dull till December 3rd, when hard frost prevailed for 7 days, broken by R and stormy weather, which continued till the end.

SWANSEA, GLANMOR CRESCENT.—The year was very sunless, and the R mostly fell during the day time, giving the impression that it was a very wet year, but the total is 4·35 in. less than the average of 10 years.

NEATH, FAIRY LAND.—R considerably below the average ; in fact, the least in 18 years, but owing to the absence of warm days drought was not felt.

TREHERBERT, TYN-Y-WAUN.—The smallest R since the record began in 1893.

DOWLAIS, GWERNLLWYN.—Total R 5·88 in. less than the average of 16 years. Only three months—April, June and November—had more than the average, the excess exceeding an inch only in June ; while in five months—January, July, August, October and December—there were deficiencies of more than an inch. The cumulative total from January 1st to the end of each month was below the average, the least deficiency being ·56 in. at the end of June.

LLANELLY, NEW ROAD.—A wet year, not by reason of heavy falls, but of continuous drizzle. A cold, late summer and wet autumn. Gales, T and L at the end of December.

LLANDOVERY, TONN.—The most noticeable peculiarity was the large number of wet days and the small amount of R, especially in spring and early summer, which were unusually cold and wet. An almost total absence of TSS.

LLANWRDA, DOLAUCOTHY.—A sunless summer, with very changeable weather, cold and heat alternating and neither intense. Four nights of frost in November and 13 in December.

HAVERFORDWEST.—In this county 1902 was a most productive year, as the R, though small in quantity, fell at the right time. Often in disastrously wet years there are dry cold springs and wet summers.

ST. DAVID'S.—Showery and inclement at first, becoming frosty with long intervals of dry weather in February. April and May were fairly seasonable, but June was unsummerlike and very rainy. July, with dry weather, and August and September, with fair intervals, led to the saving of abundant hay and corn. November was the wettest month.

TAFF FECHAN, NEUADD RESERVOIR.—The R of 1902 is slightly lower than that of 1891 and very much below the average, while in the fifteen years recorded only two, 1889 and 1892, had less. At the Old Neuadd gauge the fall of 1902 is 14·2 per cent. below the average of the 15 years. At gauge No. 6, at the foot of the Beacons, where the maximum always occurs, the fall is nearly 20 per cent. below the average of the 8 years recorded.

CRICKHOWELL, GWERNVALE.—Rainy days 43 above the average, although the total R was more than 5·00 in. below average. The chief deficiency was in the earlier part. A dry spring. A great deficiency of sunshine.

CANTREFF RECTORY.—R 11·00 in. below the average of 10 years. A very dry, cold and late spring. Unusually wet in June.

BRYNWERN HALL.—Exceptionally dry, most of the springs failing entirely. The summer R seemed to evaporate at once without wetting more than the surface.

POOL QUAY VICARAGE.—Cold, damp and distinctly windy, with R 1·75 in. below, and wet days 19 above, the average of 10 years. Mean temp. 0°·4 below the average. Floods on January 1st and 2nd



and December 17th to 19th. A very persistent sun pillar was observed on March 6th.

BODFARI, HENBLAS.—R below, but rainy days above, the average. No droughts.

PRESTATYN, EDLESTONE HOUSE.—The smallest R since 1893.

ROSSETT, TREVALYN HALL.—R more than 4·00 in. below the average, but number of rainy days excessive. The spring was cold and wet, May having the largest fall of any month. The summer was deficient in warmth and sunshine and abnormally cloudy. The frost in February was remarkably severe.

DENBIGH, GARN.—R 2·03 in. below the average of 18 years.

LLANERCHYMEDD, LLWYDIARTH ESGOB.—S on the mountains from February 6th to 20th. Moist and mild in March, with very little E. wind. Wind and haze in April. S on the mountains from May 3rd to 10th, and T on 17th. Cold and wet in June. Tedious harvest weather. September and October damp and dull.

DOUGLAS, WOODVILLE.—The year was remarkable for its comparatively small R, the total being some four inches below the average. The first six months yielded only fifteen inches, while the fall of the last six was normal. February was remarkably cold; colder even than in 1895. May and all the summer months were phenomenally cold and sunless. There was no "summer." September, though cold, was fine and singularly calm; this month and a fine mild March were the best of the year.

L'ERÉE CLAIRE MARE.—R ·75 in. above the average of 7 years.

## SCOTLAND.

### DIVISION XII.—SOUTHERN COUNTIES.

WHITHORN, CUTROACH.—The smallest R in seven years, but unusually many rainy days. The distribution over the various months was notably uniform.

AUCHENCAIRN, TORR HOUSE.—A sunless year with the least R in any year since 1888.

KIRKPATRICK DURHAM, GLENLAIR.—R more than 6·00 in. below the mean. The springs dried up owing to the deficiency of R in both 1901 and 1902.

CARGEN [DUMFRIES].—R 6·61 in. below the mean, the fall being less in only seven years out of the last 43. Great deficiency of sunshine, the duration being 498 hours below the average.

IRONGRAY, DRUM PARK.—R considerably below the average and the least in any year since 1872, the next driest year being 1887 with 1·60 in. more R.

DUMFRIES, IVY BANK.—R 6·94 in. less than the average of 16 years and the least in that time. The monthly totals were all below the average excepting April. On only one day did the fall exceed 1·00 in. Rainy days very little short of the average.

LANGHOLM, DROVE ROAD.—R 13·56 in. below the average of 26 years and the least in that period. Remarkable for absence of sunshine and of heavy rains.

MONIAIVE, MAXWELTON HOUSE.—R 6·20 in. below the average of 15 years, but enough, as it was well distributed.

LANGHOLM, EWES SCHOOL.—R 16·94 in. below the average of 10 years and the lowest since the record commenced. The year was as remarkable for lack of sun as for want of heavy R.

LANGHOLM, EWES, BURNFOOT.—R 12·83 in. below the average.

HAWICK, BRANXHOLME.—Generally dull and moist; great want of sunshine.

LILLIESLEAF, RIDDELL.—R almost exactly the average.

KELSO, SPRINGWOOD PARK.—The lowest R on record, and but for lack of sunshine the drought would have been very serious. As it was water was scarcer than ever before.

#### DIVISION XIII.—SOUTH EASTERN COUNTIES.

GALASHIELS, ABBOTSFORD ROAD.—R and sunshine both less than the average.

WEST FOULDEN.—R 23 per cent. below the average of 30 years.

GARVALD, DONOLLY RESERVOIR.—Very dull and cold. The effects of the light R were not much felt on account of the small evaporation.

MUSSELBURGH, ELDELSLEA, LEVENHALL.—The most notable features were the unusual dryness of the months January to April and November, in each of which less than an inch fell, and the wetness of the four months May to August, during which 7·60 in. or nearly half the total R fell.

EDINBURGH, GEORGE SQUARE.—There is an anomaly between the rainy days and the total R, there having been more of the former and less of the latter than usual. Much of the R fell as mist or drizzle, and there was S on only 15 days. Absence of TSS. The evaporation in an exposed dish was 13·02 in., being less than usual owing to the cloudy air and want of sunshine.

LINLITHGOW, NETHER PARKLEY.—With the exception of 1849, 1855 and 1870 the smallest R in 54 years. The local water supply failed for two months. An unusually cold summer and a resulting late harvest.

#### DIVISION XIV.—SOUTH WESTERN COUNTIES.

BIGGAR, CAMBUS WALLACE.—Exceedingly dry on the whole with great want of sunshine.

DALZELL HOUSE.—R 4·02 in. less than the average, a smaller amount having been recorded only in 1865 (22·02 in.), 1870 (21·16 in.), 1885 (23·28 in.) and 1887 (17·91 in.).

BALLANTRAE, GLENDRISHAIG.—Dry, cold and sunless, but crops were a good average.

BARRHILL, DOCHROYLE.—R 1·40 in. below the average of 27 years.

COLMONELL.—R 4·58 in. less than the average of 26 years, but rainy days ten more than the average. The number of days on which less than ·10 in. fell is 22 more than the average, while the number of days on which ·10 in. or more fell is 12 less than the average, showing that the deficiency of the total for the year is due to a notable deficiency of considerable falls of R. The number of nights on which frost occurred was only 59, or 27 less than the average. The mean temp. was 0°·5 above the average.

GIRVAN, PINMORE.—A very damp year, as although the R was 3·41 in. below the average the rainy days were 32 in excess. A great deal of wind, chiefly from N.W. and N.E.

GIRVAN, GLENDOUNE GARDENS.—Cold and sunless with R much below the average.

DUNLOP HOUSE.—Very dry. R 8·45 in. less than the average of five years.

## DIVISION XV.—WEST MIDLAND COUNTIES.

FALKIRK, LAURIESTON.—Cold with great want of sunshine and R about 13·00 in. less than the average of five years. Frost occurred on the 25th June and gales in September, October and December, but without much structural damage.

BUCHLYVIE, THE MANSE.—Cold, sunless and ungenial, giving the impression of a more than usually rainy year, no doubt owing to the great number of rainy days. In reality it had the second smallest R in 13 years and 6·80 in. less than the average, while the rainy days were 47 in excess. There were no periods of drought, but nine months had a deficient fall, while March, July and December had slightly more than the average.

TIGHNABRUAICH.—Out of the 209 rainy days 42 had ·05 in. or less R, while on seven days the fall reached or exceeded 1·00 in.

LOCH ECK, BENMORE.—A cold, sunless summer. Heavy R with strong gales in November and December.

INVERARAY, NEWTOWN.—Unusually fine and dry but cold, the only warm weather being the last week in June. Severe frost at the end of January and in February, also in the early part of December.

BALLACHULISH, ARDSHEAL.—R 6·27 in. below the average of 10 years.

KINTYRE, KILLEAN MANSE.—Frosts from January 24th to the middle of February, then open weather with moderate R in March and April. May and the first half of June were cold with fresh northerly winds. High temp. from the 24th to the end of June; a showery harvest with muggy weather following. An open winter.

## DIVISION XVI.—EAST MIDLAND COUNTIES.

BLAIRINGONE [DOLLAR].—R the lowest in the 17 years recorded.

KINROSS, GELLYBANK.—The smallest R observed in 25 years. After a cold dry summer came a very mild November.

STRATHMIGLO.—R 7·67 in. below the average of 30 years. The year was characterised by great want of sun, the mean temp. being below the average in seven months.

OCHTERTYRE [STIRLING].—R 5·62 in. less than the average of 19 years.

DOUNE, GARTINCABER.—Chiefly remarkable for a rather small R, very low summer temp. and great uncertainty of weather conditions throughout.

BRACO, NETHER CAMBUSHINNIE.—The least R in any year of the eight recorded. A very cold and sunless season.

BALQUHIDDER, STRONVAR.—R about 13·00 in. below the average. A cold late summer but a fine autumn.

LOCHEARNHEAD, ARDVORLICH.—R slightly above the average. The summer months were remarkable for small R, yet there was much cloudy weather and little sunshine.

COUPAR ANGUS STATION.—The R of the first five months was deficient, March particularly so. June and July had slightly more than the average, but in August, September and October the fall was again deficient; while in November and December floods and heavy R predominated, yielding an excess of about 5·50 in., which in a great measure compensated for the previous dry season.

BLAIRGOWRIE, BALLINTUIM HOUSE.—The R by itself gives little indication of the weather. From the middle of July to the end of November the season was remarkable for grey skies and lack of sunshine and left the impression of many more rainy days than usual.

ARBROATH, DISHLAND HILL.—Notwithstanding the appearance of much R the total is the smallest since 1890 excepting 1898, and the rainy days are the most in the same period excepting 1900.

INVERARITY MANSE.—With the exception of 1893 the driest year since the record began in 1892. R 3·99 in. below the average of 10 years, though November and December together yielded an excess of 3·49 in.

RESCOBIE, PITSCANDLY.—Characterised by deficiency of R, only the last four months having as much as, or more than, the average.

BRECHIN, STRACATHRO GARDENS.—Dull and sunless throughout. Prevailing winds E. to N.E.

#### DIVISION XVII.—NORTH EASTERN COUNTIES.

FETTERCAIRN, THE BURN.—A very dry year, with a marked want of sun, and the constant dulness gave the impression of a wet season. Up to the end of October there was a considerable deficiency

of R, but the heavy falls of November and December brought the total nearly up to the average.

CROMAR, TILLYPRONIE.—R only a little above the average, but a more cold, sunless year is not remembered.

TOWIE, CULQUOICH.—The winter was unusually prolonged, S falling on the higher grounds in June. The summer was sunless and the harvest the latest on record. The most unfavourable year remembered.

ALFORD, LINTURK MANSE.—The features of the year were :— (1) The very small R of the first three months. (2) The frequency of rainy days in the summer, though the quantity was not above the average. This with cold and want of sunshine gave a widespread idea of a rainy season. From April 29th there were 23 consecutive rainy days.

CRAIGELLACHIE, WESTER ELCHIES SCHOOL.—A cloudy, sunless and cool summer, with early frosts in September, made harvest very late. In the first four months 5·43 in. of R fell on 59 days ; in the second four, 14·73 in. on 84 days ; and in the third four, 9·20 in. on 60 days.

KINLOSS.—R about 3·50 in. less than the average of 10 years. A cold, sunless summer.

#### DIVISION XVIII.—NORTH WESTERN COUNTIES.

ALNESS, ARDROSS CASTLE.—R considerably under the average. One of the most erratic years on record. The first four months were normal ; May, June and July were very cold and wet ; and the last four months were drier than usual. The temp. of the summer months was much below the normal.

GLENELG MANSE.—There was a good deal of S and frost in the early part, while throughout the year there were six days on which the R exceeded 1·00 in.

N. UIST, LOCH MADDY.—R about 10·00 in. below the average.

HARRIS, TARBERT.—In the five months April to August 18·93 in. of R fell on 111 days.

FORT AUGUSTUS, ST. BENEDICT'S.—Abnormal in various respects. There was less R than in any other year since 1884, except 1889 ; but the summer was extremely dull. There was a remarkable excess of N.E. wind in spring and early summer.

LOCH NESS, DRUMNADROCHIT.—R 6·70 in. below the average of 16 years, but rainy days only one below the average. The fall of each month was deficient, except May and December, which both had well over the average. The driest month was November.

#### DIVISION XIX.—NORTHERN COUNTIES.

DORNOCH.—R much below the average.

BETTYHILL.—R considerably below that of the last few years. April and November were particularly dry.

SOUTH RONALDSHAY, ROEBERRY.—Cold and dry, the driest year since 1870. Harvest the latest on record.

FETLAR, THE MANSE.—Not many consecutive sunny days and the evenings often very cold. Long spells of high wind in the latter part, but with absence of frost or S.

### IRELAND.

#### DIVISION XX.—MUNSTER.

CORK, WELLESLEY TERRACE.—R 1·03 in. less than the average. Mean temp. also below the average in every month except March. S on 6 days. Gales on 4 days.

MALLOW, SUMMER HILL.—R ·67 in. less than the average of 13 years.

DARRYNANE ABBEY.—Another year of small R. In the first six months the fall was only 81 per cent. of the mean of ten years, but the latter half showed an excess of 5 per cent.

CLONMEL, BRUCE VILLA.—The wettest year since 1895, caused by heavy falls of R. On seven days more than 1·00 in. fell, and on November 6th 2·42 in. Great want of sunshine.

DERRY CASTLE.—Total R 25 per cent. below, and rainy days 10 per cent. fewer than, the average of 10 years 1890–99. The fall is the lowest recorded, being 1·26 in. less than that of 1887, though in that year the rainy days were 31 fewer.

NENAGH, CASTLE LOUGH.—January was a wet month, but February, March and April varied little from the average. The six following months, May to October inclusive, were all more or less

dry, yielding together only 11·51 in. against an average of 19·23 in. From June 7th to October 12th—126 days—only 5·84 in. fell, of which amount 3·04 in. fell on five days. November and December were rainy. The year was singularly free from TSS, L not once being seen. The temp. was low at times during the summer, but on the whole it was a favourable year for farming.

NENAGH, HIGHLANDS.—The early months were mild, with little S, some very strong winds and a few days of hard frost. The spring was rather cold and harsh. A good R in April, May and June was favourable for vegetation. A mild autumn.

BALLINGARRY, HAZELFORT.—Unusually dry. R about 4·25 in. below the average.

LIMERICK, ROXBOROUGH.—Cool and cloudy with great absence of sun. Not a summer day until June 24th, the early part of the month being wintry. Very dry in the second half of the year, the R being less than in the corresponding period of 1893 and 1887.

BROADFORD, HURDLESTOWN.—R 4·35 in. below, and rainy days 5 above, the average of 17 years.

MILTOWN MALBAY.—The smallest R for 30 years. The first six months were very wintry with constant drizzle, but very small amounts of R. July, August, September and October were on the whole dry, very little R reaching the springs, which mostly failed, great dearth of water ensuing.

LAHINCH, MOY HOUSE.—Unusually dry, the R being 11·88 in. less than the average of five years, while for the five months June to October the fall was less than half the average. In the 18 days ending October 11th only ·01 in. of R fell, while in 12 days ending November 13th 3·49 in. fell.

ENNISTYMON.—Exceptionally dry; almost as dry as 1887, but unlike that year it was cool and overcast throughout. Co. Clare suffered much from want of water, especially for cattle.

#### DIVISION XXI.—LEINSTER.

KILKENNY, SION VILLA.—Unusually cold with very little summer weather. Very wet and very dark with heavy gales during the last three months, especially in December.

TULLAMORE.—R very much below the average during the first six months.



STRAFFAN HOUSE.—A very ungenial and sunless year. The spring was very cold and late, and in August the nights were very cold.

BALLYBRACK, STREAMVILLE.—R 3·41 in. more than the average of 20 years. The greatest fall since the record commenced in 1877 (2·67 in.) occurred on September 2nd. Unusually damp with little sunshine.

BALBRIGGAN, ARDGILLAN.—R 1·38 in., and number of rainy days 1, below the average.

ATHLONE, TWYFORD.—R the least with the exception of 1887 and 1893 since the record began in 1875. April and November were the only months in which the R exceeded the average of 20 years.

#### DIVISION XXII.—CONNAUGHT.

WOODPARK [SCARIFF].—Unusually dry with a marked absence of heavy falls. Practically no frost or S throughout.

CONG, THE GLEBE.—The driest year since the record began in 1896, with 9·55 in. less R than the average of the five years. Exceedingly pleasant weather with no excessive heat excepting one week in June. The lake fell from the beginning of March till the end of October, when it was at the lowest point remembered. Absence of TSS.

BALLINROBE, CRANMORE.—The driest year of the thirty recorded.

ACHILL, CORAUN HOUSE.—A fairly good spring with less wind and R than usual. A very sunless, drizzling, cold and ungenial summer. Autumn about average. Winter mild and less stormy than usual until the last week of December.

BALLYMOTE, NEW PARK.—The R of the five months May to September was only 12·35 in., being the lowest since the record commenced and 4·85 in. less than the average of 14 years. The largest fall for this period was 23·10 in. in 1892, and the smallest 13·95 in. in 1899.

BALLYSADARE BAY, GLEN LODGE.—Very cold in May and at the beginning of June, then fine until October. Honey deficient owing to cold in the early summer.

#### DIVISION XXIII.—ULSTER.

BALLYCONNELL HOUSE.—R 7·32 in. less than the average of 10 years.

LURGAN, BELLE VUE.—R .88 in. more than the average of 10 years. A very heavy fall of S on February 7th was followed by a week of keen frost. May and all the summer months were cold, the finest and pleasantest month being October.

BELFAST, SPRINGFIELD.—A disappointing year. Though the R is 1.05 in. less than the average the distribution was erratic, the wettest portion being from July to September. On five days more than 1.00 in. fell.

ANTRIM, ARDNAVEIGH.—Cold and damp without much frost or S. An extremely mild autumn. The longest period without R was from September 25th to October 12th.

BALLYMENA, HARRYVILLE.—R below the average. September was the wettest and April the driest month.

LIMAVADY, DRENAGH.—R about 4.00 in. less than the average of 10 years. A cold and sunless summer.

KILLYBEGS.—By far the driest year since the record commenced in 1886. R 13.61 in. less than the average of 15 years.

HORN HEAD.—R 5.88 in. below the average of 10 years and the least in any year since the record commenced.

## HEAVY RAINS IN SHORT PERIODS.

THE observers' remarks, coupled with the discussion of the 1902 returns so far as it has proceeded, have led us to the conclusion that the marked characteristic of the rainfall of the year was the absence of heavy falls, and this will be forcibly exhibited by the section following this, which deals with heavy falls on rainfall days.

Under these circumstances it is somewhat surprising that the number of entries in the following table (66), though 40 per cent. fewer than in 1901, is only 25 per cent. short of the average. The explanation lies in the fact that the short period rains are essentially a summer phenomenon and the summer months of 1902 generally speaking were wet.

It now remains to be shown whether the intensity of the rains as nearly approached the average as did the number recorded.

The table given in the 1901 volume, showing the distribution of these rains in the different months of the year, appears to us to be interesting and we have prepared it for this year also.

*Summer Rains.*

Month.	No. of entries.	No. of days.	No. of days with T.	Duration of Rain.	
				Least.	Greatest.
May .....	4	2	2	10 min.	1 hours.
June .....	6	3	3	12 „	1 „
July .....	16	7	4	8 „	20 „
August .....	18	8	8	4 „	5 „
September...	18	5	4	5 „	24 „
October .....	1	1	0	30 „	30 min.

*Winter Rains.*

November ...	2	2	1	5 „	20 min.
December ...	1	1	0	2 „	2 „

Again as in 1901 no records appear in January, February, March or April, and four-fifths of the entries are distributed almost equally among the three months July to September, but the notably wet August shows no predominance over September, which yields as great a number of entries, although in many parts of the country it was

dry. Curiously enough, all three of the entries in November and December are of short duration and not prolonged rains of the usual winter type. It will be noticed that out of the 29 days among which the entries in the main table are distributed, no fewer than 22 exhibited electrical disturbance in some part of the British Isles, showing clearly that these intense rains of short duration are identified with thunderstorm phenomena. The month in which the greatest disparity appears between the total number of days and those of thunderstorms is, curiously enough, July, but reference to the table will show that six of the July records are of rains extending over periods of from 5 hours to 20 hours.

The number of exceptional records (indicated by a x in the table) is 15, or actually three more than the average number of similar entries during the last ten years, but among them there is not one that approaches the unprecedented. In this respect, therefore, the heavy rains of short duration are in accord with the general character of the year.

The most remarkable are:—

Date.	Div.	Station.	Amount.	Duration.	Rate per hour.
			in.	hr. min.	in.
May 30	III.	Cambridge, Sydney Street .. .. .	1·10	... 10	6·60
Sept. 10	II.	Surbiton, Vronvelin.....	2·00	... 30	4·00
„ 10	II.	Weybridge, Heathfield .....	3·10	1 30	2·07
„ 11	IV.	Fingringhoe, Ballast Quay Farm.	3·41 ?	2 0	1·71
July 1	IV.	Ipswich, The Chantry .....	3·36	2 0	1·68
Aug. 7	XX.	Limerick, Ballyneety .....	3·70	5 0	·74

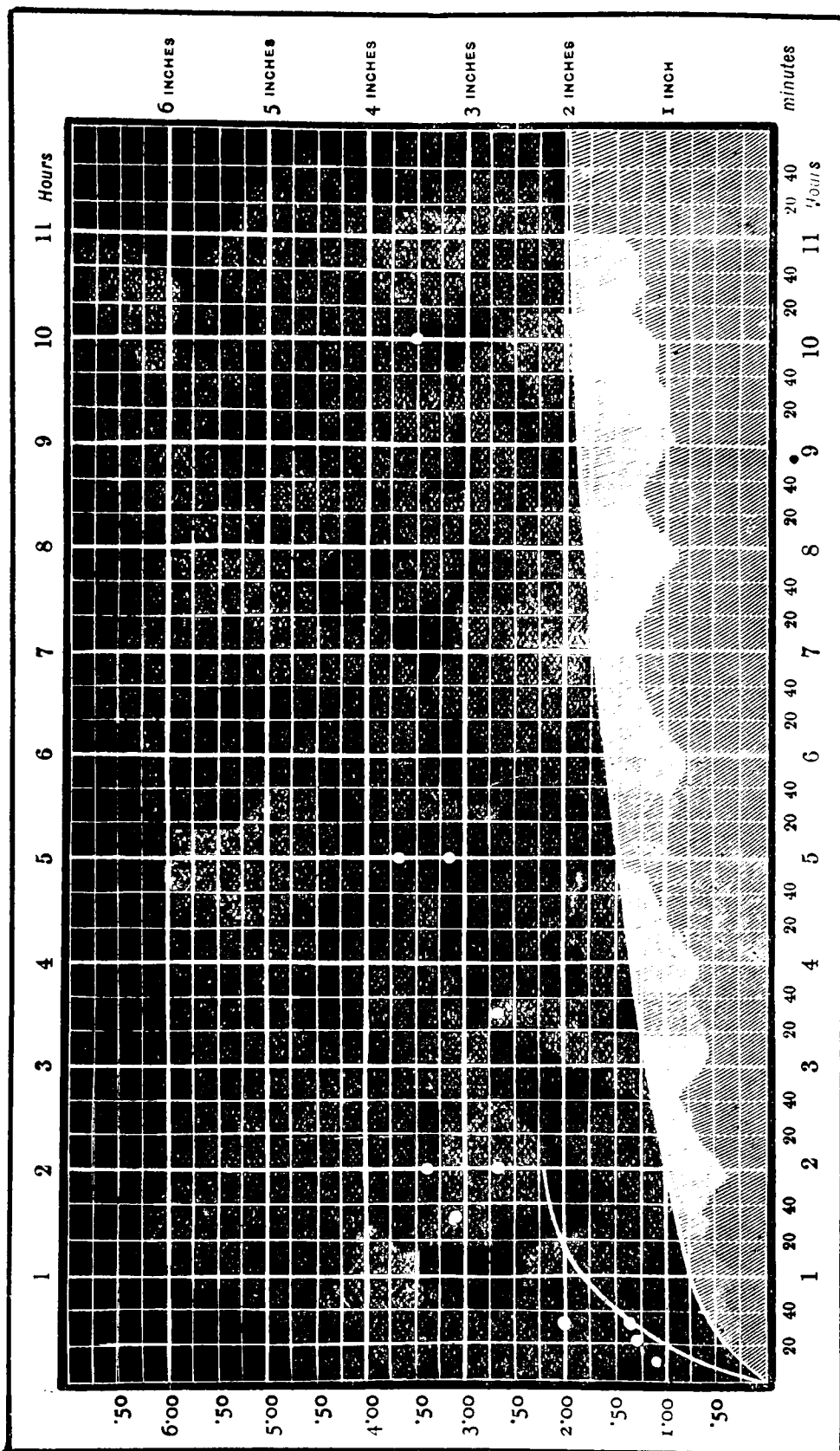
Two of these occur on one day, September 10th ; the others are all isolated.

Considering the distribution of these falls over the year, the most notable days are:—

May 30th.—Thunderstorms at Cambridge yielded three records, all of them of exceptional intensity for a short time, the total for the day being at very few stations as much as 1·50 in.

June 1st.—Thunderstorms occurred over a great part of the country on this day, and the records are distributed over Oxfordshire, Worcestershire and Glamorganshire, but the total falls for the day are generally quite unimportant and none of the short period values is exceptional.

# HEAVY FALLS IN SHORT PERIODS.



The shaded portion represents falls too numerous to require insertion : the short white curve, extremes rarely exceeded.



July 1st.—With the exception of September 10th this day yields more entries to the table than any other—viz., 6, and two of them are marked with the **x**, which denotes exceptional intensity. These are both in the neighbourhood of Ipswich, where the fall exceeded 2·75 in. The 3·36 in. in 2 hours at The Chantry ranks with the 3·41 in. in 2 hours on September 11th as the most remarkable short period rains of the year, but as mentioned in a footnote to the table, the duration is only approximate. Thunderstorms were general in the eastern and south-eastern counties on this day.

The remaining entries in July call for no special comment on the ground of intensity, but heavy falls of considerable duration occurred on 25th and 26th.

On August 7th thunderstorms were severe in parts of the United Kingdom, notably in East Anglia, and we find four records in the table from Norfolk and Suffolk, but not of sufficient intensity to claim the **x**. On the same day an exceptional fall of 3·70 in. in 5 hours was reported at Ballyneety, county Limerick. Heavy falls of rain were general on this day, but we believe 2·00 in. was not reached at any other station.

August 17th to 19th.—A marked period of electrical disturbance, yielding seven records of intense rain, but only one of them exceptional, namely, 1·35 in. in half-an-hour at Strathmiglo, Fife.

On September 2nd and 3rd a depression yielded heavy R over our islands, and we find seven entries in the table. Although thunder was recorded on the 2nd, this was not a typical thunderstorm rain and six out of the seven records show a duration of nine hours or more. The only exceptional value is 3·55 in. in ten hours at Sheskin, near Carrick-on-Suir. This rain produced more than 2·00 in. at many stations in the eastern half of Ireland, which was the region of greatest intensity.

September 10th was the day of the great hailstorm at Maidstone, and heavy rain was general over the southern half of England, except the S.W., and this day claims the unenviable distinction of the greatest number of records of intense rain—namely, 8 : five in Surrey, two in Kent, and one in Devon. Out of the five Surrey values, four are exceptional, this being more than on any other day of the year.

Surbiton, Vronvelin .....	2·00 in. ...	0 hr. 30 min...	4·00 in. per hour.
Weybridge, Heathfield.....	3·10 „ ...	1 „ 30 „ ...	2·07 „ „
Norwood, Fox Hill Gardens...	2·72? „ ...	3 „ 30 „ ...	·78 „ „
Weybridge, St. Mary's Lodge	3·18 „ ...	5 „ 0? „ ...	·64 „ „

On the following day, September 11th, a great rain occurred near the east coast of Essex, south of Colchester, and yielded two entries both of them entitled to the x.

Fingringhoe, Ballast Quay Farm 3·41? in. ... 2 hr. 0 min. ... 1·71 in. per hour.  
Wyvenhoe ..... 4·05 ,, ... 24 ,, 0 ,, ... ·17 ,, ,,

The specific object of this section of *British Rainfall* is to discuss the heavy rains of *short period*, and to obtain a basis of comparison with other years we have at times taken the average of the entries of less than two hours' duration. Following this precedent, we have—

*Entries of less than Two Hours' Duration.*

	Number of entries.	Average rate per hour.
Average 1892—1901 .....	56 .....	1·83 in.
1902 .....	41 .....	1·88 in.
Diff. ....	—15 .....	+·05 in.

Here, though the average rate is slightly in excess, the number is very small, and as there are no unprecedented entries in the table, we must conclude that, on the whole, this branch of the rainfall bears out the general character of the year as deficient in heavy rains.

We wish to make it perfectly clear that the notes of interrogation in the following table are in no way intended to discredit the entries to which they are affixed. When a rain begins it is usually impossible to tell that it will be one of magnitude, and by the time this is evident it is often impossible to ascertain the precise moment of commencement—hence the ? No doubt the great majority of cases in which it occurs may be accepted without the least hesitation.

*Heavy Falls in Short Periods in 1902.*

Date.	Div.	Station.	Amount.	Duration.	Rate per hour.
			in.	hr. min.	in.
Dec. 15 ...	VIII.	Rochdale, Fieldhead.....	·13	... 2	3·90 x
Aug. 17 ...	VI.	King's Heath, Cambridge Rd.	·23	... 4	3·45
Sept. 3 ...	VII.	Spilsby, East Keal Manor ...	·22	... 5	2·64
Nov. 9 ...	XI.	Lower Penarth .....	·14	... 5	1·68
Aug. 6 ...	I.	London, Camden Square, N. W.	·21	... 7	1·80
„ 18 ...	VI.	King's Heath, Cambridge Rd.	·25	... 8	1·88
July 23 ...	XV.	Cauldham .....	·24	... 8	1·80
May 30 ...	III.	Cambridge, Sydney Street ...	1·10	... 10	6·60 x
June 1 ...	VI.	King's Heath, Cambridge Rd.	·54	... 12	2·70
Aug. 17 ...	III.	Swerford .....	·45	... 15	1·80
Sept. 10 ...	V.	Lynmouth, Rock House .....	·37	... 15	1·48
July 1 ...	II.	Funtington .....	·42	... 16	1·58
May 30 ...	III.	Trumpington .....	1·30	... 20	3·90 x
June 1 ...	„	Chipping Norton, Kingham...	·50	... 20	1·50



*Heavy Falls in Short Periods in 1902—continued.*

Date.	Div.	Station.	Amount.	Duration.	Rate per hour.
			in.	hr. min.	in.
Nov. 8 ...	XI.	Lower Penarth .....	·49	... 20	1·47
June 1 ...	"	" .....	·37	... 20	1·11
Sept. 10 ...	II.	Surbiton, Vronvelin .....	2·00	... 30	4·00 x
Aug. 18 ...	XVI.	Strathmiglo .....	1·35	... 30	2·70 x
May 30 ...	III.	Cambridge, Benet Place .....	1·30	... 30	2·60 x
Aug. 7 ...	IV.	Tylney St. Lawrence, Aylmer Hall .....	1·18	... 30	2·36
June 29 ...	III.	Wisbech, Bank House .....	·90	... 30	1·80
July 23 ...	IX.	Knaresborough, Farnham .....	·55	... 30	1·10
Oct. 10 ...	V.	Rousdon [Lyme Regis] .....	·50	... 30	1·00
July 1 ...	I.	Uxbridge, Harefield Park ...	·63	... 38	·99
Aug. 6 ...	IV.	Sudbury, Friar's Street .....	1·00	... 40	1·50
" 7 ...	"	Burgh Castle Rectory .....	·80	... 40	1·20
" 14 ...	VI.	King's Heath, Cambridge Rd. ...	·80	... 40	1·20
Sept. 10 ...	II.	Maidstone, Mount House .....	1·47	... 50	1·76
June 16 ...	IV.	Fingringhoe, Ballast Quay Farm .....	1·53	1 0	1·53
July 19 ...	"	Rendlesham Hall .....	1·50	1 0	1·50
Aug. 14 ...	II.	Chichester, Chilgrove .....	1·30	1 0	1·30
May 17 ...	VIII.	Ormskirk, Aughton Springs ..	1·18	1 0	1·18
Sept. 10 ...	II.	Maidstone, Allington .....	1·05	1 0	1·05
" 23 ...	XI.	Pembroke Dock, County Sch. ...	1·00	1 0?	1·00?
June 1 ...	"	Swansea, Glanmor Crescent ...	·88	1 0	·88
Aug. 7 ...	IV.	Burgh Hall [Yarmouth] .....	1·48	1 10	1·27
" 17 ...	II.	Maidstone, Langley, Rumwood ..	1·90	1 15	1·52
Sept. 10 ...	"	Weybridge, Heathfield .....	3·10	1 30	2·07 x
July 1 ...	III.	Welwyn, Datchworth Rectory ..	1·01	1 30	·67
Aug. 27 ...	XII.	Lilliesleaf, Riddell .....	·90?	1 30	·60?
" 7 ...	IV.	Burgh Castle Rectory ...	1·48	1 40	·89
Sept. 11 ...	"	Fingringhoe, Ballast Quay Farm ..	3·41?	2 0	1·71?x
July 1 ...	"	*Ipswich, The Chantry .....	3·36	2 0?	1·68?x
" " ...	"	" Clare Lodge .....	2·62	2 0	1·31 x
Sept. 10 ...	II.	Thames Ditton, Weston Green ..	2·20	2 0	1·10
Aug. 19 ...	XVI.	Dundee, Balruddery .....	1·44	2 0?	·72?
July 1 ...	III.	Hitchin, The Chilterns .....	1·20	2 0	·60
" 9 ...	XVII.	Monymusk, The Manse .....	1·25?	2 30	·50?
Aug. 1 ...	V.	Chedington Court .....	1·09	2 30	·44
Sept. 10 ...	II.	Norwood, Fox Hill Gardens ..	2·72?	3 30	·78?x
Aug. 18 ...	XVI.	Dunkeld, Inverbraan .....	1·25	4 0	·31
" 7 ...	XX.	Limerick, Ballyneety .....	3·70	5 0	·74 x
Sept. 10 ...	II.	Weybridge, St. Mary's Lodge ..	3·18	5 0?	·64?x
July 26 ...	XXI.	Templeudigan, Ballindoney ...	1·15	5 0	·23
" " ...	XXIII.	Belfast, Springfield .....	1·75	7 0	·25
" 25 & 26	XXI.	Ballybrack, Streamville .....	1·85	8 0	·23
Sept. 2 & 3	"	Templeudigan, Ballindoney ...	2·35	9 0	·26
" 2 ...	XX.	Sheskin [Carrick-on Suir] .....	3·55?	10 0	·36?x
" " ...	XXIII.	Belfast, Queen's College .....	2·04	10 30	·19
" 2 & 3	"	" Springfield .....	3·35	12 0	·28
" 2 ...	"	Lurgan, Belle Vue .....	2·00?	12 0	·17?
" 3 ...	XV.	Islay, Eallabus .....	2·93	15 0	·20
July 25 & 26	XXI.	Templeudigan, Ballindoney ...	1·95	15 0	·13
" 19 & 20	V.	Liskeard, Dean Terrace .....	2·39	19 0	·13
" " ...	"	" Trevillis .....	2·14	20 0	·11
Sept. 11 ...	IV.	Wyvenhoe .....	4·05	24 0	·17 x

\* This entry is not strictly entitled to appear in the table as the duration, 2 hours, is only a rough approximation.

## HEAVY RAINS ON RAINFALL DAYS IN 1902.

## INTRODUCTORY.

HOWEVER dry a year may be, there is of necessity one day at each station on which the rainfall was greater than on any other day during the year, and the study of these days of maximum fall is always instructive. It is evident that a list of all the maximum falls (a term which we have to use so often that it may be conveniently shortened to *M*) would be dull reading, for only a certain number of them are in any way remarkable, and a little consideration shows that a fall may be remarkable from its mere amount or from the proportion it bears to the whole fall of the year. Accordingly it has always been the practice to extract all the *M*, to calculate the percentage which each is of the annual fall at the station in question, and then to print those which may fairly claim to be worthy of special notice. Much care and thought have been devoted to the problem of fixing a fair standard by which to test the crowd of maximum falls, so as to do justice to wet, dry and average regions alike; and as the result it has been decided that 2·50 in. of rain is worth recording even at a wet station, while since 2·50 in. is about 7·5 per cent. of the annual fall at an average station, it is an act of equal justice to adopt 7·5 per cent. as the limit above which a day's rain at a dry station may be held to be remarkable. Since 1893 these limits have been rigidly maintained in dealing with this section of our work.

If all observers read their rain gauges daily at 9 a.m., entered the results in accordance with Rule IX., and forwarded a copy promptly to head-quarters, the discussion would be very simple and complete. But many gauges, especially those in remote places, can only be read at weekly or monthly intervals and so do not yield daily values, and a few observers who read their gauges as regularly as the clock strikes 9 a.m. do not send in their returns until the greater part of *British Rainfall* is in type, so that although their totals may appear in the general table they arrive too late to be utilized in the discussion. Hence it is that while more than 3500 stations are represented in the general table, the discussion of *M* is restricted to 2832

stations this year—a considerably greater number, by the way, than has ever been dealt with before. As time goes on the rules for securing uniformity in observations are more and more generally observed; but of all the rules Rule IX. is that which causes most trouble when it is disregarded. How great the trouble is no one can properly realize until he tries to construct such a map as that on p. [118] giving the rainfall on September 10th, which is drawn from the figures of more than 2000 observers. Unfortunately, it is not the observers who are in the habit of reading these pages who disregard the rules, and thus our annual appeal can only by a happy chance convince any reader of his error; still we are sure that the regular readers and the correct observers will pardon these remarks and permit us, after making them, to quote the essential part of the troublesome rule :—

Rule IX.—DATE OF ENTRY.—The amount measured at 9 a.m. on any day is to be entered to the previous day.

Formerly much trouble was also caused by the neglect of Rule XVI. as to overflow. Now, however, the number of gauges holding less than four inches of rain has been much reduced; but one of them, at least exists, for it overflowed on September 10th when only 1·90 in. was collected, and so perhaps lost the only chance that may occur in a century of measuring a fall of four inches in one day. That amount, it is well to remember, may fall even at the driest stations in a summer afternoon, and a gauge capable of holding six inches of rain is recommended in consequence.

The following discussion is, as usual, divided into two parts :—  
Part I. THE CHRONICLE records all *M* exceeding 2·50 in., or 7·5 per cent. of the annual fall—this year a most unusually short list.  
Part II. THE ABSTRACT supplies the necessary data for comparing the *M* of 1902 with those of previous years, and consists of a critical summary of Part I.

#### PART I.—CHRONICLE.

##### JANUARY 19TH.

The *M* at a few stations in the North West Highlands.

XV.	Glencoe.....	3·50 in. or 5·0 per cent.
XVIII.	Glencarron Lodge .....	2·97 „ 3·6 „

##### JANUARY 23RD.

XVIII.	Loch Torridon (Ben Damph) .....	3·09 in. or 4·2 per cent.
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FEBRUARY 16TH.

A solitary M.

XX. Kenmare (Dereen) ..... 3·23 in. or 4·6 per cent.

APRIL 5TH.

The M occurred at about 30 stations in the east of England in a gale accompanied by T and S, but only one requires notice.

IV. Holkham ..... 1·49 in. or 7·6 per cent.

APRIL 15TH.

Although no fall was reported coming up to the limits fixed for inclusion in the chronicle, the M occurred at about 120 stations in the east and centre of England, in the track of a cyclonic storm which took an unusual path, the centre passing due north from Selsey Bill to the Humber.

APRIL 21st.

The M at about 15 stations in Cornwall and Wales, but the one heavy fall was in Ireland.

XXIII. Castlewellan (Lough Island) ..... 3·10 in. or 5·2 per cent.

MAY 27TH.

The M occurred at two stations in the west of Scotland, one of them being Ben Nevis, with the heaviest fall recorded in the British Isles for 1902.

XVIII. Ben Nevis Observatory..... 5·92 in. or 3·8 per cent.

MAY 30TH.

About 25 dry stations, most of them in the east of England, had their M during a severe TS. Although only a few cases are just worthy of notice on account of their percentage, the whole amount fell in a very short time, so that the R while it lasted was severe.

III.	Granchester Mill	.....	1·59 in. or 8·6 per cent.
„	Cambridge (Benet Place)	.....	1·30 „ 7·6 „
„	„ (Sidney Street)	.....	1·33 „ 8·0 „
„	„ (Pinehurst)	.....	1·39 „ 8·1 „
„	„ (Observatory)	.....	1·27 „ 8·0 „

JUNE 1st.

A few scattered M, due to severe local TSS, the only one of importance being

XXI. Glen-na-Smoel (Water Works) ..... 2·87 in. or 5·9 per cent.

JUNE 13TH.

This was the first wet day of the year affecting a large area, the M, though nowhere reaching 2·00 in. or 9·0 per cent., being recorded

at more than 240 stations in the south of England. For a second time this year the rain was due to a cyclonic storm pursuing a somewhat unusual track, the centre on this occasion coasting the south of England from the west and crossing the country northwards from the Isle of Wight to the Wash. It is remarkable that only in three cases (and these due to a local TS) were the percentages high enough to claim notice.

IV.	Braintree (Bocking, Fennes) .....	1.58 in. or 8.5 per cent.
„	„ (Bocking Place).....	1.79 „ 8.9 „
„	Earls Colne (Chalkney House .....	1.78 „ 8.3 „

## JULY 1st.

Thunderstorms brought the M to about 20 stations in the south-east of England, but really heavy falls were only recorded at Ipswich, where but for the fortunate accident of the heavy fall occurring at low tide the damage by flooding would have been severe. A fall of 3.36 in. occurred at the Chantry, Sir Cecil Domville's house, one mile west of Ipswich; but the record is not available for the whole year and the percentage cannot be given.

III.	Buntingford (Hamel's Park).....	1.64 in. or 8.0 per cent.
IV.	Ipswich (Museum) .....	2.89 „ 11.8 „
„	„ (Clare Lodge) .....	2.85 „ 12.1 „

## JULY 19th.

The M at about 50 stations in the south-west and in the east of England, but only two can be noticed.

IV.	Rendlesham Hall .....	2.04 in. or 9.4 per cent.
„	Parham (The High House) .....	1.78 „ 8.9 „

## JULY 25th.

About 40 stations in Ireland and Cornwall had their M during TSS.

XXI.	Mullingar (Belvedere) .....	2.50 in. or 8.1 per cent.
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## JULY 26th.

About 60 stations in the north of England and in Scotland recorded their M; but the falls, which were due to the passage of a cyclonic depression, were comparatively small.

X.	Morpeth (Longhirst) .....	1.96 in. or 8.5 per cent.
XVI.	Carnbee (Ovenstone W.W.).....	1.66 „ 7.7 „

## AUGUST 6th AND 7th.

The thunderstorm rains of the late summer present a special difficulty inasmuch as they frequently occur on successive days in the same locality, and it becomes very difficult to detect breaches of Rule IX. without the expenditure of an undue amount of time. On

these two days the M occurred at more than 220 stations in England and Wales, of which 95 are attributed by the observers to the 6th and 130 to the 7th. The falls were all less than 2·00 in., and those which are quoted owe that distinction merely to the fact that their percentage was just above the limit for inclusion. On the 6th the M occurred mainly on the east side of England; on the 7th they were more numerous in Wales and in the west, although it so happens that the only records large enough to appear were in the east. A fall of 3·70 in. recorded on the 7th at Ballyneety, near Limerick, cannot find a place in the table, as the record for the year is imperfect, so that no percentage can be given.

## AUGUST 6TH.

I.	Enfield (Old Park) .....	1·64 in. or 7·6 per cent.
„	„ (Southbury Road) .....	1·72 „ 8·4 „
„	Rammey Marsh .....	1·52 „ 7·6 „
III.	Odsey [Royston] .....	1·31 „ 7·5 „
IV.	Waltham Abbey .....	1·83 „ 8·5 „
„	Tilney St. Lawrence (Aylmer Hall) .....	1·74 „ 8·0 „
VII.	Boston .....	1·84 „ 8·4 „
IX.	Doncaster (Pumping Station) .....	1·95 „ 8·1 „

## AUGUST 7TH.

III.	Kingscliffe (Fineshade) .....	1·83 in. or 8·6 per cent.
IV.	Burgh Hall [Yarmouth] .....	1·83 „ 8·6 „
„	Burgh Castle Rectory .....	1·84 „ 8·8 „
VII.	Leicester (Town Hall Square) .....	1·50 „ 8·2 „

## AUGUST 16TH-19TH.

During this period there were numerous TSS, which brought the M to about 340 stations, chiefly in the counties south of the Thames. The 18th accounts for rather more than half the stations reporting; but it was only on the 16th that any percentages exceeding 7·5 were recorded and these are all quoted below:—

II.	Dymchurch Rectory .....	2·20 in. or 10·4 per cent.
„	Kearsney (Chilton Farm) .....	2·15 „ 8·7 „
„	Reculver .....	1·95 „ 10·2 „
„	Littlehampton (Surrey House) .....	2·27 „ 9·9 „
„	Worthing [Ellesmere] .....	1·82 „ 7·7 „

## SEPTEMBER 2ND-3RD.

On these days a deep cyclonic disturbance passed northward along the east coast of Ireland and the west coast of Scotland, giving rise to very heavy rain and floods in the districts affected; more particularly in the north-east of Ireland.

The M was produced in this way at more than 100 stations, most

of them in the east of Ireland\*; while at a few others in the south-east of England it was produced at the same time probably by TSS. The area of heavy falls did not extend to the west coast of England or Wales.

## SEPTEMBER 2ND.

II.	Hastings (Halton Res.)	1.75 in. or 7.6 per cent.
XX.	Waterford (Ticor)	2.56 „ 6.6 „
„	Sheskin [Carrick-on-Suir]	3.55 „ 6.6 „
XXI.	Enniscorthy (Monksgrange)	2.68 „ 5.0 „
„	Laragh (Glendalough)	2.74 „ 4.8 „
„	Greystones (Knockdolian)	2.93 „ 7.3 „
„	Bray (Fasseroe)	2.64 „ 5.5 „
„	Bagnalstown (Fenagh House)	2.58 „ 7.6 „
„	Woodbrook	2.70 „ 5.2 „
„	Timolin	3.13 „ 8.4 „
„	Ballybrack (Streamville)	2.67 „ 7.8 „
„	Killiney (Clonevin)	2.81 „ 8.7 „
„	Kingstown (People's Park)	2.83 „ 9.4 „
„	Rathmines (Terenure)	2.15 „ 7.6 „
„	Donnybrook (Seaview Terrace)	2.28 „ 8.6 „
XXIII.	Seaforde	2.64 „ 6.2 „
„	Belfast (Linen Hall Library)	2.60 „ 7.3 „

## SEPTEMBER 3RD.

XVIII.	Loch Nevis (Inverie)	2.57 in. or 3.3 per cent.
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## SEPTEMBER 10TH.

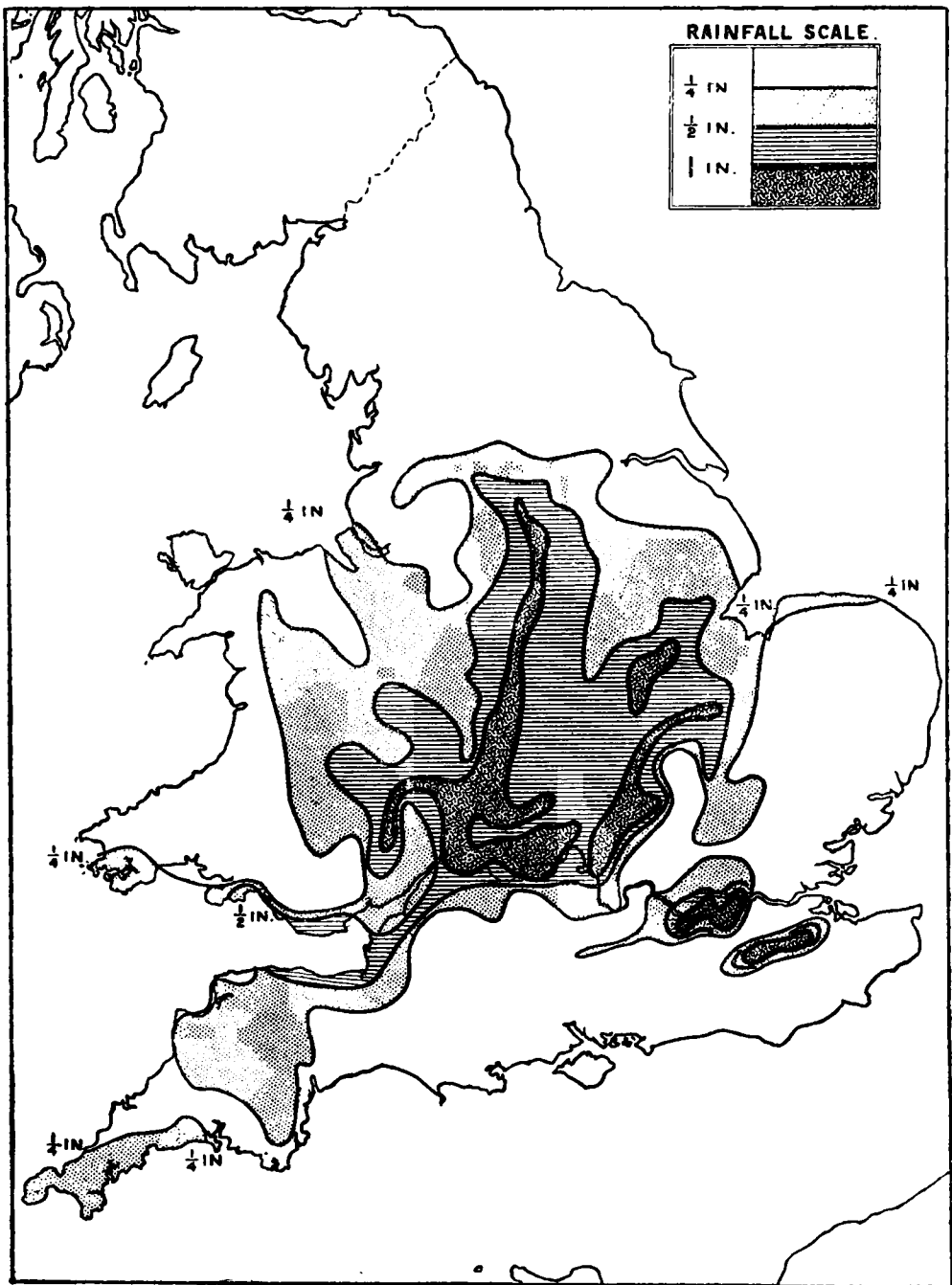
A series of severe TSS, accompanied in some cases by exceedingly heavy hail, brought the M to about 150 stations, chiefly in the centre of England, and in Kent and Surrey. The falls in the south furnished some remarkable percentages, in two cases over 15, and a considerable list of heavy falls. The main facts regarding the hail-storm near Maidstone have been published,† and these are now supplemented by the frontispiece to this volume, which shows how the hail stripped the hops of their foliage and lay in thick drifts on the ground. The accompanying map illustrates the typical thunder-storm rain of this day over England as a whole, bringing out the partial and variable character of the rain. It will be seen that there were three chief areas of heavy falls. The smallest was that to the south of the North Downs, where, though the rain nowhere reached a maximum of 2.00 in., the hail was at its worst. Over the broad strip of country traversed by the North Downs there was nowhere so much as a tenth of an inch of rain and in most places none at all;

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\* See *Met. Mag.*, September, 1902, p. 120.

† See *Met. Mag.*, October, 1902, p. 140.

## THE THUNDERSTORM RAINS OF SEPTEMBER 10TH, 1902.



NOTE.—On account of the small area of the two patches of heavy rain south of the Thames the lines representing  $\frac{1}{2}$  inch could not be shown completely, and no attempt could be made to represent the falls exceeding 2 and 3 inches.



but along the lower Thames valley, and mainly south of the river, the rain came to a maximum, nearly 4·00 in. falling in a few hours in the neighbourhood of Weybridge, though a few miles away the day was perfectly dry. A very much larger area, with a rainfall over 1·00 in., though with no individual falls worthy of special notice, stretched through the centre of England from south-west to north-east, separated from the two south-eastern wet patches by a strip of nearly rainless country. The form of this area, in which thunderstorms brought about a fall exceeding one inch, may be described roughly as that of a broken horse-shoe, but the map shows it much more clearly than words could describe it. The unshaded portion of the map represents those parts of the country which received less than a quarter of an inch of rain, and it may be remarked that the day was practically rainless over the greater part of Wiltshire, Hampshire, Sussex and East Kent in the south, over the North Riding of Yorkshire and the northern counties, as well as in the west of Wales.

I.	Hampton (Southwark W.W.) .....	2·01 in. or 10·1 per cent.	
„	Twickenham (Sewage Works) .....	2·71 „	13·4 „
II.	Weybridge (Heath Field) .....	3·10 „	13·0 „
„	„ (West Oaks) .....	2·93 „	12·2 „
„	„ (St. Mary's Lodge) .....	3·18 „	12·5 „
„	„ .....	3·80 „	15·1 „
„	Esher (Sewage Works) .....	3·51 „	15·5 „
„	Wallington .....	1·70 „	7·6 „
„	Carshalton (Sewage Works) .....	2·99 „	14·0 „
„	Croydon (Brimstone Sewage Works) .....	1·65 „	7·6 „
„	„ (Windmill Road) .....	1·90 „	9·0 „
„	New Malden (Sewage Works) .....	1·25 „	7·5 „
„	Thames Ditton (Weston Green) .....	2·40 „	11·0 „
„	Surbiton (Seething Wells) .....	2·04 „	10·0 „
„	„ (Vronvelin) .....	2·04 „	9·1 „
„	West Molesey .....	2·57 „	11·7 „
„	Kingston (Sewage Works) .....	1·96 „	8·7 „
„	„ (Union Street) .....	2·16 „	10·3 „
„	Wimbledon (Raynes Park) .....	1·63 „	7·7 „
„	„ (The Downs) .....	1·61 „	7·7 „
„	South Norwood (Apsley Road) .....	2·76 „	12·3 „
„	Upper Norwood (Fox Hill Gardens) .....	2·72 „	12·1 „
„	Dulwich Wood Park .....	2·38 „	11·1 „
„	Maidstone (Long Rede, Barming) .....	1·65 „	7·7 „
„	Forest Hill (Newfield House) .....	2·12 „	9·6 „
„	„ „ (Barr Beacon) .....	1·80 „	8·5 „
„	Deptford (Kent W.W.) .....	1·31 „	7·6 „
III.	Winslow (Botolph House) .....	1·44 „	8·1 „
„	Stanton St. John .....	1·73 „	8·6 „
„	„ „ (Woodperry) .....	1·92 „	9·4 „
„	Rockingham Castle .....	2·20 „	8·9 „

## SEPTEMBER 11TH.

The M, due to TSS, at about 30 dry stations. The fall of 3·41 in. at Fingringhoe, is stated to have occurred in a cloudburst between 2 and 4 a.m., while a fall of 4·05 in. in the 24 hours ending at 6 p.m. was reported from Wyvenhoe, but without full particulars.

III.	Hertford .....	1·48 in. or 8·3 per cent.
„	Hitchin (The Chilterns) .....	1·73 „ 8·2 „
„	„ (High Down) .....	2·21 „ 10·7 „
IV.	Bradwell-on-Sea (Bradwell Hall) .....	1·76 „ 8·8 „
„	„ (Down Hall) .....	1·58 „ 7·9 „
„	Danbury Rectory .....	2·13 „ 10·4 „
„	Chelmsford (Roxwell) .....	1·63 „ 7·6 „
„	Fingringhoe (Ballast Quay Farm) .....	3·41 „ 14·9 „

## OCTOBER 9TH.

The M occurred on this date at about 190 stations, mainly in the north and west of England, in the latter district during an easterly gale and TS; but the fall nowhere reached the limits for insertion.

## OCTOBER 13TH-14TH.

The M at about 70 stations, chiefly in Wales and Lancashire, occurred on the 13th, and at about a dozen stations in the same districts on the 14th. The only record calling for attention is attributed to the second day.

XI.	Glyncorrwg .....	2·53 in. or 3·8 per cent.
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## NOVEMBER 6TH.

About 25 stations in Ireland recorded their M, three of which were considerable.

XX.	Portlaw (Curraghmore Gardens) .....	2·56 in. or 5·1 per cent.
„	„ (Milfort) .....	2·65 „ 5·4 „
XXI.	Pilltown (Bessborough).....	2·50 „ 6·1 „

## NOVEMBER 8TH.

About 30 stations, mainly in Wales, recorded their M; but the only one calling for attention was in the Lake District, where there was a TS.

X.	Patterdale (Greenside Mine).....	2·80 in. or 3·8 per cent.
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## NOVEMBER 27TH AND 28TH.

The M occurred at about 90 stations in the west of England, but none were sufficiently large to secure special notice.

## DECEMBER 1ST.

About 120 M were recorded at stations mainly in the west of England and the east of Scotland, and at one or two in Ireland. As in other cases the proportion of really heavy falls was small.

XVI.	Locheearnhead (Ardvorlich) .....	3·20 in. or 5·1 per cent.
„	Coupar Angus Station .....	2·00 „ 7·7 „
„	Kirriemuir (Lednathie) .....	2·58 „ 6·0 „
XXIII.	Tullymore Park .....	2·67 „ 4·3 „

#### DECEMBER 14TH.

In the north of England, Wales and the south of Scotland about 100 stations recorded their **M**, and the falls were on the whole the heaviest of the year, as no fewer than 23 of them require insertion and practically half of these exceed three inches, although as they nearly all occurred in the Lake District the percentages are in no way remarkable.

X.	Borrowdale (Seathwaite) .....	3·29 in. or 3·5 per cent.
„	„ Vicarage (=Rosthwaite) ...	4·00 „ 5·2 „
„	„ (Grange).....	3·52 „ 5·4 „
„	Keswick (Barrow House) .....	3·35 „ 5·9 „
„	„ (Deer Close) .....	3·59 „ 7·7 „
„	„ (Derwent Island) .....	3·63 „ 8·1 „
„	„ (Eskin Place) .....	3·57 „ 8·0 „
„	„ (Bank) .....	3·21 „ 7·5 „
„	„ (Shu-le-Crow).....	3·65 „ 8·1 „
„	„ (Portinscale) .....	2·78 „ 6·2 „
„	Matterdale .....	3·82 „ 7·7 „
„	Ambleside (Skelwith Bridge) .....	2·62 „ 3·7 „
„	„ (Gale House) .....	2·54 „ 4·6 „
„	„ (Lesketh Howe) .....	2·57 „ 4·4 „
„	Elterwater Hall .....	3·00 „ 4·3 „
„	Rydal (The Stepping Stones) .....	2·72 „ 4·3 „
„	Dungeon Ghyll .....	3·50 „ 4·0 „
„	Grasmere (High Close) .....	2·70 „ 4·0 „
„	„ (Pavement End) .....	3·72 „ 5·3 „
„	Shap Vicarage.....	2·63 „ 7·3 „
„	Patterdale Hall .....	3·94 „ 5·8 „
XI.	Bangor (Bethesda, St. Anne's Vic.) .....	3·30 „ 7·1 „

#### DECEMBER 15TH.

About 60 **M** were recorded, chiefly in the north of England and in Scotland, but only one comes up to the standard for inclusion.

XVIII.	Loch Ness (Whitebridge).....	2·50 in. or 6·3 per cent.
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#### DECEMBER 25TH.

The **M** noted below may possibly have taken place on the 24th, but in any case it was an almost solitary instance of a heavy fall.

XVIII.	Glenquoich .....	3·00 in. or 2·9 per cent.
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#### PART II.—ABSTRACT.

The anomalous character of a year which was generally believed to be exceptionally wet, while it was in fact exceptionally dry, is well

brought out in the following tables, in which the foregoing Chronicle is summarised.

In Table I. the sixteen highest *M* of the year are arranged in the order of their magnitude. The only record exceeding 4·00 in. is that from Ben Nevis Observatory. which is 5·92 in., the smallest fall which has ever brought that station to the head of the list. No less than ten of the sixteen highest *M* were produced by the storm in the Lake District on December 14th, and only three of the cases quoted were the result of TSS.

The full interest of Table I. only appears when it is examined in the light of Table II., by which the results are compared with those of previous years. Here it is seen that the average of the sixteen highest *M* in 1902 was exactly equal to the average of the sixteen highest *M* in previous years since 1865. This does not necessarily mean that 1902 was an average year as regards *M*, for a great deal depends on whether the sixteen highest *M* are mainly the result of one storm in a district well furnished with rain gauges, as was the case on this occasion, or whether they were the result of several different storms occurring in distant parts of the country. The rainfall of the stations at which the sixteen *M* occurred was in 1902 nearly 12 inches below the average, and the percentage which the *M* bear to the total is consequently above the average, but not to a very remarkable degree. The absolute *M* is not at all remarkable, although about half-an-inch above the average value.

Table III., dealing with the sixteen *M* which contributed the greatest proportion of the total annual fall in one day, naturally calls attention to the TS rains of dry districts, as Table I. calls attention to the cyclonic rains of wet districts. Fourteen of them are due to the TSS of September 10th and 11th, and the remaining two to the TS of July 1st, and only three of them are found in Table I.

The historical comparison afforded in Table IV. shows that as a whole these percentages have only been twice surpassed, but that this is due less to the actual amount of the individual falls than to the very low rainfall for the year at the stations considered. The highest percentage for 1902, 15·5 at the Esher Sewage Works, was considerably above the average, though the actual fall producing it was lower than the average of the highest *M*, another indication of the exceptional dryness of the year.

Table V. is one of the most important pages in *British Rainfall*,

because of the value of the comparisons which it presents. The first column records the steady progress of the Rainfall Organization, showing that in 1902 there were no fewer than 2832 observers who read their rain gauges daily and sent in their results promptly. This is a larger number than has ever done so before, even in years when the compilation of this section has been delayed more than a month beyond the date of its completion this year. No part of the volume brings into greater prominence the fact that *British Rainfall* is the work of the observers themselves. The second and third columns make it clear that the maximum falls of 1902 were, on the whole, the smallest, with one exception, since the record commenced. The percentage, it is true, was scarcely distinguishable from the average, but the amount was about a quarter of an inch below the average of 37 years, and only the fact that the total rainfall was six inches below the average caused the percentage to be normal.

The column of mean total fall in the year is the best test of the relative wetness or dryness of the year for the British Isles as a whole; for although regions of low rainfall are more numerously represented than those of high rainfall, so that the figure is not a true mean, the ratio of one year to another, as shown in the last column but one, may be trusted. It is seen that 1902 was with three exceptions actually a drier year than any since 1865. The exceptions are 1870 and 1893, which were equal to it, and 1887, which was the driest year on record. It was only in 1887 that the mean value of the maximum falls was lower than in 1902. This table shows that the rainfall of the British Isles in 1902 was only 79 per cent. of the assumed average, or that there was a deficiency of rainfall over all of 18 per cent. of the actual average.

Table VI. shows that the number of maximum falls exceeding 2.00 in. was the smallest that has been recorded since 1887, whereas two years previously it was by far the largest that had ever been recorded. Thus, in 1900 the record shows that 23.7 per cent., or nearly a quarter of the *M*, exceeded 2 inches; this year only 5.8 per cent., or about one-eighteenth, did so; and in an average year 12.4 per cent., or one-eighth of the total number, exceed this limit. The number of *M* above 3.00 in., although much below the average, was not so strikingly in defect.

The year 1902 may be characterised as one of very low rainfall, with a marked absence of extremes.

TABLE I.—*Maximum Falls in 1902.*

Date.	Div.	Station.	Depth.	Per Cent.	Total.
May 27 ...	XVIII.	Ben Nevis Observatory .....	5·92 in.	3·8	157·09 in.
Dec. 14 ...	X.	Borrowdale Vic. = Rosthwaite	4·00 „	5·2	77·05 „
„ „ ...	„	Patterdale Hall .....	3·94 „	5·8	67·73 „
„ „ ...	„	Matterdale .....	3·82 „	7·7	49·37 „
Sept. 10 ...	II.	Weybridge .....	3·80 „	15·1	25·23 „
Dec. 14 ...	X.	Grasmere, Pavement End...	3·72 „	5·3	70·76 „
„ „ ...	„	Keswick, Shu-le-Crow .....	3·65 „	8·1	45·15 „
„ „ ...	„	„ Derwent Island...	3·63 „	8·1	44·97 „
„ „ ...	„	„ Deer Close .....	3·59 „	7·7	46·65 „
„ „ ...	„	„ Eskin Place .....	3·57 „	8·0	44·67 „
Sept. 2 ...	XX.	Sheskin [Carrick-on-Suir]..	3·55 „	6·6	53·56 „
Dec. 14 ...	X.	Borrowdale, Grange .....	3·52 „	5·4	65·69 „
Sept. 10 ...	II.	Esher Sewage Works .....	3·51 „	15·5	22·70 „
Jan. 19 ...	XV.	Glencoe .....	3·50 „	5·0	70·56 „
Dec. 14 ...	X.	Dungeon Ghyll .....	3·50 „	4·0	86·51 „
Sept. 11 ..	IV.	Fingringhoe, Ballast Quay Farm	3·41 „	14·9	22·93 „

TABLE III.—*Maximum Percentages in 1902.*

Date.	Div.	Station.	Per Cent.	Fall.	Total.
Sept. 10 ...	II.	Esher Sewage Works.....	15·5	3·51 in.	22·70 in.
„ „ ...	„	Weybridge .....	15·1	3·80 „	25·23 „
„ 11 ...	IV.	Fingringhoe, Ballast Quay Farm	14·9	3·41 „	22·93 „
„ 10 ..	II.	Carshalton Sewage Works...	14·0	2·99 „	21·44 „
„ „ ...	I.	Twickenham „ „ ...	13·4	2·71 „	20·27 „
„ „ ...	II.	Weybridge, Heath Field ...	13·0	3·10 „	23·78 „
„ „ ...	„	„ St. Mary's Lodge	12·5	3·18 „	25·39 „
„ „ ...	„	South Norwood, Apsley Rd.	12·3	2·76 „	22·38 „
„ „ ...	„	Weybridge, West Oaks.....	12·2	2·93 „	23·94 „
July 1 ...	IV.	Ipswich, Clare Lodge.....	12·1	2·85 „	23·57 „
Sept. 10 ...	II.	Norwood, Fox Hill Gardens	12·1	2·72 „	22·40 „
July 1 ...	IV.	Ipswich Museum.....	11·8	2·89 „	24·53 „
Sept. 10 ...	II.	West Molesey .....	11·7	2·57 „	21·96 „
„ „ ...	„	Dulwich Wood Park .....	11·1	2·38 „	21·38 „
„ „ ...	„	Thames Ditton, Weston Green	11·0	2·40 „	21·79 „
„ 11 ...	III.	Hitchin, High Down .....	10·7	2·21 „	20·59 „

TABLE II.—*Comparison of Maximum Falls with those in previous years.*

MEAN.				ABSOLUTE.			
Years.	Depth.	Per Cent.	Mean total fall at these stations.	Depth.	Per Cent.	Station.	Division.
	in.		in.	in.			
1865 ...	3·67	6·4	61·8	6·41	5·5	Seathwaite.....	X.
1866 ...	3·40	<i>m</i> 4·4	86·2	6·38	3·6	" .....	"
1867 ...	3·17	9·0	<i>m</i> 42·5	4·78	17·7	Hartlip .....	II.
1868 ...	3·32	6·1	65·9	5·60	4·8	Camusinas.....	XV.
1869 ...	3·68	5·0	77·7	6·70	4·5	Seathwaite.....	X.
1870 ...	3·20	7·5	43·8	6·00	17·1	Tongue .....	XIX.
1871 ...	3·08	5·7	61·6	4·24	9·6	Melbury.....	V.
1872 ...	4·10	6·6	73·1	5·82	3·2	Seathwaite.....	X.
1873 ...	2·97	6·2	60·7	4·20	<i>m</i> 2·9	" .....	"
1874 ...	3·96	4·6	86·5	5·32	4·4	Bryn Gwynant .....	XI.
1875 ...	4·52	7·8	63·9	5·33	9·7	Newport W. W. ...	"
1876 ...	3·37	5·9	57·6	4·50	5·5	Foffany .....	XXIII.
1877 ...	3·77	4·6	93·4	4·98	5·3	Skye, Portree.....	XVIII.
1878 ...	3·57	7·4	57·2	4·24	8·6	Springfield .....	XI.
1879 ...	3·66	9·5	50·4	<i>m</i> 4·05	4·1	Little Langdale.....	X.
1880 ...	3·50	7·7	51·1	4·75	3·9	Seathwaite.....	"
1881 ...	3·65	4·9	83·1	5·42	4·7	Sligachan ...	XVIII.
1882 ...	3·28	4·5	84·3	4·51	3·0	Seathwaite .....	X.
1883 ...	3·69	6·1	72·4	5·27	9·0	Glen-na-Smoel .....	XXI.
1884 ...	3·45	4·7	80·7	6·78	5·0	Seathwaite .....	X.
1885 ...	3·45	5·8	68·2	4·62	3·2	" .....	"
1886 ...	3·77	7·7	58·7	4·20	9·9	Little Bredy .....	V.
1887 ...	<i>m</i> 2·83	6·1	56·8	4·93	13·0	Galway Q. Coll.....	XXII.
1888 ...	4·20	5·9	77·0	5·20	5·4	Wythburn Vic.....	X.
1889 ...	3·89	<i>M</i> 9·9	49·2	4·45	16·5	N. Ockendon.....	IV.
1890 ...	5·01	6·9	95·1	7·29	3·7	Ben Nevis Obs.....	XVIII.
1891 ...	4·38	4·7	<i>M</i> 108·4	6·14	4·2	Seathwaite.....	X.
1892 ...	4·47	7·9	70·1	5·80	4·5	" .....	"
1893 ...	3·84	5·8	89·6	4·96	3·5	" .....	"
1894 ...	3·95	5·7	83·0	7·74	5·1	Ben Nevis Obs.....	XVIII.
1895 ...	3·80	7·2	62·2	4·83	16·1	Mellington Hall ...	XI.
1896 ...	3·31	5·9	67·5	4·59	3·7	Seathwaite .....	X.
1897 ...	<i>M</i> 5·24	5·3	95·1	<i>M</i> 8·03	5·6	" .....	"
1898 ...	4·61	5·3	100·8	6·70	<i>M</i> 18·1	Angerton Hall.....	"
1899 ...	3·92	5·0	86·6	5·21	5·6	Borrowdale, Grange	"
1900 ...	4·29	8·0	64·1	5·40	11·9	Ilkley, Cherry Bank	IX.
1901 ...	4·21	<i>M</i> 9·9	53·5	5·66	5·7	Dungeon Ghyll ...	X.
Mean ...	3·79	6·4	71·3	5·43	7·2	.....	...
1902 ...	3·79	7·9	59·4	5·92	3·8	Ben Nevis Obs. ...	XVIII.
Diff. ...	·00	+ 1·5	- 11·9	+·49	-3·4	.....	...

TABLE IV.—*Comparison of Max. Percentages with those in previous years.*

MEAN.				ABSOLUTE.			
Years.	Per Cent.	Depth.	Mean total fall at these Stations.	Per Cent.	Depth.	Station.	Division.
		in.	in.		in.		
1865 ...	9·9	2·62	28·4	13·0	4·40	Fleckney .....	VII.
1866 ...	8·1	2·31	29·3	10·0	2·48	Burton .....	VI.
1867 ...	11·0	2·85	25·3	17·7	4·78	Hartlip .....	II.
1868 ...	8·6	2·55	30·1	11·0	4·00	Tongue .....	XIX.
1869 ...	7·9	2·17	27·9	10·0	3·40	Tillydesk .....	XVII.
1870 ...	10·0	2·34	22·9	17·1	6·00	Tongue ... ..	XIX.
1871 ...	9·0	2·43	26·8	11·5	3·62	Warter .....	IX.
1872 ...	8·1	3·43	M 42·5	10·0	3·70	Hillington Hall	IV.
1873 ...	9·7	2·39	24·7	11·8	2·77	Oscott .....	VI.
1874 ...	9·2	2·16	23·7	11·9	2·50	Welwyn .....	III.
1875 ...	10·2	M 3·76	37·5	13·2	3·95	Letheringsett ...	IV.
1876 ...	m 7·4	2·49	33·7	m 8·5	3·70	Cragside .....	X.
1877 ...	8·2	2·73	33·1	9·3	3·09	Wellington .....	VI.
1878 ...	10·2	3·05	30·0	11·8	3·90	Haverstock Hill	I.
1879 ...	10·9	3·31	30·5	12·3	3·80	Cambridge M. V.	III.
1880 ...	9·5	3·06	32·3	11·7	3·34	Marmont Pr. L.	„
1881 ...	8·1	2·42	30·3	10·6	3·20	Aboyne Castle..	XVII.
1882 ...	7·7	2·54	33·4	9·1	2·80	Bothalhaugh ...	X.
1883 ...	9·7	3·00	31·1	12·3	4·31	Skegness .....	VII.
1884 ...	11·7	2·33	m 20·0	13·8	2·66	Diss(Thelveton)	IV.
1885 ...	8·9	2·71	30·7	9·6	2·62	Beccles, Ellough	„
1886 ...	10·1	3·32	32·7	11·5	4·10	Methley Park...	IX.
1887 ...	9·5	m 2·11	21·9	13·0	4·93	Galway, Q. Coll.	XXII.
1888 ...	10·9	3·05	28·3	11·8	3·24	Rothamstead ...	III.
1889 ...	12·7	3·51	27·8	16·5	4·45	N. Ockendon...	IV.
1890 ...	M 14·4	3·60	25·1	17·2	3·68	Slough, Langley	III.
1891 ...	9·7	2·67	27·6	14·4	4·00	Sunnyside Aslm	XVI.
1892 ...	12·3	3·37	27·4	15·0	4·27	Tyntesfield .....	V.
1893 ...	12·0	2·81	23·4	16·2	4·48	Cranmer Hall...	IV.
1894 ...	9·0	2·54	28·3	11·1	3·56	Sidcup .....	II.
1895 ...	10·0	2·87	28·8	16·1	4·83	Mellington Hall	XI.
1896 ...	9·5	2·50	26·3	11·1	2·78	Barkby .....	VII.
1897 ...	10·8	2·48	23·2	14·1	m 2·40	Chatteris, H. L.	III.
1898 ...	11·5	2·92	25·0	M 18·1	M 6·70	Angerton Hall..	X.
1899 ...	11·3	2·53	22·6	14·6	3·10	Wallingford ...	II.
1900 ...	11·3	3·37	29·8	13·1	4·50	Gilstead Filters	IX.
1901 ..	14·1	3·37	24·0	17·9	4·24	Maidenh'd, The Firs	II.
Mean ..	10·1	2·80	28·3	12·9	3·79	.....	...
1902 ...	12·7	2·90	22·8	15·5	3·51	Esher Sewage Wks.	II.
Diff. ...	+ 2·6	+ ·10	— 5·5	+ 2·6	— ·28	.....	...



TABLE V.—*Comparison of the Mean of all the Maximum Falls of 1902 with similar data for previous years.*

Years.	Number of Returns.	Mean Percentage.	Mean Amount.	Mean Total Fall in year.	Ratio taking 34=100.	Total Fall being assumed =34in. Mean Max. =
			in.	in.		
1865.....	481	5·1	1·70	33	97	5·0 per cent
1866.....	590	3·7	1·48	40	118	4·4 „
1867.....	584	4·6	1·44	31	91	4·2 „
1868.....	676	4·3	1·43	33	97	4·2 „
1869.....	637	4·2	1·42	34	100	4·2 „
1870.....	687	4·9	1·30	27	79	3·8 „
1871.....	752	4·9	1·49	30	88	4·4 „
1872.....	743	m 3·4	1·59	M 47	M 138	4·7 „
1873.....	809	4·6	1·35	29	85	4·0 „
1874.....	1010	4·4	1·41	32	94	4·1 „
1875.....	1081	5·0	M 1·83	37	109	M 5·4 „
1876.....	1112	3·9	1·49	38	112	4·4 „
1877.....	1180	3·8	1·56	41	121	4·6 „
1878.....	1186	4·3	1·49	35	103	4·4 „
1879.....	978	4·2	1·52	36	106	4·5 „
1880.....	1117	4·8	1·72	36	106	5·1 „
1881.....	1194	4·1	1·45	35	103	4·3 „
1882.....	1463	3·6	1·42	39	115	4·2 „
1883.....	1505	4·0	1·41	35	103	4·1 „
1884.....	1691	4·8	1·32	28	82	3·9 „
1885.....	1801	4·5	1·41	31	91	4·2 „
1886.....	1718	4·6	1·64	35	103	4·8 „
1887.....	1921	4·5	m 1·14	m 25	m 74	m 3·4 „
1888.....	1974	4·4	1·41	32	94	4·1 „
1889.....	1812	4·8	1·41	29	85	4·1 „
1890.....	2081	5·0	1·46	29	85	4·3 „
1891.....	2218	4·1	1·47	35	103	4·3 „
1892.....	2231	5·4	1·62	30	88	4·8 „
1893.....	2267	4·8	1·30	27	79	3·8 „
1894.....	2321	4·2	1·46	35	103	4·3 „
1895.....	2423	4·5	1·37	30	88	4·0 „
1896.....	2465	4·4	1·33	30	88	3·9 „
1897.....	2598	4·1	1·36	33	97	4·0 „
1898.....	2691	5·0	1·42	28	82	4·2 „
1899.....	2791	4·7	1·42	30	88	4·2 „
1900.....	2702	4·6	1·61	35	103	4·7 „
1901.....	2747	M 5·7	1·58	28	82	4·6 „
Mean ...	1574	4·5	1·47	33	97	4·3 „
1902.....	2832	4·4	1·20	27	79	3·5 „
Diff.....	+1258	— ·1	— ·27	— 6	—18	— ·8 „

TABLE VI.—*Max. Falls in each year exceeding 2·00 in., and exceeding 3·00 in.*

Year.	Total number of records.		Falls of 2·00 in. or more.		Falls of 3·00 in. or more	
			Number.	Per cent. of total No.	Number.	Per cent. of total No
1882	.....	1463	.....	140	.....	8
3	.....	1505	.....	170	.....	23
4	.....	1691	.....	138	.....	9
5	.....	1801	.....	179	.....	24
6	.....	1718	.....	158	.....	44
7	.....	1921	.....	52	.....	4
8	.....	1974	.....	374	.....	34
9	.....	1812	.....	170	.....	24
1890	.....	2081	.....	345	.....	54
1	.....	2218	.....	270	.....	39
2	.....	2231	.....	470	.....	81
3	.....	2267	.....	183	.....	29
4	.....	2321	.....	313	.....	36
5	.....	2423	.....	249	.....	31
6	.....	2465	.....	249	.....	16
7	.....	2598	.....	275	.....	62
8	.....	2691	.....	373	.....	72
9	.....	2791	.....	283	.....	43
1900	.....	2702	.....	641	.....	89
1	.....	2747	.....	497	.....	68
Mean	.....	2171	.....	276	.....	40
1902	.....	2832	.....	163	.....	30
Diff.	.....	+661	.....	-113	.....	-10

## DROUGHTS IN 1902.

WE have now for 15 years prepared the Tables to illustrate this branch of the rainfall phenomena of the year on precisely similar lines, adopting the same definitions of drought which have proved to be generally acceptable, and 50 representative stations distributed uniformly over the three kingdoms, many of them being identical throughout the whole time. We have thus data sufficient to give a fair basis of comparison for any individual year, though not to determine the true average incidence of droughts over the British Isles as a whole.

The definitions are :—

ABSOLUTE DROUGHTS.—Periods of *more than* 14 consecutive days absolutely without measurable rain.

PARTIAL DROUGHTS.—Periods of *more than* 28 consecutive days the aggregate rainfall of which does not exceed .01 in. per diem.

The year under review, though notably a dry one, yields so few instances of drought that we have followed the precedent started in 1890 of giving in the usual table only the stations at which drought was recorded, adding in a more condensed form the names of the 50 selected stations.

The first point which strikes us is that no station recorded both absolute and partial drought during the year, nor more than one absolute or partial drought, while in former years there have been instances of as many as four absolute and three partial droughts occurring at one station. In other words, one station (*e.g.*, Torquay in 1895) in one year recorded a total of seven droughts, the identical number recorded by 50 stations in 1902.

STATION & COUNTY.	ABSOLUTE DROUGHTS.			PARTIAL DROUGHTS.			
	Began.	Ended.	Lasted.	Began.	Ended.	Lasted.	Amount.
			Days			Days	in.
<b>ENGLAND &amp; WALES.</b>							
Welwyn (Datchworth Rectory).. <i>Herts.</i>	Feb. 4	Feb. 19	16	None			
Geldeston [Beccles] .....	None			Oct. 22	Nov. 23	33	·30
<i>Norfolk.</i>							
Knaresborough (Farnham)..... <i>York W.R.</i>	None			Jan. 12	Feb. 21	41	·37
<b>SCOTLAND.</b>							
Islay (Eallabus) .....	Sept. 27	Oct. 12	16	None			
<i>Argyll.</i>							
Kirriemuir (Lintrathen) .....	Jan. 31	Feb. 17	18	None			
<i>Forfar.</i>							
<b>IRELAND.</b>							
Killarney (District Asylum) .....	Sept. 25	Oct. 12	18	None			
<i>Kerry.</i>							
Stewartstown (The Square) .....	Sept. 26	Oct. 11	16	None			
<i>Tyrone.</i>							

It will be seen that the seven droughts are distributed among three dry periods. The first, in the early part of February, produced absolute drought in Hertfordshire and Forfarshire, and including the latter part of January partial drought in Yorkshire. In the early days of February slight falls of snow were general in many parts of the kingdoms, and it is possible that some of the records are slightly affected by this snow being blown out of the gauges. The second period, in the latter part of September and first half of October, also yields three records all of absolute drought at widely separated stations in Argyllshire, Kerry and Tyrone. The third period, in October and November, produced partial drought on the borders of Norfolk and Suffolk.

As regards distribution among the three kingdoms 28 stations in England and Wales yielded one absolute drought and two partial droughts ; 12 stations in Scotland yielded two absolute droughts, and 10 stations in Ireland two absolute droughts.

Turning now to the summary which provides comparison with the 14 preceding years we find a notable, and we think we may say unprecedented, absence of drought, and this, be it remembered, in a year with a total rainfall considerably less than the average.

	ABSOLUTE DROUGHTS.				PARTIAL DROUGHTS.			
	No. of Droughts.	Duration.		Stations without one.	No. of Droughts.	Duration.		Stations without one.
		Average.	Greatest.			Average.	Greatest.	
		days.	days.			days.	days.	
1888	17	17	20	35	4	42	50	46
1889	42	21	30	13	38	34	45	15
1890	13	18	20	39	3	30	31	47
1891	26	18	34	28	38	36	49	14
1892	36	16	20	25	17	35	64	33
1893	39	20	44	23	53	51	114	10
1894	52	18	31	10	44	37	62	13
1895	52	19	29	16	47	39	64	19
1896	27	18	26	25	49	40	75	16
1897	20	18	20	31	7	40	61	44
1898	31	17	28	27	31	38	77	26
1899	60	21	31	10	41	35	48	20
1900	14	17	21	38	9	32	35	41
1901	56	17	20	10	9	37	56	42
Mean	35	18	27	24	28	38	59	28
1902	5	17	18	45	2	37	41	48
Diff.	-30	-1	-9	+21	-26	-1	-18	+20

Taking first absolute drought. The total number of instances recorded at the 50 stations (five) is little more than one-third of the previous minimum number and only one-twelfth of the maximum. The average duration is not remarkable, but the greatest duration is unprecedentedly low. On the other hand the number of stations which did not record drought is well above the previous maximum.

The second half of the table, referring to partial drought, shows similar freedom from the occurrence. The total number of instances (two) is unprecedentedly small. The average and greatest duration, though not remarkable, are both below the average, while the number of stations without drought is unprecedented, though 1890 approaches it very closely.

The year 1893 had a total rainfall about 14 per cent. below the average, or not quite so small as that of 1902, while 1900 was the wettest of recent years and had a total fall 12 per cent. in excess of the average. Comparison of 1902 with these, the driest and wettest years readily available, may be of interest.

Years.	ABSOLUTE DROUGHTS.				PARTIAL DROUGHTS.			
	No. of Droughts.	Duration.		Stations without one.	No. of Droughts.	Duration.		Stations without one.
		Average.	Greatest.			Average.	Greatest.	
1902	5	days. 17	days. 18	45	2	days. 37	days. 41	48
1893	39	20	44	23	53	51	114	10
1900	14	17	21	38	9	32	35	41

This table indicates, firstly, that 1902 showed far less drought than another correspondingly dry year; secondly, that it showed far less drought than the wettest of recent years; and thirdly, that the total rainfall of any year is very little guide to the distribution of the rainfall and practically no guide to the occurrence of the periods of drought dealt with in this discussion.

TABLE of the 50 Representative Stations selected for the discussion of Droughts.

Div.	Station.	Div.	Station.
I.	London (Camden Square, N.W.)	XI.	Churchstoke (Mellington Hall).
II.	Abinger Hall.	„	Denbigh (Garn).
„	Hythe.	„	Lligwy.
III.	Welwyn (Datchworth Rectory).	XII.	Garliestown (Galloway House).
„	Stamford (Easton).	„	Dumfries (Ivy Bank).
IV.	Geldeston [Beccles].	„	Melrose (Asylum).
V.	Calne (High Street).	XIII.	Edinburgh (Royal Observatory).
„	Torquay (Cary Green).	XIV.	Dalry (Blair).
„	Bideford (Northam).	XV.	Buchlyvie (The Manse).
„	St. Austell (Trevarna).	„	Strontian (Laudale).
„	Ilminster (Ilton Vicarage).	„	Islay (Eallabus).
VI.	Ross (The Graig).	XVI.	Kirriemuir (Lintrathen).
„	Weston Park [Shifnal].	XVII.	Aberdeen (Cranford).
„	Kenilworth (The Spring).	XVIII.	Alness (Ardross Castle).
VII.	Worksop (Hodsock Priory).	XIX.	Golspie (Dunrobin Castle).
„	Belper (Quarry Bank).	XX.	Cork (The Palace).
VIII.	St. Michael's on Wyre Vicarage	„	Killarney (District Asylum).
IX.	Knaresborough (Farnham).	„	Clonmel (Bruce Villa).
„	Lowthorpe (The Elms).	XXI.	Enniscorthy (Ballyhyland).
X.	Darlington (Hurworth Grange).	„	Bray (Fassaroe).
„	Morpeth (Bothalhaugh Garden).	„	Athlone (Twyford).
„	Pawston (Coldstream).	XXII.	Ballinasloe.
„	Whitehaven (Irish Street).	„	Collooney (Markree Observatory).
XI.	Chepstow (Piercefield Park).	XXIII.	Belfast (Springfield).
„	Haverfordwest (High Street).	„	Stewartstown (The Square).

## MONTHLY RAINFALL OF 1902.

THE variation of the rainfall from month to month is a matter of such interest and importance that it necessarily occupies a large share of our attention. Several hundred observers take the trouble to send us their returns monthly, and as the interest of these to the general body of observers depends mainly on the promptitude with which they are published a large part of the *Meteorological Magazine* is occupied by tables and discussions of monthly rainfall. A considerable portion of *British Rainfall* is also devoted to monthly falls, and although the delay necessary in preparing the annual volume deprives the monthly returns of some of their freshness it is possible on the other hand to deal with them more systematically and completely than could be attempted from month to month.

The actual distribution of monthly rainfall is given in the Table of Monthly Rainfall at 232 Stations. The general impression of the character of each month left on the minds of the observers finds expression in the Observers' Notes on the Months, and this is a very useful and interesting part of the work, full of the results of experience and revealing a great fund of local weather knowledge such as is brought together in no other publication. Something more is wanted, however, and that we endeavour to supply by discussing the relation which the rainfall of each month bears to the average and presenting the results in a graphic form as well as in words.

The accompanying maps inserted between pp. [136] and [137] do not pretend to be more than diagrams intended to show the main features of the variation of the rainfall of each month in the simplest and clearest way. The way in which the average for each station is obtained was so fully explained last year that it is unnecessary to repeat it. We need only repeat that the monthly fall at each station is calculated on the basis of the 30 years 1870-99, but is adjusted so as to add up to the average yearly total of the ten years 1890-99.

On the little maps every station at which the rainfall was more than 50 per cent. in excess of the average for the month in question

is marked by a +; every station where the rainfall showed a deficiency greater than 50 per cent. is indicated by a —, while all at which the rainfall was within 50 per cent. of the average either way are shown by dots.

In writing the following notes we have utilized all available sources of information, including those already published in the *Meteorological Magazine*, those now printed in this volume, and those embodied in various official and non-official publications, including innumerable cuttings from the local newspapers of the British Isles.

### JANUARY.

Considered as a whole this was the driest month of the year, the average deficiency for the 52 stations used in compiling the maps being 31 per cent., or nearly one-third. Rainfall exceeded the average only at one station in the west of England, one in the west of Ireland and three in the west of Scotland, but to so slight an extent that no + appears on the map. In the south of England and Ireland, on the other hand, the drought was remarkable. At Cork only one-quarter of the average rain fell, and the south of England as far north as the Midlands shows only — signs. A considerable area to the north and north-east of London had less than half an inch of rain for the month, and very few places in the east of England had so much as one inch.

The dry January was mainly due to the absence of snowstorms and the small number of cyclonic disturbances which crossed our islands. The only typical winter storms of any importance struck the west coast of Scotland on the 1st and 28th, and these account for that part of the country having a little more than the average. For the greater part of the month the atmospheric condition was strongly anti-cyclonic, the pressure being highest in the north and coming to a maximum about the 15th, and again on the 31st, when the barometric readings were unprecedentedly high in many places. Strong gales from northerly and easterly directions prevailed over England on the 30th and 31st, but these being due to an anticyclone were not accompanied by rain.

### FEBRUARY.

This also was a very dry month. In Scotland, the north of England and the middle of Wales the deficiency was so great as to sprinkle the map with — signs. At Fort William the deficiency



was as much as 83 per cent., the total fall for the month being only one-sixth of the average, an extremely low figure, but supported by Glencarron and Braemar, where the deficiency amounted to 70 per cent. In Ireland the precipitation was on the whole considerably above the average, and Cork had practically twice its average rainfall.

Except at coast stations continuous frost prevailed over the whole of Great Britain for the first three weeks, accompanied by some snow which prevented the month from being so dry as January. The south of Ireland was the only part of the country visited by a rain-bearing cyclone, the snowfall from which where it crossed the centre of England raised the total fall just above the average at a few stations between North Wales and Lincoln.

It is worth while comparing the rainfall of the three kingdoms during February, the figures being the averages of the stations shown on the map.

	No. of stations.	Total rainfall.	Per cent. of average.	Per cent. difference.
Scotland .....	14	1·58 in.	51	—49
England and Wales.....	26	1·51 „	71	—29
Ireland .....	12	3·32 „	108	+ 8
British Isles .....	52	1·95 „	74	—26

This shows that Scotland received just about half and England and Wales not quite three-quarters of the normal rainfall, while Ireland had considerably more than its usual fall.

### MARCH.

Over the United Kingdom as a whole this was a nearly average month, there being just as many stations rather below the average in the east of Scotland and the north of England as there were stations rather above the average in the west of Scotland, Ireland and the south of England. There was an unusual number of rainy days, and more than the usual number of cyclonic storms, the month as a whole being mild, dull and windy. An interesting contrast appears between the east and west of Great Britain. The only + on the map is at Glencarron, which lay in the track of a cyclone which travelled in the unusual direction of due south through the west of Scotland from the north coast, on the 21st. The only — signs are at St. Boswells in the south-east of Scotland and at Newcastle. A remarkable drought characterised the whole east coast, and in a narrow strip of country extending from Montrose to near Cambridge the total rainfall was under 1·00 in.

## APRIL.

The average for the British Isles as a whole reached the normal value. The rainfall was slightly in excess in the western half of England (excluding Wales and Cornwall), throughout the whole of Scotland except the north-west, and in all parts of Ireland except the extreme west, the three + signs representing the only points where the excess was greater than 50 per cent., the highest being 164 per cent. of the average fall at Worcester. There were two very dry regions. The larger of these was round the Thames estuary, where less than half an inch fell during the month over a triangle stretching north-east and south-east from London, where the deficiency culminated at Camden Square with a rainfall of only 32 per cent. of the average—in other words, a deficiency of 68 per cent. or more than two-thirds.

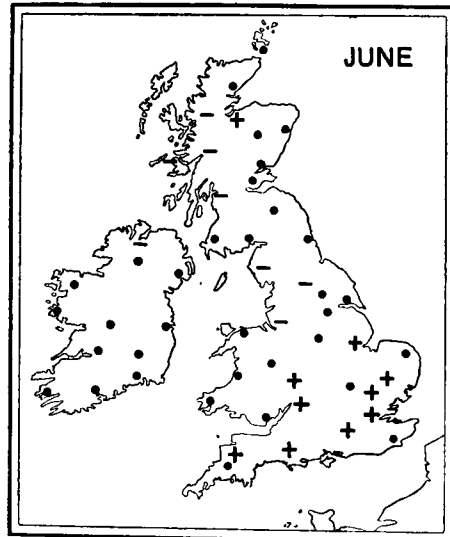
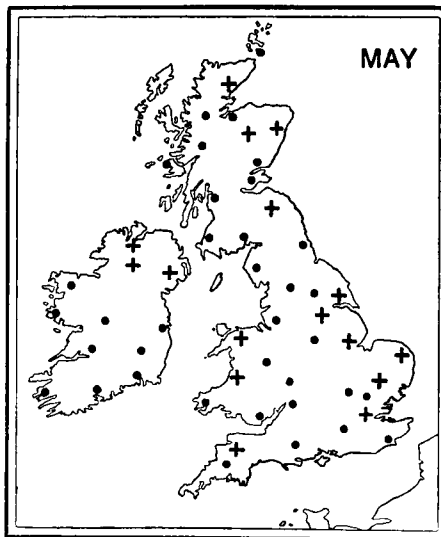
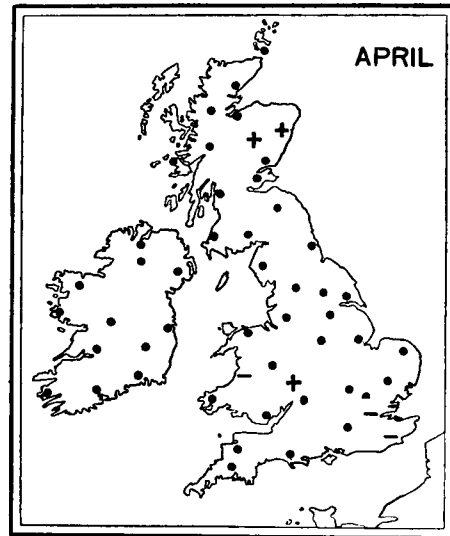
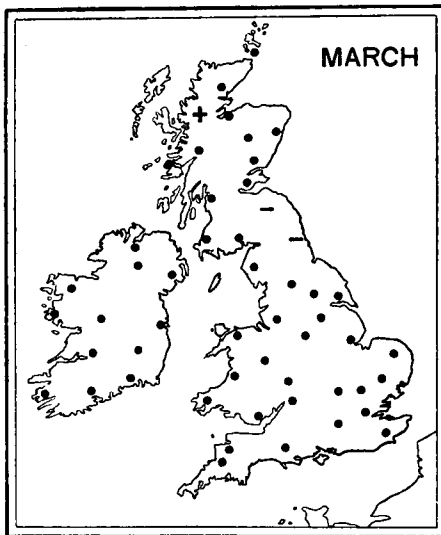
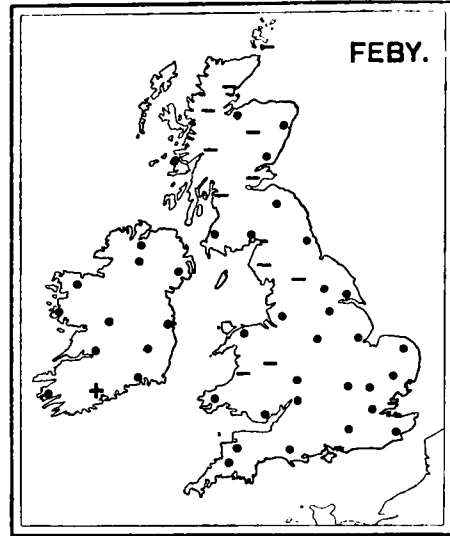
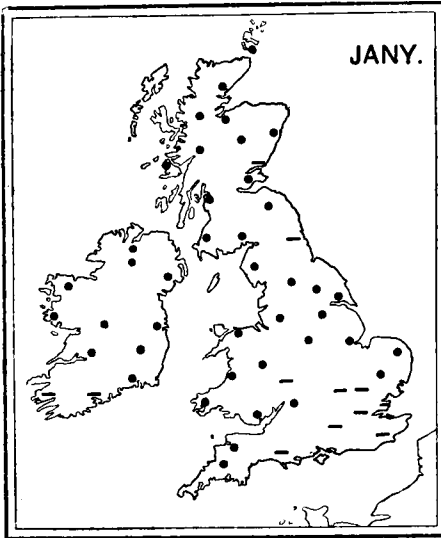
The aggregate rainfall for the year from January 1st to April 30th shows the greatest deficiency during 1902, the effect of which was most severe in the east. Derby was the only station in England showing an excess (2 per cent.), and the deficiencies ranged from 39 per cent. at Tenterden, Hitchin and Arncliffe to 3 per cent. at Worcester and Tickhill. In the east of Scotland the want of rain was even more acute, for at Loch Leven the deficiency was 41 per cent. and at Dundee it was 40 per cent. Grouped by districts the results are as follows :—

England East .....	(8 stations)	69	per cent. of average four months' fall.		
England Central.....	(5 " )	95	"	"	"
Wales & England West	(8 " )	84	"	"	"
England North .....	(5 " )	69	"	"	"
Scotland East .....	(8 " )	74	"	"	"
Scotland West .....	(6 " )	89	"	"	"
Ireland.....	(12 " )	97	"	"	"
British Isles .....	(52 " )	83	"	"	"

These figures would not be remarkable if they referred to a single month or to an individual station ; but the period is one-third of a year and the figures give the rainfall of districts of considerable extent, each represented by several stations. It is decidedly unusual to find a deficiency of nearly 30 per cent. of the average prevailing over the greater part of England for four consecutive months, and it must be remembered that if the actual rainfall were compared with the average for 30 years instead of with that for ten years which happened to be unusually dry the figures would be more remarkable still. The reason why England Central shows a high



# MAPS OF MONTHLY RAINFALL, 1902.

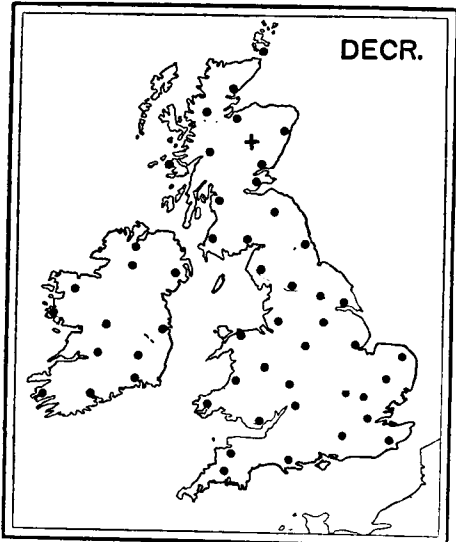
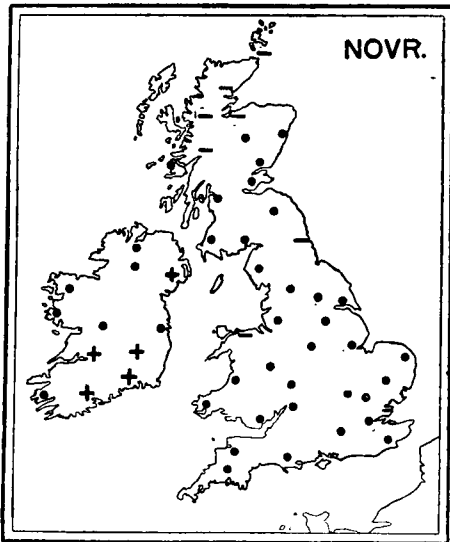
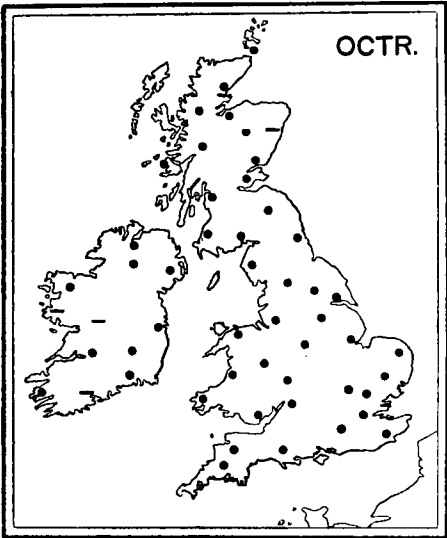
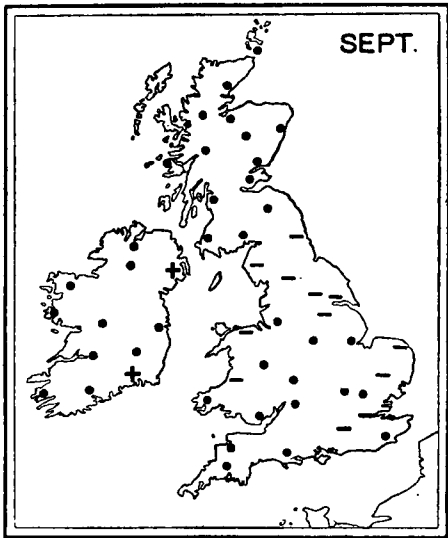
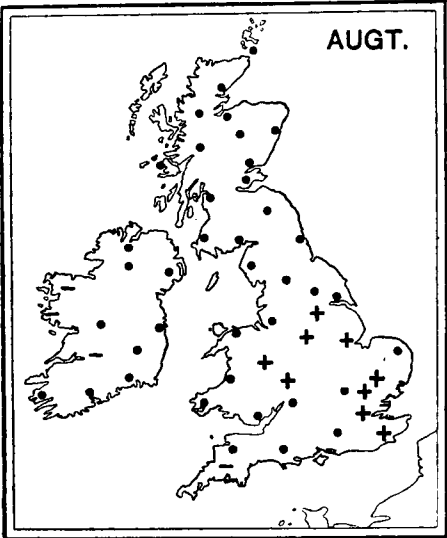
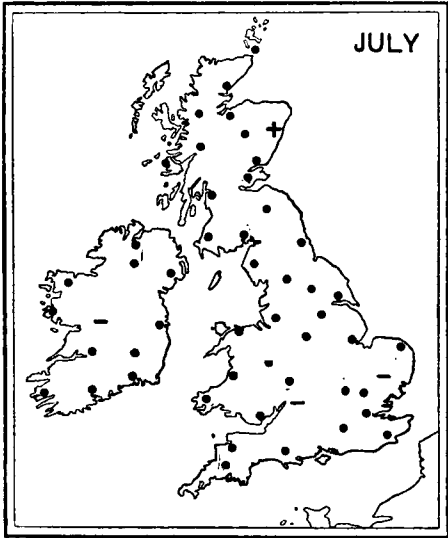


+ More than 50 % above average.  
 — " " 50 % below "

• Within 50 % of average.

[Between pp. [136] & [137].

MAPS OF MONTHLY RAINFALL, 1902.



+ More than 50 % above average.  
- " " 50 % below "

• Within 50 % of average.

[Between pp. [136] & [137].



percentage is that during the period 1890-99 used for the averages in this discussion it was relatively much drier than the other parts of the country. Making allowance for this the deficiency of rain in the spring of 1902 was least in Ireland and the west, and greatest in the east.

## MAY

This was relatively the wettest month of the year, the rainfall for the British Isles as a whole being about 28 per cent. in excess of the average and very uniformly distributed over the country. Although the actual depth of rain scarcely anywhere exceeded five inches in the month it is noteworthy that very few places had less than two inches, indeed there was no other month in the year in which so small an area received a fall under two inches.

The map shows no — sign, and the total rain fell a little short of the average only in the south of Ireland, the English Lake District and the south-west of Scotland, all of them wet regions. It will be noticed that + signs appear in all other parts of the map, in the driest districts of the east of England, the east and north of Scotland, and the more rainy west of Devon, Wales and north of Ireland. At three of the stations the rainfall was more than twice that of an average May, the percentages being 203 at Boston, 216 at Aberdeen and 236 at Cawston in Norfolk. This excess of rainfall in the east of Great Britain, where the drought had been most severely felt in March, did much to restore the average distribution and dispelled the fear of scarcity in water supplies. The month was remarkably cold, and many complaints will be found in the Notes on the Months as to the uselessness of the heavy rainfall for most agricultural purposes. On the other hand there was little evaporation and consequently much percolation, to the benefit of underground sources of water-supply.

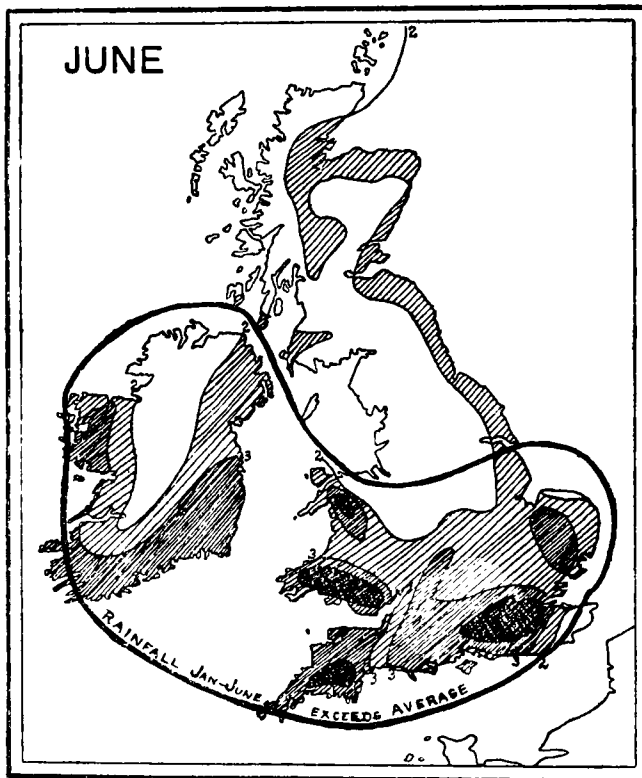
## JUNE.

A second month of abnormally low temperature, which checked evaporation, was also characterised by a rainfall somewhat in excess of the average over the country as a whole, but unlike May the distribution was irregular and in many ways remarkable. The map shows at a glance by the predominance of + signs in the south of England and the grouping of — signs in the north-west of England and the west of Scotland that the usual distribution of rain was

inverted, the east and south were very wet, the north and west were dry. That this effect was not only relative but absolute is made clear by the following table of comparison, which gives the average June falls for the decade 1890-99 and the actual falls for June, 1902, at the five driest stations, which occur in the north-west, and the five wettest stations, which occur in the south, during this month.

NORTH-WEST.					SOUTH.				
Div.	Station.	Aver.	June, 1902.		June, 1902.		Aver.	Station.	Div.
		in.	in.	%	%	in.	in.		
X.	Seathwaite .....	7·10	2·01	28	198	3·54	1·78	Hitchin.....	III.
XVIII.	Glencarron .....	5·74	2·01	35	185	3·70	2·00	Stroud .....	VI.
„	Fort William ...	4·51	1·59	35	184	4·13	2·25	Cerne Abbas ...	V.
XV.	Mull .....	3·43	1·36	40	175	3·56	2·04	BurySt.Edmunds	IV.
IX.	Arncliffe .....	3·73	1·65	44	173	3·36	1·95	HartleyWintney	II.
	Mean.....	4·90	1·72	35	183	3·66	2·00	.....Mean	

This shows that in a normal June the north-western stations have nearly two-and-a-half times as much rain as the southern stations ; but on this occasion the tables were so completely turned that the





southern stations had more than twice as much rain as the north-western. The map of the actual rainfall of June, 1902 (here reproduced), brings out the facts even more strikingly, for it shows that (north of Wales) the whole of the west of Britain had less than two inches of rain in the month and the whole of the east of Britain had more, the south of England being the wettest part of the country.

The result of the June rainfall was to bring the fall in the south of England up to the average for the six months, and on account of the low temperature, the absence of abnormally heavy falls and the slight evaporation, the rain percolated freely into the soil and replenished wells and springs. In many parts of the south of England this was the wettest June recorded since the observations were commenced about twenty years ago. In Scotland, on the other hand, the low rainfall considerably intensified the want of water which had previously been felt. All the stations at which the average for the first six months of the year had been made up lie within the heavy line on the special map; but amongst them there are included a few isolated patches where the fall was still deficient.

#### JULY.

Cool and cloudy weather with frequent light cyclonic rains in the north, north-west and east, but few thunderstorms and very few heavy falls, made this on the whole a dry month. The map, however, shows only three stations so dry as to be marked with a — sign, and although only a strip of the east coast of Ireland and of the east coast of Britain from the Humber to the Pentland Firth had more than the average fall there was a wet spot in the extreme east of Scotland justifying a + at Aberdeen. Indeed the only places where a total rain of five inches or more was reported were the north-east of Aberdeenshire and the centre of the English Lake District.

#### AUGUST.

By the common consent of the newspapers, and therefore presumably of the public, this has been characterized as the wettest and worst month of the year. The exceptional number of rainy days probably accounts for this opinion, and the map shows a compact group of + signs in England south of the Humber which proves that there were solid grounds for it as applied to that part of the country. At Boston and Church Stretton the rainfall was more than double the average. But in Cornwall, Devon, Wales, the north of England,

Scotland (except the east coast) and the whole of Ireland the month was drier than usual and in some places notably so. The three — signs in the west of Ireland show that there at least not half the average amount of rain fell ; and taking one district with another the British Isles as a whole had almost exactly the amount of rain to be expected if the average of the ten years 1890-99 was to be maintained.

The maps are on too small a scale to give details ; a fuller examination of the returns, however, shows that not only was the month one of low rainfall in Ireland, but it was also very dry in Cornwall, and dry in the north of England, the south of Scotland and in Caithness. The most unseasonable wetness was experienced along the south coast of England and in East Anglia. The Sussex hills had nearly as high a rainfall as North Wales, the Lake District and the West Highlands, and the absence of heavy falls meant that there was an unusually great number of days on which rain fell ; this was true for many of the driest as well as the wettest stations. Indeed Boston, which had more than twice its average fall, reported only 16 rainy days, while Polapit Tamar, with less than half its average fall, had 22 days with rain.

It is interesting to compare the rainfall at the stations in the south-east of England for the first and for the second period of four months.

Div.	Station.	R Jan.-April.		R May-August.		R Jan.-August.	
		Aver.	1902.	Aver.	1902.	Aver.	1902.
		in.	in.	in.	in.	in.	in.
I.	London .....	6·16	4·25	7·81	10·82	13·97	15·07
II.	Tenterden.....	7·15	4·33	9·04	8·74	16·19	13·07
„	Hartley Wintney .....	6·78	4·50	8·52	10·78	15·30	15·28
III.	Hitchin .....	6·13	3·72	8·06	11·57	14·19	15·29
„	Winslow .....	6·25	3·96	8·16	7·83	14·41	11·79
IV.	Bury St. Edmunds.....	6·39	5·29	9·19	11·41	15·58	16·70
„	Cawston .....	6·35	5·50	9·06	10·01	15·41	15·51
VII.	Boston .....	5·30	4·26	7·25	11·30	12·55	15·56
	Total .....	50·51	35·81	67·09	82·46	117·60	118·27
	Mean .....	6·31	4·47	8·39	10·32	14·70	14·79
	Ratio .....	100	71	133	164	233	235

The general result is seen to be that the south-east of England had exactly its average amount of rain in the eight months January-August ; but that there was a deficiency of about two inches in the

first four months and an excess of about two inches in the second four months, thereby causing the total fall of May–August, 1902, to be two-and-a-quarter times that of January–April, instead of one-and-a-third times as it normally is.

#### SEPTEMBER.

The equinoctial month standing between the summer and the winter half-year affords an opportunity for the last thunderstorms of summer and the first cyclonic storms of winter to act together, and on this occasion they did so over parts of the country. Had it not been for the cyclone of September 2nd–3rd, in the east of Ireland and the west of Scotland, and the thunderstorms in England on September 10th, each of which brought more than half the rainfall of the month to many stations, the month would have been by far the driest in the year, and even as it was the rainfall over the British Isles, as a whole, was very nearly as deficient as that of January, amounting to about 27 per cent. The average fall was exceeded only at one station in England which came under the influence of the thunderstorms on the 10th, by one station in the south-west of Wales, and the stations in the east of Ireland (where the only two + signs occur), and the south-west of Scotland, which were affected by the cyclone of the 2nd and 3rd. Everywhere else the fall was much below the average, and the ten — signs scattered over the east and north of England show where less than half the average amount fell.

The actual fall was least in the east and south-east of England, where the total for the month was less than 1·00 in., over a very irregular area stretching from Berwick to Beachy Head, wherever the thunderstorms of the 10th and 11th had not interfered, and over the greater part of England the monthly total was well under 2·00 in.

At Arncliffe and Seathwaite the accumulated deficiency on the nine months rainfall amounted to more than one-third, and were it not for the remarkable way in which the rain had fallen during summer, in small amounts, but very frequently, the north of England would have been in worse straits for want of water than in 1901 ; as it was, with a smaller rainfall, there was no failure of supply.

#### OCTOBER.

The month, which is usually the wettest of the year, was on this occasion one of the driest. Although only three — signs appear in

the west of Ireland, there is no +, and the dots on the map all indicate values below the average, except two in the west of Scotland and four in the centre of England, where, as has already been explained, the exceptionally low average of the decade taken as a standard, produces an undue appearance of increased fall. Over all the deficiency could not amount to less than 25 per cent. In Ireland it was about 37 per cent. ; in Scotland about 29 per cent. ; and in England and Wales about 18 per cent.

The month was remarkably free from cyclonic storms.

### NOVEMBER.

In Ireland this was the wettest month of the year, both as regards the total amount of rain and the excess over the average ; two-thirds of the island had more than five inches of rain, and the average excess amounted to nearly one-half. The map shows clearly that the excess was greatest in the south and east.

Scotland and the north of England were, on the other hand, very dry. The group of five -- signs in the extreme north shows an average deficit of 65 per cent., or nearly two-thirds, the month in that part being relatively drier than February, and the north-eastern portion received less rain than in any other month of the year, the total fall being under one inch in Caithness and round the Moray Firth.

The greater part of England had a nearly average rainfall, and if .02 in. more rain had fallen at Newcastle and Llandudno, the map of England and Wales would have been marked by dots alone, the deficiency of rainfall in the north-east being nearly balanced by a slight excess in the south-west.

### DECEMBER.

The map for this month shows the most uniform distribution of rainfall that occurred in any of the twelve. All but one of the marks are dots, indicating that in only one case did the difference from the average exceed 50 per cent. The whole of Scotland (except the west coast), the north of England, and the north-east of Ireland, had a rainfall slightly exceeding the average, the greatest excess being shown at Cawdor and Braemar, in the path of a cyclone which passed from north-west to south-east across the north of Scotland, on the 29th.

England and Wales, south of Yorkshire, and the greater part of Ireland, had considerably less than the average rainfall, but in no case was a — sign required on the map, the greatest deficiency being under 40 per cent.

The month, as a whole, was distinguished by very few severe storms, and consequently there were no widespread heavy falls of rain, such as usually place a high total to the credit of the last month of the year.

MONTHLY RAINFALL AT 232 STATIONS IN THE BRITISH ISLES DURING 1902.

ENGLAND.

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
I.	Middlesex	London (Camden Square) ...	.76	1.13	1.87	.49	2.60	3.13	1.40	3.69	1.00	1.46	1.80	1.51	20.84
II.	Surrey	Guildford (Epsom Road).....	.93	1.11	1.83	1.17	2.00	4.01	1.08	3.41	.61	1.75	2.89	1.29	22.08
"	Kent	Tenterden ..... <i>Snowdon</i>	.99	1.32	1.82	.70	1.75	1.57	1.39	4.03	1.64	1.90	2.26	2.27	21.14
"	"	Hythe .....	1.17	1.36	1.08	.73	2.20	2.29	1.42	4.39	1.02	2.17	2.44	2.03	22.30
"	"	Sevenoaks (Riverhead Vic.)	.72	1.33	1.80	.36	2.66	3.97	1.30	2.89	.36	2.72	1.79	1.91	21.81
"	"	Ospringe (Lorenden) .....	.86	1.16	1.40	.48	2.02	2.18	1.34	4.37	1.66	2.21	2.16	1.78	21.62
"	Sussex	Arundel (Patching) .....	1.03	1.88	1.82	.98	2.48	2.93	1.09	5.51	.51	2.76	3.33	1.72	26.04
"	"	Maresfield (Forest Lodge) ..	1.33	1.55	1.78	1.09	2.32	3.32	1.44	4.82	.52	2.44	2.83	2.27	25.71
"	Hants	Totland Bay (Wilmington).	1.05	1.42	2.10	1.44	2.32	2.57	1.61	3.91	.98	2.29	3.45	1.57	24.71
"	"	Bps. Waltham (Swanmore Ho.)	1.31	1.90	2.48	1.50	3.02	3.75	1.62	4.08	.89	2.47	3.74	1.97	28.73
"	"	Basingstoke(Sherborne S.J.)	1.00	1.20	2.05	1.23	2.64	3.96	.94	4.13	1.42	1.96	2.75	2.03	25.31
III.	Berks	Newbury (Welford Park) <i>o.g.</i>	.93	1.37	1.96	1.53	3.04	3.35	.93	3.39	2.07	2.20	3.81	2.19	26.77
"	Herts	Hertford (Bayfordbury).....	.72	1.26	1.38	.85	2.09	2.56	1.13	3.28	.91	1.28	1.59	1.38	18.43
"	"	Royston, Therfield Rectory..	.46	.96	1.15	.72	2.32	2.92	1.32	4.19	1.03	1.33	1.39	1.25	19.04
"	Bucks	Slough (Upton) .....	.79	1.09	1.72	.81	2.44	3.57	1.14	3.03	.85	1.47	2.05	1.38	20.34
"	"	Buckingham (Adstock) .....	.58	1.11	1.36	.90	1.72	2.27	1.52	2.50	1.85	1.76	1.65	1.23	18.45
"	Oxford	Henley (Northfield House)...	1.03	1.55	1.97	1.29	2.59	2.98	.96	3.51	.95	2.12	2.65	1.59	23.19
"	"	Oxford (Magdalen Coll.) ...	.62	1.13	1.17	1.23	1.66	1.80	.65	2.50	1.07	1.66	2.22	1.28	16.99
"	Northampton	Wellingborough(Swanspool)	.85	1.39	1.29	1.12	1.79	2.44	.97	2.60	1.68	1.83	1.75	1.13	18.84
"	Bedford	Shillington .....	.47	1.12	1.06	.60	2.26	2.63	1.25	2.80	1.29	1.55	1.41	1.33	17.77
"	Cambridge	Ely (Stretham) ..	.36	.73	.76	.82	2.02	2.34	1.47	3.01	.66	1.35	.87	.83	15.22
IV.	"	Wisbech (Bank House).....	.77	1.21	.98	1.19	3.63	3.40	1.69	3.14	1.30	1.80	1.50	1.19	21.80
"	Essex	Loughton (High Beech) ...	.81	1.25	1.56	.49	2.75	3.15	1.46	4.37	.52	1.07	1.54	1.16	20.13
"	"	Chelmsford (High Street)...	.54	.96	1.57	.40	2.76	3.56	1.18	3.17	1.07	1.71	1.61	1.13	19.66
"	"	Brantree (Bocking Place) ..	.71	1.12	1.19	.65	2.32	3.97	1.38	4.38	.77	.90	1.64	1.07	20.10
"	Suffolk	Ipswich (Woolvrstone Pk.)	.56	.72	1.13	.78	2.77	4.29	2.01	2.45	1.39	1.81	1.81	1.40	21.12
"	"	Haverhill (Great Thurlow).	.69	1.03	1.25	.73	3.31	3.17	1.03	4.42	.55	1.46	1.14	1.20	19.98
"	"	Aldborough (Aldringham Ho.)	.95	.52	1.03	.81	2.44	1.60	2.06	2.98	1.70	1.54	.79	2.00	18.42
"	Norfolk	Geddeston [Beeches] .....	.89	.62	1.08	1.39	3.39	1.79	1.99	3.51	1.24	1.43	1.33	1.25	19.91
"	"	Swaffham .....	1.02	1.13	1.59	1.06	3.62	2.89	2.70	2.17	1.04	1.86	1.30	1.42	21.80
"	"	Holt (Field Dalling).....	1.10	.97	1.12	1.79	3.18	2.12	2.02	2.79	.99	1.69	1.15	1.44	20.36

ENGLAND—(continued.)

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August	Sept.	Oct.	Nov.	Dec.	Total.
V.	Wilts	Salisbury (Alderbury) .....	76	206	187	183	234	319	122	310	117	185	421	156	2516
	"	Trowbridge (W.W. Biss) ..	140	109	218	230	222	408	157	433	135	233	329	234	2848
	"	Marlborough (Mildenhall) ..	129	118	220	183	253	361	110	378	95	196	321	210	2574
	Dorset	Reaminster Vic. ....	106	209	228	254	238	379	192	401	211	250	428	256	3152
	"	Wimborne (Chalbury) .....	92	182	202	162	247	291	177	351	124	261	420	169	2678
	"	Buckhorn Weston .....	103	99	181	182	266	316	142	295	94	219	277	143	2317
	Devon	Buckfastleigh (Bossell Pk.) ..	393	302	378	313	223	310	313	364	339	525	715	614	4789
	"	Walkhampton (Lowery) ...	340	292	437	253	260	404	300	504	232	454	663	592	4731
	"	Exeter (Manston Terrace) ...	124	209	172	156	202	224	244	285	208	245	403	237	2714
	"	Cullompton .....	179	207	231	163	235	269	203	313	222	285	444	331	3082
	"	South Molton (East Street) ..	305	147	506	69	327	421	257	279	185	400	451	377	3724
	"	Penzance (Penlee) .....	237	226	290	232	163	298	288	254	276	368	571	330	3533
	Cornwall	St. Agnes .....	246	220	281	274	152	278	271	164	298	363	583	309	3439
	"	Bude .....	189	102	263	91	162	269	237	202	193	333	405	355	2801
	"	Ilminster (Ilton Vicarage) ..	131	160	178	212	256	326	211	296	207	234	416	251	2878
	Somerset	Glastonbury (Street) .....	118	189	226	177	224	361	139	300	203	221	315	180	2653
	"	Holford (Woodlands House) ...	132	159	202	168	272	285	150	303	349	332	411	207	2970
	Gloucester	Clifton (Pembroke Road) ..	191	95	185	160	202	317	127	416	212	256	265	328	2754
VI.	"	Stroud (Upfield) .....	118	102	123	185	236	369	128	318	273	208	240	213	2513
	"	Fairford (Hatherop Rec) ...	142	113	180	166	196	245	113	397	232	190	263	235	2472
	"	Moreton-in-Marsh (Longboro') ..	107	137	196	247	314	398	135	264	216	293	261	208	2776
	Hereford	Ross (The Graig) .....	78	101	153	232	181	255	66	373	183	336	264	157	2379
	"	Leominster (Farm) .....	106	93	128	199	211	333	139	333	127	256	299	171	2395
	Salop	Ch. Stretton (Woolstaston) ..	151	93	152	274	337	294	154	613	193	327	249	214	3051
	"	Much Wenlock (Wiley Pk.) ...	111	127	106	216	272	256	148	607	159	304	278	185	2769
	"	Oswestry (The Mount Res.) ...	325	160	199	227	369	363	224	420	258	474	290	441	3750
	Stafford	Penkridge (Rodbaston) ...	121	121	143	167	272	177	141	351	134	256	199	163	2245
	"	Burton (Shobnall) .....	101	136	122	236	250	134	128	388	161	215	159	166	2196
	"	Market Drayton (Old Springs) ..	124	140	183	210	293	206	178	339	115	344	188	221	2541
	Worcester	Malvern (Madresfield Rec.) ...	65	133	144	223	209	247	139	379	185	258	261	171	2414
	"	Stourbridge (Pedmore) ...	104	147	163	227	288	240	120	397	69	237	202	190	2384
	Warwick	Leamington (Cubbington) ..	89	139	150	212	239	287	110	384	139	273	147	113	2282
	"	Bedworth Cemetery .....	179	162	200	256	225	239	167	402	169	239	173	124	2535
VII.	"	Loughboro' (Nan Pantan Res) ..	139	170	180	206	257	190	128	382	191	214	181	174	2412
	"	Belvoir Castle .....n.g.	125	137	126	195	274	205	124	500	115	231	153	192	2877

ENGLAND—(continued.)

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
VII.	Rutland.....	Market Overton .....	.90	1.62	1.08	1.36	3.06	2.11	1.22	3.24	1.71	2.49	2.24	1.54	22.57
"	Lincoln .....	Sleaford (Rauceby Hall) ...	.86	1.61	1.45	1.85	2.69	2.02	1.54	4.06	1.25	2.18	1.74	1.86	23.11
"	" .....	Market Rasen .....	.90	1.17	1.56	1.70	2.83	2.28	1.71	1.94	.53	2.75	1.29	1.86	20.52
"	" .....	Burton-on-Stather .....	.87	1.37	1.48	1.70	2.77	2.52	2.28	1.80	.67	2.84	1.40	1.74	21.44
"	Notts .....	Ollerton (Boughton W. W.)	1.46	1.68	1.43	2.20	2.40	2.33	1.42	3.62	1.09	2.30	1.51	2.43	23.87
"	Derby.....	Darley Hall .....	1.63	2.01	2.07	2.97	3.65	1.54	2.04	2.96	1.54	3.19	2.88	2.63	29.11
VIII.	Cheshire.....	Congleton (Buglawton Vic.)	1.63	1.12	2.42	2.16	4.61	1.33	1.97	3.01	2.23	3.17	1.59	2.40	27.64
"	Lancashire.....	Manchester (Withington).	2.54	.92	1.65	1.93	4.36	1.07	1.87	3.29	.82	3.73	1.60	2.25	26.03
"	" .....	Ormskirk (Rufford).....	2.08	1.81	2.32	1.74	3.48	1.46	2.65	2.22	1.50	3.36	2.04	2.75	27.41
"	" .....	Burnley (Swinden, Lower)	4.00	1.65	2.97	2.74	3.28	1.53	3.61	2.93	1.62	4.70	3.25	4.60	36.88
"	" .....	St. Michael's-on-Wyre ...	2.24	1.77	2.79	1.37	3.06	1.36	3.72	3.13	1.45	4.13	2.21	3.41	30.24
"	" .....	Cartmel (Pit Farm) .....	2.78	2.59	2.79	1.38	2.61	1.26	3.88	4.13	2.41	3.96	4.11	4.15	36.05
IX.	York, W.R. ....	Rotherham (MoorgateGrange)	.60	1.48	1.31	2.70	2.58	1.63	1.70	3.97	1.15	2.75	2.05	2.04	23.96
"	" .....	Meltham (Harewood Lodge)	4.16	1.20	2.59	2.46	3.25	1.80	2.50	3.64	3.07	5.38	2.67	5.55	38.27
"	" .....	South Milford Rectory ...	1.17	1.33	.90	1.77	2.75	1.86	2.15	3.01	.76	2.66	1.54	1.77	21.67
"	" .....	Malham Tarn .....	5.90	1.91	3.71	2.57	3.16	1.74	5.22	3.45	2.06	5.30	3.91	5.48	44.41
"	" .....	Ripon (Mickley) .....	.97	1.39	1.23	1.65	2.61	1.45	1.97	2.09	.97	2.59	2.25	3.03	22.20
"	York, E.R. ....	Parrington.....	1.03	1.26	1.41	1.36	2.51	1.64	2.04	2.95	.68	2.90	1.21	1.78	20.77
"	" .....	Pocklington (Warter) .....	1.18	1.11	1.29	.84	2.42	2.42	2.86	2.22	.45	2.85	1.41	2.32	21.37
"	" .....	Lowthorpe (The Elms) ...	1.29	1.32	1.27	.82	2.26	1.82	2.16	2.06	.55	2.35	1.37	2.17	19.44
"	York, N.R. ....	Thirsk (Sowerby) .....	.58	1.44	.84	1.76	1.83	2.09	2.12	2.17	.58	2.27	1.70	2.02	19.40
"	" .....	Whitby (Mulgrave Castle).	1.25	1.51	1.26	.96	2.44	2.80	2.26	2.31	.79	2.91	.99	2.80	22.28
"	" .....	Guisboro' (Hutton Hall)...	.97	1.17	1.09	1.76	2.76	2.99	3.17	2.11	1.08	3.26	.78	1.21	22.35
X.	Durham.....	Darlington(HurworthGrange)	.73	1.11	.85	1.61	2.03	2.03	2.71	1.96	.83	2.97	1.17	1.86	19.86
"	" .....	Hartlepool(HurworthBurn)	.83	1.07	.80	1.60	2.22	2.17	2.43	1.93	.97	3.52	1.47	2.60	21.61
"	" .....	Wolsingham .....	.97	1.42	1.28	1.88	2.81	1.17	4.76	1.87	1.08	2.86	1.85	3.32	26.27
"	Northumberland	Corbridge (Howden Dene).	.94	1.30	1.19	1.32	1.88	2.23	2.37	1.91	1.61	2.85	1.39	3.55	22.54
"	" .....	Morpeth (Bothalough Lawn)	.89	1.29	.94	1.28	2.91	2.31	2.27	1.83	.86	2.22	1.09	3.72	21.61
"	" .....	Alwinton (Biddleston) ...	1.34	2.03	1.57	2.21	2.85	2.31	2.28	1.74	1.49	2.43	1.94	4.64	26.83
"	" .....	Howick Hall.....	1.19	1.46	1.18	1.89	3.04	3.16	3.48	1.54	1.11	2.02	1.83	3.87	25.77
"	Cumberland	Borrowdale (Seathwaite)...	13.00	3.62	9.07	6.57	5.82	2.02	7.28	7.42	6.09	10.91	9.65	15.52	96.97
"	" .....	Brampton (Denton House)	2.99	.67	2.76	1.47	1.87	1.49	3.70	1.87	1.01	3.21	.95	3.40	25.39
"	" .....	Kendal (Ivy Garth) .....	3.57	1.63	3.24	1.57	2.61	1.53	4.12	2.83	2.16	3.80	3.28	5.88	36.22
"	Westmoreland	Appleby (Ormside) .....	2.05	.73	2.72	1.94	2.81	1.36	3.77	2.41	2.04	3.03	2.09	3.93	28.88
"	" .....	Lowther Castle.....	2.17	.73	2.22	1.98	2.29	1.33	3.80	1.88	2.12	2.72	2.46	4.71	28.41



# MONMOUTH, WALES AND THE ISLANDS.

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
XI.	Monmouth.....	Chepstow (Piercefield Park)	1.90	1.83	1.96	2.08	1.90	2.99	1.36	3.12	2.02	3.43	2.70	3.31	28.60
"	"	Abergavenny (Larchfield) ..	1.26	2.57	1.87	3.11	1.91	2.98	1.58	4.02	3.07	3.12	5.83	2.91	34.23
"	Glamorgan.....	Cardiff Castle .....	2.19	1.70	2.71	2.51	2.80	2.72	2.03	3.84	3.11	3.56	4.53	3.53	35.23
"	"	Neath (Fairy Land) .....	1.94	1.91	2.82	2.91	2.82	3.43	2.38	3.03	2.01	3.48	4.74	3.00	34.47
"	Carmarthen .....	Llanelli (Old Market Place)	3.42	1.63	3.06	2.41	2.02	3.77	2.86	1.77	2.50	4.28	5.45	3.72	36.89
"	"	Llandovery .....	2.70	1.25	3.58	2.61	3.65	2.58	1.58	2.56	1.98	4.08	3.69	4.16	34.42
"	Pembroke .....	St. David's .....	1.80	1.55	2.98	1.78	1.64	3.27	2.13	1.10	2.52	3.13	4.20	2.70	28.80
"	Cardigan .....	Aberystwith (North Parade)	1.96	.85	2.44	.83	3.35	2.53	1.59	2.06	1.45	3.77	2.90	3.15	26.88
"	Brecknock.....	Brecknock (Cantref Rec.)	2.21	1.99	2.24	2.55	2.85	4.06	1.57	1.82	2.81	3.46	4.98	4.37	34.91
"	"	Llysdinam [Newbridge] ...	2.17	1.16	2.70	1.92	2.64	2.17	1.53	3.22	2.31	3.84	3.19	4.04	30.94
"	"	Rhayader (Nantgwillt) o.g.	3.57	2.24	3.55	2.48	3.89	2.95	3.27	5.27	3.37	4.87	5.21	6.64	47.31
"	Montgomery .....	Churchstoke (Mellington Hall)	1.72	.71	1.63	2.17	1.72	2.24	2.35	3.61	2.38	2.88	2.53	2.96	29.13
"	Flint .....	St. Asaph (Nantllys) .....	1.57	1.23	1.45	1.83	3.27	2.20	1.46	2.59	1.10	3.01	2.37	2.93	25.01
"	Denbigh.....	Rosset (Trevalyn Hall) ...	1.23	1.54	1.46	1.95	3.73	1.17	1.40	2.77	1.30	3.48	1.66	2.35	24.04
"	Mertoneth .....	Llanbedr (Minafon) .....	2.72	1.49	3.89	1.11	4.00	3.46	3.09	2.51	1.39	4.19	3.53	3.38	34.76
"	"	Llanderfel (Pale) .....	3.93	1.64	3.45	2.56	3.50	3.08	2.70	2.94	2.29	4.92	3.91	5.74	40.66
"	"	Oakley Quarries .....	6.10	2.19	6.33	2.86	6.44	4.68	4.55	8.00	2.98	9.24	6.25	10.19	69.81
"	Carnarvon .....	Llanystumdwy (Talarvor)	2.22	1.26	2.89	1.40	3.74	3.46	1.97	2.97	1.46	4.36	3.17	2.85	31.75
"	Anglesey .....	Llanerchymedd (Llwydarth)	2.90	1.34	2.51	1.32	3.93	3.35	2.04	2.17	2.20	3.96	3.02	3.90	32.64
"	Isle of Man .....	Douglas (Woodville) .....	2.41	3.66	1.93	1.93	3.48	1.51	3.60	3.28	3.44	4.20	4.22	4.41	38.07
"	Jersey.....	St. Helier (St. Louis Obs.)	1.79	1.49	2.31	3.22	2.95	1.75	.90	2.61	1.65	2.67	2.48	2.74	26.56
"	Guernsey .....	St. Peter Port (Villa Carey)	1.84	1.46	1.78	3.52	1.73	2.12	1.75	3.75	2.30	3.10	3.22	3.47	30.04

## SCOTLAND.

XII.	Wigton .....	Garliestown (Galloway House)	2.71	3.85	2.71	1.56	2.22	1.71	3.24	2.40	4.27	2.11	5.60	3.13	35.51
"	"	Corsewall ..	2.79	2.15	1.82	2.12	2.89	2.23	2.82	3.63	5.05	1.54	5.29	4.23	36.56
"	Kirkcudbright ..	Dalbeattie (Little Richorn)	2.40	3.50	2.12	1.79	2.22	1.88	2.83	2.90	2.85	4.15	3.94	4.96	35.54
"	"	Dalry (Glendarroch) .....	4.39	3.92	3.54	2.98	2.97	1.66	2.61	2.49	4.30	3.20	5.51	7.19	44.76
"	Dumfries .....	Lanholm (Drove Road)....	3.84	2.18	3.08	2.57	2.39	1.15	3.81	4.42	2.93	3.98	3.45	6.64	40.44
"	"	Moffat (Eriostane) .....	3.58	2.23	3.07	2.86	2.22	1.31	2.20	2.74	3.22	3.52	3.80	7.11	37.86
"	Roxburgh .....	Hawick (Bransholme).....	1.88	1.27	1.67	2.05	2.12	1.69	3.29	2.51	1.57	2.12	2.05	4.12	26.34
"	"	Jedburgh (Ancrum Bridge)	1.19	1.50	.74	1.57	2.76	2.19	2.04	1.68	1.02	2.00	1.03	3.00	20.72
XIII.	Selkirk .....	The Hangingshaw .....	1.50	2.38	1.48	1.83	3.33	1.57	3.61	1.74	1.97	2.28	3.17	3.20	28.06
"	Peebles .....	Eddlestone (Portmore) ...	1.52	.90	1.73	1.90	3.05	3.28	2.62	1.30	1.92	1.98	2.10	4.25	26.55



## SCOTLAND—(continued.)

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
XVII.	Nairn	Nairn (Achareidh)	1.33	.89	1.32	.56	2.22	2.67	2.53	2.32	1.21	1.67	.48	2.36	19.56
	Ross	Applecross	4.58	3.26	7.15	2.43	4.20	1.74	3.52	3.70	4.55	7.86	3.75	6.05	52.79
XVIII.	"	Strathconan (Dalbreac)	5.83	1.70	7.73	2.05	3.81	2.02	2.33	2.58	3.13	3.72	1.95	5.03	41.88
	"	Loch Torridon (Bendamph)	10.05	2.69	11.30	3.50	6.35	2.90	3.43	5.93	6.23	7.58	4.44	9.82	74.22
"	"	Ardross Castle	3.79	1.47	3.28	2.08	3.74	3.30	3.04	2.11	2.53	2.13	1.43	4.94	33.84
"	Inverness	Mucomir	7.02	1.00	5.04	2.52	3.41	1.29	3.45	4.68	4.40	5.69	2.70	6.55	47.75
"	"	Glen Quoich	15.26	2.14	12.79	5.17	8.18	2.05	4.91	5.95	8.15	14.93	6.01	16.95	102.49
"	"	Alvie Manse	2.41	.82	1.84	1.30	3.37	1.95	2.27	3.26	1.65	2.98	.63	3.40	25.88
XIX.	"	Loch Ness (Whitebridge)	4.47	1.01	3.54	1.90	3.73	2.37	2.19	3.01	2.58	4.17	1.05	9.85	39.87
	Sutherland	Invershin	2.13	.39	3.87	1.92	2.79	2.71	2.30	1.75	2.37	1.12	1.62	4.54	27.51
"	"	Dunrobin Castle	2.18	1.10	2.41	1.81	2.91	2.15	3.54	1.31	1.85	1.64	1.10	3.64	25.64
"	Caithness	Wick	2.82	1.42	1.81	1.40	1.81	1.83	3.55	2.21	2.38	2.41	.92	3.87	26.43
"	"	Watten Station	2.09	1.51	1.38	1.28	1.61	1.41	2.39	1.85	2.07	1.85	.94	3.04	21.42
"	Shetland	Sumburghhead (Dunroseness)	4.48	2.07	4.62	2.50	2.04	2.39	1.85	2.22	1.84	2.68	1.93	5.33	33.95

## IRELAND.

XX.	Cork	Castletownshend (Glen Barrabane)	1.96	2.93	1.41	1.78	1.28	2.72	2.18	3.42	1.25	1.54	5.76	2.92	29.15
	"	Cork (The Palace)	1.67	5.68	1.54	2.93	1.82	2.98	2.22	3.17	1.91	1.17	8.38	2.93	36.40
"	"	Mallow (Summer Hill)	1.90	5.69	2.58	2.86	2.91	3.33	1.53	4.46	1.85	1.37	6.77	3.62	38.87
"	Kerry	Waterville (Iveragh Lodge)	3.01	4.50	3.55	3.33	2.06	3.03	1.60	3.36	2.37	3.43	7.62	2.65	40.51
"	"	Kenmare (Derreen)	4.03	10.17	5.17	5.79	2.73	5.62	1.95	2.61	3.89	3.58	18.98	5.36	69.88
"	Waterford	Waterford (Brook Lodge)	1.98	3.95	1.80	3.47	1.88	3.73	3.41	2.45	5.02	2.53	7.31	2.72	40.25
"	Tipperary	Clonmel (Bruce Villa)	2.14	4.07	2.65	3.18	2.36	3.03	2.91	4.79	3.44	3.42	7.77	2.71	42.47
"	"	Nenagh (Castle Lough)	4.31	3.02	2.75	2.67	2.32	1.81	1.91	2.13	1.31	2.03	5.10	4.67	33.96
"	"	Ballingarry (Hazel fort)	2.76	1.86	2.40	2.07	2.69	1.60	2.33	3.10	2.19	1.76	4.76	2.77	30.29
"	Limerick	Limerick (Roxborough)	3.32	2.59	2.99	2.55	2.83	1.78	2.22	2.15	1.96	1.76	4.20	2.93	31.28
"	Clare	Carrigaholt Castle	3.20	1.57	3.23	1.60	1.78	1.48	1.69	3.06	1.91	1.84	4.30	3.54	29.20
XXI.	"	Miltown Malbay	2.75	1.74	1.75	1.69	2.01	2.28	1.80	3.27	1.72	2.37	6.48	4.40	32.26
	Wexford	New Ross (Longraigue)	1.89	3.55	2.00	3.15	1.26	4.78	3.40	2.35	4.17	2.96	6.31	3.54	39.36
"	"	Ballyhyland	2.22	4.11	2.51	3.61	2.28	3.95	3.79	3.11	3.96	3.40	7.04	4.16	44.14
"	"	Gorey (Courtown)	1.29	2.41	1.76	2.84	2.23	3.30	2.86	2.75	3.16	2.64	4.44	2.66	32.34
"	Kilkenny	Kilkenny (Sion Villa)	2.05	2.90	2.26	2.81	1.54	2.33	2.46	3.40	3.58	2.80	5.57	2.89	34.59
"	Wicklow	Bray (Fassaroe)	2.39	3.43	1.87	4.01	3.44	3.56	5.09	4.19	4.34	4.57	6.94	3.99	47.82
"	Carlow	Carlow (Browne's Hill)	2.21	2.73	2.25	2.73	1.71	3.20	2.68	2.76	3.97	2.59	4.75	2.92	34.50

IRELAND—(continued.)

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
XXI.	Queen's County...	Abbey Leix (Blandsfort)...	2.52	2.25	2.80	3.16	2.28	2.25	2.50	2.62	3.52	2.22	5.39	3.31	34.82
"	Kildare .....	Straffan House.....	2.39	1.15	2.19	1.58	2.61	2.48	2.93	3.67	2.93	3.33	2.25	2.27	29.78
"	Dublin .....	Glasnevin (Botanic Gardens)	1.64	1.68	1.85	1.87	2.87	2.33	2.96	3.51	3.03	2.73	2.74	1.54	28.75
"	Meath .....	Athboy .....	2.67	2.35	1.82	2.40	2.58	1.77	3.01	2.22	2.46	2.54	3.34	2.84	30.00
"	" .....	Moynalty (Westland) .....	2.94	3.01	2.36	2.75	2.94	2.55	3.43	3.64	2.31	2.43	3.26	2.93	34.55
"	Westmeath .....	Athlone (Twyford) .....	3.16	2.37	1.84	2.91	2.43	1.83	2.52	2.21	2.20	1.82	4.57	2.88	30.90
"	" .....	Mullingar (Belvedere) .....	2.94	2.50	1.84	2.10	2.83	1.93	3.60	1.78	2.39	2.52	3.85	2.40	30.68
"	Louth .....	Ardee (Lissrenny).....	2.23	2.51	2.12	2.55	3.74	2.53	2.90	3.03	2.81	2.48	3.08	3.00	32.98
"	" .....	Greenore .....	2.01	3.00	1.66	2.22	3.25	3.26	3.03	2.36	3.33	2.31	3.38	2.20	32.01
XXII.	" .....	Ballinasloe .....	3.42	2.36	2.64	3.12	2.23	1.75	1.62	2.01	1.75	1.59	4.80	2.98	30.27
"	" .....	Kylemore House .....	6.38	5.30	6.70	3.85	2.87	4.76	3.40	3.40	4.25	3.65	11.04	6.23	61.83
"	" .....	Tuam (Gardenfield).....	4.16	2.48	3.39	2.69	2.22	2.33	1.55	1.94	2.47	2.75	5.60	3.92	35.50
"	Mayo .....	Ballinrobe (Cranmore).....	4.96	2.70	4.01	2.64	2.10	2.03	1.60	2.96	1.89	3.39	6.98	4.54	39.80
"	" .....	Achill (Coraun House) ..	4.31	1.91	5.22	2.47	3.12	2.36	4.12	2.43	4.58	3.38	5.52	3.68	43.10
"	" .....	Doo Castle [Tobercurry]...	3.72	2.39	2.89	2.47	2.89	1.95	2.97	2.00	1.95	3.15	5.26	5.10	36.74
"	" .....	Crossmolina (Enniscoe) ...	4.99	2.79	5.92	2.76	4.02	3.12	2.08	2.33	2.47	4.02	6.45	5.32	46.27
"	Sligo .....	Ballysadare (Glen Lodge)..	3.82	1.97	3.81	2.48	3.31	1.90	2.72	2.32	2.73	2.96	5.15	5.40	38.57
XXIII.	" .....	Stradone House .....	3.28	2.96	2.74	2.49	3.22	2.46	3.68	2.18	3.02	2.13	3.86	3.27	35.29
"	" .....	Ballyconnell House.....	3.60	2.19	2.81	3.10	3.57	1.91	3.10	2.11	2.58	2.49	4.08	3.83	35.37
"	Monaghan.....	Monaghan (Rowantree Ho.)	2.45	2.83	1.82	2.23	2.53	1.87	3.93	2.20	2.70	1.74	2.63	2.40	29.00
"	Armagh.....	Armagh.....	2.24	2.36	2.00	2.26	4.13	2.30	4.35	2.22	2.98	1.56	2.60	2.70	31.73
"	Down.....	Seaforde .....	2.09	4.17	1.77	3.36	4.05	3.34	3.43	2.75	5.46	2.00	6.07	4.19	42.68
"	" .....	Donaghadee .....	1.60	2.66	1.57	2.33	3.25	1.95	2.95	2.55	3.49	1.19	4.48	2.67	30.69
"	" .....	Belfast (Springfield).....	2.40	2.50	2.46	2.94	3.71	2.84	5.08	3.25	5.52	1.99	3.67	3.71	40.07
"	Antrim .....	Ballymena.....	2.57	3.04	2.49	2.13	3.68	2.37	3.36	4.38	4.72	2.38	4.09	3.56	38.77
"	" .....	Bushmills (Dundarave) ...	3.20	1.42	2.65	1.82	3.01	1.05	3.38	2.48	4.71	1.93	3.45	3.47	32.57
"	" .....	Garvagh (Moneydig) .....	2.15	2.62	2.05	2.83	3.93	2.26	2.27	2.90	4.22	2.70	4.14	4.07	36.14
"	Londonderry.....	Stewartstown (The Square)	2.43	1.99	2.17	2.77	4.55	2.26	3.53	3.72	2.83	1.65	3.25	2.32	33.47
"	Tyrone .....	Omagh (Edenfel) .....	3.29	2.79	2.68	3.48	4.70	2.12	3.95	2.65	3.20	2.66	4.34	3.39	39.25
"	" .....	Killybegs .....	5.26	1.66	4.01	2.56	4.54	2.61	3.52	2.23	3.85	4.65	5.03	5.36	45.28
"	Donegal.....	Raphoe (Convoy House) ...	3.63	1.66	3.18	2.78	4.46	1.81	3.50	3.11	4.51	3.14	4.35	4.80	40.93
"	" .....	Buncrana (Rockfort) .....	2.68	2.00	3.40	2.86	3.78	1.48	3.71	2.23	4.15	3.42	3.04	3.76	36.51
"	" .....	Horn Head .....	4.63	1.91	3.81	2.29	4.16	1.05	3.45	2.24	3.68	3.47	4.69	3.87	39.25

## ON THE RELATION OF THE TOTAL FALL OF RAIN IN 1902 TO THE AVERAGE.

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THE remarks of observers on the year 1902 furnish unusually interesting reading from one point of view. They record little in the way of startling phenomena by flood or field, but they demonstrate the absolute necessity of scientific measurements in order to compare one year with another. The average man judges by his impressions, and to him 1902 was a wet year, or even a very wet year. The observer who merely chronicled what he could see without measurement would also have ample justification for his opinion that the year was unusually wet. In every one of the twenty-three divisions into which the counties of Great Britain and Ireland are grouped the number of days on which rain fell exceeded the average, sometimes to a considerable extent. The year was unusually cold and cloudy, the hours of sunshine having been considerably reduced. There were almost no droughts either partial or absolute, the ground remained moist or even wet, and in most parts of the country the wells and springs were full to an unusually late date and did not fall very low. There were no complaints of want of water for the supply of large towns, and the non-instrumental meteorologist could hardly do otherwise than record the year as wet. The observers who send us their notes on the year express all the opinions to which we have referred, but they almost invariably add that in 1902 the measurement of the amount of rain showed that several inches less than the average had fallen, and that the year, despite appearances, was a dry one. Each observer necessarily uses as his average the mean annual fall as measured by his gauge, whether that has been at work for few or many years, and consequently these averages, although capable of yielding interesting results, are not all that we require when we endeavour to ascertain exactly how far the year 1902 differs from those that have gone before it.

In order to ascertain the relation of the total fall of rain to the average we require to have a fairly large number of representative

stations, uniformly distributed over the country and all possessing records sufficiently long-established to yield an average of a large number of years. So far as number goes the difficulty in some of the thickly-peopled parts of England is to select from the numerous long records one or two to represent the locality; but in the less peopled parts, especially in Scotland and Ireland, the difficulty is the insoluble one of finding any rain records at all to represent large tracts of country. On the map presenting our results, three very thin places will be noticed in Scotland and two in Ireland, and it will be many years before these can be filled up even if all of the recently started stations continue to record.

We entered into detail last year as to the period the average of which should be employed, and it is unnecessary to repeat what was said then. It is enough to remark that the average for the thirty years 1870-99 is used as a standard of comparison; but for the convenience of those who wish to compare the year's rainfall with the average of a shorter period, that of 1890-99 is also quoted.

The annual rainfall at 176 stations is compared with the average at the same stations in the Table which concludes this section. Although the total number is the same as last year, some changes in individual stations are inevitable, and it is a matter for congratulation that this year the changes have been very few—one in England, two in Scotland and one in Ireland, only four in all, and the distribution has not been perceptibly affected.

#### ABSTRACT.

COUNTRIES.	No. of Records.	Average. 10 years 1890-99.	Average. 30 years 1870-99.	1902.	Diff. from Average 1870-99.	
					Amount.	Per cent.
		in.	in.	in.	in.	
England and Wales...	95	32·29	34·29	28·01	6·28	— 18
Scotland .....	46	44·88	44·93	38·73	6·20	— 14
Ireland .....	35	40·69	41·39	37·56	3·83	— 9
Mean of all Stations...	176	37·25	38·49	32·71	5·78	— 15

It appears from the foregoing abstract of the Table on pp. [158]—[161] that there was a notable deficiency of rain in each of the three kingdoms. The 95 stations in England and Wales indicate 18 per cent. less than the average of 1870-99, the 46 stations in Scotland 14 per cent. less, and the 35 stations in Ireland 9 per cent. less. For

the British Isles as a whole the deficiency of rainfall comes out as 15 per cent. This is a very remarkable figure which, as Column IV. of the table on p. [154] shows, has only once been surpassed and once equalled since 1881. The value is rendered the more remarkable by the fact that it was the second dry year in succession, the cumulative deficiencies being as follows :—

*Deficiencies of Rainfall in 1901 and 1902.*

COUNTRIES.	No. of Records	Average. 30 years 1870-99.	Total Fall.		Diff. from Average of 30 years.		
			1901.	1902.	1901.	1902.	Total.
		in.	in.	in.	%	%	
England and Wales .....	95	34·28	29·83	28·01	—13	—18	—31
Scotland .....	46	44·84	41·04	38·73	— 8	—14	—22
Ireland .....	35	41·65	40·33	37·57	— 4	— 9	—13
British Isles .....	176	38·51	34·85	32·71	—10	—15	—25

Thus we see that over the British Isles as a whole there was a deficiency of rainfall in two years equal to a quarter of one year's fall, the deficiency each year being greatest in England and least in Ireland. When a very dry year follows a dry year it is natural to expect something approaching a water famine ; but on the contrary, as we have seen, it required careful measurement of rainfall to reveal the fact that 1902 was really a dry year. The reason of this is that the rain fell at such frequent intervals and so slow a rate that there was practically no loss through floods, while the sky was so cloudy and the temperature throughout the year so low, that evaporation was greatly checked, and thus the small amount of rain proved amply sufficient for all the demands of agriculture, inland navigation and water supply.

It is worth pointing out that Columns II. and III. of the following Table show a curious succession of one year slightly above the average followed by two considerably below it since 1891—i. e., for a period of twelve years. This succession will, no doubt, soon cease to exist, for it never seems to have manifested itself prior to 1891. We draw attention to it in order to point out how easily a reputation for predicting the rainfall of successive years could be acquired by a hasty generalization supported by a series of phenomena of the kind known in games of chance as “a run of luck.”

While still on the subject of this Table we may point out that

Column V. shows that the mean at all stations, regardless of geographical distribution, gives a rough indication of the variations of rainfall over the country, though it errs by the undue prominence given to the very numerous stations in the drier part of the country.

*Table comparing the total Rainfall of the last 22 years.*

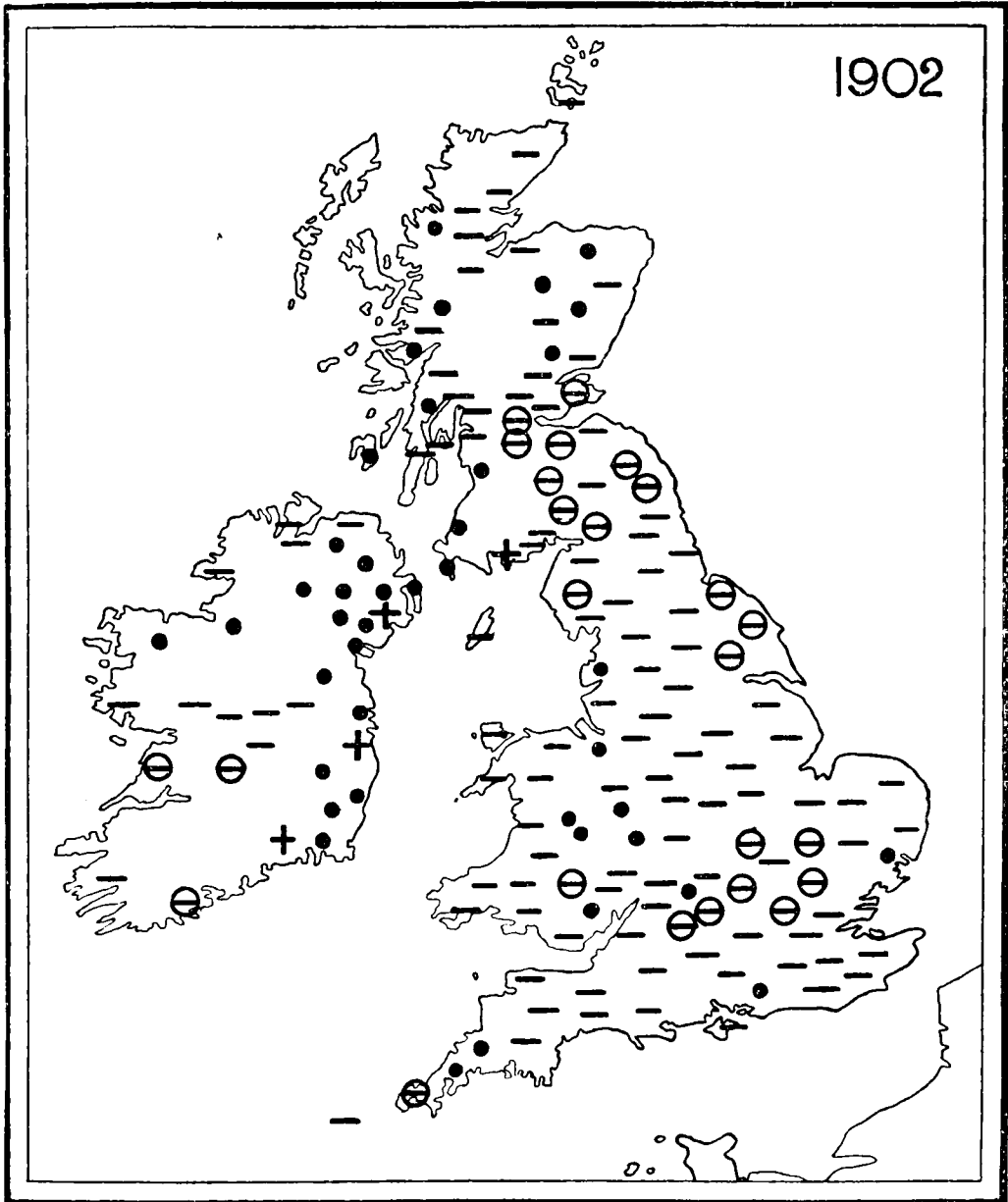
I.	II. % Diff. from adopted average	III. Years of average adopted.	IV. % Diff. from true average.	V. % Diff. of mean at all stations from average 34 in. = 100.
Year.				
1881	0	1870-79	+ 5	+ 3
1882	+ 17	"	+ 22 M	+ 15
1883	+ 3	"	+ 8	+ 3
1884	- 16	"	- 11	- 18
1885	- 8	"	- 3	- 9
1886	+ 2	"	+ 7	+ 3
1887	- 33	"	- 28 m	- 26
1888	- 11	"	- 6	- 6
1889	- 13	"	- 8	- 15
1890	- 3	1880-99	- 4	- 15
1891	+ 6	"	+ 5	+ 3
1892	- 5	"	- 6	- 12
1893	- 14	"	- 15	- 21
1894	+ 6	"	+ 5	+ 3
1895	- 7	"	- 8	- 12
1896	- 6	"	- 7	- 12
1897	+ 3	"	+ 2	- 3
1898	- 4	"	- 5	- 18
1899	- 1	"	- 2	- 12
1900	+ 12	"	+ 11	+ 3
1901	- 10	1870-99	- 10	- 18
1902	- 15	"	- 15	- 21

The Map shows in the familiar way how the relation of the rainfall of 1902 to the average varied in different parts of the country. Although a dozen stations in England and Wales are represented by dots, every one had less than the average fall, while in the southern Midland counties, the east of Yorkshire and the extreme north of England the ringed — signs indicate large areas where the rainfall of the year showed a deficiency of more than a quarter of the average annual fall. This excessive dryness is continued throughout the south-east of Scotland, and except three stations in the west (only one of which rises to the dignity of a + sign) and three in the north-east, which show very trifling excesses, there was a marked deficiency over the country.

The west of Ireland is seen to be dry or very dry, while the east was nearly average, or in a few cases wet. The three + signs are at stations where the cyclone of September 2nd yielded most rain. But



# DIFFERENCE OF TOTAL RAINFALL IN 1902 FROM THE AVERAGE OF 1870-99.



The round dot indicates a rainfall within 10 per cent. of the average.  
The + and — respectively show excess or defect of between 10 and 25 per cent.  
The same signs enclosed by a ring indicate a departure from the average of more than 25 per cent.

[Face p. [154].



for that storm there would not have been a + sign on the Map, and probably very few dots.

The main interest of the Map lies in the areas of most deficient rain, and the following list gives particulars of the twenty-five stations which are marked by ringed — signs ; the deficiency in 1901 being added for reference.

		1902. Per cent.	1901. Per cent.
Hertford (Bayfordbury) .....	<i>Hertford</i> .....	—26	—22
Winslow (Addington Manor) .....	<i>Buckingham</i> .....	—32	—27
Oxford (Magdalen College) .....	<i>Oxford</i> .....	—31	—13
Wellingborough (Croyland Abbey). ..	<i>Northampton</i> ...	—28	—22
Ely (Stretham) .....	<i>Cambridge</i> .....	—31	—30
Saffron Walden (Newport) .....	<i>Essex</i> .....	—27	—15
New Swindon .....	<i>Wilts</i> .....	—27	—19
St. Ives (Phillack Rectory) .....	<i>Cornwall</i> .....	—28	—24
Pocklington (Warter) .....	<i>York</i> .....	—31	— 6
Scarborough (Osgodby) .....	„ .....	—26	—18
Guisborough (Hutton Hall) .....	„ .....	—33	— 6
Pawston [Coldstream] .....	<i>Northumberland</i> ..	—28	— 2
Seathwaite .....	<i>Cumberland</i> .....	—27	—16
Cantreff Rectory .....	<i>Brecknock</i> .....	—32	—15
Langholm (Ewes School) .....	<i>Dumfries</i> .....	—32	—17
Moffat (Ericstane) .....	„ .....	—27	—12
Marchmont House .....	<i>Berwick</i> .....	—30	—22
Pentland Hills (Glencorse) .....	<i>Edinburgh</i> .....	—29	—14
Biggar (Cambus Wallace) .....	<i>Lanark</i> .....	—32	—11
Airdrie (Hillend Res.) .....	„ .....	—28	—14
Stirling (Polmaise Gardens) .....	<i>Stirling</i> .....	—33	—19
Kilconquhar (Balcarres) .....	<i>Fife</i> .....	—28	—15
Cork (Roche's Point) .....	<i>Cork</i> .....	—31	—20
Derry Castle [Killaloe] .....	<i>Tipperary</i> .....	—26	—10
Miltown Malbay .....	<i>Clare</i> .....	—28	+ 5

In the foregoing list there is no very remarkable deficiency, for the greatest is only 33 per cent., or one-third, the same as in 1901, and a figure which is frequently exceeded at individual stations ; for instance, in the great year of drought, 1887, there were 46 stations reporting greater deficiencies than 37 per cent. of the average of 1870—79, which corresponds to 33 per cent. of the average of 1870—99. In 1901 the average deficiency at the nineteen driest stations was just 25 per cent. ; but in 1902 the average deficiency at the twenty-five driest stations in our list is as great as 29 per cent. The rainfall at most of these stations is seen to have been much below the average in 1901 also, and at ten of them the accumulated deficiency for the two years exceeded half an average year's rainfall ; in other words, in twenty-four consecutive months at these stations the rainfall was less than might have been expected to fall in eighteen months.

These stations are as follows :—

STATION.	Average 1870-99.	Total Fall.		Deficiency.			Percentage Deficiency.		
		1901.	1902.	1901.	1902.	Total.	1901.	1902.	Mean. 1901-02.
	in.	in.	in.	in.	in.	in.			
Winslow (Addington) .....	26·75	19·50	18·07	7·25	8·68	15·93	27	32	30
Wellingborough (Croyland Abbey) .....	25·31	19·70	18·13	5·61	7·18	12·79	22	28	25
Ely (Stretham) .....	22·16	15·57	15·22	6·59	6·94	13·53	30	31	31
Ixworth (Walsham-le-Willows) ..	25·87	16·77	20·23	9·10	5·64	14·74	35	22	28
Swaffham (Dunham) .....	28·41	20·57	21·85	7·84	6·56	14·40	28	23	25
St. Ives (Phillack Rectory) ..	36·68	27·77	26·25	8·91	10·43	19·34	24	28	26
Kirkby Stephen .....	42·12	30·61	32·44	11·51	9·68	21·19	27	23	25
Marchmont House .....	34·91	27·18	24·38	7·73	10·53	18·26	22	30	26
Stirling (Polmaise Gardens) ..	35·80	28·89	23·85	6·91	11·95	18·86	19	33	26
Cork (Roche's Point) .....	(47·20)	37·73	32·67	9·47	14·53	24·00	20	31	25

There is, of course, nothing in 1902 to approach the remarkable dryness of 1887, when the average deficiency was twice as great ; but the year may be compared with 1884 and 1893, which come next in the list of low rainfall since the commencement of *British Rainfall*. (See Column IV. of Table on p. [154].

The Map for 1884 showed an alarming number of ringed — signs ; but to compare it with the Map for 1902 it is necessary to remember that the average used in compiling it was that of the rather wet decade 1870—79, which for England was certainly 4 per cent. in excess of the thirty years' average now used. If a deduction of 4 were made from the percentage of deficiency it will be seen, from the Table on pp. [176]—[179] in *British Rainfall*, 1884, that it is safe to say the rainfall of 1902 was considerably lower than that of 1884 in the country as a whole.

The comparison with 1893 may be made more easily, for the average then used was that of 1880—89, which on the average comes within 1 per cent. of that of 1870—99, so that the signs on the Map are comparable as they stand. The comparison is as follows :—

	Total Fall.		Diff. from Average employed.	
	1893. in.	1902. in.	1893. Per cent.	1902. Per cent.
England and Wales .....	28·21	28·01	—19	—18
Scotland .....	41·67	38·73	— 2	—14
Ireland .....	32·50	37·56	—17	— 9
Mean of all Stations .....	32·63	32·71	—14	—15

It will be noticed that in 1893 Scotland was not so dry and Ireland was much drier than in 1902 ; but that both England and

Wales and the British Isles as a whole had the same total rainfall and the same percentage deficit to within 1 per cent. The resemblance in the case of England is very remarkable, as a comparison of the two Maps will show. It is interesting to contrast these two years, which, with the solitary exception of 1887, had the lowest rainfall since 1860, and to see how the rain was distributed over England on the two occasions. In both, the year was the second in succession with an abnormally low rainfall in the areas most affected, and these areas were approximately the same on the two occasions. The greatest deficiency in 1893 was 38 per cent., the greatest in 1902 was 33 per cent. ; but the mean of all the maximum falls (*see* Table V., p. [127]) shows that these were slightly heavier in 1893 than in 1902. The number of days with rain at thirty-one well-distributed stations was 167 in 1893 and 184 in 1902, or 10 per cent. more ; the average rate of fall per rainy day was  $\cdot 19$  in. (the average rate) in 1893 and  $\cdot 16$  in. in 1902. The great contrast lay in the duration of droughts, reference to which has been made in treating of the droughts of 1902. In 1893 there was less than one-tenth of an inch of rain over a large part of the south of England for the month of April, that month being the central period of one of the most remarkable partial droughts on record, whereas in 1902 the fifty selected stations showed only one instance of an absolute drought and two of partial droughts in England for the year, contrasted with the 28 absolute and 36 partial droughts at the same or equivalent stations in 1893.

We have already mentioned that 1887, which it can hardly be doubted was the driest year of the nineteenth century, need not be considered in dealing with years comparable with 1902. Not only was the deficiency of rain over the British Isles almost twice as great as in 1902 or 1893, but at the fifty selected stations there were in England 66 absolute and 43 partial droughts, not a single station being without at least one.

The final result of studying the rainfall of 1902 from every point of view is to show that while there has only once been a year with less rain since the publication of *British Rainfall* began, there has never in that long period been a year in which a small rainfall has been so uniformly distributed in space and time so as to produce little inconvenience.

COMPARISON OF THE RAINFALL OF THE YEAR 1902,  
WITH THE AVERAGE OF THE YEARS 1890-99 & 1870-99.

ENGLAND & WALES.

DIV.	COUNTY.	STATION.	Average, 1890-9.	Average, 1870-99.	Depth in 1902.	Difference from average, 1870-99.	
						Per Amount.	cent.
			in.	in.	in.	in.	
I.	Middlesex .....	London (Camden Square) .....	22·78	25·16	20·84	4·32	— 17
II.	Surrey .....	Dorking (Abinger Hall) .....	30·03	(31·70)	23·83	7·87	— 25
"	Kent .....	Tenterden ..... <i>o.g.</i>	26·76	28·36	21·59	6·77	— 24
"	" .....	Selling (Harefield) .....	28·83	29·55	24·40	5·15	— 17
"	" .....	Sevenoaks (River Hill) .....	26·23	27·49	22·89	4·60	— 17
"	Sussex, West...	Chichester (Chilgrove) .....	33·60	33·82	33·81	·01	— 0
"	" East .....	Maresfield (Forest Lodge) .....	29·58	31·45	25·71	5·74	— 18
"	Hampshire.....	Isle of Wight (Osborne) .....	27·87	28·12	24·96	3·16	— 11
"	" .....	Alresford (Ovington) .....	30·41	(32·00)	26·95	5·05	— 16
"	Berkshire .....	Newbury (Welford Park) <i>o.g.</i>	28·75	30·29	26·77	3·52	— 12
III.	Hertfordshire..	Hertford (Bayfordbury) .....	22·84	24·97	18·43	6·54	— 26
"	Buckingham ..	Slough (Langley) .....	23·25	24·00	20·19	3·81	— 16
"	" .....	Winslow (Addington Manor) ..	23·84	26·75	18·07	8·68	— 32
"	Oxfordshire ..	Oxford (Magdalen Coll.) .....	21·40	24·54	16·99	7·55	— 31
"	" .....	Banbury (Bloxham Grove) ..	23·40	(27·20)	21·43	5·77	— 21
"	Northampton..	Wellingboro' (Croyland Abbey)	21·55	25·31	18·13	7·18	— 28
"	Bedfordshire ..	Bedford (Milton Ernest) .....	23·38	(23·90)	20·08	3·82	— 16
"	Cambridgeshire	Ely (Stretham) .....	20·96	22·16	15·22	6·94	— 31
"	" .....	Wisbech (Bank House) .....	22·28	24·89	21·80	3·09	— 12
IV.	Essex .....	Chelmsford (High Street) .....	21·22	22·96	19·66	3·30	— 14
"	" .....	Saffron Walden (Newport) ..	24·27	(24·80)	18·15	6·65	— 27
"	Suffolk .....	Rendlesham Hall .....	22·60	(23·70)	21·62	2·08	— 9
"	" .....	Ixworth (Walsham-le-Willows)	25·17	25·87	20·23	5·64	— 22
"	Norfolk .....	Geldeston [Beccles] ..... <i>5 in. g.</i>	22·97	23·93	19·91	4·02	— 17
"	" .....	Swaffham (Dunham) .....	25·92	28·41	21·85	6·56	— 23
"	" .....	Cawston .....	25·22	27·28	21·42	5·86	— 21
V.	Wilts .....	Salisbury Plain (Chitterne Ho.)	26·88	28·56	22·13	6·43	— 23
"	" .....	New Swindon .....	26·26	(28·20)	20·66	7·54	— 27
"	Dorset .....	Beaminster Vicarage .....	34·87	(38·20)	31·52	6·68	— 17
"	" .....	Wimborne Minster (Chalbury)	29·82	31·06	26·78	4·28	— 14
"	Devon .....	Ashburton (Druid House) .....	49·99	52·92	43·76	9·16	— 17
"	" .....	Polapit Tamar .....	36·79	38·85	34·92	3·93	— 10
"	" .....	Bampton (Huntsham) .....	45·28	(46·80)	38·03	8·77	— 19
"	" .....	Barnstaple (Arlington Court) ..	51·68	53·30	46·11	7·19	— 13
"	Cornwall .....	St. Ives (Phillack Rectory) ...	35·27	36·68	26·25	10·43	— 28
"	" .....	St. Austell (Trevarna) .....	42·75	47·16	42·61	4·55	— 10
"	Somerset .....	Glastonbury (Street) .....	26·90	30·40	26·53	3·87	— 13
VI.	Gloucestershire	Clifton (Pembroke Road) .....	32·59	35·45	27·54	7·91	— 22
"	" .....	Stroud (Upfield) .....	26·83	29·85	25·13	4·72	— 16
"	Hereford .....	Ross (The Graig) .....	25·61	29·51	23·79	5·72	— 19
"	" .....	Kington (Lynhales) .....	29·50	33·56	27·77	5·79	— 17
"	Shropshire .....	Bishop's Castle (Castle Street).	28·46	(32·90)	29·60	3·30	— 10

## ENGLAND &amp; WALES.—Continued.

DIV.	COUNTY.	STATION.	Average, 1890-9.	Average, 1870-99.	Depth in 1902.	Difference from average, 1870-99.	
						Per Amount.	cent.
VI.	Shropshire.....	Shifnal (Haughton Hall) .....	in. 25·41	in. 28·21	in. 27·02	in. 1·19	— 4
„	„ .....	Market Drayton (Buntingsdale) .....	26·53	(28·70)	24·63	4·07	— 14
„	Stafford .....	Dennis [Stourbridge] .....	24·36	(27·40)	24·89	2·51	— 9
„	„ .....	Burton (Rangemore) .....	24·96	28·01	24·46	3·55	— 13
„	„ .....	Cheadle (The Heath House) ...	30·05	(33·50)	26·38	7·12	— 21
„	Worcester .....	Northwick Park .....	25·24	29·22	27·44	1·78	— 6
„	„ .....	Grt. Malvern (Church Street) ..	24·79	(29·00)	24·92	4·08	— 14
„	Warwick .....	Coventry (Priory Row) ...	24·96	27·96	25·00	2·96	— 11
VII.	Leicester .....	Thornton Reservoir .....	24·17	26·48	21·37	5·11	— 19
„	Rutland .....	Market Overton .....	24·05	(26·90)	22·57	4·33	— 16
„	Lincoln .....	Stubton [Newark] .....	21·47	24·87	22·10	2·77	— 11
„	„ .....	Horncastle (Bucknall) .....	21·25	(23·90)	19·66	4·24	— 18
„	„ .....	Brigg .....	24·40	(26·31)	22·12	4·19	— 16
„	Nottingham .....	Worksop (Hodsock Priory) ...	22·67	(24·70)	22·10	2·60	— 11
„	Derby .....	Matlock Bath .....	28·93	35·07	29·50	5·57	— 16
VIII.	Cheshire .....	Chester Nurseries .....	26·74	29·17	26·64	2·53	— 9
„	„ .....	Chelford (Astle Hall) .....	28·49	(30·60)	26·48	4·12	— 13
„	„ .....	Torrside Reservoir .....	43·93	44·98	34·18	10·80	— 24
„	Lancashire .....	Ormskirk (Rufford) .....	32·63	33·71	27·41	6·30	— 19
„	„ .....	Kirkham (Weeton) .....	36·86	(38·60)	35·88	2·72	— 7
„	„ .....	Stonyhurst College .....	48·16	47·57	36·75	10·82	— 23
„	„ .....	Cartmel (Holker) .....	43·69	43·69	36·98	6·71	— 15
IX.	York, W. Ridng. ....	Wakefield Prison .....	24·86	(26·80)	21·80	5·00	— 19
„	„ „ .....	Knaresborough (Farnham) ...	25·07	26·70	20·26	6·44	— 24
„	„ „ .....	Malham Tarn .....	58·44	58·17	44·41	13·76	— 24
„	„ E. Ridng. ....	Pocklington (Warter) .....	29·03	30·75	21·37	9·38	— 31
„	„ N. Ridng. ....	Scarborough (Osgodby) .....	25·11	(27·70)	20·61	7·09	— 26
„	„ „ .....	Northallerton (The Lodge) ...	(25·10)	25·80	19·30	6·50	— 25
„	„ „ .....	Guisborough (Hutton Hall) ...	29·80	(33·40)	22·35	11·05	— 33
X.	Durham .....	Wolsingham .....	33·26	34·75	26·27	8·48	— 24
„	„ .....	Sunderland (W. Hendon House) ..	25·11	26·19	20·65	5·54	— 21
„	Northumberland .....	Hallington (Fawcett) .....	28·73	29·12	23·14	5·98	— 21
„	„ .....	Rothbury (Craggside) .....	33·27	34·41	28·05	6·36	— 18
„	„ .....	Pawston [Coldstream] ..	30·00	(31·30)	22·45	8·85	— 28
„	Cumberland .....	Borrowdale (Seathwaite) <i>4in.g.</i>	135·75	132·74	96·97	35·77	— 27
„	„ .....	Carlisle Cemetery .....	33·04	31·64	25·52	6·12	— 19
„	Westmoreland .....	Kirkby Stephen ...	46·05	42·12	32·44	9·68	— 23
XI.	Monmouth .....	Abergavenny (Larchfield) .....	34·91	37·82	34·23	3·59	— 9
„	Glamorgan .....	Cardiff (Ely) .....	39·51	42·81	35·15	7·66	— 18
„	„ .....	Neath .....	47·28	(50·50)	40·54	9·96	— 20
„	Carmarthen .....	Llandilo (Dynevour Castle) ...	50·57	(52·80)	44·81	7·99	— 15
„	Pembroke .....	Pembroke (Stackpole Court) ...	37·70	(41·20)	34·75	6·45	— 16
„	„ .....	Castle Malgwyn [Llechryd] ...	40·85	43·85	38·40	5·45	— 12
„	Cardigan .....	Aberystwith (Gogerddan) ...	44·67	45·41	36·08	9·33	— 21
„	Brecknock .....	Cantrefw Rectory .....	<i>o.g.</i> 46·39	(51·10)	34·91	16·19	— 32
„	Radnor .....	Rhayader (Nantgwillt) ... <i>o.g.</i>	56·82	61·45	47·31	14·14	— 23
„	Montgomery .....	Churchstoke (Mellington Hall) ..	28·57	(31·80)	29·13	2·67	— 8

ENGLAND & WALES.—*Continued.*

DIV.	COUNTY.	STATION.	Average, 1890-9.	Average, 1870-99.	Depth in 1902.	Difference from average, 1870-99.	Per Amount, cent
			in.	in.	in.	in.	
XI.	Flint .....	St. Asaph (Nantlys) .....	26·30	28·71	25·01	3·70	— 13
„	Merioneth .....	Llanderfel (Pâlê) .....	45·65	(48·20)	40·66	7·54	— 16
„	Carnarvon .....	Llanystumdwy (Talarvor) ...	35·56	35·83	31·75	4·08	— 11
„	Anglesea .....	Llanerchymedd (Llwydiarth Esgob) ...	38·60	38·21	32·64	5·57	— 15
„	Isle of Man ...	Douglas (Woodville) .....	41·83	(43·30)	38·07	5·23	— 12
„	Scilly .....	St. Mary's .....	31·23	(32·80)	25·33	7·47	— 23

## SCOTLAND.

XII.	Wigton .....	Stoneykirk (Ardwell House)...	34·77	(35·05)	36·08	1·03	+ 3
„	Kirkcudbright.	Auchencairn (Torr House) ...	46·02	(46·45)	37·54	8·91	— 19
„	„	Gatehouse (Cally) .....	47·90	48·74	55·60	6·86	+ 14
„	„	Cargen [Dumfries] .....	43·90	43·43	37·21	6·22	— 14
„	Dumfries .....	Langholm (Ewes School) .....	52·19	(54·10)	36·85	17·25	— 32
„	„	Moffat (Ericstane) .....	52·60	54·97	39·90	15·07	— 27
„	Roxburgh .....	St. Boswells (Elliston) .....	27·56	29·38	23·67	5·71	— 19
XIII.	Berwick .....	Marchmont House .....	31·86	34·91	24·38	10·53	— 30
„	Haddington ..	Prestonkirk (Smeaton) .....	24·33	25·72	20·56	5·16	— 20
„	Edinburgh.....	Pentland Hills (Glencorse) ...	38·93	39·55	28·15	11·40	— 29
XIV.	Lanark .....	Biggar (Cambus Wallace).....	31·06	30·72	20·97	9·75	— 32
„	„	Airdrie (Hillend Res.) .....	38·68	37·30	26·89	10·41	— 28
„	Ayr.....	Girvan (Pinmore) .....	46·98	48·87	46·35	2·52	— 5
„	„	Kilmarnock (North Craig) ...	42·45	39·46	38·30	1·16	— 3
„	Renfrew.....	Gorbals W. W. (Waulk Glen)..	49·00	46·91	35·20	11·71	— 25
XV.	Stirling .....	Stirling (Polmaise Gardens)...	34·59	35·80	23·85	11·95	— 33
„	Bute .....	Rothsay (Barone Cottage) ...	46·35	(47·70)	41·73	5·97	— 13
„	Argyll .....	Inveraray Castle .....	78·67	(69·10)	64·28	4·82	— 7
„	„	Appin (Airds) .....	55·56	55·90	42·67	13·23	— 24
„	„	Strontian (Laudale) .....	68·69	(72·20)	77·64	5·44	+ 8
„	„	Kintyre (Skipness Castle).....	50·14	49·18	42·14	7·04	— 14
„	„	Islay (Ardbeg) .....	43·00	(44·60)	43·33	1·27	— 3
„	„	Mull (Quinish) .....	56·30	(57·50)	52·61	4·89	— 9
XVI.	Kinross .....	Loch Leven Sluice.....	35·83	36·20	27·55	8·65	— 24
„	Fife .....	Kilconquhar (Balcarres) .....	32·93	(34·90)	25·21	9·69	— 28
„	Perth .....	Bridge of Turk .....	60·56	66·66	49·70	16·96	— 25
„	„	Balquhiddy (Stronvar).....	72·98	(74·70)	61·25	13·45	— 18
„	„	Crieff (Ochertyre).....	39·44	(41·50)	35·48	6·02	— 15
„	Forfar .....	Dundee (Eastern Necropolis)..	27·55	28·95	23·15	5·80	— 20
„	„	Kirriemuir (Lintrathen) .....	33·03	(35·60)	33·00	2·60	— 7
„	„	Montrose (Sunnyside Asylum)	26·98	29·16	25·42	3·74	— 13
XVII.	Aberdeen .....	Braemar .....	34·51	36·07	31·84	4·23	— 12
„	„	Cromar (Tillypronie).....	31·73	30·65	33·14	2·49	+ 8
„	„	Ellon (Mains of Waterton) ...	30·09	30·91	25·69	5·22	— 17
„	Banff .....	Keith .....	33·84	32·72	33·95	1·23	+ 4
„	Elgin .....	Grantown .....	31·69	31·00	31·98	·98	+ 3
„	Nairn .....	Nairn (School House) .....	25·42	(24·60)	21·45	3·15	— 13



## SCOTLAND—Continued.

DIV.	COUNTY.	STATION.	Average, 1890-9.	Average, 1870-99.	Depth in 1902.	Difference from average 1870-99.	
						Per Amount.	cent.
XVIII.	Ross, West	Strathconan (Dalbreac).....	53·62	(50·90)	41·88	9·02	— 18
"	"	Braemore House.....	64·48	58·56	58·20	·36	— 1
"	" East	Alness (Ardross Castle).....	38·14	37·84	33·84	4·00	— 11
"	Inverness, West	Loch Shiel (Glenaladale) .....	108·85	105·29	90·31	14·98	— 14
"	"	Glenquoich .....	112·44	108·26	102·49	5·77	— 5
XIX.	Sutherland	Invershin .....	32·66	32·76	27·51	5·25	— 16
"	"	Golspie (Dunrobin Castle).....	32·26	(31·60)	25·64	5·96	— 19
"	Caithness	Watten, H.R.S. ....	28·03	(27·40)	21·42	5·98	— 22
"	Orkney	S. Ronaldshay (Roeberry).....	36·09	33·15	25·43	7·72	— 23

## IRELAND.

XX.	Cork	Roche's Point .....	43·32	(47·20)	32·67	14·53	— 31
"	Kerry	Darrynane Abbey .....	49·31	(51·70)	39·21	12·49	— 24
"	"	Valencia (Glanleam) .....	55·30	(55·90)	50·23	5·67	— 10
"	Waterford	Waterford (Brook Lodge).....	38·56	(39·30)	40·25	·95	+ 2
"	"	Glenam [Clonmel] .....	40·89	42·17	(46·80)	4·63	+ 11
"	Tipperary	Derry Castle [Killaloe] .....	47·55	(47·70)	35·10	12·60	— 26
"	Clare	Miltown Malbay .....	45·31	(44·50)	32·26	12·24	— 28
XXI.	Wexford	Enniscorthy (Ballyhyland) ...	41·45	42·87	44·14	1·27	+ 3
"	"	Gorey (Courtown House) .....	33·62	35·72	32·34	3·38	— 9
"	Wicklow	Bray (Fassaroe) .....	39·68	40·55	47·82	7·27	+ 18
"	Carlow	Carlow (Browne's Hill).....	33·65	34·44	34·50	·06	+ 0
"	King's Co.	Parsonstown (Birr Castle) .....	32·96	33·06	28·24	4·82	— 15
"	Dublin	Dublin (Fitz William Square)..	27·30	27·75	29·38	1·63	+ 6
"	Meath	Moynalty (Westland) .....	36·67	(37·40)	34·55	2·85	— 8
"	West Meath	Athlone (Twyford).....	35·83	38·42	30·90	7·52	— 20
"	"	Mullingar (Belvedere) .....	36·50	(36·50)	30·68	5·82	— 16
XXII.	Galway	Ahascragh (Clonbrock) .....	39·32	(40·40)	34·34	6·06	— 15
"	"	Clifden (Kylemore House) ...	79·82	(80·20)	61·83	18·37	— 23
"	"	Tuam (Gardenfield) .....	42·18	(41·90)	35·50	6·40	— 15
"	Mayo	Crossmolina (Enniscoe) .....	52·60	(50·50)	46·27	4·23	— 8
"	Sligo	Collooney (Markree Obsy.) 1 ft.	41·27	41·83	38·36	3·47	— 8
XXIII.	Armagh	Armagh Observatory .....	30·97	31·36	31·73	·37	+ 1
"	Down	Warrenpoint (Summer Hill)...	36·44	(38·70)	37·79	·91	— 2
"	"	Seaforde .....	36·27	38·61	42·68	4·07	+ 11
"	"	Banbridge (Milltown) .....	30·23	31·47	31·02	·45	— 1
"	"	Donaghadee .....	30·39	(32·00)	30·69	1·31	— 4
"	Antrim	Belfast (Antrim Road) .....	35·28	34·57	37·01	2·44	+ 7
"	"	Ballymena (Harryville) .....	39·52	(39·60)	38·77	·83	— 2
"	"	Bushmills (Dundarave) .....	36·70	(38·20)	32·57	5·63	— 15
"	Londonderry	Garvagh (Moneydig) .....	37·95	39·16	36·14	3·02	— 8
"	"	Londonderry (Creggan Res.) ..	41·36	(41·20)	36·48	4·72	— 11
"	Tyrone	Stewartstown (The Square) ...	36·14	(35·10)	33·47	1·63	— 5
"	"	Omagh (Edenfel) .....	39·66	37·85	39·25	1·40	+ 4
"	Donegal	Killybegs .....	59·87	(59·40)	45·28	14·12	— 24
"	"	Buncrana (Rockfort).....	40·24	(41·50)	36·51	4·99	— 12

## EXTREMES OF RAINFALL IN 1902.

Largest Rainfall, at Ben Nevis Observatory, Inverness .....	157·09 in.
Least Rainfall, at Oakleigh, Higham, Kent.....	15·12 „

### ENGLAND.

GREATEST.		LEAST.	
Div.	in.	Div.	in.
X. The Sty, A .....	124·78	II. Higham (Oakleigh).....	15·12
„ Styehed Tarn .....	105·48	IV. Shoburness .....	15·24
„ Mickleden .....	100·08	III. St. Neots (Great Paxton) ...	15·60
„ Sprinkling Tarn .....	98·80	IV. Grays Sewage Works.....	15·66
„ Borrowdale (Seathwaite)...	97·16	III. Cambridge Observatory.....	15·82
„ Ullscarf .....	92·20	„ Gamlingay (Old Woodbury)	16·24

### MONMOUTH, WALES AND THE ISLANDS.

GREATEST.		LEAST.	
Div.	in.	Div.	in.
XI. Eigiau, Upper, No. 15 .....	99·00	XI. Hawarden(HawardenBridge)	19·24
„ „ Lake, No. 3 .....	89·27	„ Rhyl .....	19·96
„ Llanbedr-y-Cennin(Lyndulyn)	87·94	„ Llandwyn Island.....	20·96
„ Garthbibio (Bwlch Tomlyd).	75·40	„ Aberystwith(CastleGrounds)	22·17
„ Dolwyddelan (Tynyddol) No.1	72·67	„ Llanefydd (Plas Uchaf Res.)	22·56
„ Rhiwbrydir = Oakley Quarries	69·81	„ Monmouth (The Hendre) ...	23·63

### SCOTLAND.

GREATEST.		LEAST.	
Div.	in.	Div.	in.
XVIII. Ben Nevis Observatory ...	157·09	XIII. Musselburgh (Levenhall) ...	15·33
„ Glenquoich .....	102·49	„ Drummore [Musselburgh]...	16·18
„ Skye (Strathaird) .....	97·56	„ Edinburgh (George Square).	16·23
„ Loch Shiel (Glenaladale) ...	90·31	„ Leith .....	16·42
XV. Ben Lomond .....	89·50	„ Edinburgh(R.Obs.BlackfordHill)	16·44
„ Mull (Bunessan) .....	86·15	„ „ (City Observatory)	16·51

### IRELAND.

GREATEST.		LEAST.	
Div.	in.	Div.	in.
XX. Kenmare (Derreen).....	69·88	XXI. Banagher .....	25·33
XXII. Clifden (Kylemore Castle)...	65·77	„ Drumconrath (Corstown Ho.)	26·40
XXIII. Newcastle (Tullymore Park)	61·99	„ Dublin (Phoenix Park) .....	26·46
XXII. Clifden (Kylemore House)...	61·83	„ Donnybrook (Seaview Terr.)	27·18
XX. Gap of Dunloe (Garrymeen)	60·50	„ Lucan (The Garden) .....	27·63
XXIII. Castletwellan (Lough Island)	59·22	„ Edgworthstown(CurrygraneHo.)	27·97

### NOTE.

Second gauges, and those at Lighthouses, are excluded from the above, and in selecting the minima, no record is used from any gauge of which the receiving surface is more than 3 ft. above ground.

**GENERAL TABLES**  
**OF**  
**TOTAL RAINFALL IN 1902,**  
**AT ABOUT**  
**3500 STATIONS**  
**IN THE**  
**BRITISH ISLES.**

## EXPLANATION OF THE ARRANGEMENT OF THE FOLLOWING GENERAL TABLES.

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The divisions are the same as those adopted by the Registrars General of England and Scotland, and the counties follow the same order as in the reports of those officers ; but an alphabetical list of the counties is given, whereby the page or pages on which all returns from each county will be found, can be at once ascertained.

The stations in each county are arranged nearly in the order of their latitude from South to North.

To facilitate finding the locality of any gauge, the first name is almost always that of a place given in *Bradshaw*, the *Post Office Guide*, or the *Clergy Directory* ; the second name is generally added to fix accurately the site of Observation ; but, in a very few instances, when in [ ] instead of ( ), it is that of the nearest town in an adjoining county ; *e.g.*, “Haslemere (Weycombe)” means Weycombe near Haslemere, both in one county ; but “Geldeston [Beccles]” means Geldeston, Norfolk, near Beccles, in another county—Suffolk.

The contents of the columns are sufficiently explained by the headings, except that in that headed “diameter,” figures will be noticed of old-style type ; these figures indicate the length of the sides of rectangular mouthed gauges. These measurements are all in inches.

The letter D denotes that a copy of the daily record has been received, that it is perfect throughout the year, and that the printed amount is the correct total of these daily entries. The letter M indicates that the gauge is read only on the first of each month.

A few entries of total rain will be found in italics—indicating uncertainty as to the fall owing to slight accidents to the rain gauge.

An asterisk \* denotes that the gauge was tested before erection, and a † that it has been visited and examined since. A note of interrogation (?) implies doubt, not necessarily error. ... indicates the absence of information.

In the column of altitudes several symbols are used, their meaning is as follows :— $\nabla$ , that a series of levels has been taken from the gauge to an Ordnance bench mark ; I, that the height is estimated or ascertained approximately from the same source ; L, that levels have been taken from the gauge to the sea, or to some datum other than Ordnance mean sea level ; B, that the altitude has been taken by the barometer ; and ?, that the height is uncertain.

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## ENGLAND AND WALES.

## DIVISION I.—MIDDLESEX.

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
MIDDLESEX.						
Hampton (Southwark W. W.)...	J. W. Restler, Esq., C.E.	5	2 0	...	19·97	...
D Sunbury (Hanworth Road) .....	W. B. Bryan, Esq., C.E.	8	0 6	50 A	20·96	184
D Staines (Belle Vue) ... ..	J. Gundry, Esq. ....	5	1 0	51 A	22·46	168
„ (Cambria House) .....	C. Ashby, Esq. ....	5	1 0	50 P	22·15	145
D Twickenham (Sewage Works)...	F. W. Pearce, Esq. ...	5	1 7	37 A	20·27	145
„ ( „ „ „ ) M	„ „ „ „	5	1 7	37 A	21·08	...
D Chelsea (Pumping Station) .....	MFitzmaurice EsqCMG	8	1 0	19 A	19·36	136
D „ (St. Luke's Gardens) ...	TWE.Higgins, Esq. CE	5	1 0	25 A	19·12	165
D Isle of Dogs .....	MFitzmaurice EsqCMG	8	1 0	15 A	18·11	154
D Acton (Newburgh Road) .....	Miss Baker .....	5	1 6	86 T	22·54	173
Ealing (Public Buildings).....	C. Jones, Esq., C.E. ...	5	9 0	114	20·52	155
„ (Gordon Road) .....	J. Box, Esq. ....	5	10 0	85 T	19·59	156
„ (Castle Bar Road).....	T. Simpson, Esq. ....	5	1 0	152	19·82	139
„ (St. Stephen's Road) ...	H. W. Peal, Esq. ....	8	2 2	159 T	18·93	135
Westminster (Chester Sq., S.W.)	C. Lethbridge, Esq. ...	5	10 0	...	19·12	176
„ (Spring Gardens)(1)	MFitzmaurice EsqCMG	8	66 4	95 A	16·91	...
„ ( „ „ „ )(2)	„ „ „ „	12	65 11	95 A	16·94	...
„ ( „ „ „ )(3)	„ „ „ „	8	6 0	35 A	17·77	...
D Kensington (Edith Road).....	G. von U. Searle, Esq.	5	0 10	16 T	19·32	164
D „ (V. & A. Museum) ..	Genl. Festing, F.R.S...	8	0 6	27 A	20·44	186
D „ (Holland House) ...	Mr. C. Dixon .....	5	4 6	68 A	19·12	160
D „ (Addison Gardens)...	G. H. M. Whish, Esq..	5	1 1	23 T	19·40	159
D „ (Campden Hill).....	H. F. Rutter, Esq., C.E.	8	4 10	130 A	17·72	130
D London (Westbourne Grove, W.)	A. P. Baker, Esq. ....	5	0 9	64 T	20·97	155
D „ (Strand, W.C.) .....	J. H. Steward, Esq. ..	5	45 0	80	20·55	166
D „ (Mile End, E.) .....	J. Metson, Esq. ....	5	14 0	...	20·14	136
D „ (City Road) .....	J. Bigwood, Esq., M.P.	5	1 2	...	19·02	142
„ (Old Street, E.C.) .....	The Royal Meteor. Soc.	5	1 0	70 T	18·64	170

## DIVISION I.—MIDDLESEX.—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which .01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
MIDDLESEX—(con.)						
Uxbridge (Cowley) .....	H. Judson, Esq....	5	1 0	125	21·10	155
Perivale (Sewage Farm) .....	C. Jones, Esq., C.E. ...	5	12 0	56	17·64	136
London (Regent's Pk. R. Bot. Soc.)	J. B. Sowerby, Esq. ...	8	1 0	126 $\pi$	20·16	164
„ (Hamilton Terrace, N.W.)	Miss Cobb .....	5	0 11	125 $\uparrow$	21·80	187
D „ (Barrow Hill, N.W.) ...	H. F. Rutter, Esq., C.E.	5	3 4	196 $\pi$	19·42	167
D „ (Old Ford, E.) .....	M Fitzmaurice Esq CMG	8	1 0	35 $\pi$	18·11	142
D „ (New River Head, E.C.)	J. Francis, Esq., C.E..	5	3 8	100	17·41	153
D† „ (Camden Square, N.W.)	HS Wallis, Esq & Dr. Mill	8	0 8	111 $\pi$	20·84	162
† „ ( „ „ ) .....	M „ „ „	5	1 0	111 $\pi$	20·94	...
D Willesden Reservoir .....	H. F. Rutter, Esq., C.E.	5	2 6	199 $\pi$	20·62	166
D Willesden Green (Strode Road)..	Miss Lamport.....	5	1 0	150	22·46	160
D Hampstead (Kidderpore Reserv.)	H. F. Rutter, Esq., C.E.	8	1 6	323 $\pi$	28·73	169
† „ (Squire's Mount) ...	The Misses Field .....	5	1 0	388 $\pi$	18·89	...
D Lea Bridge .....	W. B. Bryan, Esq., C.E.	8	0 6	23 $\pi$	18·73	163
D Finsbury Park (New River Works)	E. L. Morris, Esq., C.E.	5	1 0	101 $\pi$	19·83	148
D Stoke Newington („ „ „)	J. Francis, Esq., C.E...	5	4 0	105 $\pi$	20·04	162
D Highgate (North Hill) .....	E. J. Lovegrove, Esq., CE	5	3 10	302	24·01	143
D† Child's Hill (Helenslea).....	A. J. Woodhouse, Esq.	5	1 6	245 $\uparrow$	21·15	154
D Harrow .....	J. P. Bennetts, Esq., C.E.	5	1 0	215	22·16	157
Crouch End (Aubrey Road).....	A. Morris Butler, Esq.	5	1 0	140	22·21	...
D Hornsey (High Street) .....	E. J. Lovegrove, Esq., CE	8	4 3	97	21·93	145
D „ ( „ „ ) .....	J. Francis, Esq., C.E..	5	4 0	109	20·99	164
D Muswell Hill .....	Miss Abethell.....	5	0 10	310 $\uparrow$	24·39	162
D „ „ (Irish Corner-Sew. Farm)	E. J. Lovegrove, Esq., CE	8	4 8	216 $\pi$	23·65	154
Wealdstone House.....	Miss L. M. Cobb .....	5	0 11	236 $\uparrow$	20·31	...
D† Finchley (Etchingham Park) ..	Mrs. J. W. Scott .....	5	1 2	295 $\uparrow$	21·64	168
† „ ( „ „ ) .....	„ „ „ „	8	1 3	295 $\uparrow$	21·78	168
D Uxbridge (Harefield Park) .....	Mr. W. J. Clark .....	5	0 10	290	23·93	139
„ ( „ „ ) .....	The Meteor. Council .....	...	...	...	22·69	135
D Pinner (Moss Cottage) .....	Mrs. Birkett .....	5	1 0	209	20·55	141
„ Green (Northwold) .....	Miss Stanley Smith ..	8	0 10	200 $\uparrow$	21·85	139
D Harrow Weald (Hill House) ...	A. Crossman, Esq.....	5	3 6	284	23·62	204
D North Finchley .....	G. B. Shoults, Esq. ...	5	0 6	295 $\uparrow$	22·39	168
D Friern Barnet (Sewage Works)..	Baldwin Latham Esq CE	5	1 0	156 $\pi$	20·76	141
D Enfield (Ponders End) .....	W. B. Bryan, Esq., C.E.	8	1 6	45 $\pi$	19·08	124
D „ (Old Park) .....	A. L. Ford, Esq. ....	5	1 9	156 $\uparrow$	21·54	145
D „ (Southbury Road).....	J. Francis, Esq., C.E..	5	4 0	109 $\uparrow$	20·57	164
D „ (Carisbrooke) .....	J. McEwan, Esq. ....	5	1 0	204 $\pi$	21·62	165
D „ (Chace Court) .....	A. G. Kitching, Esq....	5	1 6	...	22·51	161
D Rammey Marsh [Waltham Abbey]	W. B. Bryan, Esq., C.E.	8	1 6	60 $\pi$	19·87	141
D Potters Bar (Little Heath) .....	Henry Ellis, Esq. ....	5	4 0	375	20·60	164

## DIVISION II.—SOUTH EASTERN COUNTIES.

## SURREY.

D Haslemere (Lower Street).....	J. W. Penfold, Esq. ...	8	4 0	481 $\pi$	28·74	165
D „ (Hazelhurst) .....	T. P. Newman, Esq. ...	5	1 0	550 $\uparrow$	29·66	186

## DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
SURREY—(con.)						
Haslemere (Hazelhurst) <i>Snowdon</i>	T. P. Newman, Esq. ....	5	1 0	550 T	29·20	182
„ (Grayswood Hill) ...	B. E. C. Chambers, Esq.	5	1 0	580 T	26·91	...
Dunsfold (Durfold) .....	Miss Billiter .....	5	1 0	225 T	23·80	...
Chiddingfold (Beaconscroft).....	Admiral Maclear .....	5	1 0	230 T	23·72	191
Dunsfold Rectory .....	Rev. W. H. Winn.....	5	1 0	170	22·70	...
Haslemere (Weycombe) .....	G. B. Buckton, Esq. FRS.	5	1 0	562 T	24·40	...
Hambledon (Matteryes) .....	J. Borrowman, Esq. ...	5	4 6	300	22·42	195
Witley (Fernside) .....	Mrs. J. H. Foster .....	5	1 0	350 T	23·81	171
Hascombe Rectory.....	the Rev Canon Musgrave	8	1 0	450 T	23·16	...
„ (Hall Place).....	E. L. Rowcliffe, Esq. ...	8	1 5	273 T	23·75	135
Cranleigh Common (Homefield Cott.)	A. F. Jones, Esq. ....	5	1 2	175 T	23·35	159
„ „ .....	W. Welch, Esq. ....	5	1 0	182 T	23·04	...
„ „ (County School) .....	Royal Meteor. Soc. ....	5	1 0	232 T	22·39	166
„ „ (Winterfold) .....	Mr. R. Turvey .....	8	3 6	603 T	25·30	150
Ewhurst (Malquoits).....	W. Webb, Esq. ....	5	1 6	400	25·26	193
„ „ (Coneyhurst) .....	Miss Ewart.....	8	1 0	561 T	25·16	186
„ „ (Heathside) .....	J. Sparkes, Esq. ....	5	1 6	600 T	26·28	138
„ „ (Woolpits) .....	Mr. H. W. Perrin .....	5	1 0	600	27·51	...
Abinger (Feldemore) .....	E. Waterhouse, Esq. ...	5	4 0	505 T	26·01	144
„ „ (Joldwynds, Holmbury)	F. Druce, Esq. ....	5	1 0	500	26·52	160
Bramley (Grafham Grange).....	J. C. McAndrew, Esq. ..	8	1 2	180	21·92	133
Godalming (Hurtmore Lane) ...	O. H. Latter, Esq. ....	5	1 0	310 T	23·81	191
Lyden Croft [Edenbridge] .....	Surg.-Gen. C. Planck ..	8	0 8	212 T	25·89	163
Wonersh (Shamley Green) ...	Mr. A. Nash.....	5	1 0	400	24·56	162
Bramley (Cloverlea) .....	J. Bartlett, Esq. ....	5	1 0	147	26·29	192
Godalming (Tilthams) .....	Col. A. C. Bigg-Wither	5	1 0	130 T	21·34	...
Abinger Rectory .....	Miss Brodie Hall .....	5	1 0	381	26·45	169
„ „ Hall .....	Right Hon. Lord Farrer	8	2 0	320 T	23·83	171
Farnham (The Bourne Vicarage)	Rev. T. W. Sidebotham	5	1 0	308 T	22·47	193
„ „ (Dippen Hall) .....	M. Birkbeck, Esq. ....	5	1 0	345 T	24·73	200
„ „ Castle .....	Mr. H. Dowding .....	8	1 0	300	23·12	128
„ „ (Short Heath Lodge).	Col. G. Chrystie.....	5	1 0	365 T	23·53	203
„ „ (Great Down, Seale)...	Mrs. Kitchin .....	8	1 0	490	20·23	136
Dorking (Fir Tor) .....	F. Taylor, Esq. ....	5	1 0	260	26·15	...
„ „ (Rose Hill) .....	H. Belfield, Esq. ....	5	1 3	250	25·56	173
„ „ (High Street) .....	Mr. J. Beetham Wilson	5	0 7	235 T	25·01	144
„ „ (West Street) .....	Mrs. W. A. Marsh.....	10	26 0	224 T	22·85	152
„ „ (Denbies).....	Mr. J. Beesley .....	5	0 9	610 T	25·26	138
Brockham (North Lodge) .....	H. R. Kempe, Esq. ...	8	0 9	160 T	21·03	...
Guildford (Newlands Corner) ...	Mr. H. Tann .....	5	...	550 ?	22·54	174
„ „ (Kair, Epsom Road)...	Miss Johnston .....	5	0 11	...	22·08	174
„ „ (Baskerville „ „) ..	J. H. Billing, Esq. ...	8	1 0	205	22·91	163
„ „ (Craigie, Merrow) ...	Miss Lomer.....	5	0 9	250 T	19·88	142
„ „ (Temple Court).....	Arthur H. Bowles, Esq.	8	4 0	264 T	21·63	...
Reigate (Hartswood).....	R. W. Clutton, Esq. ...	5	1 0	174	22·76	186
„ „ (Woodhatch Lodge) ...	C. B. Haywood, Esq. ...	5	1 0	270 T	24·28	166
„ „ (Ringley Mead) .....	R. L. Hesketh, Esq. ...	5	1 0	345 T	25·18	190
Earlswood (Sewage Farm) .....	F. T. Clayton, Esq., C.E.	8	1 0	196 T	22·67	149



## DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which .01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
SURREY—(con.)						
Red Hill (Hurstleigh) .....	Mrs. Stephenson .....	5	1 0	300	23·31	...
„ (Linkfield Lane) .....	F. C. Bayard, Esq. ...	5	1 0	350	23·90	...
d† „ (Oxford Road) .....	W. H. Tyndall, Esq....	8	1 0	300 A	24·28	182
Reigate (Aldersyde) ... ..	H. Rosling, Esq. ....	5	1 2	...	24·28	167
„ (Wray Lodge) .....	A. Rosling, Esq. ....	8	1 0	320 T	23·35	165
„ (Northcote) .....	F. C. Pawle, Esq. ....	5	0 8	360	24·62	162
d „ (Castle Grounds) .....	F. T. Clayton, Esq., C.E.	5	1 6	325 A	25·87	159
d „ (Leith Cottage) .....	Miss Pym .....	...	...	...	24·61	171
„ (Laglands) .....	J. Welch, Esq. ....	5	1 2	375 T	24·70	150
d „ (Nutwood) .....	H. E. Gurney, Esq. ...	5	0 9	440 T	22·21	185
d Nutfield Priory .....	Mrs. Fielden .....	8	1 2	468 A	23·18	179
„ „ .....	Mr. J. Moffat .....	8	1 2	431 T	23·76	180
d „ (Holmesdale) .....	C. T. Maw, Esq. ....	8	2 0	500 T	23·19	177
High Clandon .....	F. B. Eastwood, Esq...	5	0 6	500 T	22·24	...
d Betchworth (Sandhills).....	C. J. Whittington, Esq.	6	3 0	250 T	24·09	165
d „ (The Holmes) .. ...	F. R. Rushton, Esq....	5	0 8	322 T	24·79	184
Reigate (Hatherlow Obs.) .....	S. T. Klein, Esq.....	5	0 9	405	21·64	176
Dorking (High Ashurst) .....	Mr. G. Bond .....	5	10 0	550	22·05	...
d Merstham (Rockshaw) .....	F. C. Bayard, Esq. ...	5	1 0	475	23·89	173
d „ (Harp's Oak Cottage) ..	„ „ „ ..	5	1 0	454	22·82	180
d Upper Gatton .....	F. Druce, Esq. ....	5	1 0	601	23·77	193
d Horsley West.....	Sir H. E. Roscoe, F.R.S.	7	0 6	240	25·20	144
„ Towers .....	Capt. Hon L F King-Noel	8	1 2	285 A	23·08	...
„ (Woodcote Lodge) .....	Sir H. E. Roscoe, F.R.S.	7	0 6	650	26·11	...
d Pirbright Camp.....	Sergt. Elwick .....	5	1 0	201 T	20·04	151
Leatherhead (Downside) .....	A. Tate, Esq.....	5	1 0	250	22·56	...
d Chaldon Rectory .....	F. C. Bayard, Esq. ...	5	1 0	542	23·05	154
d Chipstead (Shabden Park) .....	„ „ „ ..	5	1 0	550	23·70	190
d Frimley Green .....	F. W. Talbot, Esq. ...	5	8 0	220 A	18·83	137
„ „ (Ridgemount)....	C. Haviland, Esq.....	5	0 9	350	22·99	183
d Caterham Asylum .....	Dr. Campbell .....	5	1 0	610 A	24·64	178
d Caterham Valley (Bradenhurst)	Henry Haes, Esq. ....	5	1 0	510	27·40	170
d Kenley (Hazelea) .....	Mrs. Carr Dyer .....	8	1 0	282	22·61	199
d Warlingham (Egremont) .....	H. Rogers, Esq.....	5	1 0	614	24·96	178
d Ashted (D'Abernon Chase) ...	Sir W. Vincent, Bart..	5	1 0	280 T	22·36	157
d Woking .....	Rev. F. Wilson .....	5	0 10	78 T	21·96	150
d Pyrford (Pyrford Croft) .....	H. W. Page Phillips, Esq.	5	1 6	...	25·00	176
d Cobham (Hatchford) .....	W. M. Chinnery, Esq..	8	1 0	140	22·34	158
d Horsell (Lindisaye) .....	H. Horncastle, Esq. ...	5	4 2	120 T	20·90	155
„ „ „ .....	M „ „ „ ..	5	0 9	120 T	20·95	...
d Oxshott .....	W. H. Dines, Esq. ...	5	1 0	206 A	20·32	151
Banstead (Burgh Heath Res.)...	W Vaux Graham Esq CE	5	1 0	570 A	22·46	...
d „ (The Larches) .....	Rev. C. J. Taylor .....	8	1 0	488 T	23·83	168
d „ (Benhilton) .....	F. C. Bayard, Esq. ...	5	1 3	125	20·98	170
Camberley (Park Road) .....	Mr. J. Bryan.....	5	1 0	255 B	21·80	163
Chelsham (Fairchildes).....	A. S. Daniell, Esq. ...	8	1 0	600 T	21·70	...
„ „ „ .....	Mr. G. Mansfield .....	5	0 10	600 T	20·33	...
d Epsom (Water Works).....	W Vaux Graham Esq CE	5	1 11	149 A	19·95	123

## DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which .01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
SURREY—(con.)						
D Sanderstead (Red House).....	F. C. Bayard, Esq. ...	5	1 0	320	20.65	191
D Chobham (The Elms) .....	Mrs. Brown .....	5	2 3	98	25.06	169
D Chertsey (Ottershaw) .....	R. H. Otter, Esq. ....	5	1 0	200 T	22.02	184
D Bagshot (Hall Grove) .....	Mr. W. Burgess.....	8	1 0	229 T	22.11	181
Chertsey (Long Cross) .....	F. A. Baker, Esq.....	5	3 0	200 T	20.07	..
D Windlesham (Erlwood).....	E. S. Currey, Esq.....	5	1 0	216 T	20.02	143
D „ (Westwood) .....	Col. G. A. Curzon .....	5	11 0	300 T	22.14	139
Weybridge (Heath Field).....	Miss A. T. Gardiner ..	5	1 0	100	23.78	164
D „ (West Oaks) .....	A. Whittet, Esq. ....	5	1 0	36 T	23.94	179
D „ (St. Mary's Lodge)..	W. Talbot Agar, Esq..	5	4 6	100	25.39	187
D „ .....	Maj.-Gen. Battersby ..	5	0 10	40	25.23	162
D Esher (Sewage Works).....	F. C. Bayard, Esq. ...	5	1 0	42 T	22.70	169
D Addington (Hares Bank).....	„ „ „ .....	8	1 0	331 T	22.05	184
D „ (Park Farm) .....	„ „ „ .....	5	1 0	268 T	23.68	176
D „ Hills .....	„ „ „ .....	8	0 9	473 T	21.59	199
D Wallington.....	„ „ „ .....	5	4 1	140 T	22.38	161
D Sutton (Sewage Works) .....	C. C. Smith, Esq., C.E.	8	1 0	94 T	21.03	183
D „ (Water Works)..	W Vaux-Graham Esq CE	5	1 0	157 T	22.28	163
D Carshalton (Sewage Works).....	Baldwin Latham Esq CE	5	1 0	118	21.44	130
Beddington (Riverside).....	The Royal Meteor. Soc.	5	1 0	120	21.45	164
Croydon (Heathfield Road) .....	late J Glaisher, Esq. FRS	8	0 5	185	20.96	127
D „ (Duppas House).....	Baldwin Latham Esq CE	8	1 0	158	20.67	165
D „ (Waddon New Road)..	G. Corden, Esq.....	5	1 0	146	20.59	176
D „ (The Whitgift) .....	F. C. Bayard, Esq. ...	5	1 0	191 T	21.98	171
D „ (Brimstone Sew. Works)	„ „ „ .....	5	1 0	130 T	21.83	145
D „ (Park Hill Rise) .....	H. F. Parsons, Esq., M.D.	5	1 3	240	18.65	196
D „ (Windmill Road) .....	A. Malden, Esq.....	5	1 6	174 T	21.22	170
D „ (Ashburton Road) ...	J. E. Clark, Esq. ....	5	1 0	188	20.92	183
D Worcester Park (Manor Lodge).	F. C. Bayard, Esq. ...	5	1 9	120	20.07	158
D New Malden (Sewage Works)...	„ „ „ .....	5	1 0	45	16.65	154
D Morden (Steel Hawes) .....	Miss R. Hames .....	...	3 2	108	20.31	183
D Virginia Water (Lyne Grove)...	T. J. Hare, Esq. ....	5	0 11	150 T	22.50	196
D Thames Ditton (Weston Green).	Mr. T. H. Potter .....	8	1 0	35 T	21.79	184
Surbiton (Seething Wells) ...	H. E. H. Wrinch Esq. CE	10	0 6	34	20.42	155
D „ (Vronvelin).....	F. J. Barclay, Esq.....	5	1 0	50	22.30	181
West Molesey.....	H. E. H. Wrinch Esq. CE	5	1 0	32 T	21.96	163
D St. Ann's Heath (Sanatorium)...	Rev. J. Peck .....	8	1 1	120	19.64	166
D Kingston Sewage Works .....	F. C. Bayard, Esq. ...	5	1 0	25	22.41	168
„ (Union Street) .....	Mr. Davis .....	8	3 0	...	20.88	145
D Wimbledon (Raynes Park) .....	C. H. Cooper, Esq., C.E.	5	1 0	50 T	21.18	185
D „ (Sewage Works).....	„ „ „ .....	5	1 3	55 T	18.82	154
D „ (The Downs).....	F. C. Bayard, Esq.....	5	1 1	162	21.00	161
D „ (The Windmill).....	„ „ „ .....	5	1 0	172	20.77	157
D „ Common (Richmond Ho.)	E. Rawlings, Esq.....	5	1 3	175 T	22.28	191
„ „ (The Priory) ..	H. J. Hunt, Esq. ....	...	...	...	22.82	...
„ „ Park (Woodhouse)..	Sir A. E. Bateman ...	5	1 1	150	21.65	144
D South Norwood (Apsley Road)...	F. C. Bayard, Esq. ...	5	1 0	125	22.38	152
Upper Norwood (Fox Hill Gdns.)	W. H. R. Ryves, Esq.	5	0 9	300 T	22.40	...

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which "01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
<b>SURREY—(con.)</b>						
West Norwood (Thornlaw Road)	W. Marriott, Esq. ....	5	1 0	221	21·45	184
Streatham (Woodfield Avenue)..	F. Jordan, Esq. ....	5	1 0	120 †	20·44	196
D Dulwich Wood Park.....	H. V. Caldicott, Esq....	5	1 2	276	21·38	151
D Wandsworth Com. (Patten Rd.)	F. C. Bayard, Esq. ...	5	1 0	100	20·90	171
Putney Heath... ..	H.E.H. Wrinch Esq. CE	5	1 6	180 †	20·18	173
D Richmond (The Terrace) .....	F. C. Bayard, Esq. ...	8	1 6	109	21·26	161
D " (Kew Observatory) ..	Dr. C. Chree, F.R.S. ...	11	1 9	19 †	21·43	162
D Clapham Park (New Park Road)	D. W. Horner, Esq. ...	5	1 3	128 †	19·57	167
Brixton (Acre Lane) .....	The Meteor. Council ...	8	1 0	77 †	20·37	173
D Nunhead (Southwark W. W.)...	J. W. Restler, Esq., C.E.	5	4 0	176	16·64	134
D Denmark Hill .....	Col. E. P. Maltby .....	5	1 0	95	20·74	164
D Battersea (Southwark W. W.)...	J. W. Restler, Esq., C.E.	5	3 6	21	15·65	130
D Nine Elms (Heathwall) .....	MFitzmaurice EsqCMG	8	37 0	51 †	16·80	136
<b>KENT.</b>						
Dungeness .....	The Meteor. Council ...	8	1 3	75 †	16·86	151
Littlestone .....	" " " " .....	5	...	...	18·04	139
D Hawkhurst (Sandhurst Rectory)	Rev. G. Ridout .....	5	1 3	208 †	23·90	151
Dymchurch Rectory .....	Rev. C. E. Plater .....	8	1 6	5	21·06	...
Tenterden (Summerhill) .....	Mrs. Wilkin .....	8	1 0	149 †	22·31	178
" " " " new g. ....	" " " " .....	5	1 0	150 †	23·37	178
Benenden (Pullington) .....	Major H. Neve .....	5	1 0	330	23·66	171
" (East End) .....	J. Ellis Mace, Esq. ....	8	1 2	193 †	21·89	...
D Tenterden .....	" " " " .....	8	1 5	190 †	21·59	192
D " " " " Snowdon .....	" " " " .....	8	1 5	190 †	21·14	180
" (West Cross) .....	J. Munn Mace, Esq. ...	5	1 0	...	21·07	138
" (Little Westwell) ...	Mrs. Hilder .....	5	1 0	140 †	20·99	...
" (Ashbourne Mills) ...	A. Pinyon, Esq.....	5	1 6	45	20·83	...
D Woodchurch .....	Rev. A. Welch .....	5	5 0	107 †	25·98	117
D† Hythe .....	Messrs. Mackeson & Co.	8	0 6	12 †	22·30	157
D " (Hillcrest Road) .....	J. B. Jordan, Esq. ....	5	1 0	190 †	22·02	167
D " (Sandling Park) .....	Lawrence Hardy EsqMP	8	1 0	268	26·36	154
D† " (Hillhurst Farm) .....	G. F. Deedes, Esq. ...	5	2 0	280 †	26·28	174
D Sandgate .....	A. R. Bowles, Esq., C.E.	5	1 0	56 †	21·06	156
Cranbrook (Swattenden) .....	Miss Appach .....	8	1 2	350 †	23·33	152
† " (Hartley) .....	G. Pile, Esq. ....	5	4 0	405 †	23·44	...
" " " " .....	" " " " .....	5	0 8	290	25·39	177
Biddenden (Sandpit Wood) .....	J. Ellis Mace, Esq.....	5	1 0	222 †	21·81	...
Goudhurst (Scotney Castle) .....	E. W. Hussey, Esq....	5	3 6	203 †	20·73	...
† Folkestone (Sanatorium) .....	M. Yunge Bateman, Esq.	5	1 0	101 †	22·46	152
D† " (Radnor Park) .....	J. W. Stainer, Esq. ...	5	4 8	129 †	21·99	143
D† " (Cherry Gardens) ...	H. Turner, Esq.....	5	1 6	230 †	25·67	167
† " (Capel Lodge).....	E. Norton, Esq., M.D..	5	0 8	470 †	22·74	168
D " (Lower Standen, Capel)	H. Turner, Esq... ..	5	2 11	250	23·01	163
† Hythe (Paddlesworth) .....	Mrs. Dixon .....	8	1 0	608 †	33·88	...
Lyminge (Greenham) .....	Guy G. Croft, Esq. ...	5	1 0	360 †	26·09	...
D Goudhurst Vicarage .....	Rev. J. S. Clarke .....	5	1 1	412 †	19·65	205
D " (Maypole).....	G. Parker Hinds, Esq..	8	1 8	419	23·05	153

## DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height Above Ground.	Height Above Sea Level		
			ft. in.	feet.	inches.	
KENT—(con.)						
D† Dover (Water Works) .....	H. E. Stilgoe, Esq., C.E.	5	1 6	200 A	22·63	151
D Kearsney (Chilton Farm) .....	" "	5	1 6	127 A	24·61	146
† " Abbey .....	C. W. Curtis, Esq. ....	5	1 0	94 T	26·02	...
Acrise (Great Shuttlesfield) .....	Mr. H. T. Smith .....	5	1 0	540 A	30·78	134
" Place .....	Miss Mackinnon .....	5	1 0	484 A	34·43	...
D† " (School House) .....	Mr. G. C. Woollett ...	8	1 0	504 A	35·73	157
D Cranbrook (Camden Lodge) .....	Mr. A. Habbitts .....	5	1 0	276 T	22·71	155
D Ashford (Bethersden) .....	W. H. Mold, Esq. ....	5	4 0	111 A	21·24	165
D " (Beavor Green) .....	T. Nickalls, Esq. ....	5	1 0	155 T	23·06	169
D Tunbridge Wells (Langton Green) .....	W. L. Sutton, Esq. ...	5	1 0	430	23·25	153
" " (Bredbury) .....	F. G. Smart, Esq. ....	5	1 0	416 T	25·19	177
" " (Didmarton) .....	E. Weldon, Esq. ....	8	5 6	378	23·51	167
D† " (Speldhurst Rec.) .....	Rev. D. D. MacKinnon	5	1 0	320 T	20·80	163
D† " (Etherton Hill) .....	E. W. Winton, Esq. ...	5	1 5	288 A	24·66	144
D " (Pembury) .....	W. H. Maxwell, Esq. C.E.	8	1 8	181 A	21·23	146
Tunbridge (Colebrook) .....	W. A. Smith, Esq. ....	5	...	350	22·43	...
Staplehurst (Pagehurst Farm) .....	J. Norris, Esq. ....	5	1 4	310 T	23·73	150
D Chiddingstone Rectory .....	Rev. J. T. Pearce .....	5	1 0	170 T	24·20	167
Tunbridge (Penshurst Place) .....	Rt. Hon. Lord De Lisle	5	1 0	...	22·99	...
D " ( " Park) .....	Mr. J. M. Sturgess ...	5	0 4	265 T	25·30	183
" (Primrose Hill) .....	G. J. Kimmins, Esq. ...	5	0 10	175 A	22·58	161
D " (Beech Hurst) .....	W. C. Punnett, Esq. ...	5	1 6	102 A	22·49	149
" ( " " ) Snowdon	" " " .....	5	1 6	102 A	22·33	149
" ( " " ) .....	" " " .....	8	4 0	105 A	22·58	...
D Ashford (Westwell) .....	Rev. H. H. D'Ombraïn	5	1 0	272	22·06	139
D Edenbridge (Falconhurst) .....	Rt. Hon. J. G. Talbot, MP	5	1 0	300	27·08	148
Deal and Walmer W. W. ....	A. Mantle, Esq. ....	12	1 0	110 A	20·89	...
D " " " " .....	" " " .....	5	1 0	110 A	21·17	157
Wye (Bilting) .....	Mr. A. H. Briggs .....	5	1 3	158	24·81	153
D Hadlow .....	F. W. E. Shrivell, Esq.	5	1 0	100	21·44	170
D Deal (Sewage Works) .....	Baldwin Latham Esq. CE	5	1 0	11 A	20·74	166
D Ulcombe Place .....	A. O. Walker, Esq. ...	5	1 0	350 T	19·82	160
D Maidstone (Linton Park) .....	Mr. C. Pratt .....	5	1 0	...	21·97	159
" (Rumwood, Langley) .....	Mr. W. J. Gould .....	5	...	...	24·03	183
D " (Lower Tovil) .....	Lawrence Green, Esq. .	5	1 0	30 L	20·36	159
D " (W. W., Barming) .....	W. J. Ware, Esq., C.E.	8	...	30 A	21·41	130
" (Long Rede, " ) .....	Rev. T. W. Carr .....	8	4 3	280 T	21·39	133
" (The Vicarage) .....	Rev. Canon Joy .....	8	1 6	46	20·36	...
" (Mount House) .....	C. A. Case, Esq. ....	5	1 0	160 T	20·93	...
D Eastry (Great Walton) .....	W. V. Lister, Esq. ...	5	1 0	25 A	19·34	141
D Sandwich (Word) .....	W. Elvin Napier, Esq. .	5	1 0	35	20·21	156
D East Malling (Broadwater) .....	C. B. Mercer, Esq. ...	5	1 6	169	22·82	178
D West Malling (St. Leonards) .....	G. Phillips, Esq. ....	5	1 0	...	23·31	170
D Debting .....	R. Cooke, Esq. ....	5	1 2	330 T	22·46	209
Maidstone (Allington) .....	Mr. G. Bunyard .....	5	1 4	100	24·58	...
Aylesford (Preston Hall) .....	Mr. W. Jarman .....	5	1 6	80	20·62	...
Sheldwich .....	Rev. B. S. Malden .....	5	1 0	250 T	22·29	160
D† Selling (Harefield) .....	S. Neame, Esq. ....	5	2 6	217 B	24·40	164

## DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground.	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
KENT—(con.)						
Westerham (The Fishponds) ...	F. C. Bayard, Esq.....	5	1 0	380	22·84	150
D „ (Hill Estate) .....	„ „ „ „ .....	5	1 0	539	24·30	158
D Canterbury (Irrigation Works)..	C. Terry, Esq., C.E....	5	2 0	17 $\nabla$	19·36	167
D† Seven Oaks (River Hill) .....	Major J. M. Rogers ...	8	4 0	535	22·89	149
† „ (The Rectory) .....	Rev. T. S. Curteis....	5	1 0	497	23·88	...
D „ (St. John's Hill) ...	F. C. Bayard, Esq. ...	5	1 10	380	22·87	178
D† „ (Riverhead Vic.) ...	RvCanonBurnMurdoch	5	0 6	300 $\uparrow$	21·81	137
D „ (Chevening Gardens)	Mr. C. Sutton .....	5	1 0	360	25·13	157
D Halstead Rectory .....	Rev. F. Page-Roberts..	5	1 0	560	23·56	204
Sittingbourne (Sharsted Court).	A. J. Rayfield, Esq. ...	5	1 6	276 $\uparrow$	17·84	...
Ospringe (Lorenden) .....	W. C. Stunt, Esq. ...	5	1 2	180 $\mathcal{B}$	21·62	137
Knockholt (Kent Waterworks)..	F. C. Bayard Esq.....	5	1 0	785	23·89	...
D Farnborough (Feniton).....	Miss Percy .....	5	1 0	376 $\uparrow$	21·44	190
D Ash (Pettings House)..... <i>new g.</i>	C. J. G. Hulkes, Esq...	5	1 0	540 $\uparrow$	21·26	170
D Ramsgate (Thyra Villas) .....	E. J. Bentley, Esq. ...	5	0 6	...	17·47	164
Herne Bay (Eddington) ...	Miss Hawksworth .....	5	1 0	4 ?	19·60	...
„ „ (Water Works) .....	J. W. Thorp, Esq.....	5	0 6	122 $\uparrow$	18·35	...
D Reculver .....	Allington Collard, Esq.	5	5 2	27 $\uparrow$	19·07	154
D West Wickham (Wickham Court)	F. C. Bayard, Esq. ...	5	1 2	300	22·76	158
D† Orpington (Kent Waterworks)...	„ „ „ „ .....	5	1 0	220	20·79	158
D Farningham Hill .....	„ „ „ „ .....	5	3 0	300	21·63	179
D „ (Mount Pleasant) ...	Allanson Bailey, Esq...	5	1 0	200	21·78	214
Chatham (Luton W.W.) .....	W. Coles Finch, Esq....	5	3 0	88 $\nabla$	18·16	168
„ .....	The Meteor. Council ...	8	1 3	137	16·54	146
Meopham .....	Jesse Garratt, Esq. ...	5	1 1	290	17·90	...
D Rochester (Knights Place) .....	J. Pye, Esq. ....	5	2 3	320	20·99	203
D St. Peter's .....	Rev. H. C. V. Snowden	5	0 9	140 $\nabla$	18·44	164
White Ness (Kingsgate) .....	Mr. R. Silk.....	5	3 6	98 $\mathcal{L}$	16·35	140
D Margate (Grosvenor Place) .....	Rev. A. L. Brine .....	5	1 1	60 ?	16·80	200
D Sheppey (Newhouse, Leysdown)	C. A. Till, Esq. ....	5	1 2	50	19·47	149
Strood Water Works .....	W. Banks, Esq., C.E...	5	3 0	112	16·65	159
D Frindsbury (The Shrubbery) ...	Warwick Stunt, Esq ..	5	2 0	90	16·62	151
D „ (Manor Farm) .....	F. Baker, Esq. ....	5	1 0	100	17·61	133
Bromley Common (Elmfield) ...	Rev. J. P. Faunthorpe..	5	0 9	235 $\nabla$	20·25	185
Bickley (The High Field) .....	J. Batten, Esq. ....	5	1 2	295	19·85	...
D Bromley (The Palace) .....	F. C. Bayard, Esq. ...	5	1 0	187	20·81	182
D „ (Widmore Road) .....	Miss Scott .....	5	1 0	230	17·70	146
Chislehurst (Foxbury) .....	H. F. Tiarks, Esq.....	8	4 6	250	20·79	178
D „ (Hawkwood) .....	F. C. Bayard, Esq.....	5	1 0	300	20·15	146
D Southfleet (Kent Waterworks)...	„ „ „ „ .....	5	1 0	82	17·48	178
D Wilmington ( „ „ )...	„ „ „ „ .....	5	1 0	25	18·08	164
D Sidecup (Hatherley Road) .....	Dr. L. Burrell .....	5	1 2	170 $\uparrow$	21·19	178
D „ (Park Road) .....	S. A. Sharman, Esq....	5	1 0	230	20·37	167
D Beckenham (Wickham Road) ...	E. Scovell, Esq. ....	5	1 2	156 $\uparrow$	19·78	173
D Forest Hill (Newfield House) ...	F. C. Bayard, Esq. ...	5	1 0	220	22·06	165
D „ (Barr Beacon).....	J. W. Restler, Esq., C.E.	5	1 0	344 $\nabla$	21·09	191
D Dartford (West Hill House).....	F. C. Bayard, Esq. ...	5	1 3	100	18·95	123

## DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
KENT—(con.)						
D Higham (Oakleigh) .....	C. Lake, Esq. ....	8	1 2	25	15·12	127
D Rochester (Cooling) .....	Mr. J. Filmer ..	5	1 0	10	18·44	143
D „ (Hoo St. Mary) .....	H. Pye, Junr., Esq. ...	5	5 6	146 †	17·80	159
D „ (Cliffe Lodge) .....	E. W. Wood, Esq. ....	5	1 0	30	18·80	149
D Eltham (Cliefden) .....	Miss Yeatman .....	5	0 10	198 †	18·63	179
D „ (Court Road) ..	A. Roberts, Esq. ....	5	1 10	...	18·94	...
D „ (High Street) .....	F. C. Bayard, Esq. ..	5	1 0	245	18·12	164
D Blackheath (Eastcombe Villas) ..	H. K. G. Rogers, Esq. ..	5	1 1	135 B	18·90	178
D Greenwich (Royal Observatory) ..	W. H. Christie, Esq. C.B.	8	0 5	155 †	19·34	159
D† Deptford (Kent Waterworks) ...	F. C. Bayard, Esq. ...	5	1 0	20	17·27	165
D† „ (Pumping Station) .....	M Fitzmaurice Esq CMG	10	1 6	15	20·85	158
D Erith (Crossness) .....	No. 3 „ „ „	14	0 6	16 A	17·72	157
WEST SUSSEX.						
Bognor .....	The Royal Meteor. Soc. ...	...	...	14	22·75	183
D „ (Lidsey Lodge) .....	H. Neale, Esq. ....	8	1 2	...	25·05	141
D Littlehampton (Surrey House) ..	A. J. White, Esq. ....	5	1 8	20 †	22·98	...
D Worthing (Ellesmere) .....	C. Kelly, Esq., M.D. ....	5	1 0	26 A	23·78	166
D „ (Corporation Obs.) ..	„ „ „ „	8	1 0	34	23·14	171
D West Thorney .....	H. Padwick, Esq. ....	5	1 0	23 †	22·19	128
D Arundel (Yapton) .....	W. A. Hounsom, Esq. ..	5	1 0	24 A	23·36	148
D „ ( „ Drove Farm) ..	„ „ „ „	5	1 0	14 †	22·94	149
D Angmering .....	Rev. J. B. Orme. ....	5	1 3	44	22·78	...
D Chichester (Sewage Works) .....	Baldwin Latham Esq CE	5	1 0	10 A	25·96	162
D „ (Westgate Meadow) ..	G. A. Tyacke, Esq. ...	8	0 6	40	25·69	157
D Arundel (Clapham Rectory) ..	Rev. A. H. S. Barwell	5	1 0	150 †	25·14	175
D „ (Patching) .....	J. Drewitt, Esq. ....	5	1 0	180	26·09	164
D „ ( „ ) .....	Mrs. Joad .....	5	0 10	130 †	26·04	183
D „ (Warningcamp) .....	C. A. Crafer, Esq. ....	5	1 0	...	29·11	174
D West Bourne [Emsworth] .....	Rev. L. B. Birkett. ....	5	0 8	50 †	26·55	172
D Funtington .....	J. A. Greenwood, Esq. ..	5	1 0	95 †	27·26	159
D West Stoke Rectory .....	Rev. W. F. Shaw .....	5	1 0	176 †	27·72	148
D† Steyning .....	Col. Ingram .....	5	1 0	80 †	27·33	143
D „ (Crescent Road) .....	Mr. H. J. Hide .....	5	1 0	80 †	27·23	156
D Chichester (Forest Side Vic.) ..	Mrs. J. C. Parson .....	5	1 0	341	30·68	151
D „ (Watergate) .....	W. M. Christy, Esq. ....	5	1 0	236 †	30·46	185
D „ (West Dean Park) ...	Mr. W. H. Smith .....	10	1 6	190	33·57	146
D† „ (Chilgrove) .....	J. W. Woods, Esq. ...	5	0 6	284 †	33·81	...
D Compton [Petersfield] .....	Rev. H. M. Langdale. ...	5	1 0	255 A	29·83	158
D Petworth Park .....	Mr. E. W. Pull .....	5	1 0	182	27·90	146
D Cowfold (The Laurels) ...	Mr. S. Ford .....	5	1 6	373	25·20	...
D Tillington (River House) .....	R. Stanley Clarke, Esq. ..	8	1 2	230 †	23·16	200
D Midhurst (St. Ann's) .....	Maj.-Gen. Paxton .....	8	1 8	120 A	26·37	175
D „ (Borden Wood) .....	E. Lamb, Esq. ....	8	1 0	260 †	30·07	173
D „ (Lynch Farm) .....	G. Eames, Esq. ....	5	0 6	160 †	30·93	141
D „ (Hollycombe) .....	J. C. Hawshaw, Esq. ..	8	6 6	550	28·26	...
D Billingshurst (Hawkhurst Court) ..	B. de F. Osmaston, Esq. ..	5	1 0	120	25·80	122
D Horsham (Denne Park) ...	Mr. H. Harris .....	5	4 0	240 †	26·77	157

## DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level		
			ft. in.	feet.	inches.	
<b>WEST SUSSEX—(con.)</b>						
Slinfold (Rapkyns) .....	W. Duncan Knight, Esq.	5	0 8	...	23·15	137
o Fernhurst (Blackdown House)...	F. Philipson Stow, Esq.	5	1 10	488 T	27·21	121
o Horsham (Selehurst) .....	W. E. Hubbard, Esq.	5	1 0	305	27·08	168
o „ (Manor House) .....	H. Padwick, Esq. ....	8	0 10	140 T	28·82	149
o „ (Wimblehurst) .....	Miss F. E. Allcard ...	5	1 0	200 T	25·21	183
Lynchmere (Shottermill) .....	Rev. C. Holland.....	5	4 0	400	30·91	...
Crawley .....	A. Thomson, Esq. ....	5	1 0	275	24·40	...
<b>EAST SUSSEX.</b>						
† Beachy Head .....	Miss Brodie Hall.....	5	1 0	515 T	17·83	...
East Dean (Hill Side) .....	E. N. Smith, Esq. ....	5	1 0	250 T	21·07	120
Eastbourne (Wilmington Square)	R. Sheward, Esq. ....	8	0 6	39	24·46	159
o „ (Burlington Place) .....	Miss K. A. Orr .....	5	0 10	12	25·13	156
o† „ (Osborne House) ...	Miss Hood .....	5	1 0	12 T	23·48	162
o „ (Glenthorne) .....	Miss Woodd .....	8	1 6	86 T	24·02	180
o „ (Arundel Road) .....	J. C. Wright, Esq.....	5	0 4	70	25·02	...
o† „ (Cemetery) .....	Miss Brodie Hall ...	5	4 0	160 T	22·25	132
o „ (Staveley Cross) ..	J. Weston, Esq. ....	5	1 6	110 T	22·36	...
o† Jevington (Church Farm) .....	E. C. Stileman, Esq., C.E.	8	0 9	261 T	24·06	142
o† Litlington (Plough & Harrow Inn)	„ „ „	8	1 0	19 T	23 01	139
o† Willington (Hill Cottage) ...	„ „ „	8	1 0	599 T	24·49	164
o† Brighton (Old Steine) .....	A. Newsholme, Esq., MD	5	1 0	32 T	21·74	173
o „ (W. W. Goldstone Bottm)	J. Johnston, Esq., C.E.	8	0 7	140 T	20·39	163
o „ ( „ Lewes Road)...	„ „ „	8	3 6	88 T	23·16	160
o „ ( „ Upper Portslade)	„ „ „	8	1 3	167 T	22·49	152
o „ ( „ Patcham) .....	„ „ „	5	1 6	207 T	24·81	173
o „ ( „ Race Hill) ...	„ „ „	8	1 0	466 T	24·19	161
Bexhill (The Grange) .....	Miss A. Scrivens .....	12	5 0	143 T	22·13	...
St. Leonards (West Marina) ...	H. Colborne, Esq.....	8	1 0	21 T	22·97	167
o „ „ (Gensing Gardens).	„ „ „	8	1 0	179 T	24·56	190
o Polegate (Alciston) .....	R. Matthews, Esq.....	5	1 4	172	27·64	178
o Iford .....	Miss Robinson .....	5	1 2	56 T	23·67	130
o Hailsham .....	Rev. F. Clyde Harvey..	5	1 0	105	24·75	136
o† Falmer .....	R. R. Verrall, Esq. ...	5	3 0	312 T	26·63	176
o Lewes (Fairhall, Southover) .....	Miss Mathew .....	5	1 0	45	25·30	155
o† „ (Bedford Lodge) .....	Mrs. Kemp ..	5	1 0	85 T	19·73	169
o† „ (Saxonbury) .....	A. Hillman, Esq. ....	5	1 0	75 T	23·98	163
o „ (Ringmer) ..	R. R. Davis, Esq. ....	5	...	...	24·37	147
Hastings (St. Helens Crescent)...	The Meteor. Council ...	8	1 0	100	26·41	169
o „ (Newgate Res.) .....	P. H. Palmer, Esq., CE	5	0 10	240	22·89	140
o „ (Filsham Res.) .....	H. Colborne, Esq.....	...	...	91	22·52	...
o „ (Halton Res.) .....	„ „ „	...	...	301	23·07	...
o „ (Fairlight Res.) .....	„ „ „	...	...	517	23·85	...
† „ (High Beech Hollington)	Miss Lewis .....	5	1 0	320 T	22·82	...
o „ (Guestling Rectory) ...	Rev. E. N. Bloomfield.	5	1 5	125 T	23·18	143
o Hassocks (Pyecombe) .....	Mr. F. S. Mitchell ....	5	0 7	370	29·67	149
o Clayton Rectory .....	Rev. T. H. R. Shand...	5	1 6	201 T	27·00	166
o Hurstpierpoint (Danny Park) ...	Mr. J. Bunney .....	8	1 3	180	31·44	127

## DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which 101 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
EAST SUSSEX—(con.)						
D Winchelsea (The Friars) .....	Major R. C. Stileman..	5	1 2	115 T	20·29	136
D Battle (Whatlington) .....	Miss H. Gripper.....	5	1 3	90 T	22·25	148
Playden (East Guldeford Lane).	G. Pile, Esq. ....	5	1 0	...	21·84	...
D Burgess Hill (Silverdale Road) .	F. H. Phillips, Esq. ...	8	0 10	162 T	24·12	165
„ „ (Ote Hall).....	Mrs. Woods .....	5	1 6	...	25·80	...
D Heathfield (Summerlands) .....	Dr. A. Brown .....	5	1 0	500 T	25·48	167
D „ (Tottingworth Park).	Mr. J. Masson.....	5	1 0	500 T	26·60	153
D Uckfield (Sheffield Park) ..	Mr. W. T. Moore .....	5	1 0	...	26·03	160
D Haywards Heath (Braydell Lodge)	J. Lee Jardine, Esq....	5	1 0	130 T	23·38	144
D „ „ (Abbots Leigh).	Mr. R. Inglis.....	5	1 0	190	25·29	157
„ „ .....	E. B. C. Walker, Esq. MD	5	1 1	281	20·01?	...
D Bodiam Station (Ewhurst Rec.)..	Rev. W. Marshall.....	5	1 1	135	22·45	143
D Robertsbridge (Salehurst Vic.)..	Rev. E. J. Sing .....	5	0 9	110 T	25·47	174
D Buxted Park .....	Mr. H. C. Prinsep.....	8	1 0	94	25·66	161
„ (Strawberry Hall).....	C. Rintoul, Esq.....	5	1 0	180	26·07	153
D† Maresfield (Forest Lodge)....	Capt. W. Noble .....	8	1 2	247 T	25·71	178
Cuckfield (Workhouse) .....	The Meteor. Council ...	...	1 0	389	21·42	138
D Lindfield (Wood Knoll) .....	L. Weedon, Esq. ....	5	1 0	188 T	25·33	182
Etchingham (Shoyswell Manor).	I. Seligman, Esq. ....	4	3 0	320	22·74	...
D Nutley Vicarage .....	Rev. H. J. Peckham ...	5	1 0	386 T	26·72	190
D „ (The Hall) .....	Miss Cook .....	5	0 10	417	26·68	188
D „ (Chelwood Beacon) .....	H. Clarke Jervoise, Esq.	5	1 3	530 T	30·18	157
Handcross (The Warren) .....	Leicester M. Reed, Esq.	5	0 10	430 T	26·15	...
D Crowborough (Jarvis Brook) ...	Crowborough Water Co.	5	1 0	325 T	27·03	172
D† „ .....	J. J. S. Driberg, Esq...	8	1 0	796 T	30·65	196
D Haywards Heath (Brook House)	H. R. G. Clarke, Esq..	5	1 0	240	26·32	137
D Balcombe Place .....	Mr. Warren .....	8	1 3	289 T	29·85	188
Ticehurst .....	Mr. Jordan .....	5	4 9	423 T	24·12	144
D „ (Whiligh).....	Col. Courthope, C.B....	5	1 0	440	25·96	191
D Wadhurst (Lower Cusley Wood)	F. Wilkin, Esq.....	5	1 0	416 T	21·74	155
D Balcombe (Highley Manor) .....	Mr. J. Coles .....	8	1 6	422 T	27·63	149
Crowborough (Steel Cross House)	J. C. Stenning, Esq....	5	1 1	534 T	28·41	169
D „ (Renby Grange) .....	Miss Emily Aston .....	5	1 7	390 T	26·13	174
Forest Row (Hindleap Lodge) ...	Rt. Hon. J. Bryce, M.P.	5	1 6	620	27·83	127
„ „ (Charlwood Farm)	A. Hoare, Esq. ....	5	1 0	250 T	27·17	...
Frant (Eridge Castle) .....	Mr. A. Wilson .....	5	2 0	400	29·85	123
D Crawley Down (The Grange) ...	T. H. W. Buckley, Esq.	5	0 9	430	27·59	166
D Worth (South Hill) .....	P. E. Ravenshaw, Esq.	8	1 6	558 T	31·50	184
D East Grinstead Station .....	Mr. G. Mitchell .....	8	2 2	410 T	25·87	170
„ „ (Halsford Park).	W. V. K. Stenning, Esq.	5	1 3	365 T	29·69	165
Glen Andred [Groombridge] ...	Mrs. Boardman .....	...	...	...	26·20	143
HAMPSHIRE.						
ISLE OF WIGHT.						
D Ventnor .....	J. S. Ineson, Esq. ....	10	2 0	70	23·76	158
„ (Consumption Hospital)	The Royal Meteor. Soc.	5	1 0	75	25·37	168
Brading Vicarage .....	Rev. E. Summers .....	5	1 3	50 ?	27·38	...
D Totland Bay (Wilmington) .....	J. Dover, Esq. ....	8	1 0	145 T	24·71	167



## DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which '01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level		
			ft. in.	feet.	inches.	
<b>HAMPSHIRE—(con.)</b>						
<b>ISLE OF WIGHT—(con.)</b>						
D Carisbrooke (Rainsgrove).....	Baldwin Latham Esq. CE	5	1 0	180	27·30	164
D „ (Rowborough) .....	„ „ „ „	5	1 0	193	29·63	168
D Newport (Grammar School) .....	C. D. Vibert, Esq. ....	5	1 0	45	26·19	158
Ryde (W. W., Knighton) .....	J. T. Harvey, Esq. ...	8	2 0	45	28·95	134
D „ (New Lodge) .....	Capt. W. A. Dobie.....	5	1 1	147	26·68	159
D „ .....	Mr. T. C. Flower .....	12	9 0	35	29·87	129
D „ (Town Hall) .....	C. Mathew, Esq. ....	8	45 6	144 ½	25·70	150
D „ (Beldornie Tower) .....	Percy C. Hall, Esq. ...	5	1 0	30 ½	22·76	161
D Wootton (Fernhill) .....	C. G. Brodie, Esq.....	8	0 6	118 ½	25·21	152
D† Osborne (Newbarn Cottage) .....	R. Scott, Esq.....	8	0 8	172 ½	24·96	188
D Bournemouth (Clarendon Court).....	G. Galpin, Esq.....	5	1 0	130 ½	27·35	125
„ (South Cliff) .....	C. Dales, Esq. ....	5	1 0	41	25·64	189
„ (Pleasure Gardens) .....	„ „ „ .....	5	1 0	41	28·30	189
„ (Vale View) .....	„ „ „ .....	5	1 0	150	29·12	188
D „ (Wellington House) .....	Messrs. Primavesi Bros	5	1 0	100 ½	24·65	174
D† „ (Kempsey, Bath Rd.) .....	E. L. M. Colville, Esq. ...	8	1 0	121 ½	27·62	173
D* „ „ „ „ .....	„ „ „ „ .....	5	1 0	121 ½	27·51	173
D Christchurch (Southbourne-on-Sea).....	C. S. Pringle, Esq. ...	8	1 0	100 ½	25·88	161
Milford-on-Sea .....	R. Bruce, Esq. ....	5	2 6	40	21·65	116
„ (Keyhaven) .....	A. C. G. Heygate, Esq.	5	1 0	10	25·75	137
D Christchurch (Winkton Lodge).....	Miss Lassell .....	5	0 9	34 ½	23·54	157
D „ (Heron Court).....	Earl of Malmesbury ...	8	0 6	25	29·58	159
D Portsmouth (Fort Cumberland).....	P. Murch, Esq., C.E...	8	0 9	16 ½	19·30	123
D „ (Milton) .....	Dr. Fraser .....	5	1 0	18 ½	24·22	148
North Hayling .....	F. Padwick, Esq. ....	5	1 0	10	21·90	138
Ringwood (Burley Manor) .....	Rev. W. Esdaile.....	5	...	200 ?	29·92	151
D „ (Bisterne).....	Rev. C. Mills .....	8	0 11	45 ½	28·40	144
Fareham (Belvoir House) .....	E. Woakes, Esq., M.D.	5	0 11	20	24·93	140
D Porchester (Noel Cottage).....	Miss Montgomerie Frost	5	1 0	...	23·81	154
D Havant (Farlington) .....	H. Ashley, Esq., C.E...	5	1 0	77 ½	22·94	142
D „ .....	„ „ „ .....	5	1 0	25 ½	22·95	134
D „ .....	„ „ „ .....	5	1 0	25 ½	23·19	...
D Emsworth (Redlands) .....	F. Jacomb Hood, Esq.	5	1 0	90 ½	26·92	160
Southampton (Cadland) .....	H. L. Meyer, Esq. ....	8	4 6	52 ½	28·48	167
D „ (Netley) .....	Major R. H. Firth.....	8	0 5	37 ½	30·70	152
D „ ( „ Lake Ho.) .....	Col. Pennington .....	8	1 0	54 ½	27·63	187
Cosham (Purbrook Grange) .....	F. A. Deverell, Esq. ...	8	0 9	100 ?	27·83	143
Lyndhurst (Fritham House) ...	F. E. Chapman, Esq... ..	5	1 0	410	31·34	173
Southamptn. (Ordnance Surv. Off.) .....	Col. D. A. Johnston, R.E.	5	1 0	79 ½	27·41	170
„ (Thornhill Park) ...	Col. F. Willan .....	5	1 10	220 ½	25·90	141
„ (Anglesea Rd., Shirley) .....	A. Spooner, Esq. ....	5	1 1	83	25·79	...
„ (Tatchbury Manor) ...	C. F. Wilson, Esq.....	5	1 0	...	27·41	143
D Wickham (The Croft) .....	Rev Stanhope Rashleigh	5	0 11	80 ?	26·37	160
D† Botley (Botley Hill) .....	Lady Jenkyns .....	5	1 6	36 ½	27·46	161
D† „ (Beechcroft, Curdridge).....	Miss Pasley .....	8	2 0	100	28·48	160
„ (Fairfield, „) .....	Rev. J. B. Wheeler ...	5	1 6	102	28·99	144

## DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
<b>HAMPSHIRE—(con.)</b>						
Horndean (Blendworth Lodge)...	Mrs. Long .....	8	0 10	217	33·52	175
D „ (St. Catherines) .....	Miss Barnes .....	8	0 8	417 T	32·03	160
D Fordingbridge (Oaklands) .....	Mrs. Westlake .....	8	1 0	135 T	27·96	125
D Hambledon (Rosecroft).....	Mr. L. Dawes.....	5	2 6	200 T	33·44	172
Bishops Waltham (Swanmore House)	W.H. Myers, Esq., M.P.	8	1 0	390 T	28·73	144
D „ „ (Hill Place) .....	Major W. A. Daubeney.	8	0 9	260 T	30·32	173
„ „ (Northbrook Ho.)	H. W. Trinder, Esq....	5	1 0	136 T	28·06	129
D „ „ (Wintershill Hall)	J. S. Moss, Esq.....	5	1 0	253 T	27·84	132
Droxford (Fir Hill) .....	Capt. Mackenzie Grieve	5	3 6	212 T	29·14	155
Chandlers Ford (Fryern) .....	Miss Grace Stuart .....	5	1 3	200	25·13	...
D East Meon (Westbury House) ..	Col. Le Roy Lewis .....	5	2 6	296 T	32·52	158
D Ampfield Vicarage.....	Rev. Vere Awdry .....	5	3 0	230 T	24·72	146
† Otterbourne Hill Reservoir ... M	W. Matthews, Esq., CE	5	18 0	273 T	17·29	...
„ (Elderfield) .....	G. Norsworthy, Esq....	5	1 0	137 T	27·99	166
D† „ (W. W., Shawford).	W. Matthews, Esq., C.E.	5	1 0	113 T	25·23	180
† „ „ „ „ „ M	„ „ „ „ „	5	1 0	113 T	25·57	...
D Petersfield (Fairley) .....	A W Leachman, Esq. MD	5	0 7	202 T	30·40	172
D Romsey (Timsbury) .....	Baldwin Latham Esq. CE	8	1 8	96 T	25·46	184
D Twyford (Pumping Station).....	„ „ „ „	8	1 9	139 T	27·69	143
D West Dean .....	Rev. E. Wells .....	5	1 0	137 T	25·89	155
D East Liss (Newlands) .....	E. B. Falwasser, Esq. .	5	1 0	390 T	28·42	170
D Alresford (Ovington).....	Rev. H. F. La M. Stowell	5	1 0	221 T	26·95	149
D West Liss (Berry Grove) .....	Mrs. Latter.....	5	1 3	250	32·20	163
D „ (Hawkey) .....	Rev. G. A. Rideout ...	5	1 0	480	28·94	169
Greatham (King's Holt) .....	Mrs. Chase Parr.....	5	1 7	279 T	25·88	...
„ (Manor House).....	F. Coryton, Esq. ....	7	0 7	250	26·24	...
Horsebridge (Bossington).....	W.H. Deverell, Esq. D.L.	8	0 9	92 T	25·07	158
D† Winchester (Harestock) .....	Col. H. S. Knight .....	5	1 0	302 T	26·53	161
D Liphook (Fowley) .....	E. A. Lee, Esq. ....	5	0 10	296 T	26·06	186
„ (White Hill Chase) ..	Col. R. H. Maude .....	5	1 0	300 T	25·04	155
D Grayshott [Hindhead] .....	Mrs. Lyndon .....	5	1 0	660 T	26·15	185
Headley (Eveley) .....	Mr. T. Carter.....	5	1 3	295 T	26·74	151
D Swarraton Rectory .....	Rev. W. L. W. Eyre...	5	1 0	310 T	27·10	174
D† Alton (Ashdell).....	F. Crowley, Esq. ....	8	3 6	433 T	26·43	153
„ (Eagles Nest) .....	„ „ „ „	5	52 4	505	16·95	...
„ (Shalden Manor).....	J. G. Wood, Esq. ....	8	3 0	594	27·71	...
D Whitechurch (Long Parish) .....	C. Durnford, Esq.....	...	...	...	23·83	157
Andover (The Knoll) .....	G. H. Westbury, Esq..	5	0 10	196 T	25·30	149
D Tidworth House [Ludgershall]..	Mr. G. A. Inglefield ...	5	1 8	357 T	26·27	171
D Warren Corner [Farnham] new g.	F. Wilkin, Esq.....	5	1 0	575 T	21·82	159
Basingstoke (Hoddington Ho.)...	Rt. Hon. Lord Basing..	8	1 0	378 T	26·01	174
Oakley .....	Rev. F. G. Hume .....	5	1 6	400	26·06	164
D Basingstoke (Chapel Hill).....	G. Stephens, Esq. ....	5	1 0	328 T	21·34	146
D† „ (Sherborne St. John)	Rev. D. W. Chute.....	5	1 2	267 T	25·31	168
D Winchfield (Elvetham Park) ...	Mr. G. B. Mitchison ...	8	1 0	217 T	23·41	192
Farnborough (The Grange) .....	Major Holt .....	5	1 0	232 T	25·66	154
D „ (The School) .....	Rev. G. C. Carter .....	5	1 6	257 T	21·34	155
D Hartley Wintney .....	W. G. Machin, Esq....	5	1 2	222 T	21·74	164

## DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.	
		Diameter	Height Above Ground.		Height Above Sea Level		1902
			ft.	in.	feet.	inches.	
HAMPSHIRE—(con.)							
Hartley Grange .....	F. Walkinshaw, Esq...	8	1	0	221 $\nabla$	23·10	165
▮ Kingsclere (Tower Hill House)...	Dr. R. Maples.....	5	3	0	327 $\uparrow$	25·63	182
†Strathfield Turgiss.....	Mrs. Griffith .....	5	2	6	200 $\nabla$	21·45	...
▮ Strathfieldsaye Gardens .....	Mr. A. G. Nichols .....	5	1	8	164	23·75	161
▮ Heckfield (Highfield Park) .....	F. B. Marson, Esq. ...	5	1	3	262	22·24	166
„ (Park Corner) .....	J. Martineau, Esq. ....	5	1	2	257	21·82	142
BERKS.							
▮ Sandhurst Lodge .....	Sir W. J. Farrer .....	8	2	9	263	23·67	142
▮ Wellington College .....	S. A. Saunder, Esq. ...	5	1	0	283 $\nabla$	22·14	157
Finchampstead (West Court) ...	C. E. Harris, Esq.....	5	1	0	180	18·74	161
Mortimer (Wokefield Park) .....	A. Palmer, Esq.....	5	4	0	180 $\nabla$	20·00	155
▮ Newbury (Sandleford Priory) ...	Mr. R. H. Butcher ...	8	2	0	381 $\nabla$	24·37	170
▮ „ (Greenham Lodge) ...	Mr. C. Dalby .....	8	1	9	300 $\uparrow$	24·23	138
▮ Aldermaston Wharf .....	J. T. Strange, Esq. ...	5	1	0	181 $\nabla$	21·21	162
▮ Sunninghill (Lynwood).....	G. Rodie Thompson, Esq.	5	1	0	266 $\nabla$	24·08	162
▮ Ascot (Winkfield Manor) .....	C. A. Ferard, Esq.....	5	1	0	240 $\nabla$	22·30	173
Shinfield (Clares Green) .....	W. Haynes, Esq. ....	5	4	6	160 $\uparrow$	20·76	166
▮ Hungerford (Kintbury) .....	Sir J. A. Woolfryes, KCB	5	1	1	297 $\uparrow$	24·35	189
▮ Wokingham (Staverton) .....	H. C. Mylne, Esq. ....	5	1	0	220 $\uparrow$	19·50	169
▮ Beenham House .....	H. Waring, Esq. ....	8	2	2	320	20·07	169
▮ Bracknell (Warfield).....	Rev. B. C. Littlewood .	5	0	6	199 $\uparrow$	22·03	179
▮ Windsor (Royal Gardens).....	Mr. T. Edwards.....	5	1	0	...	22·07	186
Reading (Englefield).....	Mr. J. Coombes .....	5	1	1	...	24·24	166
▮ „ (Calcot Place).....	General Swettenham...	5	1	4	176 $\uparrow$	22·28	179
▮ „ (Ellerslie) .....	Rev. A. Cheales.....	5	1	0	195 $\nabla$	21·15	141
„ (London Road) .....	Mr. C. H. Jones.....	5	3	6	150 $\uparrow$	20·93	169
▮ „ (Forbury Gardens).....	J. Bowen, Esq., C.E....	5	1	5	145 $\nabla$	21·13	183
„ (Earley) .....	M. J. Sutton, Esq. ...	8	1	6	150 $\uparrow$	19·56	...
▮ Newbury (Welford Park) <i>old g.</i>	Mr. C. Ross.....	5	1	0	335 $\nabla$	26·77	170
▮ „ „ „ <i>new g.</i>	„ „ .....	5	1	0	341 $\uparrow$	27·46	170
▮ „ (Weston) .....	R. Osmond, Esq. ....	5	1	4	335 $\nabla$	22·90	172
▮ Frilsham House .....	Mr. W. E. Austen.....	5	1	8	370	20·80	151
Yattendon Court .....	Mr. R. Maker.....	5	1	0	450 $\uparrow$	19·47	131
▮ Lambourn (East Garston) .....	Mr. J. H. Spackman...	5	2	6	395 $\uparrow$	22·65	175
▮ Maidenhead (The Firs, Castle Hill)	J. W. Duncan, Esq. ...	5	1	0	170	19·65	161
„ (Isis Cottage) .....	O. King, Esq.....	5	1	0	100	21·13	174
▮ „ (Lowood) .....	Gen. Davies .....	8	1	0	167 $\uparrow$	19·83	155
Bisham Vicarage .....	Rev. W. Farrer .....	10	1	9	100	20·41	...
▮ Cookham Vicarage.....	Rev. R. W. Rogers ...	5	1	3	90 $\uparrow$	20·02	131
▮ Temple House [Marlow] .....	Mr. G. Groves.....	5	1	0	106	21·68	184
▮ Wantage (Letcombe Regis) .....	S. W. Silver, Esq. ....	5	0	9	...	19·81	151
„ .....	W. Hanson, Esq., C.E.	5	1	0	304	20·38	142
„ (Ardington) .....	Miss G. Elliot .....	3	0	10	292 $\uparrow$	21·88	...
Wallingford .....	G. F. Slade, Esq. ....	5	0	11	...	17·57	...
„ Castle .....	E. J. Hedges, Esq. ...	5	1	0	175 $\nabla$	18·11	...
▮ Little Wittenham .....	J. Latham, Esq. ....	5	2	0	187	18·50	147

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
<b>BERKS—(con.)</b>						
D Long Wittenham (Manor Ho.)...	Admiral Clutterbuck...	12	1 6	170 $\pi$	18·64	146
„ „ (Lovegrove's Cott.)	Rev. F. C. Clutterbuck	5	1 0	165	18·96	...
Faringdon (Coxwell Lodge) .....	J. W. Pascoe, Esq. ...	5	1 6	400	19·31	140
„ .....	Mr. C. Luker .....	5	1 0	333 $\dagger$	21·79	124
Abingdon (Caldecott House) ...	Maj.-Genl. T. M. Bailie	5	1 4	...	19·03	...
D „ Union .....	Mr. J. Fray .....	5	1 0	196	20·74	157
„ (Sewage Works) .....	G. Winship, Esq., C.E.	5	0 6	169	19·56	113
D „ (Draycott Moor) .....	C. W. Edmonds, Esq...	5	1 0	296	20·03	141

### DIVISION III.—SOUTH MIDLAND COUNTIES.

## HERTS.

	Eastbury [Northwood] .....	H. Langford Lewis, Esq.	5	1	3	360 T	20-70	166
D	" (Easby) .....	Mrs. Sandford Fawcett	8	0	10	400 T	20-65	158
D†	Rickmansworth (Moor Park).....	Rt. Hon. Lord Ebury..	5	2	0	340	23-04	185
D	Elstree (Aldenham House) .....	Mr. E. Beckett .....	10	4	9	305	21-34	138
D	Watford (Frogmore).....	A. P. Blathwayt, Esq.	5	1	0	182 T	22-56	164
D	" (LondonOrphanAsylum)	Rev. Dr. Cockrem .....	5	1	0	230 T	22-37	164
D	" (St. Alban's Road) .....	H. Ruddle, Esq.....	5	1	0	...	21-90	135
D	" (Weetwood).....	J. Hopkinson, Esq. ...	5	1	0	269 A	22-62	180
	" (") .....	" " .....	5	1	0	269 A	22-23	...
	Barnet (Gas Works) .....	" " .....	8	0	9	212	20-47	149
D	" (Hadley).....	H. E. Freir, Esq. ....	5	0	11	340	21-58	183
D	Northaw (Northacre).....	Rev. F. W. Poland ...	5	1	0	...	20-56	172
	St. Albans (Frogmore).....	J. Hopkinson, Esq. ...	5	0	10	218	21-66	150
D	Broxbourne (Stafford House) ...	G. J. Newbery, Esq....	5	1	0	118 T	19-98	182
D	Hemel Hempstead (Apsley Mills)	Messrs.J.Dickinson&Co.	24	0	9	260	22-34	160
	St. Albans (Bone Hill) .....	J. Hopkinson, Esq. ...	5	1	0	336 A	21-38	175
D	" (County Museum) ...	" " .....	5	1	0	389 T	21-24	169
†	" (Gorhambury).....	Mr. Newberry.....	5	1	0	425 T	19-71	166
D	Hoddesden (Fielde's Weir) .....	W. B. Bryan, Esq., C.E.	8	3	8	95	18-03	136
D†	Gt.Berkhampstead (RoseCottage)	W. E. Milner, Esq. ...	5	1	0	334 A	20-57	168
†	" " (" " " ) M	" " " " .....	5	1	0	334 A	20-40	...
D†	" " (Rosebank) ...	E. Mawley, Esq. ....	8	1	0	401 A	20-11	161
†	" " (" " " ) M	" " " " .....	8	1	0	401 A	19-89	...
D	" " (Fairhill) .....	Miss M. Hopkins .....	5	1	0	548 A	19-91	145
D	" " (Gt.Gaddesden)	Rev.W.TyrwhittDrake	8	1	0	426 A	20-59	163
	Gilston Park .....	Mr. E. Leach .....	8	0	6	175 T	20-71	120
D	Hatfield (Holwell House).....	Wilfrid E. Laurie, Esq.	5	1	0	250 T	18-13	122
	Hertford (Bayfordbury) .....	W. C. Baker, Esq.....	8	1	2	250	18-43	174
	" " .....	W. B. Bryan, Esq., C.E.	8	6	0	125	17-81	134
	Tring (Wigginton) .....	Rev. H. J. E. Burrell..	5	1	0	710 A	19-58	...
	" (Pendley Manor) .....	Mrs. Williams .....	5	2	0	500 ?	19-96	168
D	" (Elm House) .....	E. J. Le Quesne, Esq..	5	1	2	460	17-60	149
D	" (Offside Cottage, Cowroast)	R. Leah, Esq.....	5	1	6	400	19-83	155
	" (Cowroast) .....	G. Thomas, Esq.....	5	3	8	394 A	19-99	138
	Harpenden (Rothamstead) .....	A. D. Hall, Esq. ....	5	0	9	420 T	20-12	163

### DIVISION III.—SOUTH MIDLAND COUNTIES—(continued).

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## DIVISION III.—SOUTH MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in	feet	inches.	
<b>OXFORD—(con.)</b>						
d Steeple Aston (The Grange).....	E. W. Bradshaw, Esq.	8	1 0	400 T	20·95	172
d Swerford .....	Mr. W. Hall ..	5	1 0	500 T	23·15	186
d Banbury (Adderbury) .....	G. H. Norris, Esq.....	5	1 1	338 T	21·57	172
d „ (Bloxham Grove) .....	W. H. Warriner, Esq.	8	3 10	387 T	21·43	130
d „ (Sibford Ferris) .....	J. Lamb, Esq. ....	5	1 0	575 T	21·43	141
d „ (Bodicote) .....	J. F. Starkey, Esq. ...	8	1 3	388 T	22·21	174
d „ (Ark House School) ...	A. J. Beale, Esq. ....	5	1 0	310	23·06	169
<b>NORTHAMPTON.</b>						
Brackley (East Hill) .....	Lady Bannerman .....	5	1 0	425 T	22·20	213
d Grimsbury [Banbury] ..	W. E. Wood, Esq....	5	1 3	320 T	20·16	152
„ [„] .....	A. B. Field, Esq. ....	8	2 6	320	20·91	...
Towcester (Bradden Rectory) ..	C. A. Markham, Esq... 5	3 6	404	18·62	...	
„ (Easton Neston) .....	Mr. E. Slarke.....	8	1 0	340 T	17·44	162
d Blisworth (Grafton House) .....	A. Westley, Esq.....	5	5 0	330	19·91	158
d „ .....	T. W. Millner, Esq. ...	5	1 2	300 T	18·18	155
„ (Milton House) .....	C. A. Markham, Esq... ..	...	...	...	19·29	146
d Litchborough Hall.....	E. Grant, Esq. ....	5	1 10	500	22·11	175
d Daventry (Fawsley) .....	The Lady Knightley ..	5	1 0	477 T	22·11	139
d Castle Ashby .....	R. G. Scriven, Esq. ...	5	1 0	263 T	21·32	203
Great Houghton .....	C. A. Markham, Esq... ..	...	...	...	21·48	157
Little Houghton .....	„ „ „ ..	5	2 2	270	19·81	161
Northampton (Berry Wood).....	„ „ „ ..	8	1 4	399	21·07	159
„ (St. George's Place) ..	„ „ „ ..	5	1 0	276 T	18·41	154
d „ (Balmoral Road)...	B. Burrows, Esq. ....	5	1 0	240	19·26	...
„ (Gt. Billing Rec.) ..	C. A. Markham, Esq... 8	1 6	275 T	18·57	170	
d „ (Kingsthorpe).....	S. Law, Esq. ....	5	1 0	280	20·79	163
d Althorp House .....	Miss Chowler .....	8	3 10	310 T	19·50	140
Great Brington .....	C. A. Markham, Esq... 5	2 9	448	21·56	...	
d Sywell Hall .....	T. A. Dickson, Esq. ...	5	1 0	371 T	21·44	168
d Pitsford (Sedgebrook) .....	C. A. Markham, Esq... 5	1 0	311 T	20·98	150	
„ ( „ ) .....	M „ „ „ ..	5	1 0	311 T	20·81	...
Earls Barton Vicarage .....	„ „ „ ..	5	1 4	280 T	18·42	188
d Mears Ashby .....	Rev. J. B. Fawssett ..	5	6 5	339	20·15	189
d Wellingborough (Swanspool) ...	N. P. Sharman, Esq. ...	5	0 2	155	18·84	183
„ (Croyland Abbey) ..	E. Sharman, Esq. ....	5	0 5	...	18·13	182
Watford .....	C. A. Markham, Esq... 9	1 2	380	24·28	179	
d Ravensthorpe (Coton Mill) .....	G. S. Eunson, Esq. ...	5	1 0	355	21·93	165
Scaldwell .....	Capt. R. Soames.....	5	1 0	404 T	19·51	...
d† Burton Latimer Rectory .....	Rev. W. B. Jacques ...	5	1 0	280	19·69	171
Hazelbeech .....	C. A. Markham, Esq... 5	2 6	560	22·44	164	
d† Kettering (Sewage Works) .....	T. R. Smith, Esq., C.E.	8	1 0	199 T	18·58	159
d „ .....	P. Wallis, Esq. ....	8	1 3	300	19·81	162
d „ (Headlands).....	C. W. Lane, Esq. ....	5	1 0	288 T	18·91	169
d „ (W.W., Cransley) ...	T. R. Smith, Esq., C.E.	8	0 6	275 T	18·63	155
Welford (Salford House) .....	J. Gee, Esq. ....	5	1 3	430 T	21·54	209
Aldwinkle St. Peter .....	C. A. Markham, Esq... 5	0 11	175	19·67	163	
Desborough.....	„ „ „ ..	5	1 0	453	21 5	180

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground.	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
<b>NORTHAMPTON—(con.)</b>						
Barnwell (Lilford Hall) .....	Mr. E. Wilson .....	5	1 0	...	19·36	146
Oundle .....	J. M. Siddons, Esq. ...	5	3 4	105 T	19·09	...
Corby (Weldon Grange) .....	J. Rooke, Esq. ....	8	1 0	342 T	19·80	202
Rockingham Castle .....	Mr. W. Nobes .....	5	4 4	300 L	24·61	130
Kingscliffe (Fineshade).....	C. A. Markham, Esq...	5	0 9	200	21·18	...
Peterborough (Thorpe Hall).....	Col. C. I. Strong .....	6	1 0	30	19·47	...
Stamford (Collyweston).....	Baldwin Latham Esq CE	5	1 0	315 T	21·82	147
" " (House)...	Miss Tasker .....	5	1 0	281 T	20·28	197
" " (Easton).....	N. Day, Esq. ....	5	0 9	271 T	21·07	169
" " (St. Martin's).....	Mr. T. Booth .....	5	6 0	107 T	22·92	138
<b>HUNTS.</b>						
St. Neots (Wareley Park) .....	Lady C. Duncombe ...	5	0 11	190	17·85	134
" " (Great Paxton) .....	Rev. A. G. Cane .....	5	1 0	100 T	15·60	129
Offord D'Arcy .....	W. Priestley, Esq. ....	5	0 9	51 T	17·95	159
Huntingdon (Brampton) .....	Miss May Bird .....	5	1 1	39 T	18·81	158
" " (Hinchbrook Gardens)	Mr. J. Barson.....	10	6 0	74 T	18·74	126
St. Ives (Slepe House) .....	H. Warren, Esq., C.E.	5	1 0	25	17·71	156
Catworth .....	" "	5	0 9	210	18·94	181
Whittlesea Mere .....	A. Lunn, Esq., C'E. ...	8	1 6	...	16·41	118
Yaxley (Norman Cross) .....	Mr. W. Allen.....	8	1 0	106 T	19·12	157
<b>BEDFORD.</b>						
Luton (Pumping Station).....	A.J.L. Evans, Esq., C.E.	5	1 0	343 T	19·90	174
Shillington .....	Kilham Roberts, Esq...	5	1 0	182 T	17·77	166
Holwell Bury [Hitchin] .....	Henry Kenneth, Esq...	5	0 10	180 T	17·00	133
Amphill (Higham Bury).....	E. J. Jekyll, Esq. ....	5	1 0	310 T	18·17	187
" " (Silsoe) .....	H. Trethewy, Esq. ....	5	1 0	214 T	18·20	145
" " (Wrest Park).....	Mr. G. Ford .....	5	1 1	...	16·81	...
Woburn (Crawley Farm) .....	H. M. Freear, Esq. ...	8	1 0	292 T	19·24	171
" " (Fruit Farm, Ridgmount)	R. Lewis Castle, Esq...	5	0 8	270 T	19·92	154
Stotfold [Baldoek].....	Dr. J. E. de Lisle .....	5	1 0	220 T	18·24	161
Biggleswade (Langford) .....	The Meteor. Council ...	...	...	100	16·52	164
" " (Old Warden) .....	Mr. W. C. Modral .....	8	1 2	90	18·51	...
Potton (Wrestlingworth) .....	H. J. King, Esq. ....	5	1 0	119 T	16·88	136
Sandy (The Lodge) .....	Rt. Hon. Lord Peel ...	5	1 0	...	17·64	154
Bedford (Amphill Road) .....	Thomas Pearse, Esq....	4	0 10	100	18·30	142
" " (De Parys Avenue).....	W. Godfrey, Esq. ....	5	1 0	...	16·58	...
" " (Milton Ernest) .....	F. Newbery, Esq. ....	5	5 0	137 T	20·08	157
Sharnbrook (Colworth Gardens).	Mr. J. Hoad .....	5	2 0	250	19·67	146
<b>CAMBRIDGE.</b>						
Odsey [Royston] .....	H. G. Fordham, Esq....	5	1 0	256 T	17·86	158
" " [ " ] .....	" " " " " " " " " " " "	5	1 0	256 T	17·50	155
Foxton House [Royston] .....	A. P. Humphry, Esq. ...	5	0 10	60 T	19·84	172
Abington Pigotts [Royston] ...	H. Warren, Esq., C.E.	8	0 8	130	16·89	147
Whittlesford (Sawston Vicarage)	Rev. C. E. Crump.....	5	1 0	86 T	19·24	162
Harston .....	Mrs. C. M. Baldwin ...	5	0 8	47	19·77	167



## DIVISION III.—SOUTH MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
CAMBRIDGE—(con.)						
Wimpole Hall .....	H. Warren, Esq., C.E.	5	1 0	141	16·74	146
Gamlingay (Old Woodbury) ...	Col. Gregson .....	5	1 0	213	16·24	147
Carlton .....	G. H. Long, Esq. ....	5	1 0	340 †	19·41	144
D „ Hall .....	A. S. Nice, Esq.....	5	1 6	290	20·44	164
D Longstowe Rectory .....	Rev. J. P. Sharp .....	5	1 3	227 †	20·63	182
Trumpington .....	F. Parsons, Esq. ....	5	1 0	50	19·11	159
D „ (Gilmerton).....	S. Nutter, Esq. ....	8	4 0	...	17·61	169
Granchester Mill .....	H. Warren, Esq., C.E.	5	5 0	31 †	18·59	152
Bourn Lodge .....	„ „ „ „	5	2 1	170	19·12	150
Cambridge (Fulbourne Pumping Sta.)	W. W. Gray, Esq., C.E.	5	1 0	37 †	19·57	167
„ (W. W. Cherryhinton).	„ „ „ „	5	1 0	35 †	16·57	149
D „ (Benet Place) .....	Rev. J. Wardale .....	5	1 0	42 †	17·12	135
D „ (Sidney Street) .....	W. E. Pain, Esq. ....	8	60 0	92 †	16·57	162
„ (Pinehurst) .....	C. F. Foster, Esq. ....	5	0 10	36	17·07	155
D† „ Observatory .....	Sir R. S. Ball, F.R.S.	5	1 0	84 †	15·84	135
D „ „ „	„ „ „ „	8	0 10	84 †	15·82	134
„ (Quy Hall) .....	H. Warren, Esq., C.E.	5	0 5	61	17·13	157
Croxton [St. Neots] .....	R. A. Cochrane, Esq....	5	2 6	200	17·26	129
Newmarket (Cheveley Park) ...	H. Warren, Esq., C.E.	8	1 6	350	19·94	138
Lolworth Rectory .....	„ „ „ „	5	0 11	...	20·17	140
Burwell .....	„ „ „ „	5	2 0	58	17·62	144
Conington Hall [St. Ives] .....	P. T. Gardner, Esq. ...	8	0 5	50	18·92	150
Cottenham (Bernard House).....	A. Bull, Esq. ....	5	1 6	30 †	16·34	127
Soham .....	T. Everett, Esq. ....	5	1 0	25 †	17·87	115
D Stretham (Dimocks Cote).....	Mr. H. Nightingale ...	5	13 7	...	15·85	130
D „ Engine .....	Mr. J. Housley .....	9	4 9	13 †	15·22	112
„ (Orchard House) .....	Mr. C. Wright, Junr....	8	5 0	42	17·19	138
D „ Ferry (Elford Farm)..	„ „ „ „	8	4 6	...	16·10	134
D Ely (The Palace) .....	Rev. G. Bullock Webster	5	1 0	64 †	18·99	195
Littleport (Highfield House) ...	H. G. Martin, Esq. ...	8	2 7	67 †	17·86	135
D Chatteris (Aylesby House) .....	A. H. Ruston, Esq. ...	8	0 6	45 †	19·23	162
D „ (The Priory) .....	H. F. Fryer, Esq.....	5	0 7	45	20·33	113
„ (Horseway Lock) .....	A. Lunn, Esq., C.E. ...	8	15 0	...	13·25	...
Stanground Sluice.....	„ „ „ „	8	1 6	...	16·89	...
March .....	„ „ „ „	9	2 0	...	18·30	145
Upwell (Marmont Priory Lock)..	„ „ „ „	8	1 1	...	17·34	143
„ (Euximoor House) .....	H. West, jun., Esq. ...	5	0 8	15 †	21·02	149
D Thorney .....	A. J. Forrest, Esq. ...	8	3 6	9 †	17·44	137
„ (Wryde House) .....	S. Egar, Esq. ....	5	1 0	7 †	19·46	165
D Wisbech (Bank House).....	A. Peckover, Esq. ....	8	0 8	6	21·80	151
D „ (Monica Road) .....	W. Climensson, Esq. ...	8	1 2	6	21·35	144

## DIVISION IV.—EASTERN COUNTIES.

## ESSEX.

D Grays Sewage Works .....	A. C. James, Esq., C.E.	8	2 3	12 †	15·66	165
D Orsett .....	W. Powell, Esq. ....	8	3 0	73 †	17·46	152
D Barking Outfall.....	M Fitzmaurice Esq CMG	8	0 9	6 †	17·59	158

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which -01 or more fell
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
ESSEX—(con.)						
East Ham	W. B. Bryan, Esq., C. E.	8	0 11	17	18.17	134
Shoeburyness	Superintendt. of Expts.	8	0 9	13 7	15.32	130
"	"	5	2 5	14 7	15.24	...
West Ham (Abbey Mills)	M Fitzmaurice Esq. CMG	8	1 0	11 7	18.81	153
Barking Cemetery	E. H. Lister, Esq.	5	1 0	18	19.08	149
Southend (Water Works)	C. S. Bilham, Esq.	8	1 0	118 7	18.51	144
" ( " " Eastwood)	"	8	1 0	50 7	18.00	155
" (York Road)	Charles Clarke, Esq.	5	2 6	85	17.64	132
Wanstead (Red Bridge)	W. B. Bryan, Esq., C. E.	8	8 0	33	18.52	142
Romford (North Ockendon)	Rev. R. T. Crawley	5	1 3	100 7	17.26	162
Manor Park (Albany Road)	A. J. Wilmshurst, Esq.	5	3 0	...	18.46	...
Leyton (Lea Bridge Road)	C. E. Jones, Esq., C. E.	5	1 0	49 7	21.18	163
Upminster Hall	Captain G. H. T. Swinton	5	1 0	121 7	19.18	155
"	"	5	1 0	121 7	18.97	...
Walthamstow (Ferry Lane)	W. B. Bryan, Esq., C. E.	8	0 10	30	21.29	160
Woodford (Haggard Lane)	"	8	0 8	176 7	20.27	160
Foulness (The Lodge)	B. C. Hall, Esq.	5	1 2	6	16.96	130
Billericay (Burghstead Lodge)	General Branfill	5	1 0	310 7	19.39	163
" (Norsey Manor)	Burnett Tabrum, Esq.	6	0 9	270 7	21.22	160
" (Ramsden Hall)	T. W. Bacon, Esq.	5	0 9	260 7	21.76	165
Wickford (Runwell Hall)	Col. H. Kemble	5	1 0	75 7	20.48	144
Havering-atte-Bower	Mrs. Pemberton Barnes	5	1 0	...	19.86	170
" Grange	G. P. Hope, Esq.	5	1 0	255 7	22.25	218
Buckhurst Hill	W. B. Bryan, Esq., C. E.	8	1 7	275	19.69	153
"	"	8	34 0	305 7	19.44	147
Chingford Mill	"	8	0 6	40 7	19.86	152
Brentwood (Shenfield Rectory)	Rev. Canon Quennell	5	1 0	305	21.17	171
Stow Maries (Wellingditch)	C. Clarke, Esq.	5	2 6	...	19.22	...
Loughton (High Beech)	W. B. Bryan, Esq., C. E.	8	1 0	376 7	20.13	143
Southminster	H. Murton, Esq.	5	1 1	85 7	20.05	139
Ingatestone (Fryerning)	A. E. Christy, Esq.	5	1 0	291 7	19.47	...
Waltham Abbey	W. B. Bryan, Esq., C. E.	8	5 0	62 7	21.48	143
" (Gunpr. Factory)	The Superintendent	5	2 0	64	21.47	160
Epping (The Hemnalls)	J. Nicholl, Esq.	8	0 8	345	22.01	113
Bradwell-on-Sea (Bradwell Hall)	J. C. Chillingworth, Esq.	5	1 1	27	19.93	132
" (Down Hall)	D. S. Hodge, Esq.	5	1 0	20	19.88	133
Danbury Rectory	Rev. J. Bridges Plumptre	5	1 0	365 7	20.46	168
Writtle (Melbourne)	E. Rosling, Esq.	5	0 9	140 7	18.01	150
"	Miss Osborne	5	2 6	100	21.57	...
Chelmsford (High Street)	F. Chancellor, Esq.	8	1 0	86 7	19.66	149
" (County Hort. School)	A. E. Burgess, Esq.	5	1 0	...	17.26	...
" (Spergula)	J. C. Thresh, Esq., M. D.	5	1 0	136 7	19.33	160
" (Springfield Place)	Miss Jackson	5	0 11	143 7	19.21	175
" (Roxwell)	R. W. Christy, Esq.	5	1 0	190 7	21.34	...
Abbeystead Rectory	Rev. L. Capel Cure	8	1 5	300	17.74	...
Clacton-on-Sea	Mr. A. W. Shadick	5	1 2	55	17.49	151
Great Clacton (Clay Hall)	Philip Smith, Esq.	5	2 0	40 7	18.94	132
Witham (Little Braxted Hall)	A. G. Taber, Esq.	5	1 0	50	19.72	155



## DIVISION IV.—EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
SUFFOLK—(con.)						
d Haverhill (Great Thurlow) .....	A. Boa, Esq. ....	5	1 0	241 T	19·98	193
Clare (Stansfield) .....	J. Slater, Esq. ....	5	1 0	300 T	23·31	...
d „ (Hawkedon Rectory) .....	Rev. B. P. Oakes ....	5	3 4	305 T	22·38	193
Ash Bocking Vicarage..... <i>old g.</i>	Rev. M. B. Cowell.....	5	1 0	231 T	22·91	142
„ „ „ „ „ <i>new g.</i>	„ „ „ „ „	5	3 4	231 T	23·11	142
Parham (The High House) .....	H. R. Smith, Esq.....	5	1 0	93	20·03	...
d Aldborough (Aldringham Ho.)..	F. Garrett, Esq.....	8	4 5	50 B	18·42	155
d Great Glemham .....	Col. A. Bloomfield .....	5	0 10	80 T	22·15	134
d Little Saxham.....	Rev. H. I. Kilner .....	8	0 10	220	20·40	165
d Bury St. Edmunds (Westley) <i>new g.</i>	R. Burrell, Esq.....	5	1 0	226 T	21·71	153
d „ „ „ (Fornham St. Martin)	Rev. J. S. Pratt .....	5	1 0	100	19·23	143
d „ „ „ (Hengrave) .....	Mr. W. Nichol .....	5	1 2	91	18·76	109
d Bacton.....	C. H. Woods, Esq. ...	5	1 6	186 T	19·69	159
Darsham (Sibton) .....	Col. Ward .....	5	2 6	94	20·57	151
Westleton (St. Helens).....	J. R. Grimsey, Esq. ...	8	2 0	67 T	21·85	138
d Ixworth (Walsham-le-Willows).	Miss M. C. Martineau..	5	1 0	...	20·23	146
Stradbroke Rectory .....	Rev. Canon Tate .....	5	1 3	172 T	20·11	...
Southwold .....	A. C. Herbert, Esq. ...	5	1 0	44 T	19·04	...
d „ „ „ „ „	„ „ „ „ „	8	1 0	44 T	19·40	178
Ixworth (Barningham) .....	Miss A. K. Lingwood..	8	1 0	136	18·77	...
d Weybread [Harleston] .....	C. Candler, Esq.....	5	1 0	60	20·36	141
d Elveden Hall .....	Rt. Hon. Lord Iveagh..	5	1 0	130	20·85	183
d Halesworth (Rumburgh) .....	Rev. W. Linton Wilson	5	3 0	148 T	21·38	153
d Beccles (Sotterley Hall) .....	Miles Barne, Esq. ....	5	0 11	...	21·44	160
d „ (The Staith) .....	Clifford Smith, Esq. ...	5	4 2	...	20·29	206
Lowestoft (Belle Vue Park).....	C. W. Edwards, Esq...	5	1 0	86 T	18·14	150
d „ (The Clyffe, Corton)...	R. J. Colman, Esq. ...	5	1 0	62 L	21·18	148
d „ (Lound Pumping Station)	J. Hawksley, Esq.....	8	1 0	74	20·60	134
Fritton [Yarmouth] .....	H. E. Buxton, Esq. ...	8	0 8	40	21·00	146
d Burgh Hall [Yarmouth] .....	H. P. Frederick, Esq...	8	0 6	45 T	21·36	167
d Burgh Castle Rectory .....	Rev. Canon Venables..	5	0 7	40	20·97	150
NORFOLK.						
d Pulham St. Mary .....	Miss I. M. Deedes .....	5	1 4	...	19·92	143
d Santon [Brandon] .....	A. W. Preston, Esq....	5	0 10	32	21·63	173
Ellingham [Beccles] .....	H. Youngman, Esq. ...	5	3 0	...	19·18	...
d† Geldeston [ „ ] .....	E. T. Dowson, Esq. ...	5	1 0	38 T	19·91	178
„ [ „ ] .....	M „ „ „ „	8	1 0	38 T	19·19	...
d Long Stratton (The Beeches, Fritton)	Miss Wainwright .....	5	0 10	110 T	21·46	173
d Raveningham Hall [Beccles] ...	N. H. Bacon, Esq. ...	8	1 3	...	20·62	146
d Saxlingham Nethergate .....	Mrs. Pitt.....	8	1 2	...	20·41	157
d Wymondham .....	J. B. Pomeroy, Esq. ...	8	1 3	118 T	22·59	202
Watton .....	R. Martin, Esq.....	5	1 0	166 T	21·88	171
d Hingham .....	G. K. Dobbs, Esq.....	5	1 1	188	21·73	181
d Norwich (Dunston Hall) .....	A. W. Preston, Esq...	..	...	...	23·37	193
Denver .....	„ „ „ „ „	8	1 0	80 T	19·65	156
d Stoke Ferry (Wereham) .....	G. Read, Esq.....	5	2 3	66	22·53	156
d Wymondham (Hethersett) .....	A. W. Preston, Esq....	6	1 3	163	20·67	121

## DIVISION IV.—EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
NORFOLK—(con.)						
Keswick Old Hall .....	E. Knight, Esq.....	5	1 0	...	23·17	185
Outwell Sluice .....	A. Lunn, Esq., C.E....	9	...	16	20·50	175
d Moulton .....	A. W. Preston, Esq....	4	...	...	22·36	163
Emneth .....	F. M. Bland, Esq.....	6	1 0	6	20·99	134
Yarmouth (Sailors' Home) .....	The Meteor. Council ...	8	4 0	12	21·43	166
d „ (Market Place) <i>new g.</i> .....	W. C. Steward, Esq....	5	1 0	...	21·29	176
d Norwich (Postwick Hall) .. ..	A. W. Preston, Esq....	5	1 1	5	22·05	165
d „ (Carrow House) .....	Miss Colman .....	5	1 3	35 $\pi$	20·80	107
d† „ (Brundall) .....	A. W. Preston, Esq....	5	1 0	66 $\pi$	22·30	192
d „ (Ipswich Road) .....	J. H. Willis, Esq.....	5	1 0	110 $\uparrow$	22·07	185
d* „ (Newmarket Road) .....	A. W. Preston, Esq....	8	1 2	89 $\pi$	24·31	222
d „ (Heigham) .....	„ „ „ ..	5	3 2	37 $\pi$	21·67	165
d Acle.....	„ „ „ ..	5	0 6	51	19·89	159
d Swaffham .....	W. H. Plowright, Esq.	5	5 0	250 $\pi$	21·80	171
„ (Homewood) .....	F. Everett, Esq. ....	5	2 6	210	24·80	164
Honingham .....	A. W. Preston, Esq....	...	...	...	19·72	...
d Sprowston (Oak Lodge).....	T. Cozens Hardy, Esq.	5	1 0	101 $\pi$	20·96	183
East Dereham.....	G. H. Cooper, Esq. ...	8	3 0	161	20·95	...
d Yarmouth (Ormesby St. Michael)	J. Hawksley, Esq.....	8	1 0	21 $\pi$	20·84	182
d Sporle .....	A. W. Preston, Esq....	...	...	...	22·71	200
d Swaffham (Dunham) .....	„ „ „ ..	5	1 1	320	21·85	198
Wiggenhall (Outlet Syphons)...	A. Lunn, Esq., C.E....	8	1 6	...	20·20	144
d Tilney St. Lawrence (Aylmer Hall)	W. B. Parsons, Esq....	8	1 2	9	21·62	179
d Bylaugh Park Gardens .....	Mr. G. Beeton .....	5	1 0	130 $\uparrow$	23·96	160
Reepham (Whitwell Vicarage)...	W. H. Freeman, Esq...	8	1 6	150	21·99	176
Cawston .....	Rev. T. H. Marsh .....	5	1 0	135 $\uparrow$	21·42	180
Aylsham (Woodgate) .....	R. J. W. Purdy, Esq..	5	1 0	100 $\uparrow$	21·92	173
d North Walsham (Dilham) .....	A. W. Preston, Esq....	5	0 8	...	22·90	208
„ „ (Worstead) ..	R. Cross, Esq. ....	8	1 0	...	23·22	172
d „ „ (E. Ruston Grange)	W. S. Horn, Esq. ....	5	1 0	20 $\uparrow$	20·04	151
d Hillington School .....	Rev. H. Ffolkes.....	5	3 6	93 $\pi$	26·21	201
Fakenham (Pensthorpe) .....	late W. Hamond, Esq..	5	2 6	153	18·93	139
West Rudham .....	W. S. Freuer, Esq. ...	5	0 10	...	23·71	...
Cromer (Northrepps Hall) .....	Mrs. R. Gurney.....	5	0 4	200	21·77	168
d Holt (Field Dalling) .....	A. W. Preston, Esq....	5	1 3	158 $\uparrow$	20·36	168
Blakeney .....	C. I. Temple Lynes, Esq.	5	1 3	29	20·18	182
Wells (Holkham Hall) .....	Rt. Hon. Earl of Leicester	12	4 0	39	19·59	...

## DIVISION V.—SOUTH WESTERN COUNTIES.

## WILTS.

Landford (Northlands) .....	Mrs. Wigram .....	5	1 10	167 $\pi$	26·44	149
d Donhead St. Mary (Charlton Ho.) ..	Col. G. Best .....	5	0 7	514	32·41	174
d Broadchalke Vicarage .....	Rev. E. J. Satterthwaite	5	1 0	300 $\pi$	28·85	156
d† Alderbury .....	Rev. Canon Hutchings.	5	0 8	263 $\pi$	25·16	149
d Tisbury (The Academy) .....	J. Bristol, Esq. ....	5	0 9	380 $\pi$	27·54	125
d East Knoyle .. ..	E. H. Miles, Esq. ....	5	1 3	590 $\pi$	30·73	158

## DIVISION V.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level		
			ft. in.	feet.	inches.	
WILTS—(con.)						
D Salisbury (Brown Street) .....	T. H. Baker, Esq. ....	5	1 0	155	27·54	171
D „ (De Vaux Lodge) .....	H. Peniston, Esq. ....	5	1 0	150	26·85	151
D† „ (Wilton House) .....	T. Challis, Esq. ....	8	0 5	180 A	28·61	167
Winterslow (Roche Court) .....	T. T. S. Metcalfe, Esq.	5	1 0	459 T	26·42	175
D „ „ „ „ new g. „ „ „	„ „ „ „ „	5	1 0	459 T	24·53	176
† Mere (Dews House) .....	Miss E. B. Rutter .....	5	1 7	384	28·25	...
† „ Vicarage .....	Rev. J. A. Lloyd .....	5	3 0	370	28·82	...
D „ (Charnage) .....	A. R. White, Esq. ....	5	1 0	426 T	29·18	168
† Maiden Bradley .....	Duke of Somerset .....	8	1 6	626 T	32·68	176
D† Warminster (Rye Hill) .....	S. E. Jefferys, Esq. ....	8	2 0	466 T	29·45	178
Salisbury Plain (Chitterne House)	R. Hayward, Esq. ....	11	4 0	319 T	22·13	150
D „ „ (Shrewton) .....	F. J. Wardale, Esq. ...	5	0 9	320	26·43	147
D Warminster (Downside) .....	Mrs. Stent .....	8	2 3	393	27·21	163
D Ludgershall (Conholt Park) .....	G. Knowles, Esq. ....	5	1 0	750 T	30·35	180
D „ (Collingbourne Kingston)	Baldwin Latham Esq CE	5	1 0	470 A	25·08	147
D Market Lavington .....	Mr. T. J. Selfe .....	5	3 0	300	23·18	162
Trowbridge (Water Works, Biss)	W. W. Gray, Esq., C.E.	5	1 0	311	28·48	143
D „ (Rood Ashton) .....	Mr. W. Strugnell .....	8	1 6	250	24·89	159
D Bradford (The Chantry) .....	Dr. Beddoe, F.R.S. ...	5	0 9	125	21·83	152
D „ (Winsley Manor) .....	E. W. Knatchbull, Esq.	5	0 6	400	25·03	177
D „ (Holt) .....	A. J. Beaven, Esq. ...	5	1 2	120	23·18	188
Devizes (Wilts Co. Asylum) ...	Dr. Ireland Bowes .....	8	2 3	385 A	22·33	163
D Buttermere Rectory .....	Rev. W. E. Burkitt ...	5	3 0	847	28·85	166
D Shalbourne (West Court) .....	Mr. T. Barns .....	5	1 0	640 ?	27·15	164
D Bishop's Cannings .....	Rev. C. W. Hony .....	5	1 0	446 A	23·21	169
D Devizes (Shepherd's Shore) .....	Mr. J. Carter .....	5	1 6	555 T	23·81	153
D Chippenham (Lacock) .....	Mr. W. Brinkworth ...	5	0 11	202 T	23·06	159
„ (Langley Burrell) .....	Rev. A. B. Mynors ...	8	1 2	250	23·92	155
D „ (Kington Langley) .....	H. H. Palairt, Esq. ...	5	1 0	270	22·42	169
D Marlborough (Preshute House) ..	Mr. G. E. Mew .....	5	0 9	...	25·49	146
„ „ „ „ „	The Royal Meteor. Soc.	5	1 0	450	26·01	176
D „ (Mildenhall) .....	Rev. G. Soames .....	5	1 0	456	25·74	160
D Calne (High Street) .....	Mr. H. Wilkins .....	5	3 6	244 T	22·12	146
„ (Compton Bassett) .....	Capt. J. Heneage .....	8	1 0	385 T	23·13	...
Yatesbury .....	Rev. E. D. Guillebaud.	5	0 9	564 A	25·47	...
Ramsbury (The Rookery) .....	F. C. Batson, Esq. ....	5	1 0	398 T	23·71	163
D Wootton Bassett .....	H. Bevir, Esq. ....	5	1 6	422 T	21·23	160
D† Swindon, New .....	H. J. Southwell, Esq. ...	8	0 11	378	20·66	157
Malmesbury (Charlton) .....	Lady Victoria Howard	8	0 6	...	26·79	146
Highworth (Hannington Hall) ..	A. D. Hussey-Freke, Esq	5	1 0	375	20·74	165
DORSET.						
D Portland Bill (High Light) .....	Dorset Field Club .....	8	1 0	...	25·44	173
Weymouth (Wyke Regis) .....	Mrs. Pretor .....	5	0 9	158 B	27·00	146
D „ (The Nothe) .....	Dorset Field Club .....	5	1 0	79	24·28	153
Swanage (Royal Victoria Hotel)	H. B. Vincent, Esq. ...	5	1 11	26 T	26·23	151
D „ „ „ „ „	Miss J. D. Pix .....	5	2 0	60	26·12	147
East Fleet (Fleet House) .....	Dorset Field Club .....	5	1 1	48	24·73	148

## DIVISION V.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
DORSET—(con.)						
Chickerell (Montevideo) .....	Mrs. N. M. Richardson	5	1 0	150	26·61	178
d West Lulworth Vicarage .....	Rev. W. Percy Schuster	5	1 0	128 $\nabla$	29·20	133
d Abbotsbury (New Barn) .....	Mr. J. C. P. White ...	5	1 6	111 $\nabla$	25·98	156
d Winterbourne Steepleton .....	H. Stilwell, Esq. ....	8	1 0	316 $\nabla$	33·00	171
d Wareham (Castle Gardens) .....	S. W. Bennett, Esq. ...	5	2 6	18	29·04	158
d „ (Binnegar Hall) .....	O. C. Farrer, Esq. ....	5	1 0	65	30·21	166
d Winterbourne Herringstone .....	R. B. White, Esq. ...	5	3 1	200	32·91	152
d Dorchester Water Works .....	G. J. Hunt, Esq. ....	8	1 2	315 $\nabla$	31·59	182
d „ (Wollaston House) ...	Capt. J. E. Acland .....	5	1 0	200 $\nabla$	31·67	180
d Poole (Parkstone) .....	R. H. Barnes, Esq. ...	5	0 11	198 $\nabla$	28·73	174
d „ ( „ ) .....	„ „ „ „ „ „	5	1 0	198 $\nabla$	29·33	175
d „ ( „ ) .....	W. Symes, Esq. ....	5	1 3	160	28·49	171
d Lyme Regis (Colway Cottage) ...	Dr. J. Spurr .....	5	1 0	100 ?	29·39	185
Bridport (Coneygar) .....	H. Gordon, Esq., C.E..	5	1 0	110 $\nabla$	31·50	162
d Piddletown .....	J. Powell, Esq. ....	5	1 0	190	29·96	144
d Bere Regis Vicarage .....	Rev. A. Lucas .....	5	1 0	160	28·70	167
„ „ (Bloxworth Rectory) ..	Rev. O. P. Cambridge FRS	5	1 3	205 $\nabla$	30·31	150
„ „ ( „ House) ...	Mr. F. G. A. Lane .....	5	1 6	118	29·78	138
d Maiden Newton (Cattistock Lodge)	E. S. Wilmot-Sitwell Esq	5	1 0	350	35·61	170
d Sturminster Marshall (Bailie Ho.)	Rev. J. Cross .....	5	0 6	85	30·35	168
d Wimborne (Codford) .....	G. H. Batterbury, Esq. MD	5	0 9	69 $\nabla$	31·01	186
d Beaminster Vicarage .....	Rev. A. A. Leonard ...	5	1 0	216 $\nabla$	31·52	168
„ „ (Fleet Street) .....	J. Andrews, Jun., Esq.	5	1 0	200 $\nabla$	31·75	171
d Broadwindsor Vicarage .....	Rev. G. C. Hutchings..	5	0 7	540 $\nabla$	31·48	177
d „ „ (Blackdown House)	C. E. M. Pinney, Esq..	5	0 9	515	36·48	174
d Winterbourne Houghton .....	Rev. H. H. T. Bassett.	8	0 6	450	32·45	147
d Cerne Abbas (Melbury) .....	Mr. R. Rintoul .....	5	1 6	500	33·45	144
d Chedington Court .....	Mr. H. Birkinshaw ...	5	1 0	605	34·60	167
d* Wimborne Minster (Chalbury) ...	Rev. G. H. Billington..	5	2 0	338 $\nabla$	26·78	159
d „ „ (Horton) ...	Rev. G. Wellington ...	5	1 0	135 $\nabla$	28·26	157
d Verwood Manor .....	W. R. Fryer, Esq. ....	5	3 0	180	29·50	158
d Holwell (Westrow) .....	Mr. G. Coffin .....	5	1 0	252	30·76	165
d Iwerne Courtney (Shroton) .....	Admiral Stopford .....	5	1 2	200 $\nabla$	28·36	158
d Sturminster Newton (Riverside).	A. R. Hallett, Esq. ...	5	5 0	200	26·76	138
d Sherborne (Coombe Farm) .....	S. Creed, Esq. ....	5	3 0	373 $\nabla$	31·24	178
d „ „ (Castle) .....	Mr. T. Turton .....	5	1 0	195	28·17	176
Shaftesbury .....	Royal Meteor. Soc. ...	5	1 0	722	30·56	184
d Buckhorn Weston .....	Rev. W. Hughes D'Aeth	5	1 0	285	23·17	173
d Gillingham .....	S. H. Stephens, Esq. ...	5	1 2	244 $\nabla$	27·00	163
DEVON.						
d Salcombe (Sandhills) .....	W. H. Pike, Esq. ....	5	1 0	118	31·37	165
„ „ .....	The Royal Meteor. Soc. ...	...	...	...	31·78	186
d „ „ (Shadycombe) .....	Mr. T. Langmead .....	8	1 2	20	32·09	139
South Huish .....	W. Balkwill, Esq. ....	5	5 6	68 $\nabla$	32·48	...
Kingsbridge (Westcombe) .....	T. W. Latham, Esq. ...	5	0 9	100	37·19	175
d Revelstoke (Membland) .....	Mr. G. Baker .....	5	1 0	180 $\nabla$	35·21	178
Dartmouth (Redlap House) .....	L. Karslake, Esq. ....	5	1 1	220 $\nabla$	29·85	182

## DIVISION V.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which '01 or more fell.
		Diameter	Height Above Ground.	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
DEVON—(con.)						
D Plymstock (Thorncot, Hooe) ...	J. Little, Esq. ....	5	2 0	113 A	34·68	185
Brixton (Kitley Gardens) .....	Mr. G. Matthews .....	8	1 0	50	34·15	...
D Plymouth (The Hoe).....	H. V. Prigg, Esq., C.E.	8	0 10	117 A	30·93	180
D „ (Freedom Field) .....	„ „ „ „	8	0 10	208 A	33·97	190
„ (Drake's Reservoir)...	F. Howarth, Esq., C.E.	5	1 0	149 A	30·88	173
D*Devonport (Rowdens Res.) .....	H. Francis, Esq., C.E.	5	1 0	201 A	30·52	160
D Ivybridge (Langham Hill) <i>new g.</i>	Miss Glanville .....	5	1 0	400 T	41·41	197
D „ (Blackadon Asylum)...	H. V. Prigg, Esq., C.E.	5	1 0	607	46·30	215
D South Brent (Great Aish).....	Miss Kingwell .....	5	1 0	500 T	48·78	182
D Totnes (Fernleigh) .....	L. J. Oldreive, Esq. ...	5	1 1	94	36·56	148
Bere Ferrers .....	Rev. F. T. W. Wintle.	5	1 0	100	43·94	188
Bickley (Roborough Reservoir)...	F. Howarth, Esq., C.E.	5	1 0	550 A	41·18	193
Torquay (Princess Gardens) ...	F. March, Esq. ....	5	1 0	12	29·35	164
D „ (Cary Green) .....	„ „ „ „	5	1 0	12	30·22	166
†Lee Moor Clay Works .....	T. Martin, Esq. ....	8	1 6	950 T	49·73	...
Buckfastleigh (Bossell Park) ...	J. Hamlyn, Esq.....	12	1 0	250	47·89	188
D Yelverton .....	Dr. H. J. S. Liddell ...	5	7 0	627 A	52·22	178
Sheepstor .....	F. Howarth, Esq., C.E.	5	1 0	1160 A	48·38	...
† „ (Red Stone) .....	„ „ „ „	5	1 0	760 A	45·58	208
„ (Burrator) .....	„ „ „ „	5	1 0	755	40·21	207
† „ (Head Weir).....	„ „ „ „	5	1 0	690 T	41·90	210
D†Dartmoor (Lowery) .....	H. Francis, Esq., C.E.	5	1 0	890 T	47·31	184
† „ (Deancombe Farm) ...	F. Howarth, Esq., C.E.	5	1 0	830 A	43·88	169
† „ (Leather Tor Farm)...	„ „ „ „	5	1 0	910 A	47·88	203
„ (Nuns Cross) .....	„ „ „ „	5	1 0	1200 A	54·55	...
„ (Cramber Tor) .... M	„ „ „ „	5	1 0	1435 A	48·10	...
D Kingskerswell (South Hill) .....	E. A. Foster, Esq. ...	5	1 0	270 T	29·77	168
D Abbotskerswell (Court Grange)...	the Hon Mrs Marcus Hare	5	1 0	180 B	34·54	146
D Ashburton (Holne Vic.) .....	Rev. J. Gill.....	5	1 6	650 B	54·76	202
D† „ (Druid House).....	Fabyan Amery, Esq. ...	5	1 0	572 T	43·76	194
D Newton Abbot (Tuplins) .....	W. G. Aspland, Esq. ...	5	1 0	22 A	29·69	183
Kingsteignton (Teignbridge Ho.)	F. H. Plumptre, Esq. ...	5	1 2	27 A	28·47	153
Teignmouth (Bitton Street) .....	W. C. Lake, Esq., M.D.	5	1 0	70	30·19	188
D „ (Woodlands) .....	W. B. Harris, Esq. ...	8	1 2	98	28·22	162
„ (Bonnieliff) .....	Capt. J. Horner .....	5	1 0	260 T	31·54	244
D Tavistock (Statsford, Whitechurch)	E. E. Glyde, Esq. ....	5	1 0	594 A	45·88	217
D† „ (Public Library) .....	Mr. J. Quick .....	8	20 0	283 T	39·30	196
Princetown .....	The Royal Meteor. Soc.	5	1 0	...	72·64	...
Dawlish .....	R. Clarke, Esq., C.E. ...	5	1 0	18 A	28·98	177
Dartmoor (Leeden Tor).....	F. Howarth, Esq., C.E.	5	1 0	1270 A	45·71	...
„ (N. Hessary Tor, No. 1)	„ „ „ „	5	1 0	1625 A	51·47	...
† „ (Cowsie Valley).....	H. Francis, Esq., C.E.	8	1 6	1352 A	63·80	...
D Chudleigh (Ideford) ...	Rev. G. J. Ford.....	4	1 0	300 A	30·05	181
D Bovey Tracey (Colehays) .....	Mr. E. E. Underdown.	5	1 3	415 T	42·89	176
†Milton Abbot (Endsleigh) .....	Mr. F. Yole .....	5	1 0	180 T	45·04	...
D Dawlish (Mamhead Rect.) .....	Rev. W. C. Plenderleath	5	1 0	467 A	34·96	197
D Starcross (Cofton Vicarage) .....	Rev. C. F. Benthall ...	5	1 9	60	24·50	161
D Exmouth (Nidderdale) .....	Mrs. Herbert Stewart..	5	1 0	51	24·57	153



## DIVISION V.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which 0.1 or more fell.
		Diameter	Height Above Ground.	Height Above Sea Level		
			ft. in.	feet.	inches.	
DEVON—(con.)						
Exmouth (Filter Beds) .....	W. D. Harding, Esq...	5	...	...	26.42	167
Chudleigh (Tottiford) .....	W. Ingham, Esq., C.E.	8	4 0	718 $\nabla$	35.47	191
„ (Trusham) .....	Rev. O. H. Cary .....	5	0 6	322 $\nabla$	31.33	159
Budleigh Salterton (Syon House) .....	H. W. Drummond, Esq	5	1 0	...	25.68	170
„ „ (RavenShaw) .....	Col. W. Carlile .....	6	1 0	50 $\nabla$	25.93	140
„ „ (Oak Hill, E. Budleigh) .....	H. J. Thurgood, Esq...	5	0 9	100 $\nabla$	26.84	159
„ „ (Bicton).....	Mr. J. Mayne.....	5	1 0	90	27.72	166
Kenton (Southtown House) .....	Major Courtenay .....	8	2 6	56 $\nabla$	31.96	202
Coryton .....	Mr. T. M. Symons .....	5	2 0	285	36.21	178
Polapit Tamar [Launceston] ..	R. C. Coode, Esq. ....	5	2 9	315 $\nabla$	34.92	200
Yeolmbridge .....	Mrs. Boyd-Wallis .....	5	4 10	260 $\nabla$	35.49	144
Christow (W. W., Kennick).....	W. Ingham, Esq., C.E.	8	1 0	842 $\nabla$	37.36	206
„ (Laployd) ..	„ „ „ ..	5	1 0	1030 $\nabla$	31.80	...
„ (Blackingstone).....	„ „ „ ..	5	1 0	1090 $\nabla$	26.88	...
†Sidmouth (Sidmount) .....	The Royal Meteor. Soc.	5	1 0	149 $\nabla$	27.84	193
*Rousdon [Lyme Regis] .....	The Hon. Lady Peek...	5	1 0	516 $\nabla$	29.75	175
„ „ „ „ „ M	„ „ „ „ „	3	1 0	516 $\nabla$	28.86	...
†Cleveland [Lyme Regis] .....	Mr. C. W. Bloye .....	5	1 11	465 $\nabla$	28.80	174
Exeter (St. Thomas).....	E. N. Snow, Esq. ....	5	0 6	...	31.79	152
„ (Heavitree) .....	R. H. Cecil Baker, Esq.	8	1 2	175 $\nabla$	29.08	153
„ (Devon & Exet. Inst.) ..	J. E. Coombes Esq. ...	5	13 7	155 $\nabla$	27.89	174
† „ (Manston Terrace) .....	Miss Dymond .....	5	1 0	166 $\nabla$	27.14	170
„ (Elmfield) .....	W. B. Heberden, Esq. CB	5	4 0	100	26.96	171
†Okehampton (Oaklands) .....	General Holley .....	5	1 0	521 $\nabla$	38.33	168
Exeter (Brampford Speke Station)	Mr. A. Tucker .....	5	1 0	83	27.41	147
Crediton (Stockleigh Pomeroy) ..	Rev. T. H. Philpott ...	8	1 0	340 $\nabla$	32.15	180
Honiton (Combe Raleigh).....	Major H. W. M. Shewell	5	1 0	615 $\nabla$	36.01	178
Cullompton .....	T. Turner, Esq. ....	5	1 0	202 $\nabla$	30.82	191
Petrockstow (Heanton Satchville)	Mr. A. Eames .....	5	1 0	332 $\nabla$	32.67	173
Tiverton (Broomhill) .....	Mrs. Dickinson .....	5	1 0	380	32.21	183
„ (St. Peter Street) .....	Miss Gill .....	5	6 0	270	31.39	193
Uffculme .....	Rev. Preb. Gowring ..	...	1 0	280	30.11	171
Otterford (Otterhead) .....	R. Lewis Lloyd, Esq	5	1 0	735 $\nabla$	35.06	196
Torrington (Enfield) .....	G. M. Doe, Esq.....	5	1 0	326 $\nabla$	34.49	200
„ (Stevenstone) .....	Mr. W. Gillies .....	5	1 0	420	36.90	189
„ (Little Silver).....	Mr. P. H. Griffin .....	5	1 0	395	34.81	193
Parkham (Melbury Moor).....	Baldwin Latham Esq CE	5	1 0	623	43.32	245
„ „ „ Reservoir)...	„ „ „ ..	5	1 0	516 $\nabla$	45.81	246
Romansleigh Rectory .....	Rev. J. H. Thompson..	5	1 0	590 $\nabla$	36.64	213
Bampton (Huntsham) .....	H. Acland Troyte, Esq..	8	1 0	640	38.03	176
„ (Wonham) .....	Mrs. J. R. Holland ...	5	1 0	530	37.08	200
Hartland Abbey .....	Mr. G. Sleep .....	5	1 6	222 $\nabla$	33.21	154
Alverdiscott (The Firs).....	F. A. Trevan, Esq. ...	5	2 6	330 $\nabla$	35.09	186
Abbotsham (Riccard's Down) ..	Mrs. Hibbert .....	5	1 0	87 $\nabla$	33.60	201
South Molton (East Street) .....	N. C. Hatherly, Esq. M. D	5	1 0	430 $\nabla$	37.24	176
„ „ (Castle Hill School)	Mr. W. H. Reeve .....	8	1 0	363	37.82	227
„ „ „ „ „ Gardens)	Mr. W. H. Pearson ..	12	3 6	317	38.55	197
Bideford (Gammaton W. W.)...	Baldwin Latham Esq CE	5	1 0	335 $\nabla$	35.61	171

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which .01 or more fell.
		Diameter	Height above Ground	Height above Sea Level		
			ft. in.	feet.	inches.	
<b>DEVON—(con.)</b>						
*† Bideford (Horwood) .....	Rev. J. Dene .....	5	1 0	288 T	29·35	200
n† „ (Northam) .....	Rev. Preb. Churchward .....	5	1 0	173 A	32·93	179
d Westward Ho (Beacon Lights).....	J. W. North, Esq. ....	5	1 0	60 P	29·30	194
Instow.....	Miss Lock .....	5	1 0	100 B	27·54	156
n† Barnstaple Athenæum .....	T. Wainwright, Esq....	8	1 0	25 T	32·10	201
„ (Pilton) .....	Miss Hibbert .....	5	1 0	76 B	33·37	209
n† Braunton (Preston Ho., Saunton)	Miss Durham .....	5	0 8	120 B	29·92	151
d Barnstaple (Arlington Court) ...	Lady Chichester.....	5	1 0	613 B	46·11	186
„ „ „ ) .....	„ „ „ .....	5	1 0	613 B	48·47	186
Challacombe .....	T. Wainwright, Esq....	...	...	925	55·53	202
Woolacombe .....	E. Henshall, Esq., C.E.	5	1 0	60 A	25·28	...
Parracombe .....	Rev. J. F. Chanter .....	5	1 0	795 T	39·57	183
Ilfracombe Hotel .....	The Royal Meteor. Soc.	5	1 0	24	33·60	179
d Martinhoe Rectory.....	Rev. R. W. Oldham ...	5	2 3	808	36·28	184
† Lynton (Lee Abbey) .....	C. F. Bailey, Esq. ....	5	0 6	320 T	30·39	...
d Lynmouth (Gwynallt) .....	A. L. Ford, Esq. ....	8	0 8	284 T	36·68	178
d „ (Rock House) .....	T. H. Mead-Briggs, Esq.	5	0 11	22	34·01	180
<b>CORNWALL.</b>						
Mullion .....	R. Thomas, Esq. ....	5	1 0	200	32·76	154
d St. Keverne (Rosuick Cottage)...	G. W. Jevons, Esq. ...	5	1 0	250 T	39·95	213
d Penzance (Morrabs) .....	C. H. Benn, Esq. ....	5	1 0	55	31·85	201
„ (Penlee) .....	J. Branwell, Esq. ....	5	1 0	71 T	35·33	200
d „ (St. Clare) .....	Rev. Preben. Hedgeland	5	1 0	213 T	38·15	210
„ (Trengwainton).....	T. R. Bolitho, Esq. ...	10	1 0	400 T	41·92	186
Marazion.....	T. W. Field, Esq. ....	5	2 0	30 P	32·27	164
d Falmouth (New Observatory) ..	E. Kitto, Esq. ....	11	2 0	169 T	37·29	193
„ („ „ „ Place) .....	„ „ „ .....	8	2 0	169 T	37·28	188
„ (St. Mawes, Place) ..	J. S. Spry, Esq.....	5	1 0	12	30·85	171
d „ (Carclew) .....	Mr J. Simmons.....	5	0 9	...	37·87	172
St. Ives (Phillack Rectory) .....	Gavin Hope, Esq. ....	5	1 0	70 A	26·25	177
„ „ „ .....	„ „ „ .....	5	4 0	60 A	32·17	164
Camborne .....	G. B. Hooper, Esq.....	8	4 0	317 T	31·64	187
d Redruth (Trevince) .....	E. B. Beauchamp, Esq.	8	0 8	240 T	40·09	200
„ (Tolvean).....	A. Lanyon, Esq.....	5	0 9	365	37·74	181
d „ (Trewirgie) .....	A. P. Jenkin, Esq.....	5	1 0	399 A	39·72	216
d „ (Tehidy Park).....	Mr. A. Mitchell.....	8	1 1	287 A	35·39	196
d Truro (Killiow) .....	J. C. Daubuz, Esq.....	5	1 0	230 T	36·31	189
n† „ (Royal Institution).....	G. Penrose, Esq. ....	5	43 0	83 A	36·10	190
d „ (W.W., Lower Tregurrow)	Mr. W. J. Lean .....	5	9 0	71 A	37·19	180
d „ (Agar Villa) .....	Mr. C. Barrett .....	5	3 9	50 B	40·04	180
d Probos (Lamellyn).....	H. Tresawna, Esq.....	5	0 6	240	34·34	157
St. Agnes .....	C. Twite, Esq. ....	5	5 6	315 B	34·39	157
d Fowey (Menabilly) .....	Mr. W. H. Bennett ...	5	1 0	150	39·70	166
d Talland (Polperro).....	H. E. Butler, Esq.....	5	1 0	120	36·92	195
n† *St Austell (Trevarna).....	W. M. Coode, Esq. ...	5	0 6	300 A	42·61	208
Par Station (Torfrey) .....	the late W. G. Mills, Esq.	4	0 5	300	39·44	162
d Empacombe [Devonport] .....	J. Sandercock, Esq. ...	5	0 6	20 T	30·70	173

## DIVISION V.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which "01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level		
			ft. in.	feet.	inches.	
<b>CORNWALL—(con.)</b>						
◻ Cremyll [Devonport] .....	Mr. W. Wonnacott ...	5	20 0	25	29·89	186
◻ St. Germans (Trethill) .....	Capt. J. D. A. Roberts.	5	2 0	200 B	32·50	181
◻ West Looe (Morval) .....	Miss Florence Tremayne	5	1 0	138	40·88	181
◻ „ „ (Bray St. Germans)...	E. Sneyd, Esq. ....	5	1 0	550	34·15	211
◻ Lostwithiel (Lanwithan) .....	Miss Foster.....	6	1 0	80	42·23	176
◻ Newquay (Island House) .....	A. Hardwick, Esq., M.D.	5	1 0	100 B	27·64	171
◻ Menheniot (Coldrenick House)...	E. Jago, Esq. ....	5	1 4	...	45·68	198
◻ St. Wenn Vicarage .....	Rev. A. S. Rashleigh...	8	1 3	428 B	41·60	208
◻† Liskeard (Dean Terrace) .....	S. W. Jenkin, Esq., C.E.	5	1 1	375 B	45·32	198
◻ „ (Trevillis) .....	L. C. Foster, Esq.....	5	1 0	320 T	38·58	197
◻† Saltash (Pentillie Castle) .....	Mr. W. T. Johnson ...	5	2 4	150 B	45·83	174
◻† Bodmin (Lanhydrock) .....	Rev. Prebendary Every	5	1 0	390	46·40	210
◻ „ (Treledan) .....	H. D. Foster, Esq. ...	8	1 0	290	47·93	209
◻ Liskeard (St. Cleer Down) .....	S. W. Jenkin, Esq., C.E.	5	1 1	620 T	48·23	...
◻ St. Mabyn (Pencarrow).....	Mr. A. C. Bartlett.....	5	1 0	...	41·55	223
◻ Callington (Drakewalls) .....	Mr. C. A. Wadge .....	5	4 0	650 T	42·21	176
◻† Launceston (Altarnon) .....	Rev. A. H. Malan .....	5	1 0	620 B	53·74	230
◻ „ (Tamar Terrace) ...	Captain L. Ching, R.N.	5	0 10	446	39·35	202
◻ Egloskerry (Tregeare) .....	E. G. B. Lethbridge, Esq.	5	1 0	450	40·41	...
◻ North Tamerton (Ogbeare) .....	Mr. J. S. Bray .....	5	4 0	460 T	36·74	171
◻ Bude .....	J. Arthur, Esq. ....	5	1 0	16 B	28·01	144
<b>SOMERSET.</b>						
◻ Chard (Tatworth) .....	Rev. H. Stuart King ..	5	1 3	347 B	40·61	186
◻ Cricket St. Thomas .....	Mr. S. Lyon .....	5	1 0	444	36·25	147
◻ Crewkerne (Bincombe House) ..	Miss Sparks .....	5	1 2	293 T	31·55	170
◻ „ (Merefield House) ...	J. Tompsett, Esq. ....	8	13 9	243 B	33·16	171
◻ Yeovil (West Coker).....	Major Aldworth.....	5	1 0	260 T	32·96	182
◻ „ (Barwick House) .....	His Hon Judge Philbrick	5	1 0	155 T	31·55	...
◻ „ (Gas Works) .....	E. Howell, Esq.....	5	1 0	110 T	27·73	150
◻ South Petherton (Yeabridge) ...	Mrs. Blake .....	8	0 9	100	26·47	151
◻ Ilminster (Ilton Vicarage).....	Rev. R. B. Poole .....	8	0 10	104 T	28·78	191
◻ Taunton (Blagdon Hill) .....	H. T. Coles, Esq. ....	8	1 6	588 B	35·66	134
◻ „ (Leigh Hill) .....	„ „ „ .....	8	1 6	525 B	34·52	134
◻ „ (Leigh Court).....	A. Eastwood, Esq.....	8	1 0	350 T	32·35	177
◻ „ (Ashleigh) .....	W. A. Gunner, Esq....	5	1 0	78 B	25·07	176
◻ „ (Linden Grove) .....	H. Le B. Gunner, Esq.	5	1 0	...	25·89	178
◻ „ ( „ „ ) .....	„ „ „ .....	5	1 3	...	26·59	185
◻ Wellington (The Avenue) ....	F. J. „ Burnett, Esq. ...	5	0 10	254 T	28·57	191
◻ Temple Combe Rectory .....	Rev. J. C. Fox .....	5	0 6	215	29·52	174
◻ Milverton (The Nook) .....	Miss F. E. Bere .....	5	1 0	265	28·62	196
◻ Taunton (Staplegrove) .....	C. Lewis, Esq. ....	8	0 9	30	28·22	148
◻ North Cadbury Rectory .....	Rev. H. A. Boys .....	8	1 3	256 B	26·58	176
◻ Taunton (The Mount, Halse) ...	Miss Smith .....	5	1 1	254	27·03	167
◻ Wincanton .....	Rev. W. Farrer.....	5	1 0	300	29·62	187
◻ Cothelstone House .....	C. E. J. Esdaile, Esq...	5	1 0	430	27·21	194
◻ North Petherton (The Old Rectory)	E. C. Curtis, Esq. ....	8	0 6	122 B	27·02	171
◻ Castle Cary (Pitcombe Vicarage)	Rev. D. E. Norton.....	5	1 2	310 T	30·71	...

## DIVISION V.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fall.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
SOMERSET—(con.)						
d Somerton (Butleigh Court) .....	R. Neville Grenville Esq.	8	1 2	80	26·54	155
Bruton (King's School) .....	Rev. D. E. Norton .....	5	0 10	240	29·02	...
Winsford .....	Rev. Preb. Anderson .....	5	1 2	630	43·97	130
d Glastonbury (Street) .....	W. S. Clark, Esq. ....	8	0 6	100	26·53	151
„ (Wells Road) .....	J. Spire, Esq. ....	8	7 0	94 ½	23·81	152
d „ (Ynyswytryn) .....	Mrs. Swayne .....	5	1 8	245 ½	26·80	178
Bridgwater (Nurseries) .....	H. Corder, Esq. ....	5	0 6	...	22·79	174
d „ (Ashford) .....	F. Parr, Esq., C.E. ...	5	1 5	104 ½	25·20	156
„ (Fiddington) .....	E. R. Case, Esq. ....	8	5 0	120	24·12	...
d Holford (Woodlands House) ...	Miss I. L. Joseph ....	5	0 9	391 ½	29·70	180
Dunster (Alcombe) .....	Rev. J. Utten Todd ...	5	1 0	...	25·74	165
Stockland Bristol Manor House.	Rev. H. A. Daniel .....	5	1 0	65	23·37	139
d Bridgwater (Pawlett) .....	H. A. Smith Spark, Esq.	5	1 0	45 ½	22·54	121
d Shepton Mallet (Charlton) .....	F. H. Berryman, Esq..	5	1 0	481 ½	32·24	178
d „ „ (Field House) ..	„ „ „	5	1 0	500	32·90	186
d „ „ (Grammar School)	William Aldridge, Esq.	5	1 0	475	32·34	201
d „ „ (Sewage Farm) ..	C. Hale, Esq. ....	5	0 9	310 ½	32·54	184
d Wells (The Deanery Gardens) ..	Mr. A. King .....	5	1 0	170 ½	29·29	181
d Cranmore (Cranmore Hall) .....	Rt Hon Sir R. H. Paget, Bt.	8	1 0	600 ½	36·43	188
d Frome (Mells Rectory) .....	Miss E. G. Horner .....	5	1 0	344 ½	29·28	172
d „ (Orchardleigh) .....	Rev. W. A. Duckworth	8	0 10	303 ½	26·53	158
Stratton-on-the-Fosse (Downside College)	Rev. F. P. Whiteside ..	8	0 11	600 ½	32·46	165
d Chewton Mendip (The Priory) ..	Rt Hon Earl Waldegrave	5	1 5	550 ½	34·92	185
„ „ (Waldegrave Ho.)	J. Hansford Hill, Esq..	10	4 6	450	35·22	180
Ston Easton .....	H. E. Hippisley, Esq.	5	3 0	480 ½	31·35	184
E. Harptree (Sherborne Reservoir)	Bristol Water Works...	5	1 0	338 ½	29·56	168
d „ „ (Harptree Court) .....	W. W. Kettlewell, Esq.	5	1 0	346 ½	34·88	171
Axbridge (Loxton Rectory) ...	Rev. J. E. Page .....	...	...	...	27·66	156
„ (Winscombe Court) ..	Rev. R. F. Follett .....	8	1 0	180 ½	25·41	121
Ubley (Nordrach-on-Mendip) ...	R. Thurnam, Esq., M.D.	5	0 4	862 ½	38·62	210
Radstock (Camerton Court) .....	E. E. Jarrett, Esq. ...	5	1 6	340	28·20	149
d „ (High Littleton) .....	Rev. A. M. Foster .....	5	0 10	442 ½	26·96	167
d Axbridge (The Down, Winscombe)	J. Grubb, Esq. ....	5	1 0	295 ½	28·72	174
d Hutton Rectory .....	Rev. W. F. Rose .....	5	1 0	75 ½	27·79	178
d Pensford (Sutton Court) .....	Sir E. Strachey, Bt. M.P.	8	1 0	280	28·52	179
Churchill (Springfield) .....	S. B. Pumphrey, Esq..	5	1 1	...	24·35	141
d Weston-spr.-Mare (Leycroft Ho.)	C. Brown, Esq. ....	8	1 0	15	29·13	165
d „ „ „ (Beaufort Rd.)	W. A. Fussell, Esq. ...	8	5 0	23 ½	26·63	162
d „ „ „ (Worle) .....	St. J. Kemm, Esq. ....	5	1 0	...	27·32	172
Bath (Combe Hay Manor) .....	F. G. Smart, Esq. ....	5	1 0	...	25·86	175
d Wrington (The Rectory) .....	Rev. G. M. Ashdown ..	5	5 0	68	25·35	157
„ (West Hay) .....	Gen. Harrison .....	5	2 0	100 ½	27·16	142
Chew Magna .....	Bristol Water Works...	5	1 0	160 ½	27·66	167
Bath (Royal Institution) .....	The Librarian .....	6	8 0	75	22·85	159
d „ (Henrietta Park) .....	Dr. W. H. Symons ...	5	1 0	67 ½	23·40	163
d „ (Statutory Hospital) .....	„ „ „	5	1 0	520	26·94	167
d „ (Kingswood School) .....	„ „ „	5	1 0	620 ½	24·49	152
d „ (Hampstead, Combe Park).	„ „ „	5	1 0	165 ½	23·23	153

## DIVISION V.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which "01 or more fell.
		Diameter	Height Above Ground		Height Above Sea Level	
			ft.	in.	feet.	inches.
SOMERSET—(con).						
▮ Bath (Fairley, Weston) .....	C. H. B. Hambly, Esq.	5	1	6	200	23·66 160
" (    "    "    " ).....M	C. " " " " " "	5	1	6	200	23·42 ...
" (Charlcombe) .....	C. Gilby, Esq., C.E. "	8	2	0	325 T	23·62 165
▮ Batheaston .....	Col. Linley Blathwayt.	5	1	0	166 T	23·59 171
" .....	C. " " " " " "	5	1	0	166 T	24·07 ...
" Reservoir .....	C. Gilby, Esq., C.E. "	5	2	0	248 T	22·99 175
Yatton (Chelvey) .....	Bristol Water Works...	7	0	10	...	25·32 145
Barrow Gurney Reservoir .....	" " " " " "	5	1	0	320 T	28·26 164
▮ Long Ashton Estate Office .....	H. B. Napier, Esq. "	8	1	0	134 T	26·93 162
▮ Flax Bourton (Tyntesfield) .....	A. Gibbs, Esq. "	5	1	7	320 T	25·15 163
▮ Clevedon (The Knoll) .....	Miss Woodward.....	5	1	0	120 T	26·10 155
▮ " (Water Works).....	E. Button, Esq.....	5	0	9	28 T	26·37 150
Bristol (Coronation Road) .....	H. C. Martin, Esq. "	5	0	10	50	25·42 ...
Wraxall .....	Rev. H. Vaughan .....	5	0	11	191	26·71 188
▮ Abbots Leigh .....	Sir Henry Miles, Bart.	5	1	0	333 T	23·40 167
▮ Failand House [Bristol] .....	Miss Agnes Fry .....	5	1	0	400	28·39 186
▮ " " " " " " " " .....	" " " " " " " "	12	2	10	400	26·60 183

## DIVISION VI.—WEST MIDLAND COUNTIES.

## GLOUCESTER.

▮ Monkswood Reservoir [Bath] ...	C. Gilby, Esq., C.E. ...	5	2	0	365 T	24·76 183
▮ Bristol Docks (Underfall Yard) .	W. W. Squire, Esq., C.E.	8	19	6	45 T	21·65 166
" (Small Street) .....	Bristol Water Works...	12	33	10	52	24·26 160
" (Durdham Down) .....	J. H. Dix, Esq. ....	9	3	0	310	28·58 166
▮ Clifton (Pembroke Road) .....	R. F. Sturge, Esq. "	8	0	10	215	27·54 173
▮ " College .....	D. Rintoul Esq. ....	3	1	2	230	26·47 154
▮ Bristol (The Grove, Fishponds)..	H. H. Harding, Esq....	5	1	0	160 T	23·42 166
Westbury-on-Trym (Cote House)	Mrs. Ames .....	8	1	3	243 T	26·60 160
Pucklechurch .....	Rev. S. G. Gillum.....	5	0	10	374 T	26·55 165
▮ Filton .....	F. W. Gayner, Esq. "	5	2	0	200	23·66 163
▮ Chipping Sodbury (Frampton Cotl)	J. Marsh, Esq. ....	5	1	0	180 T	23·09 163
▮ " " (Stanshawes Ct) .....	R. N. Hooper, Esq. "	5	1	3	280 T	24·92 180
" " (The Ridge) .....	P. Burges, Esq.....	5	1	4	357 T	24·87 ..
▮ Bristol (Over Court Park) .....	R. C. C. Lippincott, Esq.	5	0	11	147 T	28·71 192
▮ " ( " " " Garden).....	" " " " " "	8	1	0	137 T	26·99 192
Badminton .....	Mr. W. Nash .....	5	1	0	407	28·52 186
▮ Wickwar Rectory .....	Rev. R. J. Lyon "	5	1	0	260 T	22·74 150
Alderley .....	Gen. Hale .....	5	1	0	310 T	27·79 ...
Tortworth Court .....	Mr. J. Banting .....	8	1	0	264	24·43 172
Dursley (Farnley) .....	R. W. Pinney, Esq. "	5	0	10	251 T	27·21 153
▮ Fairford (Kempsford) .....	A. T. Iles, Esq. ....	5	1	0	...	20·52 171
▮ " (The Close) .....	W. Cobbett Arkell, Esq.	5	1	9	...	23·20 151
▮ " (Horcott).....	the late R. A. Iles, Esq	5	3	2	...	22·44 131
Berkeley (Castle Gardens) .....	Mr. R. Shore .....	5	1	6	62 T	24·22 136
▮ " (Sharpness) ... new g.	F. A. Jones, Esq., C.E.	5	3	6	50	24·76 157
▮ Lechlade .....	Mr. T. Arkell.....	5	0	9	253	19·80 143

## DIVISION VI.—WEST MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which 91% more fell.
		Diameter	Height Above Ground.	Height Above Sea Level		
			ft. in.	feet.	inches.	
GLOUCESTER—(con.)						
Lechlade (Southrop) .....	Mr. T. Arkell .....	...	1 0	...	22.38	...
D Amberley (Highlands) .....	Mrs. Blackwell .....	8	0 10	550 T	27.36	135
D Woodchester (Culver House) ...	Mrs. Davidson .....	5	1 0	372 T	27.27	154
Chalford (Hyde House) .....	Piers F. Legh, Esq. ...	5	1 6	545 T	27.26	179
D Lydney (Clanna) .....	Captain Marling .....	5	1 0	260 T	29.52	155
D " (Priors Mesne) .....	H. Cook, Esq., M.D. ...	5	1 6	500 T	29.80	197
Cirencester (Roy. Agricultl. Coll.)	The Meteor. Council ...	5	1 0	443 T	25.07	168
D " (Cripps Mead) .....	Mrs. Wilfred Cripps ...	5	0 8	366 T	25.33	171
D " (Dollarward House) ..	C. P. Hooker, Esq. ...	5	1 6	366	25.94	184
D " (Further Barton) ...	Miss J. E. A. Brown ...	5	1 0	422 T	26.53	175
D Stroud (Stanley Park) ...	Capt W. J. Paley Marling	8	1 0	365 T	26.24	157
D " (Upfield) .....	Miss Stanton .....	5	1 0	226 T	25.13	168
Stonehouse (Wycliffe College) ..	G. W. Sibly, Esq. ....	5	1 0	124	23.40	156
D Fairford (Hatherop Rectory) ..	Rev. R. P. Davies .....	8	1 3	411 T	24.72	177
D Whitminster .....	F. A. Jones, Esq., C.E.	5	1 0	32 T	24.07	187
Haresfield Court .....	Mr. S. Pearce .....	5	1 0	100	23.72	175
D Stroud (Harescombe Grange) ...	Miss Hutton .....	5	1 0	550 T	25.08	203
D Westbury-on-Severn (Chaxhill)	Mrs. S. J. Grant .....	5	3 0	122 T	24.27	143
D Great Barrington .....	H. J. Barrett, Esq. ...	5	1 6	430 T	20.06	154
Northleach (Sherborne House) ...	Mr. Scott .....	5	1 0	405	25.48	160
" (Leygore Manor) .....	Arthur E. Moss, Esq. ...	5	1 0	700	25.80	184
Gloucester (Quedgeley House) ..	W. G. Robinson, Esq. ...	5	1 0	65 T	24.07	172
" (Cotswold Sanatorium) ..	C. Braine Hartnell, Esq.	5	1 0	790 T	22.39	139
D " (Birdlip Hill) .....	A. S. Helps, Esq. ....	5	1 0	800 T	24.81	170
D " ( " " ) .. new g.	" " " " " " " " " " " "	5	1 0	800 T	25.21	170
D " (Witcombe Res.) .....	R. Read, Esq., C.E. ...	8	3 0	297 T	24.08	148
Mitcheldean (Blaisdon) .....	P. Stubs, Esq. ....	5	1 0	117 T	27.91	185
" ( " ) .....	M " " " " " " " " " " " "	5	1 0	117 T	27.80	...
D Gloucester (Hempsted) .....	F. A. Jones, Esq., C.E.	5	1 0	72 T	22.35	159
D " (Belgrave Road) .....	W. Piffe Brown, Esq. ...	5	1 0	52 T	22.16	169
D " (Llanthony Lock) ...	E. D. Marten, Esq., C.E.	5	1 2	39 T	22.23	150
" (Churcham) .....	L. H. Hall, Esq. ....	5	2 1	90	24.70	160
D " (Wotton Asylum) .....	R. B. Smyth, Esq., M.D.	8	0 9	88 T	21.53	151
D Cheltenham (Dowdeswell) .....	H. J. White, Esq., C.E.	5	0 10	357	24.36	154
D Gloucester (Maisemore Lock) ...	E. D. Marten, Esq., C.E.	5	1 1	39 T	23.09	191
D Bourton-on-the-Water .....	E. W. Kendall, Esq. ...	5	1 6	434 T	24.28	164
" " " (Chardwar) .....	G. F. Moore, Esq. ....	5	2 6	430	25.14	154
D Cheltenham (Northfield) .....	H. J. White, Esq., C.E.	8	5 0	637 T	21.07	167
D " (Hewletts Res.) ...	" " " " " " " " " " " "	8	1 6	419 T	23.26	168
D " (Sandford) .....	" " " " " " " " " " " "	5	2 8	210	22.37	147
" (The Friars) .....	Rev. Percy Burd .....	5	1 0	223 T	24.22	177
D " (Heath Lodge) ...	Rev. M. A. Smelt .....	8	1 0	206	24.04	178
D Stow-on-the-Wold (Oddington).	Rev. H. B. Heberden ..	5	0 9	400	24.76	170
D Winchcombe .....	Dr. J. Halliwell .....	5	1 2	295 T	24.73	178
D Moreton-in-Marsh (Longborough)	W. Arkell, Esq. ....	5	1 0	575	27.76	162
D† Tewkesbury (Upper Lode) .....	E. D. Marten, Esq., C.E.	5	1 0	41 T	23.02	143
D " .....	H. J. White, Esq., C.E.	5	0 10	47	19.00	166
D " (Beckford) .....	F. Slade, Esq., C.E. ...	8	1 0	120 T	22.29	176
D Chipping Campden (Hidcote) ...	Major W. Wright .....	5	1 0	525	22.89	165

## DIVISION VI.—WEST MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell
		Diameter	Height Above Ground	Height Above Sea Level		
			ft. in.	feet.	inches.	
HEREFORD.						
D Ross (Croome Hall) .....	W. E. Hancock, Esq...	8	4 0	288	25·58	197
D† „ (The Graig) .....	H. Southall, Esq. ....	5	1 0	213	23·79	185
Upton Bishop (The Baches).....	W. Hogarth, Esq.....	5	1 0	300	22·40	130
Ross (Perrystone Court) .....	Mrs. G. Clive .....	5	1 3	...	25·03	176
Much Dewchurch (Bryngwyn)..	Sir J. Rankin, Bt., M.P.	5	0 9	416	26·69	140
D Much Marcle (Caerswall) .....	J. A. H. Charles, Esq..	5	1 0	423	25·69	188
D „ „ (The Mount) .....	T. Charles, Esq. ....	5	0 8	240	23·78	171
D Fownhope (Morney Cross) .....	O. E. Cresswell, Esq....	5	1 5	...	22·49	143
D Woolhope (Wessington Court)..	Miss L. Grafton .....	5	1 0	440	23·25	177
D†Ledbury (Orchardleigh) ....	M. A. Wood, Esq.....	5	3 0	180	24·28	172
D „ (Underdown) .....	S. H. Bickham, Esq....	5	1 0	307	24·12	173
„ „ „ M	„ „ „	5	1 0	306	23·86	...
„ (Putley Court) .....	J. Riley, Esq.....	5	1 0	290	26·51	177
Hereford (Broomy Hill) .....	Norman H Matthews Esq	...	...	217	22·66	175
D „ (Breinton Court) .....	H. A. Wadworth, Esq.	5	1 0	238	23·84	160
„ (St. Owen Street) .....	Mrs. Jay Jones .....	5	6 0	190	24·22	...
D „ (St. Michael's Priory)..	Rev. B. Mawson & J. McCann	8	1 0	291	23·64	144
D Lugwardine (The Laurels) .....	Mr. C. J. Johnstone ...	5	1 0	270	21·24	156
Yarkhill Vicarage .....	Rev. A. G. Jones .....	8	1 0	190	22·98	165
D Canon Frome Vicarage .....	Rev. M. Hopton.....	8	1 3	252	22·90	177
Credenhill .....	R. M. Whiting, Esq ..	5	1 0	280	24·74	158
D†Malvern Hills (Upper Wych) ..	Baldwin Latham Esq CE	5	1 0	1006	24·95	134
D Hereford (Burghill Court) .....	Miss E. D. Woodhouse	5	0 10	293	24·27	180
D Hope-u-Dinmore (Hampton Ct.)	J. H. Arkwright, Esq..	8	1 2	212	31·91	166
D Pembridge (Dilwyn).....	T. L. Hall, Esq. ....	5	0 8	290	26·42	169
D Kington (Lynhales) .....	S. Robinson, Esq. ....	8	1 0	566	27·77	210
D „ (Gravel Hill) .....	Col. G. F. Pearson.....	5	0 8	540	30·97	219
D Pembridge (Marston) .....	H. Langston, Esq.....	5	1 5	347	26·33	161
D Bromyard (Buckenhill).....	R. Phipps Esq.....	8	1 9	...	25·23	168
D Leominster (Farm) .....	Miss Southall .....	5	1 6	268	23·95	181
SHROPSHIRE.						
D Ludlow (Ashford) .....	Rev. J. Selwood Tanner	5	1 2	265	24·60	178
D „ „ (House) .....	W. Downes Hall, Esq.	5	0 5	315	28·99	202
D „ (The Sheet) .....	Rev. R. P. Dansey.....	5	1 0	370	28·67	177
D Bromfield (Priors Halton).....	Miss Keddie .....	5	1 0	300	30·31	171
D „ (Oakly Park) .....	Mr. T. Reason .....	5	1 0	300	28·33	211
D „ Vicarage .....	Rev. W. Selwyn .....	5	1 0	300	27·71	174
D Clunbury Vicarage .....	Rev. W. Clark Maxwell	5	1 0	497	29·33	143
D Craven Arms (Stokesay Vicarage)	Rev. W. M. D. La Touche	5	1 0	371	29·25	176
Bishop's Castle (Totterton) .....	W. H. Whitaker, Esq.	5	0 7	700	29·27	...
D „ „ (Castle Street)...	E. Griffiths, Esq. ....	5	2 0	720	29·60	185
„ „ (Cabin) .....	„ „	5	0 9	810	30·65	...
„ „ (Lyddham Manor)	A. H. Sykes, Esq.....	...	10 6	740	31·33	...
D Bridgnorth (Coton Hall) .....	E. M. Wakeman, Esq.	5	1 0	460	26·16	172
D Church Stretton .....	Rev. R. P. Dansey ...	5	1 0	645	34·05	200
Bridgnorth (Hookfield House)...	Rev. Preb. F. Burd ...	5	0 11	...	26·01	199

## DIVISION VI.—WEST MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which "01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level		
			ft. in.	feet.	inches.	
SHROPSHIRE—(con.)						
♢ Bridgnorth (Cantreyn Bank) ...	Rev. H. M. Stallybrass	6	3 9	320 ♢	28·07	149
♢ „ (Aldenham Park) ...	H. J. Wyley, Esq. ..	5	3 9	430 †	26·85	151
Church Stretton (Preen Manor) ..	C. B. Sparrow, Esq. ...	5	1 0	700 †	25·70	175
♢ „ „ (Woolstaston) ..	Mrs. E. D. Carr .....	5	1 0	800 ♢	30·51	196
♢ Much Wenlock (Willey Park) ..	Rt. Hon. Lord Forester	5	1 0	502 ♢	27·69	191
♢ Pontesbury (Somerville) .....	Mr. W. R. Croft .....	5	1 6	355 †	23·64	147
Minsterley (Hampton Hall) .....	J. Whitaker, Esq. ....	...	1 0	630 †	27·85	...
♢ „ (Wallop) .....	Mrs. Severne .....	8	1 3	700 †	33·19	191
♢ Shifnal (Hatton Grange) .....	Col. Kenyon-Slaney, MP	5	4 4	261	26·33	204
„ (Neachley) .....	Col. Hon. F. Bridgeman	5	1 6	280 †	26·39	201
♢ „ (Haughton Hall) .....	Mr. W. J. Brooke .....	5	3 0	355	27·02	149
♢ Shrewsbury (The Abbey House)	Miss F. Rouse Boughton	8	1 3	171 ♢	20·66	162
„ .....	W. Chapple Eddowes Esq	8	1 3	174 ♢	23·26	...
♢ „ (Highfield) .....	T. M. Howells, Esq. ...	5	4 6	250	23·03	146
„ (Roden) .....	The Royal Meteor. Soc. ...	...	...	208	22·28	165
♢ „ (Fitz Rectory) .....	Rev. W. Brewster ...	5	1 2	238 ♢	23·72	218
„ (Fitz Manor) .....	Miss Beavan .....	5	1 4	253 ♢	23·46	213
Newport (Aston Hall) .....	Col. R. Leeke .....	5	0 9	280	25·54	186
♢ „ (Edgmond) .....	J. Bodenham, Esq. ...	8	1 0	261 †	24·75	202
♢ Wem (The Clive Vic.) .....	late Rev. J. Cooper Wood	5	1 0	299 ♢	22·00	238
♢ „ (The Rectory) .....	Hon. Rev. G. H. F. Vane	5	1 0	270 †	24·97	245
♢ Cheswardine (Knighton Res.) ..	G. R. Jebb, Esq., C.E.	8	0 3	351 ♢	25·84	189
♢ Oswestry (The Mount Reservoirs)	G. W. Lacey, Esq., C.E.	5	1 0	698 ♢	37·50	169
Market Drayton (Buntingsdale) ..	Mrs. Tayleur .....	8	3 0	276 ♢	24·63	..
Ellesmere (The Grange) .....	Mrs. A. M. Ashton ...	5	0 10	...	26·29	...
STAFFORD.						
Dennis [Stourbridge] .....	E. B. Marten, Esq., C.E.	8	6 6	270 ♢	24·89	197
♢ Netherton (Lodge Farm Res.) ...	G. R. Jebb, Esq., C.E..	5	1 0	445 ♢	20·54	171
♢ Dudley (Shavers End) .....	H. A. Hill, Esq., C.E.	5	1 0	744 †	23·26	166
♢ Wombourne (The Bratch) .....	Baldwin Latham Esq CE	5	0 9	271	25·72	221
Wednesbury (Ocker Hill) .....	E. B. Marten, Esq., C.E.	...	...	...	21·12	...
Walsall .....	„ „ „ „ „ „	8	4 0	463 ♢	26·49	206
♢ „ Sewage Farm .....	R. H. Middleton, Esq CE	8	0 11	376 ♢	22·18	187
♢ „ (Wednesbury Sewage Wks.) ..	T. Wicks, Esq. ....	5	2 8	381 ♢	22·79	181
Wolverhampton (Graiseley) .....	R. E. W. Berrington, Esq	5	0 9	506 ♢	24·33	182
„ (Town Hall) ...	G. Green, Esq., C.E. ....	5	15 6	481 ♢	24·15	189
♢ „ (West Park) ...	Med. Officer of Health	5	1 0	432 ♢	23·92	190
♢ „ (Wrottesley) ..	Mr. E. Simpson .....	8	1 0	500	22·52	163
♢ Tamworth (Bonehill House) .....	Col. G. Chichester .....	5	1 0	289 †	22·67	164
♢ Bloxwich (Sneyd Res.) .....	G. R. Jebb, Esq., C.E..	5	1 0	507 ♢	22·62	161
♢ Hammerwich (Cannock Chase Res)	„ „ „ „ „ „	5	1 0	475 ♢	22·97	184
♢ Weston Park [Shifnal] .....	Rt. Hon. Earlof Bradford	5	1 6	400 †	23·76	181
♢ Brewood (Belvide Res.) .....	G. R. Jebb, Esq., C.E.	8	1 0	367 ♢	23·25	132
Lichfield (Maple Hayes) .....	A. O. Worthington, Esq.	5	1 0	380	24·22	...
♢ Penkridge (Rodbaston) .....	H. Ward, Esq. ....	5	1 0	324 ♢	22·45	182
♢ Hednesford (Scout House) .....	H. A. Hill, Esq. C.E.	5	1 0	750 ♢	22·19	157
Shugborough .....	Rt. Hon Earlof Lichfield	5	1 0	260	26·03	217



## DIVISION VI.—WEST MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level		
			ft. in.	feet.	inches.	
STAFFORD—(con.)						
d Burton (Rangemore).....	Mr. W. Bennett.....	5	5 6	424 T	24·46	209
„ (Trent Cottage).....	J. L. P. Barber, Esq..	5	1 0	150	23·96	188
d „ (Shobnall) .....	Messrs. Bass & Co. ...	5	4 6	156 T	21·96	162
d „ (Hoar Cross) .....	F. W. Lycett, Esq. ....	8	4 0	400 T	25·97	162
Stafford .....	W. Fred. Wright, Esq.	6	2 6	258 T	23·45	170
„ (West Bank, Doxey) M	Mr. Leslie Wilson .....	5	0 9	280 T	22·92	...
d Salt Vicarage.....	Rev. S. W. Jones .....	8	0 8	273	25·72	193
d Uttoxeter (Brook House) .....	Mr. J. J. Gibbons .....	5	1 0	283 T	27·24	202
d Market Drayton (Old Springs)..	F. E. Harding, Esq. ....	5	0 8	423 T	25·41	220
d Maer Hall Gardens .....	Mr. J. Harris .....	5	1 6	...	28·74	226
d† Cheadle (The Heath House).....	J. C. Philips, Esq. ....	5	1 0	647 T	26·38	200
d Longton (The Meir) .....	G. D. Harrison, Esq. C.E.	5	1 0	618 T	24·34	185
d Newcastle (Madeley Vic.).....	Mr. W. Pye .....	5	1 0	347 T	27·12	168
d Betley Hall [Crewe] .....	Col. J. A. Macdonald...	5	0 8	270	26·14	200
d Stoke (Hartshill) .....	J. Knight, Esq. ....	5	1 0	485 T	28·92	213
„ (Stanley Reservoir).....	E. B. Smith, Esq., C.E.	5	3 7	550 T	23·93	138
Alstonfield Vicarage .....	Rev. W. H. Purchas ...	5	1 0	905	31·60	178
d Leek (Wall Grange) .....	G. D. Harrison, Esq. C.E.	5	1 0	458 T	30·51	221
Knypersley [Congleton] .....	E. B. Smith, Esq., C.E.	5	3 1	550 T	35·72	...
Leek (Rudyard).....	„ „ „	5	12 7	500 T	25·54	...
WORCESTER.						
Blockley (Upton Wold).....	E. W. Arkell, Esq. ....	5	0 10	...	29·28	161
Northwick Park.....	Lady Northwick.....	8	1 6	410 T	27·44	...
Upton-on-Severn (Willow Bank)	J. S. Cowley, Esq. ....	5	1 3	50 ?	24·81	168
d „ „ (The Eades) ...	Major E. Tennant .....	5	0 9	100 T	24·88	198
d Evesham (Lansdowne) .....	R. Burlingham, Esq. ....	5	5 0	108 T	23·47	116
d Gt. Malvern (British Camp Res.S.)	H. P. Maybury, Esq. C.E.	5	1 7	670 T	24·43	150
„ „ ( „ „ „ N.)	„ „ „	5	0 11	673 T	25·22	142
d† „ „ (Church Street).....	„ „ „	5	4 6	353 T	24·92	148
d† „ „ (Belle Vue House)..	A. Mander, Esq. ....	5	4 0	520	29·34	175
† „ „ (Madresfield Rect.)..	Rev. G. S. Munn .....	5	1 4	124 T	24·14	140
d† „ „ ( „ Court).....	Mr. W. Crump .....	8	2 6	135 T	23·81	149
d Leigh Lodge .....	Insp.-Gen. Cowan, R.N.	5	1 3	110 T	24·92	170
d† Worcester (Diglis Lock) .....	E. D. Marten, Esq., C.E.	5	1 0	49 T	23·75	181
d „ (Belmont Road) .....	G. B. Wetherall, Esq..	5	1 3	180 T	22·44	173
d „ (Water Works) .....	T. Caink, Esq., C.E. ...	5	0 9	56 T	22·04	149
d† „ (Bevere Lock) .....	E. D. Marten, Esq. C.E.	5	1 1	52 T	21·44	164
d „ (Hawford Lodge) .....	F. Ames, Esq. ....	5	1 1	70	23·75	144
d† Droitwich (Holt Lock) .....	E. D. Marten, Esq., C.E.	5	1 1	55 T	22·88	149
d Tenbury (Rochford) .....	Rev. J. Tomson .....	5	1 0	317 T	23·92	165
d Redditch (Prospect Hill) .....	H. Page, Esq., M.D. ....	5	1 0	425 T	26·70	199
d Bromsgrove (Tardebigge Res.)	F. A. Jones, Esq. C.E.	5	3 0	433 T	26·97	192
d „ (Stoke Reformatory)	Mr. J. Salter .....	5	5 4	225	22·81	146
„ (Barnt Green) .....	D. B. Grubb, Esq. ....	5	1 0	494 T	29·16	...
d† Stourport (Lincombe Lock).....	E. D. Marten, Esq., C.E.	5	1 0	62 T	23·79	173
d Bromsgrove (Lower Bittal Res.)	F. A. Jones, Esq., C.E.	5	3 0	430 T	27·55	172

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which .01 or more fell
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
<b>WORCESTER—(con.)</b>						
Bewdley (Winterdyne Gardens)	Mr. W. Wrather .....	8	2 0	...	25·36	143
" (Beaucastle) .....	Alderman Baker .....	5	0 9	450 T	25·60	172
Kidderminster (Prospect Hill)... Stourbridge (Pedmore) .....	Mr. J. T. Cowderoy ... E.B. Marten, Esq., C.E.	... 8	1 0 0 11	161 A 350 A	17·49 23·84	169 183
" (Longlands) .....	" " "	...	...	...	23·50	192
Northfield (West Heath House).	A. J. Brown, Esq.....	5	1 0	...	27·67	196
" (Longbridge) .....	Mrs. F. Impey .....	5	0 9	560 T	29·18	168
Kings Heath (Cambridge Road)	J. H. Webb, Esq., C.E.	5	10 0	526 A	25·01	161
" (BrandwoodHouse)	G. F. Lyndon, Esq. ...	5	1 0	550 T	27·76	175
Selly Oak Cemetery .....	Mr. W. Garden .....	5	1 4	540 T	28·81	169
Stechford (Ely Cottage) .....	H. H. Newark, Esq....	5	1 3	360 B	27·38	186
Moseley (Prospect Road) .....	Rev. F. O. Lane.....	5	1 0	550	27·79	...
Dudley (Trindle House) .....	E.B.Marten, Esq., C.E.	8	1 0	575	26·13	189
<b>WARWICK.</b>						
Long Compton (Weston Park)...	H. A. Warriner, Esq...	8	3 10	510 T	21·89	135
Shipston (Honington) .....	Rev. E. Boddington ...	5	0 10	215 T	20·08	154
Farnborough .....	Miss Prater .....	5	1 0	520 T	22·97	196
Burton Dassett Vicarage .....	Mrs. Westacott .....	...	...	...	21·11	...
Stratford-on-Avon (Atherstone-on-Stour) " " (Avonfield) .....	Rev. F. Smith .....	12	4 0	135	22·67	146
" " (Shottery Hall)...	G. W. Everard, Esq....	5	0 10	120 T	22·45	...
" " (Shottery Hall)...	R. Carter, Esq. ....	5	0 8	140 T	22·01	147
Alcester (Ragley Gardens) .....	Mr. A. Christie .....	5	1 0	150 T	25·32	200
Snitterfield .....	R. Dixon, Esq. ....	5	1 0	304 A	22·77	136
Warwick (Barford Rectory).....	Mrs. S. Parker .....	8	0 11	167 A	21·97	171
Leamington (Radford House) ...	C. E. G. Hatherell, Esq.	5	1 2	300 ?	22·59	176
Warwick (Hatton Vicarage) ...	Rev. H. Trethewey.....	5	1 0	384 T	22·68	167
Milverton (Latmos) .....	Rev. E. Healy .....	5	1 2	191 T	22·05	...
Leamington (Cubbington).....	Mrs. Robins .....	6	1 0	280 T	22 82	138
Kenilworth (The Spring) .....	W. Evans, Esq.....	5	1 0	312 A	22 69	186
Rugby (Temple Observatory) ...	Denys E. Shorto, Esq...	5	1 3	383 T	22·61	177
" (Bilton Grange).....	F. L. Sutton, Esq. ....	5	1 0	490	18·13	126
Coventry (City Hospital) .....	E. H. Snell, Esq., M.D.	8	1 0	269 T	22·52	169
" (Priory Row) .....	J. Gulson, Esq. ....	8	1 3	279 A	25·00	197
" (Kingswood) ...	Col. R. B. Caldicott ...	8	1 0	340 T	25·56	137
" (Keresley Grange).....	Miss Rotherham .....	5	0 10	413	24·77	227
Birmingham (Sheldon Rectory)..	Mrs. Jones-Bateman...	8	1 0	323	29·98	177
" (Edgbaston) .....	A. Cresswell, Esq.....	8	1 0	525	26·02	159
" " .....	A. Brothers, Esq. ....	5	1 6	550	28·95	167
" (Botanic Gardens)..	Mr. Latham .....	5	5 2	505 T	25·13	177
" (The Crescent) .....	J. J. Gilbert, Esq.....	5	21 0	495 A	24·50	145
" " " ) ..M	" " " " .....	5	7 0	480 T	26·85	...
Bedworth Cemetery .....	Mr. D. Bosworth .....	5	1 0	385 T	25·35	142
Witton Reservoir .....	E. Anty Lees, Esq. ...	5	2 6	347 A	24·58	181
Whitacre (Birmingham W.W.)..	" " " " .....	5	1 3	269 A	25·78	223
Sutton Coldfield (The Park) .....	Mr. H. Harland.....	5	1 0	371	24·90	179
Atherstone .....	BaldwinLathamEsq CE	5	1 0	286 A	24·03	172

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which .01 or more fell.
		Diameter	Height Above Ground	Height Above Sea level	1902	
			ft. in.	feet.	inches.	
<b>LEICESTER.</b>						
Lutterworth (Walcote).....	Major Corbet Smith ..	5	0 6	290	22-27	...
Gumley Rectory.....	Rev. Canon Overton ...	8	4 2	530 T	19-29	148
Fleckney.....	J. B. Putt, Esq.....	5	1 0	411 T	21-51	...
d† Kibworth Beauchamp .....	E. V. Phillips, Esq. ...	5	2 6	355 T	20-42	146
Hallaton Hall.....	S. N. Bankart, Esq. ...	8	1 3	366	18-12	...
Horninghold House ... <i>Snowdon</i>	A. Cross, Esq. ....	5	1 6	380	19-43	...
D Leicester (Town Hall Square) ...	E.G.Mawbey, Esq., C.E.	5	0 6	211 A	18-34	144
D " ("Humberstone Asylum)"	J.E.M.Finch, Esq., M.D	7	2 0	213 A	18-31	144
" ("Humberstone Asylum)"	J.E.M.Finch, Esq., M.D	8	1 0	244 A	21-58	187
d† Thornton Reservoir .....	F. Griffith, Esq., C.E..	8	1 2	371 A	21-37	157
D Thurcaston Rectory .....	Rev. T. A. Preston ..	5	1 0	253 T	21-45	165
D " (Cropston) .....	F. Griffith, Esq., C.E..	8	1 0	246 A	23-76	182
Syston.....	S. K. Daniels, Esq. ...	5	1 6	180 T	21-99	167
D Swithland (The Brand) .....	F. Griffith, Esq., C.E..	8	1 0	172 A	22-90	174
Ratcliffe-on-Wreake College ..	Rev. J. Cremonini .....	5	1 0	288 T	19-96	137
D Barrow-upon-Soar .....	Mrs. C. Stuart Thomson	5	1 8	...	22-82	144
D Charnwood Forest (Blackbrook Res.)	A.H.Walker, Esq., C.E.	8	1 0	310	25-50	150
Whitwick (Mt. St. Bernard's Abbey)	Rev. C. Hipwood .....	5	1 3	588	28-33	164
D Loughborough (Nan Pantan Res.)	A.H.Walker, Esq., C.E.	8	1 0	269 A	24-12	170
" (The Widenings)	Adrian Young, Esq. ...	5	0 7	150 T	24-01	166
" (Forest Road) ...	W. Berridge, Esq. ....	5	0 9	147 A	22-48	181
D " ("Sewage Farm") .....	A.H.Walker, Esq., C.E.	8	1 0	147 A	22-25	181
D " ("Sewage Farm") .....	A.H.Walker, Esq., C.E.	8	1 0	134 A	22-28	158
Burton-on-the-Wolds .....	Lord Percy St. Maur...	6	0 9	...	22-81	156
D Prestwold Hall .....	Hussey Packe, Esq. ...	8	0 9	209 A	24-02	181
D Waltham-le-Wolds .....	Mr. G. Higgins .....	5	1 0	568	21-02	170
d† Belvoir Castle ..... <i>new g.</i>	W. H. Divers, Esq. ...	8	1 0	260 T	23-77	192
<b>RUTLAND.</b>						
D Uppingham (Ridlington) .....	N. W. Wortley, Esq....	5	4 7	527	22-69	162
Burley-on-the-Hill .....	Mr. W. Temple .....	8	1 0	506	22-27	153
D Tolethorpe Hall [Stamford].....	C. O. Eaton, Esq. ....	8	0 8	161 T	19-19	145
D Market Overton.....	Miss Grace Wingfield..	8	0 11	475 T	22-57	178
D Stocken Hall .....	Capt. P. F. Tillard, R.N.	5	1 0	365 T	24-69	159
<b>LINCOLN.</b>						
D Market Deeping (Wilsthorpe) ...	J. C. Gill, Esq., C.E....	8	3 10	55 A	19-47	153
Spalding (Pode Hole) .....	Mr. W. Grigg .....	12	1 0	20 A	22-63	...
Grantham (Stainby) .....	Rev. W. A. H. Thorold	5	0 9	496	21-64	...
D " (Denton Manor) .....	Sir C. Welby, Bt.CB, MP	5	1 0	275 T	23-17	196
D " (Little Ponton Rect.).	Rev. P. R. Worsley ...	5	1 0	250 T	26-31	187
D " (Saltersford).....	H. Preston, Esq. ....	5	0 6	188 A	22-42	167
D " (Guildhall) .....	F. J. Morris, Esq. ....	5	13 6	202 A	21-03	146
D " (High Street) .....	Messrs. R. & W. Bird..	5	1 0	...	22-48	152
Horbling (The Hall) .....	Mr. C. E. Smith.....	8	1 3	...	22-05	167
D Boston (Black Sluice, Skirbeck).	H. Clarke, Esq., C.E... J.H.Johnson, Esq., C.E.	8 8	1 3 8 0	11 A 18	21-72 22-76	172 169

## DIVISION VII.—NORTH MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height above Ground.		Height above Sea Level	
			ft.	in.	feet	inches.
<b>LINCOLN—(con.)</b>						
D Boston .....	W. H. Wheeler, Esq., C.E.	5	6	6	25 $\nabla$	21·80 147
D Sleaford (Rauceby Hall) .....	Maj. Gen. M. Willson, CB	5	0	6	125 $\nabla$	23·11 190
D Leake (Lade Bank Engines) .....	J. H. Johnson, Esq., C.E.	8	1	0	10 $\nabla$	19·06 126
D Stubton [Newark] .....	G. Nevile, Esq. ....	5	4	6	94 $\nabla$	22·10 164
D Fulbeck .....	Rev. V. F. Willson ...	5	0	11	180 $\nabla$	22·61 185
Leadenham Rectory .....	Rev. V. E. Skrine .....	5	1	2	150	22·53 156
Sleaford (Bloxholm) .....	Mr. W. Lumsden .....	5	1	6	20	21·54 136
Temple Bruer .....	Miss A. S. Morley .....	5	1	0	300?	24·93 170
Navenby Rectory .....	Rev. G. T. Harvey ...	5	1	0	218 $\nabla$	23·03 177
D Carrington Grange .....	Mr. T. J. Ward .....	5	6	0	15 $\nabla$	20·99 150
D Carlton-le-Moorland .....	J. Brocklebank, Esq. ...	5	1	2	49	19·95 151
Kirkstead .....	Mr. R. H. Brett .....	5	1	3	...	19·89 ...
" (Woodhall Spa) .....	C. J. Williams, Esq., M.D.	5	1	0	37 $\nabla$	20·22 133
Horncastle (Mareham-le-Fen) ...	The Meteor. Council ...	5	1	5	35	20·61 166
D " (Revesby*) .....	J. Shaw, Esq. ....	5	2	0	135 $\nabla$	21·64 121
D Spilsby (Hagnaby Priory) .....	Miss Pocklington .....	8	1	8	47 $\nabla$	25·93 155
" (East Keal Manor) .....	A. M. Wilson, Esq. ...	8	1	0	181 $\nabla$	24·61 183
D " .....	Dr. J. W. Walker .....	5	1	0	160 $\nabla$	25·99 189
D " (Ashby Road) .....	Mr. J. Jarvis Rainey ...	5	1	0	160 $\nabla$	21·46 173
D " (Hagworthingham) .....	Mr. R. Wright .....	5	1	1	252 $\nabla$	25·57 168
D " (Dalby Grange) .....	J. H. Wright, Esq. ...	5	1	4	250	25·03 204
D Horncastle (Bucknall) .....	W. Carter, Esq. ....	5	1	6	50	19·66 123
Lincoln (Branston) .....	A. S. Leslie Melville, Esq.	5	1	3	122 $\nabla$	23·35 163
D† " (Boultham) .....	Mr. F. Terrill .....	5	1	0	19 $\nabla$	22·59 171
D† " (St. Botolphs) .....	A. M. Swift, Esq. ....	5	1	2	25 $\nabla$	22·23 148
D " (St. Catherine's) .....	J. H. Teague, Esq. ....	5	5	6	33 $\nabla$	22·27 ...
D " (Doddington) .....	Rev. R. E. Cole .....	5	1	2	92 $\nabla$	19·44 155
D " (Station) .....	Gt. Central R. Co.† ...	9	3	6	26	20·01 150
D " (The Close) .....	C. J. Bromhead, Esq. ...	8	1	0	185	21·05 184
D " (D'Isney Place) .....	A. H. Leslie Melville Esq.	4	1	0	215 $\nabla$	21·43 191
D " (Brayford Wharf) .....	Mr. J. W. Horton ...	5	5	8	28 $\nabla$	20·07 171
D " (Skellingthorpe Hall) ...	A. H. B. Coupland, Esq.	5	1	0	...	19·08 119
D Horncastle (Hemingby) .....	Rev. E. S. Bengough ..	5	1	0	158	22·78 161
Alford (The Burial Ground) .....	Mr. E. Hodgson .....	5	1	0	29 $\nabla$	16·91 143
D Aisthorpe Hall .....	J. Billiat, Esq. ....	5	1	0	77	24·35 155
Gate Burton .....	Gt. Central R. Co. ....	9	3	6	96	23·53 191
D† Louth (Gospelgate) .....	T. W. Wallis, Esq. ...	5	6	0	111 $\nabla$	23·89 170
† " (Westgate) .....	Dr. F. Fawcett .....	5	0	9	120 $\nabla$	24·01 169
D Market Rasen .....	Mr. W. B. Jevons .....	5	0	8	84	20·52 131
" .....	Gt. Central R. Co. ....	9	3	6	100	19·01 151
D Yarborough (The Rectory) .....	Rev. S. Bateman .....	5	0	9	42 $\nabla$	20·10 174
Gainsborough .....	Gt. Central R. Co. ....	9	...	...	76	20·86 153
Stockwith .....	" " " .....	9	3	6	21	20·22 190
Brigg .....	" " " .....	9	3	6	16	17·23 143
D " .....	A. Atkinson, Esq., C.E.	8	1	2	11 $\nabla$	22·12 199
D Caietor (Hundon Manor) .....	Mr. Thomas Ford .....	5	1	0	180	21·35 192
" (Cabourne) .....	Rev. R. Thomas .....	5	1	2	280 $\nabla$	23·61 106

\* Formerly called Miningsby.

† Kept for the Canal Department of the Great Central Railway Company. Returns supplied by G. Taylor, Esq.

## DIVISION VII.—NORTH MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height Above Ground.	Height Above Sea level		
			ft. in.	feet.	inches.	
LINCOLN—(con.)						
D Grimsby (Waltham) .....	Rev. W. Tuckwell.....	5	1 0	50	20·90	162
D „ (Irby-on-Humber).....	C. B. Parker, Esq.....	5	1 0	175	21·71	170
„ .....	Gt. Central R. Co.....	9	15 0	42	15·13	150
Barnethy.....	„ „ „ .....	9	3 6	51	16·75	169
D N. Level Engine [Thorne Donc'st'r]	Mr. J. Turner.....	5	2 3	...	19·12	151
Crowle (Keadby) .....	Gt. Central R. Co.....	9	...	17	16·51	116
D Burton on Stather Vicarage .....	Rev F. A. Jarvis .....	5	1 6	212 T	21·44	141
D Horkstow .....	E. J. Turton, Esq.....	5	0 10	75	23·33	164
Ferriby Sluice .....	A. Atkinson, Esq., C.E.	5	1 0	18 T	20·45	130
New Holland .....	Gt. Central R. Co....	9	3 6	18	19·35	153
NOTTS.						
D Kingston Hall [Loughborough]..	Mr. W. English.....	5	0 8	...	24·95	166
D Plumtree (Normanton-on-Wolds)	T. A. Hill Esq.....	8	1 0	170 T	20·68	185
Cropwell Bishop (Cropwell Grove)	H. Smith, jun., Esq....	5	1 1	160 T	21·03	...
Bingham (Whatton Manor) .....	M. H. Hall, Esq. ....	5	3 0	104 T	20·90	185
Nottingham (Beeston Fields) ...	G. Fellows, Esq. ....	5	0 9	206 T	21·84	190
D „ (The Castle) .....	A. Brown, Esq., C.E...	8	1 2	192 T	21·52	174
D „ ( „ „ ) .....	„ „ „ .....	8	76 0	268 T	18·56	157
D „ (Carisbrook Ho., The Park)	W. Bradshaw, Esq. ...	5	2 0	247	21·44	183
„ (Ropewalk „ ) .....	A. Brown, Esq., C.E...	..	1 3	230	21·84	...
Radcliffe-on-Trent .....	T. Yates, Esq. ....	5	1 0	...	21·99	156
„ „ „ (Chestnut Ho.) .....	Mr. J. Green .....	8	1 0	...	21·53	...
D Nttnghm (Stoke Bardolph Sew Fm)	Mr. A. A. Avis .....	8	10 0	83	19 68	161
D „ (Strelley) .....	T. L. K. Edge, Esq. ...	8	1 0	396 T	23·09	189
D „ ( „ Hall) .....	„ „ „ .....	5	1 0	379 T	22·53	181
„ ( „ „ ) .....	„ „ „ .....	5	1 0	379 T	23·07	...
D „ (Mapperley Hill) .....	E. Powell, Esq. ....	8	0 10	400 T	21·83	152
D „ (Basford) .....	S. Moore, Esq. ....	8	0 10	169 T	21·23	164
D „ (Burton Joyce W.W.) .....	„ „ „ .....	8	0 9	64 T	22·61	191
Bulwell (Springfield) .....	G. W. Walker, Esq....	5	0 9	166 T	22·93	...
D „ (Bestwood) .....	S. Moore, Esq. ....	8	1 2	317 T	24 31	180
Eastwood Colliery .....	Mr. E. Lindley .....	5	1 0	245 T	21·84	178
Hucknall Torkard (Forge Mills)	J. D. Walker, Esq.....	5	4 3	200 ?	21·23	...
D† Gonalston Rectory .....	Rev. F. H. Paley .....	5	1 0	84	22·77	177
D Papplewick (Water Works) .....	S. Moore, Esq. ....	8	0 10	317 T	24·87	183
D „ Hall .....	F. A. Smith, Esq. ....	5	0 7	321 T	26·09	146
Annesley (Selston W.W.) .....	Messrs G. & F. W. Hodson	5	1 0	475 T	23·43	175
Southwell (Westhorpe Hall) ...	Genl. Warrand .....	5	1 0	147	22·70	...
Newark (Averham Rectory) .....	Rev. J. Walker .....	5	0 7	150	18·96	...
D† Farnsfield .....	Dr. C. Wills .....	5	1 0	210 T	23·06	188
Sutton-in-Ashfield W.W. ....	Messrs G. & F. W. Hodson	5	1 1	462 T	23·88	146
Mansfield (W.W. Rainworth) ...	„ „ „ .....	5	1 0	360 T	23·86	147
„ .....	Mr. P. J. Shacklock ...	5	1 6	350	26·75	196
D North Collingham .....	E. Turton, Esq. ....	5	1 0	...	20·74	142
D South Scarle .....	Rev. E. C. Shawfield...	5	1 4	52	17·36	141
D Ollerton (Boughton W.W.) .....	S. Moore, Esq. ....	8	0 7	141 T	23·87	172
„ (Thoresby Gardens) ...	Mr. W. Robertson.....	8	0 9	125	25·30	...

## DIVISION VII.—NORTH MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which .01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
NOTTS—(con.)						
Workshop (Welbeck Gardens) ...	T. Warner Turner, Esq.	5	1 0	196 †	25·03	143
„ (Osberton Gardens) ...	Gt. Central R. Co. ....	9	3 6	127	22·81	165
Retford ...	Mr. W. Allsop ...	5	4 0	70	23·88	168
„ (Morton Hall) ...	Gt. Central R. Co. ....	9	3 6	52	19·69	169
„ (Babworth Hall) ...	W. H. Mason, Esq. ...	5	1 0	140	22·95	171
Workshop (Hodsock Priory) ...	Col. Denison ...	5	1 0	92 †	22·22	...
„ ( „ „ ) ... M	H. Mellish, Esq. ....	8	1 0	56 †	22·10	170
„ ( „ „ ) ...	„ „ „ „ „ „ „ „	5	1 0	56 †	21·58	...
The Gardens [Bawtry Hall] ...	L. T. Baines, Esq. ....	5	1 3	31 †	20·70	...
Hesley Hall [Tickhill] ...	B. I. Whitaker, Esq. ....	8	0 11	61 †	20·55	166
DERBY.						
Melbourne Vicarage ...	Rev. Canon Singleton ..	5	2 0	177 †	28·20	169
„ (The Hollow) ...	Mr. W. Garratt ...	5	1 0	182 †	23·65	126
Chellaston ...	H. Chambers, Esq. ....	5	1 0	170 †	21·04	184
Willington (S. & A. W. W. Milton)	Messrs G. & F. W. Hodson	5	1 0	134 †	23·03	146
Findern (The Longlands) ...	Rev. B. W. Spilsbury ..	5	0 9	186 †	21·00	...
„ (Mill Hill Farm) ...	G. L. Spilsbury, Esq. ...	6	1 3	243	23·42	147
Etwall (Blakeley Lodge) ...	Mr. R. Giles ...	5	1 0	190 †	21·04	153
Mickleover (County Asylum) ...	R. Legge, Esq., M.D. ...	5	0 9	300 †	23·42	177
„ Manor ...	Mr. J. Campbell ...	5	2 0	280	22·95	132
Derby (Wild Street) ...	Messrs. J. Davis & Son	5	1 0	174	24·82	188
„ (Midland Railway) ...	W. Langdon, Esq. ....	5	1 5	156 †	23·37	184
„ (Royal Infirmary) ...	W. G. Carnt, Esq. ....	5	0 9	195	24·87	198
„ (Arboretum) ...	J. Ward, Esq., C.E. ...	8	1 0	196 †	23·22	180
„ (Duffield Road) ...	Dr. Copestake ...	5	8 0	192 †	22·57	171
Breadsall Lodge ...	Miss Thompson ...	5	1 3	280 †	22·94	199
„ Priory ...	A. Victor Haslam, Esq.	5	1 6	380 †	24·10	164
„ „ „ „ „ „ „ „ M	„ „ „ „ „ „ „ „	5	1 6	380 †	22·63	...
Duffield (Castle Hill House) ...	Messrs. J. Davis & Son	...	...	...	22·49	188
Hazelwood (Chevin) ...	Sir J. G. N. Alleyne, Bart.	5	4 0	503 †	25·65	180
Ashbourne Water Works ...	Mr. J. W. Twigg ...	5	1 0	582 †	31·61	222
„ (Yeldersley Hall) ...	Mrs. Wright ...	5	1 0	63·5 †	31·85	203
Belper (Quarry Bank) ...	J. Hunter, Esq., C.E. ...	5	0 8	244 †	27·20	180
„ (Highfield) ...	M. Hunter, Esq., C.E. ...	8	0 8	310 †	26·67	199
Codnor (Cross Hill) ...	A. F. Pine, Esq. ....	5	0 10	372 †	26·00	168
Wirksworth ...	Thomas Gibbs, Esq. ...	5	1 0	500 †	29·45	176
Alderwasley ... new g.	A. F. Hurt, Esq. ....	5	1 0	537 †	29·34	163
† Matlock Bath ... new g.	Mrs. Chadwick ...	5	1 1	500	29·50	...
„ (The Gables) ...	Mrs. Wildgoose ...	5	1 0	459 †	32·75	211
Darley Dale (Whitworth Inst.)	Whitworth Inst. Trustees	5	1 8	360 †	29·32	136
„ Hall ...	A. Clay, Esq. ....	5	1 0	400 †	29·11	212
Stretton (Lindway Res.) ...	Mr. J. Rimmington ...	5	4 3	447 †	20·83	154
Hardwick Hall ...	Mr. Wilson ...	8	2 6	594 †	28·43	171
Chatsworth Gardens ...	W. Chester, Esq. ....	8	5 5	404 †	29·57	201
† Chesterfield (Gas Works) ...	Chesterfield Corporation	5	1 0	279	25·45	157
„ „ „ „ „ „ „ „	Gt. Central R. Co. ....	9	3 6	246	24·66	160
† „ (Linacre Reservoir) old g.	Chesterfield Corporation	8	1 0	490	30·18	176

## DIVISION VII.—NORTH MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level		
			ft. in.	feet	inches.	
DERBY—(con.)						
Chesterfield (Linacre Reservoir) <i>new g.</i>	Chesterfield Corporation	5	1 0	490	30·06	175
" " (Tapton Grove) .....	Mr. Bloxham .....	5	3 3	400	24·64	131
Buxton (Devonshire Hospital) ..	The Royal Meteor. Soc.	5	1 0	988	43·88	249
" " (Portobello Bar) .....	W. H. Grieves, Esq. C.E.	8	1 0	1600 $\pi$	51·26	249
" " (Stanley Moor) .....	" " "	8	1 0	1310 $\pi$	47·62	250
" " (Burbage Edge) .....	" " "	8	1 0	1400 $\pi$	46·48	250
Tideswell (Sterndale Ho., Litton)	W. F. Jackson Esq. C.E.	5	4 6	999 $\pi$	33·65	196
† Comb's Moss .....	Gt. Central R. Co. ....	9	3 6	1669 $\uparrow$	29·52	...
† " Reservoir .....	" " " .....	9	3 6	710 $\uparrow$	31·40	240
† Chapel-en-le-Frith .....	" " " .....	9	3 6	965 $\uparrow$	30·50	235
" Totley Hall .....	W. A. Milner, Esq. ...	5	0 10	700	34·21	163
† Killamarsh (Norwood) .....	Gt. Central R. Co. ....	9	3 6	226 $\uparrow$	24·98	178
Norton [Sheffield] .....	Col. Creswick, C.B. ...	6	0 8	700	32·60	214
†* Hayfield (Oaken Clough) .....	G. H. Hill, Esq., C.E., & )	5	1 3	1300 $\uparrow$	34·05	...
†* " (Tunstead Clough) .....	H. Sowerby Wallis Esq )	5	1 3	960 $\uparrow$	33·86	...
†* " (Broad Clough) .....	" " "	5	1 3	1420 $\uparrow$	37·82	...
†* " (Cluthers Rocks) .....	" " "	5	1 3	1730 $\uparrow$	41·39	...
†* " (Kinder Top) .....	" " "	5	1 3	2020 $\uparrow$	43·46	...
†* " (Park Hall Moor) .....	" " "	5	1 3	1260 $\uparrow$	31·17	...
†* " (Sandy Heys) .....	" " "	5	1 3	1500 $\uparrow$	37·02	...
†* " (Leygatehead Moor) ...	" " "	5	1 3	1550 $\uparrow$	32·96	...
†* " (Mill Hill) .....	" " "	5	1 3	1730 $\uparrow$	37·34	...
Glossop (Corporation W.W.) ..	Mr. J. Garner .....	12	4 6	733 $\pi$	29·56	...
Woodhead Station .....	Gt. Central R. Co. ....	9	3 6	878 $\uparrow$	39·76	227

## DIVISION VIII.—NORTH WESTERN COUNTIES.

## CHESHIRE.

" Audlem Vicarage .....	Rev. H. S. Cotton ...	5	1 4	200	27·93	191
" Baddiley (Nantwich W. W.) ...	Baldwin Latham Esq CE	5	1 0	231	22·75	142
" Nantwich (Dorfold Hall) .....	J. A. Saner, Esq., C.E.	8	1 6	190	23·02	166
" " ( " " ) <i>new g.</i> ..	" " "	8	1 0	190	23·62	177
" " (Reaseheath Hall) ...	" " "	8	1 0	130	25·61	197
" Sandbach (Malkins Bank) .....	Messrs Brunner Mond & Co	5	3 8	244 $\pi$	25·95	211
Aldford (Woodhouse) .....	W. H. Phillips, Esq. ....	5	1 1	43 $\pi$	21·87	193
Eccleston .....	E. Wells, Esq. ....	5	1 1	94 $\pi$	25·92	195
" Rectory .....	A. G. Robins, Jun., Esq.	5	6 0	83 $\pi$	24·91	199
" Congleton (Buglawton Vic.) .....	Rev. W. Besant .....	8	5 0	352 $\uparrow$	27·61	182
Bosley Reservoir .....	Gt. Central R. Co. ....	9	3 6	590 $\uparrow$	26·92	216
" Minns .....	" " "	9	3 6	1210 $\uparrow$	27·35	225
Macclesfield (Wincle) .....	E. B. Smith, Esq., C.E.	5	3 0	500	29·45	164
" Chester (Christleton Hall) .....	Mr. T. Weaver .....	5	1 2	142 $\pi$	27·11	207
" " (Water Works) .....	A. Bell, Esq. ....	5	0 10	85 $\pi$	27·33	191
" " (Northgate Station) .....	Gt. Central R. Co. ....	9	3 6	84 $\uparrow$	25·79	174
" " (Parkgate Road) .....	Rev. J. C. Mitchell .....	5	1 0	60 $\pi$	25·88	205
" " (The Nurseries) .....	Messrs. Dicksons .....	5	1 0	62 $\pi$	26·64	188
" " (Hoole Lodge) .....	Lt.-Col. J. H. Hamersley	5	1 0	103 $\pi$	26·66	209

## DIVISION VIII.—NORTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height Above Ground.		Height Above Sea Level	
			ft.	in.	feet.	inches.
CHESHIRE—(con.)						
D Middlewich.....	Mssrs Brunner Mond & Co	5	3	10	138	22·87
„ (Bostock Hall) .....	Col. France Hayhurst..	5	2	6	157	24·89
D Macclesfield (The Park) .....	Mr. J. Dale .....	5	1	0	501	30·95
„ .....	Gt. Central R. Co. ....	9	3	6	539	33·52
D Chelford (Astle Hall) .....	G. Dixon, Esq. ....	5	1	0	250	26·48
„ „ „ ) .....	„ „ „ „ .....	8	1	0	250	25·64
Northwich .....	Gt. Central R. Co. ....	9	3	6	76	2·81
D „ (Highfield) .....	J. A. Saner, Esq., C.E..	8	3	4	118	26·34
D „ „ „ ) <i>Snowdon</i> .....	„ „ „ „ .....	8	1	0	115	26·45
D „ (Winnington) .....	Mssrs Brunner Mond & Co	5	3	8	80	25·87
D „ (Lostock Gralam) ...	„ „ „ „ .....	5	3	6	75	24·81
D Macclesfield (Swanscoe Park) ...	T. C. Horsfall, Esq. ...	5	1	0	676	30·96
D* Neston (Hinderton) ..	Reginald Bushell, Esq..	5	1	0	215	27·32
* „ „ „ ) .....	„ „ „ „ .....	8	1	0	215	27·37
* „ „ „ ) <i>Lodge</i> ...	„ „ „ „ .....	5	1	0	145	26·44
D Hooton Grange .....	W. H. Jones, Esq. ....	5	1	0	110	29·05
D Wilmslow (Parkside) .....	E. Pearson, Esq. ....	8	1	0	253	27·13
„ (Poplar House) .....	J. Holden, Esq. ....	5	1	0	237	26·76
† Whaley .....	Gt. Central R. Co. ....	9	3	6	602	34·03
Disley (Lyme Park).....	T. Molyneux, Esq. ....	9	3	8	720	35·09
D „ „ „ „ ).....	„ „ „ „ .....	12	2	9	674	28·27
D Runcorn (Weston Point) .....	J. A. Saner, Esq., C.E.	8	2	4	18	34·15
Thurstaston (Dawpool).....	Mr. R. Horne.....	...	...	...	...	25·83
D West Kirby (Greenfield) .....	H. Bell, Esq. ....	5	1	0	75	24·96
D Thelwall (Millington House) ...	L. W. Reynolds, Esq..	5	1	0	85	26·62
Altrincham (Norman's Place)....	A. Griffiths, Esq. ....	5	8	0	150	28·02
„ (Barrington House).....	C. E. Newton, Esq., C.E.	8	3	0	105	26·22
D Cheadle (Harthill).....	R. A. Grundy, Esq. ...	5	1	0	142	27·17
D Hoylake (The Chase, East) .....	J. F. Leigh Clare, Esq.	5	1	0	29	23·51
„ (District Council Office).....	T. Robinson, Esq. ....	5	1	0	33	25·89
Birkenhead (Oxton) .....	W. Oelrichs, Esq. ....	5	1	9	190	28·27
† „ „ (Bidston Obs.) .....	W. E. Plummer, Esq..	8	1	0	189	25·57
D Northenden (Wythenshawe).....	T. E. Tatton, Esq. ...	5	1	0	114	25·65
„ „ „ „ ).....	„ „ „ „ .....	8	1	9	114	24·86
Marple Top Lock .....	Gt. Central R. Co. ....	9	3	6	523	26·08
„ „ Aqueduct .....	„ „ „ „ .....	9	3	6	321	24·19
D New Brighton (Rutland House).....	W. Bell, Esq. ....	5	1	0	130	25·66
Godley Reservoir .....	G. H. Hill, Esq., C.E..	12	2	0	500	25·13
Newton .....	Gt. Central R. Co. ....	9	3	6	396	24·64
Mottram Station.....	„ „ „ „ .....	9	3	6	452	24·51
„ (Hill End) .....	„ „ „ „ .....	9	3	6	680	28·64
D Broadbottom (Harewood Lodge).....	Col. Sidebottom .....	5	1	0	440	27·91
D Hadfield (Millbrook).....	Mr. S. H. Doxon .....	8	3	10	442	30·17
„ „ „ „ ).....	„ „ „ „ .....	12	4	0	442	30·51
Arnfield Reservoir.....	G. H. Hill, Esq., C.E..	12	2	6	550	29·80
† Rhodes Wood Reservoir .....	„ „ „ „ .....	12	1	0	520	32·25
† Torrside Reservoir .....	„ „ „ „ .....	12	1	6	680	34·18
Staleybridge (Swineshaw).....	„ „ „ „ .....	8	3	0	884	36·93
† Woodhead Reservoir.....	„ „ „ „ .....	12	0	10	660	36·93



## DIVISION VIII.—NORTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level		
			ft in.	feet.	inches.	
LANCASHIRE.						
D Garston (Grassendale Park).....	Miss E. C. Abraham ...	5	1 0	35 T	29·38	199
D Aigburth (Kelton).....	J. Sing, Esq. ....	5	1 0	150 T	28·98	205
D „ (Holmfield) .....	Miss Maxwell.....	5	1 0	100 T	28·05	214
D Warrington (Howley) .....	T. Longdin, Esq. ....	10	0 10	19 T	27·43	196
„ (Central Station) ...	Gt. Central R. Co.....	9	3 6	59 T	25·94	183
D „ (Training College)...	Miss F. G. Timewell...	8	0 9	34 T	26·25	193
D Liverpool (St. John's Gardens)...	J. A. Brodie, Esq., C.E.	5	0 9	47 T	27·70	196
„ (Smithdown Road) ...	„ „ „	10	0 9	135 T	27·54	185
„ (Rathbone Road) .....	„ „ „	10	1 0	199 T	28·82	192
D „ (Hope Street) .....	George Jevons, Esq. ...	5	1 6	...	27·73	178
„ (Huyton Vicarage) ...	Mrs. E. M. Sanderson..	5	0 11	116 T	30·18	214
„ (Newsham Park) .....	J. A. Brodie, Esq., C.E.	10	1 0	140	29·68	208
„ (Breeze Lane) .....	„ „ „	5	0 9	135 T	29·38	199
„ (Huskinson Station) ...	Gt. Central R. Co.....	9	3 6	40 T	23·14	189
D Heaton Mersey [Stockport] .....	W. B. Leigh, Esq.....	5	3 11	218 T	24·23	195
D Heaton Moor [Stockport] .....	Dr. F. W. Jordan .....	5	1 0	235	25·91	210
D Manchester (Withington) No. 1	J. King, jun., Esq. ...	5	1 3	110 T	25·91	198
D „ ( „ ) No. 2	„ „ „	8	1 6	110 T	26·03	198
D „ ( „ ) .....	J. H. Casartelli, Esq...	5	1 7	117 T	25·65	180
„ (Urmston Sewage Works)	Mr. Ogden .....	8	2 3	72 T	27·33	205
„ (Lady Barn, Fallowfield)	Miss C. Herford.....	5	1 0	122 T	24·12	198
Denton Reservoir .....	G. H. Hill, Esq., C.E..	12	2 0	324 T	23·34	...
Gorton.....	„ „ „	12	2 0	263 T	23·51	...
†Manchester (Piccadilly) .....	Gt. Central R. Co.....	9	40 0	194 T	22·39	181
„ (Fairfield) .....	„ „ „	9	6 0	312 T	26·11	204
D „ (Oldham Road) .....	Dr. J. Niven .....	5	1 0	191 T	26·51	192
Eccles (Worsley New Hall) .....	Mr. W. B. Upjohn ...	8	8 0	100 T	25·31	158
„ (Worsley Old Hall) .....	W. Bourke, Esq., C.E.	5	1 0	185 T	31·11	213
Blundellsands (Park Corner) ...	T. M. Reade, Esq. C.E.	5	1 0	33 T	22·82	176
D Manchester (Moston).....	J. J. Warren, Esq. ...	5	1 0	300 T	27·44	170
D „ (Cheetham Hill).....	WB Worthington Esq CE	5	1 0	264 T	28·49	197
Ashton (Waterhouses) .....	Gt. Central R. Co.....	9	3 6	345 T	26·96	195
Prestwich Asylum.....	The Meteor. Council ...	8	1 0	295	30·70	209
„ Reservoir .....	G. H. Hill, Esq., C.E..	12	2 0	356 T	26·22	...
†Oldham (Gas Works) .....	„ „ „	5	4 0	600 T	30·85	...
„ (Honeywell Lane) .....	Gt. Central R. Co.....	8	...	553	30·29	225
„ (Brushes Clough) <i>old g.</i>	C. J. Batley, Esq., C.E.	5	4 0	930 T	36·80	208
„ ( „ „ ) <i>new g.</i>	„ „ „	5	5 0	955 T	37·95	208
D Ormskirk (Aughton Springs) ...	C. E. Maples, Esq. ...	5	1 0	138 T	27·81	209
D Wigan Waterworks .....	W. Bolton, Esq.....	8	1 6	225 T	30·55	206
D Downholland (Barton Moss).....	J. Baxendell, Esq.....	5	0 9	14 T	25·20	208
D Bolton (The Park) .....	W. W. Midgley, Esq..	5	1 0	390 T	37·98	223
„ (Heaton)..... <i>new g.</i>	RHS Windlehurst Esq CE	5	1 3	520	39·33	244
D „ (Ash Lawn, Heaton). ...	Mrs. F. Taylor .....	5	1 0	406	40·47	217
D „ (Smithills Hall) .....	Col. R. H. Ainsworth...	8	1 2	510 T	42·05	219
†Milnrow (Piethorne, Kitcliffe)...	C. J. Batley, Esq., C.E.	5	4 6	767 T	33·64	201
„ ( „ Coldgreave) .....	„ „ „	5	4 2	894 T	28·92	200

## DIVISION VIII.—NORTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level		
			ft. in.	feet.	inches.	
LANCASHIRE—(con.)						
n Milnrow (Piethorne, Coldgreave)	C. J. Batley, Esq., C.E.	5	4 6	894 $\nabla$	31·75	200
„ { „ Norman Hill	„ „ „	5	4 6	1076 $\nabla$	29·47	199
„ { „ Rooden Res.)	„ „ „	5	4 6	1131 $\nabla$	29·50	199
† Rochdale (Deeplish Hill) .....	J. H. Lancashire, Esq.	5	1 0	475 $\nabla$	32·49	207
n† „ (Park Observatory) ..	Dr. Henry .....	8	0 6	472	32·32	202
n† „ (Fieldhead) .....	S. S. Platt, Esq., C.E..	8	12 0	484 $\nabla$	32·11	199
n „ (The Crescent) .....	Dr. T. H. Hayle .....	5	40 5	513 $\nabla$	31·23	245
„ (Ashworth Moor) .....	J. Diggle, Esq., C.E..	5	1 6	907 $\nabla$	36·00	208
† Bury (Gin Hall) .....	J. Cartwright, Esq. ....	8	1 0	475	37·98	191
† „ ( „ „ ) .....	„ „ „	8	1 0	475	38·04	191
n Ormskirk (Rufford) .....	G. Hobkirk, Esq. ....	5	0 8	39 $\nabla$	27·41	151
„ Bolton (Belmont) .....	RHSwindlehurstEsqCE	5	0 9	800	49·27	221
n Southport (Birkdale) .....	J. Baxendell, Esq. ....	5	1 0	27 $\nabla$	25·78	217
n Rochdale (Nayden Dean Filters).	J. Diggle, Esq., C.E..	5	1 8	761 $\nabla$	38·20	197
† „ ( „ „ ) old g....	„ „ „	5	1 7	948 $\nabla$	34·53	...
† „ ( „ „ ) new g....	„ „ „	5	1 3	948 $\nabla$	36·70	...
† „ (Spring Mill Whitworth)	W. Tomlinson, Esq. ....	8	1 7	720	40·43	194
† „ (Cowm, „ ) .....	„ „ „	8	1 7	760	38·94	189
n† „ (Facit) .....	T. S. Smithson, Esq....	5	0 6	855 $\nabla$	39·77	230
„ Southport (Hesketh Park) .....	M. J. Baxendell, Esq. ....	5	1 0	38 $\nabla$	25·56	...
n „ ( „ „ ) M.O.g.	„ „ „	8	1 0	38 $\nabla$	25·42	199
„ „ ( „ „ ) Rec. g.	„ „ „	11	1 5	39 $\nabla$	25·43	...
„ „ (Lord Street Station).	Gt. Central R. Co. ....	9	3 6	21 $\nabla$	22·12	181
n „ (Park Crescent) .....	J. Watkins, Esq. ....	5	1 0	30 $\nabla$	26·58	195
„ Entwistle .....	RHSwindlehurstEsqCE	5	1 0	700	47·26	200
„ Littleborough (Hollingworth) ..	Rochdale Canal Compy†	10	1 5	650	29·10	...
„ „ (Windy Bank) ..	„ „ „	10	1 6	605 $\nabla$	30·70	...
† „ „ (Blackstone Edge)	„ „ „	10	1 9	1225 $\nabla$	30·90	...
† „ „ (Canal Summit) ..	„ „ „	10	1 10	700	28·20	...
† „ „ (Chelburn) .....	„ „ „	10	1 3	800	30·70	...
„ „ (Byron Edge) .....	„ „ „	8	1 5	1250 $\nabla$	34·73	...
„ „ (Lenches) .....	„ „ „	10	1 10	806	33·20	...
† Walsden (Calf Lee) .....	„ „ „	10	1 6	960	31·50	161
„ „ (Warland) .....	„ „ „	8	1 5	1250 $\nabla$	32·37	...
„ „ (Whiteholme) .....	„ „ „	8	1 5	1250 $\nabla$	32·89	...
„ „ (Rishworth) .....	„ „ „	8	1 5	1300 $\nabla$	33·88	...
„ Chorley (Crooke Hall) .....	Carlton Cross, Esq. ....	5	2 6	265 $\nabla$	33·82	186
† Todmorden W.W. (Ramsden Moor)	W. Tomlinson, Esq. ....	5	1 0	1326 $\nabla$	32·93	...
† „ ( „ „ Res.) .....	„ „ „	8	1 0	980 $\nabla$	41·07	240
„ Haslingden (Holden Wood) .....	J. Cartwright, Esq. ....	8	1 0	670	42·50	202
„ „ (Calf Hey) .....	„ „ „	8	1 0	800	42·87	202
n „ „ (Hazelwood) .....	Dr. Harrison .....	5	1 9	830 $\nabla$	42·02	196
„ „ (Springfield Lodge) ..	J. Stott, Esq. ....	5	1 0	770	39·30	...
n „ „ Vicarage .....	Rev. A. Spencer .....	8	1 6	820 $\nabla$	40·57	215
„ „ (Mitchells House Res.)	C. Harrison, Esq. ....	5	1 6	990	36·83	162
n Over Darwen (Sunnyhurst Hey.)	R. W. S. Saville, Esq..	8	1 0	925 $\nabla$	31·12	212
n „ „ (Earnsdale Res.) .....	„ „ „	8	1 0	705 $\nabla$	36·65	212

† Returns supplied by C. R. Dykes, Esq.

## DIVISION VIII.—NORTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.	
		Diameter	Height Above Ground	Height Above Sea Level	1902		
			ft. in.	feet.	inches.		
LANCASHIRE—(con.)							
Over Darwen (Hoddlesden) No.1	W. Stubbs, Esq., C.E..	8	4 0	680	42·38	215	
„ „ (Daisy Green) No.1	„ „ „	8	1 0	969	40·72	204	
„ „ „ „ No.2	„ „ „	8	1 0	969	40·74	204	
„ „ (Pickup Bank) No.1	„ „ „	8	1 0	720	38·88	204	
„ „ „ „ No.2	„ „ „	8	1 0	720	40·56	204	
Rawtenstall Cemetery .....	A.W. Lawson, Esq., C.E.	8	1 0	572	40·26	202	
Preston (Brindle Rectory) .....	Rev. J. Kinton Jacques	4	2 6	480	36·87	...	
D „ (Walton-le-Dale W.W.)	T. W. Elliott, Esq. ...	5	0 10	320	35·57	216	
Blackburn (Guide Reservoir) ...	W. Stubbs, Esq., C.E..	8	1 0	650	32·80	201	
„ (Witton) .....	„ „ „	8	2 6	315	37·98	200	
„ (Store Yard) .....	„ „ „	8	30 0	373	31·48	209	
„ (Water Works Office)	„ „ „	8	60 0	436	28·18	209	
„ (Corporation Park) ...	„ „ „	8	0 6	584	37·75	215	
„ (Pumping Station) ...	„ „ „	8	6 0	600	38·76	202	
Accrington (Milnshaw Park) ...	Accrington Corporation	5	1 6	464	36·22	192	
† Rawtenstall (Cloughbottom Res.)	J. Cartwright, Esq. ...	8	1 0	1025	41·00	207	
† „ (Clough Bridge Res.)	„ „ „	8	1 0	930	36·26	228	
D Preston (Corporation Offices) ...	T. Cookson, Esq. ....	8	18 0	148	30·01	194	
Burnley Waterworks	† Causeway Side .....	W. Williamson, Esq.	8	2 0	1116	35·37	...
	† Sheddin .....	„ „ „	8	2 0	960	35·92	...
	† Cant Clough, S. Side .....	„ „ „	8	2 0	900	36·50	229
	† „ „ N. Side .....	„ „ „	8	2 0	900	34·16	229
	† Rams Clough Head .....	„ „ „	8	2 0	1260	35·18	...
Rishton Reservoir .....	Leeds & L'pool Canal Co.	...	...	467	31·04	...	
Huncoat (Burnley Road Res.) ...	C. Harrison, Esq. ....	9	1 6	620	33·12	194	
† Burnley (Yorkshire Street) .....	W. Williamson, Esq. ...	8	30 0	420	32·72	222	
† „ (Swinden, Upper) .....	„ „ „	8	12 0	820	37·41	228	
† „ „ Lower .....	„ „ „	8	2 0	745	36·88	228	
† „ (Extwistle Moor) .....	„ „ „	8	2 0	1310	39·59	...	
D „ (Gawthorpe Hall) .....	A. Ford, Esq. ....	8	0 9	316	34·38	175	
D Preston (Haighton) .....	J. J. Myres, Esq., C.E.	5	1 2	255	31·31	199	
Alston .....	T. Cookson, Esq. ....	8	1 2	320	31·33	...	
Kirkham (Weeton) .....	C. Arthur, Esq. ....	10	1 0	95	35·88	...	
D Barton (Anderton Fold) .....	W. H. Mason, Esq. ...	5	0 6	90	31·31	188	
D Blackpool Hospital .....	F. J. H. Coutts, Esq. ...	5	1 0	59	27·15	218	
Nelson (Coldwell Reservoir) .....	C. E. Newton, Esq., C.E.	8	2 0	950	24·30	...	
Stonyhurst College .....	Rev. W. Sidgreaves ...	11	1 0	376	36·75	209	
D „ „ „ .....	„ „ „	11	1 10	377	36·72	209	
„ „ „ .....	„ „ „	11	1 0	376	36·15	...	
Preston W. Works.	{ Knowle Green .....	M. T. Cookson, Esq. ....	8	1 2	400	32·49	...
	{ Loud-scales .....	M. „ „ „	8	1 2	400	29·42	...
	{ Spade Mill .....	M. „ „ „	8	1 2	400	33·90	...
	{ Jeffrey Hill .....	M. „ „ „	8	1 2	900	36·74	...
D St. Michael's-on-Wyre Vic. ....	Rev. P. J. Hornby .....	5	1 0	26	30·24	190	
D Beaton Fell (Barnsfold Res.) ...	J. J. Myres, Esq., C.E.	5	1 6	506	31·86	191	
„ „ „ „ M	„ „ „	5	1 6	506	31·86	...	
Barrowford Reservoir .....	Leeds & L'pool Canal Co.	8	1 0	473	32·73	...	
Foulridge (Canal Office) .....	„ „ „	8	1 0	497	34·76	...	

## DIVISION VIII.—NORTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground.	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
LANCASHIRE—(con.)						
Foulridge (Cragg Nook Hill) ...	Leeds & L'pool Canal Co.	8	1 0	690	33·54	...
„ (Upper Reservoir) ...	„ „ „ „	8	1 0	582	31·85	...
d Garstang (Bruna Hill) .....	Sydney Wilson, Esq. ....	5	0 6	90 A	32·83	199
Clitheroe (Downham Hall) .....	R. Assheton, Esq. ....	10	1 6	464 A	32·68	...
d Chatburn (Middlewood) .....	W. K. Wilkinson, Esq. ....	5	1 3	363 T	33·62	152
Garstang (Holme Ho., Bleasdale)	Messrs. A. & S. Wilson	5	1 0	650 T	46·50	...
„ (Barnacre Reservoir) .....	C. Arthur, Esq. ....	5	1 0	617 A	36·54	...
„ (Grizedale Reservoir) .....	„ „ „ „	5	1 0	519 T	33·10	...
„ ( „ Stake House) .....	„ „ „ „	5	1 0	775	37·90	...
d Fleetwood .....	M. S. Gaulter, Esq. ....	5	1 4	30	26·34	170
Pilling (Smallwood Hey) .....	Mr. J. H. Curwen .....	5	0 9	12 T	30·14	...
d Garstang (Forton) .....	J. H. Bonny, Esq. ....	5	1 6	65 L	31·45	213
Wyresdale (Abbeystead) .....	J. C. Mount, Esq., C.E.	8	1 0	366 T	35·87	157
d Hampson-in-Ellel .....	W. G. Welch, Esq. ....	5	1 6	145 T	31·39	210
Quernmore (Old Gauge Basin) M	J. C. Mount, Esq., C.E.	8	1 0	963 T	36·26	...
Wyresdale (Wardstone) .....	„ „ „	8	1 0	1440 T	57·01	...
Quernmore (Brow Top) .....	„ „ „	8	1 0	552 T	34·41	188
d Heysham House .....	Miss Tomlinson .....	5	1 6	80	33·85	203
Lancaster (Blea Tarn Reservoir).	J. C. Mount, Esq., C.E.	8	1 0	330	29·07	201
d „ (Greg Observatory) .....	W. French, Esq. ....	8	1 0	318	32·13	210
Caton (Escowbeck) .....	A. Greg, Esq. ....	12	1 6	150 T	28·63	172
„ Vicarage .....	Rev. W. J. Locke .....	5	1 0	160 T	29·61	...
d „ .....	F. Storey, Esq. ....	5	1 0	250	33·39	205
d Morecambe .....	Mr. T. B. Lamb .....	8	1 0	24 T	28·15	184
d Wray Vicarage .....	Rev. C. L. Reynolds ...	5	1 0	165 T	34·71	203
d Bolton-le-Sands .....	Rev. A. R. Tomlinson.	5	3 6	120 P	28·72	163
Melling (Hornby Castle) .....	J. Jowett, Esq. ....	8	1 8	100	32·75	159
Barrow-in-Furness .....	W. Fergusson, Esq. ...	11	1 6	36 A	33·20	198
Arkholme (Storrs Hall) .....	F. F. Pearson, Esq. ...	5	1 0	220	33·05	...
d Yealand Conyers .....	W. O. Roper, Esq. ....	5	1 0	250	32·31	224
Silverdale .....	Mr. T. R. Taylor .....	8	1 0	120	28·40	170
Cartmel (Flookburgh) .....	R. Harrison, Esq. ....	5	1 0	75	32·91	150
d Lindal (Berkune Mines) .....	F. A. Ainslie, Esq. ...	5	7 0	215 T	36·63	178
d Cartmel (Carke) .....	Mr. W. R. Nash .....	5	1 0	75 A	33·05	210
d† „ (Holker) .....	VCW Cavendish Esq MP	8	4 8	155 A	36·98	212
d Grange-over-Sands (Belmont) ..	Dr. W. M. Burman ...	5	1 0	180 T	36·14	209
d „ „ (Eggerslack) .....	Miss Arkwright .....	5	2 6	140 B	37·95	214
d† Ulverston (Poaka Beck) .....	W. Fergusson, Esq. ...	11	1 6	512 A	46·74	264
Cartmel (Pit Farm) .....	Mr. W. R. Nash .....	5	1 0	122 T	36·05	...
„ (Broughton Hall) .....	Col. Ainsworth .....	5	2 8	225	36·91	197
Newby Bridge (Backbarrow) ...	Col. D. Ainsworth .....	5	2 6	100 T	36·32	...
Colton .....	Mrs. A. Christopherson	5	1 0	226 A	45·91	217
„ .....	„ „ „	8	1 0	226 A	46·03	...
d Finsthwaite Vicarage .....	Rev. S. Inman .....	8	1 2	250	46·64	225
d Broughton-in-Furness .....	C. Chambers, Esq. ....	5	1 3	101	45·38	225
d Blawith Vicarage .....	Rev. J. Ashburner .....	5	0 10	185 T	49·02	188
d Cartmel Fell Vicarage .....	Rev. W. Summers .....	5	2 3	220 T	47·36	220

## DIVISION VIII.—NORTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ".01" or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
<hr/>						
LANCASHIRE—(con.)						
d Hawkshead(TowerBank,Sawrey)	Major Alcock-Beck ...	5	1 0	342 T	54.25	226
d†Duddon Valley (Seathwaite Vic.)	Rev. S. R. M. Walker.	5	1 0	330 T	65.12	216
†Monk Coniston Park .....	Mr. W. G. Wilson.....	5	1 2	305 T	64.18	218
Hawkshead (Black Fell) .....	M S. A. Marshall, Esq....	5	1 6	1055 T	55.55	...
d Skelwith Fold [Ambleside] .....	„ „ „ ...	5	1 0	333	61.31	245
„ „ „ .....	„ „ „ ...	5	1 0	333	61.48	...

## DIVISION IX.—YORKSHIRE.

## WEST RIDING.

† Sheffield (Brincliffe Edge) .....	Gt. Central R. Co. ....	9	3 6	336 T	31.29	209
d " (W.W., Gleadless) ..	Mr. R. Rodinson .....	8	0 8	700 T	32.10	206
d " (Stumperlow Hall) ..	H. J. Dixon, Esq. ....	5	1 0	700	32.90	221
d† " (Redmires Res.) .....	L.S.M. Marsh, Esq., C.E.	10	5 0	1110 A	38.97	221
" " " weekly .....	" " " .....	8	4 0	1110 A	38.62	...
d " (Tylecote, Ranmoor) ..	J. Dixon, Esq. ....	5	1 0	610 A	31.00	181
d " (Rivelin) .....	L.S.M. Marsh, Esq., C.E.	10	4 0	564 A	32.78	178
" " " weekly .....	" " " .....	8	4 0	564 A	32.71	...
d† " (Crookes) .....	" " " .....	10	2 0	629 A	27.16	170
† " " weekly .....	" " " .....	8	2 0	629 A	26.55	...
d " (West Street) .....	C. J. Barker, Esq. ....	8	32 0	336 A	25.85	177
d " (Weston Park) .....	E. Howarth, Esq. ....	8	1 0	430 A	29.47	205
† " (Victoria Station) .....	Gt. Central R. Co. ....	9	3 6	188 T	24.15	158
d Rotherham (Ulley Res.) .....	G. W. Jennings, Esq. ...	5	1 0	184	21.01	145
Sheffield (Tinsley Locks) .....	Gt. Central R. Co. ....	9	...	117 T	23.41	171
d Tickhill (Sandbeck Park) ..	Mr. G. Summers .....	8	1 0	150 T	22.35	171
d† Rotherham (Moorgate Grange) ..	C. E. Chrimes, Esq. ...	5	1 0	262 A	23.96	139
" (Thrybergh) .....	W.H.R. Crabtree Esq CE	8	1 0	184 A	21.85	158
d Tickhill .....	G. G. Phillips, Esq. ...	8	1 0	61 A	21.08	161
d Sheffield (Chapelton) .....	Mr. D. Bell .....	8	5 0	582 L	25.82	166
Doncaster (Firsby) .....	W.H.R. Crabtree Esq CE	8	1 3	189 A	23.56	157
d " (Wadworth Hall) .....	Rev. J. C. Ross .....	8	1 0	190 A	23.00	179
d Bolsterstone (Waldershaigh) ..	Mrs. Wilson .....	8	3 1	950 T	30.60	180
d Wentworth Woodhouse .....	Mr. J. Hughes .....	5	0 10	360 T	25.65	156
d Mexborough .....	G. Fenwick Carter Esq CE	5	2 0	198 A	21.55	169
Wortley .....	Gt. Central R. Co. ....	9	3 6	548 T	24.97	154
Elsecar .....	" " " .....	9	3 6	181 T	22.21	135
† Langsett Moor (Pike Lowe) .....	J. H. Taylor, Esq., C.E.	5	1 0	1358 T	44.19	...
† " " (Ewden Height) ..	" " " .....	5	1 0	1099 T	35.63	...
† " " (Range Moor) ..	" " " .....	5	1 0	1040 T	40.41	...
d† " " (Upper Midhope) ..	" " " .....	5	1 0	912 T	36.37	214
d Langsett .....	W. Watts, Esq., C.E. ...	8	4 3	960 A	30.94	168
d " .....	" " " .....	8	4 9	802 A	29.37	168
d Hoyland (King Street) .....	J. W. Wilson, Esq. ...	5	1 0	330 A	26.14	171
d Wath-upon-Deane (Chapel St.) ..	Dr. F. J. Burman .....	8	3 0	188 A	23.58	161
Wombwell .....	G. E. Atkins, Esq. ....	10	4 6	174 T	18.62	146
Worsborough .....	Gt. Central R. Co. ....	9	3 6	225 T	23.69	162

## DIVISION IX.—YORKSHIRE—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height Above Ground.	Height Above Sea Level		
			ft. in.	feet.	inches.	
WEST RIDING—(con.)						
D Stainborough (Wentworth Castle)	W. Fisher, Esq.....	8	2 6	520 T	26·66	155
Doncaster	Gt. Central R. Co.....	9	3 6	32 T	21·40	153
" (Pumping Station) ...	WHR Crabtree, Esq CE	8	1 2	30 T	24·05	154
D " (Magdalens) .....	Mr. C. Parkin .....	5	4 9	46 T	22·45	143
Dunford Brdg. (Up. Windleden) M	H. Dearden, Esq., C.E.	12	2 2	1100	41·18	...
† " " (Dearden Res.) M	Gt. " " " " .....	12	1 6	1244 T	41·41	...
† " " Station .....	Gt. Central R. Co.....	9	3 6	954 T	38·02	195
D† " " Reservoir .....	H. Dearden, Esq., C.E.	12	2 0	1111 T	41·70	212
Greenfield (Chew Mount) .....	G. H. Hill, Esq., C.E..	7	0 7	...	40·00	...
" (Yeoman Hey) .....	Gt. " " " " .....	7	0 7	759	34·30	...
† Penistone (Carlcoates) .....	Gt. Central R. Co.....	9	4 0	1075 T	35·91	198
† " " .....	" " " " .....	9	3 6	717 T	31·08	205
† " (Hazlehead) .....	" " " " .....	9	3 9	868 T	36·12	197
D† " (Ingbirchworth Res.) .....	J. H. Taylor, Esq. C.E.	8	1 3	853 T	32·47	185
D Holmbridge (Yateholme) .....	O. J. Kirby, Esq., C.E.	7	1 0	861 T	47·10	162
† " (Holme Styes) .....	Mr. L. Hinchliffe .....	7	2 0	830 T	39·60	...
† " (Boshaw Whams) ...	" " .....	7	2 0	930 T	42·70	...
† " (Bilberry Reservoir) ..	" " .....	7	2 0	820 T	46·60	...
D Barnsley (Church Street) .....	Dr. M. J. Sadler .....	5	5 2	355 T	24·75	186
D " (Beckett Square) .....	J. H. Taylor, Esq., C.E.	8	1 0	306 T	22·40	154
" .....	Gt. Central R. Co.....	9	3 6	317 T	20·56	129
† Saddleworth Station .....	L. K. Jones, Esq.....	5	4 2	630 T	33·12	...
D " (Dobcross) .....	G. F. Burd, Esq. ....	5	0 10	700	37·61	215
Barnsley (Cawthorne) .....	Rev. C. T. Pratt .....	5	1 6	340 T	25·86	174
Strinesdale [Oldham] .....	C. J. Batley, Esq., C.E.	5	4 0	815 T	29·52	217
† Meltham (Harden Moss) .....	J. W. Schofield, Esq....	8	1 2	1212 T	39·73	...
" " " " new g.	" " " " .....	8	1 0	1212 T	39·19	...
Wessenden Head .....	" " " " .....	8	1 0	1270 T	39·51	...
" (Hollin Bank Moss) ..	" " " " .....	8	1 0	1360 T	28·19	...
" (Great Butterley) .....	" " " " .....	8	1 0	1110 T	42·21	...
" (Bobus) .....	" " " " .....	8	1 0	1200 T	38·96	...
Standedge (Castleshaw, Broadhead)	C. J. Batley, Esq., C.E.	8	4 6	876 T	31·40	203
" ( " Cudworth) .....	" " " " .....	5	4 6	1410 T	31·09	200
" (Redbrook Res.) old g.	L. K. Jones, Esq. ....	8	1 8	1150	37·07	...
" " " " new g.	" " " " .....	8	1 6	1150	37·54	...
† Meltham (Brow Grains) .....	J. W. Schofield, Esq....	8	1 0	900 T	37·03	...
Denshaw (Ox Hey) .....	C. J. Batley, Esq., C.E.	8	4 6	1030 T	34·01	207
" (New Year's Bridge) n.g.	" " " " .....	8	4 0	1012 T	35·69	207
" (Ready Con Dean) n.g.	" " " " .....	8	4 0	1414 T	36·18	207
Meltham (Royd Edge) .....	C. L. Brook, Esq. ....	8	1 0	585 T	42·46	...
D " (Harewood Lodge) .....	" " " " .....	8	1 0	514 T	38·27	211
† " Grange .....	J. W. Schofield, Esq....	8	1 2	850 T	36·62	...
† Marsden (Deer Hill) .....	" " " " .....	8	1 0	1149 T	36·31	...
" " " " new g.	" " " " .....	8	1 0	1149 T	39·80	...
D Doncaster (Kirk Bramwith) .....	H. A. Brundell, Esq. C.E.	5	1 0	17 T	21·97	177
D† Slaithwaite (Blackmoorfoot) .....	J. W. Schofield, Esq....	8	1 0	800 T	39·08	222
D " (Inglewood) .....	J. Woodhead, Esq. ...	9	1 0	550 T	<del>41·32</del>	206
D Hemsworth Hall .....	F. G. Leatham, Esq....	5	1 0	250 T	21·30	178

## DIVISION IX.—YORKSHIRE.—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level		
			ft. in.	feet.	inches.	
WEST RIDING—(con.)						
D Chapelthorpe (Crigglestone).....	H. T. Burbury, Esq....	5	1 0	306 A	21·78	174
D Wakefield (Walton) .....	E. Simpson, Esq. ....	5	1 0	140 T	18·26	155
Huddersfield (Bankfield, Golcar)	J. R. Sykes, Esq. ....	5	1 0	400 T	29·32	162
D „ (Cemetery) .....	Mr. J. Firth .....	8	4 0	400	28·28	194
D† „ (Dalton) .....	J. W. Robson, Esq. ...	8	1 0	350 A	25·05	193
D Rishworth (Ringstone Res.).....	C. Clemesha Smith Esq. CE	5	1 0	990 T	35·25	205
„ (Stott Hall).....	„ „ „	5	0 7	930 T	37·26	174
„ (Great Walden Edge)	„ „ „	5	0 10	1130 T	39·34	223
D Ackworth (Nostell Priory) .....	Mr. J. Easter .....	5	4 0	...	21·67	159
Mirfield (Cote Wall) .....	J. Watson-Kaye, Esq..	8	1 2	200	26·04	173
D Ossett (Lowood House).....	Dr. G. S. Greenwood...	5	1 0	300 T	23·22	128
† Wakefield Prison .....	Mr. A. Clyde .....	5	1 0	96 A	21·80	153
D „ (Field Head) .....	C. Clemesha Smith Esq. CE	8	1 6	250 T	23·63	151
D „ (Stanley Grange) .....	H. S. Haworth, Esq....	5	1 0	235 T	21·35	186
D Goole (Swinfleet) .....	Mr. G. Harrison .....	5	5 6	...	23·16	120
D „ .....	W. E. Grayburn, Esq..	5	1 0	18 T	22·27	175
Elland .....	P. H. Whitwam, Esq..	8	1 0	307 A	30·31	150
Batley (Staincliffe Reservoir) ..	O. J. Kirby, Esq., C.E.	7	1 0	492 A	20·97	...
D „ (Woodwell Dépôt) .....	„ „ „	8	1 0	301 A	22·48	158
D Ardsley Reservoir .....	C. Clemesha Smith Esq. CE	5	1 0	395 T	23·39	193
Sowerby Bridge (Brockwell Triangle)	W. Cyril Empson, Esq..	8	1 0	500 T	33·04	...
D „ „ (Haugh End) .....	W. S. Rawson, Esq. ...	5	0 8	450 T	32·63	203
D Todmorden (Fielden Hospital)...	Mr. F. Rogers .....	5	1 0	650 T	37·81	213
D „ (Sourhall Hospital)...	„ „ „	5	1 0	1020	43·55	208
Halifax (Bents, Norland) .....	M. J. S. Rawson, Esq. ...	5	0 8	800 T	30·88	...
D „ (Bermerside Observatory)	J. Gledhill, Esq. ....	8	0 6	500	27·21	185
D „ (Hall Ings, S. Owram)...	Rev. G. E. Aspinall ...	5	0 7	750 T	26·44	199
„ (Thorpe) ... ..	M. J. S. Rawson, Esq. ...	8	0 8	345 T	34·70	...
„ „ .....	„ „ „	5	0 8	345 T	35·89	181
D „ (Public Library) .....	J. Whiteley, Esq. ....	8	1 0	625 T	29·06	193
† „ (Albert).....	R. J. Hartley, Esq., C.E.	5	1 0	795 T	29·11	...
† „ (Gibbet) .....	„ „ „	5	6 0	568 T	28·74	...
† „ (Ramsden Wood).....	„ „ „	8	1 2	816 T	30·52	...
D Mytholmroyd (Ewood Hall).....	Mrs. Riley .....	5	1 6	500 T	33·87	198
Hebden Bridge (Falling Royd)...	A. R. Crossley, Esq....	4	1 0	479 A	33·79	193
D „ „ (Summerfield)...	J. Hoyle, Esq. ....	5	0 8	800 A	35·29	208
Halifax (Castle Carr) .....	R. J. Hartley, Esq., C.E.	...	...	1060 T	37·89	...
† „ (Midgley Moor) .....	M. „ „ „	7	0 6	1350 T	39·34	...
† „ (Warley Moor).....	M. „ „ „	7	0 6	1325 T	38·78	...
† „ (Ogden) .....	M. „ „ „	8	1 3	990 T	35·36	...
„ (Ovenden Moor) .....	„ „ „	...	...	1375	41·35	...
„ (Widdop).....	„ „ „	...	...	1050	40·10	...
† „ (Walshaw Dean).....	M. „ „ „	8	0 3	1380 T	38·29	...
D South Milford Rectory .....	Rev. F. J. Young .....	5	1 2	70 A	21·67	193
D Pudsey .....	Dr. W. Lovell Hunter.	5	1 0	521 T	26·02	180
Bradford (Horton).....	Mr. A. E. Chilton .....	5	5 0	450 T	28·02	211
„ (Queensbury).....	R. J. Foster, Esq....	8	2 2	1050	34·08	174
„ (Brayshaw Reservoir)...	J. Watson, Esq., C.E..	5	1 0	982 A	33·38	208

## DIVISION IX.—YORKSHIRE—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level		
			ft. in.	feet.	inches.	
WEST RIDING—(con.)						
D Bradford (The Exchange).....	H. A. Johnson, Esq., C.E.	8	65 6	395 A	35·40	229
„ (Thornton Moor) .....	J. Watson, Esq., C.E.	5	1 0	1218 A	37·82	258
„ (Stubden) ..... <i>old g.</i>	„ „ „ „	8	1 0	1075 A	41·25	219
„ ( „ ) ..... <i>new g.</i>	„ „ „ „	8	1 0	1075 A	38·19	218
„ ( „ ) ..... <i>new g.</i>	„ „ „ „	5	1 0	1071 A	36·46	218
„ (Nan Scar, Oxenhope) M	„ „ „ „	5	1 0	1101 A	43·40	...
„ (Stairs Top) ..... M	„ „ „ „	5	1 0	1401 A	37·05	...
„ (Leeming Reservoir) M	„ „ „ „	5	1 0	850 A	39·09	...
„ (Doe Park) ..... <i>old g.</i>	„ „ „ „	8	1 0	810 A	39·16	216
„ ( „ „ ) ..... <i>new g.</i>	„ „ „ „	5	1 0	811 A	33·08	216
„ (Manningham Lodge)...	J. Priestman, Esq. ....	5	1 0	507	27·92	188
„ (Leeshaw Res.) ..... M	J. Watson, Esq., C.E.	5	1 0	875 A	42·70	...
„ (Chellow Dean) .....	„ „ „ „	5	1 0	645 A	28·88	187
„ ( „ Heights).....	„ „ „ „	5	1 0	848	31·79	195
„ (Hewenden Res.) <i>old g.</i>	„ „ „ „	5	1 0	700 T	35·50	226
„ ( „ „ ) <i>new g.</i>	„ „ „ „	5	1 0	701 A	32·18	226
„ (Heaton Res.) ..... <i>old g.</i>	„ „ „ „	8	1 0	530 A	28·04	203
„ ( „ „ ) ..... <i>new g.</i>	„ „ „ „	5	1 0	531 A	27·35	204
Leeds (Wortley Res.) .....	T. Hewson, Esq., C.E.	8	0 9	307 A	22·86	185
„ (Knostrop) .....	„ „ „ „	8	0 9	72 T	20·82	165
D „ (Holbeck) .....	Messrs. J. Rhodes & Co.	10	32 0	127 A	19·51	123
D „ ( „ W. Works Depot)	T. Hewson, Esq., C.E.	8	0 9	93 A	23·65	167
D „ (Museum).....	H. Crowther, Esq. ....	10	46 0	177 A	21·41	182
„ (Woodhouse Moor).....	T. Hewson, Esq., C.E.	8	0 9	307 A	22·63	183
„ (Elmet Hall, Roundhay)...	Mr. W. Tindall .....	5	1 6	400 T	27·28	180
„ (Weetwood Reservoir) ...	T. Hewson, Esq., C.E.	8	0 9	328 A	21·93	179
„ ( „ Lodge).....	J. P. Reay, Esq. ....	5	0 9	400 T	21·25	145
D „ (Allerton Hill) .....	T. Fenwick, Esq., C.E.	5	0 7	418 A	22·67	198
Shipley (Crag End) .....	Leeds & L'pool Canal Co.	8	1 0	304	24·69	...
Bingley (Gilstead Filters) .....	J. Watson, Esq., C.E.	5	1 0	572 A	23·63	202
D Keighley (The Knowle) .....	W. Clough, Esq. ....	5	1 0	385 T	30·04	204
D Adel (Lawns Wood) .....	Mr. S. R. Dyson.....	5	1 0	475 T	24·70	153
„ (Eccup, South) .....	T. Hewson, Esq., C.E.	8	0 9	390 T	24·21	191
„ ( „ East) .....	„ „ „ „	8	0 9	375 A	24·27	186
Bingley (Sunnydale).....	J. Watson, Esq., C.E.	5	1 0	825	30·45	201
D Harewood House .....	Countess of Harewood.	5	0 10	300	26·33	191
D Otley (Danefield) .....	J. E. Sharpe, Esq. ....	5	0 9	393 A	25·18	192
„ (Sewage Farm) .....	„ „ „ „	5	0 9	169 A	23·66	198
D „ (Farnley Hall Gardens) ...	Mr. J. Snell .....	8	0 11	400 T	24·19	179
Harewood (Arthington) .....	T. Hewson, Esq., C.E.	8	0 9	139 A	29·00	170
D Ilkley .....	G. W. Worfolk, Esq. ...	5	20 0	312 A	26·29	174
D „ (Eaton Road) .....	A. Wilson, Esq. ....	5	1 0	395 T	30·36	210
D Skipton (Silsden) .....	Mr. A. Elder .....	5	1 0	432 A	28·12	170
„ ( „ Reservoir) .....	J. Watson, Esq., C.E.	5	1 0	560 A	20·86	179
Weeton (Huby) .....	F. Gullett, Esq. ....	5	1 0	253 A	25·57	172
Pannal (Kirkby Overblow) .....	A. Rowntree, Esq. ....	5	0 9	340 T	20·61	177
Leathley (Lindley Wood S).....	T. Hewson, Esq., C.E.	8	0 9	312 T	26·47	209
„ ( „ „ N).....	„ „ „ „	8	0 9	320 T	26·34	209



## DIVISION IX.—YORKSHIRE—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level		
			ft. in.	feet.	inches.	
WEST RIDING—(con.)						
d Ilkley (Hollingley) .....	J. E. Sharpe, Esq.....	5	0 9	665 $\nabla$	25·37	184
Slaidburn (Knowlmere Manor)...	W. Peel, Esq.....	5	1 0	417 $\nabla$	44·71	...
„ (Hareden Brook) ... M	T. Cookson, Esq. ....	8	1 2	540	53·05	...
„ (Langden Brook) ... M	„ „ „ .....	8	1 2	556	53·20	...
„ (Whiteholme) .....	W. K. Wilkinson, Esq.	5	1 3	475 $\nabla$	41·65	178
Skipton (Cringle's Reservoir) ...	J. Watson, Esq., C.E..	5	1 0	760 $\nabla$	24·45	177
„ (Counter Hill).....	„ „ „ .....	5	1 0	951 $\nabla$	23·49	...
„ (Chelker Reservoir) ... M	„ „ „ .....	5	1 0	730 $\nabla$	24·67	..
† „ (Craven Herald Office)...	E. Townsend, Esq.....	8	2 0	360	25·78	199
„ (Hawthorne Cottage) ...	Leeds & L'pool Canal Co.	8	1 0	380	26·17	...
Gargrave (Banks Hill Bank Newtn)	„ „ „ .....	8	1 0	545	24·92	...
„ (Ray Bridge Hill) .....	„ „ „ .....	8	0 10	459	26·02	...
„ (Great Scarnber Hill)...	„ „ „ .....	8	0 9	676	28·33	...
Slaidburn (Dunsop Houses) .....	W. Stubbs, Esq., C.E..	8	1 0	450 $\nabla$	49·50	204
„ (Middle Knoll)..... M	„ „ „ .....	8	2 6	1298 $\nabla$	46·35	...
„ (Brennand) .....	„ „ „ .....	8	1 0	820 $\nabla$	61·22	213
„ (Whitendale) .....	„ „ „ .....	8	1 0	830 $\nabla$	58·92	206
„ (Cabin Hill) .....	„ „ „ .....	8	3 1	1559 $\nabla$	57·73	...
„ (Baxton Fell) .....	„ „ „ .....	8	2 6	1540 $\nabla$	47·51	...
„ (Croasdale Fell) .....	Henry Backhouse, Esq.	8	1 0	1175 $\nabla$	52·97	...
„ (Lamb Fell).....	„ „ „ .....	8	1 0	1225 $\nabla$	53·64	...
„ (Halstead) .....	„ „ „ .....	8	1 0	875 $\nabla$	39·92	...
„ (Crutchember Fell)...	„ „ „ .....	8	1 0	1230 $\nabla$	43·01	...
Winterburn (Long Hill) .....	Leeds & L'pool Canal Co.	8	0 9	705	28·66	...
„ (Brown Hill).....	„ „ „ .....	8	1 0	961	30·23	...
d York (Mount Villas) .....	J. S. Rowntree, Esq....	5	1 0	70	20·21	216
d „ (Burton Croft) .....	G. Crawhall, Esq. ....	5	0 10	48 $\nabla$	18·47	182
„ ( „ „ ) .....	M „ „ „ .....	...	...	...	18·29	...
„ „ „ .....	The Meteor. Council ...	...	...	...	18·69	180
d „ (Cherry Hill) .....	Mrs. H. Richardson ...	5	1 6	50	18·86	155
d Wetherby (Ribston Hall) .....	Mr. J. McClelland .....	5	1 2	130 $\nabla$	22·21	162
Bolton Abbey Estate Office .....	A. Downs, Esq.....	5	1 2	350	26·46	177
d Goldsborough Hall .....	Mr. R. Goodall .....	5	1 0	...	23 00	181
d Nun Monkton .....	H. Horsfield, Esq.....	5	0 6	45	18·81	167
Fewston (Swinsty E).....	T. Hewson, Esq., C.E.	8	0 9	460 $\nabla$	30·56	206
„ ( „ W) .....	„ „ „ .....	8	0 9	425 $\nabla$	30·00	206
„ (Timble Ings) .....	„ „ „ .....	8	0 9	912 $\nabla$	31·26	207
„ (Timble) .....	„ „ „ .....	8	0 9	720 $\nabla$	28·69	187
„ South .....	„ „ „ .....	8	0 9	525 $\nabla$	24·48	211
„ North .....	„ „ „ .....	8	0 9	525 $\nabla$	23·48	211
„ (Spinksburn) .....	„ „ „ .....	8	0 9	636 $\nabla$	27·99	212
Blubberhouses .....	„ „ „ .....	8	0 9	575 $\nabla$	25·51	215
† Harrogate (Ten Acre Reservoir)...	E. W. Dixon, Esq., C.E.	8	1 6	620 $\nabla$	24·87	175
„ (Bonny Cap).....	„ „ „ .....	8	1 6	710 $\nabla$	24·63	183
„ (Wonderful House)...	„ „ „ .....	8	1 6	725 $\nabla$	25·47	154
„ (Wilson's Farm) .....	„ „ „ .....	8	1 6	630 $\nabla$	24·26	185
† „ (Beaver Dyke Res.)...	„ „ „ .....	8	0 11	575 $\nabla$	24·86	187
d† „ (Harlow Hill) .....	G. Paul, Esq.....	5	1 0	480	25·13	178

## DIVISION IX.—YORKSHIRE—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
WEST RIDING—(con.)						
† Harrogate (Irongate) .....	E.W. Dixon, Esq., C.E.	8	1 6	455 T	23·27	160
† „ (The Stray) .....	Mr. Gledhill .....	5	1 0	380	22·86	172
† „ (Park Parade) .....	„ „ .....	5	1 0	400	23·80	172
„ (Scargill) .....	E. W. Dixon, Esq., C.E.	8	1 0	646	26·22	181
Barden Reservoir .....	J. Watson, Esq., C.E..	8	1 2	746 A	33·26	244
„ „ .....	„ „ „ .....	5	1 0	746 A	33·45	244
West End (Hard Ing) .....	T. Hewson, Esq., C.E.	8	0 9	1030 T	34·55	226
„ „ (Meagill Lane) .....	„ „ „ .....	8	0 9	762	27·84	221
„ „ (Garden) .....	„ „ „ .....	8	0 9	787 T	36·54	175
„ „ (Rocking Hall) .....	„ „ „ .....	8	0 9	1225 T	36·83	211
„ „ (Thruscross) .....	„ „ „ .....	8	0 9	900 T	27·64	204
„ „ ( „ No. 2) .....	„ „ „ .....	8	0 9	910 T	25·11	201
„ „ (Lane Head) .....	„ „ „ .....	8	0 9	938 T	29·64	218
Upper Barden Reservoir .....	J. Watson, Esq., C.E..	5	1 0	1250 A	32·47	238
Burnsall (Thorpe Fell) .....	„ „ „ .....	5	1 0	1661 A	30·63	...
„ (Sandbed Beck) .....	„ „ „ .....	5	1 0	696 A	32·22	...
D „ Rectory .....	Rev. W. J. Stavert ..	8	4 7	503 A	30·79	213
Washburn Dale (Ray Bank) ...	T. Hewson, Esq., C.E..	8	0 9	1137 T	26·58	214
„ „ (High House) ..	„ „ „ .....	8	0 9	1112 T	28·32	178
„ Head .....	„ „ „ .....	8	0 9	1275 T	26·06	175
D Knaresborough (Farnham) .....	R. Elmhirst, Esq. ....	5	1 0	170 A	20·26	194
D Settle (The Terrace) .....	J. W. Shepherd, Esq..	8	1 2	525 A	32·41	204
D† Pateley Bridge (Castle Stead) ...	Mr. C. May .....	5	1 0	410	27·48	179
Grimwith Reservoir .....	J. Watson, Esq., C.E..	8	1 0	890 A	31·27	209
„ „ .....	„ „ „ .....	5	1 0	893 A	30·56	211
Pateley Moor (Smaden Head) ..	T. Hewson, Esq., C.E..	8	0 9	784 A	24·52	200
D† Malham Tarn .....	Mr. Coulthard .....	5	1 0	1296 A	44·41	236
D „ „ .....	„ „ „ .....	8	1 0	1296 A	44·09	236
Low Bentham .....	Messrs. R. C. & G. L. Ford	5	1 6	223 T	33·05	..
Dallow Moor (High Skeldon) ...	T. Hewson, Esq., C.E..	8	0 9	674 A	27·82	191
„ „ ( „ „ ) .....	„ „ „ .....	5	0 9	674 A	27·12	193
„ „ (Harper Hill) .....	„ „ „ .....	8	0 9	859 A	24·50	188
„ „ ( „ „ ) .....	„ „ „ .....	5	0 9	858 A	25·41	185
Ripon (South Lodge) .....	Mrs. G. Simpson .....	...	...	...	22·38	164
D† „ (The Red House) .....	F. D. Wise, Esq. ....	5	1 0	120	21·14	140
D „ (W.W. Lumley Moor) ...	Mr. G. Craggs .....	8	0 6	572 T	28·92	160
„ „ ( „ „ „ ) .....	„ „ „ .....	6	0 6	600	28·91	...
Ramskill (Raygill House) .....	J. Watson, Esq., C.E..	5	1 0	925 T	34·98	178
„ „ .....	„ „ „ .....	5	1 0	450 T	31·31	178
D† Arncliffe Vicarage .....	Rev. W. A. Shuffrey...	8	2 6	734 T	42·68	217
D „ (Amerdale) .....	J. Hammond, Esq. ...	8	1 6	742	41·96	227
D Ingleton Vicarage .....	Rev. J. Turner .....	5	0 6	500	34·13	216
„ (Kingsdale Head) .....	T. Middleton, Esq.. ...	5	0 10	994 A	46·48	136
† Nidderdale (High Riggs) .....	J. Watson, Esq., C.E..	5	1 0	1010 T	30·79	188
„ (East Gill Head) ... M	„ „ „ .....	5	1 0	1710 A	42·86	...
† „ (Rain Stang) .....	„ „ „ .....	5	1 0	1470 T	32·93	...
† „ (Angram) .....	„ „ „ .....	5	1 0	1150 T	34·40	172

## DIVISION IX.—YORKSHIRE—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height above Ground.	Height above Sea Level		
			ft. in.	feet.	inches.	
WEST RIDING—(con.)						
†Nidderdale (New Houses) .....	J. Watson, Esq., C.E.	5	1 0	755 T	30·84	187
KirkbyMalzeard (Drovers' Inn) ..	T. Hewson, Esq., C.E.	8	0 9	576 A	26·07	201
" " ( " " ) ..	" " " "	5	0 9	576 A	28·03	202
" " (Hawset) .....	" " " "	8	0 9	820 A	27·02	205
" " (Hambleton Hill) ..	" " " "	8	0 9	1106 A	31·17	...
" " (Bagwith Brae) ..	" " " "	8	0 9	703 A	25·42	186
" " ( " " ) ..	" " " "	5	0 9	703 A	25·40	186
" " (Stone & Ears Wham) ..	" " " "	8	0 9	1118 A	31·58	...
D Ripon (High Bank, Mickley) ..	Miss Harrison .....	5	1 6	225 T	22·20	168
Masham Moor (Benjy Guide) ..	T. Hewson, Esq., C.E.	8	0 9	1412 T	36·58	...
" " (W. Somerside) ..	" " " "	8	0 9	928 A	32·55	160
" " ( " " ) ..	" " " "	5	0 9	928 A	30·01	160
" " (High Sour Mire) ..	" " " "	8	0 9	884 A	29·20	125
" " ( " " ) ..	" " " "	5	0 9	884 A	25·71	125
" " (Leighton) .....	" " " "	8	0 9	542	29·70	166
" " ( " ) .....	" " " "	5	0 9	542 A	25·08	166
" " (Low Houses) .....	" " " "	8	0 9	693 A	28·29	164
" " ( " ) .....	" " " "	5	0 9	693 A	27·55	164
" " (Roundhills Res.) ..	E. W. Dixon, Esq., C.E.	8	...	743 A	27·65	148
D Oughtershaw Hall .....	Miss Woodd .....	8	1 6	1175 T	52·18	210
D†Sedbergh (Brig Flatts) .....	J. Handley, Esq. ....	5	1 2	300 T	36·84	212
D " (Akay) .....	C. E. Taylor, Esq. ....	5	1 0	400 T	38·99	203
D " (Cemetery) .....	Mr. J. Anderson .....	5	1 0	374 A	36·72	213
† " (Thorns Hall) .....	Miss Sedgwick .....	5	1 0	400 T	37·44	205
EAST RIDING.						
Patrington (Spurn Head) .....	The Meteor. Council ...	8	1 0	27	17·88	144
D " .....	W. B. Pugh, Esq. ....	5	2 6	46 A	20·77	132
D Hedon (The Vicarage) .....	Rev. J. H. Richardson	5	1 0	...	21·09	206
D†Hull (Pearson Park) .....	H. B. Witty, Esq. ....	5	0 6	6	22·32	195
D " (Springhead) .....	F. J. Bancroft, Esq., C.E.	5	1 7	15 T	21·89	192
D Cottingham (Water Works) .....	" " " "	5	1 1	25 T	20·46	168
D Skipwith .....	Rev. C. D. Ash .....	5	2 6	25	19·15	175
D Beverley (East Riding Asylum) ..	Dr. Macleod .....	5	1 0	175 T	22·45	188
" (New Walk) .....	W. Evans, Esq., C.E. ...	5	3 0	40	22·10	195
" (Hull Bridge) .....	" " " "	5	2 6	11 A	20·28	150
Market Weighton (Dalton Hall) ..	Mr. J. Allsop .....	8	1 4	150 T	21·81	164
D Hornsea (Elim Lodge) .....	T. B. Holmes, Esq. ...	8	1 3	30 B	19·15	163
Brandesburton (Hempholm) .....	W. Evans, Esq., C.E. ...	5	2 6	11 A	18·83	189
Middleton-on-the-Wolds .....	Rev. H. D. Blanchard.	5	1 0	156	20·32	135
D Pocklington (Warter) .....	J. Coxon, Esq. ....	5	1 10	230 T	21·37	153
Catton Rectory [York] .....	Rev. H. L. Puxley .....	5	0 4	50 T	20·04	...
Driffeld (York Road) <i>Snowdon</i> ..	W. E. Lovel, Esq. ...	5	1 0	76 T	19·84	185
" (Highfield) .....	Mr. G. R. Merryweather	5	1 0	80	19·98	170
Wetwang .....	Rev. E. M. Cole .....	5	1 0	235 T	20·05	154
D Thixendale .....	Rev. W. H. Fox .....	10	0 10	425 T	23·04	193

## DIVISION IX.—YORKSHIRE—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which .01 or more fell.
		Diameter	Height Above Ground.	Height Above SeaLevel	1902	
EAST RIDING—(con.)						
D Lowthorpe (The Elms) .....	H. Onslow Piercy, Esq.	5	1 0	63 A	19.44	158
Hunmanby (Holly Bank) .....	Miss Suter .....	5	1 2	...	21.92	...
NORTH RIDING.						
D Easingwold (Marton Vicarage) ..	Rev. F. S. Newman ...	5	3 3	200	21.14	146
Terrington Hall.....	Mr. T. Suffield .....	5	1 5	300 T	20.23	213
D Malton.....	E. K. Spiegelhalter, Esq.	5	1 0	50	21.19	140
D Hovingham (Wigganthurpe) ...	Mr. J. S. Upex .....	5	1 0	350 T	20.68	195
D Gilling (Grimstone Manor) .....	W. R. I. Hopkins, Esq.	5	0 8	400 T	21.64	173
D Baldersby .....	W. Gregson, Esq. ....	5	1 0	101 T	20.30	165
D Thirsk (Sowerby) .....	C. M. Swarbreck, Esq..	5	1 0	105 T	19.40	176
„ ( „ ) .....	A. C. Bamlett, Esq. ...	5	...	...	18.78	...
D „ (Mount St. John) .....	A. J. Walker, Esq. ...	5	1 0	523 A	20.67	158
Pickering .....	Dr. J. L. Kirk .....	5	0 8	150	19.58	...
D Bedale (Burneston) .....	Rev. J. T. Hartley ...	5	3 9	110 T	19.22	168
„ (Park House).....	Miss M. Greenwood ...	5	1 1	180	19.30	193
„ (Newton House) ..	Mr. W. Paylor .....	5	2 6	125	19.61	...
†Aysgarth Vicarage.....	Rev. F. W. Stow .....	3	1 0	643 A	27.27	...
„ „ .....	„ „ „ .....	12	1 0	648 A	27.08	...
D „ „ .....	„ „ „ .....	8	1 0	648 A	27.18	188
D†Leyburn (Bolton Hall) .....	Mr. F. Scrivener .....	8	1 0	420	24.35	176
D Seamer (Irton) .....	W. Millhouse, Esq. C.E.	8	1 0	94	24.07	178
D Scarborough (Osgodby).....	„ „ .....	8	1 0	166 A	20.61	122
„ „ .....	The Royal Meteor. Soc.	8	...	...	22.09	217
D „ (Scalby) .....	J. W. Rowntree, Esq... ..	...	...	...	24.76	171
D Bedale (Ivy Cottage, Fencote)...	Mr. W. Culverwell ...	5	1 6	125	18.35	142
Northallerton (The Lodge) .....	W. Stead, Esq., C.E....	8	1 0	127 T	19.30	161
D „ (Osmotherley).....	T. Yeoman, Esq. ....	8	0 8	650	17.89	120
Richmond (The Grove) .....	G. Roper, Esq. ....	5	1 3	415 T	27.18	136
Northallerton (Rounton Grange).	The Royal Meteor. Soc.	8	1 0	242	18.72	177
Ravenscar .....	Rev. A. L. Becker .....	6	1 0	620 A	22.83	147
D Ingleby Manor .....	Rt. Hon. Lord De Lisle	5	0 11	440 T	27.29	188
D „ Greenhow Vicarage.....	Rev. J. Hawell ..	5	1 0	448 T	24.71	204
East Layton .....	Mrs. Proud .....	11	1 0	575 T	21.77	130
D Stanwick Park [Darlington] .....	Mr. W. Higgle .....	5	1 1	300 T	23.74	199
D Forcett Park [ „ ] .....	J. Shaw, Esq.....	5	1 3	351 T	27.36	227
D Great Ayton (Easby Hall) .....	Mr. J. J. Emerson .....	5	1 0	355	24.23	191
Whitby (Royal Crescent) .....	T. Newbitt, Esq. ....	8	1 6	145 T	20.49	135
D „ (Mulgrave Castle) .....	Mr. J. Corbett .....	5	1 0	410 T	22.28	180
D Guisborough (Hutton Hall) .....	Mr. J. McIndoe .....	5	1 3	400 T	22.35	168
D „ (Lockwood Beck Res) .....	W. P. Anson, Esq., C.E.	8	1 0	632 A	28.04	172
„ „ „ „ M .....	„ „ „ „ .....	8	...	...	27.50	...
D Middlesbrough (Ormesby) .....	Mr. W. Sanderson.....	5	1 0	100 T	19.85	198
D „ (Albert Park) ..	J. M. Parnaby, Esq. ...	8	1 0	30	17.92	174
D Hury Res. [Barnard Castle].....	D. D. Wilson, Esq. ...	8	1 0	866 T	28.61	199
D Grassholme Res. [Middleton] ...	„ „ „ „ .....	8	1 0	936 A	33.03	208
D Mickleton ..	H. S. Wallis & Dr. Mill	8	1 0	...	24.71	179
† „ (Lime Kiln Pasture)M ..	„ „ „ „ .....	8	1 0	1175 T	30.55	...
† „ ( „ „ „ ) M ..	„ „ „ „ .....	8	1 0	1175 T	30.40	...

## DIVISION X.—NORTHERN COUNTIES.

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which "01 or more fell.
		Diameter	Height Above Ground.	Height Above Sea Level		
			ft. in.	feet.	inches.	
DURHAM.						
Darlington (Hurworth Grange)...	Mrs. J. E. Backhouse...	5	1 0	161 $\nabla$	19.86	179
" (Elcott, Hurworth)...	Rev. W. E. Stewart ...	5	1 0	121 $\nabla$	19.47	187
† " (Cleveland Parade)...	W. W. Willmott, Esq.	5	1 3	160 $\nabla$	18.99	172
" (Public Park).....	Mr. J. Morrison .....	5	1 3	...	22.53	166
" (Hummersknott) ...	Mr. J. Short .....	5	1 0	200	19.24	123
Barnard Castle (County School)...	E. Wells, Esq. ....	5	1 6	540 $\nabla$	22.95	187
Heighington (Walworth Castle)...	W R Innes Hopkins, Esq	5	0 8	150	23.65	211
Stockton (Rimswell) .....	W. Anderson, Esq., C.E.	5	1 0	100 $\nabla$	18.11	177
" (Ropner Park) .....	Mr. W. A. Jenkins ...	5	1 7	61 $\nabla$	18.37	157
Barnard Castle (Raby Castle Gdns.)	Rt. Hon. Lord Barnard	5	1 0	460 $\nabla$	24.05	187
West Hartlepool (Lynn Street)...	Mr. H. Lamb.....	5	63 0	84	14.59	155
" " (Bradgate).....	G. H. Baines, Esq.....	5	1 0	100	19.88	199
Hartlepool (Hurworth Burn) ...	T. Fenwick, Esq., C.E.	5	1 2	360	21.61	132
" (Hart Reservoir).....	" " " "	8	1 2	164	17.88	142
† Wolsingham .....	Mr. A. Mitchell .....	5	1 0	464 $\nabla$	26.27	204
Eastgate (All Saints' Vicarage)...	Rev. J. G. B. Knight...	5	0 9	768	30.50	196
Wearhead .....	C. Stamp, Esq. ....	5	0 6	1104	40.50	174
" ..... <i>new g.</i>	" " " "	5	1 0	1100	37.18	172
Durham Observatory.....	The Meteor. Council ...	12	4 0	340	18.53	172
Ushaw (St. Cuthbert's College)...	Monsignor Corbishley..	5	0 9	600 $\nabla$	22.71	170
D Weardale W.W. (Tunstall) ...	R. Askwith, Esq., C.E.	8	1 2	724 $\nabla$	28.01	191
† " " (Waskerley 6)	" " " "	8	4 2	1229 $\nabla$	23.48	...
" " ( " 3)	" " " "	8	4 6	1433 $\nabla$	26.07	...
† " " ( " 4)	" " " "	8	4 7	1321 $\nabla$	24.43	...
† " " ( " 5)	" " " "	8	4 2	1244 $\nabla$	25.07	...
D " " ( " )	" " " "	8	0 11	1179 $\nabla$	26.74	195
† " " ( " 2)	" " " "	8	4 5	1367 $\nabla$	24.02	...
† " " ( " 1)	" " " "	8	4 4	1317 $\nabla$	23.89	...
D " " (Smiddy Shaw)	" " " "	8	1 3	1128 $\nabla$	28.42	195
Seaham (Dalton Pumping Sta.)...	A. B. E. Blackburn, Esq.	8	1 0	345 $\nabla$	20.25	177
Fence Houses (Chilton Moor) ...	V. W. Corbett, Esq. ...	5	1 4	186 $\nabla$	21.11	...
D Seaham Harbour .....	Mr. G. H. Aird .....	8	1 6	141	18.96	169
" Vicarage .....	Rev. A. Bethune .....	5	0 6	80 $\nabla$	18.96	...
" Hall .....	Mr. R. Draper .....	5	1 0	106 $\nabla$	19.47	...
Sunderland (Ryhope Pumping Sta.)	A. B. E. Blackburn, Esq.	8	1 1	228 $\nabla$	19.37	176
D " (W. Hendon Ho.) No. 5	T. W. Backhouse, Esq.	5	1 0	130 $\nabla$	20.65	179
" ( " " " ) No. 6	" " " "	5	1 0	130 $\nabla$	20.88	181
D " (Fever Hospital) .....	H. Scurfield, Esq., M.D.	5	1 0	105	20.79	167
" (Claxheugh Grove) ...	J. P. Cornett, Esq.....	5	2 6	90	22.75	...
D " (The Cedars) .....	W. F. Vint, Esq. ....	5	0 6	115	21.68	164
" (Cleaton Pumping Sta.)	A. B. E. Blackburn, Esq.	8	1 0	216 $\nabla$	19.51	168
D Gateshead (Eighton Cottage) ...	Miss Favell.....	5	3 7	515	21.39	203
D Ryton-on-Tyne .....	J. P. Dalton, Esq.....	5	1 0	258 $\nabla$	21.44	194
" " (Balgownie House)	J. W. Smith, Esq., M.D.	5	1 6	...	20.13	...
NORTHUMBERLAND.						
D Corbridge (Howden Dene) .....	J. H. Straker, Esq. ...	5	0 9	200 $\nabla$	22.54	187
Bardon Mill (Beltingham Vic.)...	Rev. H. C. Newbery ...	5	1 0	320	24.54	179

## DIVISION X.—NORTHERN COUNTIES—(continued.)

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which "01 or more fell.
		Diameter	Height Above Ground.	Height Above Sea Level		
			ft. in.	feet.	inches.	
NORTHUMBERLAND—(con.)						
D Newcastle (Clifton Road) .....	E. L. Merz, Esq. ....	8	1 6	314 $\nabla$	20·05	165
† " ( " " ) .....	" " " " .....	5	1 0	315	20·69	...
† " (Lit. and Phil. Soc.) ..	H. Richardson, Esq. ..	8	55 0	160	27·05	...
† " (Northumberland Rd.) ..	N. H. Martin, Esq. ...	8	45 0	200	20·30	197
D " (Leazes Park) .....	F. J. Edge, Esq., C.E... 5	1 0	255 $\nabla$	21·72	140	
D† " (Town Moor) .....	A. Wright, Esq. ....	5	2 0	201 $\nabla$	21·98	182
† " (Wellburn, Jesmond) ..	W. H. Holmes, Esq.... 5	1 6	161 $\nabla$	21·73	153	
North Shields (Post Office) .....	The Meteor. Council ...	8	1 4	100	19·74	169
D " " (Tynemouth) .....	J. Walker, Esq., C.E... 5	1 8	65 $\nabla$	20·80	191	
Stamfordham Vicarage .....	Rev. G. Evans-Gwynne	5	0 6	450	25·60	...
Newcastle and Gateshead W. W.	Whittle Dean .....	10	...	...	20·34	...
	Swinburn (Woodford) .....	10	0 6	500 $\nabla$	31·80	...
	North Tyne (Green Crag) ...	10	0 6	800 $\nabla$	31·67	...
	" " Valley .....	10	0 6	300 $\nabla$	22·54	...
	Hallington .....	10	0 6	469 $\nabla$	23·88	...
	" (Fawcett) .....	10	0 6	563 $\nabla$	23·14	...
" (Gunnerton Burn (Campbill) ..	" " " " .....	10	0 6	676 $\nabla$	29·80	...
D Scots Gap (Wallington) .....	Rt Hn Sir G Trevelyan Bt	8	2 9	446 $\nabla$	27·44	206
D Angerton Hall .....	Mr. R. Elliott .....	5	1 0	320 $\nabla$	27·02	152
Morpeth .....	T. Matheson, Esq. ....	8	1 6	100	23·97	175
D " (Bothalhaugh Garden) ..	Hon. & Rev. W. C. Ellis	5	0 10	35 ?	22·50	183
" ( " " ) M .....	" " " " .....	5	0 10	35	22·67	...
D " ( " " Lawn) .....	" " " " .....	5	0 10	137	21·61	191
" ( " " ) M .....	" " " " .....	5	0 10	135	21·89	...
D† Scots Gap (Rothley Crag) .....	J. Daglish, Esq. ....	5	0 6	665 $\nabla$	26·49	129
Morpeth (Longhirst) .....	Sir J. Joicey, Bart., M.P.	7	1 0	168	23·06	...
" (Cockle Park) .....	J. H. J. Farquhar, Esq.	8	1 0	325 $\nabla$	24·36	189
† Rededale (Horsley) .....	G. Smith, Esq. ....	8	1 0	600	23·29	...
Rothbury (Brinkburn Priory) ..	Mrs. Hugh Fenwick ...	8	1 2	257 $\nabla$	30·76	...
D† " (Crag-side) .....	W Watson Armstrong Esq	8	1 0	400 $\nabla$	28·05	184
† Redewater (Blakehope) .....	G. Smith, Esq. ....	8	1 1	830	23·94	...
† " (Chattlehope) .....	" " .....	8	1 0	830	34·31	...
† " (Catcleugh) .....	" " .....	8	1 0	794	31·19	...
† Alwinton (Biddleston Hall) .....	P. Dodds, Esq. ....	5	1 0	820 $\nabla$	26·83	145
Alnwick Castle .....	The Meteor. Council ...	5	0 4	178	25·31	193
D Howick Hall .....	Rt. Hon. Earl Grey ...	8	0 10	121 $\nabla$	25·77	167
Ilderton (Lilburn Tower) .....	late E J Collingwood, Esq	10	6 0	300 $\nabla$	23·05	...
D " ( " Cottage) .....	Mr. N. D. Cowans .....	8	1 0	340 $\nabla$	24·15	193
Wooler .....	Dr. R. Walker .....	8	0 10	176 $\nabla$	25·72	...
Kirknewton (Hethpool) .....	V. W. Corbett, Esq. ...	5	1 4	420 $\nabla$	27·39	246
D Pawston [Coldstream] .....	B. P. Selby, Esq. ....	8	1 0	328 $\nabla$	22·45	204
Beal (Barmoor Castle) .....	T. Hodgkin, Esq. ....	8	3 6	400	23·61	144
CUMBERLAND.						
D Millom (Leyfield) .....	Cedric Vaughan, Esq. CE	5	1 2	81 $\nabla$	38·81	232
D Ravenglass (The Grove) .....	A. Watt, Esq. ....	5	1 2	84 $\nabla$	34·80	157
D Eskdale .....	Rev. W. Slater Sykes..	5	0 9	180 $\nabla$	56·21	157
D Seascale (Whinthwaite) .....	Dr. R. Hellon .....	5	1 0	52 $\nabla$	29·65	148

## DIVISION X.—NORTHERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height Above Ground.		Height Above Sea Level	
			ft.	in.	feet.	inches.
CUMBERLAND—(con.)						
Gosforth (Steelfield Hall) .....	W. H. Watson, Esq. . . . .	10	3	6	200	32·17
Sprinkling Tarn .....	M H. S. Wallis & Dr. Mill	4	0	6	1985	98·80
Styehead Tarn .....	M " " "	4	0	6	1472 T	105·48
†The Stye A .....	M " " "	4	0	6	1077 T	124·78
" " D .....	M " " "	4	1	0	1077 T	107·20
†Borrowdale (Seathwaite) .....	M " " "	4	0	6	422 T	96·97
" " ( " ) .....	" " " "	5	1	0	422 T	95·08
d*† " ( " ) .....	The Royal Meteor. Soc.	5	1	0	421 T	94·11
" ( " ) .....	S. A. Marshall, Esq. . . . .	5	1	0	...	97·16
Ullscarf .....	M G. H. Hill, Esq., C.E..	7	1	8	2100 T	92·20
d Cleator (The Floss) .....	D. Ainsworth, Esq. . . . .	5	1	11	208 T	39·09
†Helvellyn (Birkside) .....	M G. H. Hill, Esq., C.E..	7	1	3	1900 T	68·00
Wythburn .....	" " " "	7	1	4	580 T	66·40
Borrowdale Vic.=Rosthwaite ..	Rev. E. A. Penson.....	5	1	0	330 T	77·05
d†Buttermere (Hassness) .....	Mr. R. Johnston .....	5	1	0	355	76·66
d†Borrowdale (Grange) .....	Mr. Threlkeld .....	5	0	9	271 T	65·69
Armboth Fells (The Pewitts).....	G. H. Hill, Esq., C.E..	7	1	6	1650 T	71·30
Helvellyn (Whiteside) .....	" " " "	7	1	6	2100 T	59·90
Thirlmere (Dale Head Hall) ..	" " " "	7	1	5	620 T	60·30
Winder .....	Mr. W. M. Thompson..	8	22	0	578 T	38·50
d†Whitehaven (Irish Street) .....	Dr. Welby P'Anson ..	5	1	1	21 T	32·05
d†Keswick (Barrow House) .....	Miss E. G. Langton ..	8	0	6	282 T	56·31
Distington (Gilgarran) .....	Mr. A. Kydd .....	5	4	9	470 T	30·66
Ullswater (Hallsteads) .....	S. A. Marshall, Esq. . . . .	5	2	0	497 T	46·08
Keswick (Deer Close) .....	John Marshall, Esq. . . . .	7	1	9	300 T	46·65
" (Derwent Island) <i>old g.</i>	" " " "	5	0	7	280	44·97
" ( " " ) <i>new g.</i>	" " " "	5	0	6	290	41·82
d " (Eskin Place) .....	J. Postlethwaite, Esq. . . . .	8	6	4	298 T	44·67
d† " (Bank) .....	Mr. R. W. Mayson ..	5	1	0	265 T	42·94
d† " (Shu-le-crow) .....	A. Mitchell Dawson, Esq. . . . .	5	0	7	296 T	45·15
" (Portinscale) .....	A. C. Allen, Esq. . . . .	8	1	0	286 T	44·65
d Cockermouth (Ullock) .....	J. H. Walker, Esq. . . . .	5	1	0	313 T	38·74
d Matterdale .....	Mr. J. Sagar .....	5	1	5	1020 T	49·37
d Workington (Winscales) .....	Mrs. J. A. Trench .....	5	1	0	440 T	30·42
Cockermouth (Whinfell Hall)...	Mrs. F. M. Peile .....	5	2	0	255 T	40·66
d " (Brandlingill).....	Col. F. R. Sewell .....	5	1	0	320 T	45·17
d Bassenthwaite (Bassenfell) .....	late S. G. Rathbone, Esq. . . . .	8	1	0	384	29·85
d†Cockermouth (Higham) .....	Miss Hoskins .....	5	1	0	478 T	32·83
d " (Broughton Grange) .....	G. S. Wilson, Esq. . . . .	5	1	3	209 T	29·20
Penrith (Nandana) .....	G. Varty-Smith, Esq. . . . .	5	3	0	350 T	26·35
† " (Fell Lane, Fir Bank) ..	T. Lester, Esq. .....	5	1	0	575 T	27·59
" (Greystoke) .....	H. Walker, Esq. .....	5	1	3	650	34·15
" (Newton Reigny).....	The Meteor. Council .....	...	...	...	...	30·56
d " (Greystoke, Belle Vue)...	Mr. M. Rowe .....	5	4	0	680 T	29·80
" (Inglewood) .....	H. F. Thompson, Esq. . . . .	5	1	0	550 T	27·93
d Bassenthwaite (Armathwaite Hall)	T. M. Hartley, Esq. . . . .	8	1	0	305	30·58
Maryport (Netherhall) .....	H. P. Senhouse, Esq. . . . .	8	0	6	27 T	25·96
d Penrith (Nunwick Hall) .....	Mrs. Heywood Thompson	5	1	0	298 T	27·94

## DIVISION X.—NORTHERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which -01 or more fell.
		Diameter	Height Above Ground.	Height Above Sea Level		
			ft. in.	feet.	inches.	
CUMBERLAND—(con.)						
Melmerby .....	Rev. W. Y. Craig .....	5	0 6	583 T	28·84	...
Aspatia .....	The Meteor. Council ...	...	...	...	27·26	176
D „ (Brayton Hall).....	Mr. W. Stewart .....	8	2 0	200	22·30	182
D Wigton (Brookfield) .....	J. J. Jopling, Esq.....	5	0 9	124 T	30·68	186
Wreay Vicarage.....	Rev. A. R. Hall .....	5	2 0	310 T	23·93	182
D Geltsdale.....	J Campbell Boyd, Esq CE	5	1 2	924 T	31·57	216
† Carlisle (Cemetery) .....	S. Cartmell, Esq. ....	8	3 0	114 T	25·52	216
„ (Rickerby) .....	Miles MacInnes, Esq...	8	1 2	52 T	23·46	...
„ (Stanwix).....	B. Scott. Esq.....	8	1 6	100 T	23·95	152
D „ (Newby Grange) .....	T. H. Hodgson, Esq....	5	0 8	64 T	21·17	195
„ (Scaleby) .....	The Royal Meteor. Soc.	5	1 0	112	27·85	229
D Brampton (Denton House) .....	Mr. J. Charlton .....	5	1 5	541 T	25·39	207
„ ( „ „ ) ... M	„ „ .....	5	1 4	541 T	25·31	...
WESTMORELAND.						
Kirkby Lonsdale .....	J. R. Picard, Esq. ....	7	0 8	215 T	33·48	...
D „ „ (Casterton).....	R. A. Clarke, Esq.....	8	1 0	305	35·15	215
D „ „ (Barbon Manor) .....	A. Ford, Esq.....	5	1 3	650 T	33·51	220
D „ „ ( „ ) .....	Miss Wilkinson .....	5	1 0	310 T	33·39	168
D Milnthorpe (Beathwaite, Levens) .....	W. H. Crewdson, Esq..	5	1 3	120 T	36·45	184
„ (Eversley) .....	T. A. Argles, Esq.....	...	0 3	170	33·35	192
Kendal (Natland Vicarage) ..	Rev. W. Kewley .....	5	1 6	160	29·96	198
„ (Helme View) .....	W. Thomson, Esq., C.E.	5	1 0	140 T	37·66	180
D „ (Holmcroft) .....	R. Rhodes, Esq.....	5	1 3	176 T	38·24	209
D „ (Ivy Garth) .....	R. J. Nelson, Esq.....	5	1 6	146 T	36·22	191
„ (Ellergreen) .....	Mr. J. Wray .....	5	1 6	270 T	45·36	206
Bowness (Lindeth Howe) .....	R. H. J. Hill, Esq. ....	...	..	...	49·08	219
„ (Fallbarrow) .....	H. E. Rawson, Esq....	8	1 0	135 T	49·33	205
Windermere .....	H. Coutts, Esq. ....	5	1 0	290 T	46·40	229
D Ambleside (Skelwith Bridge) ..	A. J. Adams, Esq.....	5	1 8	190 T	70·90	213
Little Langdale (Fell Foot) ... M	S. A. Marshall, Esq....	5	2 2	380	91·05	...
D Ambleside (Gale House) .....	G. A. Johnston, Esq. M.D.	5	1 0	250 T	55·45	218
† „ (Lesketh Howe) .....	Mrs. Benson .....	5	2 6	175 T	58·35	238
D Elterwater Hall .....	J. Robinson, Esq. ....	5	1 1	243	70·41	221
Rydal (The Stepping Stones) ..	Gordon Wordsworth Esq	5	1 3	190	62·82	235
D Loughrigg (Silverthwaite) .....	Miss A. Sharp .....	5	1 0	292	63·90	228
D Dungeon Ghyll .....	S. A. Marshall, Esq. ...	5	0 9	310	86·51	242
„ „ „ .....	„ „ „ .....	5	1 6	311	84·66	...
Mickleden .....	„ „ „ .....	5	1 6	490	100·08	...
D† Grasmere (High Close) .....	F. M. T. Jones Balme, Esq	8	0 9	553 T	67·59	220
„ „ (Pavement End) .....	the late T. A. Green, Esq.	5	1 0	214 T	70·76	231
D Ravenstonedale .....	Rev. R. W. Metcalfe...	5	1 2	800 T	36·31	163
D† Kirkby Stephen (Redmaine Ho.) ..	Mrs. T. Mason .....	5	1 0	574 T	32·44	173
D Shap Vicarage .....	Mrs. Collinson .....	5	1 0	854 T	35·99	182
Grisedale (Ruthwaite Lodge) M	Mr. J. Munro .....	8	1 6	1750	70·44	...
D† Patterdale Hall .....	„ „ .....	5	1 3	490 T	67·73	221
D „ (Greenside Mine).....	W. H. Borlase, Esq. ...	7	1 6	1000 T	74·38	143



## DIVISION X.—NORTHERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height Above Ground.		Height Above Sea Level	
			ft.	in.	feet.	inches.
WESTMORELAND—(con.)						
Appleby (Ormshed) .....	the late Rev. J. Brunskill	5	4	0	480	28·88
<sup>D</sup> „ (Castle Bank) .....	C. R. Rivington, Esq...	5	1	2	440 †	29·42
Ullswater (Swarth Fell) .....	H. S. Wallis & Dr. Mill	5	1	3	1000 †	38·80
„ (Sharrow Bay) .....	Mr. G. Robinson	5	0	7	600	35·75
<sup>D</sup> Great Strickland (Greencroft) ..	Mrs. Whiteside .....	5	2	0	648	34·06
<sup>D</sup> Morland [Penrith] .....	Col. F. Markham .....	5	1	0	456 †	29·51
Lowther Castle [Penrith] .....	Mr. F. Clarke .....	8	5	0	760 †	28·41
Cliburn Rectory [Penrith] .....	Mrs. Burton .....	5	1	10	459 †	24·96

## DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS.

## MONMOUTH.

<sup>D</sup> Rumney (Witla Court) .....	H. Heywood, Esq.....	5	1	0	176	33·91	206
<sup>D</sup> † Marshfield (Llwynarth) .....	F. G. Evans, Esq.....	5	1	1	72 B	32·52	183
Caldicot Level (Porton) .....	Togarmah Rees, Esq. CE	5	1	3	27 †	25·25	154
<sup>D</sup> Portskewett (Sudbrook) .....	W. K. Laurence, Esq. CE	8	0	10	22 †	26·93	151
„ (Caldicot Hall) .....	late Rev. E. T. Williams	9	1	3	40	25·02	126
Newport (Friar Street Yard) ..	The Meteor. Council ...	...	...	...	...	33·42	185
„ (Ynis-y-bro) .....	„ „ „	5	1	0	115	33·11	178
„ (Pantyreos Res.) .....	„ „ „	...	...	...	...	46·13	173
<sup>D</sup> „ (W. W., New Mills) ..	Baldwin Latham Esq CE	5	1	0	371 †	36·30	227
<sup>D</sup> „ ( „ Llanvaches) ..	„ „ „	5	0	10	514 †	35·32	225
<sup>D</sup> „ (Wentwood) .....	„ „ „	5	1	0	481	37·85	228
<sup>D</sup> Chepstow (Piercefield Park) ..	H. Clay, Esq.....	5	1	6	310	28·60	160
<sup>D</sup> „ (Itton Court) .....	E. Curre, Esq. ....	8	4	6	390	31·77	149
<sup>D</sup> Llanfrechfa Grange .....	F. J. Mitchell, Esq. ...	5	4	0	326 †	36·22	175
<sup>D</sup> Tredunnoch .....	Rev. C. T. Salusbury...	5	2	3	170 †	31·84	165
<sup>D</sup> Newport (W. W., Newchurch) ..	Baldwin Latham Esq CE	5	0	10	496 †	37·09	227
Abersychan (The Hawthorns) ..	J. W. Mulligan, Esq, MD	5	1	0	755 †	43·23	218
<sup>D</sup> Tredegar (The Willows) .....	G. A. Brown, Esq. ...	8	1	0	1024 †	50·58	183
<sup>D</sup> Monmouth (School House) .....	E. H. Culley, Esq. ...	5	1	4	76 †	27·53	190
<sup>D</sup> „ (The Hendre) .....	Mr. T. Coomber .....	8	1	0	176 †	23·63	180
Abergavenny (Larchfield) .....	Dr. Glendinning .....	5	1	0	240 †	34·23	175
„ (Dyne House) .....	Dr. Steel .....	5	1	5	220 †	34·00	194
„ ( „ „ ) .....	„ „ „	5	1	5	220 †	32·83	...
<sup>D</sup> „ (The Chain) .....	W. Baker Gabb, Esq...	5	1	3	300	35·23	181
<sup>D</sup> Llantilio Court .....	Sir H Mather-Jackson Bt	6	0	11	207	29·75	144
Llantilio Pertholey .....	Mr. J. Winfield .....	5	1	0	...	30·84	...
<sup>D</sup> Llanvihangel Court .....	G. C. N. Sturt, Esq. ..	5	2	4	508 †	34·15	168
<sup>D</sup> Monmouth (Pentwyn) .....	Rev. Canon Harding...	5	1	0	191 B	25·01	152

## GLAMORGAN.

<sup>D</sup> Barry (Park Road) .....	J. Bell, Esq. ....	5	4	0	191 †	30·86	182
* Cowbridge (Fonmon Castle) ..	O. H. Jones, Esq. ....	8	1	2	130	32·72	163

## DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground.	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
GLAMORGAN—(con.)						
D Barry W. W. (Biglis) .....	E. W. Waite, Esq., C.E.	5	1 0	20 T	30·83	173
„ „ (Merthyr Doran) ..	„ „ „	5	1 0	300 T	33·59	...
„ „ (Pencoedtre) .....	„ „ „	5	1 0	200 T	31·14	...
D „ „ (Dinas Powis Res.)	„ „ „	5	1 0	165 T	30·01	178
D Lower Penarth .....	E. I. Evans, Esq., C.E.	5	1 0	67 T	31·18	215
D Penarth .....	„ „ „	5	1 1	128 T	29·79	179
Cardiff (Cogan Pill, Llandough).	C.H. Priestley, Esq. C.E.	5	1 0	122 T	31·21	203
D „ „ Castle .....	late Mr. A. Pettigrew..	5	1 0	38 T	35·23	179
„ „ (Trade Street) .....	C.H. Priestley, Esq. C.E.	5	1 0	45	31·21	171
D „ „ (Roath Park) .....	E. Walford, Esq., M.D.	5	0 4	50	36·42	198
D „ „ (Ely) .....	C.H. Priestley, Esq. C.E.	8	1 0	53 T	35·15	203
D „ „ (Lisvane) .....	„ „ „	5	1 0	150	33·85	192
„ „ (New Filters, Heath) ..	„ „ „	5	1 0	132	35·13	188
„ „ (Llanishen Res.) .....	„ „ „	5	1 0	155	35·33	192
Cowbridge (Ash Hall) .....	E. Tudor Owen, Esq...	8	1 2	315 T	36·70	192
D Llantrisant (Talygarn) .....	G. L. Clark, Esq. ....	5	4 3	250	48·24	190
D Oystermouth (Newton) .....	Rev. Secretan Jones ...	5	0 9	279 T	39·32	180
D Port Talbot (Margam, Twyn-yr-hydd)	G. Lipscomb, Esq.....	5	1 0	180 T	34·49	187
Gilfach Goch (Gilfach House) ..	W. W. Hood, Esq. ....	8	9 0	700 T	48·26	155
Pontypridd (Maesderwen, Graig)	T. Bowen, Esq. ....	5	10 0	425 T	45·29	186
D Caerphilly (Ystrad Mynach) ...	Col. Morgan Lindsay...	8	0 5	315 T	44·35	159
D Swansea (Le Mayals) .....	J. E. Stevens, Esq. ...	8	1 6	230 T	43·48	121
D „ „ Harbour .....	A. O. Shenck, Esq. ...	12	14 9	46	40·14	189
„ „ (Killay House) .....	M. B. Williams, Esq...	5	0 6	265	40·31	166
D „ „ (The Knoll) .....	E. H. Perkins, Esq. ...	8	1 0	150 T	41·19	193
D „ „ (Glanmor Crescent) ..	T. Travers Wood, Esq.	5	1 0	235 T	40·53	194
Llwynypia (Glyncornel) .....	W. W. Hood, Esq. ...	10	4 0	495 T	63·58	198
„ „ „ .....	„ „ „	8	3 3	494 T	57·81	198
Briton Ferry .....	H. A. Clarke, Esq. ...	5	1 0	33 T	38·82	162
Morrison (Glanravan) .....	J. Naysmith, Esq.....	5	1 0	53 T	40·95	188
D Ystradyfodwg (Fever Hospital)..	J. D. Jenkins, Esq., M.D.	5	1 0	590 T	53·86	166
D Neath .....	E. C. Pole, Esq. ....	5	1 0	204 T	40·54	203
D „ „ (Fairy Land) .....	Major E. Ll. Green ...	5	1 9	175 T	34·47	193
D† Glyncorrwg .....	T. F. Brown, Esq., C.E.	5	4 6	717 T	66·05	195
D Cwmaman .....	W. J. Heppell, Esq. ...	5	2 3	740 T	42·04	199
D Rhondda (Pont Lluest Wen Res.)	W. Jones, Esq. ....	5	1 0	1255	49·49	166
Blaenrhondda (Craig Carn Mosyn)	O. Thomas, Esq. ....	5	1 0	1501	47·60	...
D Mountain Ash (Maesydderwen)..	M. Morgan, Esq. ....	5	1 0	483 T	43·12	212
D „ „ „ (Darranlas Res.)..	J. Williams, Esq. ....	5	1 0	540	45·85	195
„ „ „ (Clydach Res.) ...	„ „ „	5	1 0	937	57·36	170
D Treherbert (Bute Colliery) .....	Sir W. T. Lewis, Bt. ...	5	1 0	670	62·58	199
D† „ „ (Tyn-y-waun) .....	O. Thomas, Esq.....	5	1 0	801	63·81	215
† „ „ „ .....	„ „ „	5	1 0	801	64·70	...
D Gorseinon (Penllergaer) .....	Sir J. T. D. Llewelyn, Bt	5	3 0	240 T	39·27	180
D Aberdare (The Mardy) .....	Sir W. T. Lewis, Bt. ..	5	2 0	431 T	44·40	189
D† „ „ (Abernant) .....	Evan Jones, Esq. ....	5	5 3	430	40·97	138
D Felindre (Lliw Reservoir) .....	R. H. Wyrill, Esq., C.E.	8	1 3	426 T	44·72	203

# DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground.	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
<b>GLAMORGAN—(con.)</b>						
Merthyr (Pentrebach) .....	E. N. Lewis, Esq. ....	5	1 0	488 T	44-29	158
D Dowlais (Gwernllwyn) .....	R. C. Harrison, Esq....	5	1 6	1084 A	42-84	196
D Ystalyfera (Wern School) .....	Mr. J. Williams.....	5	1 3	240 T	50-06	187
<b>CARMARTHEN.</b>						
D Llanelly (Old Market Place) ...	G. Watkeys, Esq., C.E.	5	10 0	35 T	36-89	180
D „ (New Road) .....	J. F. Young, Esq. ....	5	0 8	53 T	35-83	180
D „ (Cwmlliedi W.W.).....	G. Watkeys, Esq., C.E.	5	3 0	240 A	43-32	200
D Carmarthen (The Friary).....	L.M.Bowen-Jones, Esq.	5	1 5	62 T	42-57	179
Llandilo (Golden Grove Gardens)	Mr. F. Surman .....	6	1 6	...	38-07	158
„ (Dynevov Castle) .....	Rt. Hon. Lord Dynevov	8	1 0	202 T	44-81	209
D Llandovery .....	the late J. Watkins, Esq.	5	1 0	217 T	34-42	225
D „ (Tonn) .....	F. H. Perkins, Esq. ...	5	1 2	230 T	33-98	222
D Llanwrda (Dolaucothy).....	Gen.Sir JH Johnes, GCB	5	2 6	496 T	45-76	215
<b>PEMBROKE.</b>						
Pembroke (Stackpole Court).....	Rt.Hon. Earl of Cawdor	6	1 6	60 A	34-75	187
St. Ann's Head .....	The Meteor. Council ...	8	0 8	150	29-67	175
Pembroke Dock (County School)	G. H. West, Esq. ....	5	...	85	40-00	186
D Haverfordwest (Picton Castle)...	Sir C. E. G. Philipps, Bt.	6	1 0	138	38-53	186
D „ (High Street) ...	E. P. Phillips, Esq. ...	5	1 0	95 T	40-72	178
D „ (Portfield) .....	„ „ „ „ „ „	...	...	...	41-95	180
D St. David's .....	Dr. W. P. Probert.....	5	1 0	216	28-80	187
D Castle Malgwyn [Llechryd] ...	Mr. Baldwin .....	5	1 0	...	38-40	196
<b>CARDIGAN.</b>						
D Strata Florida (Hafod).....	T.J. Waddingham, Esq	5	1 0	580 T	46-38	223
Aberystwith (Castle Grounds) ...	A. Thomas, Esq. ....	8	1 0	59	22-17	196
„ (N. Parade) .....	„ „ „ „ „ „	8	1 0	18	26-88	196
D „ (Gogerddan) .....	Sir Pryse Pryse, Bart..	5	1 0	80 B	36-08	169
<b>BRECKNOCK.</b>						
D†Nanthir Reservoir [Aberdare] ..	O. Williams, Esq., C.E.	5	1 0	860 A	44-04	230
„ „ „ „ „ „ M	„ „ „ „ „ „	5	1 0	860 A	44-48	...
D Ebbw Vale Waterworks .....	T. J. Thomas, Esq., C.E.	5	1 0	1413 A	49-00	201
D†Taff Fechan (Pentwyn Res.) ...	T. F. Harvey, Esq., C.E.	5	1 0	1120	49-55	222
+ „ „ „ „ „ „ M	„ „ „ „ „ „	5	1 0	1120	49-79	...
+Cardiff WW(Cwm Taff Fawr No5)	C.H.Priestley, Esq.C.E.	5	1 0	1143 A	47-34	...
„ „ „ (Storey Arms, No. 4).	„ „ „ „ „ „	5	1 0	1430	53-52	...
+ „ „ „ (Cwm Taff Fawr No1)M	„ „ „ „ „ „	5	1 0	2350 T	57-90	...
„ „ „ (Cantref Res , No. 2)	„ „ „ „ „ „	5	1 0	1120	53-92	214
D „ „ „ (Beacons Res., No. 6)	„ „ „ „ „ „	5	1 0	1328 A	59-84	209
„ „ „ „ (Nant Penig, No. 3)..	„ „ „ „ „ „	5	1 0	2000	61-09	...
D†Taff Fechan (Neuadd Res.)No.1	T. F. Harvey, Esq., C.E.	5	1 0	1462	53-19	225
+ „ „ „ „ „ „ No.1M	„ „ „ „ „ „	5	1 0	1462	52-31	...
D „ „ „ „ „ „ No.4	„ „ „ „ „ „	5	1 0	1487	60-84	225
„ „ „ „ „ „ No.2M	„ „ „ „ „ „	5	1 0	1993	62-67	...
„ „ „ „ „ „ No.5M	„ „ „ „ „ „	5	1 0	1515	60-99	...

## DIVISION XI. - MONMOUTH, WALES, AND THE ISLANDS—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which '01 or more fell.
		Diameter	Height Above Ground.		Height Above Sea Level	
			ft.	in.	feet.	inches.
<b>BRECKNOCK—(con.)</b>						
Taff Fechan (Neuadd Res.) No. 7M	T. F. Harvey, Esq., C.E.	5	1	0	2017	55·86
„ „ ( „ „ ) No. 8M	„ „ „	5	1	0	1723	61·69
„ „ ( „ „ ) No. 3M	„ „ „	5	1	0	1843	46·84
„ „ ( „ „ ) No. 9M	„ „ „	5	1	0	1997	43·99
„ „ ( „ „ ) No. 6M	„ „ „	5	1	0	2099	67·25
Crickhowell (Glanusk Park).....	Sir J. R. Bailey, Bt. ...	5	1	0	290	35·22
D „ (Gwernvale) .....	E. Pirie Gordon, Esq. ...	5	1	0	393	33·64
„ (Penmyarth) .....	S. H. Cowper Coles, Esq. ...	5	1	0	330	32·62
Talybont (Cui) .....	H. Jones Williams, Esq. ...	5	1	0	490	35·38
† Cantreff Rectory .....	Rev. J. J. Evans .....	5	1	0	630	34·91
„ „ .....	„ „ „	5	1	0	630	33·17
D Llanfrynach (Tymawr).....	Lt.-Col. R. D. G. Williams	5	1	0	450	33·15
D Brecknock (Pont ar Fran).....	J. Hotchkis, Esq. ....	5	1	0	450	33·15
D† „ (Llandefaelog-fach) No. 2	Rev. D. L. Marsden ...	5	1	0	660	30·68
Hay (Gwernyfed Park).....	Major Wood .....	5	1	6	375	26·02
D Llangammarch Wells .....	Dr. W. Black Jones ...	8	1	0	551	37·98
D Builth (Tyn-y-berllan).....	Dr. Baldock Fry .....	5	1	0	430	29·41
D Brynwrn Hall [Newbridge] ...	Rev. W. Clifton-Mogg. ...	5	1	6	520	28·53
Llysdyham [ „ ] ...	Mrs. Lister Venables... 5	5	1	3	640	30·94
<b>RADNOR.</b>						
D Welfield [Builth] .....	E. A. Thomas, Esq. ...	5	1	10	740	29·51
Disserth Rectory .....	The Meteor. Council ...	5	1	0	712	31·74
Llandrindod Wells .....	Dr. Bowen Davies.....	5	7	0	711	23·40
D New Radnor (Ednol).....	Mr. W. Jones .....	5	1	0	950	37·74
Llandegley (Gwern-i-Arglwydd)	Mr. J. Campbell .....	5	2	0	1000	27·88
† Rhayader (Nant-y-car) .....	G. M. Yourdi, Esq., CE	5	1	0	1545	56·25
D† „ (Tyrmynydd) .....	„ „ „	5	1	0	832	48·71
D† „ (Nantgwillt) .....	„ „ „	5	1	0	768	47·31
D „ ( „ ) .....	„ „ „	5	1	0	764	48·54
† „ (Bwlchyrrhendre) ...M	„ „ „	5	1	0	1585	52·80
D† „ (Claerwen) .....	„ „ „	5	1	0	1250	50·50
„ „ (Vicarage) .....	Rev. L. H. Evans .....	5	1	0	720	37·65
† „ (Pryddellau) .....	G. M. Yourdi, Esq., C.E.	5	1	0	1710	52·20
D „ (Abergwyngy).....	„ „ „	5	1	0	1200	51·25
<b>MONTGOMERY.</b>						
† Llangurig (Esgair Clochfan) M	H. S. Wallis & Dr. Mill	5	1	2	1330	36·60
† „ (Ystrad-olwyn-fawr) ...M	„ „ „	8	1	0	950	39·00
„ „ ( „ „ ) new g.	„ „ „	5	1	0	950	35·50
Llandinam (Plas Dinam) .....	D. Bowen, Esq. ....	5	4	0	504	30·76
D Newtown (Dolfor) ...	W. B. Pugh, Esq. ....	5	2	6	1027	29·79
D† Churchstoke (Mellington Hall) ..	P. Wright, Esq. ....	5	1	6	540	29·13
† „ ( „ „ ) M	„ „ „	5	1	6	540	29·18
D Welshpool (Leighton Hall) .....	Mrs. F. Naylor .....	5	1	0	400	29·07
D „ (Pool Quay Vic.).....	Rev. R. J. Roberts ...	5	1	0	230	24·54

## DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which "01 or more fell.
		Diameter	Height Above Ground.		Height Above Sea Level	
			ft.	in.	feet.	inches.
<b>MONTGOMERY—(con.)</b>						
Garthbibio (Bwlch Tomlyd).....M	H. S. Wallis & Dr. Mill	5	1	0	1370 T	75.40 ...
Meifod (Tan-y-fron) .....	A. George, Esq. ....	5	1	0	310	25.93 ..
d Lake Vyrnwy .....	E. D. Marten, Esq. C.E.	5	0	7	770 A	42.03 189
<b>FLINT.</b>						
Hawarden .....	Gt. Central R. Co.....	9	3	6	35	24.30 193
† Flint (Soughton Hall, Northop).	J. Eldon Bankes, Esq..	5	1	0	418	28.93 189
„ (Highfield, „ )	Rev. Canon Atkinson...	5	1	0	400	25.91 173
„ (Plas Evan, „ )	John Astbury, Esq. ...	5	5	3	...	27.82 ...
Hawarden (Hawarden Bridge)...	The Meteor. Council ...	...	...	...	...	19.24 182
Bodfari (Henblas) .....	Mrs. Scott Bankes .....	5	1	0	283 A	27.81 205
St. Asaph (Nantlys) .....	P. P. Pennant, Esq. ...	5	1	0	173 A	25.01 184
„ (Pengwern) .....	Sir W. G. Williams, Bart.	5	0	9	40	25.07 205
Bagillt Lead Works .....	I. Roberts, Esq. ....	5	1	0	20	26.13 144
Rhyl .....	Mr. R. Lowe .....	8	1	0	31 A	19.96 175
Prestatyn (Edlestone House) ...	T. J. Scott, Esq. ....	5	0	6	30	23.73 152
<b>DENBIGH.</b>						
d Llangadwaladr (Penygwely Res.)	G. W. Lacey, Esq., C.E.	5	1	0	1094	35.37 174
Wrexham (Pack Saddle Res.) ...	F. Storr, Esq. ....	5	0	9	370 A	28.85 156
„ (Cae Llwyd Res.) ...	„ „ .....	8	0	9	918 A	35.31 186
„ ( „ „ „ ) ...	„ „ .....	5	0	9	918 A	35.36 186
d „ (Broughton) .....	J. Hall, Esq. ....	5	1	0	500 T	30.58 205
Gresford (Trewythen) .....	Miss Howell Evans ...	5	1	0	350	26.22 204
d Rossett (Trevalyn Hall) .....	Capt. Griffith Boscawen.	5	1	0	58 A	24.04 195
Nantglyn (Pant-y-maen) .....	W. Barker, Esq. ....	8	1	0	1320 T	42.58 ...
d Llangerniew (Hafodunos).....	Col. Sandbach .....	5	1	0	512 T	39.17 194
Llanefydd (Rhyl W.W., S.)...M	L. G. Hall, Esq., C.E..	5	1	0	600	28.56 ...
„ ( „ „ W.)...M	„ „ „ .....	5	1	0	580	28.95 ...
„ ( „ „ E.)...M	„ „ „ .....	5	1	0	570	27.36 ...
d „ (Plas Uchaf Res.) ...	„ „ „ .....	5	1	0	485	22.56 161
d „ (Glascoed Reservoir)..	„ „ „ .....	5	1	0	360	26.07 205
d Llangyhanfal (Plas Draw) .....	Col. C. J. Bromhead, C.B.	5	1	0	419 A	26.61 223
Denbigh (Llyn Bran, Bylchau)..	W. Barker, Esq. ....	8	1	0	1428 A	42.78 ...
d „ (Garn) .....	W. D. W. Griffith, Esq.	5	1	0	447 T	29.61 202
Trefnant (Maes Elwy) .....	Major Birch .....	5	2	0	170 A	26.01 166
Colwyn Bay (Bryn Euryn) .....	Mr. T. Hutchings ....	5	1	0	125 T	24.89 202
<b>MERIONETH.</b>						
d Towyn (Peniarth) .....	W. R. M. Wynne, Esq.	9	1	0	25	37.26 162
d Llanbedr (Minafon) .....	H. G. Hollingworth, Esq.	5	1	2	33 A	34.76 201
d Bala (Eryl Aran) .....	Mrs. Burton .....	8	1	0	590 T	43.57 199
d Llanderfel (Palé Gardens) .....	Mr. T. Ruddy .....	8	1	0	606 A	40.66 221
Arenig (Bodrenig) .....	E. Jones, Esq. ....	5	1	0	1100 T	42.80 187
d Tan-y-bwlch (The Gardens) ...	Mr. J. Roberts .....	5	1	0	50 ?	49.27 208
d Rhiwbryfdir = Oakley Quarries..	Mr. R. Roberts .....	5	10	0	1100	69.81 207

## DIVISION XI.—MONMOUTH, WALES AND THE ISLANDS—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height Above Ground.	Height Above Sea Level		
			ft. in.	feet.	inches.	
<b>CARNARVON.</b>						
D*Llanystumdwy (Talarvor) .....	Dr. J. Roberts .....	5	2 0	49 T	31·75	200
Dolwyddelan (Tynyddol)... No. 1	J. R. Gethin Jones, Esq.	5	1 0	600	72·67	...
Llandwrog (Glynllivon Park) ...	Hon. F. G. Wynn.....	5	1 0	100 T	35·53	...
" ( " Nursery) .....	" " .....	5	1 0	200 T	37·31	204
" ( " Garden) .....	" " .....	5	1 0	100 T	36·53	...
" ( " Fort) ...	" " .....	8	1 0	220 T	33·54	167
" (Bodfean) .....	" " .....	5	1 6	168 T	36·28	...
D Bettws-y-coed (Aberllyn).....	Mssrs Brunner Mond & Co	5	5 6	674 T	39·27	177
Capel Curig (Lake Cowlyd) ....	T.B. Farrington Esq. CE	8	1 3	1168 T	63·90	...
Carnarvon (Belan Fort).....	Hon. F. G. Wynn.....	5	1 0	26 T	30·10	...
Eigiau, Upper, No. 15 .....	J. R. Gethin Jones, Esq.	5	1 0	2000	99·00	...
" Lake, No. 3 .....	" " "	5	1 0	1650	89·27	...
Lake Cowlyd (Upper Brwynog) No. 16	" " "	5	1 0	1100	62·33	...
" " (Lower " ) No. 18	" " "	5	1 0	1000	48·91	...
Frith Rhos .....	" " "	5	1 0	1100	58·01	...
Llanbedr-y-Cennin (Plasdulyn).	E.P. Stephenson Esq. CE	8	1 0	509 T	42·29	180
" " " (Llyndulyn)	" " "	8	1 6	1622 T	87·94	...
D Bangor (Bethesda, St. Anne's Vic.)	Rev. W. Morgan .....	5	1 3	500	46·38	215
" " (Penrhyn Quarry)	The Meteor. Council ...	8	1 0	528	48·15	210
D " (Penrhyn Castle Gdns.) ..	Mr. W. Speed .....	6	1 0	150	30·94	206
D Llanfairfechan .....	Mr. W. Timmins .....	5	1 0	144	30·52	203
D† Llandudno .....	Mr. W. Little.....	5	1 0	72 T	24·98	220
<b>ANGLESEA.</b>						
Llandwyn Island .....	Hon. F. G. Wynn .....	5	1 0	40 T	20·96	...
D Llangadwaladr (Bodorgan) .....	Mr. W. Pilgrim.....	8	1 0	...	32·72	154
Penmynydd Vicarage .....	Rev. H. D. Owen .....	5	5 0	300	29·45	205
Holyhead .....	The Meteor. Council ...	8	...	...	31·37	193
D Llanfachreth .....	Major Muckleton Allen	5	6 0	40	37·41	146
Llanerchymedd Llwydiarth Esqob	T. Prichard, Esq. ....	5	1 0	175 L	32·64	220
D Lligwy .....	Rt. Hon. Lord Boston..	5	1 0	180	29·78	150
<b>ISLE OF MAN.</b>						
Castletown (Langness) .....	Bd. of Northern Lights	...	...	...	55·51	155
" (Derbyhaven) .....	A. W. Moore, Esq.....	...	...	...	33·72	...
Santon Vicarage .....	" " "	...	...	250	27·47	188
D Douglas (Woodville).....	H. Story, Esq. ....	8	1 0	160 L	38·07	205
" (Baldwin) .....	A. W. Moore, Esq. ...	...	...	...	51·21	...
" (Cronkbourne) .....	" " "	8	0 10	138 T	40·07	202
" (Woodside) .....	" " "	...	...	...	42·50	216
" (Clypse, Onchan) .....	" " "	8	1 0	439 T	43·22	...
Bishop's Court .....	" " "	...	...	80	38·03	149
Point of Ayre.....	Bd. of Northern Lights	3	4 6	...	27·66	...
<b>ISLES OF SCILLY.</b>						
St. Mary's .....	The Meteor. Council ...	8	1 6	77 L	25·33	183
†Tresco Abbey .....	T. A. D. Smith, Esq....	11	3 0	40	26·76	186

DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground.	Height Above Sea Level	1902	
JERSEY.						
d St. Helier (St. Louis Observatory)	Rev. M. Dechevrens ...	8	5 0	180	26·56	177
St. Aubins .....	The Meteor. Council ...	8	1 0	...	30·42	211
GUERNSEY.						
d St. Martin's (Les Blanchés) .....	B. T. Rowsell, Esq. ....	5	1 0	310 f	32·66	196
L'Erée (Claire Mare) .....	J. J. Carey, Esq., C.E. ..	5	1 0	48 l	28·50	171
d St. Peter Port (Villa Carey) .....	Dr. F. Carey .....	8	1 6	180	30·04	191
„ „ ( „ „ ) ... M	„ „ .....	5	0 4	180	29·81	...
„ „ (Castel, St. George)	A. Collenette, Esq. ....	...	...	160	36·58	..
d L'Ancrese .....	J. Hocart, Esq. ....	5	1 0	33 f	32·84	185





DIVISION XII.—SOUTHERN COUNTIES (*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground.	Height Above Sea Level	1902	
<hr/>						
DUMFRIES—(con.)						
d Moniaive (Maxwelton House) ...	Rev. Sir E. Laurie, Bt.	8	ft. in.	feet.	inches.	
Langholm (Ewes School) .....	Mr. J. C. Lyall .....	3	1 0	445 †	39·70	208
„ ( „ Burnfoot) .....	J. C. Little, Esq. ....	3	1 0	541 †	36·85	...
Durrisdeer (Drumlanrig Gardens)	Mr. D. Inglis .....	5	0 9	191	42·36	...
Moffat (Craigielands).....	Mr. L. Fraser .....	5	0 9	360 †	34·85	...
d „ (Auchen Castle).....	Mr. W. McAdam .....	5	0 6	500	43·40	...
„ (Ericstane).....	Mrs. J. J. Welsh .....	3	0 6	580 †	42·25	228
„ ( „ )..... <i>Snowdon</i>	„ „ „ .....	5	1 6	580 †	39·90	...
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ROXBURGH.						
Hawick (Wolfelee) .....	Dr. Buchan, F.R.S. ....	...	...	587	31·97	166
d „ (Bransholme) .....	J. G. Winning, Esq.....	5	0 6	457 †	26·34	177
d Jedburgh (Ancrum Bridge) .....	A. Johnston, Esq. ....	5	2 0	229	20·72	190
d Lilliesleaf (Riddell) .....	Gen. Sprot .....	5	0 8	550 †	27·72	212
d „ ( „ ) .....	Mr. J. Williamson .....	5	0 8	500 †	26·18	163
d St. Boswell's (Elliston).....	late Hon. Mrs Dalrymple	5	1 0	252	23·67	179
Kelso (Springwood Park) .....	Mr. W. Chaplin .....	10	1 0	130 †	14·41?	110
„ (Broomlands) .....	Dr. Buchan, F.R.S. ....	...	...	205	18·36	208
„ (Holefield) .....	G. F. Ogilvie, Esq. ..	...	...	...	19·57	...
d Melrose (Asylum)..... <i>old g.</i>	Mr. A. C. Pattman ...	5	0 6	480 †	26·17	215
„ ( „ )..... <i>new g.</i>	„ „ .....	5	1 0	480 †	24·04	215
Wooplaw [Galashiels] .....	J. Murray, Esq.....	5	1 0	880 †	24·84	167

## DIVISION XIII.—SOUTH EASTERN COUNTIES.

<b>SELKIRK.</b>						
d Selkirk (The Hangingshaw) ...	Miss Johnstone .....	5	0 6	670 $\nabla$	28·06	144
Galashiels (Abbotsford Rd.) .....	Dr. Somerville .....	5	0 8	416 $\nabla$	24·29	198
" (Stantling Craigs) ..	Mr. W. Ross .....	12	1 3	800	28·06	...
<b>PEEBLES.</b>						
Innerleithen (The Glen) .....	Dr. Buchan, F.R.S. ....	...	...	...	29·26	...
" (Leithen Lodge) ...	Mr. D. Clark .....	11	0 0	700 $\nabla$	30·24	...
Stobo Castle .....	Dr. Buchan, F.R.S. ....	...	...	600	21·70	163
Peebles (Swinton Bank) .....	C. A. Ainslie, Esq. ....	5	0 6	600	25·34	...
d West Linton (Rutherford House)	E. Cameron, Esq. ....	5	3 9	970 $\nabla$	29·36	190
Eddlestone (Portmore Res.) . ....	W. Anderson, Esq. ....	11	0 6	1000	26·55	191
N. Esk Reservoir [Penicuik] ...	Mr. W. Tod .....	11	0 6	1150 $\nabla$	27·85	...
<b>BERWICK.</b>						
d Earlston (Cowdenknowes) .....	Mr. J. Robertson .....	5	0 10	360	24·86	212
d Coldstream (The Hirsell) .....	Mr. J. Cairns .....	5	1 0	94 $\nabla$	19·23	184
d Marchmont House .....	Mr. J. A. Wood .....	5	1 0	500 $\nabla$	24·38	191
Whitsome Hill .....	John T. Craw, Esq. ....	3	0 3	250 $\nabla$	18·83	...
d Duns Castle .....	Mr. R. Aikman .....	5	1 0	500	24·80	142
" (Manderston) .....	Mr. J. Hamilton .....	8	2 0	220 ?	22·88	...

## DIVISION XIII.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which 01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level		
			ft. in.	feet.	inches.	
<b>BERWICK—(con.)</b>						
West Foulden .....	J. Hewat Craw, Esq....	5	1 0	250 T	20.59	...
St. Abb's Head .....	Bd. of Northern Lights	8	4 3	200	22.43	113
<b>HADDINGTON.</b>						
Garvald (Donolly Reservoir) ...	Mr. J. McKellar .....	11	1 6	560 A	28.36	...
D Drummore [Musselburgh] .....	Mr. J. Robson.....	5	1 0	75 T	16.18	181
D Whittinghame Gardens .....	Mr. J. Garrett .....	5	1 0	348 B	26.30	170
Dunbar (Barnsness) .....	Bd. of Northern Lights	...	...	...	21.12	168
Prestonkirk (Smeaton).....	Dr. Buchan, F.R.S. ...	...	...	100	20.56	144
Aberlady Manse.....	Rev. J. Hart .....	5	0 11	15	17.17	...
North Berwick Reservoir ... ..	Mr. J. McKellar .. ..	11	1 6	150 T	20.66	...
„ „ (Fidra) .....	Bd. of Northern Lights	3	3 0	...	19.18	133
<b>EDINBURGH.</b>						
Stow (Burnhouse) .....	W. R. Ovens, Esq. ...	5	1 0	720	26.52	...
Moorfoot Hills (Bowbate) .....	W. Anderson, Esq.....	11	0 6	2042	37.28	...
„ „ (Gladhouse Res.) .....	„ „ „ .....	11	0 6	900	26.68	193
„ „ (Rosebery) .....	„ „ „ .....	11	0 6	750	25.42	125
Pentland Hills (Crosswood) .....	„ „ „ .....	11	0 6	950	28.18	...
Moorfoot Hills (Edgelaw) .....	„ „ „ .....	11	0 6	654	25.06	125
Pentland Hills (Harper rig) .....	„ „ „ .....	11	0 6	900	31.31	...
„ „ (Harehill) .....	„ „ „ .....	11	0 6	1470	28.10	...
„ „ (Loganlea) .....	„ „ „ .....	11	0 6	850	26.03	...
West Calder (Addiewell) .....	J. Fyfe, Esq. ....	5	0 6	600	22.88	...
Pentland Hills (Swanston) .....	W. Anderson, Esq.....	11	0 6	550	19.07	...
„ „ (Glencorse Res.) .....	„ „ „ .....	11	0 6	787	28.15	205
„ „ (Harlaw) .....	„ „ „ .....	11	0 6	800	23.24	...
„ „ (Clubbiedean Res) .....	„ „ „ .....	11	0 6	750	23.23	...
„ „ (Harbour Hill).....	„ „ „ .....	11	0 6	1112	33.75	...
D Dalmahoy .....	Countess D. of Morton...	5	0 10	358	22.24	168
Liberton (Alnwick Hill) .....	W. Anderson, Esq. ...	11	0 6	400	19.07	172
D Edinburgh (R. Obs., Blackford Hill)	Dr. Copeland .....	8	1 0	442 A	16.44	158
Corstorphine .....	Dr. Buchan, F.R.S. ...	...	...	165	20.58	227
D Musselburgh (Levenhall) .....	The Misses Husband...	5	1 0	15 A	15.33	177
Edinburgh (George Square) ...	Surg.-Maj. W. G. Black	6	3 0	261 T	16.23	...
„ „ „ „ „ .....	„ „ „ „ „ .....	3	3 0	265 T	16.56	179
D „ „ (City Observatory).....	W. Peck, Esq. ....	8	0 10	349	16.51	178
„ „ (Charlotte Square).....	Press-cutting .....	...	...	...	19.45	...
Leith .....	The Meteor. Council ...	8	1 8	22	16.42	178
„ „ (Navigation School) .....	Dr. Buchan, F.R.S.....	5	0 5	76	18.71	199
D Davidson's Mains (Broomfield)...	Mr. C. Comfort .....	5	0 10	42 L	18.91	160
<b>LINLITHGOW.</b>						
Whitburn (Polkemmet) .....	Lady Baillie .....	5	2 0	600 T	28.94	221
Bathgate (Boghead House) .....	J Robertson Durham Esq	...	...	500	25.71	...
Uphall.....	J. Fyfe, Esq. ....	5	0 10	380	22.84	...
Carribber Reservoir .....	M John P. Lawrie, Esq....	5	0 7	340 T	23.91	...

## DIVISION XIII.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level		
			ft. in.	feet.	inches.	
LINLITHGOW—(con.)						
d Linlithgow (Rockville) .....	J. Storey, Esq. ....	5	1 6	...	25·15	157
Bo'ness (Neidpath Cottage) .....	Mr. J. Grant .....	5	3 0	220 T	21·07	...

## DIVISION XIV.—SOUTH WESTERN COUNTIES.

## LANARK.

Leadhills.....	Dr. Buchan, F.R.S. ....	...	...	1300	62·90	239
d Biggar (Cambus Wallace) .....	The late Captain Paul..	6	0 6	748 A	20·97	139
Lanark (Rhyber Lodge) .....	R. Swann, Esq. ....	6	3 0	650	18·40	..
d Cleghorn.....	W. Elliott Lockhart, Esq.	3	0 3	720	27·10	199
Carluke (Mauldslie Castle) .....	Mr. D. Bryson .....	5	0 6	140	24·82	...
d Dalzell House .....	Lord Hamilton of Dalzell	6	5 6	89 T	23·52	170
Hamilton Water Works .....	Mr. W. H. Purdie.....	7	1 0	436 T	26·70	...
Bothwell.....	Dr. Buchan, F.R.S. ....	...	...	...	24·21	155
„ Castle .....	Mr. W. F. B. Archibald	10	18 0	146 T	22·56	156
Glasgow (Tollcross Park).....	J. Whitton, Esq. ....	...	...	85	30·77	196
„ (Green Park) .....	„ „ „ .....	5	0 6	35	28·09	155
„ (Bellahouston Park).....	„ „ „ .....	...	...	160	26·84	208
„ (Alexandra Park) .....	„ „ „ .....	5	0 6	141	27·71	208
„ (George Square) .....	„ „ „ .....	...	...	40	25·84	187
„ (Kelvin Grove Park).....	„ „ „ .....	5	0 6	48	28·49	196
„ (Belvedere Hospital).....	Dr. Buchan, F.R.S. ....	...	...	54	27·91	185
„ Observatory .....	Prof. Becker .....	11	2 0	182	29·07	204
„ (Springburn Park).....	J. Whitton, Esq. ....	5	0 6	361	25·13	125
d Airdrie (Hillend Reservoir) .....	Mr. W. A. Ritchie .....	6	4 6	620 A	26·89	201

## AYR.

Ballantrae (Glendrishraig).....	P. Murdoch, Esq. ....	5	1 0	42	27·69	167
Barrhill (Dochroyle) .....	Mr. J. Scott .....	6	0 9	548 T	50·76	...
d Colmonell (Clachanton).....	R. Aitken, Esq. ....	6	0 6	140 T	41·44	187
d Girvan (Pinmore) ..	Hugh Hamilton, Esq. ....	5	0 6	187 A	46·35	235
d Barr Manse .....	Rev. G. Dods.....	5	1 0	330	47·21	216
Girvan (Glendoune Gardens) ..	Mr. J. Simons .....	5	1 0	150 T	36·32	142
Loch Finlas.....	J. Young, Esq. ....	5	1 0	849	44·45	...
Girvan (Turnberry) .....	Bd. of Northern Lights	...	...	...	30·16	173
d Dalrymple (Bow Hill) .....	A. Gillespie, Esq. ....	...	...	...	28·22	184
d Maybole (Culzean Gardens) .....	Mr. D. Murray .....	9	3 0	200	31·60	155
„ (Knockdon Farm) .....	A. Cross, Esq. ....	6	1 6	...	31·27	...
Ayr (Newark Castle).....	John S. Alston, Esq. ....	...	...	200	35·17	173
„ (Doonholm).....	J. Kennedy, Esq. ....	5	1 0	90	33·05	...
d Mauchline (Catrine) .....	H. W. Poecock, Esq. ....	6	1 0	300 T	29·20	145
Muirkirk (Glenbuck) .....	Mr. W. F. Hamilton....	6	1 0	900	26·60	...
Kilmarnock (North Craig) .....	R. Blackwood, Esq. ....	12	1 0	319 A	38·30	...
d Dalry (Blair) .....	Mr. W. Rae.....	5	1 0	160	41·20	195
Dunlop (Dunlop House) .....	Maj. J. F. Dalrymple Hay	6	2 0	550	53·10	...
d Paisley W. W. (Camphill) .....	J. Lee, Esq. ....	12	1 6	611	50·90	...

DIVISION XIV.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which .01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level		
			ft. in.	feet.	inches.	
AYR—(con.)						
Shaws W. Works (Kelly Dam)...	D. Macalister, Esq. ...	6	1 0	640 ?	54.50	...
„ „ (Knockencorsan)	„ „ „ ...	6	1 0	1040	55.00	...
RENFREW.						
Lochwinnoch (Garthland).....	H. Macdowall, Esq. ...	5	0 11	150	51.28	179
„ (Castlesemple).....	Mr. C. Jamieson.....	26	0	240	36.74	143
Gorbals's Dist. { Ryat Lynn .....	J. M. Gale, Esq., C.E..	8	0 5	310	36.45	...
Waulk Glen .....	„ „ „	12	0 5	280	35.20	...
Middleton .....	„ „ „	12	0 5	550	46.00	...
Nether Cairn .....	„ „ „	12	0 5	700	40.45	...
Paisley W. Works { Stanely .....	J. Lee, Esq. ....	12	1 0	190	30.30	...
Back Thornleymuir .....	„ „	12	1 0	646	44.08	...
Muirhead .....	„ „	12	1 0	482	45.82	...
Springside .....	„ „	12	1 0	532	47.94	...
Glasgow (Queen's Park) .....	J. Whitton, Esq. ....	8	0 9	144	30.81	180
„ (Maxwell Park) .....	„ „ „	5	0 6	69	28.35	176
Paisley (Crookston) .....	Major Hotchkis .....	3	0 5	...	26.65	134
„ (The Coats Observatory)	Dr. Buchan, F.R.S. ...	...	...	107	35.04	234
Duchall Moor .....	D. Macalister, Esq., C.E.	6	1 0	1150	68.20	...
Creuch Hill .....	„ „ „	6	1 0	1350	54.30	...
Largs Road .....	„ „ „	5	1 0	910	48.92	...
Green Water .....	„ „ „	6	1 0	788	60.30	...
Gryfe Reservoir .....	„ „ „	6	1 0	640	54.50	...
Mansfield .....	„ „ „	5	1 0	573	52.91	251
Compensation Reservoir .....	„ „ „	5	1 0	600	53.37	...
Loch Thom .....	„ „ „	5	1 0	643	54.09	253
Shielhill .....	„ „ „	6	1 0	962	60.00	...
Darndaff Moor .....	„ „ „	6	1 0	850	54.00	...
Spango Burn .....	„ „ „	6	0 9	757	55.30	...
Hole Glen .....	„ „ „	5	1 0	603	53.47	240
New Yetts Dam .....	„ „ „	5	1 0	800	59.00	241
Prospect Hill .....	„ „ „	5	1 0	233	51.33	220
Bishopton (Ingliston) .....	D. Cross, Esq.....	5	1 0	195	37.86	...
Langbank (East Bank Gardens).	A. Cross, Esq.....	5	1 6	...	40.17	...

DIVISION XV.—WEST MIDLAND COUNTIES.

DUMBARTON.

Dumbarton (Leven Shipyard) ...	Messrs. Denny Bros....	5	1 0	9 1	37.87	213
Helensburgh (Water Works) ...	J. R. Wilson, Esq. ...	6	0 6	300	36.02	221
Arrochar (The Manse) .....	Rev. Dugald Macfarlane	5	1 0	14	54.76	...

STIRLING.

Muiravonside Ho. [Linlithgow].	J. Stirling, Esq.....	5	6 0	175	24.84	...
Strathblane (Mugdock Reservoir)	J. M. Gale, Esq., C.E..	8	0 6	320	31.60	...
„ (Craigbarnet).....	C. Stirling, Esq.....	...	...	315	43.40?	...
Kilsyth (Currymire) .....	Mr. G. J. Ramsay .....	5	1 2	200	32.93	190

## DIVISION XV.—WEST MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain 1902	Days on which ·01 or more fell
		Diameter	Height Above Ground	Height Above Sea Level		
STIRLING—(con.)						
D Falkirk (Inglewood, Laurieston)	W. Ballantine, Esq. ...	5	1 3	133	24·71	154
„ (Kerse) .....	C. Brown, Esq. ....	8	1 0	18 A	24·10	...
„ ( „ ) .....	new g.	5	0 10	18 A	23·46	...
D „ (Cauldhame) .....	David Ronald, Esq. ...	5	1 0	73 A	24·50	198
Little Denny Reservoir .....	C. Massie, Esq. ....	8	1 0	326	34·06	...
„ „ Filters .....	„ „ .....	8	1 0	243 A	31·69	...
Earlsburn Reservoir .....	„ „ .....	8	1 0	1202 A	48·44	...
St. Ninians (Faughlin) .....	„ „ .....	8	1 0	707 A	43·37	...
Stirling (Touch Reservoir) .....	C. Stirling, Esq. ....	...	...	755	37·72	...
„ (Polmaise Gardens) .....	Mr. W. W. Ritchie ...	6	0 8	12	23·85	...
„ (Victoria Place) .....	R. Kidston, Esq. ....	5	2 10	100	30·58	...
D Buchlyvie (The Manse) .....	Rev. J. A. Macdonald..	5	1 3	118 T	42·94	273
Gargunnoch .....	C. Stirling, Esq. ....	5	5 8	85 T	36·12	...
Kippen (Garden House) .....	„ „ „ .....	...	...	...	41·97	...
„ (Arngomery) .....	Mr. P. McCowan .....	5	4 2	...	36·94	...
Bridge of Allan .....	Laurence Pullar, Esq. ...	5	0 5	110	27·90	...
Ben Lomond .....	J. M. Gale, Esq. C.E. ...	...	...	1800	89·50	...
Glengyle .....	„ „ „ .....	...	...	380	65·90	...
BUTE.						
Arran (Pladda) .....	Bd. of Northern Lights	...	...	...	50·59	186
Holy Island (Lamlash) .....	„ „ „ .....	3	0 3	...	42·53	183
Kingarth (Plann) .....	H. Hastings, Esq. ....	5	1 3	75	32·71	...
Rothsay (Barone Cottage) .....	J. Kay, Esq. ....	5	1 0	116 A	41·73	223
D „ (Crichton Road) .....	H. Lauder, Esq. ....	5	4 0	97	44·61	222
ARGYLL—(MAINLAND.)						
D Tighnabruaich .....	A. S. Cousland, Esq. ...	5	4 0	30 B	46·36	209
D „ .....	„ „ „ .....	12	5 0	50 B	52·22	209
D Loch Eck (Benmore) .....	H. J. Younger, Esq. ...	5	1 3	40	73·77	179
Ardrihaig ..	Mr. L. J. Groves .....	5	0 5	36	59·12	211
D Lochgilphead (Poltalloch) .....	Mr. D. S. Melville .....	6	4 6	135	43·23	203
„ ( „ ) .....	M	8	0 6	135	40·72	...
D Inveraray (Castle Gardens) .....	Mr. G. Taylor .....	5	1 0	40	64·28	242
D „ (Newtown) .....	Mrs. Little .....	5	1 0	17	56·58	253
Oban (Kilmelfort, Arduaine) ..	J. A. Campbell, Esq. ...	5	0 3	16	49·21	175
Appin (Airds) .....	Dr. Buchan, F.R.S. ....	5	0 11	15	42·67	149
D Morvern (Drimnin) .....	Mrs. Gordon .....	5	1 0	225	56·76	253
D Ballachulish (Ardsheal) .....	Dr. W. D. Anderson ...	8	1 0	103 T	66·42	231
D* „ House .....	F.C. Beresford Drummond Esq	5	1 0	56 A	71·40	223
D „ (Glencoe) .....	J. D. Sutherland, Esq. ...	...	6 0	100	70·56	219
D Strontian (Laudale) .....	A. Fletcher, Esq. ....	8	1 0	15 A	77·64	265
D Loch Sunart (Glenborrodale) ..	C. D. Rudd, Esq. ....	5	0 2	60 L	62·40	190
Ardnamurchan .....	Bd. of Northern Lights	8	4 3	40	45·21	204
Ardgour .....	Mrs. Maclean .....	3	0 10	72	50·25	...
Loch Eil (Corran) .....	Bd. of Northern Lights	3	1 6	4	59·27	202

## DIVISION XV.—WEST MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which .01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
ARGYLL—(INSULAR.)						
Kintyre, Mull of .....	Bd. of Northern Lights ...	...	...	279 ?	37·00	158
" (Campbeltown, Devaar) ..	" " " " ..	...	3 4	75 ?	48·56	209
" (Witchburn) ..	Mr. A. Giffen .....	5	1 2	75	42·54	234
" (Killeen Manse) .....	Rev. D. J. Macdonald ..	5	1 0	...	42·50	...
" (Skipness Castle) ...	Mr. P. McLean ...	5	1 6	27	42·14	...
" (Stonefield, Tarbert) ...	Colin G. Campbell, Esq	5	0 9	90	64·86	236
" Islay (Ardbeg) .....	C. E. Hay, Esq. ....	5	7 0	46 †	43·33	238
" (Rhinn) .....	Bd. of Northern Lights	7	3 6	40	32·03	204
" (Lochindaul) .....	" " " " ..	3	0 6	20	29·92	130
" (Eallabus) .....	J. Laughton, Esq. ....	5	1 0	68 †	43·65	161
" (Rhuvaal) .....	Bd. of Northern Lights	3	1 3	30	44·29	200
Jura (Fladda) .....	" " " " ..	3	1 0	8	55·34	186
" (Feoline) .....	Henry Evans, Esq. ...	6	0 7	...	53·90	...
Lismore (Mousedale) .....	Bd. of Northern Lights	7	3 10	18	37·14	183
Eriska Island .....	Dr. Buchan, F.R.S. ...	...	...	...	54·45	...
Mull (Bunessan) .....	Duncan Cameron, Esq. ...	5	1 4	50	86·15	...
" (Lochbuie) .....	Dr. Buchan, F.R.S. ...	...	...	20	75·82	230
" (Knock) .....	Duncan Cameron, Esq. ...	5	1 4	30	64·87	...
" (Gruline, Aros) .....	The Meteor. Council ...	8	1 0	100	69·65	237
" (Quinish) .....	J. N. Forsyth, Esq. ...	5	1 6	35	52·61	236
" (Sound of) .....	Bd. of Northern Lights	3	1 4	14	64·91	206
" Tiree (Hylipol Manse) .....	Rev. D. Maclean .....	5	1 0	25 B	42·78	233

## DIVISION XVI.—EAST MIDLAND COUNTIES.

## CLACKMANNAN.

Alloa (Mar Street) .....	J. Melville, Esq. ....	5	0 6	70	24·44	...
Alva House .....	Miss Johnston .....	5	1 2	180	32·62	...
" Dollar (Home Farm, Dollarbeg). ..	James Bleloch, Esq. ...	5	0 9	265 †	28·58	202
" (Academy) .....	Mr. A. Blackwood .....	9	1 0	178	29·27	164

## KINROSS.

Blairingone [Dollar] .....	Rev. J. F. Cameron ...	5	1 6	300 †	29·14	207
Cleish Castle .....	Dr. Buchan, F.R.S. ...	...	...	...	27·20	...
" Loch Leven Sluice .....	Mr. Hay .....	8	0 7	360 †	27·55	169
" Kinross (Gellybank) .....	G. Henderson, Esq. ...	5	0 6	440 †	26·42	208

## FIFE.

Inchkeith .....	Bd. of Northern Lights ...	...	...	...	17·37	137
" Culross (West Grange) .....	J. L. Dalgleish, Esq. ...	5	0 2	116 †	24·13	166
" Dunfermline (Keavil) .....	L. Dalgleish, Esq. ....	5	0 2	150	18·82?	172
Carnock (Luscar House) ...No. 1	A. Mitchell, Esq. ....	5	0 10	430 †	22·39	...
" ( " " ) ...No. 2	" " " " ..	5	0 10	430 †	22·42	...
" (Craighluscar) .....	A. W. Bell, Esq., C.E. 12	0 4	280 †	24·67	...	...
Beath (Outh) .....	L. Dalgleish, Esq. ....	5	0 2	890	23·28	...
Isle of May .....	Bd. of Northern Lights ...	...	...	..	16·50	...

## DIVISION XVI.—EAST MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which "01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level		
			ft. in.	feet.	inches.	
FIFE—(con).						
Kilconquhar (Balcarres) .....	Mr. E. Tate.....	5	1 0	300 T	25·21	199
▮ Carnbee (Ovenstone W.W.) .....	A. P. Watson, Esq. ...	5	1 0	168 T	21·51	153
Leslie (Lothrie Reservoir).....	Dr. Buchan, F.R.S. ...	...	...	...	26·75	...
Strathmiglo .....	F. Troup, Esq., M.D... 5	1 0	200 T	28·83	187	
▮ Cupar (Fife & Kinross Asylum)	Dr. Turnbull .....	5	1 0	210	19·12	135
„ (Clatto Reservoir).....	Dr. A. Buchan, F.R.S. ...	...	...	...	23·44	...
▮ St. Andrews .....	Miss Macadam .....	5	1 0	50	23·01	198
Kilmany (Mountquhanie House)	D. Gillespie, Esq. ....	...	...	...	22·00	...
▮ Tayport (Low Light).....	J. Thompson, Jr. Esq. CE	5	1 0	27	22·12	162
PERTH.						
Aberfoyle .....	J. M. Gale, Esq., C.E..	8	0 6	60	44·40	...
Ochertyre [Stirling].....	Capt. Dundas, R.N. ...	5	1 0	18	32·68	...
Dunblane (Kippenross).....	Col. P. Stirling .....	3	1 3	240	28·50	...
„ (Kippendavie Lodge)..	Felix Barnes, Esq. ...	8	2 9	300	35·61	...
▮ Doune (Gartincaber).....	G. Burn Murdoch, Esq.	5	1 0	200 T	33·76	209
Sheriffmuir (Lynns Farm) .....	Col. P. Stirling .....	5	1 0	550	32·44	...
Glendevon (Glensherup) .....	A. W. Bell, Esq., C.E.	12	0 4	745 T	43·05	...
Loch Dhu .....	J. M. Gale, Esq., C.E..	8	0 6	325	66·90	...
Ledard .....	„ „ „ .....	...	...	1500	58·35	...
Loch Drunkie.....	„ „ „ .....	8	0 6	420	47·55	...
Loch Vennachar.....	„ „ „ .....	8	0 6	275	41·50	...
▮ Lanrick Castle .....	Mr. J. Begg .....	3	1 0	...	34·60	136
Bridge of Turk .....	J. M. Gale, Esq., C.E..	8	0 6	275	49·70	...
Loch Katrine (Tunnel Hill Top)	„ „ „ .....	8	0 6	830	67·30	...
Between Glen Finlas & Ben Ledi.	„ „ „ .....	8	0 6	1800	42·80	...
Callander (The Gart).....	C. Douglas, Esq.....	5	0 7	250	44·28	...
„ (Leny) .....	late J. B. Hamilton, Esq.	3	0 4	345 T	38·60	...
Braco (Nether Cambushinnie)...	J. W. Stirling, Esq. ...	5	0 10	380	35·55	...
▮ Balquhiddy (Stronvar) .....	J. Carnegie, Esq. ....	6	1 0	422 T	61·25	246
▮ Crieff (Ochertyre).....	Mr. G. Croucher .....	5	3 0	326 T	35·48	209
▮ Lochearnhead (Ardvorlich) .....	Col. Stewart .....	5	1 0	321	63·14	213
Perth (Pitcullen House) .....	H. Coates, Esq. ....	5	1 0	133	28·12	...
Killin (Auchmore).....	Mr. J. Cant. ....	5	1 0	400 T	44·98	...
▮ Coupar Angus Station .....	Mr. J. Robertson .....	5	1 3	183 T	25·89	188
▮ Dunkeld (Inverbraan) .....	Rv. Canon Burn Murdoch	...	...	...	37·76	147
▮ Blairgowrie (Ballintuim House).	Miss M. A. McDonald..	5	...	600	36·89	201
Pitlochry (Donavoured) .....	W. Maxwell, Esq. ....	5	0 7	400	30·57	150
▮ Blair-Atholl .....	Mr. A. Cameron.....	5	1 0	420	27·45	189
FORFAR.						
▮ Buddonness (Low Light) .....	J. Thompson, Jr., Esq. CE	5	1 0	17	20·42	179
▮ Dundee (Harbour).....	„ „ „ .....	5	0 10	14	24·92	258
▮ Broughty Ferry (Summerbank)..	Mr. K. Graham .....	5	5 6	25	21·22	174
▮ Dundee (Eastern Necropolis) ...	Mr. J. Carnochan .....	3	0 4	199 T	23·15	195
▮ „ ( „ „ ) new	„ „ „ .....	5	0 4	199 T	23·82	195
„ (Dens Works) .....	Messrs. Baxter Bros. ...	5	...	119 T	23·83	187
„ (Westgreen House).....	J. Rorie, Esq., M.D. ...	5	0 10	216	26·57	...

## DIVISION XVI.—EAST MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height above Ground	Height above Sea Level		
			ft. in.	feet.	inches.	
FORFAR—(con.)						
D Dundee (Camperdown Works)...	Messrs. Cox Bros. ...	5	3 8	290	20·60	145
D „ (Balruddery) .....	Mr. R. Cairns.....	5	1 0	266	27·32	180
D† Craigton .....	G. Baxter, Esq., C.E..	8	1 0	410	26·95	164
† „ .....	„ „ .....	11	3 0	481	26·45	...
„ (Hillhead) .....	„ „ .....	11	3 0	570	26·69	...
† Crombie Reservoir .....	„ „ .....	11	3 0	522 T	31·10	...
Arbroath (Waterworks) .....	P. C. Smith, Esq., C.E.	5	0 11	58 T	19·85	170
„ { „ } .....	„ „ „ .....	5	1 0	58 T	20·74	...
„ { „ } Tower .....	„ „ „ .....	5	48 0	157 T	12·75	158
„ { „ } „ M .....	„ „ „ .....	5	48 0	157 T	13·22	...
D „ (Dishland Hill) .....	Mr. J. Campbell.....	5	0 11	69	18·81	186
D Inverarity Manse .....	Rev. P. Stevenson .....	5	1 0	301 T	28·84	148
Glamis Castle .....	Mr. T. Wilson .....	5	4 0	250	27·18	...
D Forfar (Lilyfield) .....	A. L. Fenton, Esq. ...	5	0 5	225 T	29·34	188
D „ (Littlecauseway) .....	J. Watson Craik, Esq..	8	5 0	218	29·20	131
Rescobie (Pitscandly) .....	W. F. Farquhar, Esq..	5	5 10	280	25·46	...
Kirriemuir (Lintrathen) .....	G. Baxter, Esq., C.E..	8	1 0	700	33·00	...
D „ { „, Balnakeilly) „ „ „ .....	„ „ „ .....	8	1 0	700	31·07	197
„ { „ „ } M .....	„ „ „ .....	8	1 0	700	26·60	...
„ { „ „, Creich Hill) M .....	„ „ „ .....	8	1 0	1500	31·60	...
„ (Longdrum) .....	„ „ „ .....	8	1 0	1142	38·20	...
„ (Glen Dye) .....	„ „ „ .....	8	1 0	1408	42·20	...
„ (Barney) .....	„ „ „ .....	8	1 0	1145	42·00	...
„ (Glen Damff) .....	„ „ „ .....	8	1 0	1480	39·50	...
D „ (Lednathie) .....	Mr. W. Morrison .....	5	1 0	720	42·91	217
Montroseness .....	Bd. of Northern Lights	3	1 0	10	25·36	...
Montrose (Melville Gardens) ...	S. L. Christie, Esq. ...	5	9 0	23 T	24·92	228
D „ (Sunnyside Asylum)...	J. Masson, Esq.....	5	0 10	200	25·42	139
„ (Kinnaber W.W.).....	S. L. Christie, Esq. ...	5	1 0	38 T	23·67	174
Brechin (Stracathro Gardens) ...	Rt Hon J A Campbell, MP	5	1 0	240 T	29·97	...

## DIVISION XVII.—NORTH EASTERN COUNTIES.

## KINCARDINE.

Johnshaven (Brotherton) .....	Mrs. Scott .....	5	1 0	...	22·17	...
Laurencekirk (Johnstone Lodge) ..	Dr. Buchan, F.R.S. ...	...	...	...	31·76	...
D Fettercairn (The Burn) House ...	Col. C. McInroy, C.B..	5	0 11	250	33·55	196
„ Manse .....	Rev. W. Anderson .....	5	0 2	230 T	30·48	...
Crathes (Spyhill) .....	Mr. J. Smith .....	5	1 0	725 T	43·18	...
„ (Cross Roads, Durris)...	„ „ .....	5	1 0	420 T	37·49	223
Durris House [Drumoak].....	Mr. A. Reid .....	...	...	...	37·17	...
D „ (Invercannie) .....	W. Dyack, Esq., C.E..	12	0 10	205	37·61	233
D Crathes (Pinewood) .....	Mr. J. Smith .....	5	1 0	145 T	34·59	208
D „ (Woodbank Cottage)....	Mr. D. Murchison .....	5	0 6	165 T	32·90	207
Banchory (Hirn) .....	Mr. J. Smith .....	5	1 0	285 T	31·50	206
Girdleness .....	Bd. of Northern Lights	7	4 0	75	21·12	...



## DIVISION XVII.—NORTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
ABERDEEN.						
Braemar (Glencunie Lodge) ...	A. Cross, Esq. ....	5	1 6	...	40·99	...
D† „ .....	J. Aitken, Esq. ....	8	0 9	1114 †	31·84	214
D Cromar (Logie Coldstone School)	J. B. Anderson, Esq....	5	1 0	608 †	35·69	251
„ ( „ „ „ Loanhead)	Mr. A. Farquharson ...	5	1 0	743 †	30·80	214
„ (Tillypronie) .....	Mr. R. Littlejohn .....	5	1 0	1120 †	33·14	243
D Aberdeen (Cranford) .....	D. McHardy, Esq. ...	5	1 0	120 †	29·62	252
„ (Duthie Park) .....	Dr. Buchan, F.R.S. ...	...	...	44	27·36	199
„ (King's College) .....	The Meteor. Council ...	8	2 0	48	27·34	229
Towie (Culquoich) .....	Col. J. Allardyce .....	5	0 6	800	39·04	...
Strathdon (School-house) .....	J. B. Innes, Esq. ....	5	1 0	980 †	37·46	230
D Alford (Lynturk Manse) .....	Rev. J. B. Duncan.....	5	1 0	615 †	35·10	221
D Monymusk (The Manse) .....	Rev. Dr. Macpherson...	5	1 0	280 †	33·26	230
Ellon (Mains of Waterton) .....	T. F. Jamieson, Esq....	5	1 0	100	25·69	...
Haddo House .....	Mr. J. Forrest .....	5	0 8	180 †	27·67	230
Peterhead (Buchanness) .....	Bd. of Northern Lights	3	3 0	25	17·99	165
New Deer Schoolhouse .....	Mr. H. Cowie.....	5	1 0	397 †	30·44	217
Kinnairdhead .....	Bd. of Northern Lights	3	2 6	54	19·25	159
BANFF.						
D Dufftown .....	J. Walker, Esq.....	5	2 0	579 †	37·02	250
Aberlour .....	W. McGowan, Esq. ...	...	...	...	31·53	...
Craigellachie (Cragganspey).....	J. Shearer, Esq.....	3	1 0	320	30·44	157
D Keith (H.R.S.) .....	The Station Agent.....	5	1 0	364 †	33·95	206
Banff (Earl Hill) .....	A. Ramsay, Esq. ....	5	1 0	115 †	25·46	218
Cullen House .....	Mr. J. F. Smith.....	5	1 0	100 †	30·20	...
ELGIN OR MORAY.						
Grantown .....	Mr. W. Duncan.....	5	1 1	712 †	31·98	155
D Carron (Bridgend Cottage) .....	Mr. D. Walters .....	5	1 0	366	31·09	190
Craigellachie (Wester Elchies Sch)	Mr. J. Milne .....	5	1 0	560 †	29·36	203
Kinloss .....	J. Mackessack, Esq. ...	5	1 3	20 †	21·63	...
D Gordon Castle.....	Mr. C. Webster .....	8	1 0	107 †	27·12	211
D Duffus House .....	Sir A. Dunbar, Bart....	5	1 0	55 †	21·83	168
NAIRN.						
D Ardclach (Glenferness).....	Rt. Hon. Earl of Leven	...	...	...	31·59	148
D Cawdor (Budgate).....	J. Joss, Esq. ....	5	1 0	250 †	26·84	197
Nairn (Achareidh).....	H. A. Clarke, Esq. ...	8	1 0	59 †	19·56	193
„ (School Ho.) .....	The Meteor. Council ...	8	1 9	84	21·45	222

## DIVISION XVIII.—NORTH WESTERN COUNTIES.

## WEST ROSS &amp; CROMARTY.

Glenishiel (Cluanie Forest) .....	A. Cross, Esq.....	5	1 6	750 ?	74·79	...
D Kintail (The Glebe) .....	Rev. R. MacKenzie ...	5	0 10	5 †	61·24	235
Applecross Gardens .....	Mr. D. McCowan .....	5	1 0	70 †	52·79	...
Strathconan (Dalbreac).....	Mr. D. McIver .....	5	1 0	450	41·88	...

## DIVISION XVIII.—NORTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain 1902	Days on which "01 or more fell.
		Diameter	Height Above Ground.	Height Above Sea Level		
			ft. in.	feet.	inches.	
<b>WEST ROSS &amp; CROMARTY (con.)</b>						
D Glencarron Lodge .....	Mr. D. D. Munro .....	5	1 0	504	82·45	249
D Loch Torridon (Bendamph) .....	Capt Hon L F King-Noel .....	5	0 5	20 A	74·22	238
Kinlochewe .....	The Meteor. Council .....	...	...	...	67·57	205
Braemore House .....	Lady Fowler .....	8	0 7	750	58·20	...
„ (Foich Lodge) .....	„ „ .....	8	0 7	100 I	43·95	...
Ullapool (Drumruinie Lodge) .....	D. A. Lawson, Esq. ...	5	1 6	400 I	54·22	180
„ (Inverpollie Lodge) .....	„ „ .....	5	1 6	50 I	38·38	197
Isle of Lewis (Stornoway) .....	Bd. of Northern Lights .....	8	4 9	20	29·11	199
„ ( „ ) .....	The Meteor. Council .....	8	1 0	24	46·30	254
„ (Tiumpanhead) .....	Bd. of Northern Lights .....	...	...	...	38·33	206
„ (Butt of Lewis) ..	„ „ „ .....	8	4 6	65	34·34	191
<b>EAST ROSS &amp; CROMARTY.</b>						
Contin (Kinnahaird) .....	W. Ross, Esq. ...	5	1 2	74	24·73	...
Strathpeffer Spa (Ambatovory) .....	Mr. Neil McLean .....	5	2 0	252	27·40	231
Evanton (Swordale House) .....	Dr. Buchan, F.R.S. ...	...	...	...	22·50	...
Cromarty .....	Bd. of Northern Lights .....	3	1 0	28	15·54	125
Kildary (Tarbat House) .....	Mr. C. Dyer .....	5	1 6	15	20·89	117
D Alness (Ardross Castle) .....	Mr. W. Minty ..	5	1 0	450 A	33·84	247
D Fearn (Lower Pitkerrie) .....	R. Gordon, Esq., C.E. ..	5	1 0	95	17·69	145
„ (Geanies Mains) .....	Miss Hope Douglas ...	5	1 5	200 I	18·07	...
Tarbetness .....	Bd. of Northern Lights .....	8	4 0	51	23·64	136
<b>WEST INVERNESS.</b>						
North Ballachulish (Alltshellach) .....	B. Chinnery-Haldane Esq .....	...	...	...	58·78	222
Moidart (Kinloch moidart) .....	R. Stewart, Esq. ....	6	1 3	25	49·21	148
Ben Nevis Observatory .....	Dr. Buchan, F.R.S. ...	5	...	4407	157·09	269
Fort William (Observatory) ..	The Meteor. Council ..	8	1 8	33	61·55	254
D Loch Shiel (Glenaladale) .....	Col. Macdonald .....	5	1 2	50 ?	90·31	244
D Arisaig .....	Mr. W. Grant .....	5	1 0	20 ?	56·73	226
D Mucomir .....	Rev. D. Sutherland ...	5	1 0	154 A	47·75	226
D Loch Nevis (Inverie) .....	Mr. J. Huggins .....	5	0 6	10	78·46	245
D Glenquoich .....	Mr. D. Grant .....	8	1 2	569 A	102·49	252
D Glenelg Manse .....	Rev. A. Mactaggart ...	5	1 0	85 I	57·23	222
D Skye (Armadales, Ardvassar) .....	Rev. N. MacDougall ...	5	1 0	20 I	57·26	172
„ (Strathaird) .....	Mr. K. Macdonald .....	5	1 4	45	97·56	180
„ (Oronsay) .....	Bd. of Northern Lights .....	...	0 6	15 ?	33·27	165
„ (Kyleakin) .....	„ „ .....	5	4 6	45	43·76	220
D „ (Scalpay Island) .....	Mr. D. Gunn .....	5	1 0	4	62·29	231
„ (Portree House) .....	A. H. Douglas, Esq. ...	5	1 6	100	44·23	...
Eigg .....	Mr. D. McDonald .....	...	...	...	45·70	...
D „ (Kildonan) .....	Mrs. Glendinning .....	...	1 0	35	48·30	196
Rona .....	Bd. of Northern Lights .....	3	1 3	180	33·69	197
Barra (Barrahead) .....	„ „ „ .....	7	3 0	613	28·29	204
S. Uist (Ushenish) .....	„ „ „ .....	3	1 0	178 ?	76·42	205
N. Uist (Monach) .....	„ „ „ .....	8	5 6	20	30·58	169
D „ (Lochmaddy) .....	T. D. McGregor, Esq. ...	5	0 9	...	40·36	249

DIVISION XVIII.—NORTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which '01 or more fell.
		Diameter	Height Above Ground.	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
<b>WEST INVERNESS—(con.)</b>						
Harris (Island Glass).....	Bd. of Northern Lights	7	4 2	35	41·86	202
D „ (Tarbert) .....	R. Sinclair, Esq.....	5	1 6	33 1	66·42	272
<b>EAST INVERNESS.</b>						
D Invergarry .....	Mrs. Ellice .....	5	1 0	...	39·37	121
Kingussie .....	Dr. Buchan, F.R.S. ...	...	...	828	25·23	181
D Fort Augustus (St. Benedict's)...	Rev. C. von Dieckhoff..	5	1 6	68 7	35·63	222
D Alvie Manse .....	Rev. J. Anderson .....	5	1 0	760	25·88	178
Loch Ness (Killin) .....	W. Murray Morrison Esq	5	1 0	1200	39·40	...
D „ „ (Whitebridge) .....	„ „ „	5	1 0	645	39·87	168
„ „ (Foyers).....	„ „ „	8	1 6	52	25·64	...
„ „ (Aberchalder) .....	„ „ „	5	1 0	700 7	29·10	...
D „ „ (Drumnadrochit) .....	Mr. A. Grant .....	5	1 0	138 7	28·27	225
Inverness (High School) .....	Dr. Buchan, F.R.S. ...	...	...	114	25·83	180

## DIVISION XIX.—NORTHERN COUNTIES.

SUTHERLAND.

D Dornoch .....	Rev. D. Grant .....	5	1	0	21	19-41	159
D Invershin .....	Mr. G. Young .....	5	4	0	20 †	27-51	181
D Golspie (Dunrobin Castle) .....	Mr. D. Melville .....	5	1	0	14 ‡	25-64	166
" " " ).....M	" " .....	3	0	5	13 ‡	26-40	...
Stourhead ... ..	Bd. of Northern Lights	5	1	6	155	18-15	225
D Bettyhill .....	Mr. Evander Mackay...	5	1	0	100	26-73	144
Cape Wrath .....	Bd. of Northern Lights	7	4	8	330	25-90	200

## CAITHNESS.

Wick .....	The Meteor. Council ...	8	1	9	77	26·43	243
Watten (H.R.S.) .....	The Station Agent.....	5	2	6	75 1	21·42	207
Thurso (Holburnhead) .....	Bd. of Northern Lights	3	0	8	60 ?	35·80	212
Dunnethead .....	„ „ „	3	1	0	320	23·73	178
Pentland Skerries .....	„ „ „	7	3	9	40	20·04	156

ORKNEY.

D South Ronaldshay (Roeberry) ...	J. Gray, Esq. ....	5	1	2	101	25·43	229
Hoy (Cantickhead) .....	Bd. of Northern Lights	3	1	0	52	29·09	213
„ (Graemsay Sound, East=High)	„ „ „	5	0	4	17	36·68	184
„ „ „ (West=Low)	„ „ „	8	4	3	27	31·62	187
Pomona (Deerness) .....	Dr. Buchan, F.R.S. ...	...	1	0	172	29·09	191
„ (Kirkwall) .....	James Begg, Esq. ....	3	0	9	20	30·69	177
Hellyar Holm.....	Bd. of Northern Lights	3	1	0	28	23·58	198
Auskerry .....	„ „ „	3	2	6	10	23·58	134
Shapinsay (Balfour Castle) .....	the late Mrs. Balfour...	5	0	6	50	24·18	...
Sanday (Start Point).....	Bd. of Northern Lights	3	1	0	15	27·34	142
Westray (Noup Head) .....	„ „ „	3	1	0	190	32·15	188
North Ronaldshay .....	„ „ „	3	0	4	10	39·51	200

## DIVISION XIX.—NORTHERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground.	Height Above Sea Level.	1902	
			ft. in.	feet.	inches.	
<b>SHETLAND.</b>						
Fair Isle, N. ....	Bd. of Northern Lights	3	4 . 0	225	33·00	127
Sumburghhead (Dunroseness) ...	The Meteor. Council ...	8	1 0	84	33·95	261
Bressay .....	Bd. of Northern Lights	3	1 0	62	36·11	190
Lerwick .....	Dr. A. Buchan, F.R.S. ...	...	...	30	34·91	200
Sule Skerry .....	Bd. of Northern Lights	3	0 6	40	30·27	162
d Fetlar (The Manse) .....	Rev. J. A. Campbell ...	5	1 0	30 l	34·47	263

## I R E L A N D.

## DIVISION XX.—MUNSTER.

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.	
		Diameter	Height above Ground.		Height above Sea Level		1902
			ft.	in.	feet.	inches.	
CORK.							
D Castletownshend (Glen Barrabane)	E. B. Coghill, Esq. ...	5	3	0	25 L	29·15	180
D Bandon (Ardnacarrig) .....	G. A. Armstrong, Esq. ...	5	1	0	126	41·82	180
Roche's Point .....	The Meteor. Council ...	8	1	9	32	32·67	214
D Passage West .....	C. H. Jacob, Esq. ....	8	4	0	287	35·84	200
D Douglas (Villa Franca) .....	R. C. Sikes, Esq. ....	5	1	0	49 T	40·00	188
D Cork (Queen's College) .....	Prof. A. Jack .....	8	1	0	60	40·51	188
D „ (The Palace) .....	Rt. Rev. Bishop of Cork	5	1	0	40 L	36·40	180
D „ (Wellesley Terrace) .....	W. Miller, Esq. ....	5	1	0	190 B	37·28	175
„ (St. Ann's Hill) .....	A. G. Bennett, Esq. ...	5	4	6	250	27·46?	167
D Mallow (Summer Hill) .....	J. F. Williamson, Esq. ...	5	1	10	261 T	38·87	191
D „ (Longueville Field) .....	R. E. Longfield, Esq. ...	5	1	1	310	38·95	220
Doneraile (Carker House) .....	The Meteor. Council ...	5	2	0	267	30·44	137
KERRY.							
D Darrynane Abbey ..	D. O'Connell, Esq. ....	5	1	1	13 N	39·21	244
D Waterville (Iveragh Lodge) .....	T. J. Wilmot, Esq. ....	5	1	0	86 N	40·51	187
Kenmare (Derreen) .....	Mr. W. Holbrow .....	5	1	0	74 T	69·88	210
Valencia (Glanleam) .....	The Meteor. Council ...	8	1	0	12	50·23	214
Cahiriveen .....	„ „ „	8	2	0	32	50·38	263
Gap of Dunloe (Garrymeen) .....	Ven. Archdeacon Wynne	8	3	0	75	60·50	...
D Killarney .....	E. Griffin, Esq., M.D. ...	5	0	10	178 T	46·52	191
WATERFORD.							
Lismore (Ballygally) .....	R. Foley, Esq. ....	5	1	0	160 N	41·65	...
„ (Mocollup Castle) .....	Dr. H. W. Drew .....	8	4	9	180	43·21	...
D Knockaderry .....	M. J. Fleming, Esq., C.E. ...	5	4	0	241 T	39·49	170
D Waterford (Brook Lodge) .....	C. P. Bolton, Esq., C.E. ...	5	1	0	104 T	40·25	166
D „ (Ticor) .....	M. J. Fleming, Esq. C.E. ...	5	0	7	171 T	38·92	152
D Portlaw (Mayfield) .....	J. Anderson, Esq. ....	5	4	0	70	47·92	188
„ (The Gardens, Curraghmore) .....	Mr. D. Crombie .....	5	0	9	135	50·13	...
„ (Milfort) .....	C. Morley, Esq. ....	5	2	2	200	48·87	167
Glenam [Clonmel] .....	Miss Grubb .....	8	1	4	80 T	46·80	199
D Sheskin [Carrick-on-Suir] .....	J. Ernest Grubb, Esq. ...	8	1	2	542 N	53·56	215

## DIVISION XX.—MUNSTER—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
<hr/>						
			ft. in.	feet.	inches.	
TIPPERARY.						
Clonmel (Bruce Villa) .....	J. H. Grubb, Esq.....	5	1 3	110 T	42·47	185
Cahir Abbey .....	Mrs. W. Rochfort .....	5	0 6	...	38·24	186
Nenagh (Kilboy) .....	The Lady Dunalley ...	...	...	...	40·48	...
Derry Castle [Killaloe]... ..	Mr. T. Manly.....	5	1 6	580 T	35·10	205
Nenagh (Castle Lough) .....	A. Parker, Esq.....	5	1 3	120 T	33·96	212
„ (Highlands) .....	John Mounsey, Esq. ...	5	1 2	470	31·93	190
Ballingarry (Hazelfort) .....	Mrs. Fraser.....	5	1 0	...	30·29	210
LIMERICK.						
Foynes .....	The Meteor. Council ...	5	1 0	104	31·47	170
Limerick (Roxborough).....	A. W. Shaw, Esq. ....	8	1 6	108 T	31·28	239
„ (Corbally) .....	The Meteor. Council ...	...	...	...	31·45	247
„ (Victoria Terrace) .....	J. Horan, Esq. ....	5	1 0	60 T	29·70	193
CLARE.						
Carrigaholt Castle.....	W. C. V. Burton, Esq.	5	1 0	16	29·20	214
Killadysert (Paradise Hill) .....	Rev. H. Henn .....	5	0 11	105 T	37·02	212
Newmarket-on-Fergus(Carrigoran)	The Meteor. Council ...	5	1 0	86	34·06	211
Broadford (Hurdlestown).....	Colonel Bentley .....	5	1 0	167 T	29·42	233
Killaloe .....	F. Dudley Fletcher Esq. CE	5	2 0	...	35·96	178
Ennis (Roslevan) .....	Mrs. Scott .....	5	1 11	40	30·97	169
Miltown Malbay .....	M. Molohan, Esq. ....	5	1 0	400 T	32·26	231
Inagh (Mount Callan) .....	The Meteor. Council ...	5	1 0	480	52·21	248
Lahinch (Moy House) .....	Miss Bowes.....	5	1 0	53	32·33	225
Ennistymon House .....	H. V. Macnamara, Esq. DL	5	1 0	38	37·29	227
„ Rectory .....	Rev. C. W. McDowell..	5	1 0	132	42·33	182

## DIVISION XXI.—LEINSTER.

WEXFORD.						
Wexford (Reclaimed Lands) ...	Mr. W. Thomas .....	8	1 3	below	35·86	...
New Ross (Longraigue) .....	J. W. Deane, Esq. ....	5	1 0	210 T	39·36	188
Wexford (Bann-aboo) .....	Col. Magrath .....	8	4 0	9	36·29	147
Templeudigan (Ballinoney) ...	J. Budgen, Esq. ....	5	1 0	434 B	48·93	175
Enniscorthy (Ballyhyland) .....	Mrs. Moffat .....	5	1 0	365 T	44·14	201
" (Monksgrange) .....	G. H. Orpen, Esq. ....	5	1 0	565 B	53·74	217
Oulart (Wells) .....	C. M. Doyne, Esq. ....	5	1 0	207 T	37·60	165
Enniscorthy (Woodbrook) ..	Rev. Canon Blaeker ...	5	0 9	302 T	51·81	186
Gorey (Courtown House) .....	Rt Hon Earl of Courtown	5	3 0	80 T	32·34	157
KILKENNY.						
Rockenham [Waterford] .....	A. E. Graves, Esq. ....	8	0 6	140 T	37·73	136
Piltown (Bessborough) .....	Mr. J. G. Weston .....	8	3 6	80	41·07	197
Kilkenny (Ballycallan) .....	J. O'Connell, Esq., C.E.	5	1 0	290 ?	37·34	189
" Castle .....	The Meteor. Council ...	8	1 0	208	33·11	174
" (Sion Villa) .....	J. O'Connell, Esq., C.E.	5	1 0	198	34·59	209
" ( " " ) weekly g. ..	" " .....	5	1 3	198	34·27	...
" (Lavistown House) ...	Miss Butler .....	5	2 5	180	32·32	160
Goresbridge (Barraghcore House)	H. de M. Fleming, Esq.	5	1 0	130 T	32·27	193

## DIVISION XXI.—LEINSTER--(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
			ft. in.	feet.	inches.	
WICKLOW.						
d Laragh (Glendalough) .....	Wyndham H Wynne Esq	5	2 9	460 T	57·66	205
Roundwood (Vartry Lodge) .....	W. B. MacCabe, Esq., CE	5	1 0	720	44·45	176
„ .....	„ „ „	5	1 6	800 T	47·93	...
„ (Knockatemple) .....	„ „ „	5	1 6	760 T	44·55	...
Newcastle (Killadreenan) .....	B. H. Steede, Esq., M. D.	8	1 2	255 T	37·79	167
Tithewere .....	W. B. MacCabe, Esq., CE	5	1 6	1000 T	46·12	...
Annacarter .....	„ „ „	5	1 6	750 T	46·33	...
Greystones (Knockdolian) .....	R. Cathcart Dobbs Esq CE	5	1 2	68 T	40·09	168
d† Bray (Fassaroe) ... ..	R. M. Barrington, Esq.	10	5 0	250	47·82	194
CARLOW.						
Bagnalstown (Fenagh House) ...	D. R. P. Beresford, Esq	5	1 0	340	33·60	169
„ ( „ „ ) <i>new g. M</i>	„ „ „	5	1 0	340	31·25	...
d Carlow (Browne's Hill) .....	W. Browne Clayton, Esq	5	1 0	291 T	34·50	186
QUEEN'S COUNTY.						
Abbey Leix (Blandsfort) .....	J. L. Bland, Esq. ....	5	3 0	532 T	34·82	214
d Mountrath (Ballyfin) .....	J. McLaren, Esq. ....	8	1 0	600 T	40·59	239
KING'S COUNTY.						
d Parsonstown (Birr Castle) .....	Rt Hon Earl of Rosse FRS	8	1 0	183	28·24	205
„ ( „ „ ) .....	„ „ „	8	0 10	183	28·10	202
d Banagher .....	Mr. J. Deegan .....	5	1 6	170	25·33	142
Tullamore .....	Rev. R. S. Craig .....	5	1 0	201 T	28·16	...
KILDARE.						
d Castledermot .....	Rev. M. Walsh .....	5	2 8	...	29·25	176
Timolin Vicarage .....	Rev. J. Eldon Ellison..	5	1 0	370 T	37·36	...
d Monasterevin (Moore Abbey) ...	Mr. A. Whitelaw .....	5	1 0	236 T	30·82	205
d Straffan House .....	Mr. F. Bedford .....	5	2 0	240 T	29·78	200
DUBLIN.						
d Glen-na-Smoel (Water Works)...	F. P. Dixon, Esq., C.E.	5	1 6	516 T	48·47	227
Carrickmines (Claremont) .....	John Read, Esq. ....	5	0 11	350	32·79	...
d Ballybrack (Streamville) .....	F. B. Falkiner, Esq. ...	5	1 5	30 B	34·02	185
Killiney (Cloneevin) .....	R. O' B. Furlong, Esq. CB	5	1 0	250 T	32·26	192
„ (Winterslow) .....	G. M. W. Hill, Esq. ...	5	1 0	50	34·96	...
d Kingstown (People's Park) .....	Dr. J. Byrne Power ...	8	1 0	43 T	30·14	176
Rathmines (Terenure) .....	F. P. Dixon, Esq., C.E.	8	0 6	125 T	28·26	182
„ (Leinster Road) .....	E. H. Cannon, Esq. ...	5	1 0	170	28·82	189
d Donnybrook (Seaview Terrace) ..	Miss A. K. Wilson ...	5	0 9	15	27·18	174
d† Dublin (Fitz William Square) ...	Sir J. W. Moore, M. D.	8	1 6	54 T	29·38	203
„ (Phoenix Park) .....	Lt.-Col. G. H. Lin, R.E.	8	1 0	155 T	26·46	207
d Lucan (The Garden) .....	Mr. P. Reid .....	5	1 0	105 T	27·63	164
d Glasnevin (Botanic Gardens) ...	F. W. Moore, Esq. ...	8	1 0	68 T	28·75	200
d Balbriggan (Ardgillan) .....	Capt. E. R. Taylor .....	5	1 0	211 T	28·13	185
„ ( „ „ ) .....	„ „ „	8	1 0	211 T	28·89	...

## DIVISION XXI.—LEINSTER—(continued).

STATIONS.	AUTHORITIES.	Diameter.	Rain Gauge.		Depth of Rain.		Days on which 501 or more fell.
			Height Above Ground	Height Above Sea Level	1902		
MEATH.							
n Summerhill House.....	Rt. Hon. Lord Langford	5	1	0	372 T	28·77	206
n Athboy .....	C. P. Coghill, Esq.....	8	1	3	227	30·00	190
n Oldcastle (Killeagh Rectory) ...	Rev. R. Butler .....	5	1	0	382	32·25	209
n Moynalty (Westland) .....	W. A. Barnes, Esq. ...	5	1	2	260 T	34·55	226
n Drumconrath (Aclare House) ...	Admiral Singleton, C.B.	10	2	6	170 T	33·26	217
n „ (Corstown House)	„ „ „	10	2	6	153 T	26·40	210
WESTMEATH.							
Athlone (The Moorings) .....	Capt. J. Preston.....	5	1	0	178	28·87	...
n „ (Twyford) .....	J. P. Hodson, Esq.....	5	5	0	188 A	30·90	212
n Mullingar (Belvedere) .....	Mr. J. Bayliss .....	5	1	0	367 T	30·68	195
n Streete (Daramona) .....	W.E. Wilson, Esq., FRS	10	1	0	276	33·35	246
LOUTH.							
Drogheda (St. James') .....	L. Donegan, Esq. ....	5	1	0	32 T	28·72	201
n Ardee (Lissrenny) .. .	T. F. Filgate, Esq.....	8	0	10	75 T	32·98	215
Dundalk (Farndreg) .....	J. Barton, Esq. ....	5	...	...	90 T	29·94	224
n†Greenore.....	T. Chambers, Esq. ....	5	1	0	4 L	32·01	207
LONGFORD.							
n Cloondraha .....	F Dudley Fletcher Esq CE	5	2	0	130	29·40	263
Edgeworthstown (Currygrane Ho.)	J. M. Wilson, Esq. ...	5	1	0	265	27·97	...

## DIVISION XXII.—CONNAUGHT.

GALWAY.						
D Woodpark [Scariff] .....	R. F. Hibbert, Esq. ...	5	1 0	170 A	34·96	229
Galway (Queen's College).....	W. Hare, Esq. ....	16	9 0	30	31·90	195
D Ballinasloe .....	W. H. Kempster, Esq.	5	3 0	160 A	30·27	232
D Woodlawn .....	Mr. A. Porter.....	5	3 6	300 T	32·08	229
Ahascragh (Clonbrock) .....	Rt. Hon. Lord Clonbrock	10	5 4	200 T	34·34	...
D Clifden (Kylemore House) .....	Mr. T. McNab .....	5	1 0	105	61·83	200
D „ ( „ Castle) .....	Mr. William Comfort...	5	0 9	170 T	65·77	241
Tuam (Castle Hacket) .....	P. B. Bernard, Esq. ...	5	1 0	...	34·32	...
„ (Gardenfield) .....	M H. Kirwan, Esq. ....	5	1 0	155 T	35·50	...
„ ( „ ) ... <i>Snowdon</i>	„ „ „	5	6 0	160 T	34·78	...
ROSCOMMON.						
D Athlone .....	F Dudley Fletcher Esq CE	5	2 0	128 A	29·38	196
D Rooskey .....	„ „ „	5	2 0	139 A	31·75	246
MAYO.						
D Cong (The Glebe) .....	Rev. R. Y. Lynn .....	5	1 11	112 T	40·49	237
Ballinrobe (Cranmore) ...	Miss Knox .....	5	0 9	99	39·80	...
D Westport (Murrisk Abbey) .....	F. C. Garvey, Esq. ....	5	1 1	18	41·78	264
„ (Mallaranny) .....	The Meteor. Council ...	5	1 0	120	48·45	191



## DIVISION XXII.—CONNAUGHT—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which '01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1902	
<hr/>						
MAYO—(con.)			ft. in.	feet	inches.	
d Achill (Coraun House) .....	C. Scrase Dickins, Esq.	5	0 10	39	43·10	155
d Newport (Burrishoole House) ...	H.M. Anketell Jones Esq	5	3 0	30	41·06	225
Doo Castle [Tobercurry] .....	Mr. D. O'Dowd .....	5	1 0	...	36·74	238
Blacksod Point .....	The Meteor. Council ...	...	...	...	44·35	276
d Crossmolina (Enniscoe).....	J. Pratt, Esq.....	5	0 11	74 †	46·27	267
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SLIGO.						
Ballymote (New Park) .....	R. A. Duke, Esq. ....	5	1 2	228	35·85	...
d Collooney (Markree Observatory)	J. R. Armstrong, Esq..	5	1 0	130 †	38·36	250
d Ballysadare Bay (Glen Lodge)...	" " " "	5	16 6	148 †	32·59	243
	Vernon Cochrane, Esq.	5	1 0	14	38·57	201
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LEITRIM.						
d Jamestown (Albert Lock).....	F Dudley Fletcher Esq CE	5	2 0	146 †	30·94	174
Carrigallen .....	The Meteor. Council ...	...	...	...	37·30	230
Drumshambo .....	F Dudley Fletcher Esq CE	5	2 0	169 †	33·70	...

## DIVISION XXIII.—ULSTER.

CAVAN.						
d Stradone House .....	Mr. J. Hart .....	5	1 0	280	35·29	166
Cavan (Water Works) .....	M W. H. Morris, Esq. C.E.	8	...	304 †	30·30	...
d Belturbet (Cloverhill) .....	Mrs. Sanderson .....	5	1 0	202 †	32·02	212
d Ballyconnell House .....	Surg.-Gen. S.B. Roe, CB	8	1 2	196	35·37	221
FERMANAGH.						
d Enniskillen (Model School) .....	Mr. J. T. Abraham ...	5	1 0	160 †	35·80	244
MONAGHAN.						
d Dartrey [Cootehill] .....	Rt. Hon. Earl of Dartrey	5	2 6	265	29·85	161
d Monaghan (Rowantree House)...	Dr. J. C. Hall .....	5	5 6	240	29·00	184
ARMAGH.						
d† Bridge Street [Newry] .....	J. L. D. Meares, Esq. C.E.	5	0 9	22 †	38·05	200
d Armagh Observatory .....	Dr. Dreyer ..	8	1 0	205 †	31·73	215
d Loughgall (Manor House) .....	Mrs. Cope .....	5	1 0	205 †	32·38	210
d Lurgan (Belle Vue) .....	S. A. Bell, junr., Esq..	5	0 5	200 †	29·75	194
DOWN.						
d† Warrenpoint (Summer Hill) .....	B. M. Kernan, Esq. ...	5	1 0	30 †	37·79	155
d Newcastle (Tullymore Park) ...	Col. Hon. R. J. Jocelyn	5	1 0	...	61·99	201
d Rathfryland (Ballynagappoge)...	J. Smyth, Esq., C.E....	5	1 0	300	35·40	175
d† Castlewellan (Lough Island) ...	" " " "	5	1 0	440 †	59·22	154
Banbridge (Katesbridge) .....	A. Mulligan, Esq. ....	5	1 0	230	30·61	168
d Seaforde .....	Mr. W. Allan .....	8	0 5	180 †	42·68	203
d Banbridge (Corbet Reservoir) ...	J. Smyth, Esq., C.E....	5	1 0	234	31·02	149
d† " (Milltown) .....	" " " "	8	0 8	220 †	31·02	198
Donaghadee .....	The Meteor. Council ...	8	1 6	30	30·69	196

## DIVISION XXIII.—ULSTER—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1902	Days on which ·01 or more fell.
		Diameter	Height Above Ground.	Height Above Sea Level		
			ft. in.	feet.	inches.	
<b>ANTRIM.</b>						
Stonyford (Belfast W. W.) ...	FW McCullough Esq. CE	5	1 6	437 $\nabla$	34·22	202
d† Belfast (Linen Hall Library) ...	G. Maxwell, Esq. ....	5	4 9	17 $\uparrow$	35·78	207
d† „ (Springfield) .....	T. G. Firth, Esq. ....	5	1 0	150 $\uparrow$	40·07	271
† „ (Antrim Road) .....	FW McCullough Esq. CE	5	7 0	144 $\uparrow$	37·01	212
Antrim (Ardnaveigh) .....	H. B. Murray, Esq. ...	5	0 8	210 $\uparrow$	33·05	197
Carrickfergus (Dorisland) .....	FW McCullough Esq. CE	5	1 0	250 $\nabla$	34·45	234
„ (South Woodburn) .....	„ „ „	5	1 0	640 $\nabla$	39·15	230
„ (North Woodburn) .....	„ „ „	5	1 0	735 $\nabla$	46·33	236
„ (Copeland) .....	„ „ „	5	1 0	424 $\nabla$	35·41	226
„ (Lough Mourne) ...	„ „ „	5	1 0	596 $\nabla$	38·79	230
Ballynure (Ballyboley) .....	Mr. T. H. Craig .....	5	1 4	400	37·74	...
d Ballymena (Harryville) .....	J. R. Williams, Esq. ...	5	1 5	150 $\uparrow$	38·77	239
Broughshane (Quolie) .....	H. O'Hara, Esq. ....	5	1 4	893	44·88	245
Glenarm Castle .....	The Meteor. Council ...	8	1 0	25	47·20	158
Ballymoney (Balnamore) .....	W. H. Lawlor, Esq. ...	5	1 5	50 $\uparrow$	36·60	236
Stranocum (Gardenvale) .....	A. McNeill, Esq. ....	5	1 0	160	35·69	194
d Bushmills (Dundarave) .....	Sir F. E. Macnaghten, Bt	5	1 0	162 $\uparrow$	32·57	197
<b>LONDONDERRY.</b>						
d Garvagh (Moneydig) .....	H. R. Morrison, Esq. ...	5	1 0	121	36·14	202
Londonderry (The Asylum) .....	S. Haire, Esq. ....	5	1 0	36 $\uparrow$	30·36	155
d „ (Creggan Res.) .....	Mr. J. Hutchison .....	8	1 0	320 $\uparrow$	36·48	249
Limavady (Drenagh) .....	M. M. McCausland, Esq.	5	1 6	80	33·34	235
„ (Bellarena) .....	Dowager Lady Heygate	5	1 0	20	32·35	207
d Coleraine .....	W. R. Kennedy, Esq. ...	5	4 0	52	35·82	221
<b>TYRONE.</b>						
d Stewartstown (The Square) .....	A. Johnston, Esq. ....	5	1 4	300 $\uparrow$	33·47	174
d Omagh (Edenfel) .....	Col. Buchanan, C.B. ...	8	1 0	280 $\uparrow$	39·25	232
d Newtown Stewart (Baron's Court)	Mr. R. Bell .....	5	1 0	250 $\uparrow$	36·56	223
<b>DONEGAL.</b>						
d Killybegs .....	A. Brooke, Esq. ....	5	1 0	30	45·28	258
d Raphoe (Convoy) .....	Rev. K. H. Thompson..	5	0 9	150 $\uparrow$	40·93	217
d Letterkenny (District Asylum)..	E. E. Moore, Esq., M.D.	5	1 0	183 $\uparrow$	40·49	243
Rathmullan .....	Dr. Loughnan .....	5	1 0	1	35·46	...
d Buncrana (Rockfort) .....	T. Colquhoun, Esq. ...	5	1 0	40 $\uparrow$	36·51	243
Ardnadrean Rectory .....	Rev. W. S. Griffith ...	5	0 10	39	37·79	...
d Horn Head .....	C. F. Stewart, Esq. ...	5	1 0	163	39·25	247
d Lough Swilly (Carrablagh) .....	H. C. Hart, Esq. ....	5	1 0	130	32·35	251
Malin Head .....	The Meteor. Council ...	8	1 0	220	30·72	261

62, CAMDEN SQUARE,  
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H. S. W.  
H. R. M.