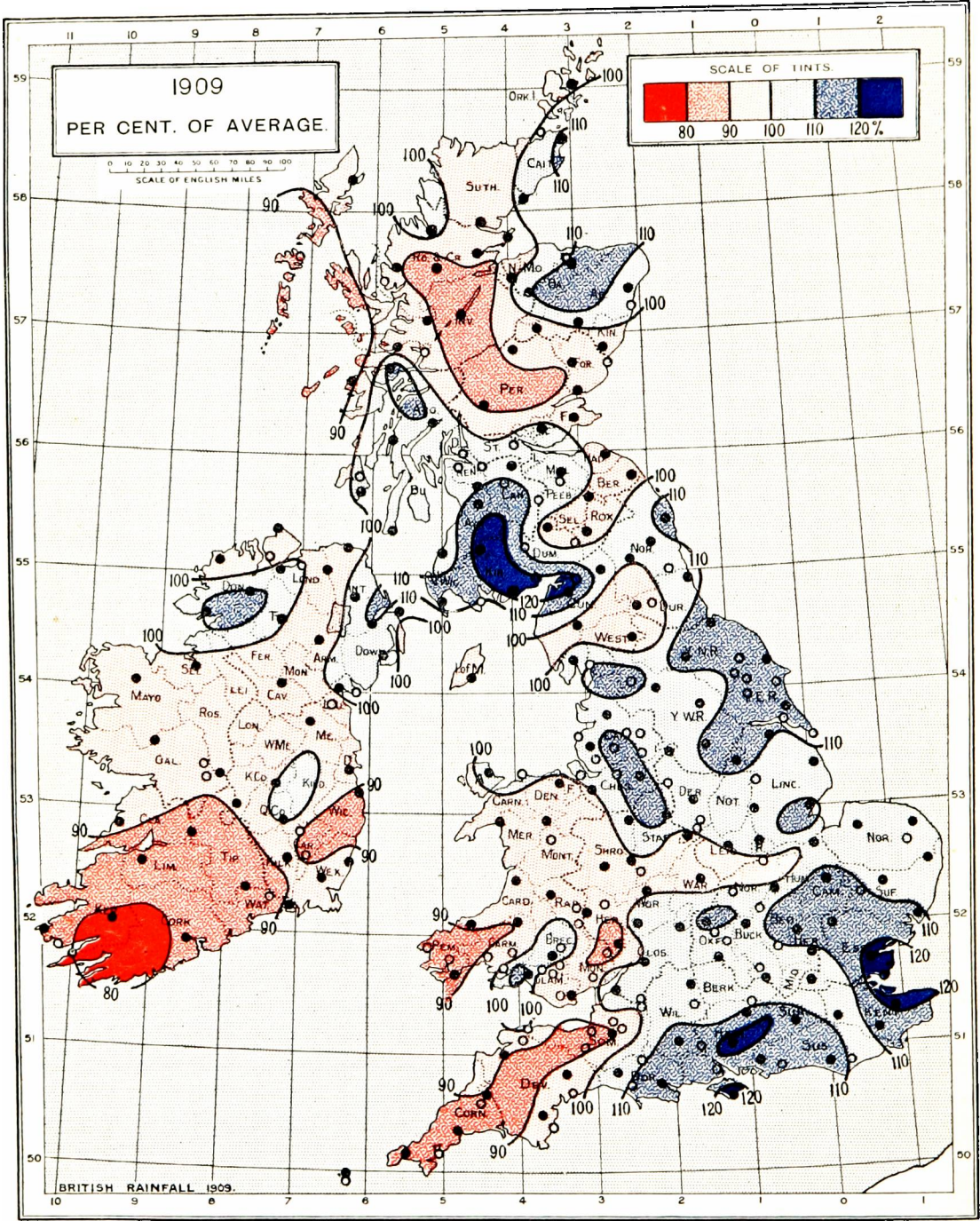


BRITISH RAINFALL.  
1909.

LONDON :  
SHIELD AND SPRING, PRINTERS,  
LANCELOT PLACE, BROMPTON ROAD, S.W.

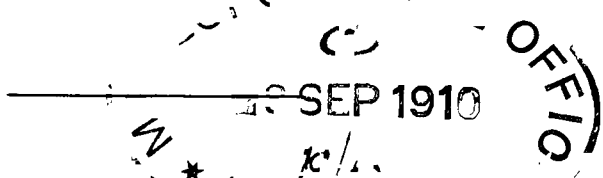


RELATION OF RAINFALL OF 1909 TO THE AVERAGE OF 1870-99.



The area coloured Red had rainfall below the average, that coloured Blue above the average. The lightest tint shows a variation of less than 10 per cent. from the average, the intermediate tint between 10 and 20 per cent. and the solid colour more than 20 per cent.

BRITISH RAINFALL, 1909.



ON THE DISTRIBUTION OF RAIN

IN SPACE AND TIME OVER THE

BRITISH ISLES

DURING THE YEAR

1909

AS RECORDED BY MORE THAN 4,500 OBSERVERS  
IN GREAT BRITAIN AND IRELAND

AND DISCUSSED

WITH ARTICLES UPON VARIOUS BRANCHES OF RAINFALL WORK

BY

HUGH ROBERT MILL

DIRECTOR OF THE BRITISH RAINFALL ORGANIZATION

---

THE FORTY-NINTH ANNUAL VOLUME

---

WITH MAPS AND ILLUSTRATIONS

LONDON:

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

1910.

ERRATA IN BRITISH RAINFALL, 1900-1907.  
In General Tables, *for* Northamptonshire, Blisworth (Milton House),  
*read* Peterborough (Milton House).

ERRATUM IN BRITISH RAINFALL, 1906.

p. [187], Halstead Rectory, *for* 34·83 | 221, *read* 33·72 | ....

ERRATA IN BRITISH RAINFALL, 1907.

- p. [46], l. 13, Duration of sunshine, *for* 149·3 hours *read* 143·9 hours.  
 \*p. [86], *delete* l. 18 and letterpress referring thereto.  
 \*p. [89], „ l. 21 „  
 \*p. [99], „ first 2 lines of "Table I." and *add* at end  
     „ „ | „ | Liberton, Alnwick Hill ..... | 3·10 „ | 9·3 | 33·29 „,  
     „ 16 | VII. | Lincoln, Cottesford Place ... | 3·04 „ | 11·7 | 25·98 „,  
 \*p. [100], *Substitute* for last 2 lines of Table :—  
 1907... | 3·53 | 7·3 | 59·3 | 4·86 | 9·4 | Kingsbridge, Westcombe | V.  
 Diff. .. | —·27 | +0·7 | —11·8 | —·60 | +2·3 | ..... | ...  
 p. [118], Worksop (Hodsock Priory), *for* None, *read* Sep. 5 | Oct. 5 | 31 | 31  
 p. [183], Halstead Rectory, *for* 27·32 | 234?, *read* 26·15 | ...  
 p. [250], Nantneuadd [Abergwesyn], *for* 72·85 *read* 63·85.  
 \*p. [254], Snowdon (Llyn Llydaw Intake)..... | 154·34 | ... } *delete*  
     „ ( „ „ Copper Mine | 196·16 | ... } the records.

ERRATA IN BRITISH RAINFALL, 1908.

- p. [36], l. 22, *for* "R above, but rain days below" *read* "R below, but rain days above."  
 p. [41], l. 19, *for* 27th *read* 2nd.  
 \*p. [82], Under Jan. 15th, *delete* last 6 lines of letterpress and 3rd line in list.  
 \*p. [106], in Table of Comparison of Maximum Falls, *substitute* for 4th, 8th and 12th lines respectively :—  

1908 .....	3002	1·26	4·5	178	5·9	25	0·8
1908 .....	386	1·54	4·2	67	17·4	8	2·1
1908 .....	208	1·47	4·0	30	14·4	3	1·4

\*p. [107], in Table I., Maximum Falls in 1908, *delete* first 2 lines & *add* at foot,  
 July 13... | IV. | Great Glemham..... | 3·45 | 16·0 | 21·62  
 Oct. 19... | XI. | Mountain Ash (Maesydderwen) | 3·45 | 6·9 | 49·91  
 \*p. [108], *substitute* for last 4 lines of Table :—  

1907.....	3·53	7·3	59·3	4·86	9·4	Kingsbridge, Westcombe	V.
Average	3·79	6·6	70·8	5·44	7·2	.....	...
1908.....	3·93	8·0	60·7	4·80	9·9	Treharris .....	XI.
Diff. ....	+·14	+1·4	—10·1	—·64	+2·7	....	..

\*p. [111], *substitute* for last 4 lines of Table :—  

7 .....	3465	.....	118	.....	3·4	.....	21	.....	0·6
Mean .....	2399	.....	283	.....	11·8	.....	40	.....	1·6
1908 .....	3596	.....	275	.....	7·7	.....	36	.....	1·0
Diff. ....	+1197	.....	—8	.....	—4·1	.....	—4	.....	—0·6

p. [229], l. 6, *for* Horrabridge *read* Sheepstor Vicarage.  
 p. [250], Handford, *for* 34·83 *read* 33·83.  
 p. [277], Snowdon (Glaslyn) No. 3, *for* 147·89 *read* 137·89.  
     „ (Teyrn)...No. 1, „ 159·19 „ 149·19.  
 \* „ „ (Llyn Llydaw Intake).. .....No. 10, *delete* the record.  
     „ ( „ „ Copper Mill)..No. 9, „ „

---

\* Corrections made necessary by having accepted the records of two rain gauges of faulty construction.

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## PREFACE.

---

IN issuing the tenth annual volume in which I have shared, and the seventh for which I have had the sole responsibility, I wish to draw attention to the new departure which the British Rainfall Organization makes in the fiftieth year of its activity. Full particulars are given in the article on pp. 22-45 with diagrams which show the past progress of the work at a glance.

Henceforth I shall share the responsibility for the continuance of the Organization with the friends who have so generously responded to my request to join me as Trustees ; but I hope that the result of this arrangement will be that I shall, personally, do more, and not less, in the great work initiated and matured by Mr. Symons.

I wish to acknowledge the great help I have received from my Chief Assistant, Mr. Carle Salter, not only in the compilation of this volume, but in the whole work of the Organization, of which he was in charge on several occasions during my absence.

HUGH ROBERT MILL.

62, CAMDEN SQUARE,  
LONDON, N.W.

*22nd August, 1910.*

Bless then, our God, the new-yoked plough  
And the good beasts that draw,  
And the bread we eat in the sweat of our brow,  
According to Thy Law.  
After us cometh a multitude—  
Prosper the work of our hands,  
That we may feed with the land's food,  
The folk of all our lands !

Here, in the waves and the troughs of the plains,  
Where the healing stillness lies,  
And the vast, benignant sky restrains,  
And the long days make wise—  
Bless to our use the rain and the sun  
And the blind seed in its bed,  
That we may repair the wrong that was done  
To the living and the dead !

*Kipling.*

## REPORT.

---

**The Trustees.**—I have always had much upon my mind the future of the Rainfall Organization, and as announced last year, I had decided to ask Trustees to take charge of the nucleus of an Endowment Fund provided by the generosity of two friends. In making arrangements for this I came to the conclusion that it was right for me to endeavour at the same time to place the Rainfall Organization on a permanent footing, as I realized how much greater the difficulties would be for my executors if I left them to carry out the plans I had suggested for the future. I cannot adequately express my gratitude to Mr. Francis Druce and Mr. James G. Wood, the lifelong friend of Mr. Symons, for embodying my wishes in the form of a Trust Deed, and to them in common with Mr. R. M. Barrington, Sir Alexander Binnie, Mr. Charles L. Brook, Mr. C. J. P. Cave, Mr. Douglas Freshfield, Mr. Henry Mellish and Sir John Murray for their kind consent to act with me as Trustees of the British Rainfall Organization. The Trustees met at 62, Camden Square, on June 8th, 1910, and signed the Deed which defines their powers and responsibilities. I believe that the great body of rainfall Observers will agree that it was a fitting celebration of the fiftieth year of the Rainfall Organization, initiated by Mr. Symons in 1860, to make over to the Trustees in trust for the nation, the historical rainfall house with its unique collection of 150,000 complete annual records of rainfall in the British Isles. Although I parted reluctantly from the personal possession of those records, which I prized more highly than I can say, I parted also from a heavy load of anxiety as to their future custody and utilization, and I gain in return as full an assurance as it is possible that the British Rainfall Organization will continue to exist and improve as the years go on.

The first article in this volume describes the development of the Organization, and gives details of the new constitution, which is simply a formal recognition of the practice which has been found by experience to be necessary and sufficient. As Director, I will continue as before to conduct the work on behalf of the Observers, who accumulate the data and subscribe the funds which are now vested in the Trustees.

**The Late King.**—In accordance with a resolution of the Trustees an address to the King was presented in the following terms :—

TO HIS MOST GRACIOUS MAJESTY, KING GEORGE THE FIFTH

May it please Your Majesty,

We the Trustees of the British Rainfall Organization, a voluntary association of nearly five thousand Meteorological Observers, residing in all parts of the British Isles, beg most respectfully to express the deep sorrow we feel at the heavy loss which Your Majesty, Her Majesty the Queen, Her Majesty Queen Alexandra, the other Members of the Royal Family, and all Your Majesty's subjects have suffered by the death of King Edward the Seventh.

We are emboldened to offer our respectful sympathy because His late Majesty was pleased to honour us by associating Himself with the objects of our studies, and the gracious interest which He took in our work has been an inspiration and encouragement to us all.

We offer Your Majesty our loyal congratulations on Your accession to the Throne, praying that Your Majesty's reign may extend to many years of cloudless prosperity.

Signed on behalf of the Trustees of the  
British Rainfall Organization,

HUGH ROBERT MILL.

The following reply was received :—

HOME OFFICE, WHITEHALL, *12th August, 1910.*

SIR,

I am commanded by The King to convey to you hereby His Majesty's Thanks for the Loyal and Dutiful Address of the Trustees of the British Rainfall Organization, expressing their sympathy with His Majesty on the occasion of the lamented death of His late Majesty King Edward the Seventh, and congratulations on His Majesty's Accession to the Throne.

I am to say that the expression of sympathy with Queen Alexandra has been laid before Her Majesty, who desires me to convey to you Her Thanks.

I am, Sir,

Your obedient Servant,

(Signed) WINSTON S. CHURCHILL.

**Original Observers.**—One of the original Observers whose name appeared in this list last year is no longer with us, and we have been unable to hear anything for many years of Mr. D. Doncaster ; but half of the ten survivors, distinguished by small capitals in the list below, have records for 1909 in this volume.

R. BURRELL, Esq., Westley, Bury St. Edmunds.

W. S. CLARK, Esq., Street, Somerset.

D. Doncaster, Esq.

W. Dilworth Howard, Esq., London.

DR. W. C. LAKE, Teignmouth.

Rev. C. B. Mount.

LORD PECKOVER OF WISBECH, Wisbech.

W. B. PUGH, Esq., Patrington.

Colonel Michael Foster Ward, Slough.

James G. Wood, Esq., London.

**Thanks for Special Services.**—If this paragraph were to name all those to whose kindness I have been indebted for special help during the past year, it would certainly be the longest in the book, for it would contain a large proportion of the thousands of names set forth in the General Table. A few, however, must be named, as they have helped in a very special degree. First, I would thank my friend Mr. F. Campbell Bayard, for his unique Monthly Tables of the Daily Rainfall, at a large number of stations in the north of Kent and Surrey, prepared for the Croydon Natural History Society. It is only by such comparisons as are given in a Table with daily values that slips and blunders in observing or recording can be detected and remedied. Mr. A. W. Preston, of Norwich, does a similar service with his Table in the *Norfolk Chronicle*, and Mr. H. Stilwell in preparing his Tables for Dorset sends us all the original returns for comparison with those which reach us directly from the Observers, and in this way it is often possible to correct both sets of returns without troubling the Observers. Although they do not publish daily values, the local Tables compiled by Rev. H. A. Boys, for Wessex, Mr. John Hopkinson, for Hertfordshire, Mr. C. A. Markham, for Northamptonshire, Miss Marshall, for the Lake District, Mr. T. Wainwright, for North Devon, Mr. S. Heaton, for the Oxford County Education Committee, and Messrs. G. H. Hill and Son, for the North of England, are of the greatest value to us, and we are happy to have been entrusted with the keeping

of the original records sent in to some of these collectors, which not only ensures their preservation, but saves the Observer the trouble of making a second return. Sir John Moore has on this occasion, as often before, procured several returns from Ireland, when applications to the Observers had failed, and in Ireland we have also to thank Mr. W. T. Lyons, of the Royal College of Science, for helping to increase the interest in rainfall observing. While giving precedence of thanks to those enthusiastic amateurs who carry on the work for the love of it at their own charges we are equally grateful for the ever-ready help offered by Dr. Shaw and the heads of departments in the Meteorological Office for allowing us access to the records received there ; while both Mr. Marriott of the Royal Meteorological Society, and Mr. Watt for the Scottish Meteorological Society have not only supplied records which we did not receive directly, but have compared every entry in the records received by both so that the published results will not vary. The Water Authorities in all parts of the country, all the great and many of the smaller municipalities, the Cornwall County Council, the Commissioners of Northern Lighthouses, the Shannon Navigation, the Great Central Railway (Canals Department) and other public bodies are thanked for the help they have cheerfully rendered. We have frequently had to acknowledge help received from the public press ; but we have never been helped to so many new records in one year as by the *Surrey Advertiser* for 1909.

Most of all I am indebted to the unflagging devotion of my assistants, every one of whom is, I believe, as thoroughly interested in the work as I am myself, and only thus could they get through the enormous mass of checking, compilation, computation, and proof-reading which goes to make up the volume. Nor should I omit to give their due to the printers, Messrs. Shield and Spring, and to the engravers, Messrs. Bale, Sons and Danielsson, for the intelligence and promptitude with which they work.

A word may also be given to the memory of Miss Ferrier, who addressed the Magazines for many years, and whose death severed another of the links with the earlier years of the Rainfall Organization.

**The New Decade.**—This volume contains the figures which complete the fifth decade of observations collected by the British Rainfall Organization ; but as some of these have only been received

at the moment of going to press it is impossible to compile the ten year averages in time to deal with them in the present volume. Next year we hope to discuss the results at some length ; and it would be of great assistance if any Observer who knows of records taken during the period 1900-09, which have not been sent in, would endeavour to obtain for us a copy of the monthly totals. We are anxious to make the collection of records as complete for the past as for the present, and old returns are always welcome ; but it is just at such a time as this, when the records of a decade are about to be discussed, that the returns for that decade have their greatest value.

**The Crusade against "Wrong Day."**—The new forms, C. and A., introduced last year with a space reserved for the reading of the first day of the following month or year have enabled us to correct a great many of the records which are still entered to the day on which the gauge is read at 9 a.m. In the case of illiterate Observers who have acquired the habit of entering in this way, it would increase the risk of error if a change were made, and there is no need to make any change when a daily return is sent in with the reading on the morning of the first of the following month or year entered in the appointed place. All the same a uniform practice is desirable, and so few now fail to observe the rule of entry to the previous day that it was well worth while to make a strenuous effort to obtain this result. The evil is, of course, most serious in the case of gauges read once a month, as the reading is a total amount which cannot be altered. Suppose that two neighbours have each a rain gauge in his garden, Smith, a normal Observer, follows the rule, Jones follows the exception. If, now, a fall of 3·00 in. of rain occurred on the 31st of August, after an accumulated amount of 3·50 in. for the first 30 days, Smith, the normal Observer, reads that amount at 9 a.m. on September 1st, and entering it to the month of August, gives a total of 6·50 in., and views it rightly as a very wet month. But Jones, the devotee of "wrong day," reads his gauge next door at 9 a.m. on August 31st and finds only 3·50 in. in it ; and if September has only ·50 in. for its 30 days, when he reads again at 9 a.m. on September 30th, he finds 3·50 in., which he puts down to September ; while Smith, visiting his gauge on October 1st, has only ·50 in. to record, a dry month. There are probably two local papers thirsting for news ; Smith favours one and Jones the other, with the result that one newspaper says "The capricious nature of the weather of

the present autumn is well illustrated by the fact that the rainfall in August reached the appalling total of six and a half inches, while in September barely half an inch fell, and widespread distress was caused by want of water." The other paper observes, "In the hard light of facts the fallacy of popular fancies regarding the weather stands revealed. No doubt many of our readers suppose that August was a wet month, and that the September which has just passed was abnormally dry, but they are betrayed by the tricky sprite memory, for according to the careful measurements made by our respected fellow-citizen, Mr. Jones, on whose scrupulous accuracy and high-souled conscientiousness not even our hypercritical contemporary would have the temerity to cast an aspersion, exactly as much rain fell in one month as in the other: 3.50 in. in August, 3.50 in. in September: the gift of Heaven was shared with an even hand."

The reason why it is so difficult to draw accurate maps of monthly rainfall, or obtain satisfactory monthly averages for a locality, as distinguished from a station, is that the "month" means one interval of time to one Observer, another interval of time to another Observer. When the measurements are made daily it is easy to detect and correct the record; but when they are only made once a month in thinly gauged districts one is often unable to say which is right. We took the laborious step this year of writing to every Observer whose record led us to suspect that the rule as to date of entry was being disregarded, and the result has been most gratifying and promises well for the future. But as to the past, when daily records are fewer we must continue in uncertainty. So far as we can ascertain no very heavy wide-spread rain has occurred on December 31st during the last 50 years; now things are so far satisfactory, that if it did occur it would not be impossible to put the yearly records right.

**Annual Rainfall Maps.**—The work on these has made little progress during the year, for they are now at a stage requiring my personal attention, and though I would rather spend time upon them than on anything else, I have been obliged in consequence of the arrangements for transferring the rainfall property and of a partial break-down due to overwork to reduce the time devoted to them. The methods of measuring and averaging the maps have, however, been settled, and I hope that the work will now proceed.

**Inspection of Rain Gauges.**—In October, 1909, when lecturing for the Gilchrist Trust in the south of Ireland, I was able to inspect

a number of rain gauges in the counties of Cork, Waterford, Limerick, Wexford and Kilkenny, and I owe a special debt of gratitude to Mr. A. F. Sharman-Crawford for enabling me, thanks to his motor car, to visit all the gauges between Cork city and Roches Point in one day. I was able to see a few gauges in Yorkshire and Lancashire during a course of Gilchrist Lectures in the north of England in February, 1910, and succeeded in getting some new records established in most interesting places. During a compulsory holiday in South Devon in the winter, I visited as many Observers as were within reach, and on a short trip in Scotland I saw some of the rain gauges in out of the way parts of Argyllshire. On other occasions I visited a few stations in Bedfordshire and Cambridge; while Mr. Carle Salter was able to inspect a few stations in Sussex and Suffolk. The most interesting piece of inspection, however, was that of the Birmingham Water Works rain gauges in the Elan Valley in Wales, which, in company with Mr. E. Antony Lees, Secretary of the Water Committee, I made in August, 1909. It is impossible to overrate the importance of seeing the Observers and their gauges, as even when no rectification is required, or can be made, the degree of dependence to be placed on the record and its value for checking others can usually be ascertained.

**Finance.**—The nucleus of £150 towards an Endowment Fund referred to last year should, according to my sanguine forecast, have grown to £200 in eight months, and I was glad to be able to justify the hope. Once the Fund was properly established under the charge of Trustees it rapidly reached £1,100, thanks mainly to the generosity of Mr. Charles L. Brook who, when invited to become a Trustee, informed me that he had left by will a sum of £500 to Mr. Symons or his successor in charge of British Rainfall and that he would now give the money as a gift to the new fund. While gratified at seeing the Fund in so hopeful a condition as the list of contributions shows, I may call attention to the rapid growth of expenditure as shown on p. 38, and I hope that the annual subscriptions and sales of publications will continue to increase, and with the income from the Endowment Fund in time cancel the annual deficit. The work is done at an extraordinarily small cost; but there is so much more that should be undertaken that any expansion of income can be guaranteed an equivalent result in published work of solid value.

HUGH ROBERT MILL.

# THE BRITISH RAINFALL ORGANIZATION.

---

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Williams, C. Theodore, Esq., M.D., M.V.O. ....	1	5	0	Wright, Major W. (2 years).....	1	0	0
Williams, Rev. Leonard A. ....	1	1	0	Wynford, Dowager Lady (2 years)	2	2	0
Williams, Morgan B., Esq. ....	1	0	0	Wynn, Hon. F. G. ....	1	1	0
Willock, W. A., Esq. ....	1	0	0	Yool, Mrs. H. ....	1	7	0
				Younger, H. J., Esq. ....	1	10	0

Cheques and Postal Orders should be crossed "National Bank, a/c British Rainfall Organization, General Fund," and sent to DR. H. R. MILL, 62, Camden Square, London, N.W.

## DONATIONS TO ENDOWMENT FUND.

	£	s.	d.
Abraham, Miss .. .. .	2	0	0
Backhouse, Mrs. J. E. .. .. .	5	0	0
Barbour, Miss M. .. .. .	2	0	0
Boughton, Miss F. H. Rouse .. .. .	100	0	0
Bradshaw, Miss .. .. .	2	2	0
Brook, Charles L., Esq. .. .. .	500	0	0
Coode, R. C., Esq. .. .. .	5	0	0
Cooke, Richard, Esq. .. .. .	4	5	0
Druce, Francis, Esq. .. .. .	100	0	0
Druce, Mrs. K. .. .. .	5	0	0
Druce, H. A., Esq. .. .. .	2	2	0
Druce, Miss Mary .. .. .	2	2	0
Ducie, The Earl of .. .. .	10	0	0
Farrer, Sir W. J. .. .. .	5	0	0
Grant, R. C., Esq. .. .. .	2	2	0
Heberden, W. B., Esq., C.B. .. .. .	5	0	0
Martineau, Miss M. C. .. .. .	2	2	0
Mellish, Lt.-Col. H. (Instalment) .. .. .	100	0	0
Mill, Dr. H. R. .. .. .	30	3	0
Morrison, W., Esq. .. .. .	10	0	0
Murray, Sir John, K.C.B., F.R.S. .. .. .	100	0	0
Pearson, F. Fenwick, Esq. .. .. .	3	0	0
Pember, E. H., Esq., K.C. .. .. .	5	0	0
Ransom, F., Esq. .. .. .	5	5	0
Sharman-Crawford, A. F., Esq. (Instalment) .. .. .	10	0	0
Sturt, Mrs. Napier G. .. .. .	5	0	0
Tabor, H. S., Esq. .. .. .	5	5	0
Welch, W. G., Esq. .. .. .	10	0	0
Anonymous (two donations) .. .. .	60	10	0
Sums under £2. .. .. .	9	7	0
<b>TOTAL .. .. .</b>	<b>£1107</b>	<b>5</b>	<b>0</b>

This Fund is invested by the Trustees and the income paid into the General Fund of the British Rainfall Organization. Donations should be sent to the Treasurer, FRANCIS DRUCE, Esq., at 62, Camden Square, London, N.W., and cheques crossed "National Bank, a/c British Rainfall Organization, Endowment Fund."

## THE BRITISH RAINFALL ORGANIZATION AFTER FIFTY YEARS.

By HUGH ROBERT MILL.

ON June 8th, 1910, the British Rainfall Organization was vested in Trustees and its functions were legally defined in a Trust Deed, which must henceforth be taken as the expression of the purpose of its existence. The importance of the step lies in the emancipation of the Organization from the risks of mortality, as its continuance is no longer, as it had been for half a century, contingent on the good-will of an individual, with no pledge beyond the completion of the volume for the current year. The occasion is one which justifies a somewhat detailed consideration of the growth and progress of the work initiated by George James Symons, in 1860, with special reference to the method by which it has been supported.

Great droughts occurred in the years 1857, 1858, and 1859, and Mr. Glaisher, in the *Quarterly Returns* of the Registrar General, "expressed some doubt as to whether the great deficiency which had been going on for three or four years was likely ever to be made up." This drew the attention of George James Symons, then a youth of 22, and he collected and published in the *Builder* a summary of the rainfall for 1859. This was favourably received, and next year he collected 168 records from England and Wales, and issued them in a quarto pamphlet, "English Rainfall, 1860."

On February 15th, 1862, Mr. Symons signed the preface of the first volume of BRITISH RAINFALL, the full title of which was—"On the Distribution of Rain over the British Isles during the years 1860 and 1861, as observed at about 500 stations in Great Britain and Ireland." The whole volume consisted of 18 pages, and in addition to the preface there was only one page of letterpress. The opening paragraph of the preface runs:—

The observations of rainfall in the British Isles not having hitherto been properly classified, the Author has undertaken their collection and arrangement, but finds the number of observations so large, and the care requisite to verify them so great, that no time can be fixed for their publication. As, however, he felt that some reliable information ought to be circulated as soon as possible, he prepared an abstract of the fall in 1860, and had it privately printed last year. This summary was in such request that he resolved to publish one annually in future, and for the convenience of those who could not obtain the previous table, to reprint the amounts for 1860 along with those for 1861 in this the first of the series.

After thanking the Observers who had responded to his request for observations, he concludes that he "trusts that these pages (the product of his leisure hours) will so far meet their approval that he may rely on their assistance in the future."

While the actual volume of BRITISH RAINFALL was little more than a Table of Annual Rainfall, a Report by Mr. Symons to the British Association, "On the Fall of Rain in the British Isles during the years 1860 and 1861," extended to 70 pages, of which 65 were occupied by monthly values for all the stations.

BRITISH RAINFALL, 1862, was increased to 26 pages, and the Report to Observers was introduced, in which Mr. Symons remarks that the collection of the rainfall from year to year was subsidiary to the collection of all existing rainfall data in the British Isles, of which he had already secured 7000 yearly records from about 1000 stations, extending back to 1677. The next yearly issue extended to 48 pages, dealing with 700 stations; it included the first rainfall map, which, however, only bore the rainfall in inches, at the points of observation, without isohyetal lines, and it included the 12 numbers of the newly established "Monthly Rain Circular." In the Preface Mr. Symons—then it must be remembered only a young man of 25—refers thus briefly to his withdrawal from his employment in the Meteorological Department of the Board of Trade, under Admiral FitzRoy:

Having, in the tables for 1862, described them as "the product of his leisure hours" it may not be inappropriate for the Author to state that they are so no longer. The development of the inquiry being so rapid that he has been compelled to resign either his other engagements, or "British Rainfall" in all its branches. Unpleasant as it was financially, he did not for a moment hesitate, rather to sacrifice his pecuniary prospects, than abandon an investigation, the ramification and importance of which we cannot yet see.

The Report of the British Association on the Rainfall of 1862 and 1863, was presented to the meeting of that body at Bath, in 1864, and dealt first with the steps taken to secure new Observers, who were supplied with rain gauges at the cost of the Association, unfortunately not yet the approved modern pattern, though the first reference to the gauge now adopted as the standard appears in this report in connection with the extensive series of observations started by Captain Mathew, on the lower slopes of Snowdon, whence the gauge received its name.\* At the next meeting, at Birmingham in

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\* This pattern of rain gauge was first introduced at Calne in 1862 by Col. M. F. Ward, for whom it was made by a local chemist named Rowdon.

1865, Mr. Symons submitted a paper which occupies 50 pages of the Report of the Association, dealing with what had been done for the rainfall of the British Isles before 1860, since 1860, and what remained to be done. He gave a list of all the records he knew of before 1860 as follows :—

From Table 1 it will readily be seen how sudden and great has been the increase of observers during the last thirty years, and especially during the last five, in which one finds the results of the recent grants of this Association. From 1677 to 1800 the returns never number more than twenty-six per annum, and average only four; and in subsequent ten-yearly periods the numbers average, up to 1810, 15; to 1820, 21; to 1830, 40; to 1840, 103; to 1850, 178; to 1860, 366; and at the present time the returns number rather more than a thousand. It is right to mention that no records have yet been obtained for 1687 and 1688, 1694 to 1696, 1717 to 1721, 1724 and 1725, since which time there is no year without one or more complete registers; that is to say, rain-records go back complete 140 years, and with intervals about fifty years more, or nearly 200 years altogether.

To these figures we must now add 50 years. The report contains a complete list of all the records known, with the dates of commencement and termination. Mr. Symons sums up the results thus :

There can be no harm in stating that by what has been done I have lost over £300 and a lucrative post; and inasmuch as it is impossible for me to continue under such conditions, the “work to be done” will not become “work done” unless I am protected from further loss. The Royal Society have recently granted £50 towards the general expenses of the investigations; the observers naturally think that by observing they do their share, at the same time they have subscribed about £150; but the total of £200 by no means meets the outlay of so extensive a work as mine.

The exertions of the young enthusiast proved too much for his health in 1864, and he was condemned to inaction for nine months; but the annual volume, now with 54 pages, was completed on February 7th, 1865. The British Association appointed a Committee consisting of Mr. J. Glaisher, F.R.S., Lord Wrottesley, F.R.S., Professor Phillips, F.R.S., Professor Tyndall, F.R.S., Dr. Lee, F.R.S., J. F. Bateman, F.R.S., R. W. Mylne, F.R.S., Charles Brooke, F.R.S., with G. J. Symons as Secretary, and in the name of this Committee he sent circulars for publication to all the local newspapers in the British Isles, asking for old records, existing records, and the starting of new records. The Committee reported in 1866 with an account of all the activity of their Secretary (we have no evidence that any of the more distinguished members did more than lend their name), and of the experiments as to the best form and exposure of rain

gauges which he had been carrying out. The year 1865 may perhaps be taken as the close of the first stage in the History of the British Rainfall Organization. The number of records dealt with exceeded 1000 for the first time, the importance of uniformity in the size, pattern, and exposure of rain gauges was satisfactorily demonstrated, the system of the Observers themselves bearing the greater part of the cost of the Organization, had been laid down, and with the beginning of 1866 the four-page "Monthly Rain Circular" blossomed into the eight-page "Monthly Meteorological Magazine." Nearly one-sixth of the whole number of rain gauges in the country has been visited and inspected, though Mr. Symons little suspected that the proportion of inspected gauges would never be so high again.

The work grew steadily, the publications faithfully reflected the increasing co-operation of Observers throughout the country, and the growing experience of Mr. Symons in dealing with the data and in investigating problems relating to rainfall. In 1868 the headquarters were moved a few hundred yards from 136, Camden Road, to 62, Camden Square, the leasehold of which, with 75 years to run, had been purchased by Mr. Symons, who was now devoting his whole time to the work, although with *BRITISH RAINFALL* published, as it then was, in the beginning of March, he had abundant leisure for inspecting gauges, collecting old records, and studying the accumulated data. In *BRITISH RAINFALL*, 1869, he says in the Financial Note, p. 146, "the observations and the published result thereof must still be regarded as a voluntary gift to the public by the Observers . . . . ."

The general public and those engineers whose share in the work is confined to paying five shillings for a copy of the Annual Tables, can hardly be aware of the fact, that if the present voluntary association is inadequately supported or attempted to be displaced, the system of registration which does not now cost the country a farthing, could only be imperfectly perpetuated at an expenditure exceeding £12,000 per annum.

In 1872 Mr. Symons had a serious illness, which led him to think of the uncertain future of the Organization he had created, then including about 1500 records, and after an appeal for increased subscriptions from Observers, he decided to engage a permanent assistant, who could be trained to the work, in the hope of being one day his successor. The assistant in question, Mr. Herbert Sowerby Wallis, proved an apt pupil, and from the unexampled wet year 1872, when he began his labours, to the scarcely less wet year 1903, when he

retired, each volume of *BRITISH RAINFALL* contained a very large proportion of his work. He had the same instinct for figures as Mr. Symons, and grew into such close harmony with his chief that it is quite impossible in reading the printed pages to assign the authorship of any unsigned article. A small office of one room was built in the garden for the new assistant to work in. A few years later, this office was enlarged to two small rooms, and a fireproof recess fitted with slate shelves and iron doors, for the safe keeping of an abstract of all the records collected.

Up to 1875 the British Association for the Advancement of Science re-appointed the Rainfall Committee each year, with a grant varying from £50 to (on one occasion) £150, a large part of which was spent on the provision of rain gauges, and their periodical inspection. But at the meeting at Bristol in that year the grant was stopped. The Council of the Association has always acted on the principle that their available funds should be devoted to encouraging new departures in scientific work, and that they should not be disposed of in making regular annual grants, no matter how deserving the object might be. The members of the Mechanical Science Section spoke very warmly of the value of the work to the nation, and to the engineering profession, and suggestions were made that the Rainfall Organization should be taken over by the Government, or be largely subsidized by the Engineers who profited most from the data accumulated. In any case the British Association felt that it had done its part, and it bade farewell to the Organization with its blessing.

I believe that Mr. Symons had already been approached with a view to the transfer of the Organization to Government, or to some learned Society, but I have been unable to find any reference to the details of the proposed arrangement. In *BRITISH RAINFALL*, 1875, he considers the question of the withdrawal of the grant as related to five considerations. He believed (1) that the progress of rainfall work would suffer no check, as he himself and the Observers could be trusted to see to that; (2) that the British Association would lose more in prestige by the absence of the reports of the Rainfall Committee than it would gain in funds by refusing the grant; (3) that, as he put it:

I flatly refuse to transfer to any Government Office the system which I have organized at enormous expenditure of money, time, and physical and mental energy. I do not believe that the gentlemen who so kindly voluntarily discharge the duties of observers, would approve of being placed

under the supervision of Government officials. I believe that the *esprit de corps* which at present exists, would be extinguished; and though, by taking the present system and applying more red tape, it might be possible to make the machinery even more nearly perfect than it is, it would be at the cost of that intelligent independence of thought which so greatly rules the progress of science. While, however, I believe the transfer of the organization to Government would be disastrous to the progress of rainfall knowledge, I do not maintain that there are no conditions under which Government aid could be accepted

(4) that the Observers would not suffer, for even if they were to find an additional £100 between them to carry on the work, he as a *quid pro quo* would continue to make the combined mass of records useful and interesting to all, and (5) that as for himself he rather thought the decision of the Association was a good thing, as it left him free and unfettered to do exactly what he believed to be for the best interests of rainfall work, for whatever prestige might be lost by severance from an institution like the British Association—"if my friends second my efforts by the accuracy of their records, and by funds, we will earn a position far higher than any which the British Association or even Government itself could give us."

And this was done. Fifteen years later he said :

Although still without help either from any Society or from Government, I think that the rainfall organization may be regarded as firmly established. In fact it is probably more secure of maintenance than it would be if it depended either on Parliament or on any Society; because a sudden division may stop a Parliamentary grant and personal feelings may gain dominion over the Council of a Society; but the work which rests upon the individual support of hundreds of persons in all parts of the country, and in all stations of life, is hardly likely to be abandoned as long as it is honestly and well done.

This confidence has been amply justified by the experience of the succeeding years.

There is no doubt that Mr. Symons was perfectly right in believing that the blind application of rules, characteristic of the Government offices of the last generation, would have been fatal to the growth of a purely voluntary system; and this applies in large measure to the present day also, although I am well aware that the scientific departments of Government are now able to exercise a larger discretion, and that in several departments the system of voluntary co-operation with Government supervision has not proved impracticable.

Occasionally Mr. Symons obtained grants for special purposes from the Government Grant Committee of the Royal Society; but these

were few and of no great amount ; requests for grants to prepare a rainfall map of the British Isles more worthy of British Science than that made by Mr. Symons for the period 1860-65, were repeatedly made and refused. For the rest the only public money received by the Directors of the Organization was the payment for the compilation of the volumes containing records of monthly rainfall for the years 1866-1890, prepared by Mr. Symons for the Meteorological Office, and for compiling and supplying Rainfall maps for the *Monthly Weather Report* since 1907, the remuneration for which is scarcely more than nominal ; and from the Geological Survey for Rainfall maps to illustrate the Water Supply Memoirs. Thus it may be said without exaggeration that the work of the Observers and Director of the Organization has, for the last thirty-five years, been presented to the country as a gift. Mr. Symons fully appreciated this aspect of the case, and expressed it in the preface to *BRITISH RAINFALL*, 1880, when speaking of the regularity and heartiness shown by the Observers.

Why do they do it ? Minor motives may have some influence, but I believe that the leading sentiment which binds together British Rainfall observers is the consciousness that they are helping gradually to store up a mass of information which is, and will yearly become increasingly, valuable to the nation at large—in relation alike to Agriculture, Sanitation, and the proper appropriation of the water supply of the British Isles.

Mr. Symons received two legacies towards the advancement of his work ; one, from a poor man consisted of £5, with his books and instruments, the other was a bequest of £100, made by Miss Nunes. of Torrington, Devon, who died in 1883, “to be applied to meteorological purposes.” Of this sum Government of course profited to the extent of £10, and £90 remained to be applied for the purpose intended. It was resolved to devote part of the fund to supplying free rain gauges for use in districts more than five miles distant from the nearest existing gauge, and thirty instruments were sent out in accordance with this condition. Some of these are in use to the present day, from others not a single record was received ; but there is no doubt that the money applied in this way brought a substantial return in the advancement of our knowledge of the rainfall of the country.

At all times Mr. Symons insisted strongly on the importance of accuracy in instruments and observations, and to secure these essential conditions he knew that frequent inspection was desirable.

As much of his own time as possible was devoted to visiting Observers and examining their gauges, but he was only able to see a few of the thousands of gauges at work in his later years. A paid Inspector was one of his many desiderata, but although the financial difficulty was the main deterrent, other difficulties of a practical nature were no less present to his mind. A paid Inspector, to begin with, is an official, and officialism is apt to be antagonistic to the spirit of voluntary effort. An official has difficulty in realizing that the business of his life may be the hobby or whim of the "Observer" he is visiting, or perhaps the tolerated recreation of a dependent, and from such a difficulty misunderstandings are apt to arise, and to lead to the loss of a record instead of to its improvement. In any case there never was a paid Inspector in the past, and in the present a more excellent way has become practicable at no greater expense.

By 1885 the work of preparing the annual volume of BRITISH RAINFALL occupied Mr. Symons and two permanent assistants. In 1890 Mr. Wallis's name was joined on the title-page as co-editor and so continued until 1900 when the death of Mr. Symons left him in sole charge. Before this time another assistant had been added to the staff, for the volume of the office work grew with the increase in the number of records received. Mr. Symons left all the rainfall records, all his books dealing with rainfall and all his instruments to Mr. Wallis, together with the right to purchase the leasehold of 62, Camden Square, at a stated sum, and of this advantage was taken. No mention was made in his will or in any memorandum of recent date as to his wishes with regard to the future of the Rainfall Organization. None was necessary, for his colleague of nearly thirty years knew all that he had thought and said on the subject, and was himself as keenly interested in the work.

I joined Mr. Wallis on the first day of the present century, and as we worked together I soon came to appreciate the marvellous organizing power which Mr. Symons had exercised in arranging every detail of the work, and although I saw some scope for the introduction of methods not then in use I almost always found that these had been present to the mind of Mr. Symons, and had been tried at one time or other and found impracticable in existing conditions. Mr. Wallis retired in 1903, and I acquired from him the leasehold of the house, the rainfall instruments and books, and the great collection of rainfall records, not with the purpose of turning them to my personal profit, but with the hope to make of the rainfall

investigations a small but substantial instalment of an ambitious scheme for a geographical description of the British Isles.\* It was my intention from the first to leave to the nation the unique collection of rainfall records, which the generous co-operation of more than 10,000 Observers had placed in the hands of my predecessors. It did not seem too much to hope that, with all the data available, I might in my lifetime construct an accurate map of the average rainfall of the British Isles, and maps for many consecutive individual years to compare with it, and so settle at least some of the many questions, meteorological, geographical and economic, which touch on rain. The generous assistance of a Rainfall Observer, who has long been a benefactor to the Organization, but who does not wish his name mentioned in this connection, made it possible to start work upon these maps and to carry it within sight of completion. But the effort to combine this work with the editorship of the monthly magazine, now three times as large as the original number, and of *BRITISH RAINFALL*, and the swelling volume of correspondence, together with a sufficient amount of remunerative work to provide my own income and meet the growing deficit in the finances of the Rainfall Organization has become too much for my strength. For a year or two I was able to keep up with the press of work by abstaining from all scientific meetings and resigning from the many committees on which I had been placed for the furtherance of various scientific and public objects. But something more must be done. It is necessary to re-organize and re-arrange the departments of the work. The death of Mr. J. M. Phillpott in 1907 was a loss that it took a long time to get over; and though the present office staff is capable of carrying on the existing routine, it requires strengthening with a view to future developments. These developments can not be entered upon without an assured income which can accrue to the Organization whether I am there or not. The thought of the future has led me to make the new departure in the control of the Organization, and a glance at the past will throw light on future prospects.

To begin with *BRITISH RAINFALL*. The accompanying Table and diagram show the date at which the Preface was signed, with the number of days from the previous December 31st added, the total number of pages in the volume, the number of these occupied by the General Table of Annual Rainfall, and the total number of records quoted.

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\* *Geographical Journal*, 7 (1896), p. 345; 15 (1900), p. 205 and 353.

*The Growth of "British Rainfall."*

YEAR.	Date in following year of signing Preface.		Day of Year.	"British Rainfall," General Table.		Total Records.
				Total Pages.	Pages.	
1860-61...	Feb.	15	74	18	13	895*
1862...	"	7	38	26	14	588
3...	"	6	37	34	16	671
4...	"	7	38	54	22	865
5...	"	5	36	76	28	1060
6...	"	16	47	116	30	1214
7...	"	24	55	126	33	1292
8...	March	1	61	144	35	1375
9...	"	10	69	176	37	1472
1870...	"	16	75	184	38	1509
1...	May	24	144	206	37	1504
2...	April	30	121	208	42	1630
3...	"	27	117	200	43	1696
4...	"	24	114	214	45	1727
5...	May	22	142	216	46	1835
6...	"	19	140	224	49	1982
7...	"	22	142	208	51	2059
8...	"	28	148	216	51	2071
9...	June	17	168	238	52	2069
1880...	"	10	162	260	52	2114
1...	"	2	153	266	53	2145
2...	"	30	181	264	58	2338
3...	"	30	181	250	59	2433
4...	"	29	181	290	59	2463
5...	July	1	182	274	60	2486
6...	"	13	194	266	60	2488
7...	"	6	187	294	61	2555
8...	June	25	177	256	62	2590
9...	July	4	185	234	64	2708
1890 ..	"	4	185	264	65	2776
1...	"	28	209	272	67	2799
2...	"	14	196	264	68	2850
3...	"	21	202	288	70	2987
4...	"	29	210	298	72	3043
5...	"	18	199	302	73	3084
6...	"	30	212	286	75	3219
7...	"	14	195	300	77	3318
8...	"	14	195	320	80	3404
9...	Aug.	16	228	308	82	3501
1900...	"	17	229	326	81	3493
1...	"	7	219	312	82	3506
2...	June	27	178	326	85	3636
3...	July	21	202	368	89	3829
4...	"	25	207	368	92	3982
5...	Aug.	15	227	360	95	4096
6...	"	24	236	380	99	4259
7...	"	31	243	380	102	4345
8...	"	10	223	404	107	4538
9...	"	22	234	428	111	4681

\* For 2 years. For 1860 there are 424 records, and for 1861 there are 471;  
 "English Rainfall, 1860" published 168 records only.

It has not been possible to ascertain in time for this article the total number of rainfall stations which have been at one time or another at work in the British Isles ; but the following Table shows the number of complete yearly records preserved at Camden Square. These include the 123,180 published in the volumes of BRITISH RAINFALL and enumerated in the foregoing table, and 21,774 collected from old publications or obtained from Observers for former years. The total amounts to nearly 145,000 annual records, of which nearly 10,000 belong to the 183 years from 1677 to 1859 before the establishment of the Rainfall Organization, about 93,000 belong to the 40 years during which Mr. Symons conducted BRITISH RAINFALL from 1860 to 1899, and 42,000 have been added in the last ten years.

*Number of Complete Annual Rainfall Records preserved by the  
British Rainfall Organization.*

	1677 to 1859.	1860-9.	1870-9.	1880-9.	1890-9.	1900-9.	TOTAL.
England .....	6,220	7,922	14,467	19,657	24,975	30,996	104,237
Wales & Islands...	290	654	1,091	1,564	2,598	3,427	9,624
Scotland .....	2,877	2,621	3 730	3,649	4,421	5,515	22,813
Ireland .....	404	620	1,299	1,669	2,010	2,278	8,280
BRITISH ISLES...	9,791	11,817	20,587	26,539	34,004	42,216	144,954

With regard to the number of Observers who aid the Organization financially by purchasing the publications, or subscribing towards the general expenses, it is impossible to give so continuous a record ; but the following Tables afford some light on the question. It is possible to compare the total amount of the subscriptions for two periods of seven consecutive years, separated by an interval of 20 years.

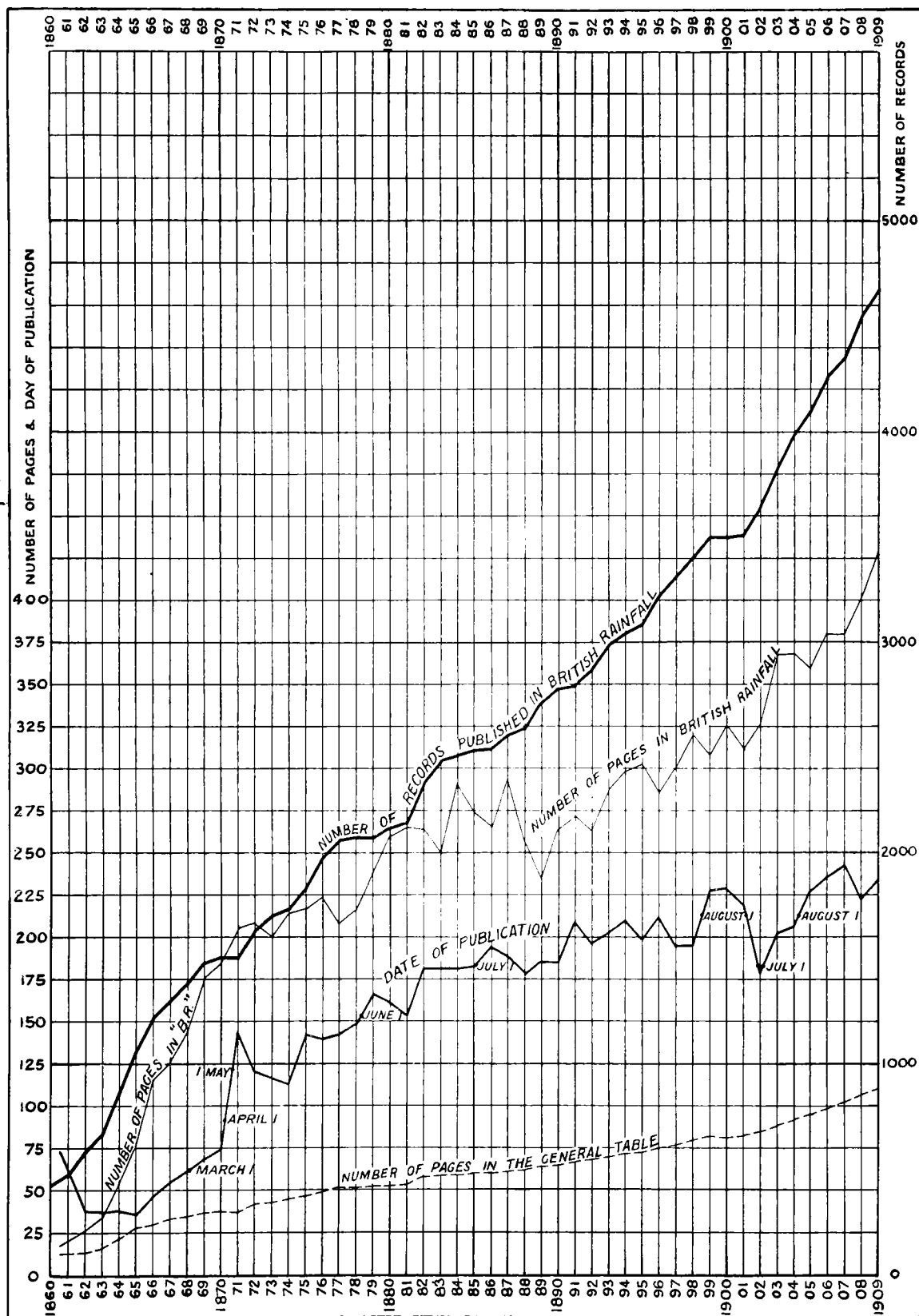
	1878	1879	1880	1881	1882	1883	1884	Mean
No. of Records ...	2071	2069	2114	2145	2338	2433	2463	2233
Subscriptions, £..	707	745	722	762	799	806	818	766

	1898	1899	1900	1901	1902	1903	1904	Mean
No. of Records ...	3404	3501	3493	3506	3636	3829	3982	3621
Subscriptions, £..	980	1035	962	989	927	1001	1011	986

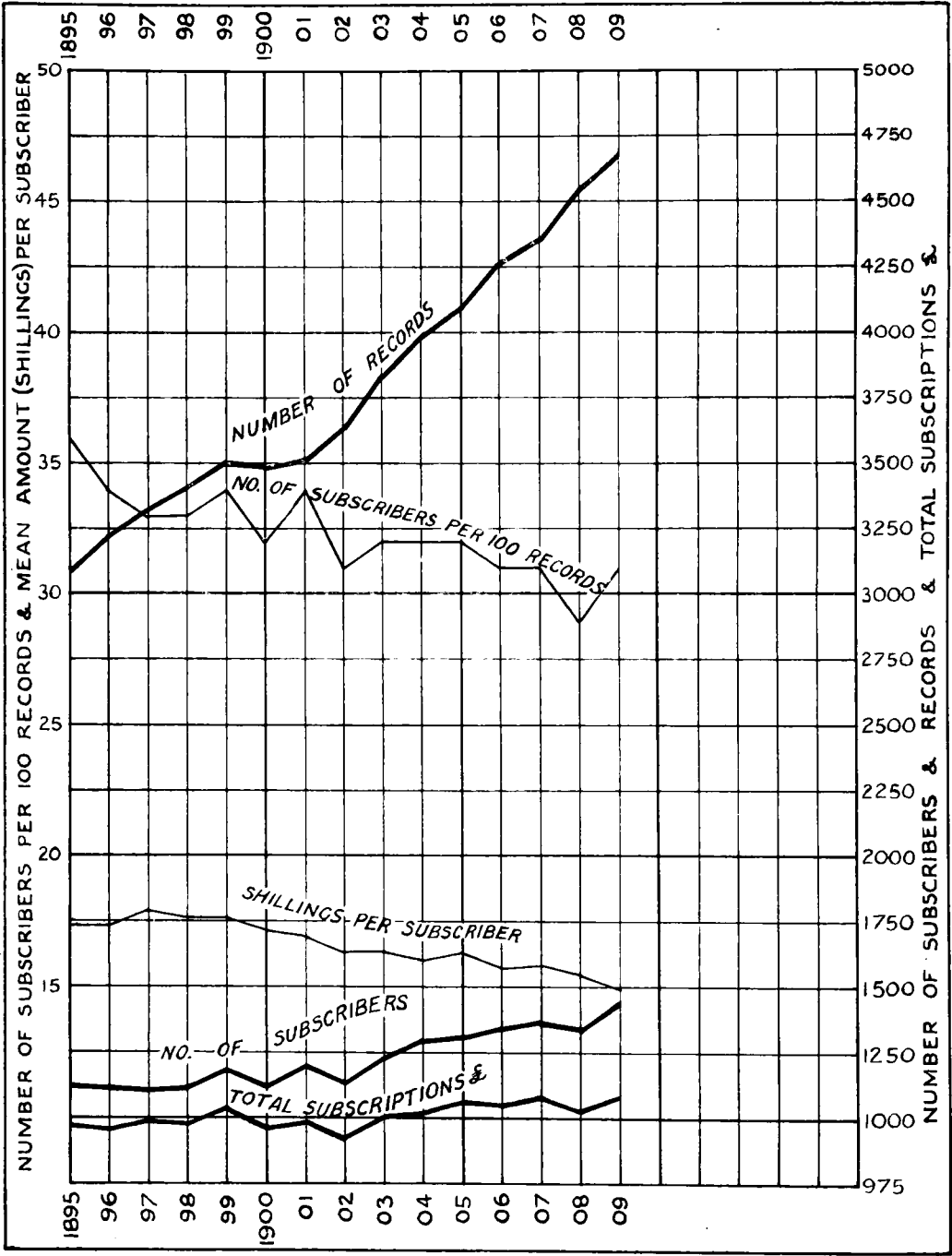
This summary shows that in 20 years the average number of records dealt with increased by 62 per cent., while the funds provided for dealing with them increased by 28 per cent ; the average

# PROGRESS OF BRITISH RAINFALL ORGANIZATION, 1860=1909.



NOTE.—The heavy curve is to be read by the scale on the right hand side ; the three light curves by the scale on the left hand side.

# PROGRESS OF SUBSCRIPTIONS TO BRITISH RAINFALL ORGANIZATION, 1895-1909.



NOTE.—The three heavy curves are to be read by the scale on the right hand side ; the two light curves by the scale on the left hand side.

income in the seven years 1878-84, was at the rate of 6s. 10d. per record printed; and in the seven years 1898-1904, at the rate only of 5s. 5d. per record printed, a diminution of 21 per cent. The expenses on the other hand increased greatly. The changes during the last 15 years are given in the following Table and diagram, which show the number of subscribers (including in this every Observer who sent even as much as a shilling postal order in payment for forms supplied), the number of records published in the year, the proportion of subscribers (as defined above) to the number of records taken as 100, the total amount received as subscriptions, including payment for publications, &c., from the Observers for the year, the mean amount received from each subscriber, and the mean amount received per record published.

Year.	No. of Subscribers.	No. of Records.	No. of Subscribers to 100 Records.	Total Amount.	Mean Amount per Subscriber.	Mean Amount per Record.
				£ s. d.	s. d.	s. d.
1895	1118	3084	36	967 10 7	17 4	6 3
6	1105	3219	34	958 1 1	17 4	5 11
7	1101	3318	33	987 19 10	17 11	5 11
8	1114	3404	33	979 17 9	17 7	5 9
9	1178	3501	34	1034 11 0	17 7	5 11
1900	1120	3493	32	962 5 6	17 2	5 6
1	1197	3506	34	989 10 0	16 11	5 8
2	1134	3636	31	926 15 0	16 4	5 1
3	1224	3829	32	1000 13 8	16 4	5 3
4	1287	3982	32	1011 9 0	16 0	5 1
5	1297	4096	32	1054 14 6	16 3	5 2
6	1341	4259	31	1050 19 7	15 8	5 0
7	1354	4345	31	1074 16 2	15 10	5 0
8	1328	4538	29	1025 0 4	15 5	4 9
9	1438	4681	31	1080 12 4	15 0	4 7
Mean						
1895-99	1123	3305	34	985 12 1	17 7	5 11
1900-04	1192	3689	32	978 2 8	17 3	5 4
1905-09	1352	4384	31	1057 4 7	15 8	4 11

This shows that, except for a slight check caused by the death of Mr. Symons, the number of records received each year has gone on increasing more and more rapidly; the number of subscribers, subject to many minor variations, has also gone on increasing, but at a slower rate; so that while in 1895 there were 36 subscribers for each 100 records, in 1909 there were only 31. The subscriptions also have been increasing in total amount, but not so rapidly as the number of the subscribers, so that, while in 1897 there were 1101

subscribers, giving, on the average, 17s. 11d. each; in 1909 there were 1,438 subscribers, giving, on the average, 15s. each. This is interesting because it shows that while the basis is widening, the number of large subscriptions is diminishing, and the number of small subscriptions is increasing. Small subscriptions, as a rule, are money paid for very ample money's worth in the form of publications or forms, and that is certainly the most healthy and desirable source of income. If only half the total number of Observers were to take the two publications at the full price, there would be income enough for present needs. I think that the Rainfall Organization should be able to pay all expenses, including an adequate salary to the Director for his whole time and attention. I am proud, as Mr. Symons was, of being able, as a labour of love, to assist in offering to the country a mass of work, done just as well, and decidedly more quickly than the work of any comparable system in this or any other country, without any expense to the public at large. But if the work is to have its natural and necessary expansion it is evident that it could not go on on this basis much longer. I had thrown out several suggestions in the "Reports" in recent volumes in view of the inevitable development, hoping that some public body or some influential individuals might come forward with definite proposals, but the hints were not taken. I hold as firmly as Mr. Symons did that freedom from the conventional red-tape of official procedure is essential for the success of our system, for the flowers which yield the honey of rainfall returns must be approached with a light and tactful touch, suiting the form of request, and, above all, the manner of conveying a word of correction, to the particular views of every individual. The wrong way of asking ensures a negative reply, and only experience of the various types of Observer can teach one the right way.\* Whatever system was to be

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\*As an example, I recently received a letter from an Observer who refused to send his record because he considered it an insult to be invited to pay in advance for a copy of *British Rainfall* if he wanted it; and he thought I ought to have known that this was the reason of the record not being sent and should not have applied a second time! In half a dozen somewhat similar cases, when we know the peculiarities of the outlook on life of an Observer, we suppress the ordinary circular and approach him circuitously in a way that saves his susceptibilities. But for one Observer who requires to be caught craftily with guile there are four thousand who respond heartily, meet our requests more than half-way, and gratefully accept suggestions as to rectifying errors we may have to point out. Every year adds to my surprise at the vast kindness of the Observers whose work we help to save from oblivion and turn to scientific and practical account.

adopted for securing permanence must be flexible enough to enable the right way to be taken in every case that should present itself, and the arrangement now arrived at has at least this merit.

As explained last year, the receipt of a gift from Miss F. H. Rouse Boughton, the anticipation of an intended legacy, placed upon me the immediate necessity of appointing Trustees to hold the money, and it seemed a good opportunity for forming the nucleus of an Endowment Fund. It struck me that I also might, in anticipation of the bequest which I had contemplated, make over to the same Trustees the valuable collection of records and the historic house in which the system was brought to such a remarkable development. I decided to do this ; but I must state clearly that in doing so I have considered only the advantage of the Organization. I should very much prefer to remain in sole possession of the records I acquired at the cost of much labour and self-denial ; but I am convinced that it is the best service I can render to see a permanent arrangement in working order under my supervision. Several ways of securing this result were open to me. I might have asked influential scientific friends to request the Council of the Royal Society to accept the Trust and administer it "for the Promotion of Natural Knowledge" ; but I shrank from this because the Royal Society has not in recent years shown itself very sympathetic with the sciences of the Earth's surface, geography, oceanography, and meteorology ; and the fact that it had relinquished the control of the Meteorological Office suggested that the request, if made, might not be granted. The Meteorological Office as reconstituted, combining the material resources and prestige of Government support with the freedom of individual scientific direction, the Royal Meteorological Society, and the Scottish Meteorological Society, which are devoted in a special manner to observational meteorology, have always been most courteous and considerate to the Rainfall Organization. A common set of Instructions for Observers and an interchange and comparison of observations have resulted in mutual advantage. But just on account of the similarity of aim it appeared to be better to await some general scheme for the mutual co-operation of all these bodies in a form which would secure equal advantage to each. Such a scheme could not be hurried forward, and I felt that before the Rainfall Organization could enter into a closer union with any other institution it should be itself in a position of financial stability, and not dependent, as at present, in an undue degree upon one individual.

I most heartily believe in the union of all the meteorological agencies to abolish duplication and to facilitate uniform publications ; but the half century of unceasing effort to make the Rainfall Organization worthy of its creators, the voluntary Observers of Great Britain and Ireland, demands that such an alliance must be on equal terms, and the arrangement I have made sets open a door to such a consummation. The rainfall work is much more than meteorological ; in its methods and in many of its results it is even more largely geographical, and it was as a geographer that I entered upon it, while its results are of vast practical importance, immediately to engineers and ultimately to the people of this country to whom the great questions of water-supply, river-regulation and sewage disposal will very soon appear in their true magnitude. I do not hesitate to say that at present the Local Government Board has no idea of the vast importance of the accumulated rainfall data at the service of the country.

It appeared to me that the first Trustees of the Rainfall Organization should be chosen from amongst the rainfall Observers, especially from those who were intimately acquainted with the work of the Organization, that they should in addition to their personal qualifications be representative of the different parts of the British Isles, and of the different interests, scientific and practical, on which the work touches ; but it seemed to me that it would conduce to mutual advantage in the effort towards the federation of kindred agencies if those responsible for the direction of the other institutions were not also upon the first Board of Trustees.

The nine Observers who have joined me as Trustees are known to most of my readers. Mr. R. M. Barrington represents Irish rainfall Observers, amongst whom he is prominent on account of the long and extremely valuable record at Fassaroe, Bray. Mr. C. L. Brook was an old friend of Mr. Symons, and one of the most liberal supporters of the Rainfall Organization ; he represents in a special sense the north of England. Mr. C. J. P. Cave, whose work in the investigation of the upper air is well-known, has a fine series of rain gauges on the South Downs, near Petersfield, and represents the south of England. Mr. Henry Mellish, President for the time being of the Royal Meteorological Society, possesses at Hodsock Priory one of the best rainfall records in the Midlands of England of which he may be viewed as the special representative. Sir John Murray, of the *Challenger*, represents Scotland, and he represents

also the sciences of the Earth's surface as no other man in the world could. To him, a friend of nearly 30 years' standing, I owe the best part of my scientific training, and his agreeing to take up this duty is a greatly valued expression of confidence on the part of the one man who knows all my scientific work from the beginning. Sir Alexander Binnie, whose writings on rainfall are only less known than those of Mr. Symons, represents the Engineering profession, as embodied in the Institution of Civil Engineers, of which he is a past President. Mr. Douglas Freshfield, for many years an honorary Secretary, and later a Vice-President of the Royal Geographical Society, represents Geography; he has for nearly 20 years encouraged me in every effort I have made in the study of the physical geography of the British Isles. Mr. Francis Druce has in recent years sought out and brought in more new rainfall Observers than any other of the many active friends of the Organization, and he has now rendered a double service, in drafting the Trust Deed as a Solicitor, and in consenting to act as honorary Treasurer of the Endowment Fund. Last in alphabetic order, though first in association with rainfall work, comes Mr. James G. Wood, whose name appears in *BRITISH RAINFALL*, 1860-61, as an Observer in Wales, who was the constant friend of Mr. Symons, his collaborator in much interesting literary work, and whose services as a Barrister in settling the terms of the Trust Deed it is impossible to overrate.

The Trust Deed is too long a document to quote in full; but all essential clauses are printed at the end of this article. I gave over the property referred to subject to the one condition that I should continue to conduct the work of the Organization exactly as before, making myself responsible as heretofore for the General Fund, and making up any deficiency that may occur, and having free access to the records for any professional purpose. That is to say the Trustees have no responsibility either for collecting or expending the General Fund so long as I remain in office; but they have the sole control of the Endowment Fund, and of the property of the Organization.

Although I retain control of and responsibility for the General Fund, I propose to publish each year an abstract of the receipts and expenditure, and for purposes of comparison I give herewith a statement of the receipts and expenditure in connection with the British Rainfall Organization since I became personally responsible in 1903. The rapid increase in the amount paid in salaries is mainly

due to the engagement of additional assistants, in order to prevent the date of completion of BRITISH RAINFALL advancing beyond the month of August.

*Receipts on Account of British Rainfall Organization.*

<i>General Fund.</i>	1904.	1905.	1906.	1907.	1908.	1909.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Subscriptions ..	10 1 9 0	105 14 6	1050 19 7	1074 16 2	1025 8 4	1080 12 4
Sales to Public ..	56 2 7	60 8 9	54 8 9	62 4 1	64 9 5	55 4 8
Advertisements ..	18 18 0	18 17 3	15 15 0	67 10 0	64 16 0	84 8 10
Certificates ..	3 6 1	0 16 0	7 19 9	2 8 0	15 8 6	6 16 0
Supplying Data ..	87 13 0	59 17 3	86 10 9	38 15 6	39 18 0	32 12 6
Literary Work ..	.. ..	5 5 0	17 8 0	7 5 0	9 10 0	12 15 0
Miscellaneous ..	16 17 4	31 8 6	78 19 7	9 6 7	4 0 0	17 10 6
Total.....	1194 6 0	1231 7 3	1312 1 5	1262 5 4	1223 10 8	1289 19 10

*Expenditure on Account of British Rainfall Organization.*

<i>General Fund.</i>	1904.	1905.	1906.	1907.	1908.	1909.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
<i>British Rainfall</i> and <i>Meteorological Mag.,</i> including Postage .....	373 2 11	386 5 9	409 15 3	447 4 4	474 5 3	542 19 10
Salaries and Assistance....	380 8 0	432 16 1	487 14 0	542 14 1	583 11 8	595 17 1
Printing, Stationery and Establishment expenses	277 15 1	243 15 0	279 6 6	246 9 4	275 2 10	272 11 6
Extra Postage and Petty Cash ..	30 0 0	29 19 9	43 16 0	51 1 0	46 13 0	32 1 7
Total ..	1061 6 0	1092 16 7	1220 11 9	1287 8 9	1379 12 9	1443 10 0
Difference.....	+133 0 0	+138 10 8	+ 91 9 8	- 25 3 5	-156 2 6	-153 10 2

In making out this abstract no allowance is made for interest on the sum expended in the purchase of the records, &c., which I treat as a personal matter. The great increase in the cost of the publications takes account of the enlargement of the Meteorological Magazine by 25 per cent., and of the payment of contributors to the Magazine, and in a few exceptional cases to BRITISH RAINFALL also. The circulation of the Magazine has responded satisfactorily to the increased expenditure, but the demand for BRITISH RAINFALL has not increased, the number printed remaining at 1,500.

With next year's issue I hope to introduce some changes in BRITISH RAINFALL which should increase its usefulness and accelerate its publication ; and at the same time other parts of the work of the Organization are ready for making a fresh advance. If the Endowment Fund fulfils the expectations of its founders it will add a substantial amount yearly to the income of the Organization. The

main desideratum which makes such an increase of income desirable is the provision of better office accommodation and more assistants in order to increase the annual volume by including more data and ensure the detection and correction of errors in the observations received. I do not refer to the examination of returns for arithmetical or clerical errors, or for entering to the wrong day, which is a mechanical operation of no difficulty; but to the detection of errors due to carelessness in observing, to neglect of the measurement of snow, to the deterioration or bad exposure of the gauges. By plotting on a map every monthly value received it is possible to pick out all discordant values in places where rain gauges are fairly numerous, and to ascertain the approximate magnitude of the error. Enquiries based on this frequently enable the error to be corrected, though it is not always easy to convince Observers of the applicability of this method; and lack of means has hitherto prevented its full application, though every year sees it more fully utilized.

The second desideratum is to improve the distribution of stations over the country. I have dealt at great length with the increase in the total number of records received each year, because the object of this article is to direct attention to the rapidly increasing mass of work which is being done in the office, but it must not be supposed that I view the mere increase of numbers as a cause for satisfaction. No new record offered is refused, for, even if it is in the midst of others, the unpredictable changes always in progress, may, in a few years, leave it almost alone, and the advantage of many stations in the study of the distribution of rain in thunderstorms is always worth the trouble of dealing with an additional return, even where others abound. But it is of the greatest importance to secure the establishment of gauges at all points more than 10 miles from the nearest existing station. An ideal arrangement would be to have a group of three rain gauges, one mile apart, in the centre of every square 10 miles in the side into which the British Isles could be divided. The three members of each group would be near enough to confirm and correct each other, the several groups would be near enough to enable isohyetal lines to be drawn on a map with great confidence, and the total number of records to be dealt with would not need to exceed that which we now handle. Such an ideal is impossible of attainment, but one may work with it in view, and endeavour to secure new Observers for the waste places.

The Nunes bequest enabled Mr. Symons to improve the distri-

bution considerably thirty-five years ago ; it would be difficult, but not impossible now, to make an equally great advance on the previously existing distribution. A personal visit is often necessary to initiate a new record, and a free gauge sometimes overcomes the last difficulty ; though experience warrants the belief that in almost all cases people can be found to equip themselves and prove the better Observers by so doing. Indeed the merit of a voluntary Observer is not that he does the work cheaply, as compared with a paid Observer, but that he does it better. Voluntary work, carried out according to rule, and under direction, is, in my belief, the best work that can be produced, and this is the idea underlying the proverb that gives the precedence of motive in the phrase "for love or money."

The third desideratum is the inspection of rain gauges, especially of those on the soundness of exposure of which suspicion is cast by a study of the monthly rain maps. In Mr. Symons's time it was possible to inspect only about three stations in a day on the average, travelling by rail or by a hired conveyance ; but now the use of a motor car would enable one easily to see a dozen, or even two dozen, gauges in one day, and a paid inspector with the inevitable danger of officialism is no longer the only course open, for the Director or a responsible assistant could in a few weeks, or in an occasional day a week, visit every Observer whom it is advisable to see. The question is one of expense alone, and such expense is looked upon as an ordinary item in the case of engineers and medical men.

The fourth desideratum for which a larger staff is wanted is to enable the Director to leave to others of keener eyesight and quicker pen the mechanical parts of proof-correcting and book-keeping to which at present he has to devote an unreasonable number of hours, and set him free for his proper duty of organizing the work and discussing the accumulated data.

I have been striving towards all these ends, and as a result the deficit between receipts and expenditure has been increasing, and I have in consequence most reluctantly to spend much time in work of no value, except that it brings in money to enable the Organization to be carried on, and the greater part of such work is unconnected with rainfall. I am prepared to go on as at present collecting and correcting data for publication with the present staff and income ; but I wish the Rainfall Organization to have a larger staff (and for that purpose a larger income) to enable me to follow out a series of re-

searches in the distribution of rainfall for which I have trained myself by 25 years of unceasing study of the part played by water in Nature ; as it occurs in the sea, in lakes, in rivers, in the atmosphere, and in the rain gauge. The Trustees are with me in believing that such work would be of scientific and public value ; that it would assist materially in settling vital questions of water-supply, sewage-disposal, river-regulation, and power production, which are now prominent, and will soon be of great national urgency. When the Endowment Fund reaches such an amount as to show that rainfall Observers are earnest in their desire to place the knowledge they have acquired at the disposal of the country, for instance, when it reaches an amount equal to the cost of the property I have handed over to the Trustees it might be reasonable to approach Government with a view to a grant, either of a capital sum, or of an annual allowance, for which an ample equivalent could be given in the way of data ready for immediate application to practical ends. By developing the existing Organization a larger amount of information could be obtained at a less cost than by any other agency that has ever borne the test of actual trial.

#### THE TRUST DEED OF THE BRITISH RAINFALL ORGANIZATION.

**This Indenture** made the eighth day of June, 1910.

*The Deed first sets out the names of the parties to the Deed, and refers to the origin and growth of the British Rainfall Organization, afterwards referred to as the Institution, the Transfer of the Property to the Trustees, and continues—*

AND WHEREAS for the purpose of providing for the expenses of carrying on the work of the Institution so far as the same may not be met by the voluntary contributions of observers and others and the sale of publications the said Hugh Robert Mill has established an Endowment Fund and has collected contributions thereto amounting to £200 ; which he has paid to the account of the Trustees at the National Bank, Camden Town Branch And it is intended that the said Endowment Fund shall be further augmented in the hands of the Trustees by donations and other payments to be given or made to them for the purpose and otherwise as hereinafter mentioned And that the Endowment Fund shall be held and applied as hereinafter provided. NOW THIS INDENTURE WITNESSETH that in consideration of the premises it is hereby agreed and declared by the parties hereto as follows that is to say :—

1. The objects of the Institution shall be the promotion of the study of the rainfall of the British Isles in all its aspects, encouraging the correct observation, measurement and recording of rainfall, collecting, discussing

and publishing the data and records and rendering the same available for the use of all persons without distinction, whether rainfall observers or members of learned societies or otherwise.

2. The Trustees shall and will hold the said leasehold premises, documents, books, furniture, instruments and other articles so given, transferred and assigned to them as aforesaid and all documents, books, instruments and other articles and things to be purchased or otherwise acquired as hereinafter mentioned (all of which are hereinafter included in the expression the said chattels) Upon trust for the purposes of the Institution and (subject and without prejudice to the powers and provisions herein contained) permit the same to be used accordingly.

3. The Offices of the said Institution shall be located at 62, Camden Square, aforesaid, or such other place as the Trustees shall from time to time determine.

4. Such persons as the Trustees shall from time to time determine shall, subject to the regulations for the time being in force under the next succeeding clause hereof, have access to and be at liberty to use the said Offices for the purpose of referring to such of the published documents, books and data belonging to the Trustees as shall for the time being be at or in the said Offices and for any other purposes authorised by the said regulations.

5. Subject to Clause 18 hereof the Trustees shall have the absolute management and entire control of the Institution and the Trust Funds and all other the property for the time being subject to the trusts of these presents, and may from time to time make, rescind and alter such regulations (not being inconsistent with these presents) as they may think fit with respect to the purposes for which the manner in which the persons by whom the terms and conditions on which and the times when the offices of the Institution and the said chattels shall be used, and as to any other matter the Trustees shall think necessary to provide for in order to give effect to the purposes of these presents, or in connection with the execution of any of the trusts or powers herein contained, and the Trustees may at any time (notwithstanding anything herein contained) impose a charge for the use of the said offices and chattels on all or any persons using the same. But such regulations and charges shall be made and imposed with due regard to the purpose and intention that the Institution shall be made as widely and generally useful as reasonably may be.

6. The Trust Funds of the Institution shall consist of "the Endowment Fund" and "the General Fund."

7. The Endowment Fund shall consist of the said sum of £200 now standing to the credit of the Trustees, and all other funds which may be from time to time paid or given to the Trustees for the purpose of endowment, and so much, if any, of the General Fund as the Trustees (or the said Hugh Robert Mill under the provisions of Clause 18 hereof) may from time to time think proper to transfer to the Endowment Fund.

8. The General Fund shall consist of the subscriptions of Observers and other general contributions to the Institution, the receipts from sales of publications and from charges for furnishing transcripts of records or for admissions to the said offices and chattels. The interest on the Endowment Fund (subject to Clauses 9 and 10 hereof), and all other moneys which shall come to the hands of the Trustees for the use of the Institution.

*Clauses 9 to 16 give powers to the Trustees to apply the funds to the purposes indicated in Clause 1.*

17. The Trustees may at any time, or from time to time, appoint upon such terms as they may determine, any person, whether one of the Trustees or not, to be a Director of the said Institution, for the purpose of organizing, managing, supervising and carrying on the said Institution, and of making or supervising experiments and observations on behalf of the Institution, or for such other purposes as the Trustees may determine upon or for any one or more of the purposes aforesaid, and may delegate to such Director all or any of the powers and duties of the Trustees except such as relate to the Endowment Fund, and the sale, demise, or exchange of property held in trust for the Institution and (subject to the next succeeding clause hereof) may at any time remove such Director.

18. The first Director of the Institution shall be the said Hugh Robert Mill, who shall be deemed to have been appointed such Director as from the date of these presents, and shall hold that office during his life or until he shall resign the same, and while he shall hold such office the powers and duties of the Trustees hereunder, so far as they relate to the general management of the Institution and the control, management and expenditure of the General Fund, shall in all respects be vested in him, the intention of these presents being that while the said Hugh Robert Mill shall be such Director as aforesaid, he shall manage the Institution as fully and freely as the same was managed by him immediately before the transfer thereof by him to the Trustees, and the Trustees shall accordingly, while he is Director, be under no responsibility for general management, but this clause shall not extend to the Endowment Fund, or the sale, demise, or exchange of any property for the time being held in trust for the Institution.

*Clauses 19 to 21 empower the Trustees to appoint and employ assistants for the work of the Institution.*

22. The Trustees may at any time appoint or make provision for the appointment of any persons (either inclusive or exclusive of all or any of the Trustees) as Governors or members of committee or otherwise, for the purpose of discharging such functions in connection with the Institution or the management of the General Fund or otherwise, in relation to the execution of the trusts of these presents, and in such manner and subject to such regulations as the Trustees may prescribe, and may also give to any Governors or members of committee any special privileges in connection with the Institution, and may delegate to one or more of the Trustees or to any body of Governors, or to any Committee any of the trusts or powers

vested in or exercisable by the Trustees under these presents, without being answerable for any loss which may be occasioned thereby.

*Clause 23 authorizes the Trustees to open Banking Accounts.*

24. At all meetings of the Trustees or of any Committee or body of Governors appointed as aforesaid, the said Hugh Robert Mill shall so long as he shall continue Director or a Trustee under these presents, be entitled to attend and to preside as Chairman, and to have the same voting power (whether otherwise qualified or not) as each other person entitled to attend at such meeting.

25. Notwithstanding the appointment of the said Hugh Robert Mill as a Director or Trustee of the Institution, he shall be at liberty on his own account and for his own benefit to make use of any information as to Rainfall acquired by him, either before or after the execution of these presents, and whether on behalf of the Institution or not for the purpose of advising, giving evidence before any Court of Judicature, Committee or Arbitrator, or lecturing or any similar purpose, and may for the like purpose use or refer to any of the chattels aforesaid.

26. All or any of the trusts and powers vested in or exercisable by the Trustees under these presents shall, so long as there shall be not less than three Trustees hereof, be capable of being performed or exercised by a majority of the Trustees hereof for the time being, and any action or decision of such majority shall be as valid and effectual as it would have been if done or made by all the Trustees for the time being.

27. The power of appointing new Trustees of these presents shall be vested in the said Hugh Robert Mill while he shall remain Director. After he shall have ceased to be Director the power of appointing new Trustees conferred by the Trustee Act, 1893, shall apply to these presents. And it is hereby declared that so far as practicable and without fettering the discretion of the Trustees in the appointment of new Trustees hereof there shall always be one Trustee proposed by each of the following Societies, if willing to make such nomination, viz.—The Royal Meteorological Society, The Royal Geographical Society, The Scottish Meteorological Society and the Institution of Civil Engineers for which purpose the Trustees shall if upon any vacancy there shall not as to any one of the Societies aforesaid for the time being be a Trustee who has been proposed by that Society apply to the Council of such Society to propose a person to fill such vacancy, and in case there shall be more than one of such Societies not so represented then such application shall be made to such Societies in the order named.

28. Inasmuch as the transfer hereinbefore mentioned by the said Hugh Robert Mill as a free gift to the Trustees has been with the express object of securing the Institution on a permanent basis and its continuity, and it is not contemplated that the Institution should cease to exist but that it should be carried on in perpetuity on lines so far as may be reasonably similar to those on which it has been conducted by the said Hugh Robert

Mill it is hereby declared that the powers and discretions hereinafter given to the Trustees are inserted to secure and for the protection of the Trustees, and are not intended to be put in operation otherwise than in circumstances of absolute necessity as to which the decision of the Trustees shall be conclusive. And that subject as aforesaid it shall be lawful for the Trustees in their absolute and uncontrolled discretion at any time hereafter, but while the said Hugh Robert Mill shall remain Director not without his consent in writing, to cease to carry on the Institution and to apply the property for the time being subject to the trusts of these presents in accordance with the trusts hereinbefore contained. And in lieu of so carrying on the Institution and applying the said property either to transfer and make over the Institution as a going concern and assign and pay all the property for the time being subject to the trusts of these presents to any person or persons or body of persons or corporation or any Government Department who or which shall be willing to carry on the Institution in accordance with the trusts hereinbefore declared or to close and wind up the Institution and in the event of the said Institution and property being so transferred, made over, assigned, and paid as aforesaid, the Trustees may obtain from the person or persons, body or corporation, or the proper officer of the Government Department, to whom or to which the same shall be so transferred, made over, assigned, and paid, such undertaking (whether verbal or in writing) to carry on the said Institution and apply the said property in accordance with the trusts of these presents as the Trustees may think fit, or the Trustees may dispense with any such undertaking without being in any way answerable or liable for so doing, and after the said Institution and property shall have been so transferred made over, assigned, and paid, the Trustees shall not be bound to enforce such undertaking (if any), nor to see that the same is complied with, and shall not be answerable for any misapplication or non-application of the said property or any part thereof, and shall not by virtue of these presents be under any liability whatsoever in respect of any act or omission which may be done or take place after such transfer, making over, assignment, and payment, as aforesaid.

*The Clause continues to describe how the winding up of the Institution, which it is the purpose of the Trust to avoid, may be carried into effect should it become necessary. Clause 29 defines the expression "The Trustees."*

In witness whereof the said parties to these presents have hereunto set their hands and seals the day and year first above written.

*Here follow the signatures of the Trustees named on p. 16.*

## THE SPOT IN ENGLAND AND WALES WHERE SNOW LIES LATEST, WITH OBSERVATIONS OF SNOWFALL ON THE SNOWDONIAN RANGE.

By J. R. GETHIN JONES.

WHEN tramping in my boyhood amongst the hills of Penmachno, whence the Snowdonian Range is visible along its whole length of 30 miles, I used to notice that snow drifts always appeared the biggest and remained latest into the summer at some places on the range near Carnedd Llewelyn. Considering that Snowdon is the highest point, and a local tradition existing that snow lingered in its gullies all the year round, it was a mystery to me why the snow always remained latest on Carnedd Llewelyn, and in later years, to satisfy my curiosity, I undertook a bit of local exploration, the result of which I now describe.

Looking from Penmachno—a distance of 13 miles east of the Range—the general surface, and consequently the conditions for snow drifting, of Snowdon and Carnedd Llewelyn appear somewhat alike, but at a nearer view, the former though forming part of the range is seen to be an isolated mountain, surrounded by deep valleys, rocky points, and with a generally rugged surface—hence its grand scenery. Carnedd Llewelyn, on the other hand, is the highest point in a long stretch of highland from Ogwen Pass to Conway, which contains several other great heights of rounded, smooth and grassy surface, whose local name of “Moel” signifies in Welsh something smooth, bare and of rounded form. Such names as Moel Fras, Moel Union and Moel Lys, and the like, at once explain its general character to a Welshman. The average height, between 2,000 and 3,000 ft., of this highland is greater than the average of Snowdon, thus the surface of the ground on Snowdon is not favourable for the wind to collect the snow, and as the receptacles for its deposition are numerous the drifts are rarely more than a few yards deep. Near Carnedd Llewelyn the area of highland with length of smooth surface is very large, and as the receptacles are few, the conditions for the accumulation of great snow drifts are very favourable. At one place these conditions are almost ideal for drift lines to meet at a common point in a large receptacle; this place is locally known as “Y ffoes ddyfn”—The deep Cut—and will be found in the accom-

panying map (Fig. 1) which also shows the length and directions of the drift lines from the highland above 2,500 ft.

It is strange that this large cut or gully is not marked on any of the Ordnance maps, especially as they are so bare of detail around this place. The gully is about 450 ft. long with a maximum width and depth of about 100 and 50 ft. respectively, as shown on the plan and section (Fig. 2). Its exact position is 1,200 yds. N.N.E. of the summit of Carnedd Llewelyn, at an elevation of 3,000 ft., on the very edge of the steep slope adjoining the flat dividing ground.

### NEIGHBOURHOOD OF LATEST SNOW SPOT

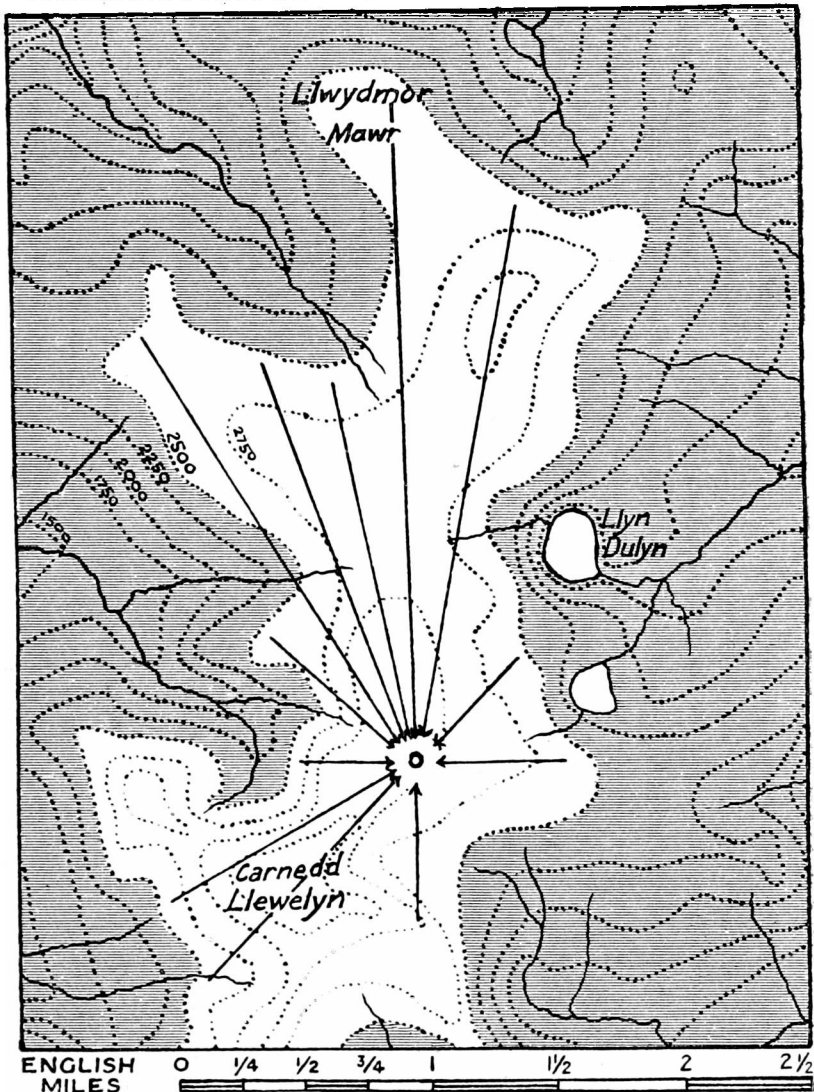


Fig. 1.

The slope itself is in a splendid position as a receptacle for the longest drift lines, which are those running from W. by N. In fact, though it faces the sun, the snow lasted on it in 1910 until the second week in June. The gully, not only forms part of the slope, but is situated in a sort of corner with the ground dropping suddenly into an almost enclosed receptacle, as is seen in Figs. 1, 4 and 5 ; its position is, therefore, such that the snow from the drift lines from S.W., N.E. and E. is deposited in it in addition to those running towards the slope, as shown in Fig. 2.

The ground here is a marly earth intermixed with small stones ; no rock is visible anywhere, even at the bottom of the gully. It looks as if it had been formed by a cloud burst rather than by the action of a stream, and the little water that runs along it drains only one or two acres.

The hollow could, therefore, be easily enlarged at a small cost, in case something was done in the future to increase its capacity, for curiosity to see whether it would act as a perpetual snow spot in England and Wales. The amount of the drifting snow is already more than sufficient to fill the gully, the deepening of the place with a little protection from the sun's rays would also greatly decrease the present rate of melting of the snow patch. Fig. 2. shows the position of the sun at noon and its melting influence on the drift, and Fig. 3 shows the same influence by the shadow of the person standing on the snow filling the gully. Under present conditions, after the last drifting ceases, it takes three warm months, May, June and July, containing the longest sunshine days, to melt all the snow. If such a test were carried out, I believe the "accumulation of cold" in the gully would then be a good barometer to show and check other measurements of the average weather of every year—the amount of snow remaining being the object of measurement. Taking the increased receptacle capacity, decreased melting, and the drifting supply, &c., into consideration, I am inclined to believe that the "cold accumulation" would last another three months, until it received a fresh supply of snow in the next autumn.

The extent of the gathering ground and length of the chief drift lines from different directions towards the gully are shown on the map in Fig. 1. The approximate area and length are as follows :—

Gathering area above 3,000 ft. approximately 1 square mile, and above 2,500 ft. 4 square miles, of which about 3 square miles form a smooth and grassy surface. From this area almost all the snow is

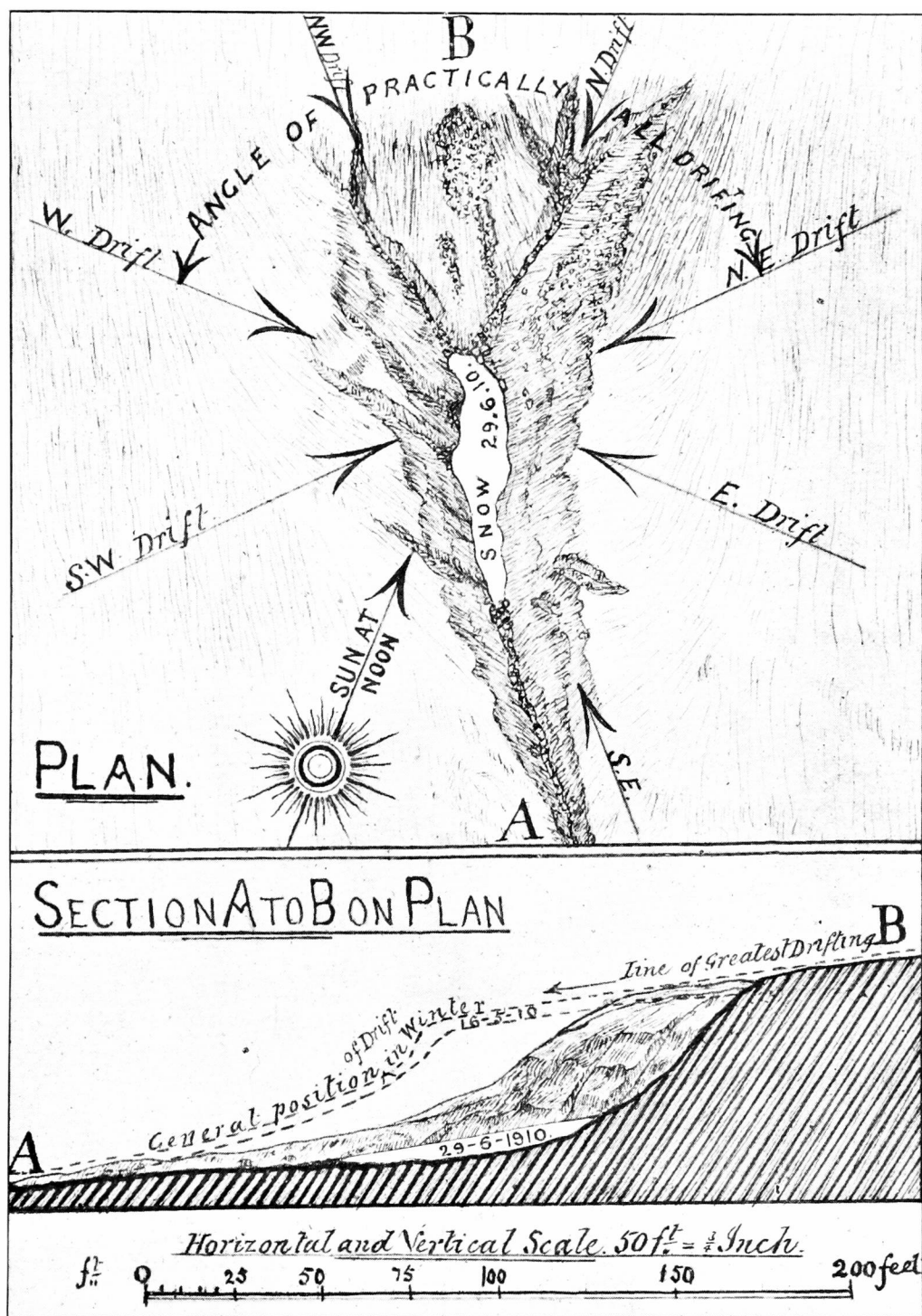


FIG. 2.- Plan showing gully and drift-lines, the upper part above the word "practically" having an altitude of 3000 ft., and section through axis of gully, with profile of the western side.



cleared during high wind, and it is crossed by the longest drift lines towards the gully. The length and direction of the drift lines, shown in the map running towards the gully, from the area above 2,500 ft. are as follows :

Direction of Wind.	Percentage of wind directions with snowfall.	Length of drift lines above 2,500 ft.	Average elevation of gathering ground.	Remarks on the Gathering Ground.
South .....	10	$\frac{1}{4}$ mile	2,800 ft.	Mostly grass surface (see Fig 5).
South-west.....	7	1 ,,	3,300 ,,	Mostly rough and rocky, including summit of Carnedd Llewelyn (see Fig. 3).
West .....	46	$\frac{1}{2}$ ,,	2,900 ,,	Mostly like Fig. 4.
North-west...		2 ,,	2,800 ,,	" " "
N.N. West ...		$1\frac{1}{2}$ ,,	2,800 ,,	" " "
North.....		$2\frac{1}{2}$ ,,	2 900 ,,	" " "
N.N. East ....	23	$2\frac{1}{4}$ ,,	2,900 ,,	" " "
North-east ...		$\frac{3}{4}$ ,,	2,700 ,,	" " "
East .....	4	$\frac{3}{4}$ ,,	2,700 ,,	Fig. 4 shows the actual ground, and top part of the gully.
South-east.....	10	$\frac{1}{4}$ ,,	2,600 ,,	This faces the gully (see Fig. 5), the S.E. wind partly excavates the previous accumulation.

It will be seen, from the above, that when the wind blows from almost every point, some drift is deposited in the gully and the largest percentage of snow falls with wind along the longest drifting lines.

To get a rough idea of the capacity of the gathering ground, from a drifting length of, say, 2 miles, suppose that during one storm of 1 inch of rain at sea level a fall equal to, say, 2 inches of rain, or 2 ft. of snow, occurs above 2500 ft., and that every 100 feet square (viz.,  $100 \times 100$ ) gathered along the 2 miles drifts into a similar area at the gully, this square would contain an accumulation of more than 200 feet deep (fresh snow), or, say, when reduced by its own weight to a depth of 50 feet, sufficient to more than fill the gully during one such storm. The quantity drifted from along the 2-mile line would, of course, be partly lost in various ways, but it will be seen from the accompanying snowfall observations on the range, that when 8.58 in. of rain fell at the sea coast during the winter of least snowfall, double the quantity fell above 2500 feet in the form of dry snow to a total depth of, say, 16 ft. On this basis

the 16 ft. of snowfall would represent a similar square 1600 ft. deep when fresh, or 400 ft. of compressed snow, at the gully. There is thus a sufficient margin, viz., 8 to 1, allowed for all losses and contingencies to show the capacity of the drift lines to fill the gully with snow in compressed form, and the possibility of a greater accumulation if the receptacle was larger.

Fig. 3 shows the drift on the slope mentioned, with Carnedd Llewelyn in the distance, and the gully nearly full, as on 16th May, 1910; the nearer person stands above the deepest part of the gully, with about 40 ft. of compressed snow beneath him. The last snow disappeared (from places in sunshade) at Snowdon and Carnedd Llewelyn during the first week of June, that underneath the farther person in the figure during the second week of June, and that in the gully under the nearer person during the second week of July: both places on the slope face the sun. Several dead earthworms were noticed on the surface of the drift on May 16th, mainly in the middle, in line between the two persons in the photograph, and they were noticed also on June 29th, but then some of the worms showed a little life, and were only a few feet from the earth side of the gully.

Figs. 5 and 6 show the extent of the snow remaining in the gully on June 29th, after six weeks of quick melting, since the previous photographs were taken. It will be noticed that there are patches of clean white snow in the middle of a large expanse of dirty snow, a thin layer which tasted of sulphur and smoke. As the surface contact of the white patches with the air, sun rays and rain must have been the same as that of the rest of the surface during the melting period, the existence of the clean snow in the middle is not easy to explain.

The measurement of the drift at the end of June was, length 72 ft average width 12 ft., and maximum depth about 8 ft. It was quite hard, and I failed to put a stick through, in some places it was like ice or a small glacier. This lasted until the middle of July. I remember seeing a few years ago from the Caledonian Canal two spots of snow in north-facing gullies near the top of Ben Nevis on July 17th, which looked no bigger than the Welsh spot on June 29th. Considering that the Ben Nevis snow was fairly protected from the sun, some 1,000 ft. higher, and also further north, the late existence of the Welsh snow appears the more remarkable, and must be accounted for by the unique gathering ground, and the favourable receptacle of *Y ffões ddyfn*.



FIG. 3.—Snow drift covering the gully on May 16th, 1910. Photograph taken at 7 a.m. by W. Hughes. The nearer person in the photograph stands above the gully.

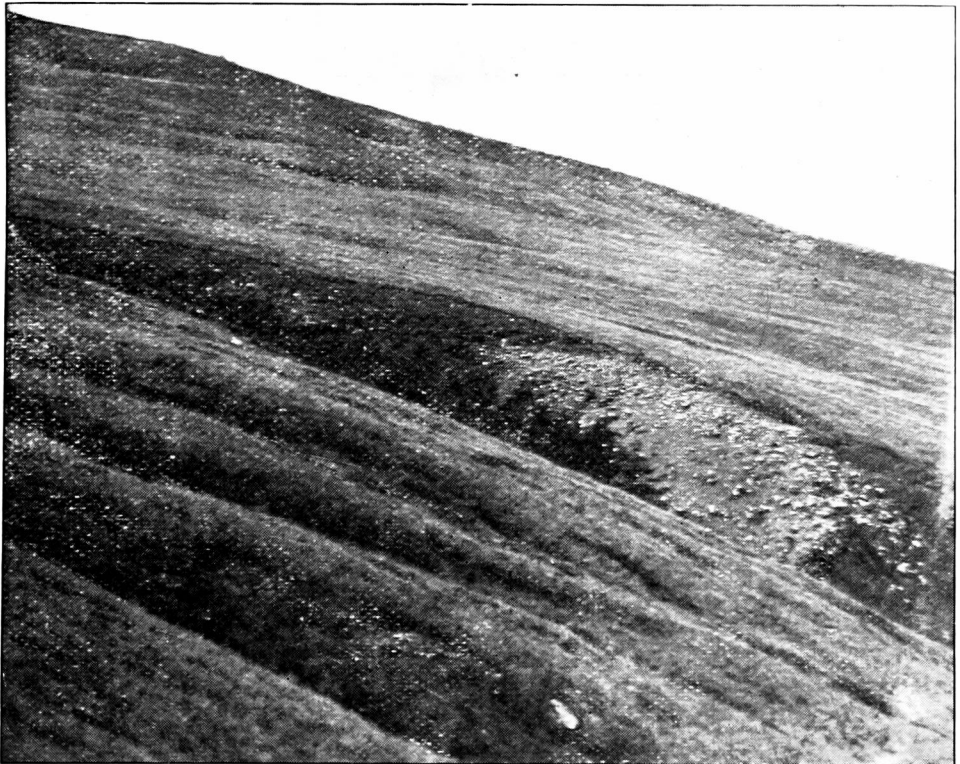


FIG. 4.—Showing general character of the gathering ground looking eastwards across the upper end of the gully. Photograph by W. Hughes.

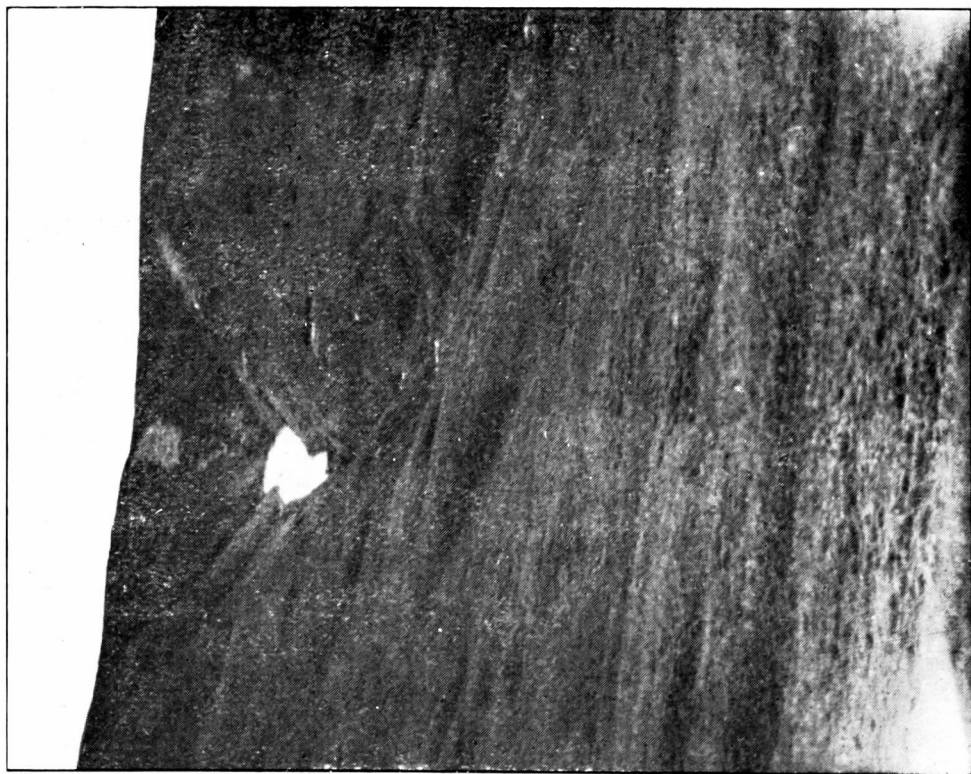


FIG. 5.—Facing the slope and the gully with snow on  
June 29th, 1910. Photograph by W. Hughes.

BRITISH RAINFOREST, 1909.]

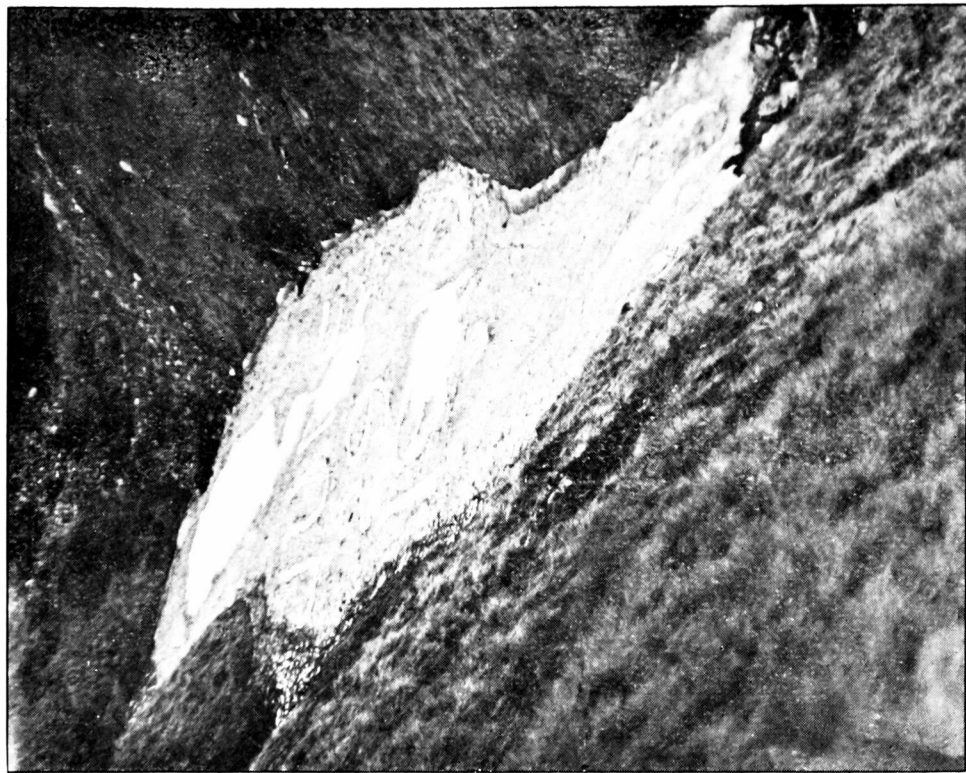


FIG. 6.—Showing the snow in bottom of gully, June 29th,  
1910. Photograph by W. Hughes.

Face p. 51.

Records of snowfall at various heights were kept at Glasinfryn near Bangor during the three consecutive winters of 1899-1900 to 1901-02, and these are summarised in the short tables which follow. The whole range could be seen from Glasinfryn, which is about mid-way in the length and 7 miles west of Carnedd Llewelyn. The height of the dry snowfall on the range was estimated from my experience of mountain tramping and the use of Contour Maps and Ordnance heights. As the rainfall at the observing station is practically half the amount on the slopes of Carnedd Llewelyn, the same rain falling in the form of snow above 2,500 ft. is taken as 2 feet of fresh snow for every inch of rain at the station.

The great bulk of the drifting, about 75%, sweeps across and along the range from the western and northern points depositing the snow on the eastern side and carrying with it the "latent cold" downwards to a lower elevation on the Vale of Conway side. Regarding the effect of this "latent cold," I have always noticed when the wind blows across the range from either side that the line of snowfall immediately after the storm will be about 1,000 ft. lower on the leeward than on the windward side, hence, with the most prevalent western drifting, the snow drifts are bigger and remain longer on the Vale of Conway side, and it will be seen from Summary 3 that the most prevalent winds with snowfall blow along the longest drift lines towards the east and, therefore, towards "the latest snow spot."

From these observations the summaries of the most interesting results are given below :

SUMMARY 1.

*Snowfalls per month above 3,000 ft.*

Winters.	SNOW MONTHS.								TOTAL.
	Oct.	Nov.	Dec.	Jan.	Feb.	March	April.	May.	
1899-00 .....	1	0	8	12	11	8	2	0	42
1900-01 .....	1	2	0	6	12	15	6	3	45
1901-02 .....	0	4	16	5	5	6	3	9	48
Mean of 3 Winters ...	1	2	8	8	9	10	4	4	46

*Amount of Rain and Snowfall measured as Rain at Sea Level, and the same estimated as all Snow at 2,500 ft.*

1899-00 .....	Sea Level, 10·07 in., estimate at 2,500 .....	20·00 feet snow.
1900-01 .....	„ 8·58 „ „ „ .....	17·00 „
1901-02 .....	„ 11·49 „ „ „ .....	23·00 „

SUMMARY 2.  
*Number of Snowfalls at various elevations.*

Winters.	ELEVATION IN FEET.						
	0	500	1,000	1,500	2,000	2,500	3,000
1899—00 .....	6	15	18	19	23	35	42
1900—01 .....	6	10	13	16	24	36	45
1901—02 .....	6	12	18	26	31	42	48
Mean .....	6	12	16	20	26	38	45

SUMMARY 3.  
*Wind directions of Snowfalls at 3,000 ft., with average elevation of each direction.*

Winters.	DIRECTION OF WIND WITH SNOWFALL.								TOTAL.
	S.	S.W.	W.	N.W.	N.	N.E.	E.	S.E.	
1899—00 .....	7	1	11	5	4	7	1	6	42
1900—01 .....	2	5	15	9	6	4	2	2	45
1901—02 .....	5	1	18	9	7	6	0	2	48
TOTAL .....	14	7	44	23	17	17	3	10	135
Percentage ...	10	5	33	18	12	12	2	8	100
Average elevation of snow line in feet. ...	2,000	2,800	2,000	1,500	1,000	1,500	1,000	800	

In conclusion the following general summary may be given.

1.—Out of the 135 snow falls observed at 3,000 ft., 101 fell with winds forming the longest drift lines towards the “latest snow spot.”

2.—Earliest snow fall at 3,000 ft., October 12th, 1899. Ditto, sea level, December 13th, 1899.

3.—Latest snow fall at 3,000 ft., May 18th, 1902. Ditto, sea level, March 27th, 1901.

4.—Heaviest snowfall at 3,000 ft., March 29th, 1901. The rainfall at Glasinfryn and Bethesda during this storm (which fell in dry snow above 2,500 ft.) was 2·15 in. and 3·23 in.; probably 5 to 7 ft. of snow fell on the first catchment heights. The rugged surface of Snowdon looked, after this storm, like a real Moel.

5.—In some years snowfall occurs at 3,000 ft. in the beginning of October and the end of May.

6.—The most prevalent snow months are February and March.

7.—The heaviest snowfalls (proportionally few in number) are from the S. and these have also the greatest wind force.

8.—The most prevalent wind direction for snow above 3,000 ft. is W., and at sea level, N.W. and N.

9.—The total average depth of the fresh yearly snowfall at 3,000 ft. is estimated at about 20 feet.

10.—The proportion of snowfall (measured in rain) at sea level was about one-fortieth of the yearly rainfall, and estimated at one-fifth at 3,000 ft. near Carnedd Llewelyn, and at Snowdon, owing to its greater rainfall, only one-ninth.

11.—No snow fell, even at 3,000 ft., during the month of December, 1900, and none at this height during May and November, 1899, and October, 1901.

12.—No snow fell at sea level during the 3 winters with wind from S.W.

13.—Out of the 135 snowfalls observed above 3,000 ft. during the 3 winters, only 32 occurred for the portion of the winter ending December, and nearly half the total occurred in February and March.

14.—Taken generally it takes 3 months for the snow to melt at the "latest spot" after the last drifting supply.

15.—One heavy snow storm, blowing along the long drifting lines, will fill the gully with snow, but it soon sinks, and requires several storms to complete the filling with compressed snow.

16.—The elevation of the snow line, immediately after the storm, is about 1,000 ft. lower on the leeward than on the windward side of the range, but at practically the same level on both sides during calms or light winds.

17.—The amount of snow falling on the "first catchment" of the range is considerably more than on the "forward heights," the quantity falling at various places depending on the wind direction, like that of rain.

18.—The snow at the "latest spot" near Carnedd Llewelyn, faces the sun and lasts about a month longer than the latest at Snowdon sheltered from the sun, the former disappearing, generally, at the beginning of July, and the latter at the beginning of June.

19.—The greater heights of the range are comparatively near and visible from the North Wales coast and the populous places, the view of the last drifts on the range disappears to them generally towards the end of May. The "latest snow spot" cannot be seen from the coast and other places, except from the heights in a S.E. direction.

20.—The bulk of the land around the "latest spot" faces the sun, and is covered with grass summer and winter. When at the place on Whit Monday last, May 16th, the slope and gully were covered with snow to the extent of nearly the usual winter depth. The temperature at 7 a.m., in the sun, was 75° F., and 55° in the shade. The day was very warm; around were seen sheep, ponies, birds, flies and spiders, with worms alive and dead on the snow. In the midst of these the snow would lie for another two months.

I must state that much credit and thanks are due to Mr. W. Hughes, chemist, of Conway, for the important work of taking the photographs during the two journeys, one of which was undertaken in the night; the two journeys meant to Mr. Hughes walking about 60 miles over hill and dale.

## RECORDS OF EVAPORATION AND PERCOLATION.

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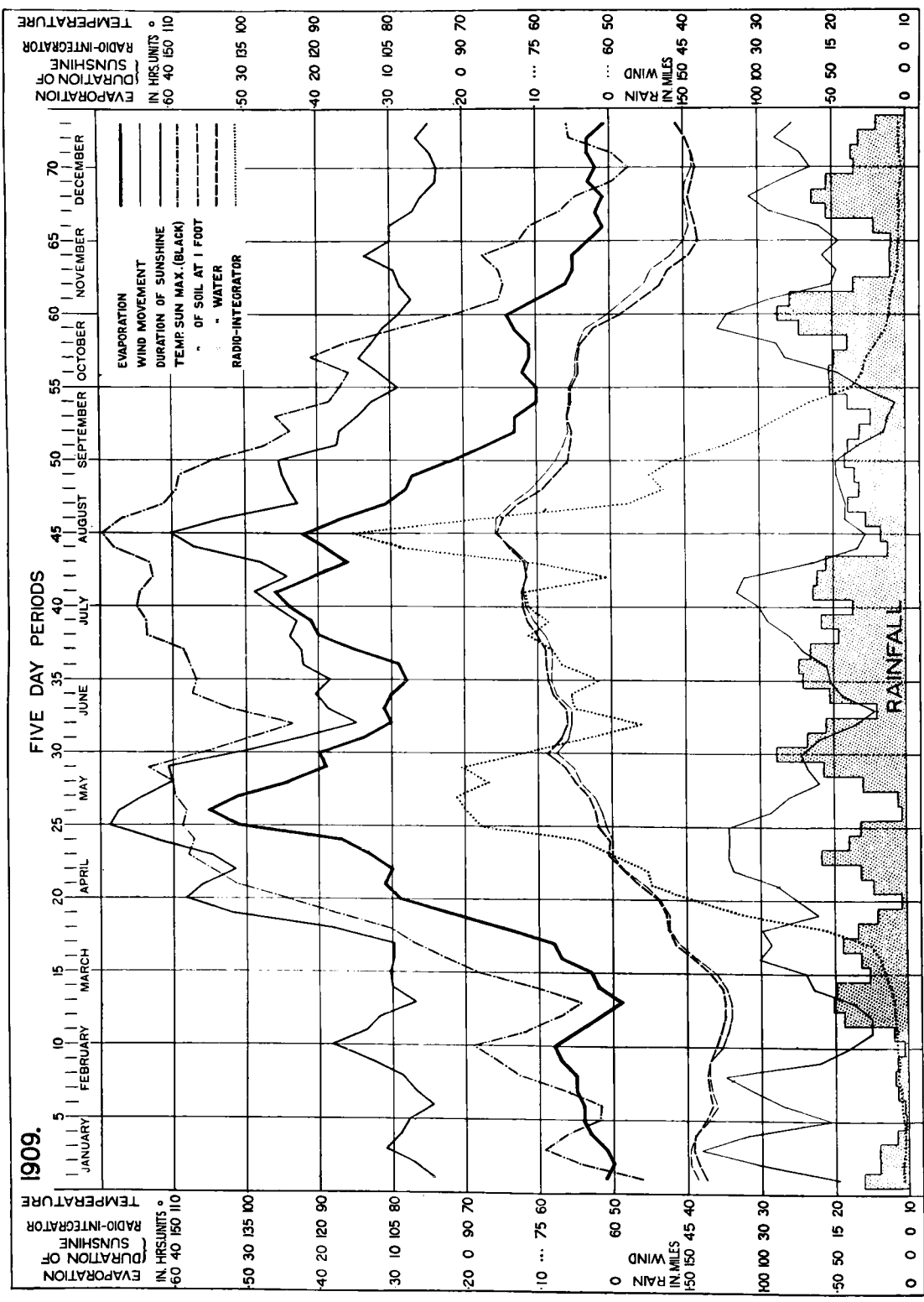
THERE is, unfortunately, no gain in the number of records of evaporation; and we regret that the valuable record at Heaton Reservoir, formerly maintained by the Bolton Waterworks Department, has been discontinued. We have heard of the installation of a standard tank at the Great Yarmouth Waterworks at Ormesby, and the year's evaporation was quoted as 18·74 in., but we have not yet received a reply to our request for the complete record. The series of records of percolation, from which evaporation values may be deduced, is the same as in the previous year. That it should be possible to find only thirteen complete and comparable records of so important a factor of the climate of the British Isles as evaporation seems to show regrettable indifference on the part of waterworks authorities, to whom a knowledge of this factor is of more than theoretical importance. In the circumstances it would be difficult, if not dangerous, to attempt any but the broadest generalizations from the information collected.

The record at Camden Square, which, with 1909, completes an existence of a quarter of a century, provides, for the single station, a reasonably trustworthy basis for comparison of one year with another. By the table below the past year is shown to have had an evaporation 1·66 in. below the average, being the seventh in order of deficiency, and 1·38 in. more than that of 1888, which, chiefly on account of the wretched July in that year, was the smallest ever observed. The deficiency in 1909 took place almost entirely in the summer months and the total for June was by far the lowest in the record for that month, this being obviously the direct result of the combination of low temperature and sunlessness which characterised June, 1909. March also yielded a smaller value than ever before, having less than half its average amount. April and May were the only months with any appreciable excess, and the comparatively large evaporation during these two months was a notable feature at all the stations.

We reproduce, as usual, a diagram upon which have been plotted, in the form of smoothed curves of five-day means, all the meteorological observations at Camden Square in 1909, which have a close bearing on evaporation, and the result is a graphic expression of the sequence of weather during the year. After the conclusion of its usual period of winter stagnation, the evaporation curve is seen to



# EVAPORATION FROM A WATER SURFACE AND OTHER METEOROLOGICAL PHENOMENA.



rise rapidly, reaching the year's maximum in the early part of May, coincident with the exceptionally sunny and warm weather of that month. In the great falling off during the unprecedentedly sunless June, and the partial recovery as the summer progressed, the curve is strikingly parallel to those of duration of sunshine and maximum temperature in the sun, showing how closely dependent evaporation is on sunshine in the summer. The curve of the radio-integrator (described in *BRITISH RAINFALL*, 1907, p. 44) has been added once more to the diagram, and presents some interesting features, which when considered in relation to the evaporation curve throw some light on the effect of wind upon the latter. The curve of wind movement, from observations 18 inches above the surface of the water, at first sight appears to bear no relation to that of evaporation, but it will be observed that the radio-integrator failed to rise to so high a point during the spring evaporation maximum, which occurred in a windy period, as during the August evaporation maximum, when the wind movement was slight. Again, it shows no sympathy whatever with the evaporation in the windy secondary maximum of the autumn. Since the radio-integrator is absolutely uninfluenced by wind, it seems a fair assumption that these divergencies are the result of wind. This would doubtless be more apparent had it been possible to distinguish between drying easterly winds and the moister westerly and south-westerly winds, which contribute the greater part of the air movement during the whole year.

In the table averages have been inserted for all stations where the record extends over at least seven years, the averages for this period

*Comparison between 12 and 7 years' Average Annual  
Evaporation and Rainfall.*

PERIOD.		Camden Square.	Croydon.	Otterbourne.	Kennick.	Revesby.	Downholland.
		in.	in.	in.	in.	in.	in.
Evapor- ation.	{ 12 years, 1898-1909.....	16·39	16·71	18·94	19·99	16·16	(21·88)
	{ 7 ,, 1903-1909.....	16·12	16·98	18·27	19·55	15·61	21·94
Rain- fall.	{ 12 years, 1898-1909.....	23·83	25·36	27·07	39·11	24·22	29·47
	{ 7 ,, 1903-1909.....	25·63	27·53	28·18	39·37	25·15	31·26

being substituted for those for 11 years utilized last year in order to bring in several stations where observations were commenced since 1898. This new average approximates very closely to that for the longer period as will be seen by the foregoing comparison.

The evaporation during the year seems to have been close to the average as a rule. An excess occurred at Croydon where, however, the instruments were recently moved so that it is not impossible that the average is not quite applicable. The only stations at which a deficiency exceeding 1·00 in. was observed were Camden Square, Kennick, and Wakefield. With regard to the latter we cannot refrain from once more expressing our surprise at the remarkably small figures obtained, especially in view of its proximity to Ardsley Reservoir where the value for the year is much larger.

The remaining records, if arranged in order of magnitude, fall into nearly the same arrangement as in 1908. The high value at Down-holland remains as puzzling as before.

*Evaporation at Camden Square, 1885-1909.*

	Jan. in.	Feb. in.	March. in.	April. in.	May. in.	June. in.	July. in.	Aug. in.	Sept. in.	Oct. in.	Nov. in.	Dec. in.	Total. in.
1885.	·20	·38	·86	1·71	1·98	2·77	3·29	2·25	1·13	·77	·17	·11	15·62
1886.	·23	·13	·53	1·59	1·78	2·93	3·12	1·86	1·46	·63	·27	·12	14·65
1887.	c·07	·29	·76	1·72	1·79	3·68	3·76	2·54	1·25	·78	·21	·07	16·78
1888.	·07	·37	·48	1·16	2·71	2·24	1·44	1·90	1·17	·60	·43	·03	12·60
1889.	·03	·18	·62	1·07	1·76	2·97	2·34	1·96	1·52	·42	·29	c·13	13·03
1890.	·08	·19	·50	1·44	2·63	2·14	2·33	2·02	1·27	·79	·31	·04	13·74
1891.	·03	·16	·73	1·35	1·66	2·83	2·34	1·67	1·00	·62	·20	·22	12·81
1892.	·05	·09	·60	1·88	2·65	3·05	2·84	2·20	1·01	·36	·02	·20	14·95
1893.	c·03	·01	·92	2·33	3·06	3·62	3·12	2·85	1·48	·70	·11	·01	18·18
1894.	c·04	·28	·83	1·17	2·10	2·48	2·49	1·91	·97	·37	·20	·11	12·87
1895.	·14	·64	·36	1·26	3·06	3·31	3·07	2·12	1·27	·54	·19	·07	16·03
1896.	·16	·24	·64	1·57	3·06	3·21	3·63	1·96	·68	·47	·18	·00	15·80
1897.	·23	·21	·76	1·23	2·99	2·48	3·60	2·49	·99	·63	·26	c·14	15·73
1898.	·19	·37	·51	1·28	1·56	2·10	2·96	2·53	1·73	·45	·11	·16	13·95
1899.	·04	·28	·52	1·24	2·34	3·67	4·03	3·78	2·01	·45	·41	·11	18·88
1900.	·03	·16	·80	1·46	2·35	2·85	4·25	2·61	1·61	·89	·24	·15	17·40
1901.	·13	·24	·60	1·98	3·25	3·85	3·37	3·19	1·42	·64	·31	c·05	18·93
1902.	·16	·15	·71	1·75	1·78	2·33	3·30	1·71	1·47	·69	·28	·27	14·60
1903.	·26	·39	·97	1·57	2·24	2·79	3·35	2·53	1·51	·86	·29	·12	16·88
1904.	c·09	·26	·54	1·68	1·81	3·32	4·06	2·86	1·20	·50	·26	·02	16·42
1905.	·17	·35	·65	1·14	3·19	2·49	3·65	2·23	1·24	·78	·09	·16	16·14
1906.	·06	·21	·73	1·90	1·90	3·53	3·65	3·46	2·38	·78	·27	·16	19·03
1907.	·21	·38	1·02	1·27	1·93	2·47	2·65	2·24	1·72	·49	·27	·19	14·84
1908.	·05	·27	·56	1·32	2·23	3·77	2·75	2·47	1·25	·48	·29	·14	15·58
Average	·10	·26	·67	1·50	2·33	2·95	3·14	2·39	1·36	·61	·24	·09	15·64
1909.	·14	·30	·30	1·85	2·93	1·70	2·60	2·23	·84	·76	·17	·16	13·98
Diff.	+·04	+·04	-·37	+·35	+·60	-1·25	-·54	-·16	-·52	+·15	-·07	+·07	-1·66

NOTE.—c indicates condensation.

*Observations made at Park Hill House, Stanhope Road, Croydon.  
Mr. Baldwin Latham, M.Inst.C.E.*

1909	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.	Evaporation from 5 in. Evaporator fully exposed in Air.	Condensation in 5 in. Evaporator fully exposed in Air.	Average daily Temperature of Water at 9 a.m. in 5 in. Evaporator fully ex- posed in Air.	Temperature of the Dew Point at 9 a.m.
	in.	in.	°	in.	in.	°	°
Jan. ...	·265	·085	35·7	·795	—	36·5	34·3
Feb. ...	·225	·030	33·6	1·195	—	34·3	31·6
March	·415	·045	38·1	1·690	—	39·0	35·2
April .	2·590	·010	51·5	5·190	—	57·8	41·5
May...	3·800	—	58·8	7·400	—	66·0	44·0
June..	2·245	—	58·2	3·685	—	59·0	48·7
July...	3·080	—	62·9	5·620	—	66·5	53·0
Aug. ..	3·040	—	65·4	5·630	—	69·3	55·0
Sept...	1·270	·015	56·7	2·445	—	57·9	51·1
Oct. ...	1·145	·090	53·5	2·155	—	54·6	49·7
Nov. ...	·500	·040	39·6	·925	—	37·5	37·0
Dec...	·485	·150	37·7	1·070	—	37·6	36·7
Totals	19·060	·465	...	37·800	—	...	...
Means	...	...	49·3	...	...	51·3	43·2

*Table of Rainfall and Percolation at Park Hill House, Stanhope Road,  
Croydon. Mr. Baldwin Latham, M.Inst.C.E.*

NOTE.—The percolation gauges are covered with the natural growth of grass.  
Size of percolation gauges 3 ft. square and 3 ft. deep.

1909	Rainfall. Level of Gauge 265·00 ft. above O.D.	Percolation Gauge. <i>Chalk.</i> Level of Gauge 264·00 ft. above O.D.	Percolation Gauge. <i>Gravel.</i> Level of Gauge 264·00 ft. above O.D.
	in.	in.	in.
January .....	1·255	1·391	1·311
February .....	·735	·383	·266
March.....	3·360	2·406	2·527
April .....	2·050	·266	·162
May .....	1·220	—	—
June .....	3·255	—	—
July .....	3·340	—	—
August .....	1·940	—	—
September .....	3·195	·714	—
October .....	4·495	2·976	2·075
November .....	1·110	·973	·902
December .....	3·365	3·206	3·114
Total .....	29·320	12·315	10·357

*Table of Rainfall and Percolation at the South Hants Water Company's Pumping Stations, at Timsbury and Twyford, Hants.*

*Mr. Wm. Matthews, M.Inst.C.E.*

NOTE.—The percolation gauges are covered with a natural growth of grass. Size of percolation gauges 3 ft. square and 3 ft. deep.

1909	TIMSBURY.		TWYFORD.	
	Rainfall. Level of Gauge 96·39 ft. above O.D.	Percolation Gauge. <i>Chalk.</i> Level of Gauge 89·75 ft. above O.D.	Rainfall. Level of Gauge 138·72 ft. above O.D.	Percolation Gauge. <i>Chalk.</i> Level of Gauge 137·49 ft. above O.D.
	in.	in.	in.	in.
January .....	·96	1·173	1·03	1·712
February ...	·30	·050	·33	·186
March .....	3·78	2·876	3·67	3·309
April .....	1·35	·150	1·30	·283
May .....	1·92	·010	1·37	—
June .....	3·15	·012	4·07	·849
July .....	2·81	·008	2·88	·537
August .....	2·50	·014	2·35	·016
September ..	3·32	·019	3·23	·973
October .....	7·49	5·616	7·63	7·388
November ...	·48	·339	·52	·477
December ...	3·83	4·041	3·88	4·357
Total ...	31·89	14·308	32·26	20·087

*Table of Rainfall and Percolation at Windwhistle House, Grayshott, Hampshire. Mrs. Lyndon.*

660 feet above Sea Level. Gauge 3 ft. × 3 ft. × 3 ft.

1909	Rainfall.	Percolation.	Calculated Evaporation.
	in.	in.	in.
January .....	1·27	1·71	c ·44
February .....	·65	·32	·33
March .....	5·11	3·35	1·76
April .....	1·92	·94	·98
May .....	2·50	·32	2·18
June .....	3·28	1·06	2·22
July .....	3·03	·31	2·72
August .....	2·50	·15	2·35
September .....	2·70	·40	2·30
October .....	8·00	6·88	1·12
November .....	·68	·79	c ·11
December .....	4·96	4·86	·10
Total .....	36·60	21·09	15·51

NOTE.—c indicates condensation.

*Rainfall and Percolation at Rosebank, Berkhamsted, Herts.*  
*Mr. Edward Mawley.*

Altitude 401 feet. Gauges 3 ft. x 3 ft. x 3 ft.

1909.	Rainfall.	Percolation through Gauge on which short grass is growing.	Percolation through bare soil Gauge.	Deduced Evaporation from grass covered soil.	Deduced Evaporation from bare soil.
	in.	in.	in.	in.	in.
January .....	·988	1·070	1·272	c ·08	c ·28
February .....	·414	—	—	·41	·41
March .....	3·463	2·879	3·164	·58	·30
April .....	2·023	·156	·479	1·87	1·54
May .....	2·060	·179	·987	1·88	1·07
June .....	4·665	2·137	3·278	2·53	1·39
July .....	2·737	·122	·940	2·62	1·80
August .....	2·874	·767	1·975	2·11	·90
September ...	2·001	·464	·571	1·54	1·43
October .....	4·930	3·887	4·635	1·04	·30
November ...	·873	·794	·859	·08	·01
December ...	2·961	3·176	3·305	c ·22	c ·35
Total.....	29·989	15·631	21·465	14·36	8·52

NOTE.—c indicates condensation.

*Table of Rainfall and Percolation at Rothamsted Experimental Station,*  
*Harpden. Mr. A. D. Hall, F.R.S.*

Altitude 420 feet.

1909.	Rainfall.	Percolation through Soil.		
		20 in. deep.	40 in. deep.	60 in. deep.
	in.	in.	in.	in.
January .....	·87	1·045	1·107	1·068
February .....	·37	·029	·072	·038
March .....	3·42	2·920	3·021	2·858
April .....	1·73	·118	·181	·136
May .....	1·27	·118	·120	·136
June .....	3·96	2·041	1·956	1·922
July .....	3·00	·560	·613	·546
August .....	2·64	1·116	1·112	1·042
September .....	1·81	·154	·088	·062
October .....	4·90	4·054	3·835	3·838
November.. ...	1·15	·851	·834	·824
December .....	3·26	3·164	3·201	3·192
Total .....	28·38	16·170	16·140	15·662

*Table of Rainfall and Percolation through Sandy Soil, also Calculated Evaporation therefrom, compared with Evaporation from a Free Water Surface at Caudhame, Falkirk. Mr. David Ronald, C.E.*

Lat.  $56^{\circ} 0' 37''$  N. Long.  $3^{\circ} 48' 3''$  W.

Rain Gauge 73 feet above O.D., and Percolation Gauge 76 feet above O.D.

The Percolation Gauge is filled with one cubic yard of soil, placed in the same order as dug from the ground, with natural growth of grass on surface. Size of gauge 3 feet square and 3 feet deep. Surface of grass 1 inch below lip of gauge.

1909	Rainfall.	Percolation.	Calculated Evaporation from Sandy Soil.	Evaporation from Free Water Surface.
	in.	in.	in.	in.
January .....	4·28	2·88	1·40	·16
February ...	1·50	·62	·88	·27
March .....	2·63	·76	1·87	·23
April .....	3·44	1·30	2·14	1·06
May .....	2·91	·94	1·97	2·61
June .....	1·53	·15	1·38	1·95
July .....	2·61	—	2·61	3·56
August .....	3·04	—	3·04	2·34
September ...	1·66	—	1·66	·97
October .....	4·72	2·00	2·72	1·29
November ...	2·04	1·31	·73	·15
December ...	4·84	2·52	2·32	·13
Total .....	35·20	12·48	22·72	14·72

# EVAPORATION IN 1909.

## EVAPORATION.

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County Station	London, Camden Sq.	Surrey, Croydon, Park Hill Ho.	Sussex, Isfield Place	Hampshire, Otterbourne	Devon, Moretonhampstead, Kennick	Lincoln, Revesby Water Works	Lancashire, Downholland
Latitude	51° 32' 20" N.	51° 22' 12" N.	50° 56' 50" N.	51° 0' 28" N.	50° 38' 30" N.	53° 9' N.	53° 34' 38" N.
Longitude	0 8 10 W.	0 5 32 W.	0 33 40 E.	1 19 55 W.	3 41 20 W.	0 3 W.	3 1 12 W.
Altitude	111 ft.	264 ft.	50 ft.	112 ft.	835 ft.	130 ft.	14 ft.
Observer	H.R. Mill, D.Sc.	Baldwin Latham, C.E.	Major H. King.	J. H. Roberts, C.E.	S. C. Chapman, C.E.	J. Shaw.	J. Baxendell.
Size of tank	6 ft. x 6 ft.	1 ft. diameter	4 ft. x 4 ft.	6 ft. x 6 ft.	6 ft. x 6 ft.	6 ft. x 6 ft.	6 ft. x 6 ft.
Capacity (galls.)	450	5	250	450	450	450	450
Height of lip above ground	3 inches	4 in. above water	3 inches	3 inches	3 inches	2 inches	3 inches
January	in. .14	in. .18	in. .14	in. .11	in. 0 .68	in. .24	in. .39
February	.30	.20	.08	.29	.35	.70	.48
March	.30	.37	.58	.72	.20	.29	.98
April	1.85	2.58	2.29	2.27	2.11	2.07	2.69
May	2.93	3.80	3.58	3.94	3.96	3.02	3.96
June	1.70	2.24	2.46	2.46	2.56	2.14	3.19
July	2.60	3.08	3.21	3.48	3.58	3.14	3.45
August	2.23	3.04	2.78	3.09	3.40	2.59	2.87
September	.84	1.26	1.40	1.44	1.58	1.00	1.49
October	.76	1.05	.73	.52	.82	.64	1.14
November	.17	.46	.38	.45	.29	.24	.24
December	.16	.34	0 .17	0 .17	0 .06	.10	.29
Year, 1909.....	13.98	18.60	17.46	18.60	18.11	16.17	21.17
Average, 1903-1909)	16.12	16.98	...	18.27	19.55	15.61	21.94
Difference .....	-2.14	+1.62	...	+33	-1.44	+56	-.77
Year, 1909.....	26.75	29.32	30.02	33.14	41.24	29.54	36.23
Average, 1903-1909)	25.63	27.53	...	28.18	39.37	25.15	31.26
Difference .....	+1.12	+1.79	...	+4.96	+1.87	+4.39	+4.97

Note.—C indicates condensation

## EVAPORATION IN 1909—(continued).

County Station	Yorkshire, Wakefield, StanleyGrange 53° 45' N. 1 28 W. 234 ft. II StanleyHaworth	Yorkshire, Ardsley Reservoir 53° 43' 10" N. 1 33 20 W. 390 ft. C.C. Smith, C.E.	Yorkshire, Harrogate, Harlow Moor 54° 0' N. 1 36 W. 480 ft. C. E. Rivers,	Pebbles, Talla W. W. Victoria Lodge 55° 29' 41" N. 3 25 2 W. 904 ft. W. A. Tait, C.E.	Mullochan, Edinburgh University. ... 240 ft. Prof. T. Hudson Deane.	Stirling, Falkirk, Cauldhame, 56° 0' 37" N. 3 48 3 W. 73 ft. David Ronald, C.E.	Mean of Thirteen Stations.
Latitude.....	in. .13	in. .20	in. .36	in. .05	in. .32	in. .16	in. .13
Longitude.....	.24	.11	.15	.13	.11	.27	.26
Altitude.....	.30	.28	.46	.02	.06	.23	.37
Observer.....	1.70	2.32	2.34	1.70	1.29	1.06	2.02
Size of tank.....	1.98	3.08	2.96	3.38	2.09	2.61	3.18
Capacity (galls.)	1.64	2.16	2.56	3.06	2.83	1.95	2.38
Height of lip above ground }	1.72	2.44	2.68	2.38	2.69	3.56	2.92
	1.68	2.68	2.94	2.18	2.07	2.34	2.61
January.....	.66	1.13	1.35	1.15	1.01	.97	1.17
February.....	.83	1.07	1.10	1.24	.98	1.29	.94
March.....	.31	.36	.42	.01	.03	.15	.27
April.....	.04	.08	.29	.09	.00	.13	.09
May.....							
June.....							
July.....							
August.....							
September.....							
October.....							
November.....							
December.....							
Year, 1909...	11.23	15.91	17.61	15.39	13.48	14.72	16.34
Average, 1903-1909)	13.13	16.51	...	...	...	14.69	...
Difference ...	-1.90	-.60	...	...	...	+ .03	...
Year, 1909...							
Average, 1903-1909)	26.39	26.22	31.97	46.91	30.08	35.20	32.54
Difference ...	22.94	24.68	31.11	...	...	37.41	...
	+3.45	+1.54	+ .86	...	...	-2.21	...

## THE DURATION OF RAINFALL IN 1909.

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THE improvement in design and construction of self-recording rain gauges, as well as the reduced cost of these instruments, provide, year by year, greater facilities for the study of the frequency, duration and intensity of rainfall, and we are glad to observe that more attention is being devoted to the subject as time goes on. It is true that only one record has been added to the tables we are able to publish for 1909, but we know that several recording gauges have been established during the year. The difficulty of measuring the traces has been found so great by some Observers that we have offered to do it if the original curves are forwarded to us for the purpose. Unless it is possible to tabulate and place on record the results of self recording rain gauges they are no more than scientific toys, always interesting but not of much value. We have included two separate records, from different patterns of gauge, kept by Mr. Walker at Mount St. John, near Thirsk, and measured with the highest degree of accuracy attainable. These two show a difference during the year of 70·4 hours, or exactly 10 per cent. of the total duration, although the gauges are not very dissimilar in type. Amongst other records sent to Camden Square we were glad to have an opportunity of examining the very interesting charts of the Halliwell gauge at the Cray Reservoir of the Swansea Waterworks, in Breconshire. In this case the uniform agreement which the gauge showed when compared day by day with the Snowdon gauge placed alongside, gives us great confidence in the accuracy of the results, and the record provides a unique example of the details of the rainfall of a typical wet district.

The outstanding feature of the duration results for 1909 was the large number of hours' fall recorded in all parts of the country. Every station in the list, with the single exception of Timsbury, had a greater duration than in 1908, and at Camden Square the figure was the largest, except in 1903, during 29 years. This excess was chiefly due to the great durations in March, October and December. At Camden Square March had two and a half times the average duration, and October nearly twice. At five of the eleven stations more than 100 hours of rainfall were recorded in October, and at the same number more than 100 hours in December. At Cray the figures

during these two months were 195·7 and 234·9 hours, the latter representing a mean daily duration of 7·6 hours of rain. January, February and November were the months of shortest rainfall duration. In November rain fell during only 3·8 hours at Hodsock Priory, or a mean duration of 7·6 minutes per day.

*Comparison of Amount, Duration and Intensity of Rainfall, and number of Rain Days at Camden Square in 1909 with the Average for 28 years, 1881-1908.*

YEAR.	AMOUNT.		DURATION.		INTENSITY.		RAIN DAYS.	
	Total.	Per cent. of average	Total.	Per cent. of average	Rate per Hour.	Per cent. of average	Total.	Per cent. of average
	in.		hours		in.			
1881	27·92	116	486·3	116	·057	98	152	95
1882	27·14	113	480·7	115	·056	97	165	103
1883	24·40	102	393·5	94	·062	107	164	102
1884	20·35	85	336·8	81	·060	103	150	94
1885	26·64	111	470·0	113	·057	98	165	103
1886	27·01	113	427·2	102	·063	109	176	110
1887	19·21	80	300·3	72	·064	110	140	87
1888	27·74	116	435·7	104	·064	110	173	108
1889	23·85	99	428·5	103	·056	97	169	105
1890	21·23	89	409·5	98	·052	90	161	100
1891	28·15	117	490·3	117	·057	98	178	111
1892	22·61	94	372·5	89	·061	105	158	99
1893	19·80	83	388·0	93	·051	88	148	92
1894	27·94	117	477·7	114	·058	100	M 185	115
1895	21·47	90	380·0	91	·057	98	137	85
1896	23·52	98	404·3	97	·058	100	157	98
1897	22·86	95	371·2	89	·062	107	164	102
1898	m 17·69	74	m 298·5	71	·059	102	140	87
1899	22·54	94	337·5	81	·067	115	144	90
1900	23·28	97	366·3	88	·064	110	173	108
1901	22·17	93	310·2	74	M ·071	122	m 128	80
1902	20·84	87	352·5	84	·059	102	162	101
1903	M 38·10	159	M 688·5	165	·055	95	179	112
1904	20·65	86	491·8	118	m ·042	72	160	100
1905	22·97	96	456·4	109	·050	86	162	101
1906	24·26	101	420·4	101	·058	100	163	102
1907	23·01	96	418·8	100	·055	95	175	109
1908	23·67	99	500·7	120	·047	81	157	98
Average.	23·97	100	417·6	100	·058	100	160	100
1909	26·75	112	576·5	138	·046	79	M 190	119
Difference from average.	+ 2·78	+12	+158·9	+38	- ·012	-21	+30	+19

*Duration of Rainfall at Camden Square in 1909.*

Casella's Standard Recording Rain Gauge. 111 feet above Sea Level.

DR. H. R. MILL.

1909.	Rainfall.	Duration.	Rate per hour.	Number of rain days.	Rate per rain day.	Duration per rain day.
	in.	hours.	in.		in.	hours.
January .....	·71	19·0	·037	13	·05	1·5
February .....	·50	32·1	·016	8	·06	4·0
March .....	2·85	94·0	·030	25	·11	3·8
April .....	1·90	32·7	·058	12	·16	2·7
May .....	1·80	28·3	·064	9	·20	3·1
June .....	3·79	56·1	·068	17	·22	3·3
July .....	3·49	53·3	·065	18	·19	3·0
August .....	1·46	36·5	·040	10	·15	3·7
September .....	2·56	55·4	·046	21	·12	2·6
October .....	4·16	86·4	·048	23	·18	3·8
November .....	·74	18·6	·040	11	·07	1·7
December .....	2·79	64·1	·044	23	·12	2·8
Year .....	26·75	576·5	·046	190	·14	3·0

*Duration of Rainfall at Park Hill House, Stanhope Road, Croydon,  
in 1909.*

265 feet above Sea Level.

MR. BALDWIN LATHAM, M.Inst.C.E.

1909.	Rainfall.	Duration.	Rate per hour.	Number of rain days.	Rate per rain day.	Duration per rain day.
	in.	hours.	in.		in.	hours.
January .....	1·26	23·4	·054	12	·10	1·9
February .....	·73	30·9	·024	9	·08	3·4
March .....	3·36	90·6	·037	25	·13	3·6
April .....	2·05	29·6	·069	12	·17	2·5
May .....	1·22	21·8	·056	9	·14	2·4
June .....	3·26	67·1	·049	20	·16	3·4
July .....	3·34	45·0	·074	18	·19	2·5
August .....	1·94	38·0	·051	11	·18	3·5
September .....	3·19	52·0	·061	20	·16	2·6
October .....	4·50	105·2	·043	24	·19	4·4
November .....	1·11	21·1	·053	21	·05	1·0
December .....	3·36	77·5	·043	23	·15	3·4
Year .....	29·32	602·2	·049	204	·14	3·0

*Duration of Rainfall at Timsbury, Hants, in 1909.*

Negretti & Zambra's Tipping Bucket Recording Rain Gauge.  
90 feet above Sea Level.

MR. WILLIAM MATTHEWS, M.Inst.C.E.

1909.	Rainfall.	Duration.	Rate per hour.	Number of rain days.	Rate per rain day.	Duration per rain day.
	in.	hours.	in.		in.	hours.
January .....	·96	18·9	·051	13	·07	1·5
February .....	·30	8·9	·034	5	·06	1·8
March .....	3·78	70·3	·054	22	·17	3·2
April .....	1·35	21·2	·064	11	·12	1·9
May .....	1·92	15·6	·123	8	·24	1·9
June .....	3·15	38·3	·082	17	·19	2·3
July .....	2·81	36·7	·077	17	·17	2·2
August .....	2·50	29·3	·085	8	·31	3·7
September .....	3·32	37·6	·088	17	·20	2·2
October .....	7·49	125·8	·060	25	·30	5·0
November .....	·48	18·5	·026	8	·06	2·3
December .....	3·83	81·9	·047	21	·18	3·9
Year .....	31·89	503·0	·063	172	·19	2·9

*Duration of Rainfall at Twyford, Hants, in 1909.*

Negretti & Zambra's Tipping Bucket Recording Rain Gauge.  
139 feet above Sea Level.

MR. WILLIAM MATTHEWS, M.Inst.C.E.

1909.	Rainfall.	Duration.	Rate per hour.	Number of rain days.	Rate per rain day.	Duration per rain day.
	in.	hours.	in.		in.	hours.
January .....	1·03	26·7	·039	11	·09	2·4
February .....	·33	11·5	·029	4	·08	2·9
March .....	3·67	67·5	·054	19	·19	3·6
April .....	1·30	31·2	·042	11	·12	2·8
May .....	1·37	15·2	·090	9	·15	1·7
June .....	4·07	53·1	·077	16	·25	3·3
July .....	2·88	38·3	·075	15	·19	2·6
August .....	2·35	28·2	·083	9	·26	3·1
September .....	3·23	35·2	·092	15	·22	2·3
October .....	7·63	122·5	·062	26	·29	4·7
November .....	·52	13·7	·038	6	·09	2·3
December .....	3·88	81·7	·047	20	·19	4·1
Year .....	32·26	524·8	·061	161	·20	3·3

*Duration of Rainfall at Melbury Reservoir, Parkham, Devon, in 1909.*

516 feet above Sea Level.

MR. BALDWIN LATHAM, M.Inst.C.E.

1909.	Rainfall.	Duration.	Rate per hour.	Number of rain days.	Rate per rain day.	Duration per rain day.
	in.	hours.	in.		in.	hours.
January ..	3·55	78·7	·045	23	·15	3·4
February ..	1·06	22·7	·047	13	·08	1·7
March ..	5·74	130·7	·044	30	·19	4·4
April ..	3·61	72·4	·050	20	·18	3·6
May ..	2·35	36·0	·065	8	·29	4·5
June ..	2·12	42·0	·050	12	·18	3·5
July ..	3·12	78·2	·040	23	·14	3·4
August ..	2·25	43·9	·051	14	·16	3·1
September ..	2·97	57·5	·052	18	·16	3·2
October ..	10·79	175·4	·062	30	·36	5·8
November ..	2·87	72·5	·040	18	·16	4·0
December ..	7·64	174·2	·044	28	·27	6·2
Year ..	48·07	984·2	·049	237	·20	4·2

*Duration of Rainfall at Hodsock Priory, Notts, in 1909.*

56 feet above Sea Level.

LT.-COL. H. MELLISH.

1909.	Rainfall.	Duration.	Rate per hour.	Number of rain days.	Rate per rain day.	Duration per rain day.
	in.	hours.	in.		in.	hours.
January ..	1·12	22·5	·050	13	·09	1·7
February ..	·55	31·0	·018	7	·08	4·4
March ..	3·23	76·2	·042	23	·14	3·3
April ..	1·52	21·2	·072	11	·14	1·9
May ..	1·40	28·5	·049	11	·13	2·6
June ..	3·08	57·1	·054	17	·18	3·4
July ..	3·57	47·6	·075	17	·21	2·8
August ..	3·07	33·2	·092	15	·20	2·2
September ..	2·25	40·9	·055	18	·12	2·3
October ..	2·52	38·9	·065	22	·11	1·8
November ..	·27	3·8	·071	10	·03	0·4
December ..	5·25	84·4	·062	25	·21	3·4
Year ..	27·83	485·3	·057	189	·15	2·6

*Duration of Rainfall at Hesketh Park, Southport, Lancashire, in 1909.*

39 feet above Sea Level.

MR. J. BAXENDELL.

1909.	Rainfall.	Duration.	Rate per hour.	Number of rain days.	Rate per rain day.	Duration per rain day.
	in.	hours.	in.		in.	hours.
January .....	2·09	42·4	·049	19	·11	2·2
February.....	·98	35·2	·028	11	·09	3·2
March .....	2·85	88·1	·032	18	·16	4·9
April .....	2·98	54·5	·055	16	·19	3·4
May .....	1·40	27·8	·050	9	·16	3·1
June.....	2·68	57·4	·047	14	·19	4·1
July .....	4·99	70·4	·071	22	·23	3·2
August .....	3·00	51·1	·059	16	·19	3·2
September .....	2·47	47·7	·052	14	·18	3·4
October .....	4·64	70·0	·066	21	·22	3·3
November .....	1·70	42·0	·040	15	·11	2·8
December .....	5·94	117·2	·051	23	·26	5·1
Year.....	35·72	703·8	·051	198	·18	3·6

*Duration of Rainfall at Huddersfield Cemetery, Yorkshire, in 1909.*

410 feet above Sea Level.

MR. J. FIRTH.

1909.	Rainfall.	Duration.	Rate per hour.	Number of rain days.	Rate per rain day.	Duration per rain day.
	in.	hours.	in.		in.	hours.
January .....	2·39	40·7	·059	13	·18	3·1
February.....	1·59	61·7	·026	9	·18	6·9
March .....	3·46	86·9	·040	22	·16	4·0
April .....	2·85	48·6	·059	14	·20	3·5
May .....	2·34	40·2	·058	14	·17	2·9
June .....	3·08	62·6	·049	15	·21	4·2
July .....	3·94	82·9	·048	19	·21	4·4
August .....	2·53	44·7	·057	14	·18	3·2
September .....	2·59	57·1	·045	18	·14	3·2
October .....	3·93	69·0	·057	22	·18	3·1
November .....	1·20	29·8	·040	9	·13	3·3
December .....	6·38	131·3	·049	28	·23	4·7
Year.....	36·28	755·5	·048	197	·18	3·8

*Duration of Rainfall at Mount St. John, Thirsk, Yorkshire, in 1909.*

Halliwell Recording Gauge. 542 feet above Sea Level.

MR. A. J. WALKER.

1909.	Rainfall.	Duration.	Rate per hour.	Number of rain days.	Rate per rain day.	Duration of rain days.
	in.	hours.	in.		in.	hours.
January .....	·59	15·6	·038	13	·05	1·2
February .....	·81	36·7	·022	11	·07	3·3
March .....	4·23	122·8	·034	24	·18	5·1
April .....	2·04	49·3	·041	16	·13	3·1
May .....	1·18	37·9	·031	12	·10	3·2
June .....	2·85	54·0	·053	14	·20	3·9
July .....	2·76	64·9	·043	20	·14	3·2
August .....	3·53	65·5	·054	18	·20	3·6
September .....	2·26	61·2	·037	17	·13	3·6
October .....	2·69	70·6	·038	21	·13	3·4
November .....	·82	26·1	·031	11	·07	2·4
December .....	3·60	100·0	·036	19	·19	5·3
Year.....	27·36	704·6	·039	196	·14	3·6

*Duration of Rainfall at Mount St. John, Thirsk, Yorkshire, in 1909.*

Newey Recording Gauge.

MR. A. J. WALKER.

1909.	Rainfall.	Duration.	Rate per hour.	Number of rain days.	Rate per rain day.	Duration per rain day.
	in.	hours.	in.		in.	hours.
January .....	·59	14·4	·041	13	·05	1·1
February.....	·81	29·5 <sup>2</sup>	·027	11	·07	2·7
March .....	4·23	109·3	·039	24	·18	4·6
April .....	2·04	47·0	·043	16	·13	2·9
May .....	1·18	34·8	·034	12	·10	2·9
June .....	2·85	47·9	·059	14	·20	3·4
July .....	2·76	61·9	·045	20	·14	3·1
August .....	3·53	62·0	·057	18	·20	3·4
September .....	2·26	52·6	·043	17	·13	3·1
October .....	2·69	64·4	·042	21	·13	2·1
November .....	·82	20·7	·040	11	·07	1·9
December .....	3·60	89·7	·040	19	·19	4·7
Year.....	27·36	634·2	·043	196	·14	3·2

*Duration of Rainfall at Cray Reservoir, Breconshire, in 1909.*

1,030 feet above Sea Level.

MR. R. H. WYRILL, M.Inst.C.E.

1909.	Rainfall.	Duration.	Rate per hour.	Number of rain days.	Rate per rain day.	Duration per rain day.
	in.	hours.	in.		in.	hours.
January .....	3·98	90·5	·044	18	·22	5·0
February .....	1·32	26·6	·050	7	·19	3·8
March .....	6·70	121·1	·055	21	·32	5·8
April .....	6·10	102·3	·060	19	·32	5·4
May .....	2·84	36·9	·077	8	·36	4·6
June .....	4·40	69·0	·064	16	·28	4·3
July .....	4·83	112·5	·043	24	·20	4·7
August .....	2·62	42·1	·062	14	·19	3·0
September .....	5·10	76·3	·067	12	·42	6·4
October .....	13·58	195·7	·069	23	·59	8·5
November .....	3·50	75·8	·046	16	·22	4·7
December .....	14·26	234·9	·061	26	·55	9·0
Year.....	69·23	1183·7	·058	204	·34	5·8

*Duration of Rainfall at Cauldhame, Falkirk, Stirlingshire, in 1909.*

73 feet above Sea Level.

MR. DAVID RONALD, C.E.

1909.	Rainfall.	Duration.	Rate per hour.	Number of rain days.	Rate per rain day.	Duration per rain day.
	in.	hours.	in.		in.	hours.
January .....	4·28	151·5	·028	18	·24	8·4
February .....	1·50	51·0	·029	9	·17	5·7
March .....	2·63	98·0	·027	19	·14	5·2
April .....	3·44	34·5	·100	14	·25	2·5
May .....	2·91	36·5	·080	16	·18	2·3
June .....	1·53	10·5	·146	10	·15	1·0
July .....	2·61	25·5	·102	19	·14	1·3
August .....	3·04	33·0	·092	16	·19	2·1
September .....	1·66	23·5	·071	15	·11	1·6
October .....	4·72	39·5	·119	19	·25	2·1
November .....	2·04	43·0	·047	11	·19	3·9
December .....	4·84	55·5	·087	17	·28	3·3
Year.....	35·20	602·0	·058	183	·19	3·3

## REPRESENTATIVE RECORDS OF DAILY RAINFALL in 1909.

## REGISTER OF RAINFALL IN 1909

*Kept at St. Pancras, Camden Square, in the County of London,*

Lat. 51° 32' 20" N. Long. 0° 8' 10" W.

By DR. H. R. MILL.

RAIN GAUGE... { Diameter, 8 in.  
 Height of top above Ground, 9 in.  
 " " " Sea Level, 111 ft.

Date.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Date.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
1	·01	...	·03	...	...	·35	...	·19	·21	...	...	·23	1
2	·02	...	·36	...	...	·06	...	...	...	·05	·02	·44	2
3	...	...	·22	...	...	·39	·09	...	...	·08	...	·31	3
4	...	·01	...	...	...	·26	...	...	·23	·07	...	·11	4
5	...	...	·04	...	...	·05	·09	...	·04	·17	...	·07	5
6	...	...	·39	...	...	·04	·26	...	·09	...	...	·05	6
7	·15	...	·07	...	...	...	·16	...	·08	·23	...	...	7
8	...	...	·05	...	...	...	...	...	·19	·01	...	...	8
9	·06	·13	·01	...	...	...	·32	...	·04	...	...	·06	9
10	·16	·03	·08	...	...	·05	·08	...	·16	·16	·02	·23	10
11	...	·05	·01	...	...	·09	·07	...	...	·16	·01	·01	11
12	·01	...	...	·02	·01	·38	...	...	·14	·01	...	·02	12
13	·02	...	·15	·10	·08	...	·28	...	·07	·19	...	...	13
14	·11	·01	·07	...	...	...	·05	...	...	·01	·20	...	14
15	·06	...	·03	...	...	...	·37	...	·07	·22	·01	·02	15
16	...	...	...	·02	·05	...	·08	·03	·09	·12	·05	·29	16
17	·01	...	...	·03	...	...	...	·42	...	·07	·02	·08	17
18	·03	...	·16	...	·05	...	...	·07	...	...	...	...	18
19	...	...	·11	·53	...	...	...	·02	...	·01	·01	·04	19
20	...	...	·01	...	...	·01	...	·26	...	·26	...	...	20
21	...	...	·04	...	...	·03	...	...	...	...	...	·30	21
22	...	...	·04	·16	...	·11	...	...	·20	...	...	·03	22
23	...	...	...	·09	...	·40	·14	·05	·03	·06	...	·24	23
24	...	...	·27	...	·57	·51	·02	·28	·15	...	...	·01	24
25	...	...	·10	...	·15	·25	·02	·06	·10	·04	...	·07	25
26	...	·06	...	·14	·41	·53	·08	...	·01	·80	...	...	26
27	...	·08	·11	·41	·40	...	1·14	...	·01	·42	·04	·08	27
28	...	·13	·17	·03	·08	...	...	...	·39	·91	·01	·07	28
29	·01	...	·07	·26	...	·28	·05	·08	·19	·01	·35	...	29
30	...	...	·25	·11	...	...	·19	..	·07	...	...	·01	30
31	·06	...	·01	...	...	...	...	...	...	·10	...	·02	31
Totals	·71	·50	2·85	1·90	1·80	3·79	3·49	1·46	2·56	4·16	·74	2·79	Totals
Totals from Jan. 1	·71	1·21	4·06	5·96	7·76	11·55	15·04	16·50	19·06	23·22	23·96	26·75	Totals from Jan. 1
Rain Days	13	8	25	12	9	17	18	10	21	23	11	23	Total 190

Average of 52 years ..... 25·08 in.

## REGISTER OF RAINFALL IN 1909

*Kept at Penzance, Morrab Gardens, in the County of Cornwall,*

Lat. 50° 7' 0" N. Long. 5° 32' 12" W.

BY CHARLES H. BENN, Esq.

RAIN GAUGE... { Diameter, 5 in.  
 Height of top above Ground, 1 ft.  
 " " " Sea Level, 55 ft.

Date.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Date.
1	in. .01	in. .01	in. ...	in. ...	in. ...	in. ...	in. ...	in. ...	in. .10	in. 1.24	in. ...	in. .43	1
2	.10	...	.13	.32	...	.03	.01	...	...	.15	...	.63	2
3	.01	...	.33	.20	...	.88	.03	...	.01	.16	...	.27	3
4	...	.01	.06	...	...	.04	...	...	.06	.24	.09	.16	4
5	.12	...	.57	...	...	.03	.11	...	.07	.04	.02	.23	5
6	.07	...	.09	...	...	.02	.08	...	.02	.02	.06	.13	6
7	.29	...	.12	...	...	...	...	...	.05	.50	...	.24	7
8	.06	.18	.02	...	...	...	...	...	.16	...	...	.02	8
9	.16	.23	...	...	...	...	.39	...	.01	.22	.07	.42	9
10	.49	.16	.43	...	...	...	.02	...	.07	.65	...	.63	10
11	.03	...	...	.02	...	...	...	...	.04	.18	...	.09	11
12	.55	...	.09	...	...	...	...	...	...	.20	.03	.04	12
13	.15	...	.05	.04	...	...	...	...	...	.04	.07	...	13
14	.20	...	.04	...	...	...	...	...	...	.09	.06	...	14
15	.29	...	.28	...	...	...	.01	.04	...	.71	.30	.18	15
16	.21	...	.01	...	.01	...	...	...	...	.29	...	...	16
17	.02	...	.22	.08	.02	...	...	.30	...	.05	...	.13	17
18	.13	...	...	...	...	...	...	.10	...	...	...	.12	18
19	.01	...	.18	.14	...	.01	...	.01	...	.18	...	.04	19
20	...	...	.44	...	...	.27	.07	.32	...	.02	...	...	20
21	...	...	.05	.15	...	.45	.04	.13	...	.05	...	1.29	21
22	...	...	.22	.16	.01	.09	.01	.23	...	.14	...	.35	22
23	...	...	.15	.24	...	.21	.04	.03	.30	.36	...	.02	23
24	...	...	.40	...	.01	...	.12	.57	.05	.26	.08	.12	24
25	...	...	.23	.08	.61	...	.12	.02	...	.61	...	.17	25
26	...	...	...	.17	.22	.03	.58	.03	...	.40	.20	.10	26
27	...	.21	1.04	...	...	...	.35	...	...	.76	.10	.05	27
28	...	.03	.33	.13	.04	...	.02	...	...	.03	.26	...	28
29	...	...	.05	.29	.01	...	.01	.03	...	.06	.46	.02	29
30	...	...	.28	.05	...	...	.05	...	.06	...	.49	.08	30
31	.03	...	.03	...	.02	...	.03	...	...	...	...	...	31
Totals	2.93	.83	5.84	2.07	.95	2.06	2.09	1.81	1.00	7.65	2.29	5.96	Totals
Total from Jan. 1	2.93	3.76	9.60	11.67	12.62	14.68	16.77	18.58	19.58	27.23	29.52	35.48	Total from Jan. 1
Rain Days	19	7	26	14	9	11	19	12	13	27	14	25	Total 196

Average of 16 years ..... 39.64 in.

REGISTER OF RAINFALL IN 1909

*Kept at North Cadbury Rectory, in the County of Somerset,*

Lat. 51° 2' 31" N. Long. 2° 31' 15" W.

By REV. H. A. BOYS, F.R.Met.Soc.

RAIN GAUGE... { Diameter, 8 in.  
Height of top above Ground, 1 ft. 3 in.  
" " " Sea Level, 256 ft.

Date.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Date.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
1	...	·01	...	...	...	·44	...	·04	·01	...	...	·18	1
2	·02	·01	·32	...	...	·03	...	...	...	·13	·02	·35	2
3	...	...	·02	...	...	·76	·14	...	...	·10	·02	·37	3
4	...	·06	...	...	...	·21	...	...	·29	·12	...	·05	4
5	·03	...	·80	...	...	·03	·01	...	·02	·01	...	·22	5
6	·05	·01	1·11	...	...	·40	·24	...	·05	·03	...	·02	6
7	·04	...	·10	...	...	...	...	...	·01	·37	...	·02	7
8	...	...	·06	...	...	...	...	...	·04	...	...	...	8
9	·03	·53	·02	...	...	...	·38	...	...	·12	·01	·22	9
10	·32	·30	·12	...	...	·04	·10	...	·39	·36	·03	·57	10
11	...	...	...	...	...	...	·03	...	·11	·11	·01	·09	11
12	·12	...	...	·11	...	...	...	...	...	·18	·01	·09	12
13	·18	...	·06	·17	...	...	·16	...	·05	...	...	...	13
14	·22	...	·03	...	...	...	·05	...	...	...	·17	...	14
15	·08	·01	...	...	...	...	·04	·02	...	·13	·08	·04	15
16	·05	...	...	·12	...	·04	·03	...	·01	·40	...	·93	16
17	·09	...	...	·03	...	...	...	1·10	...	·16	...	·08	17
18	·27	...	·24	...	·06	...	...	·08	...	·01	...	...	18
19	...	...	·09	·50	...	·08	...	·19	...	·03	...	·04	19
20	...	...	·03	...	...	·16	·01	·32	...	·10	...	...	20
21	...	...	·14	...	...	·41	·03	·10	·03	·03	·01	·94	21
22	...	...	·11	·30	...	·03	...	·03	...	·03	...	·11	22
23	...	...	·01	·21	...	·12	·13	·15	·01	·43	...	·10	23
24	...	...	·17	·01	·41	·06	·07	·40	·25	·53	...	·05	24
25	...	...	·19	·07	·04	·07	·13	...	...	·20	·01	·02	25
26	...	·03	...	·15	·11	·06	·32	...	...	1·56	...	·01	26
27	...	...	·26	·04	·05	·03	1·00	...	...	·10	·05	·02	27
28	...	...	·25	·06	·08	·01	...	...	1·35	·12	·02	·02	28
29	...	...	·02	·19	...	·41	...	·09	·40	...	·22	...	29
30	...	...	·03	·05	...	...	·03	...	·05	·01	·10	·02	30
31	...	...	·03	...	·15	...	...	...	...	·13	...	...	31
Totals	1·50	·96	4·21	2·01	·90	3·39	2·90	2·52	3·07	5·50	·76	4·56	Totals
Totals from Jan. 1	1·50	2·46	6·67	8·68	9·58	12·97	15·87	18·39	21·46	26·96	27·72	32·28	Totals from Jan. 1
Rain Days	13	8	23	14	7	19	18	11	16	26	14	24	Total 193

Average of 13 years..... 29·48 in.

## REGISTER OF RAINFALL IN 1909

*Kept at Worksop, Hodsock Priory, in the County of Nottingham.*

Lat. 53° 21' 35" N. Long. 1° 6' 15" W.

BY LT.-COL. HENRY MELLISH, Pres. R.Met.Soc.

RAIN GAUGE... { Diameter, 8 in.  
 Height of top above Ground, 1 ft.  
 " " " Sea Level, 56 ft.

Date.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Date.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
1	...	...	...	...	·04	·13	...	·34	...	·03	...	·20	1
2	...	...	·02	...	...	...	...	...	·03	·01	·01	·60	2
3	...	...	·07	...	...	...	·10	·03	·03	·20	...	·79	3
4	...	...	...	...	...	·04	...	...	...	·01	...	·02	4
5	...	...	·05	...	...	·16	·09	...	·07	·02	...	·04	5
6	·03	...	1·14	...	...	...	·02	...	·09	...	·02	...	6
7	·10	·01	·02	...	...	...	·06	...	·07	·06	...	·05	7
8	...	...	·02	...	...	...	...	...	...	·01	...	...	8
9	·04	·09	·12	...	...	...	·46	...	...	...	·01	·24	9
10	...	·31	·02	...	...	...	·10	...	...	·28	...	·30	10
11	·23	·05	·04	...	...	·05	·15	...	·02	·03	...	...	11
12	...	...	...	·03	...	...	...	...	·26	...	...	·08	12
13	·25	...	·14	·18	·05	...	·01	...	·05	·16	...	...	13
14	·18	...	·04	...	·16	...	...	...	·19	·01	...	·02	14
15	·04	...	·02	...	...	·09	·31	·02	·06	·32	...	·01	15
16	·11	...	·02	·02	·06	...	...	·04	·04	·24	·03	·39	16
17	...	...	...	·04	·29	...	...	1·49	...	...	...	·06	17
18	·09	...	·09	...	...	·04	...	·05	...	·05	...	·19	18
19	...	...	·04	·44	...	·07	...	...	...	·08	...	·51	19
20	...	...	...	...	...	·30	·09	·29	...	...	...	·01	20
21	...	...	...	...	...	·03	...	·07	·13	·18	...	·91	21
22	·01	...	...	·08	...	·08	...	·01	·01	·03	·02	·05	22
23	...	...	·06	·25	...	·10	·12	·19	·49	·27	...	·16	23
24	...	...	·40	...	·17	·66	...	·16	·03	·25	...	·09	24
25	...	...	·04	·04	·36	·69	·22	·15	·31	...	...	·11	25
26	...	·05	·03	·07	·18	·01	...	·01	...	·03	...	...	26
27	...	·02	·04	·35	·01	·03	·88	...	·36	...	·02	·16	27
28	·01	·02	·13	...	·03	·43	·01	...	·15	...	·11	·11	28
29	·02	...	·07	·02	...	·17	·07	·19	...	·03	·02	...	29
30	...	...	...	...	...	...	·81	·03	·05	...	·02	·14	30
31	·01	...	·61	...	·05	...	·07	...	...	·04	...	·01	31
Totals	1·12	·55	3·23	1·52	1·40	3·08	3·57	3·07	2·25	2·52	·27	5·25	Totals
Total from Jan. 1	1·12	1·67	4·90	6·42	7·82	10·90	14·47	17·54	19·79	22·31	22·58	27·83	Total from Jan. 1
Rain Days	13	7	23	11	11	17	17	15	18	22	10	25	Total 189

Average of 34 years..... 24·36 in.

REGISTER OF RAINFALL IN 1909

*Kept at Borrowdale, Seathwaite, in the County of Cumberland,*

Lat. 54° 29' 35" N. Long. 3° 10' 40" W.

FOR THE ROYAL METEOROLOGICAL SOCIETY.

RAIN GAUGE... { Diameter, 5 in.  
Height of top above Ground, 1 ft.  
" " " Sea Level, 423 ft.

Date.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Date.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
1	·10	·10	·21	...	...	...	...	...	·05	·12	·18	·81	1
2	·20	3·78	·97	...	...	...	·22	...	·03	·14	·07	·20	2
3	·05	3·25	...	·40	...	...	·82	·21	·63	·51	...	·19	3
4	...	1·80	...	...	...	·19	...	·11	·41	·88	·08	·01	4
5	·08	...	·45	...	...	·10	1·15	...	1·75	·56	·66	...	5
6	...	...	1·06	...	...	·02	·60	...	1·31	·12	...	·10	6
7	·30	...	...	...	...	...	·31	...	...	1·16	...	...	7
8	...	...	...	...	...	...	...	...	·01	...	·41	·20	8
9	·50	1·45	·10	...	...	...	·79	...	...	1·11	1·13	4·61	9
10	...	·65	·03	...	...	·11	·21	...	...	·87	...	2·52	10
11	·96	·03	...	·31	...	...	...	...	...	·61	·57	·11	11
12	·44	...	...	·45	·42	...	·05	·44	·01	1·86	·34	...	12
13	1·38	...	·25	·72	·10	...	·12	·26	...	·34	...	...	13
14	1·10	·16	...	·05	·15	...	·29	·03	...	1·18	...	...	14
15	·05	·15	...	·85	...	...	1·21	1·48	...	...	...	...	15
16	1·05	...	...	·36	·02	...	·01	·10	...	·21	...	...	16
17	2·00	...	·45	·10	·10	...	·60	·11	...	·59	...	...	17
18	1·20	...	·60	...	...	·10	...	·25	...	·22	...	·02	18
19	...	...	·17	·71	...	·31	·02	·19	·10	4·15	...	·05	19
20	...	...	·05	...	...	·82	2·48	·75	...	·86	...	·02	20
21	·02	...	...	...	...	·85	·35	·21	...	·84	...	1·05	21
22	·05	...	...	·67	·23	·95	·60	·10	...	1·86	...	1·45	22
23	...	·02	·45	·11	·03	·51	1·91	1·10	·46	2·21	·01	·31	23
24	...	...	·86	1·34	·81	·11	1·90	·41	...	·63	...	·18	24
25	...	...	·02	·30	·63	...	1·15	·07	...	·01	·02	1·17	25
26	...	...	...	·32	·74	·35	·06	·20	...	...	·26	·88	26
27	...	·06	·06	·12	·22	·10	...	·11	·71	...	1·60	1·58	27
28	·85	...	1·60	·68	·71	·22	·57	1·41	·11	...	2·01	1·15	28
29	·05	...	1·62	·05	·05	...	·87	·91	...	...	·45	·02	29
30	...	...	·02	...	1·17	...	·41	·01	...	·10	·85	2·15	30
31	·25	...	·11	...	·35	...	·05	...	...	...	...	·10	31
Totals	10·63	11·45	9·08	7·54	5·73	4·74	16·75	8·46	5·58	21·14	8·64	18·88	Totals
Total from Jan. 1	10·63	22·08	31·16	38·70	44·43	49·17	65·92	74·38	79·96	101·10	109·74	128·62	Total from Jan. 1
Rain Days	19	11	19	17	15	14	25	21	12	24	15	23	Total 215

Average of 29 years..... 129·31 in.

## REGISTER OF RAINFALL IN 1909

*Kept at Strata Florida, Hafod, in the County of Cardigan,*

Lat. 52° 20' 50" N. Long. 3° 49' 25" W.

By T. J. WADDINGHAM, Esq.

RAIN GAUGE... { Diameter, 5 in.  
 Height of top above Ground, 1 ft.  
 " " " Sea Level, 580 ft.

Date.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Date.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
1	...	...	·44	...	...	...	...	·15	·29	·03	·05	·44	1
2	...	...	...	·02	...	...	·02	...	·04	·19	·25	1·06	2
3	...	·22	...	...	...	...	·53	...	·22	·48	...	·32	3
4	·03	...	·02	...	...	...	...	...	·75	·58	·03	·17	4
5	·06	...	·02	...	...	·05	·13	...	·53	·13	·03	·09	5
6	·48	...	...	...	...	...	·23	...	·45	·01	·02	·09	6
7	·03	·05	...	...	...	...	·12	...	·24	·25	...	...	7
8	·37	·68	·01	...	...	...	...	...	·01	·05	...	...	8
9	·68	·25	...	...	...	...	·88	...	·01	·13	·23	·28	9
10	·24	...	·01	·11	...	...	·53	...	...	·67	...	·70	10
11	·06	...	...	·60	·05	...	...	...	...	·28	·03	·07	11
12	·38	...	·20	·58	...	...	·05	·01	...	·28	·05	...	12
13	·72	·02	·09	·03	...	...	·03	...	...	·07	·12	...	13
14	·27	...	·01	·08	...	...	·03	...	...	·65	·06	...	14
15	·03	...	·03	·02	...	·10	...	·12	...	1·02	...	...	15
16	·08	...	·03	·31	·06	...	1·23	·03	...	·37	·02	·32	16
17	·37	...	·25	·03	...	...	·51	1·24	...	·07	...	·15	17
18	...	...	·18	·40	...	·17	·02	·13	...	·01	...	·41	18
19	...	...	·68	...	...	·15	·04	·08	·07	·67	...	·03	19
20	...	...	·03	...	...	·30	·47	·20	...	·23	...	·13	20
21	...	...	...	·32	·02	·37	·02	·33	·01	·15	...	·80	21
22	...	...	·08	·33	·06	·53	·04	·08	...	·43	...	·39	22
23	...	...	·85	·15	·53	·26	·33	·08	·39	1·48	...	·18	23
24	...	...	·27	·28	·24	·10	·04	·71	·27	·67	·07	·11	24
25	...	...	·03	·52	·85	·09	·54	·05	...	·06	·03	·21	25
26	...	...	·37	·08	·04	·12	·05	·25	...	·39	·18	·12	26
27	...	·09	·45	·13	·15	·03	1·10	...	·96	...	·40	·66	27
28	·05	·19	·12	·48	...	·05	·05	...	1·09	...	...	·09	28
29	·10	...	...	·25	·05	·03	·50	·46	...	...	...	·01	29
30	·45	...	·08	...	·04	...	·04	·02	·20	·10	...	·30	30
31	·05	...	...	...	·04	...	·13	·40	...	...	...	...	31
Totals	4·45	1·50	4·25	4·72	2·13	2·35	7·66	4·34	5·53	9·45	1·57	7·13	Totals
Total from Jan. 1	4·45	5·95	10·20	14·92	17·05	19·40	27·06	31·40	36·93	46·38	47·95	55·08	Total from Jan. 1
Rain Days	18	7	22	19	12	14	26	17	16	27	15	24	Total 217

Average of 18 years..... 54·00 in.

## REGISTER OF RAINFALL IN 1909

*Kept at Aberdeen, Cranford House, in the County of Aberdeen,*

Lat. 57° 8' 45" N. Long. 2° 8' 0" W.

By DAVID McHARDY, Esq.

RAIN GAUGE... { Diameter, 5 in.  
Height of top above Ground, 1 ft.  
" " " Sea Level, 120 ft.

Date.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Date.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
1	...	...	·12	...	·06	·02	...	·04	...	...	·26	...	1
2	...	·08	·05	...	·03	...	...	...	...	·03	·05	·52	2
3	...	·09	·08	·24	·02	...	·03	·32	·01	·03	...	·23	3
4	...	·02	·03	...	...	·01	·25	·03	·11	·09	...	...	4
5	·05	·04	·05	...	...	...	·11	...	·10	·15	...	...	5
6	·03	...	·54	...	...	...	·19	...	·09	...	...	...	6
7	·13	...	·73	...	...	...	...	...	·24	·07	·02	...	7
8	·11	...	·15	...	...	...	...	·01	·04	...	...	...	8
9	·02	·20	·15	...	...	·02	·46	...	...	...	·09	·23	9
10	...	·02	·26	...	...	·08	...	...	...	·28	·04	·31	10
11	·15	...	·04	...	...	...	...	...	...	·10	·35	1·80	11
12	·06	...	·02	·06	·15	...	...	·14	·16	·30	·13	...	12
13	·27	·01	·20	·72	·06	...	·42	...	...	·17	·17	...	13
14	·70	...	·22	·29	·21	...	...	·02	...	·16	·02	...	14
15	...	·06	·03	·01	·02	...	·25	...	...	...	...	...	15
16	...	...	·01	·28	...	...	...	·09	·06	·06	...	·07	16
17	·02	...	·16	·01	...	·02	·12	...	·02	·04	...	·04	17
18	...	...	·12	...	·16	·06	·02	...	...	...	...	·10	18
19	...	...	·17	·11	...	·16	...	...	·33	·04	·04	·03	19
20	...	...	·04	·07	...	·04	·22	...	·03	...	·12	·03	20
21	...	...	...	·02	...	·62	·02	·21	·35	·03	·03	·23	21
22	·19	·03	·01	·50	·02	·19	·02	·02	·03	·02	...	·41	22
23	·01	·03	·07	...	...	·01	...	·23	·03	·59	...	...	23
24	...	...	·23	...	...	...	·04	·17	·13	·10	·02	·03	24
25	...	...	·07	·51	·65	·02	2·00	·22	·05	·08	...	·17	25
26	...	·02	·15	·11	·05	·05	...	...	...	...	...	·03	26
27	...	·17	·01	·06	·01	·09	·07	·09	·03	·01	·18	·60	27
28	...	·02	·32	·07	·20	...	·05	·35	·07	·02	·13	·04	28
29	·15	...	·77	·03	·02	...	·32	·03	...	·04	...	...	29
30	·03	...	·85	·20	·19	...	·25	·08	...	...	...	...	30
31	·03	...	...	...	·38	...	·16	·12	...	...	...	·08	31
Totals	1·95	·79	5·65	3·29	2·23	1·39	5·00	2·17	1·88	2·41	1·65	4·95	Totals
Total from Jan. 1	1·95	2·74	8·39	11·68	13·91	15·30	20·30	22·47	24·35	26·76	28·41	33·36	Total from Jan. 1
Rain Days	15	13	29	17	16	14	19	17	18	21	15	18	Total 212

Average of 23 years..... 31·79 in.

## REGISTER OF RAINFALL IN 1909

*Kept at Loch Quoich, Glenquoich, in the County of East Inverness,*

Lat. 57° 5' N. Long. 4° 17' W.

BY MR. D. GRANT.

RAIN GAUGE... { Diameter, 5 in.  
 Height of top above Ground, 1 ft. 0 in.  
 „ „ „ Sea Level, 569 ft.

Date.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Date.
1	in. ·56	in. ·62	in. ·11	in. ...	in. ·01	in. ·17	in. ...	in. ·06	in. ...	in. ·14	in. ·39	in. ·32	1
2	·73	4·26	·05	...	·06	...	·12	1·00	·11	·70	·13	...	2
3	1·31	·48	...	·40	...	...	·54	·32	1·18	·58	·05	·07	3
4	...	·05	...	...	...	·14	·13	·02	·20	·17	·06	...	4
5	·48	·15	...	...	...	...	·22	...	·85	·90	·28	...	5
6	·62	...	...	...	...	...	·08	...	1·22	·89	·11	...	6
7	·47	·14	·02	...	...	...	·02	...	·06	1·93	...	·24	7
8	·08	·49	...	...	...	...	·02	...	·35	·20	1·04	·06	8
9	·98	·45	·08	...	...	...	·26	...	·05	·14	·90	3·85	9
10	·83	·04	·02	...	...	...	·03	·04	...	·69	·16	·39	10
11	·52	...	·03	·62	·55	...	...	·32	...	·77	1·78	·11	11
12	·33	...	·11	·30	·15	...	·16	1·13	...	·83	1·17	...	12
13	1·41	·54	·10	·68	·07	...	·45	·04	...	·42	...	...	13
14	·47	·96	·05	·24	...	...	...	·52	...	2·79	...	...	14
15	·38	·05	·16	·46	·01	...	·52	·10	...	·93	...	...	15
16	1·20	·02	...	·11	...	...	·08	...	...	·17	...	...	16
17	2·03	...	·03	·38	·27	·25	·14	·03	...	·03	...	...	17
18	·33	...	·25	·09	·84	·23	·19	·67	·27	·17	...	...	18
19	·22	...	·02	·36	·15	·05	·06	1·64	·18	1·13	·14	·43	19
20	·16	...	...	·14	...	·23	1·40	·67	...	1·54	·06	·14	20
21	·10	·03	...	...	·08	·26	·55	·21	...	·75	...	·09	21
22	...	·06	·01	·16	·05	·06	·56	·05	...	1·49	...	·20	22
23	...	...	...	·10	·13	·11	·62	·05	·02	·24	·15	·11	23
24	...	...	·04	·02	·02	·03	·41	·11	...	·16	·06	·40	24
25	·04	...	...	·09	·78	·03	·07	...	...	...	·03	·95	25
26	...	...	·08	·19	·27	...	·04	·27	·31	...	·60	·75	26
27	·24	·06	...	·15	·70	·12	...	·26	...	...	·52	·65	27
28	·32	·02	·05	·28	·12	...	·35	·34	...	·05	2·60	·03	28
29	·16	...	·02	·07	·69	...	·22	·15	...	·02	1·47	...	29
30	...	...	·29	·09	·49	...	·03	·34	...	...	·15	1·53	30
31	...	...	...	...	·36	...	1·02	·21	...	·40	...	·24	31
Totals	13·97	8·42	1·52	4·93	5·80	1·68	8·29	8·55	4·80	18·23	11·85	10·56	Totals
Total from Jan. 1	13·97	22·39	23·91	28·84	34·64	36·32	44·61	53·16	57·96	76·19	88·04	98·60	Total from Jan. 1
Rain Days	24	17	19	20	20	12	27	24	12	27	21	19	Total 242

Average of 39 years..... 110·62 in.

REGISTER OF RAINFALL IN 1909

*Kept at Miltown Malbay, in the County of Clare,*

Lat. 52° 51' N. Long. 9° 24' W.

By MICHAEL MOLOHAN, Esq.

RAIN GAUGE ... { Diameter, 5 in.  
Height of top above Ground, 1 ft.  
" " " Sea Level, 400 ft.

Date.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Date.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
1	·10	·02	·03	·04	·01	·10	·01	...	·15	·03	·27	·77	1
2	·26	...	...	·81	·09	...	·20	...	·15	·28	·04	·07	2
3	...	·01	·02	·09	...	...	·02	...	·08	·10	·01	·04	3
4	...	·05	·17	...	...	...	·05	...	·32	·12	·08	·59	4
5	·10	...	...	...	...	...	·22	...	·30	·05	·12	·06	5
6	·05	·43	...	...	...	...	·03	...	·04	·10	...	·01	6
7	·10	·20	·62	...	...	...	·02	...	·02	·43	·04	...	7
8	·07	·41	·13	...	...	...	·63	...	·04	·01	·20	·28	8
9	·28	·14	·01	...	...	...	·25	...	·01	·34	·05	·25	9
10	·25	·08	...	...	...	·01	...	...	...	·21	...	·44	10
11	·09	...	...	·19	...	...	·01	...	·04	·51	·07	·07	11
12	·11	...	·01	·75	...	·01	·08	·05	...	·23	·09	...	12
13	·27	...	·03	·06	...	...	...	·04	...	·09	·18	...	13
14	·47	·02	·01	·01	·05	...	·02	...	...	·09	...	...	14
15	·19	·03	...	·10	...	...	·22	·10	...	·17	...	...	15
16	·03	...	...	·26	·23	...	·03	...	...	·03	...	...	16
17	1·09	...	·26	·11	·01	·01	·01	...	...	·01	...	...	17
18	·28	...	...	·02	·01	·05	·02	·03	·03	·04	...	·08	18
19	·02	...	·16	·30	...	·36	...	·10	·02	·65	...	·03	19
20	·03	...	·30	...	·09	·16	·15	·05	·27	·14	...	...	20
21	...	·50	...	·18	·01	1·56	·15	·09	·10	·30	...	·15	21
22	·01	·42	...	·41	·06	·09	·07	·11	...	·67	...	·25	22
23	·04	...	·31	·03	...	·12	·04	·02	·15	·51	...	·04	23
24	·02	...	·33	·01	·19	·15	...	·20	·02	·03	...	·15	24
25	·01	...	·06	·04	·39	·01	...	·01	...	·43	·01	·22	25
26	...	...	...	·02	·05	·02	·20	·05	·28	·01	·66	·15	26
27	·16	·13	·28	·21	·03	...	...	...	2·40	...	·19	·40	27
28	·26	...	·10	·14	·02	...	·20	·45	·07	...	·20	·03	28
29	...	...	...	·54	·01	...	·21	...	...	·17	·09	...	29
30	·03	...	·11	·03	·48	...	·18	...	·04	...	·54	·30	30
31	·02	...	·05	...	·12	...	·30	·01	...	...	...	·03	31
Totals	4·34	2·44	2·99	4·35	1·85	2·65	3·32	1·31	4·53	5·75	2·84	4·41	Totals
Total from Jan. 1	4·34	6·78	9·77	14·12	15·97	18·62	21·94	23·25	27·78	33·53	36·37	40·78	Total from Jan. 1
Rain Days	26	13	19	22	17	13	25	14	20	27	17	22	Total 235

Average of 35 years..... 45·11 in.

## REGISTER OF RAINFALL IN 1909

*Kept at Ballymena, Harryville, in the County of Antrim,*

Lat. 54° 52' N. Long. 6° 18' W.

By JOHN R. WILLIAMS, Esq.

RAIN GAUGE... { Diameter, 5 in.  
 Height of top above Ground, 1 ft. 4½ in.  
 „ „ „ Sea Level, 150 ft.

Date.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Date.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
1	·07	·03	·25	...	·02	·04	...	...	·12	·04	·32	·22	1
2	·02	·04	·05	·42	·06	...	·03	...	·05	·06	·02	·70	2
3	...	·56	·15	·62	·02	...	·41	...	·20	·08	...	·20	3
4	...	·49	...	·03	...	...	·03	·15	·11	·28	·04	·05	4
5	·08	·05	·50	...	...	...	·33	...	·26	·09	...	...	5
6	·05	·03	·65	...	...	...	·14	...	·52	·04	·03	...	6
7	·44	·06	·15	...	...	·03	...	...	·03	·40	...	...	7
8	·05	·21	·08	...	...	...	·07	...	·18	·04	·08	·06	8
9	·10	·20	·44	...	...	...	·62	...	·09	·06	·21	·24	9
10	·15	·11	·03	·03	...	...	·02	...	·02	·25	·08	·08	10
11	·05	...	...	·26	...	...	...	...	·04	·58	·09	·07	11
12	·10	...	·07	·20	·10	...	·04	·28	·03	·03	·15	·02	12
13	·51	...	·03	·26	·15	...	·03	...	...	·02	·04	...	13
14	·37	·04	·09	·09	...	...	·08	...	...	·21	·05	...	14
15	·25	·03	·03	·39	·07	...	·57	...	...	·15	...	...	15
16	·12	·02	·04	·25	·04	...	...	·04	...	·07	...	...	16
17	1·24	·04	·20	·04	·32	·09	·03	...	...	...	...	·11	17
18	·13	...	·06	·05	·04	·12	...	·06	...	...	...	·04	18
19	·06	...	·05	·21	...	·25	...	·12	·05	...	...	·15	19
20	·03	...	...	·02	...	·28	·14	·06	...	·23	·06	·06	20
21	·11	·10	...	...	...	·53	·22	·16	...	·13	...	·30	21
22	·03	·12	...	·20	·03	·95	·06	·36	...	·12	...	·11	22
23	...	·02	·16	·22	...	·05	·65	·05	·30	1·00	·03	...	23
24	...	·13	·52	·12	·32	...	·07	·13	·04	·12	·06	·08	24
25	·03	·04	·02	·11	·02	...	·13	·03	...	...	·04	·61	25
26	...	...	...	·42	·09	·02	·05	·09	·30	...	·07	·04	26
27	·11	·13	·14	·16	·07	·04	...	·02	·29	...	·16	·25	27
28	·12	·04	·07	·23	·11	...	·11	1·18	·03	·03	·08	·28	28
29	·03	...	·15	·15	·03	...	·36	·03	...	·13	·15	·03	29
30	·16	...	·02	·16	·30	...	·27	·10	...	·03	·26	·21	30
31	·12	...	·13	...	·61	...	·02	·21	...	...	...	·06	31
Totals	4·53	2·49	4·08	4·64	2·40	2·40	4·48	3·07	2·66	4·97	2·02	3·97	Totals
Total from Jan. 1	4·53	7·02	11·10	15·74	18·14	20·54	25·02	28·09	30·75	35·72	37·74	41·71	Total from Jan. 1
Rain Days	26	21	25	23	18	11	24	17	18	25	20	23	Total 251

Average of 33 years..... 40·89 in.

## RAINFALL AT THE ROYAL OBSERVATORY, GREENWICH.

Lat., 51° 28' 38" N. Long., 0° 0' 0".

[Communicated by SIR W. H. M. CHRISTIE, K.C.B., D.Sc., F.R.S., &c.,  
Astronomer Royal.]

1909	No. of Rain 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.	In Magnetic Pavilion enclosure.
Height above Ground. {	...	50ft. 8in.	50ft. 8in.	38ft. 4in.	21ft. 6in.	10ft. 0in.	5in.	5in.	1ft 0in.
Height above Mean Sea Level. }	...	205ft.	205ft.	193ft.	176ft.	165ft.	149ft.	155ft.	150 ft.
January .....	12	in. 0·338	in. 0·313	in. 0·571	in. 0·582	in. 0·714	in 0·766	in. 0·728	in. 0·766
February .....	9	...*	0·287	0·445	0·498	0·548	0·627	0·559	0·581
March .....	22	...*	1·928	2·359	2·537	2·950	3·080	2·904	2·946
April .....	16	1·003	1·008	1·356	1·400	1·605	1·639	1·623	1·608
May .....	10	0·829	0·998	1·130	1·201	1·248	1·239	1·246	1·216
June .....	16	...†	...†	3·023	3·504	3·581	3·671	3·577	3·621
July .....	18	2·007	2·060	2·615	2·956	3·142	3·156	3·112	3·137
August .....	11	1·238	1·284	1·557	1·668	1·749	1·802	1·736	1·752
September .....	17	1·548	1·721	2·082	2·335	2·421	2·477	2·379	2·398
October .....	19	2·026	2·005	2·714	3·576	3·935	4·059	3·907	3·931
November .....	14	0·383	0·437	0·672	0·666	0·772	0·790	0·762	0·757
December .....	22	1·382	1·431	1·809	1·999	2·361	2·400	2·295	2·359
Yearly Sums. ...	186	...	...	20·333	22·922	25·026	25·706	24·828	25·072
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 rain 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 new gauge of the Standard Meteorological Office pattern added in January, 1908.

\* Register interfered with by snow. † Register interfered with by scaffolding.

W. H. M. CHRISTIE.

## THE STAFF OF OBSERVERS.

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WE have dealt so fully in the first article in this volume with the progress of the British Rainfall Organization, that we need only refer to the Tables and diagrams which were given there to show how the year 1909 continues the past rate of increase in the accumulation of data. In the list of gains and losses for the year which follows, the entries in italics represent old records returning to our pages, or dropping out for reasons which we believe to be temporary. These are allowed for in the following little table of comparison, by which the real gain or loss in numbers may be compared with the total figures for several years.

	Total gains.	Returned.	Real gain.	Total loss.	Temporary.	Real loss.	Net real gain.
1906.....	400	58	<b>342</b>	237	40	<b>197</b>	<b>145</b>
1907.....	375	49	<b>326</b>	289	81	<b>208</b>	<b>118</b>
1908.....	444	62	<b>382</b>	251	64	<b>187</b>	<b>195</b>
1909.....	426	89	<b>337</b>	290	87	<b>203</b>	<b>134</b>

These take account of records included in the respective volumes only, but for 1909 we have 213 imperfect records, and 69 which though sent in as complete, were so obviously erroneous that they could not be used, 282 altogether, so that the total number of rain gauges at work in 1908, so far as records sent in to us can tell, was 4681 + 282, or 4963, but we know of more than 50 rain gauges of which we were unable to obtain records, and so there were certainly more than 5000 rainfall records in progress during 1909.

There are no important changes in **London**, except the insertion of a record from the Borough of Hammersmith, which has not hitherto been represented. We do not profess to be able to repeat offhand the names of all the Metropolitan Boroughs, but we believe that we are right in saying that only two, Bethnal Green and Southwark, are now without a rainfall record within their borders. Of the three records which were terminated during the year, two of those kept by the Metropolitan Water Board were stopped by our advice, after inspection.

In **Surrey** we have to report the gain of 40 new records, and the loss of only 10. Most of the insertions were brought to our notice by the *Surrey Advertiser*, and in many cases we have to cite

that paper as an authority, as the Observers when applied to failed to respond ; we are consequently without daily values or particulars as to size and exposure of the gauges. Many of the new returns of which we have received particulars were from stations above 500 feet, and so will prove of special value.

**Kent** had more losses than gains, and some of them are serious, such as that of the old record at Sandhurst Rectory, the two records near Cranbrook, and the high station at Lusted, 730 feet above the sea. The last named is compensated for by Ide Hill, which stands at a height of 700 feet, on the North Downs ; the Charing Pumping Station at 593 feet, and Wye Agricultural College, improve the distribution of stations in East Kent, where more records are still much wanted.

Amongst the losses in **Sussex** we particularly regret Sheffield Park, Uckfield ; but hope it may be only temporary. The insertions include a valuable group on the South Downs, where records have been kept by Mr. E. A. Martin, in connection with his interesting researches on the nature of dew-ponds. We welcome the record at Cocking Rectory also, which is most useful in confirming that at Linch Farm, and proving the truth of the theoretical assumption that the maximum rainfall from the sea-winds blowing across the South Downs, where they are steep and narrow, occurs on the northern slopes beyond the summit.

In **Hampshire** the Isle of Wight has suffered by the loss of two important records, which we regret the more because that island would be an ideal subject of a rainfall monograph if only a dozen well-placed rain gauges could be set up in the unknown interior. On the mainland two familiar landmarks of our pages have gone, Emsworth on the Sussex border, and Kempsey, Bournemouth, the latter the more regretted as a record of such high accuracy in the keeping of a private individual is invaluable in confirming the official weather reports of a health resort. Several useful additions have been made by Mr. Cave, Colonel Bibby and others to the well-placed group on the South Downs near Petersfield which will go far to establish the influence upon the local weather of what Gilbert White of Selborne called "that majestic chain of mountains." Another valuable accession is Ellisfield Manor at a height of 600 feet on the Hampshire Downs.

**Middlesex** and **Hertfordshire** show a decided improvement in the number of stations on the Northern Heights of London which

were formerly very poorly represented ; but the east of Hertfordshire is still in need of additional stations. For **Oxfordshire** we print a large number of new records from stations which improve the distribution in that county. Most of them are from schools under the charge of the County Education Committee, and we greatly appreciate the enlightenment of the Committee in taking the action they did ; we have not seen the gauges in use but fear from what we have heard that some at least are of an obsolete pattern ; we hope, however, that we are mis-informed or if not, that steps will be taken to ensure gauges of an approved pattern being placed at those schools where the teachers show themselves interested in the work. The cost of a good gauge is scarcely more than that of a bad one, and we are convinced that the majority of Oxford school masters are deserving of having the best type of instrument. Besides the schools the most important station is that at Joyce Grove, Nettlebed, at an altitude of 590 feet on the Chilterns. The losses in **Northamptonshire** were more than counterbalanced by the gains, and the distribution is greatly improved by the accession of a number of records kept at the Council schools. In **Bedfordshire** we have only losses to chronicle, which is not satisfactory ; that which we miss most is the old record at Silsoe, near Ampthill, which ceased on the death of the Observer at the age of 94.

There is much to be thankful for in **Essex**, though we regret the loss of North Ockendon, where several remarkable heavy falls have been recorded. We are glad to find Saling Grove return to our pages, for last year it was printed regretfully amongst the total losses, and we welcome Suttons, near Theydon Bois, for both lie on the margin of what is the worst region near London from our point of view, the strip of west Essex between Ongar and Saffron Walden. The great improvement occurs in the south-east where Canewdon Vicarage and a splendid series of records from the Southend Water Company almost transform the map. The northern extension of the worst region is rendered worse still by the loss of Great Thurlow in **Suffolk** ; but a new record at Diss in **Norfolk** fills a gap which was as serious as that which Great Thurlow makes.

**Wiltshire** suffers by the loss of Ferne, one of the highest stations in the south-west of the county, and of Alderbury where the record was very old and valuable, but whether the latter has stopped or the return has gone astray we do not know, our letters being absorbed unanswered. Cholderton Rectory on the high land east of

Salisbury Plain and Stowell Park, near Pewsey, are important accessions, but we would like several new stations between them, as the distribution of rainfall in Wiltshire is by no means clearly established. The chief gains in **Dorset** are Ashmore Rectory at the great height of 700 feet, and Iwerne Courtney and Iwerne Minster on the lower ground near it, the three helping to fill out our knowledge of the diversified country round Cranborne Chase. Deaths and removals have led to many changes in **Devon**, but we have been able to find no reason for the absence of the most important of the missing stations, Chagford, and we hope it may return next year. Dunkeswell Abbey where an Observer was secured two years ago with much difficulty to assist in the Exe Valley research has also failed us. Two of the gains in North Devon, Leigh House, Chumleigh and Ebberly, Roborough greatly improve the distribution. The losses in **Cornwall** are only temporary, the Mullion record having been destroyed by the burning of the house, while the Tintagel record was so deficient in amount that we did not dare to print it. The new gauge at Hexworthy is a mechanical one ; but a Snowdon will be placed beside it to check the amount recorded. The loss of the record at Exford does not make so serious a change in **Somerset** as one might suppose, for it did not appear to give a full account of the rain on that part of Exmoor, while the new station at Wheddon Cross, on the eastern border of the moor, yields an excellent record. In other places this county shows healthy progress, the gains more than filling the gaps caused by the losses.

The investigation of the rainfall which feeds the headwaters of the Thames in **Gloucestershire** is assisted by four new stations near Stow-on-the-Wold, secured by the kind assistance of Mr. F. Druce and Mr. D. W. Horner, and also by a new station at Chipping Camden. No record has been lost in East Gloucestershire so that the accessions are unalloyed gain.

**Herefordshire** is a little disappointing, the record at Brampton Bryan Hall, received so warmly last year, on account of its fine position on the Welsh border, has gone, and so has another of last year's accessions, with two of older standing ; and Wem, in **Shropshire**, received back in 1908, after two years absence, has also gone. In **Worcestershire** losses predominate chiefly on account of our being unable to get a reply regarding three records sent in by one Observer ; but accessions at Droitwich and Stockton-on-Teme help to improve the distribution. **Warwickshire** is falling off, the loss

of Barford Rectory and the Spring, Kenilworth is particularly to be deplored, and there are no compensating gains.

The thinnest place in **Leicestershire** is improved a little by the record at the Desford Industrial School, and Wainfleet, on the coast of **Lincolnshire**, is a useful gain ; but otherwise the southern part of Division VII. has not improved. In **Nottinghamshire** the losses are not very serious, while the gains include stations which will help to elucidate the distribution of rainfall in the lower Trent Valley, and in the district about Retford, where the work recently undertaken on a map of average rainfall for the county showed the need of additional stations. Most of the losses in **Derbyshire** are, we hope, only temporary, but we part with great regret from the last of our records at Melbourne. The most valuable accession is Bretton, near Eyam, at the great height of 1200 feet above the sea.

The interesting Wirral peninsula in the tongue of low rainfall between Wales and the Pennine Chain, profits by three new records in **Cheshire**, and Helsby is a welcome point on the rainfall maps, in a district where stations are not numerous. We regret, however, that we have been able to hear of so few records in the south of Cheshire, where they are much wanted. In **Lancashire** we suffer by the loss of most of the rainfall records of the Bolton Waterworks, no less than seven, and we have been unable to ascertain whether they are terminated or with-held for some other reason. Whichever explanation may be found it is much to be regretted that the Corporation have allowed Bolton to fall behind the other large towns of the north of England. The fact that the excellent evaporation tank long kept up at the Heaton Reservoir has been allowed to pass out of use, makes us fear that the other records which were amongst the best on the Pennine Chain, have also been neglected. We are glad to find the record at Rufford in its place again.

**Yorkshire**, the only county except London to form a division in itself, has now more than 400 rainfall records, and it is remarkable that there are only 40 changes to chronicle, 16 losses and 24 gains. The losses are less important than could reasonably be expected, several of the missing records from districts where they should have been valuable having proved unsatisfactory in the past, so that their absence is scarcely a source of regret, while some better stations have dropped out to be replaced by others equally good. In the West Riding Mr. F. J. Dixon sends returns from several additional

stations on the Ashton-under-Lyne Waterworks area, which bear internal evidence of accuracy and careful supervision. We welcome an excellent new rain gauge kept at the Town Hall, Skipton, and a still more valuable accession is Embsay Moor, where the same authority maintains a gauge at the waterworks. We first heard of this gauge on the occasion of the great flood on June 3rd, 1908, described in our last volume. A newspaper cutting sent by some kind but careless friend, without name of paper or date of publication, contained what seems to be a valuable rainfall return from The Royd, Todmorden; we hope that the Observer will favour us with a full return for 1910. In the East Riding we are still much in need of records from the high ground, but we are glad to welcome the return to our pages of Highfield, Driffield, after an absence of six years. In the North Riding there are some pleasant gains, especially a new record at Middleham Rectory, in Wensleydale, but the Cleveland district is still nearly a rain-gauge-less desert. Mr. A. J. Walker, whose active co-operation we greatly value, has added another to his group of gauges near Thirsk.

In **Durham** we deplore the loss of the 46-year old record at Seaham Hall consequent on the death of the old gardener referred to last year. The accessions outweigh the losses, one of them, at Usworth, we discovered while on a lecturing trip, and the Observer, Mr. Walbank, gave an interesting account of the way he uses the rain gauge as an instrument of education in his school.\* **Northumberland** has the unhappy position of being one of the most disappointing counties this year. The losses are numerous and serious, and the gains few; but we remember the series of new returns received last year. The loss of a record can be accepted with more equanimity when, as in the case of Biddleston Hall, we know the reason, though that record, lost by the death of the Observer, was one of the best-placed in the county. But from Angerton Hall (the scene of one of the greatest rainfalls in 24 hours ever experienced), and from Longhirst, three separate applications have resulted neither in a reply nor a return of the letter, so we do not know whether they still exist or not. The Font group of waterworks gauges were splendidly situated, but not very satisfactory as to amount. The three accessions are all excellent; Melkridge and Beaufront Castle continue the improvement which has been taking

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\* *Met. Mag.*, 44 (1909), p. 127.

place recently in the South Tyne Valley, and Mr. J. E. Burnett, at Tynemouth, is an enthusiastic Observer who supplements the readings of his daily gauge with a hyetograph. The gains outweigh the losses in **Cumberland** and **Westmorland**.

The changes in **Wales** are by no means so great as the list might suggest, for a number of the Birmingham waterworks gauges in the Elan Valley have been appearing in the wrong county and the entries have had to be redistributed. A record from Penmaen in the Gower peninsula is a decided gain in Glamorgan, and the recording rain gauge at the Cray reservoir of the Swansea Waterworks in Brecon throws new light on the duration of rainfall in the wettest part of South Wales. The new gauge at Nantgwillt in Radnorshire is not a return of the old Nantgwillt gauge but as new as can be, for the site on which the old one stood is now deep under the water of the reservoir, and the new gauge stands by the side of the new church facing the new bridge which carries the new road over the dam between two new reservoirs. The improvement in Merioneth made by the Barmouth record is apparent on the rainfall maps, for it helps to define the narrow belt of low rainfall along the coast of Wales. In Carnarvon the only serious loss is the gauge formerly kept by Mr. Gethin Jones at Moel Hebog, and it may perhaps return; the temporary absence of the two Llyn Llydaw gauges is due to the fact that they were of an unsatisfactory type which might have served indifferently well in a sheltered garden, but in the severe conditions of a high mountain valley they allowed wind-driven rain to make its way in by another way than the funnel; one has already been replaced by a Snowdon gauge, and we look for an interesting record from it next year. The gains are almost all gauges of the North Wales Power Company, set up under the charge of Mr. Lockwood whose keen interest in the subject we greatly appreciate. The most valuable is that at Pen-y-gwryd, which after a long interval of time takes the place of a record at the hotel immortalized by Kingsley.

That the **Isle of Man** should be better and not worse than last year we owe to the kind assistance of the Town Clerk of Douglas, to whom we appealed at a time when the greater part of this volume was in the printer's hands, and only the late Mr. Story's record and those of two lighthouses had been received. It is most satisfactory to know that the loss sustained by the death of two such zealous Observers as Mr. Moore and Mr. Story in a small community has not meant the lapse of the records they collected.

The increase of records in Guernsey is most satisfactory, and we hope eventually to connect some of our maps of heavy rainfall with the French system by the Channel Islands in the west, as well as by the narrower step across the Strait of Dover in the east.

We have much pleasure in welcoming a large increase in the number of records sent from **Scotland**, for here every new record is a distinct gain and every record that fails is a serious loss. In 19 of the 36 counties and parts of counties into which Scotland is divided in our pages, there is not a single gauge absent which was present last year, though it is true that in 14 there was no increase. In Dumfriesshire there is an immense accession in the Eskdalemuir Magnetic Observatory which, being placed under the Meteorological Office, forms a standard of excellence for that part of the country, and in the same county we are glad to welcome Mr. J. H. Milne Home, of Irvine House, Canonbie, a grandson of the indefatigable founder of the Scottish Meteorological Society, Mr. D. Milne Home, of Milne Graden. In Roxburgh the new record at Skelfhill is in a very important position, nearly a thousand feet above sea-level. The new record at Lilliesleaf School is taken with the gauge so long used by General Sprot, at Riddell House. We regret the absence of new records in Berwickshire, as we doubt that some of the existing gauges in that county are unsatisfactory, but they are unfortunately so far apart that we cannot say whether the higher or the lower values are in error; they cannot well all be right. Several new records are included from the Edinburgh Waterworks in the counties south of Edinburgh, and we spent much time in endeavouring to correct the more exposed gauges for loss of snow in winter; but the Trustees responsible for the waterworks expressly desired that the values as returned by their Observers should stand, and rather than lose the records we print them as received, only inserting a modest “?” to indicate those values which we believe to be deficient, in correcting which we spent many laborious and, of course, unremunerated hours. Polkemmet House is a serious loss in Linlithgow, but three new records of the Bathgate Waterworks are some compensation. In Lanark it is a pleasure to see that Miss Dunlop has supplemented the roof gauge at Shieldhill with a Snowdon gauge at 1 foot, the result showing, as was to be expected, a considerably greater rainfall. The loss of Glenbuck in Ayrshire is doubly disappointing, for it was in an important position, often helping us out of great difficulties in drawing the rainfall maps, and we fear it was lost only by carelessness:

omitting to repair a burst due to frost. The interesting wet area on the border of Renfrew, near Dalry, receives more elucidation from several new gauges, the positions of some of which we cannot locate from insufficient data. The new Port Glasgow record promises well. In the mainland of Argyll we have no loss to regret, but several most important gains. Mr. Lewis, Chamberlain of Argyll, has established two important new stations near Inveraray, and the record from Dahnally is extremely important also, while Ardtornish, on the picturesque Sound of Mull, is greatly appreciated. The new meteorological station at Oban is excellently placed for showing the rainfall at sea-level along the coast, and although the figure is surprisingly small we have no hesitation in accepting it as accurate. The most aggravating loss in Perthshire is that of the two records at Kippenross and Kippendavie, but we hope it is only temporary. We received *the mean of the two records*, which, of course, is of no value at all for our purpose, and no answer was received to the request for the totals of the separate gauges. Dunkeld is a useful addition, but we still greatly desire additional records in the valleys of the upper Tay and its tributaries. We welcome the new record at Abergeldie Castle, in Aberdeenshire, and hope to receive more particulars next year; the other acquisitions improve the distribution of gauges and there is no permanent loss. In Inverness-shire the most interesting additions are the new gauges near Loch Quoich, one of which, Laon, seems to have got into the very wettest point in the West of Scotland. Fortrose, in Easter Ross, is in a very dry area, and we welcome the keen Observer who sends the record; but the gauge is not of the approved pattern and we would not be surprised if its readings were somewhat low. We do not regret the loss of Lairg, in Sutherlandshire, very much, though its position is excellent, for we have not been able, for some years, to accept the records with full confidence; the insertion of Loch Stack is due to the interest taken in the district by the Rev. G. Mackay, formerly of Altnaharra, who suggested the position and found the Observer, while we supplied the gauge.

**Ireland** has not gone back, although there is little progress to report: 15 counties have lost no record since last year, but 17 counties have gained no record, and in 10 there was neither loss nor gain. In the south the chief accessions are new records at Skibbereen, at the beautiful Fota Island in Queenstown Harbour (where there is probably the finest collection of exotic trees and shrubs in the British

Isles), at Lismore Castle, at Dundrum in Tipperary, at Glenstal Castle in Limerick, and at Fethard-on-Sea in Wexford. The losses were not so important, though in Ireland every loss is serious. In the north-west the loss of Doo Castle and Ballymote deprive the inland parts of Mayo and Sligo of extremely valuable records, and there is nothing to take their place. We are glad to find Edenfel, Omagh, back, and we have been able to compute the rainfall for the missing months of 1907 and 1908, so as to preserve the average of this most valuable record.

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

Years.	England.	Wales.	Scotland.	Ireland.	British Isles.	Increase over previous year.
1861...	333 ...	9 ...	109 ...	20 ...	471 ...	47
1871...	1038 ...	88 ...	311 ...	67 ...	1504 ...	—5
1881...	1548 ...	131 ...	313 ...	153 ...	2145 ...	41
1891...	2091 ...	168 ...	359 ...	181 ...	2799 ...	23
1901...	2616 ...	253 ...	442 ...	195 ...	3506 ...	13
1902...	2712 ...	248 ...	472 ...	204 ...	3636 ...	130
1903...	2847 ...	265 ...	502 ...	215 ...	3829 ...	193
1904...	2932 ...	321 ...	508 ...	221 ...	3982 ...	153
1905...	3016 ...	328 ...	528 ...	224 ..	4096 ...	114
1906 ..	3153 ...	323 ...	556 ...	227 ...	4259 ...	163
1907...	3218 ...	324 ...	574 ...	229 ...	4345 ...	86
1908...	3326 ...	364 ...	604 ...	244 ...	4538 ...	193
1909...	3418 ...	373 ...	641 ...	249 ...	4681 ...	143
Difference from 1908.—						
Increase	92 ...	9 ...	37 ...	5 ..	143 ...	

## Rainfall Records, Losses and Gains.

COUNTY.	RECORDS TERMINATED, OR <i>Absent.</i>	NEW RECORDS, OR <i>Old Ones</i> <i>Re-appearing.</i>
<i>London.</i> <i>North of the</i> <i>Thames (56)</i>	Kensington (Campden Hill). Westminster (Commercial Road) Stoke Newington (Woodberry Down) <i>Stepney (Nature Study Museum)</i>	Hammersmith (The Creek). Chelsea (Lots Road). Westminster (Grosvenor Wharf) Hampstead (Arkwright Road). ,, (Southend Road).
<i>London.</i> <i>South of the</i> <i>Thames (29)</i>	<i>Bermondsey (Southwark Park).</i> <i>Greenwich (Royal Obs.) No. 2.</i> ,, (,,) <i>No. 1.</i>	Lambeth (Brixton Hill). <i>Battersea (Water Works).</i> Lower Tooting (Longley Road). <i>Wandsworth, Clapham Park (Atkins Rd)</i>
<i>West Surrey</i> <i>(99)</i>	Chiddingfold (Beaconscroft). <i>Godalming (Farncombe).</i> Guildford (Briarfield). ,, ( <i>Maori Road</i> ). <i>Frimley Green (Water Works)</i> Camberley (Portesbury Hill). Virginia Water (Lyne Grove).	Haslemere (High Field). ,, (Lowder Mill) 2nd g. Milford (Heath End). Godalming (Busbridge Park). Ewhurst (Garlands). Bramley (The Limes). Farnham (The Lower Bourne). ,, (Bourne Corner). Godalming (Compton Rectory). Farnham (Short Heath). ,, (Hale School). ,, (Poylehill Ho., Seale). Gomshall (The Croft). Guildford (Roy. Grammar Sch.) ,, (Echo Hurst). ,, ( <i>Lansdown Ho., Merrow</i> ) ,, (Craigie Merrow) 2nd g. Effingham (Effingham Hill). Worplesdon (Perry Hill). Sutton Park (Manor House). Pirbright. Ripley (Dunsborough House). Frimley (Tomlinscote). Wisley (West Hall Gardens). Woking (Woodham Hall). Bagshot (Penny Hill Park). Chertsey (Botleys Park Gardens). Weybridge (Portmore Road). Englefield Green (Queenswood).

<i>East Surrey</i> (112)	Merstham (Rockshaw Lodge). South Croydon (Bramley Hill). Kew (Cumberland Gate).	Reigate (The Gas Works). Mickleham (Juniper Hill). Walton-on-the-Hill (Hedgecroft). Leatherhead (Emlyn House). Chipstead (Eghurst). Ashted (The Hut). Cobham (Fairfield). ,, (Sandpit Hall). Oxshott (Oaklands). Sutton (Camborne Road). Beddington (Foxley Lane).
<i>West Kent</i> (109)	Hawkhurst (Sandhurst Rectory) Cranbrook (Swattenden). Biddenden (Sandpit Wood) <i>5in. g.</i> Cranbrook (Camden Lodge). <i>Horsmonden (Broad Ford Ho.)</i> Tunbridge Wells (Langton Grn.) <i>Paddock Wood Vicarage.</i> Lusted [Tatsfield]. Farnborough (Downe Council Sch.). <i>Frindsbury (Manor Farm).</i> Bickley (The High Field). Bromley (Widmore Road).	Tunbridge Wells (Hawkenbury) Tonbridge (Knowles Bank). ,, ( <i>Penshurst Place</i> ). Hadlow Place. Sevenoaks (Ide Hill Vicarage). Halstead Place. Bromley (Ravensfell).
<i>East Kent</i> (59)	<i>Hythe (Sandling Park) 2nd g.</i> <i>Tilmanstone (Danefield).</i>	Wye (S.E. Agricultural College) Charing Pumping Station. Sandwich (Mayfields) Bicknor Rectory <i>No. 2.</i> Faversham (Westwood Court). Sittingbourne (Newington Vic.).
<i>West Sussex</i> (51)	Lower Beeding (South Lodge). ,,     ,, (Forest House).	Bognor (Albert Road) Midhurst (Cocking Rectory). Selham Rectory. <i>Lower Beeding (The Warren).</i>
<i>East Sussex</i> (93)	Uckfield (Sheffield Park). <i>Lindfield (Wood Knoll).</i> Crawley Down (Grange) <i>2nd g.</i> Worth (Paddockhurst).	Clayton Windmills. Ditchling. Keymer (The Limes). Haywards Heath (Franklyn Rd). Cuckfield (Henmead Hall) Frant (Henley House).

<i>Hampshire</i> (135)	Brighthstone (Pitt Place). Brading (Ryde W. W. Knighton). Bournemouth (Kempsey, Bath Rd). <i>Fareham (Cams Hall)</i> . Emsworth (Redlands). Netley (Royal Vic. Hospital). Broughton (Boys School). Longparish (Middleton House). Eversley Rectory.	Ringwood (West Mount). Southampton (East Park). ,, (Bitterne Park). Botley (Hedge End). Petersfield (The Miscombe). ,, (Weston). ,, (Nursted House). ,, (Langrish). West Meon (East End). Privett (Stocks Farm). Liss (Highfield). ,, ( <i>Berry Grove</i> ). Ellisfield Manor. Fleet.
<i>Berkshire</i> (58)	--	<i>Newbury (Woodspeen)</i> . Woolhampton (Douai Abbey). Wantage (St. Katherine's Sch.). Steventon (Milton Hill). Abingdon (Twickenham House).
<i>Middlesex</i> (57)	Teddington (Hampton Road). Enfield (Old Park). ,, (The Ridgeway). Wrotham Cott. [Hadley, Barnet]	Chiswick (Grove Park). Hayes (Council Offices). Ealing (Grange Park) 2nd g. ,, (Woodville Gardens). <i>Finchley (Victoria Park)</i> . Mill Hill (Sunnyside). Enfield (Clay Hill).
<i>Hertfordshire</i> (71)	Tring (Wigginton Vicarage). ,, (Elm House).	Totteridge (West Lodge). ,, (Dollis Brae). Elstree (Bays Hill). Watford (Bushey Hall Road). Barnet (Dyrham Park Gardens). Bishops Stortford (Hadham Rd.). Standon (Libury Hall).
<i>Buckingham- shire</i> (39)	Great Missenden. Winslow (Addington Manor) 2nd g.	Chalfont St. Giles (Woodlands) 2g. Chearsley Hall.
<i>Oxfordshire</i> (69)	Caversham (Cane End House). <i>Goring Heath School</i> . <i>Clifton Hampden School</i> . Oxford (Radcliffe Obs.) 3rd g. Steeple Aston (Hill House).	Caversham (St. Benet's House). ,, (Kidmore End Sch.). Nettlebed (Joyce Grove). Crowmarsh Sch. [Wallingford]. Clifton Hampden (Manor Ho.). Watlington School. Toot Baldon School.

<i>Oxfordshire</i>		Thame (British School). ,, (C. of E. ,, ). ,, (Tythrop House). Witney (C. of E. School). ,, (Hailey School). Charlton-on-Otmoor School. Charlbury School. Steeple Barton School. ,, Aston School. Somerton School. Bodicote (Draycott House).
<i>Northamptonshire</i> (68)	Towcester (Easton Neston). Oundle School. Peterborough (Minster Close).	Middleton Cheney (Council School). Roade (Council School). Northampton (Hazlewood Road). Long Buckby Wharf. Rushden (Alfred Street School). Desborough (Council School). Dingley [Market Harborough]. <i>Oundle Waterworks.</i> <i>Rockingham Castle Gardens.</i> <i>Kings Cliffe (Fineshade Abbey).</i> Wittering Rectory.
<i>Huntingdonshire</i> (13)	—	—
<i>Bedfordshire</i> (27)	Flitwick. Amphill (Silsoe). <i>Bedford (Amphill Road).</i> ,, (De Parys Avenue). ,, (Bromham House).	—
<i>Cambridgeshire</i> (49)	Odsey [Ashwell]. <i>No. 2 gauge.</i> Little Shelford (Manor House). <i>Cambridge (Chesterton).</i>	<i>Abington Pigotts.</i> Great Shelford (Riversdale). Croxtton Park. ,, Rectory. <i>Mepal Engine.</i>
<i>Essex</i> (92)	Orsett. North Ockendon. Great Leighs (Lyons Hall). <i>2nd g.</i> Braintree (Camoys). Halstead (Red House).	Vange Pumping Station. Pitsea Pumping Station. Leigh Reservoir. Thundersley Reservoir. Nevendon Pumping Station. Billericay (Service Tank). Canewdon Vicarage. Theydon Bois (Suttons). <i>Great Saling (Saling Grove).</i> <i>Ardleigh (Hungerdowns).</i>

<i>Suffolk</i> (51)	Woodbridge Abbey. <i>Pedestal g.</i> Haverhill (Great Thurlow). Debenham Hall. Lowestoft (The Clyffe, Corton).	Felixstowe. Capel St. Mary. Sudbury (Great Cornard). Wangford (Henham Gardens). ,, (Ford House).
<i>Norfolk</i> (72)	Norwich (Postwick Hall).	Diss (Council School). Pulham St. Mary School. Weeting [Brandon]. Swaffham. <i>Honingham.</i> Sprowston Hall. Hemsby School. Reepham (Great Witchingham).
<i>Wiltshire</i> (51)	<i>Donhead St. Mary (Charlton Ho.)</i> Berwick St. John (Ferne). Alderbury. Bradford (Holt). Chippenham (Langley Burrell).	Cholderton Rectory. Pewsey (Stowell Park). Wroughton (Bassett Down Ho.) ,, ( <i>Burderop Park</i> )
<i>Dorsetshire</i> (71)	Puddletown. Wimborne (Park Homer). Gillingham (Milton-on-Stour).	Portland (Easton). Wareham (Worgate Hill). <i>Witchampton.</i> Iwerne Courtney (Ranston). ,, Minster House Gardens. Ashmore Rectory.
<i>South Devon</i> (128)	<i>Princetown.</i> Dawlish (Thorns Reservoir). Boxey Tracey (Wolleigh). Budleigh Salterton (West Hill Lo.) Kenton (Southtown House). Chagford (Frenchbeare). Kenn (Chapel Court). Crediton (Stockleigh Pomeroy). Dunkeswell Abbey Vicarage.	Dartmouth (Kingswear). Plymouth (Hartley Reservoir). Plympton (Leigham). Exmouth (Filters, Capel Lane). ,, (Marpool Hall). Axmouth (Millmead). Ottery St. Mary (Manor House).
<i>North Devon</i> (45)	East Anstey.	Chumleigh (Leigh House). Roborough (Ebberly). <i>Abbotsham (Riccard's Down).</i> Ilfracombe (Bickleighscombe).
<i>Cornwall</i> (64)	<i>Mullion.</i> • St. Austell (Trevarna). <i>2nd g.</i> <i>Tintagel (K. Arthur's Castle Hot.)</i>	St. Ives (Lower Bussow). <i>Newquay (Tresillian House).</i> Wadebridge (St. Kew). Launceston (Hexworthy).

<i>South Somerset</i> (51)	Yeovil (Kingston). Henstridge. Taunton (Ashleigh). 2 gauges. Langport (Huish Episcopi). Exford (North Ley).	South Petherton Vicarage. <i>Taunton (Leigh Hill Reservoir).</i> Wincanton (Roundhill Grange). Pen Selwood Rectory. North Petherton (Shovell). Cutcombe (Wheddon Cross). Bridgwater (Blake Gardens). Williton (Sampford Brett).
<i>North Somerset</i> (79)	Wells (Blue School). Chewton Mendip (Waldegrave Ho.). <i>Camerton Court.</i> High Littleton Vicarage. Banwell (Eversley). * <i>Clifton (Oakfield Road).</i>	Frome Waterworks (Egford). <i>Mells (Selwood).</i> Compton Martin. <i>Bath (Royal Institution).</i> ,, ( <i>Charlcombe, Hamilton Ho.</i> ). Saltford House. Flax Bourton (The Grange). Clevedon (Hagworthingham).
<i>West Gloucestershire</i> (75)	Clifton (Stoke Bishop, Pitch and Pay). Avonmouth (Bristol Docks). <i>Almondsbury (Over Court Field).</i> Lydney. <i>Tewkesbury (Puckrup Hall).</i>	* <i>Clifton (Oakfield Road).</i> <i>Castleford [Chepstow].</i> Cherington Rectory. Gloucester (Alexandra Road). Tewkesbury (Forthampton Court)
<i>East Gloucestershire</i> (26)	—	Stow-on-the-Wold (Icomb Place). ,, ,, (Wyche Hill Gdns) ,, ,, (Netherswell Manor). ,, ,, Chipping Campden.
<i>Herefordshire</i> (47)	Allensmore (Whitfield Court). Much Marele (Caerswall) Bartestree (Pomona). Brampton Bryan Hall.	Credenhill (Stretton Sugwas).
<i>Shropshire</i> (44)	<i>Pontesbury (Somerville).</i> Westbury (Winsley Hall). Shrewsbury (Corporation Yard). Newport (Edgmond). weekly g Wem. Whitchurch (Tilstock Lodge).	* <i>Nash Court [Tenbury].</i> Bridgnorth (Woodlands Hall). Shifnal (National School). Newport (Chetwynd Park). ,, (,, Gardens). Whitchurch (Fenns Bank).
<i>Staffordshire</i> (39)	<i>Longton (The Meir).</i> Stoke-upon-Trent (Hartshill). Mayfield House [Ashbourne]. weekly gauge.	<i>West Bromwich.</i>

\* Transferred on account of mistake as to County in which gauge was entered.

<i>Worcestershire</i> (51)	* <i>Tenbury</i> ( <i>Nash Court</i> ). <i>Bewdley</i> ( <i>Beaucastle</i> ). <i>Stourbridge</i> ( <i>Pedmore</i> ). " ( <i>Longlands</i> ). <i>Stechford</i> ( <i>Trebortha House</i> ). <i>Dudley</i> ( <i>Trindle House</i> ).	<i>Evesham</i> . <i>Droitwich</i> . <i>Stockton-on-Teme</i> ( <i>Eardiston</i> ). <i>Bewdley</i> ( <i>Winterdyne</i> ). 2nd g.
<i>Warwickshire</i> (29)	<i>Warwick</i> ( <i>Barford Rectory</i> ). <i>Kenilworth</i> ( <i>The Spring</i> ). <i>Birmingham</i> ( <i>The Crescent</i> ). 2nd g.	---
<i>Leicestershire</i> (36)	<i>Ratcliffe-on-Wreake</i> <i>College</i> .	<i>Horninghold House</i> . Float g. <i>Desford</i> ( <i>Industrial School</i> ).
<i>Rutland</i> (6)	—	<i>Great Casterton Rectory</i> .
<i>South Lincolnshire</i> (26)	—	—
<i>North Lincolnshire</i> (42)	<i>Spilsby</i> ( <i>East Keal Manor</i> ). " ( <i>Hagworthingham</i> ). <i>Horncastle</i> ( <i>Beoley House</i> ). <i>N. Level Engine</i> [ <i>Thorne</i> ].	<i>Wainfleet</i> . <i>Lincoln</i> ( <i>St. Botolphs</i> ). <i>Burton-upon-Stather</i> ( <i>Normanby</i> ).
<i>Nottinghamshire</i> (62)	<i>Sutton Bonnington</i> . <i>Nottingham</i> ( <i>Strelley Hall</i> ). <i>Bulwell</i> ( <i>Nuttall Rectory</i> ). " ( <i>Springfield</i> ).	<i>Radcliffe-on-Trent</i> ( <i>The Cliff House</i> ). <i>Nottingham</i> ( <i>Mapperley Hall Drive</i> ). <i>Southwell</i> ( <i>Halam House</i> ). <i>Ollerton</i> ( <i>Edwinstowe Hall</i> ). <i>Elkesley</i> ( <i>Pumping Station</i> ). <i>Rampton Manor</i> . <i>Retford</i> ( <i>Grammar School</i> ).
<i>Derbyshire</i> (106)	<i>Melbourne</i> ( <i>The Hollow</i> ). <i>Willington</i> ( <i>W. W. Milton</i> ). <i>Derby</i> ( <i>Duffield Road</i> ). 2 gauges <i>Kirk Langley</i> . <i>Belper</i> ( <i>Blackbrook House</i> ). <i>Stretton</i> ( <i>Lindway Reservoir</i> ). * <i>Derwent Dale</i> ( <i>Cranberry Clough</i> ).	<i>Findern</i> ( <i>Mill Hill Farm</i> ). <i>Littleover</i> ( <i>The Knoll</i> ). " <i>Old Hall</i> . <i>Codnor Park</i> . <i>Whatstandwell</i> ( <i>Meerbrook Sough</i> ). <i>Chesterfield</i> ( <i>Gas Works</i> ). " ( <i>Linacre Res.</i> ) 2nd g. <i>Eyam</i> ( <i>Bretton</i> ).
<i>Cheshire</i> (69)	<i>Hooton Pumping Station</i> . <i>Disley</i> ( <i>Lyme Park</i> ). 2nd gauge. <i>Marple Aqueduct</i> . * <i>Stalybridge</i> ( <i>Swineshaw</i> ).	<i>Frodsham</i> ( <i>Helsby</i> ). <i>Eastham</i> ( <i>Mill Hey</i> ). <i>Rock Ferry</i> ( <i>Elmhurst</i> ). <i>New Brighton</i> ( <i>Liscard</i> ). <i>Stalybridge</i> ( <i>Market Ground Yard</i> ). <i>Swineshaw Moor</i> ( <i>Lees Hill</i> ).

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<i>South Lancashire</i> (95)	<i>Liverpool</i> ( <i>Monument Place</i> ) 2 <i>g.</i> <i>Flixton</i> ( <i>Shawdon</i> ). <i>Manchester</i> ( <i>Sackville St.</i> ) <i>Bolton</i> ( <i>Heaton Reservoir</i> ). 2nd <i>g.</i> „ ( <i>Belmont, Longworth</i> ). „ ( „ <i>Hordern</i> ). „ ( „ <i>Slater Lane</i> ). <i>Rochdale</i> ( <i>Nayden Dean</i> ). <i>Old g.</i> <i>Entwistle</i> ( <i>Old Lyons</i> ). „ ( <i>Wayoh</i> ). „ ( <i>Broadhead</i> ). <i>Todmorden W. W.</i> ( <i>Ramsden Moor</i> ) <i>Bacup</i> ( <i>Britannia</i> ).	<i>West Derby</i> ( <i>Basil Grange</i> ). <i>Manchester</i> ( <i>Godlee Observatory</i> ) 2 <i>gauges.</i> <i>Eccles</i> ( <i>Worsley Old Hall</i> ). <i>Ashton-under-Lyne</i> ( <i>Henrietta St. Yard</i> ). * <i>Lower Swineshaw Reservoir</i> . <i>Prestwich</i> ( <i>Polefield House</i> ). <i>Bolton</i> ( <i>Smithills Moor</i> ). 2nd <i>g.</i>
<i>Central Lancashire</i> (72)	<i>Wigan</i> ( <i>The Mariebonne</i> ) 2 <i>g.</i> <i>Horwich</i> ( <i>Wildersmoor</i> ). <i>Rivington</i> ( <i>Coppice Stile</i> ) <i>Preston</i> ( <i>Brindle Rectory</i> ). <i>Rishton Reservoir</i> .	<i>Upholland Grammar School.</i> <i>Rufford.</i> <i>Darwen</i> ( <i>Sewage Works</i> ). <i>Lytham.</i>
<i>North Lancashire</i> (63)	<i>Cockerham Vicarage.</i>	<i>St. Michael's-on-Wyre Vic. (Snowdon).</i>
<i>Yorkshire.</i>		
<i>West Riding, Southern</i> (70)	<i>Sheffield</i> ( <i>Tylecote Rannmoor</i> ). <i>Bolsterstone</i> ( <i>Waldershaigh</i> ). <i>Elsecar.</i> <i>Langsett Moor</i> ( <i>Ewden Height</i> ). <i>Upton</i> ( <i>Moor Top</i> ).	<i>Sheffield</i> ( <i>Fulwood House</i> ). <i>Rotherham</i> ( <i>Sitwell Vale</i> ). * <i>Derwent Dale</i> ( <i>Cranberry Clough</i> ). <i>Mossley</i> ( <i>Manor House Yard</i> ). <i>Doncaster</i> ( <i>Hexthorpe Hall</i> ). <i>Cudworth</i> ( <i>Lund Lanc Sewage Wks.</i> )
<i>West Riding, Central</i> (132)	<i>Halifax</i> ( <i>Bents Norland</i> ) No. 3 <i>Selby.</i> <i>Bradford</i> ( <i>Duckworth terrace</i> ). <i>Keighley</i> ( <i>The Knowle</i> ). <i>Skipton</i> ( <i>Silsden, Gill Grange</i> ).	<i>Greenfield</i> ( <i>Upperwood Moor</i> ). <i>Whitley Bridge</i> ( <i>Roall Pump Statn.</i> ) <i>The Royd</i> [ <i>Todmorden</i> ]. <i>Halifax</i> ( <i>Salterhebble</i> ). <i>Skipton</i> ( <i>Town Hall</i> ). „ ( <i>Embsay Moor</i> ).
<i>West Riding, Northern</i> (112)	<i>Otley</i> ( <i>Council Offices</i> ). <i>Ingleton</i> ( <i>Kingsdale Head</i> ).	<i>Aberford</i> ( <i>Lotherton Hall</i> ). <i>Skipton</i> ( <i>Counter Hill</i> ). <i>Ripley</i> ( <i>Castle Gardens</i> ). <i>Nidderdale</i> ( <i>East Gill Head</i> ). „ ( <i>Rain Stang</i> ).
<i>East Riding</i> (27)	<i>Welham</i> [ <i>Malton</i> ].	<i>Driffield</i> ( <i>Highfield</i> ). <i>Malton</i> ( <i>The Leat House</i> ).

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<i>North Riding</i> (67)	<i>Thursk (Sowerby).</i> <i>Guisborough (Lockwood Beck Res.</i> <i>2nd gauge</i>	Thirsk (Mount St. John). 5th g. Middleham Rectory. Scarborough (May Lodge). <i>Saltburn-by-the-Sea.</i>
<i>Durham</i> (50)	<i>Darlington (Public Park).</i> <i>Weardale (Cowshill).</i> Seaham Hall.	Sedgefield (Hardwick). Wolsingham (Martagon House). Consett Park Farm. Washington (Usworth School).
<i>Northumberland</i> (52)	Angerton Hall. Morpeth (Longhirst Hall). Redpath (Tynemouth W. W.) Tod Crag (     "     "     ) Fallowlees(     "     "     ) Chartners(     "     "     ) Alwinton (Biddleston Hall). Wooler (Fenton).	Haltwhistle (Melkridge). Hexham (Beaufront Castle). Tynemouth (Percy Park).
<i>Cumberland</i> (74)	Frizington (Parkside Mines). <i>Buttermere (Hassness).</i> Penrith (Nandana). Maryport (Netherhall). <i>Carlisle (Spital Cemetery).</i>	<i>Sprinkling Tarn.</i> Egremont (The Grange). Penrith (Brunswick Rd. School). <i>Uldale (Chapel House Reservoir).</i>
<i>Westmorland</i> (48)	<i>Kendal (Helm View).</i> Loughrigg (Silverthwaite) No. 2	Kirkby Lonsdale (Casterton). <i>Ambleside (Lesketh How).</i> Loughrigg Fell. <i>Newbiggin (Brownber).</i>

### MONMOUTH, WALES AND THE ISLANDS.

<i>Monmouth</i> (31).	<i>Caldecot Level (Porton).</i> Caerleon (Llanwern House).	Abergavenny. <i>Llantilio Crossenny (Brindeni).</i>
<i>Glamorgan</i> (54)	Barry (Canon Street. <i>Llantrisant (Llanilid Res.)</i> <i>Aberdare (Abernant Hospital).</i>	Penmaen (Cefn Mor).
<i>Cardiff</i> (10)	Nantgaredig (Ystradwrallt).	Llanybyther (W. Wales Sanatorium)
<i>Pembroke</i> (15)	Henry's Moat.	, —

<i>Cardigan</i> (13)	—	* <i>Birmingham W. W.</i> ( <i>Bwlchyrhendre</i> ). " " ( <i>Cluerddu</i> ). " " ( <i>Gwngu</i> ). " " ( <i>Abergwyngy</i> )
<i>Brecon</i> (71)	Brecon (Penoyre). Abergwesyn (Caewain). " (Llanerch-yrfa).	Cardiff W. W. (Llwynon Res.). Swansea W. W. (Cray Res.) No. 1. Hay (Waunderwen). Builth Wells W. W. (Llangynog) <i>Llangammarch Wells</i> ( <i>Beulah</i> ) * <i>Birmingham W. W.</i> ( <i>Nant-y-car</i> ) " " ( <i>Esgair Garthen</i> )
<i>Radnor</i> (19)	* <i>Birmingham W. W.</i> ( <i>Nant-y-car</i> ) " " ( <i>Esgair Garthen</i> ) " " ( <i>Bwlchyrhendre</i> ) " " ( <i>Cluerddu</i> ). " " ( <i>Abergwyngy</i> ) " " ( <i>Gwngu</i> ).	<i>Welfield</i> [ <i>Builth</i> ]. Birmingham W. W. (Nantgwillt) " " (Pen-y-gareg)
<i>Montgomery</i> (22)	Welshpool (Leighton Hall).	—
<i>Flint</i> (12)	—	St. Asaph (St. Beuno's College) <i>Snorndon</i> . <i>Bagillt</i> ( <i>Dee Bank Lead Works</i> )
<i>Denbigh</i> (34)	—	Wrexham (Ty Mawr Reservoir).
<i>Merioneth</i> (10)	<i>Dolgelly</i> ( <i>Dr. Williams' School</i> )	Barmouth Railway Station.
<i>Carnarvon</i> (47)	Beddgelert (Moel Hebog). <i>Snowdon</i> ( <i>Llyn Llydaw Intake</i> ) No. 10 " ( " " <i>Copper Mill</i> ) No. 9 Lake Cowlyd. <i>Old gauge</i> . " " (Lower Brwynog) No. 18	Abersoch. <i>Snowdon</i> (Old Road) No. 14. " (Lluchfa) No. 4. " (Crib Goch) No. 8. " ( <i>Pen-y-Pass</i> ) No. 12. " (Pen-y-Gwryd) No. 13.
<i>Anglesey</i> (8)	Bodedern (Pressaddfed). <i>2nd g.</i>	—
<i>Isle of Man</i> (10)	—	Douglas (Borough Cemetery).
<i>Isles of Scilly</i> (3)	—	—

\* Transferred on account of mistake as to County in which gauge was entered.

<i>Channel Islands</i> (14)	Herm (Harbour).	Guernsey (St. Martin's Hautnez)
		„ (St. Peter-in-the-Wood)
		„ (Villiaze).
		„ (St. Peter Port, Rohais)
		„ (St. Sampson, Richmond)

## SCOTLAND.

<i>Wigtown</i> (10)	—	—
<i>Kirkcudbright</i> (20)	—	—
<i>Dumfries</i> (23)	—	Dumfries (Crichton Roy. Inst.). Lochmaben (Irvine House). Eskdale Muir Observatory.
<i>Roxburgh</i> (17)	—	Teviothead (Skelfhill). <i>Jedburgh</i> ( <i>Ancrum Bridge</i> ). Lilliesleaf School. <i>St. Boswell's</i> ( <i>Elliston Gardens</i> ) Melrose (Drygrange).
<i>Selkirk</i> (8)	—	Selkirk (Whitmuir Hall).
<i>Peebles</i> (24)	—	Garlet Hill (Edinburgh W.W.). Mathieside Cairn ( „ „ ).
<i>Berwick</i> (8)	—	—
<i>Haddington</i> (11)	<i>North Berwick</i> ( <i>Fidra</i> ).	—
<i>Midlothian</i> (29)	<i>Cramond Bridge</i> ( <i>Craigie Hall</i> ). Transferred to Linlithgow.	Balerno (Cockburn Hill).
<i>Linlithgow</i> (12)	Whiburn (Polkemmet).	Bathgate (Ballenerieff). „ (Petershill). „ (Filters). <i>Craigie Hall</i> [ <i>Cramond Bridge</i> ] Transferred from Midlothian.
<i>Lanark</i> (31)	—	Biggar (Shieldhill). <i>2nd gauge</i> . Airdrie (Forrestburn Reservoir)
<i>Ayr</i> (30)	Colmonell. Muirkirk (Glenbuck).	Colmonell (Knockdolian). <i>Turnberry</i> . <i>Maybole</i> ( <i>Knockdon, Glenhead</i> ) Dalry W.W. (Filters). „ „ (Thirdpart).

<i>Renfrew</i> (37)	—	Calder Glen. Wemyss Bay (Kelly). Port Glasgow (Elmworth).
<i>Dumbarton</i> (14)	—	Cardross (Kilmahew).
<i>Stirling</i> (30)	<i>Falkirk</i> ( <i>Burgh Hospital</i> ). <i>Killearn</i> ( <i>Archnagowen</i> ). Stirling (Polmaise Gardens). „ ( <i>Victoria Place</i> ).	Stirling (Touch Reservoir) No. 2
<i>Bute</i> (7)	—	—
<i>Argyll, Main-land</i> (48)	—	Loch Fyne (Castle Lachlan). „ „ (Furnace, Brenchoillie) <i>Inveraray Castle Gardens</i> . Glen Aray (Ladyfield). Dalmally (School House). Oban. Morvern (Ardtornish).
<i>Argyll, Insular</i> (20)	Mull (Kinlochspelve).	<i>Mull</i> ( <i>Knock</i> ).
<i>Clackmannan</i> (5)	—	—
<i>Kinross</i> (3)	—	—
<i>Fife</i> (22)	—	<i>Inchkeith</i> . Largo (Roselea). Colinsburgh (Balchrystie). St. Andrew's (Greenside Place).
<i>Perth</i> (36)	<i>Dunblane</i> ( <i>Kippenross</i> ). „ ( <i>Kippendavie Lodge</i> ). Doune (High Braes). <i>Between Glen Finlas &amp; Ben Ledi</i> Abernethy (Ayton House).	<i>Dunblane</i> ( <i>Lynns Farm</i> ). <i>Lanrick Castle</i> . Perth (Laurelbank). Dunkeld (Snaigow).
<i>Forfar</i> (33)	Arbroath (Waterworks) 2 gauges.	Kettin's School. Kirriemuir (Lintrathen Creich Hill S.) „ ( „ „ N.)
<i>Kincardine</i> (13)	—	<i>Laurencekirk</i> ( <i>Johnstone Lodge</i> ).

<i>Aberdeen</i> (31)	<i>Glen Gairn</i> ( <i>Little Cullardoch</i> ).	<i>Braemar Bank</i> . <i>Ben Muich Dhui</i> ( <i>Carn a Mhaim</i> ) <i>Abergeldie Castle</i> . <i>Ballater</i> . <i>Insch</i> ( <i>Thornhill</i> ). <i>Drumblade</i> ( <i>Public School</i> ). <i>Buchanness</i> .
<i>Banff</i> (5)	<i>Dufftown</i> ( <i>Dullan Brae</i> ). <i>Banff</i> ( <i>Earl Hill</i> ).	—
<i>Elgin or Moray</i> (6)	—	—
<i>Nairn</i> (6)	—	—
<i>West Inverness</i> (25)	<i>Hyskier</i> . <i>Skye</i> ( <i>Kyleakin</i> ).	<i>Moidart</i> ( <i>Roshven</i> ).
<i>East Inverness</i> (14)	—	<i>Loch Quoich</i> ( <i>Laon</i> ). " " ( <i>Kinlochquoich</i> ). <i>Glen Garry</i> ( <i>Inchlaggan</i> ).
<i>West Ross and</i> <i>Cromarty</i> (14)	—	<i>Stornoway</i> ( <i>Butt of Lewis</i> ).
<i>East Ross and</i> <i>Cromarty</i> (11)	<i>Strathconan</i> ( <i>Dalbreac</i> ).	<i>Fortrose</i> ( <i>Hollyside</i> ). <i>Achterneed</i> ( <i>Glen Skiach</i> ). <i>Kildary</i> ( <i>Tarbat Gardens</i> ).
<i>Sutherland</i> (10)	<i>Lairg</i> .	<i>Loch Stack</i> ( <i>Ardehullin</i> ).
<i>Caithness</i> (10)	<i>Watten Station</i> .	—
<i>Orkney</i> (10)	<i>Auskerry</i> .	—
<i>Shetland</i> (8)	<i>Fair Isle, South</i> .	—

## IRELAND.

<i>Cork</i> (16)	<i>Monkstown</i> ( <i>Gordon Villas</i> ). <i>Cork</i> ( <i>University College</i> ).	<i>Skibbereen</i> ( <i>Hollybrook</i> ). <i>Queenstown</i> ( <i>Fota Island</i> ). <i>Glanmire</i> ( <i>Lota Lodge</i> ). 2nd g.
<i>Kerry</i> (9)	—	—

<i>Waterford</i> (12)	—	Lismore Castle.
<i>Tipperary</i> (10)	Ballingarry (Gurteen).	Dundrum (The Rectory).
<i>Limerick</i> (6)	Limerick (Roxborough).	Limerick (Glenview). Cappermore (Glenstal Castle).
<i>Clare</i> (10)	Lahinch (Moy House).	<i>Inagh</i> (Mount Callan).
<i>Wexford</i> (9)	Foulks Mill (Longraigue). Enniscorthy (Monksgrange).	Fethard-on-Sea Rectory.
<i>Kilkenny</i> (6)	<i>Inistioge</i> (Woodstock). 2nd g.	Castlecomer House.
<i>Wicklow</i> (15)	NewtownMt.Kennedy(Seizenpark)	Bray (Fassaroe). <i>Snowdon</i> .
<i>Carlow</i> (5)	—	Carlow (Dublin Street).
<i>Queens Co.</i> (4)	—	—
<i>Kings Co.</i> (4)	Edenderry.	<i>Birr Castle</i> . 2nd gauge.
<i>Kildare</i> (6)	—	Monasterevan (Umeras).
<i>Dublin</i> (25)	Ballybrack (Streamville).	Drumcondra (St. Patrick's Coll.)
<i>Meath</i> (8)	—	—
<i>Westmeath</i> (8)	—	Mullingar (Ballynegall). Castlepollard (Pakenham Hall).
<i>Louth</i> (4)	—	—
<i>Longford</i> (3)	—	—
<i>Galway</i> (9)	—	Ballinasloe (District Asylum).
<i>Roscommon</i> (2)	—	—
<i>Mayo</i> (9)	Doo Castle [Tobercurry].	Westport House.
<i>Sligo</i> (2)	Ballymote (New Park).	—
<i>Leitrim</i> (3)	<i>Currigallen</i> .	—
<i>Cavan</i> (3)	Stradone House. <i>Killeshandra</i> (Castle Hamilton).	—
<i>Fermanagh</i> (3)	—	—
<i>Monaghan</i> (2)	—	—

<i>Armagh</i> (6)	—	—
<i>Down</i> (11)	—	—
<i>Antrim</i> (17)	—	<i>Lisburn</i> ( <i>Ulster Provincial Sch.</i> ) <i>Antrim</i> ( <i>Ardnaveigh</i> ).
<i>Londonderry</i> (5)	Limavady (Culmore House).	—
<i>Tyrone</i> (4)	—	<i>Omagh</i> ( <i>Edenfel</i> ).
<i>Donegal</i> (13)	<i>Gweedore Hotel</i> .	Milford (The Manse).

## OBITUARY.

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As the number of Observers increases the number of names in this section must unfortunately increase in a higher ratio ; for there are not only more people subject to the certain risks of mortality, but the average age of the Observers has not yet assumed a limiting value. We have to deplore the death of another of those whose records appeared in the first volume of *British Rainfall*, and we now only know of ten survivors of the 472 who were reading their rain gauges half a century ago.

The total number of names in the following list is 83, and we fear many others, whom it has been impossible to trace, have fallen out of the ranks during the year. It is difficult to pick up the names of Observers who have long ceased to send in records, or of those in humble life, notices of whose death do not appear in the London newspapers, yet we know that many of the circulars we send out next Christmas will be returned with the laconic endorsement "dead" and we will hear no more.

Whenever it is possible we give a notice of the life of the late Observers, and for this purpose it is often possible to utilize only a sentence in a letter from some surviving relative or a personal reminiscence of the Director. In the case of public men the facts of whose life are accessible in books of reference or newspaper notices we have been careful to include only those whom we know to have taken a personal interest in their records ; but even so it must not be supposed that each of those to whom we refer held rainfall observing as one of the chief ends or pleasures of his life. We cannot help regarding the obituary notices less in the light of the past than of the present ; for those who died since the last issue of *British Rainfall* was published, were the type of many whose observations are inserted this year. Despite the variety of the circumstances of their life from the King through peers, members of Parliament, representatives of every form of public, professional, business and private life down to the watcher over the water works on Dartmoor, all gave some portion of their thoughts, very small in some cases, very large in others, to the ways of the rain in the British

Isles, which occupy the whole working lives of the half-dozen specialists at Camden Square. It is, perhaps, not too much to say that outside religion, politics and sport, there is no other bond which brings so great a diversity of names into a single list.

The following amongst the number reached an age exceeding four score years, and several amongst them kept up their observations to the last.

*Observers deceased in 1909-10, of 80 years of age or more.*

Major George H. Courtenay.....	95 years.
Rev. Prebendary Charles Holland....	94 „
Mr. Thomas Turner .....	92 „
Lady Baillie of Polkemmett.....	89 „
Sir John Clark of Tillypronie.....	89 „
Dr. E. Picton Phillips.....	88 „
Mr. Charles Thomas ..	88 „
Rev. George F. Tamplin.....	86 „
Mr. Frederick Crowley .....	85 „
Alderman George Baker.....	85 „
Mr. Frederick B. Marson.....	84 „
Sir Archibald H. Dunbar.....	83 „
Mr. W. Evans .....	82 „
Miss Hannah Southall .....	82 „
Mr. R. R. Verrall.....	82 „
Mr. R. A. Burrell.....	81 „
Mr. John Murray.....	81 „
Lord Calthorpe.....	81 „
Colonel J. Allardyce .....	80 „

We were able to ascertain the age of 50 out of the 83, and of these, 19 as stated above exceeded the age of eighty, 17 were between seventy and eighty, 11 between sixty and seventy, and only 3 below sixty. The average age of the 50 was no less than seventy-six years.

We have not been able to resume the elaborate analysis formerly given of the dates and durations of the records of all Observers whose deaths we have to announce, because to make it complete requires a great deal of search amongst the registers which are filed under place of observation and not under the Observers' names, but we think the following is a fairly complete list of those who kept up a continuous record for 30 years or more, those marked with an asterisk being in the same place all that time. The record of Dr. Phillips has, we believe, never been surpassed for duration.

*Records of 30 years and upwards.*

NAME.	LAST PLACE OF OBSERVATION.	
*Dr. E. P. Phillips.....	Haverfordwest.....	61 years.
*Mr. R. R. Verrall.....	Falmer .....	48 „
*Rt. Hon. J. G. Talbot.....	Edenbridge .....	46 „
Rev. C. Holland.....	Lynchmere.. ..	45 „
*Rev. R. W. Rogers.....	Cookham .....	45 „
*Mr. J. Coxon .....	Pocklington .....	43 „
*Mr. F. Crowley .....	Alton .....	43 „
*Sir J. F. Clark, Bart. ....	Tillypronie.....	40 „
Rev. G. F. Tamplin .....	Newport, Essex .....	39 „
*Rev. W. Besant .....	Buglawton .....	37 „
*Mr. T. Cozens-Hardy .....	Sprowston .....	37 „
*Col. R. B. Ingram.....	Steyning.....	36 „
*Mr. C. Thomas.....	Stoke Bishop.....	36 „
*Mr. A. B. H. Story .....	Douglas .....	35 „
*Rev. B. W. Spilsbury .....	Findern .....	34 „
Mr. A. Greg .....	Caton .....	32 „
Mr. J. Phinister .....	Watten .....	32 „
*Mr. F. B. Falkiner .....	Ballybrack .....	32 „
*Monsignor J. Corbishley.....	Ushaw.....	31 „
*Mr. P. Dodds.....	Biddleston Hall.....	30 „
Mr. A. W. Moore.....	Douglas .....	30 „

HIS MAJESTY KING EDWARD VII., the calamity of whose death on May 6th, 1910, roused regret in all the people of the civilized world, and arrested the keenest political agitation in the United Kingdom in an unprecedented truce, found time, in his short and glorious reign, to look with favour on our work, and to further it both by observations from Buckingham Palace, Windsor, Sandringham, and Balmoral, and by an annual subscription. Brief as was the time he could have spent in considering the work of the Organization, his encouragement was so well-timed and so happily expressed that in no department of public life could the spirit of Kipling's fine thought be more fully attained than in this unobtrusive private co-operation in scientific knowledge :

“ Hot from the press of their battles they told him their story,  
They revealed him a life in an hour, and saluting, departed,  
Joyful to labour afresh ; he had made them new-hearted.”

I shall never forget when the late King visited the *Discovery* before she left for her great voyage to the Antarctic regions in 1901, how fervently he exclaimed, in addressing the officers and men of the Royal Navy who took part in it, “ Thank God, this is no warlike expedition.” The blessings and triumphs of peace were always near his heart, and the keen interest he took in country pursuits, especially in agriculture and horticulture, enabled him to appreciate

to the full the value of the work of the Rainfall Organization. On several occasions the permission which the King gave to mention that he took a personal interest in the work was influential in securing records that were previously inaccessible. It may be mentioned that before His Majesty gave this permission he caused a thorough investigation to be made of the work and aims of the British Rainfall Organization and the sources of its income, so that his good-will was based on complete knowledge of the facts and sympathy with the objects, and was not, as the patronage of the great too often is, an expression of easy good-nature.

ALDERMAN GEORGE BAKER, of Beaucastle, Bewdley, died on January 15th, 1910, in his 85th year. He was, like so many rainfall Observers, a member of the Society of Friends. He was born in Birmingham, educated at Ackworth School, in Yorkshire, and when only 15 was taken in to assist his father in business. At a very early age he realized the importance of education, and, largely self-taught himself, he always strove to increase the facilities of education for others. He joined the Town Council of Birmingham in 1857, and took a leading part in the municipal enterprise of that progressive city. He had much to do with the provision of the sewage system, and as a member of the Water Committee, and Chairman of the Works Sub-Committee, he was influential in securing the great development of the water supply. In 1874 he became Alderman, and in 1876 he succeeded Mr. Joseph Chamberlain as Mayor of Birmingham. Almost his last public duty was the presentation of an address of welcome to King Edward and Queen Alexandra, on the occasion of their visit to Birmingham, in July, 1909, an honour he received as the senior member of the City Council. Mr. Baker's rainfall record was kept at his country house, Beaucastle, near Bewdley.

LORD CALTHORPE, who died on July 22nd, 1910, at the age of 81, succeeded his brother, the fifth baron, in 1893, and was greatly interested in the estate of Elvetham Park, near Winchfield, in Hampshire, where a rain gauge had been established a few years before it came into his possession. Lord Calthorpe was for many years a generous supporter of the Rainfall Organization. He made Elvetham Park famous for farm stock of the highest quality, his shorthorn cattle and Berkshire pigs in particular winning numerous prizes at the Agricultural shows; but he will probably be best

remembered for his munificence to the young University of Birmingham, to which at various times he presented the site and recreation grounds, extending to nearly 50 acres of land, valued at £35,000. The late peer is succeeded by his brother, who is the third of the sons of the fourth baron to hold the title.

SIR JOHN FORBES CLARK, second baronet of Tillypronie, Aberdeenshire, was born in 1821, and died on April 19th, 1910, at the age of 89. After education at Eton and Cambridge he entered the diplomatic service in 1844, and during the next ten years he saw much of the exciting political life of Europe at Vienna, Paris, Brussels, and Turin. Shortly after his retirement from the diplomatic service he set up a meteorological station on his father's estate of Tillypronie, to which he succeeded in 1870, and there he kept up observations for more than 40 years, sometimes surprising his meteorological visitors by the extent of his knowledge of weather lore, and the keenness of his interest in his own records.

MONSIGNOR JOSEPH CORBISHLEY, Professor of Science for many years, and subsequently President of Ushaw College, the great Roman Catholic seminary near Durham, with which he had been associated practically all his life, had kept meteorological records there for 31 years.

MAJOR GEORGE HENRY COURTENAY died at Southtown House, Kenton, near Exeter, on January 2nd, 1910, at the great age of 95. The family of the Earl of Devon, of which he was a member, are famous for longevity; two surviving brothers are within a few years of 90. Major Courtenay saw service in the 60th Rifles, and in the course of his active life travelled much by land and sea before the days of railways or ocean steamers. In his later years he was greatly interested in meteorology, and I have never been visited at Camden Square by a more keenly interested Observer than he was when he inspected all the arrangements of the British Rainfall Organization, at the age of 92. Major Courtenay was a frequent correspondent of *Symons's Meteorological Magazine*, and delighted in drawing on the stores of his singularly retentive memory for instances with which to compare the weather of the day.

MR. JAMES COXON, of Warter, near Pocklington, in the East Riding of Yorkshire, kept up observations of rainfall from 1866 to the time of his death on May 29th, 1909, having thus completed an

unbroken record of forty three years' duration. As a farmer, Mr. Coxon early realized the importance of keeping a record of the rainfall, and this with other meteorological observations, was a constant source of interest to him throughout his life, and as the record was carried out with quite unusual conscientiousness and accuracy, it furnishes a memorial to his name, the value of which will be recognized in the future.

MR. FREDERICK CROWLEY died at Ashdell, Alton, on February 26th, 1910, in his 85th year, after an illness which confined him to his room for more than two years. He was a member of the Society of Friends, and a man who delighted in good works. A partner in an old brewery firm, he spent his life in Alton and identified himself with local affairs. He became a member of the Alton Local Board in 1865, and was Chairman for 27 years before it was merged in the Alton Urban District Council, over which he presided until 1904. He was interested in education, and especially in Mechanics' Institutes when these were the only means of popular scientific instruction. As a rainfall Observer he kept two records, one in his garden, the other at a height of 52 feet above ground, and he was always interested in the work of the Organization. He attended the British Association in 1903, at Southport, and took particular pleasure in the Meteorological Breakfast held on that occasion.

MR. ALBERT GREG, of Escowbeck, Caton, Lancashire, a prosperous cotton spinner, died on March 31st, 1910, in his 75th year. His interest in meteorology and cognate sciences was prominently shown in his gift of the Greg Observatory, in the park at Lancaster, to that town; but the regular appearance of his observations in these pages from 1878 to the current issue, is a no less certain proof.

MISS MARGARET F. A. HUSBAND, who for some years had been observing rainfall at Levenhall, Musselburgh, died there early in January, 1910. She was born in Wigtown, studied for four years at University College, London, and graduated as B.A. of the University of London in 1891. After some experience as a teacher in London she went to South Africa in 1898 as Vice-Principal of the Good Hope Seminary in Cape Town; but ill-health compelled her to abandon her educational career and she returned to Scotland in 1901. She devoted the remainder of her life to literary work and was the author of several books, the last being a dictionary of the characters in the Waverley novels.

COLONEL ROBERT BETHUNE INGRAM died at the age of 78, on October 28th, 1909. He was born and educated at Steyning and obtained his commission as ensign in the 97th regiment, in 1850, at the age of 18, becoming lieutenant in 1854, and captain in 1855, the quick promotion bearing testimony to his services in the Crimea, whence he went to India to aid in suppressing the Mutiny in Bengal. He exchanged into the 100th regiment and received his majority in 1861. In the following year he was placed on half-pay, and promoted to lieutenant-colonel in 1872. About 1868 he began to be interested in rainfall observations, taking over the record at Steyning from his uncle, the late Mr. Hugh Ingram, and following the work with keen enjoyment. At his death he passed it on to his eldest son, Mr. Hugh Ingram. After his retirement Colonel Ingram was greatly interested in the turf and was associated with the celebrated race-horse, Don Juan, which won the Cesarewitch in 1883.

MR. W. LEE, who died early in 1909, was a humble Observer whose heart was very much in the record he kept in the garden of his cottage at Princetown, on Dartmoor. He was one of the employees of the Plymouth Waterworks, and set up his own record in order to compare the rainfall in Princetown with that on the more distant parts of the Moor, where the water is collected. As he walked with me one day along the curious leat or open water-course dug by Sir Francis Drake, to bring a water supply to Plymouth in the sixteenth century, he told me how, one morning in February, 1903, he had seen the water running muddy, and tramped along the stream mile after mile looking for the landslip that caused it until he reached the source. That there was no sign of any slip or break on the banks, yet mud enough had entered to make the whole stream turbid, distressed his mind for years, and he was vastly relieved to know that the muddiness was caused by the great fall of Sahara dust in England. He was sure that the pinky mud had not come from the moor, and as he very truly said, if he had guessed that it came from Africa nobody would have believed him.

MR. MILES MACINNES, of Rickerby, died very suddenly on September 28th, 1909, in his 80th year. Educated at Rugby and Balliol College, Oxford, Mr. MacInnes spent the greater part of his life in business in Carlisle and London. In his college days he was a notable athlete, and so powerful a swimmer that on a moonlight night during one vacation he swam across Rydal Water with all his

clothes on and without even taking off his boots. The love of the open air was with him to the end, and only a few days before his death he spent a day on the fells on a shooting expedition which would have tired many a younger man. From 1885 to 1895 he was a Member of Parliament for the Hexham Division of Northumberland, sitting as a Liberal, though actuated in his parliamentary career less by rules of party than by principle. As an evangelical Churchman, Mr. MacInnes took a leading place in religious matters, and he was a Vice-President of the Church Missionary Society.

MR. ARTHUR WILLIAM MOORE, C.V.O., Speaker of the House of Keys, the Home Rule Parliament of the Isle of Man, died on November 12th, 1909, at his residence, Woodbourne House, Douglas, at the age of 56. Mr. Moore was born in the Isle of Man, and educated at Rugby and Trinity College, Cambridge, where he took first class honours in the historical tripos in 1875. He devoted great attention to the history of the Isle of Man, its place-names, surnames, and folk-lore, and on these subjects he wrote several books of permanent value. He was interested also in the actual conditions of the island, and made its climate his special study. In 1882 we published for the first time the records of half a dozen gauges which Mr. Moore had succeeded in establishing or discovering in various parts of the island, and ever since he never failed to send in year by year a worthy group of records.

DR. EDWARD PICTON PHILLIPS, one of the few survivors of those whose records appeared in *British Rainfall*, 1861, was born on January 4th, 1822, and practised for sixty years as a medical man in Haverfordwest. His early recollections went back to the launch of H.M.S. *Clarence* by the Duke of Clarence, afterwards King William IV. His medical education began in Bristol, where he was apprenticed to a surgeon in the old way, and afterwards he studied at Guy's Hospital and in Paris. Amongst the many interests which thronged his life meteorology held a leading place. In his last letter to me, dated July 19th, 1909, Dr. Phillips said—"I enclose you my crossed cheque for £1 1s. towards *British Rainfall* and should have sent it long ago but my age and the cruel spring and summer of this cruel year have nearly wiped me out and I much fear this will be the last cheque I shall be spared to send you. The 1st January this year, 60 years ago, I commenced my meteorological observations, a long hark-back, and they are without a break as I have, although

lately it has pressed me hard, had to pay others for what, for so many years, was to me a labour of love." On September 2nd, 1909, he died in his eighty-ninth year; but he had made all arrangements beforehand for his nephew to carry on the unique rainfall record of which he was so justly proud.

REAR-ADMIRAL UVEDALE CORBET SINGLETON, C.B., who died on February 14th, 1910, aged 71, had a distinguished career in the Navy, which he entered in 1851, and saw active service in the Baltic during the Russian war, in 1854-55, on the coast of China in 1857 and again in 1866-67, and in the Eastern Sudan in 1881. He attained the rank of Rear-Admiral in 1893. On his retirement he went to reside at his family estate of Aclare, and had a rainfall record also at Corstown House. During the last few years he carried out a series of comparisons with rain gauges of different patterns.

THE REV. BENJAMIN WARD SPILSBURY died at the Longlands, Findern, Derbyshire (where he had lived for fifty-one years), on March 26th, 1909, in his 79th year. He was a Master of Arts of Trinity College, Cambridge, and was appointed Curate of Findern in 1862, becoming Vicar in 1872. He resigned the living in 1908. Mr. Spilsbury took a keen interest in rainfall observations. His own record was commenced in 1875, and he has been the means of enlisting several other Observers in the neighbourhood. It is a satisfaction to know that the 35 years' record at Findern is being continued by Mrs. Spilsbury.

THE REV. CHARLES JOHN STEWARD, who died on November 28th, 1909, at the age of 71, was for many years Rector of Somerleyton, in Suffolk, and afterwards resided in Ipswich. He was a man of many interests, but as a rule one or other ruled supreme for the time. He was a keen fisherman and used to visit the early salmon rivers in the north of Scotland at the opening of the season, regardless of snow or storm, and I first made his acquaintance when on such a mission, he was blocked in Edinburgh by a blizzard that stopped the railways. For a time he carried on researches into the temperature of sea-water at the lightships and on board fishing boats off the Suffolk coast; but latterly his activity ran chiefly in education and other public work. Varied as his interests were he never slackened in his love for the study of the weather, and many years of his observations appear in these volumes.

MR. ANTHONY BROWNE HERBERT STORY, Secretary to Government, Clerk of the Council, Treasurer and Registrar General of the Isle of Man, died at his residence, Woodville, Douglas, on April 22nd, 1910, aged 72. Mr. Story was born at St. Albans, and in 1857 he emigrated to Australia, where for more than ten years he was a squatter on the Burnett River, Queensland. On returning to England he was called to the Bar, at the Middle Temple, in 1873, and in 1874 he went to the Isle of Man as Private Secretary to the Governor, arriving soon after the institution of the House of Keys, and thus acquiring a thorough knowledge of the Isle of Man as a self-governing unit of the British Empire. Mr. Story, in the words of his daughter, "was a lover of the sun and the spring and flowers and birds and the beautiful rain (in season)." He was devoted to horticulture, and had the best-kept garden in the island, and his knowledge of shrubs and plants was unrivalled. His interest in meteorology began long before he went to the Isle of Man, and his keenness as an Observer may be seen in the Notes he contributed monthly to *Symons's Meteorological Magazine*, and in the unfailing accuracy of his rainfall returns which appeared in *British Rainfall* unbroken since 1877. Miss Story says "he took the rain until a week before he left us, and any days of late he had to stay in bed, the rain glass was always brought to him at 9 o'clock with his breakfast."

THE RIGHT HON. JOHN GILBERT TALBOT, M.P., who represented the University of Oxford in Parliament for thirty-one years, and served in the House of Commons for forty-one years continuously, died on February 1st, 1910, at the age of 75 years. He was educated at Charterhouse and Christ Church, Oxford. A strong Tory in politics, and a devoted Churchman, his long public career was marked by absolute consistency and loyalty to principle. He was a leader in all good works in the county of Kent, where his place will not readily be filled. He took a keen interest in architecture and archæology as a recreation. His rainfall record at Falconhurst, near Edenbridge, was, as might be expected, a model of carefulness and accuracy, and he supported the Rainfall Organization by his observations and subscriptions for 46 years.

THE REV. GEORGE FREDERICK TAMPLIN, Vicar of Newport, Essex, died on October 24th, 1909, at the age of 86. He was educated at Tonbridge, and was M.A. of St. John's College, Oxford, in 1849.

He was curate of Purleigh, Essex, from 1852 to 1876 and while there commenced systematic observations of rainfall in 1871. From 1876 to the time of his death he was Vicar of Newport, and during all these years kept up the regular daily observations. Mr. Tamplin was well known as a cricketer in his youth and remained to the end remarkable for his fine physique, great energy, and broad-minded views. The loss of the record has, fortunately, been averted, as it is being continued by a neighbour.

THE RIGHT HON. JAMES TOMKINSON, M.P., died on April 10th, 1910, as the result of an accident while he was competing in the House of Commons Point-to-Point Race at Epping on the previous day. Mr. Tomkinson, who was in his 70th year, was, as the manner of his death showed, a lifelong enthusiast in field sports. He was educated at Rugby and Balliol College, Oxford, and was a Director of Lloyd's Bank. He entered Parliament in 1900 as Liberal member for the Crewe division of Cheshire and had only recently become a Privy Councillor. Mr. Tomkinson kept a rainfall record at his house, Willington Hall, Tarporley, Cheshire.

MR. WILLIAM WARWICK WAGSTAFFE, consulting surgeon to the Sevenoaks Hospital, died at Sevenoaks, on 22nd January, 1910, aged 67. He had a distinguished career as a student at St. Thomas's Hospital, where he became senior assistant surgeon and lecturer on Anatomy. He was a graduate in Arts and Medicine of the University of London, and a Fellow of the Royal College of Surgeons. He took a keen interest in meteorology and contributed notes on the climate of Sevenoaks to the local newspapers.

*Observers deceased to July 31st, 1910.*

Small capitals designate Observers with 30 years' records.

**\*HIS MAJESTY KING EDWARD VII.**

Agar, William Talbot.....	Brockfield, York.
Allardyce, Col. James, LL.D.	Culquoich, Aberdeenshire.
Althorpe, Rev. George Middleton .....	Dinnington Hall, Yorks.
Appach, Miss Emily .. .....	Swattenden, Cranbrook.
*Baker, George .....	Beauncastle, Bewdley.
Baillie, Lady .....	Polkemmet House, Whitburn.
Beech, William.....	North Ockenden, Romford.
BESANT, REV. WILLIAM ...	Buglawton, Congleton.

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\* See Biographical Note *ante*.

Brooke, Arthur.....	White House, Killybegs.
Burrell, Robert Anthony ...	Fairthorn Manor, Botley.
Burt, J. H.....	Kingston, Yeovil.
Burtchaell, D. E., C.E. ...	Howth, Co. Dublin.
*Calthorpe, Lord.....	Elvetham Park, Winchfield.
*CLARK, SIR JOHN FORBES, BART. ....	Tillypronie, Aberdeenshire.
Coode, Arthur .....	Trevarthian, St. Austell.
*CORBISHLEY, MONSIGNOR JOSEPH .....	Ushaw College, Durham.
*Courtenay, Major George Henry .....	Southtown House, Kenton.
*COXON, JAMES ..	Warter, Pocklington.
COZENS-HARDY, THEOBALD	Oak Lodge, Sprowston.
Craven, Matthew Lewis.....	Horsham.
*CROWLEY, FREDERICK .....	Ashdell, Alton.
Curtis, Captain Constable...	Berkhamsted.
DODDS, PETER .....	Alwinton Hall, Biddlestone.
Duke, Robert A. ....	Ballymote, Sligo.
Dunbar, Sir Archibald H., Bart.....	Duffus House, Morayshire.
Egar, Samuel.....	Wryde House, Thorney.
Evans, William.....	The Spring, Kenilworth.
FALKINER, F. B. ....	Streamville, Ballybrack.
Fleming, M. J., C.E. ....	Portlaw.
Garratt, W. ....	Melbourne, Derby.
Godfrey, William .....	Bedford.
*GREG, ALBERT .....	Escowbeck, Caton, Lancs.
Hacker, G. H. ....	Henstridge, Somerset.
Hammond, James.....	Arncliffe, Skipton.
Hayden, Rev. John Alderson	Dent, Yorks.
Hinchliffe, Lewis .....	Holmfirth, Yorks.
Hodgkinson, Thomas Ays- cough .....	Wookey Hole, Wells.
HOLLAND, REV. CHARLES...	Watchers, Lynchmere.
Horner, Captain John.....	Teignmouth.
*Husband, Miss Margaret Fair Anderson .....	Levenhall, Musselburgh.
*INGRAM, COLONEL ROBERT BETHUNE .....	Steyning.
Jones, William .....	Ednol, Kington.
King, O. ....	Maidenhead.
*Lee, W. ....	Princetown.
Lethbridge, Christopher.....	Chester Square, London.
Lethbridge, William .....	Okehampton.
Leverett, Stebbing, J.P.....	Saffron Walden
Liddell, Dr. Henry John Sheppard .....	Yelverton.

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\* See Biographical Note *ante*.

*MacInnes, Miles .....	Rickerby, Carlisle.
Marriott, Sir Charles Hayes M.D. ....	Kibworth Harcourt.
Marson, Frederick Boyd.....	Highfield Park, Heckfield.
Martin, Robert .....	Watton, Norfolk.
*MOORE, ARTHUR WILLIAM C.V.O. ....	Woodbourne House, Douglas.
Morgan, Frederick, J.P.....	Glengorm, Argyll.
Murray, John, W. S. ....	Wooplaw, Roxburgh.
*PHILLIPS, EDWARD PICTON Phillips, Joseph Edward John, J.P. ....	Haverfordwest. Royston.
PHIMISTER, JOHN.....	Watten, Caithness.
Purchas, Henry Maurice ...	Ross, Herefordshire.
Robertson-Durham, J. A. ...	Boghead, Bathgate.
ROGERS, REV. REGINALD WELLFORD .....	Cookham.
Roscoe, William Cecil.....	Tilstock Lodge, Whitechurch.
*Singleton, Rear - Admiral Uvedale C., C.B. ....	Aclare House, Co. Meath.
Southall, Miss Hannah .....	Leominster.
*SPILSBURY, REV. BENJAMIN WARD .....	Findern, Derby.
*Steward, Rev. Charles John	Ipswich.
*STORY, ANTHONY BROWNE HERBERT .....	Woodville, Douglas.
*TALBOT, RIGHT HON. JOHN GILBERT, M.P. ....	Edenbridge.
*TAMPLIN, REV. GEORGE FREDERICK.....	Newport, Essex.
THOMAS, CHARLES .....	Stoke Bishop.
*Tomkinson, Right Hon. James, M.P. ....	Willington Hall, Tarporley.
Turner, Thomas, J.P.....	Cullompton.
VERRALL, RICHARD RELFE	Falmer Court.
*Wagstaffe, William Warwick	Sevenoaks.
Walker, George Willis .....	Bulwell, Nottingham.
Waring, Lieut.-Col. Henry	Beenham House, Reading.
Warren, F. R. ....	Slough.
Wesson, J. ....	Royston.
West, W. H. ....	Holbeach, Lines.
Wheeler, Rev. Canon Thomas Littleton .....	Worcester.
Wilson, D. D., C.E. ....	Middlesbrough.
Woods, Edward Hamilton...	Milverton Hall, Skerries.

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\* See Biographical Note *ante*.

## MAP SHOWING THE DIVISIONS USED IN BRITISH RAINFALL.



For explanation see p. [196].

**RAINFALL AND METEOROLOGY**  
**OF**  
**1909.**

## EXPLANATION.

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THE Observers' Notes on the Days and Months and on the Year as a whole are given as far as possible in the words of the Observers themselves, and the signature of the Observer is added to each Note on the Year. The designation "F.R.Met.Soc." is added to the names of those Observers whose interest in Meteorology has led to their becoming Fellows of the Royal Meteorological Society.

It is understood that the Notes refer in each case to extreme or exceptional rather than to normal phenomena. The Notes on the Days are occasionally supplemented by short extracts from the newspaper press or by illustrations. The completeness or incompleteness of this picture of the weather of the year depends upon the interest which the Rainfall Observers of each district take in the meteorological incidents of their locality, and on their willingness to communicate the outcome of their observations in a suitable form. The Notes supplement, but do not supersede, those published monthly in *Symons's Meteorological Magazine*.

The various discussions of the Rainfall of the Year as regards heavy falls in short periods and on rainfall days, droughts, and rain spells, and the general distribution of Rainfall over the British Isles for each month and for the year, are prepared by the Editor after considering all sources of information which have been published or are available for publication.

In order to save space by avoiding frequent repetitions, the names of the Counties are omitted in the Monthly and Daily Notes, and those of the Divisions are omitted in the Daily Notes, the numerals only being retained. The following abbreviations are employed:—

Bar.	-	-	-	Barometer.
E.	-	-	-	East.
H	-	-	-	Hail.
Max.	-	-	-	Maximum (temperature).
<i>Met. Mag.</i>	-	-	-	<i>Symons's Meteorological Magazine.</i>
Min.	-	-	-	Minimum (temperature).
N.	-	-	-	North.
L	-	-	-	Lightning.
R	-	-	-	Rain, Rainfall.
S	-	-	-	Snow.
S.	-	-	-	South.
T	-	-	-	Thunder.
Temp.	-	-	-	Temperature.
TS	-	-	-	Thunderstorm.
TSS	-	-	-	Thunderstorms.
W.	-	-	-	West.

# ON THE METEOROLOGY OF 1909.

With Notes on some of the Principal Phenomena.

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## NOTES ON THE DAYS OF 1909.

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These Notes should be read in conjunction with those on Heavy Rains in 1909.

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### JANUARY.

2nd.—*Birmingham* (VI). On account of the sudden thaw after prolonged severe frost—

“During the 24 hours the consumption of water was 30,634,000 gallons. The previous maximum during any 24 hours was 26,500,000 gallons. On Friday and Saturday the men hammered up about a thousand burst pipes in order to put a stop to the waste. These pipes were chiefly those in courts and yards where one tap is in common use by the residents of several houses.”—*Birmingham Daily Mail*.

7th.\*—*Hampstead, Akenside Road* (I). TS with H and R squall at 11 p.m.—*Epsom* (II.) TS at 11.50 p.m. Sheet L at midnight.—*Wallington* (II). One clap of T, several flashes of L and a stream of H at 11.45 p.m.—*Ticehurst* (II). Sudden storm of wind and H at midnight, lasting 5 or 6 minutes.—*Mayfield House [Ashbourne]* (VI). TS at night.—*Wirksworth* (VII). Sharp TS at about 6 p.m.—*Macclesfield* (VIII). TS with H.—*Chelford, Astle Hall* (VIII). Violent storm of wind and R. T and L in evening. — *Wath-upon-Dearne* (IX). Severe TS at 5 p.m.—*Thixendale* (IX). A hurricane lasting about 20 minutes at 5 p.m., with L and attended with very rapid fall of bar.—*Tarbat Gardens* (XVIII). S 9 inches deep.

8th.—*Southwold* (IV). S storm at 2 p.m. from N.; sheet L at 6.20 p.m., heavy H storm at 7.14 p.m.

9th.—*Norwich* (IV). T and L at 5.50 p.m.

13th.—*Stoke Bishop* (VI). Violent gale at night.—*Strachur* (XV). T at 3 and 7 p.m., and during night with L, H and sleet.

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\* See also *Met. Mag.*, February, 1909, p. 11; and *Quarterly Journal*, R.Met.Soc., Vol. 35, p. 135.

14th.—*Malden* (II). T and L in S.S.E., with R and S at 11.5 p.m.—*Southwold* (IV). Fine solar halo at noon.—*Inveraray, Lecknambuan* (XV). Great S storm, with T and L.

14th—16th.—*Lynturk* (XVII). S storm with much drifting. The depth in sheltered places was from 7 to 9 inches.

15th.—*St. Pancras, Camden Square* (I). Wind blowing with gale force in early hours, and sharp R storm from 1.30 to 3.45 a.m., after which the storm lulled and a bright, fine day followed.—*Chiddingfold* (II). T and H at 10.30 p.m.—*Epsom* (II). TS from 11.12 to 11.18 p.m.; 11 flashes of forked L in 10 minutes.—*Heathfield* (II). T and L at 3.30 a.m.—*Ticehurst* (II). R and T at 11.45 p.m.—*Lynmouth* (V). T, L and H in evening.—*Llanfyllter* (XI). S followed by H and R storms. L in afternoon. High wind.—*Buchlyvie* (XV). Stormy day with 4 inches of S.—*Drumnadrochit* (XVIII). Undrifted S  $5\frac{1}{2}$  inches deep.—*Bendamph* (XVIII). S  $5\frac{1}{2}$  inches deep.—*Dundrum* (XX). S 6 inches deep.—*Miltown Malbay* (XX). Terrific TS.—*Bullindoney* (XXI). Brilliant L at night.

15th—16th.—*Fanad* (XXIII). Considerable S fall and heavy electric storms.

15th—17th.—*Rannoch* (XVI). S completely blocked the West Highland Railway on the Moor of Rannoch. A train from Glasgow to Fort William was detained from the 15th to the 17th at this station.

16th.—*Didworthy* (V). S fell to a depth of 6 inches.—*Burnsley* (IX). TS and H showers.—*Moffat* (XIII).

“A fatal incident of the blizzard is reported from Moffat, Dumfriesshire. A snow-plough party, including Thomas Grant, a lad of 19, set out on Saturday to release a four-in-hand Omnibus which had become embedded in a drift while conveying a concert-party of eleven people from Tweedsmuir to Moffat. Grant was overcome with the cold and died from exhaustion.”—*Daily Telegraph*.

—*Inveraray, Ladyfield* (XV). Heavy S; 8 inches deep.—*Blair Atholl* (XVI). S 13 inches deep.—*Nenagh* (XX). S fell to a depth of 4 inches.—*Markree* (XXII). Heavy fall of S, with T and L.

17th.—*Hawick* (XII). Stormy day, and river in heavy flood.—*Buchlyvie* (XV). Heavy R which, with the melting S, brought down rivers and burns in great flood. The Forth was larger than within memory.—*Perth* (XVI). S gale brought down river in spate.—*Drumnadrochit* (XVIII). Heavy R causing a great deal of damage to roads, banks and houses.—*Galway* (XXII).

“On Sunday a serious bog slide occurred at Kilmore, about two miles from Ballygar, Co. Galway. The slide took place near Mount Mary, which is

covered by thousands of acres of bog. . . . The cabin of an old woman named McDonnell is entirely submerged, only the chimney appearing above the bog, and it is feared that the occupant has lost her life, as no trace of her can be found. Several of the small farmers have lost all their stock of cattle. A hundred horses and carts were engaged in removing the bog and slush."—*The Times*.

17th—18th.—*Sion Mills* (XXIII). A rapid thaw combined with heavy R on 17th caused a disastrous flood in the district, the River Mourne rising 15 feet about noon on 18th. Parts of the town of Strabane were under 5 feet of water.

17th—19th.—*Omagh* (XXIII). Heavy R on 17th was followed by floods, said to be the highest for 25 years.

18th.—*Jardington* (XII). Stormy day with heavy R during the night and S.W. wind which melted the S on the higher ground causing the heaviest flood for about 30 years.—*Bathgate* (XIII). Heavy floods. All the rivers in the southern and central counties of Scotland were in high flood and much damage was done to property and live stock in different parts of the country.

18th—19th.—*Tuam, Gardenfield* (XXII). The R for 18th measured 1.57 in., and caused the greatest flood for many years on 19th.

20th.—*Chelford, Astle Hall* (VIII). Dense fog.

21st.—*Goldsborough Hall* (IX). Dense fog all day.—*Seathwaite* (X). Heavy fog.

26th—28th.—*Epsom* (II). Fog of exceptional density from 7.30 p.m. on 26th to 10 p.m. on 28th, accompanied by thick rime.—*Upminster Hall* (IV). Temp. fell to 18°, 19° and 17° on the three days and was the lowest for some years. Dense fog on 27th and 28th.

27th—28th.—*Frimley Green* (II). Unusually thick fog.—*Sherborne St. John* (II). Dense fog.—*Norwich* (IV). Thick fog.

27th—29th.—*St. Pancras, Camden Square* (I). Slight fog in morning on 27th, becoming unusually dense in afternoon and evening and almost stopping traffic in the streets; it remained thick and black throughout the 28th, and dispersed about noon on the 29th when a thaw set in.

28th.—*Thorney* (III). Dense fog.

30th.—*Southwold* (IV). S 4 inches deep at 9 a.m.

## FEBRUARY.

2nd.—*Strachur* (XV). Heavy small R fell all day, totalling 3.24 in. for the 24 hours.—*Kilmelfort, Arduaine* (XV). Downpour all day

totalling 2·25 in.—*Stronshira* (XV). The R, 2·12 in. was the heaviest fall yet recorded here.—*Inveraray, Lecknumbaan* (XV). R 2·87 in., causing a flood.—*Dalmally* (XV). Torrential R measuring 4·28 in.—*Kinlochleven* (XV). R 5·59 in. in the 24 hours.

2nd—4th.—*Fanad* (XXIII). R fell continuously for 50 hours.

3rd—5th.—*Belfast* (XXIII). Prolonged R gave rise to serious floods in the low-lying parts of the city.

4th.—*Cockburn Hill* (XIII). S 6 inches deep.

5th.—*Thirendale* (IX). Gale, with disastrous consequences off the Yorkshire coast. Twelve Flamborough fishermen drowned.

7th.—*Epsom* (II). Thick fog until 9 a.m.—*Hull* (IX). Dense fog in the morning.

8th.—*Bath, Beckington* (V). Magnificent sunset. For about 5 minutes the sky was ablaze with colours far surpassing any of the glows after the Krakatoa eruption in 1883.

10th.—*Southwold* (IV). Sharp S storm from N.W. at 5.9 p.m.; half-an-inch on the ground in 4 minutes.

14th.—*Castletown* (XIX). About 11.30 p.m., after a warm, damp day, a strong N.W. squall sprang up with H and R lasting for half an hour, and the wind attaining the force of a strong gale.

22nd.\*—*Chiddingfold* (II). Meteor seen at 7.35 p.m., the track being visible for an hour and a half.—*Abinger Hull* (II). A wonderful meteor seen at 7.30 p.m. It shot across the sky from E. to W. with a comet-like track which remained visible for over an hour.—*Potters Bar* (III). Remarkably fine blue meteor seen at 7.40 p.m.—*Milton Bryant* (III). Brilliant meteor seen at 7.30 p.m. The trail could still be seen at 8.30 p.m.—*Hawkedon* (IV). A distant luminous streak appeared in the sky in the evening. It at first appeared as a perfectly straight line somewhat thicker in the middle than at the ends, but latter assumed a curious curved shape.—*Bury St. Edmunds* (IV). A fine meteor was seen at about 7.35 p.m. in the S.W. The trail, like a comet's tail, was visible until 10 p.m.—*Surlingham* (IV). During the tornado which swept over this district a market gardener had nine out of his thirteen glass-houses completely ruined by the wind, which not only stripped the glass but smashed the frames.—*Broadwindsor* (V). About 7 p.m. a bluish green meteor was seen. It traversed the sky low down from N.E. to S.W. leaving behind a luminous track which gradually grew broader and was visible for

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\* See also *Met. Mag.* March, 1909, p. 35; April 1909, p. 56.

more than 3 hours.—*Evershot* (V). Meteor seen at 7.30 p.m. It left a luminous train from E. to W. which lasted until 9 p.m. and appeared like a streak of electric light across the sky.—*Tavistock, Whitchurch* (V). A large meteor crossed the sky S. of the zenith from E. to W. at about 7.20 p.m. It left a trail which was seen until 8.30 p.m.—*North Cadbury* (V). About 7.35 p.m. a brilliant meteor shot across the sky and broke into all colours. At 8 p.m. there was a luminous band in the sky with two sharp bends, one exactly on Orion's foot. It was quite as clear and bright at 8.15 p.m., but fainter at 8.30, and at 9 o'clock could not be discerned at all.—*Fanad* (XXIII). Fog; a rare phenomenon here.

23rd.—*Kilmelfort* (XV). Dense fog until 10 a.m.

24th.—*Fanad* (XXIII). Very gloomy day. The mist was so thick that lamps had to be kept alight from 2 p.m.

26th—28th.\*—*Shenfield* (IV). Heavy falls of S. Total depth 10 inches.

27th—28th.\*—*Hampstead* (I). S fell continuously for  $28\frac{1}{4}$  hours ending at 10.15 a.m. on 28th, and fell again after 3 p.m.

28th.\*—*St. Peter's* (II). S 5 inches deep.—*Ingatstone* (IV). S fell from 7 to 9 p.m. to a depth of 5 or 6 inches.

### MARCH.

1st—3rd.\*—*Goudhurst* (II). The total depth of S was 14 inches.

1st—4th.\*—*Epsom* (II). At 9 a.m. on the 1st 5 inches of S covered the ground, the depth on the 2nd attaining 6 inches. On the 2nd at 8.30 p.m. a very heavy S storm set in, 3 inches falling by 10 p.m. Sheet L was seen in S.W. at 10.30 p.m. On the 3rd 9 inches of S were lying, the trees being covered with thick S, and heavily weighted by the fall. On the 4th at 9 a.m. the depth was 10 inches.—*Ticehurst* (II). S on and off throughout. On morning of 4th it was  $12\frac{1}{2}$  inches deep. Said to be the heaviest fall here since 1885.

2nd.\*†—*Wittering* (III). Undrifted S 12 inches deep at night.—*Offord D'Arcy* (III). From 10 to 12 inches of S fell during the night.—*Worcester* (VI). The temp. on grass fell to  $1^{\circ}$ , and a bath in a large bedroom facing S., quite 20 feet from the window, was thickly frozen.—*Borrowdale, Seathwaite* (X). S  $7\frac{1}{2}$  inches deep.—*Criccieth, Cefn-Maen* (XI). S  $3\frac{1}{2}$  inches deep.

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\* See also *Met. Mag.*, March, 1909, p. 21.

† See also *Met. Mag.*, March, 1909, p. 33.

2nd—3rd.\*†—*Hampstead* (I). Heavy S storm from 10 p.m. on 2nd to 2.30 a.m. on 3rd, and another of less intensity on the afternoon of 3rd, covering the ground to a depth of 10 inches.—*St. Pancras, Camden Square* (I). S commenced about 9 p.m. on 2nd and by 9.30 p.m. was falling very thickly. It continued into the morning of 3rd to a depth of 5 inches. Fog followed the S and became thick and black at 10.30 a.m. It remained dark all day on 3rd. S again fell from 1.30 to 8.30 p.m., the additional depth being  $2\frac{1}{2}$  inches.—*Maidstone* (II). Heavy S fall, the total depth being 19 inches.—*Hastings, Guestling* (II). The heaviest S fall experienced for some years. S began to fall in the night of the 2nd and continued all day on 3rd until it lay 12 inches deep on the level. There was neither wind nor thaw, and the trees and shrubs were thickly coated for some days. Many evergreens and especially the Scots pines were much broken by weight of S.

3rd.\*†—*Tenterden* (II). The heaviest S fall for years with hardly any drift. The depth at 9 a.m. averaged 7 inches, and 5 inches more fell between 11 a.m. and 5 p.m. It continued to fall at night, the total depth reaching 15 or 16 inches.—*Canterbury* (II). S storm giving 15 inches on level.—*St. Peter's* (II). S lay 7 inches deep.—*Drummore* (XIII). S fell to a depth of 3 inches accompanied by a TS with L.

3rd—4th.\*—*Tunbridge Wells* (II). S about 16 inches deep.—*Findern* (VII). S fell to a depth of 6 inches.

4th.\*—*Ulcombe Place* (II). S lay 12 to 15 inches deep in undrifted places at 9 a.m.—*Edington* (V). Temp. fell to  $4^{\circ}$ , the lowest recorded since February, 1895.—*Clonmel* (XX). Shade min.  $12^{\circ}$ , the lowest recorded since February 13th, 1900.

5th.\*—*West Kensington* (I). Shade min.  $20^{\circ}\cdot7$ , the lowest with one exception in 26 years.—*Hampstead, Akenside Road* (I). Temp. fell to  $13^{\circ}\cdot8$ , and on the snow to  $3^{\circ}\cdot9$ .—*West Linton* (XIII). Severe frost, the shade min. falling to  $1^{\circ}\cdot0$ , and the grass min. to  $-4^{\circ}\cdot8$ .

5th—6th.\*—*Shrewton* (V). S, sleet and R fell for 21 hours.—*Kington* (VI). S fell to a depth of  $8\frac{1}{2}$  inches.—*Mansfield* (VII). Heavy S measuring 14 to 16 inches deep undrifted. Many shrubs and trees were broken down by the weight of S.—*Findern* (VII). S fell to a depth of 8 inches.—*Banbridge, Milltown* (XXIII). S 12 inches deep.—*Belfast* (XXIII). S fell in afternoon of 5th and all night, to a depth of 10 inches.

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\* See also *Met. Mag.*, March, 1909, p. 21.

† See also *Met. Mag.*, March, 1909, p. 33.

6th.\*—*Ware* (III). S 6 inches deep.—*Southwold* (IV). Gale from E.S.E., with blinding R, sleet, H and S all day. Weather milder at night with thick drizzling R and very rough sea.—*Foleshill* (VI). Heavy S, causing local floods when it melted.—*Church Stretton, Wolstaston* (VI). Between noon and 1.30 p.m. S fell to a depth of quite 6 inches.—*Hodsock Priory* (VII). S fell for nearly 24 hours, but being wet and slushy it did not exceed  $4\frac{1}{2}$  inches in depth.—*Chellaston* (VII). Heavy and deep S fall.—*Matlock* (VII). S fell all day and lay  $12\frac{1}{2}$  inches deep.—*Thixendale* (IX). Wild S storm for hours. Roads blocked.—*Borrowdale, Seathwaite* (X). S 9 inches deep.

6th—7th.\*—*Meltham* (IX). Between 5.30 a.m. and 9.30 p.m. on 6th  $7\frac{1}{2}$  inches of S fell, and a further  $2\frac{1}{2}$  inches fell during the night.

7th.—*Watlington* (III). S 12 inches deep on the top of the hills, 800 feet high.—*Leamington* (VI). S 6 inches deep in the morning.—*Stretton, Lindway* (VII). S lying 14 inches deep.

7th—8th.—*Aberdeen* (XVII). S storm. Roads blocked.

8th.—*Instow* (V). The R amounted to 2.55 in., and falling on frozen soil caused great floods.

8th—9th.—*Beaford, Ebberly* (V). In the 24 hours ending 9 a.m. on 9th the R measured 2.43 in.

11th.—*West Linton* (XIII). Railway blocked by S for a few hours.

14th.—*Hallaton Hall* (VII). Heavy S storm yielding 1.75 in.

15th—16th.—*Aberdeen* (XVII). S during night. Roads were blocked in the country.

27th—28th.—*Templeudigan* (XXI). Severe R storms, flooding the land so that crops could not be sown.

## APRIL.

2nd—3rd.†—*Cork* (XX). Continuous R for 48 hours.—*Skibbereen* (XX).

“Skibbereen presented the appearance of a town built in a lake from one to three miles wide. Three-fourths of the population have had to desert the basement floors, and are living upstairs. Several of the merchants have had to remove the goods from the shops to the living rooms overhead, and in the poorer quarters great suffering and misery are being caused. In the lanes, where the houses have no upper apartments, the poor people have had to be rescued with cars and carts. They were taken yesterday to the Town Hall, where fires were lighted and food provided for them, and sleeping

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\* See also *Met. Mag.*, March, 1909, p. 21.

† See also *Met. Mag.*, April, 1909, p. 54.

accommodation for the night was arranged. A number of sheep and cattle have been swept away by the flood, and several coal barges and boats moored near the town have either been carried away or sunk."—*Irish Times*.

—*Glanmire* (XX). R fell continuously for 48 hours, the fall amounting to 3·73 in. in that time.—*Templeudigan* (XXI). R storm lasting 32 hours with 1·91 in.—*Moate* (XXI). Heavy R on both days, measuring 1·04 in. and 1·32 in. respectively.

12th.—*Thirendale* (IX). At 3 p.m. there was a tornado lasting about 20 minutes.

14th.—*Marchmont House* (XIII). T and L with H and S showers from 3.15 to 4 p.m.

17th—18th.—*Rousdon* (V). Dense fog.

23rd.—*Meltham* (IX). A house was struck by L at 7.50 p.m.

24th.—*Macclesfield* (VIII). Heavy TS with H at 2.40 p.m.—*Goldsborough Hall* (IX). TS with heavy R.

25th.—*Bulmer Lodge* (IV). TS about 12.15 p.m. A tree was struck by L.

26th.—*Burton* (VII). TS with H from 1.45 to 1.55 p.m.—*St. Asaph* (XI). T at 0.15 p.m., and ·13 in. of R in 8 minutes.—*Westport, St. Helen's* (XXII). In 30 minutes ·48 in. of R fell.

27th.—*Hampstead, Aken-side Road* (I). A rather sharp TS broke soon after noon. At 0.12 p.m. L was first seen followed by T. R began at 0.19 p.m. accompanied by H stones as large as peas, ·29 in. falling in 7½ minutes. The sun came out again at 0.51 p.m.—*St. Pancras, Camden Square* (I). Heavy rolling T at 0.10 p.m. for about 10 minutes, when it became very dark and heavy R fell for 20 minutes; ·14 in. fell in 10 minutes at 0.20 p.m.—*Holborn Viaduct* (I). At 9.20 a.m. ·16 in. of R fell in about 10 minutes.—*Watford* (III). TS with H, lasting 15 minutes about noon.—*Yarmouth* (IV). During TS in the afternoon the old Parish Church was struck by L and the belfry set on fire.—*Norwich* (IV). Severe TS from 2.30 to 3 p.m.

28th.—*Cirencester* (VI). Heavy squalls with R and H at 11 p.m.

29th.—*Oxford, Banbury Road* (III). Severe H storm for about 5 minutes, yielding ·16 in. Two flashes of L and one clap of T. A house was struck 200 yards away.—*Hassobury* (IV). Severe TS with ·60 in. of R.

29th—30th.\*—*Monymusk* (XVII). S showers and wild weather.—*Drumnadrochit* (XVIII). Sharp S storm from E., the total fall amounted to 3½ inches.

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\* See also *Mct. Mag.*, June, 1909, p. 93.

30th.\*—*Detling* (II). Ground covered with S which soon melted.—*Henley-on-Thames* (III). Stormy, with showers of H and S.—*Blisworth* (III). S storm at 11 a.m.—*Dolaucothy* (XI). S and H showers.—*Aberystwyth*. *Gogerddan* (XI). H and S storms.—*Welshpool* (XI). One inch of S fell.—*St. Asaph* (XI). TS, with S at 8.45 p.m.—*Marchmont House* (XIII). T at 5 p.m. and an inch of H.

### MAY.

1st.—*Hampstead* (I). S in early morning.—*Norwich* (IV). S fell in large flakes.—*Cirencester* (V). Heavy S showers from 8 to 9 a.m.—*Wirksworth* (VII). Heavy S storm in afternoon.—*Buxton* (VII). Heavy S showers.

8th.—*St. Pancras, Camden Square* (I). The sunniest day of the year. Duration, 12.5 hours.

12th.—*Dunstable* (III). S shower at 10.30 p.m.

13th.—*Caterham Valley* (II). S and R.—*Ide Hill* (II). Slight S storm in morning, turning to H and R.—*Lochgailhead* (XV). Heavy S at night on hill tops.

13th—14th.—*Altnaharra* (XIX). Considerable S showers.

14th. — *Hampstead* (I). Some S flakes in early morning. — *Wurlingham* (II). S began to fall at a few minutes before 6 a.m. and was soon falling thickly and continued to do so until 8 a.m.—*Tunbridge Wells* (II). S fell at 8.30 a.m.—*Henley-on-Thames* (III). Light S fell in morning and the hills were lightly covered.—*Marchmont House* (XIII). Half an inch of S fell between 7 and 8 p.m., and half an inch later on.—*Alford* (XVII). Repeated S showers by day which lay at night to a depth of  $2\frac{1}{2}$  to 3 inches.

15th.—*Woburn* (III). Much damage done by frost to potatoes.—*Chellaston* (VII). R and S early.—*Bethesda* (XI). A frost in the night worked great havoc among the crops and potatoes, and apple blossoms were especially injured.—*Fanad* (XXIII). Smart fall of S in morning.

16th—18th. — *Girvan, Pinmore* (XIV). Hard frosts did much damage to young shoots of beech trees, turning many quite brown.

17th.—*Buxton* (VII). Heavy S from 5 to 6 a.m.—*Lochgailhead* (XV). Fresh S in afternoon on hill tops.—*Glanmire* (XX). H storm from W. at 4 p.m.—*Fanad* (XXIII). Heavy TS.

18th.—*Tunbridge Wells, Hawkenbury* (II). At 11 a.m. .17 in. of R fell in 10 minutes.—*Buchlyvie* (XV). Heavy S.

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\* See also *Mct. Mag.*, June, 1909, p. 93.

22nd.—*Wallington* (II). Shade max.  $80^{\circ}9$ , the highest recorded in May since 1895.—*Sudbury* (IV). Shade max. reached  $87^{\circ}$ .

24th.—*Evershot* (V). Heavy T and vivid L.—*Sidmouth* (V). Incessant L, distant T, R and wind after 9.30 p.m.—*Housdon* (V). Sharp TS, with incessant vivid L, lasted from 10 p.m. to midnight. About 11 p.m. .50 in. of R fell in 20 minutes.—*Fethard* (XXI). Dense fog.

25th.\*—*St. Pancras, Camden Square* (I). Unusual darkness from about 10 a.m. to noon. Artificial light had to be resorted to.—*Winterbourne Steepleton* (V). Heavy R with L and T about 1 a.m.—*Wimborne, Broadstone* (V). Heavy TS at 3 a.m. from W.S.W. with vivid blue and red L, lasting 31 minutes.—*Burton* (VII). TS from 5.25 to 5.35 p.m.—*Fanad* (XXIII). Severe TS in which .24 in. of R fell in 12 minutes.

## JUNE.

1st.—*Carsphairn, Shiel* (XII). In about an hour 2.71 in. of R fell.

1st—2nd.—*Reading, Caversham* (III). R commenced to fall fitfully at 5 a.m. on 1st and at 7.30 a.m. it set in in earnest and continued until 11 a.m. on 2nd, the total fall being 1.58 in.

3rd.—*Thurso, Buckies* (XIX). Thick fog.

5th.—*Leominster* (VI). Heavy H storm. The H choked drains, and houses were flooded in consequence.

6th.—*Stockbridge* (II). Heavy shower between 11.15 a.m. and 12.30 p.m. yielding .64 in. The fall was of a local character as 6 miles away to the W. and N.W. there was none.—*Wimborne, Broadstone* (V). Slight T and heavy H and R at 1.4 p.m. The H stones were as large as peas. The last T was at 3.10 p.m., but R fell heavily all the rest of the afternoon.—*Sturminster Marshall* (V). Heavy T with .34 in. of R between about 12.20 and 12.40 p.m.—*Honiton* (V). Heavy T shower from 0.15 to 1.15 p.m., when 1.24 in. of R fell.

10th.—*Ballater, Corndavon Lodge* (XVII). The Cairngorm mountains were covered with S reaching far down into the valleys.

11th.—*St. Pancras, Camden Square* (I). Shade min.  $39^{\circ}0$ , the lowest recorded in June since 1893.

14th.—*Tunbridge Wells, Hawkenbury* (II). At 2 p.m. R began to fall gently, but by 2.30 p.m. it was falling heavily, and at 3 p.m. .60 in.

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\* See also *Met. Mag.*, June, 1909, p. 91.

had fallen. It is reported that no R fell as near as Southborough and Tonbridge.

15th.—*Winterbourne Steepleton* (V). Thick fog in morning.

17th.—*St. Pancras, Camden Square* (I). Shade max.  $75^{\circ}1$ , the highest of the month but the lowest absolute max. for June since 1882.—*Bradford, Bearfield House* (V). Heavy storm of R and H lasting 25 minutes and yielding  $\cdot72$  in.

20th.—*Oxford, Banbury Road* (III). A TS following a narrow path passed over, travelling about due E. The R measured only  $\cdot07$  in., but 230 yards N.N.W. there fell  $\cdot24$  in., and 400 yards there was  $\cdot27$  in. Half a mile on either side of this last position there was none.—*Cirencester* (VI). Severe TSS with heavy R.

21st.—*Rousdon* (V). Dense fog.

22nd.—*Stonehouse, Parklands* (VI). Heavy H storm. — *Fanad, Tamney Rectory* (XXIII). R lasted for 30 hours.

23rd.—*Holborn Viaduct* (I). During a TS from noon to 12.25 p.m.  $\cdot50$  in. of R fell.—*Clanfield* (III). Heavy TS with L, H and R.—*Maghull* (VIII).

“During a violent thunderstorm Simon Gibbons, 23, a single man, a labourer in the employ of Mr. Richard Ball, Manor Farm, Maghull, together with two other labourers, took shelter behind a large thorn bush, when a flash of lightning struck all three. Simon Gibbons was instantly killed, his injuries being frightful. The other two men were injured, but not very seriously.”—*Liverpool Daily Courier*.

24th.—*St. Pancras, Camden Square* (I). Dark, gloomy morning. T at 11.40 a.m. followed by L and heavy R and H for 15 minutes;  $\cdot18$  in. fell in 5 minutes at 11.45 a.m. Sharp shower at 4.30 p.m. The ceremony of trooping the colours on the occasion of the formal celebration of the late King's birthday had to be cancelled on account of the weather. The following letter, though not of scientific value, records the popular feeling :—

“THE PRINTER AND THE WEATHER.

*To the Editor of the “Pall Mall Gazette.”*

SIR,—Feeling that the resources of ordinary language are exhausted in attempting to describe the weather we are now suffering, I have been looking about for a new word that shall be at once descriptive and expletive. I, therefore, hail with joy the brilliant discovery of your printer in tonight's ‘Pall Mall.’ Apparently his original idea was the ordinary ‘gloomy,’ but in what was, doubtless, a paroxysm of disgust, he improvised the really remarkable neologism ‘golomy’! So simple—and yet so true—it exactly describes the full flavour and essence of Midsummer Day, 1909. I raise my hat to your printer; ‘golomy’ is very, very good.—Yours faithfully,

June 25.

J. A. B.”

—*Rousdon* (V). Sharp TS with heavy R at 4 p.m. — *Quantockshead* (V). Heavy TS with L, causing some damage in the neighbourhood. — *Strachur* (XV). Sharp TS with L from 3 to 3.30 p.m. — *Waterford* (XX). Heavy TS with L and H. — *Fethard* (XXI). Heavy T all day but hardly any R although torrents fell five miles away. — *Pakenham Hall* (XXI). Heavy local TS accompanied by showers of H and R. — *Belturbet* (XXIII). H fell between 3 and 4 p.m., covering the ground like S.

25th. — *St. Peter's, Hildersham House* (II). This house was struck by L and considerable damage was done to the roof by the debris of chimney pots and bricks. No R fell at the time. — *Cockfield Rectory* (IV). T between noon and 2 p.m., with H and no wind. This place appeared to be the centre of the downpour, and the R to 4.30 p.m. totalled 2.59 in.

26th. — *Ulcombe* (II). TS with L and R, lasting barely 15 minutes, at 5.30 p.m. The first flash of L struck a Lombardy poplar and cut it down to about 4 feet from the ground, scattering the branches far and wide. — *Wimborne, Broadstone* (V.) TS from 11.40 a.m. to 0.15 p.m. The T was so loud as to cause sensible vibrations, and R fell in torrents. A horse was killed by L 5 miles from here. The storm passed to the S.E.

27th. — *Little Sarham* (IV). Heavy H storm from 1.20 to 1.30 p.m. with a few peals of T. Temp. fell from 63° to 48°. The H only fell over half the village. — *Horncastle* (VII). Terrific TS with H and R yielding 2.10 in. — *Huddersfield Cemetery* (IX). During a TS .12 in. of R fell in 2½ minutes.

28th. — *Thorney, Wryde House* (III). Two storm clouds met overhead causing a very heavy storm of R and H. From 5.30 to 6.15 p.m. the R and H were terrific. The land and roofs were white with H at 7.15 p.m., and it measured 1½ inch deep on the lawn. — *Pakenham Hall* (XXI). Heavy TS accompanied by .56 in. of H and R.

29th. — *St. Pancras, Camden Square* (I). Sharp TS with L and R at noon. — *Upton Grey* (II). Heavy TS with H and .27 in. of R in 8 minutes. — *Potters Bar* (III). TS with .74 in. of R falling between 2.50 and 3.10 p.m. — *Oving House* (III). Heavy TS and, although only .03 in. of R was measured, much R fell within a short distance. — *Colchester, Lexden* (IV). T with .14 in. of R in 7½ minutes. — *Wimborne Steepleton* (V). Heavy TS, with L and R from 4 to 6 p.m. — *Wimborne, Broadstone* (V). While a violent TS was passing from N. to E.N.E. a fireball fell in an E. direction followed by a most terrifying

crash of T.—*Bath, Henrietta Park* (V). T and L with ·33 in. of R in 20 minutes, from 2.20 to 2.40 p.m. Only ·08 in. fell 2 miles E.

## JULY.

2nd.—*Swerford* (III). Heavy fog.

4th.—*Tenterden* (II). Severe TS at 3 p.m., with 1·36 in. of R.

6th.—*Cockburn Hill* (XIII). In 45 minutes between 4 and 5 p.m. ·50 in. of R fell.

7th.—*Hampstead, Akenside Road* (I). Heavy R from 6 to 7 p.m. Garden flooded.—*Brighton* (II). During a TS in the afternoon a man named Thompsett, while hoeing cabbages in a field at Upper Brighton, was struck by L and killed instantly. His hair was burnt off and his clothing singed.—*Brighton, Preston Drove* (II). During a TS ·20 in. of R fell in 5 minutes at 1.45 p.m.—*Lewes* (II). A man was killed by L.—*Thurso, Buckies* (XIX). Thick fog all day.

10th.—*Erith* (II). Severe TS at 2.30 p.m.—*Rochdale, Fieldhead* (VIII). In 7½ minutes ·15 in. of R fell.

13th.—*St. Pancras, Camden Square* (I). Sharp TS at 3.45 p.m., with L and ·27 in. of R in 4 minutes.—*Erith* (II). Severe TS at 5.40 p.m.—*Blisworth* (III). TS with L and heavy R from 3 to 4 p.m.—*Louth* (VII). TS with ·69 in. of R, nearly all of which fell in an hour.

22nd.—*Manchester* (VIII). The passage of a squall or whirlwind, about 8.30 p.m., is thus described in the *Manchester Dispatch* :—

“ The track of the storm was easily traced, but the facts of the occurrence were by no means so distinct. Everybody had a different story : some were convinced that it was a gas or electric explosion, others declared their belief that, from the way the houses rocked and swayed, it was an earthquake, but the majority agreed that it was ‘ a black mass of wind ’ illuminated by some sort of fire that gave the impression that the whole street was ablaze.

The storm seems to have originated somewhere beyond Peel Park, for in the Regent Road district the inhabitants experienced nothing more than a high wind.

It swept across Peel Park and portion of Lewis's Recreation Ground adjoining, covering a regular path of about 150 yards in width. Several trees in the park were broken from the trunks and some were torn up bodily by the root, the twisted branches and the fact that they were found lying with their heads against the wind, showing the extraordinary nature and strength of the current.

Some sheds standing in the cricket ground were partially unroofed, and a large telegraph cable stretching the whole length of the park, and right in the path of the storm, was torn down. Pools of water in the grounds were sucked up as if by a scoop, and a piece of timber which was caught up in a

builder's yard on Strawberry Hill at the back of the park was whirled away into a backyard in Eliza Street, nearly half a mile distant.

Some boys who had been playing cricket had to cling to the railings to keep their feet, and the bat was whirled out of the hands of a lad and carried away to Hough Lane, where it was broken into splinters against a telegraph pole. The cricket ball was afterwards found in Johnson Street.

The cyclone swept across the Irwell, lashing the water into frothy waves and sucking it up with a hissing noise.

Two men who were near Hough-lane Bridge in a light rowing boat had an alarming experience. The storm burst down upon them with unexpected suddenness, and the light craft was at once overturned. The occupants struck out for the shore, which they reached safely.

Laden with clods of earth, paper, light timber, and refuse of every description, which was hurled round and round in spiral columns, the wind moved in what an eye-witness described as 'a solid bank' down Hough-lane, tearing tiles and slates from a number of houses in the side streets, and in some cases bringing down chimney pots with a crash. According to the stories subsequently told by the residents houses rocked and heaved with a motion like a ship at sea.

A boy was taken off his feet in a side street and borne down an entry, where he clung to a wall until the cyclone had passed. Two or three men, who were hurrying down Hough-lane, were lifted off their feet, carried for several yards and dropped again in the wake of the storm.

A large signboard over the Co-operative Stores at the corner of Union-street was torn from its fastenings and hurled into the street; then with a rending crash the wind seemed to break and lift.

The rain ceased and the sky cleared instantly, a fact which may account for the idea that there was a sheet of flame, for the glare of the setting sun in the western sky, as seen through the dark moving column, might easily have given that impression."

23rd.—*Wantage, Ginge Manor* (II). T of a very local character. A heavy precipitation only a mile and a half to the W. was hardly noticeable here.—*Northwood* (III). A superb rainbow, with conspicuous secondary and three supernumerary bows was seen between 6 and 7 p.m. The lowest colour of the supernumeraries was mauve or pink rather than red as in the primary and secondary bows.—*Mill Hill* (III). Double rainbow of extreme brilliancy at 7 p.m.—*Horton* (III). In 16 minutes .21 in. of R fell.—*Pen-y-Gwryd* (XI). Heavy H storm with stones  $\frac{3}{8}$  in. in diameter.

24th—25th.—*Fethard* (XXI). The heaviest R storm for some years began at 3 p.m. on 24th, and 1.63 in. was measured at 9 a.m. on 25th; an additional .25 in. fell before 1 p.m.

25th.—*Oxford, Warneford Asylum* (III). During a TS .27 in. of R fell in about 20 minutes.—*Lincluden House* (XII). Severe TS with heavy R causing floods which did much damage to the hay crops.—

*Hawick, Branxholme* (XII). TS, with heavy R after 5 p.m.—*Drum-park* (XII). During a TS, between 1.30 and 2 p.m., a cloud resembling a waterspout appeared over Drumpark Hill where it split into three parts, from one of which an immense volume of water rushed down the hill through Captainton farm land, clearing out a road on the way, and entering the policies of Drumpark House tore up the paths and covered the lawns with debris. Routen Bridge would have been swept away had not the flood been diverted to the road above it, and 78 yards of this road were hollowed out to a depth of 14 feet with a width of 20 feet.—*Colinsburgh* (XVI). R 2.31 in., the largest daily fall, with one exception, for eight years.—*St. Andrews* (XVI). Severe TS from 10.30 a.m. to 12.30 p.m., with 2.81 in. of R, the greatest fall in 24 hours in the last 9 years.

26th.—*Sevenoaks, Ide Hill* (II). Short showers with heavy T.—*Petworth* (II). Three horses were killed by L.—*Strachur* (XV). Earthquake shock. There were two sharp reports like the rumbling of a cart, of 10 seconds duration, with an interval of 3 seconds.

27th.—*Erith* (II). Severe TS at 5 p.m.—*Winterbourne Steepleton* (V). The amount of R, 2.85 in., was the greatest daily fall since 1892.—*Rousdon* (V). R falling from 5 a.m. to 11 p.m.—*Bucknall* (VII). R for about 18 hours.

30th.—*Tunbridge Wells* (II). Curious ground fog in evening.—*Fanad* (XXIII). Tremendous R a few miles distant, but only .01 in. here.

## AUGUST.

1st.—*Thornton-le-Dale* (IX). R 2.16 in. or more than twice the previous highest fall in 24 hours during 4 years.

1st—2nd.—*Thornton Curtis* (VII). R fell for 16 hours from 3 p.m. on 1st, amounting to 2.31 in.

8th.\*—*Ticehurst* (II). Fine display of L along the horizon from S.E. to E., forked discharges passing freely from cloud to cloud. Overhead the sky remained clear.—*Street, Hind Hayes* (V.) Remarkable display of L from 10.30 to 11 p.m.

8th—9th.—*Yarmouth* (IV). Heavy fogs along the coast. Pleasure steamers from London were 14 to 19 hours late in arriving.

12th.—*St. Pancras, Camden Square* (I). The hottest day since

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\* See also *Met. Mag.*, September, 1909, p. 147; and *Quarterly Journal R.Met.Soc.*, Vol. 35, p. 298.

September 3rd, 1906, the shade max. being  $86^{\circ}\cdot4$ .—*Bury St. Edmunds, Westley* (IV). Shade max.  $87^{\circ}\cdot5$ , the highest of the year.

15th.—*Epsom* (II). With the breaking up and disappearance of cumulus cloud at 2 p.m. the temp. rose rapidly to a max. of  $92^{\circ}$ , the highest temp. recorded since September 2nd, 1906.—*Newhall* (VII). TS during which two miners named Henry Baxter, aged 57, and his son Samuel, aged 16, whilst sheltering under a tree—

“were knocked down by lightning, and both were unconscious for some time. The son, although suffering badly from burns, was able to crawl home on his hands and knees, his legs, like those of his father, being temporarily paralysed. The elder man was quite helpless, and was conveyed in the only vehicle at hand—a wheelbarrow. Both men were singed and marked about the body and legs, and their clothing was riddled by the lightning with holes—even their caps and shirts suggesting that bullets had passed through them.”—*Nottingham Guardian*.

16th.—*Chellaston* (VII). A violent and destructive TS in morning. Between 7.40 and 8.5 a.m.  $\cdot92$  in. of R fell.—*Liverpool, Huyton Vicarage* (VIII). Violent H storm. Large pieces of ice fell in early morning.—*Hulme* (VIII). L struck St. Gabriel's Church and set fire to the roof. A hand-cart was struck in the street and the wheels forced off, the man pushing it was severely shaken but not injured.—*Wigan* (VIII). TS in which  $\cdot40$  in. of R fell in 15 minutes. H as big as peas.—*Filey* (IX). During a TS  $\cdot37$  in. of R fell in 13 minutes.—*Darlington* (X). Between 10.5 a.m. and 2.50 p.m.  $2\cdot25$  in. of R fell.

16th—17th.—*Whitby* (IX). The continuous R of the two days amounted to  $2\cdot33$  in.

17th.\*—*Heathfield, Tottingworth Park* (II). In 7 minutes  $\cdot15$  in. of R fell.—*Waltham-on-the-Wolds* (VII). TS from S.W. An ash tree was struck and pieces scattered 75 yards, 65 yards and 40 yards from tree.

17th—18th.\*—*Salisbury Plain, Shrewton* (V). Six hours steady R in afternoon of 17th, and about two hours of violent showers in morning of 18th.—*Horkstow* (VII). Heavy R causing great damage to grain crops.—*Filey, Deepdene* (IX). Between 11.20 p.m. on 17th and 7.15 a.m. on 18th  $1\cdot51$  in. of R fell with an E. gale.

18th.\*—*Maidenhead, Castle Hill* (II). Sharp TS with L and heavy R amounting to  $2\cdot69$  in.—*Cookham Vicarage* (II). TS from 6.30 to 8.15 a.m., with  $2\cdot50$  in. of R.—*Hedsor* (III). Terrific TS at 7 a.m. with heavy R and H.—*Burnham* (III). About noon  $\cdot18$  in. of R fell in

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\* See also *Met. Mag.*, September, 1909, p. 148.

about 3 minutes, and the water ran through the village street like a river.—*Bulmer Lodge* (IV). Distant TS. Two trees were struck by L and badly injured.

21st.—*Mayfield House* [*Ashbourne*] (VI). TS with .21 in. of R in 10 minutes.—*Marchmont House* (XIII). T and L from 4.50 to 5.15 p.m.

23rd.—*Leicester* (VII). As a result of the drought :—

“In consequence of the low state of the reservoirs of the borough, the Water Committee of the Leicester Corporation decided last evening to restrict the supply from 6 in the morning to 8 at night. The reservoirs have not been so low for some years.”—*The Times*.

25th.—*Abinger Hall* (II). Five distinct TSS lasting from 11 a.m. to 6 p.m. The L was very vivid and there were large H stones.—*Betchworth, The Holmes* (II). In 11 minutes .44 in. of R fell.—*Epsom* (II). TS from W. to E. between 11.20 a.m. and 1 p.m. H at 2.40 p.m. resembling stone marbles.—*Tunbridge Wells* (II). TS from 11.30 a.m. to noon. R commenced at 11.40, and in 20 minutes amounted to .34 in.—*Selsey Bill* (II). Severe TSS with 1.00 in. of R. A rick, about a mile away, was struck and partly burnt.—*Ardingly, Lywood House* (II). During a TS .19 in. of R fell in 10 minutes.—*Hayling Island, Littlemead* (II). TS from 1.30 to 4 p.m., with 1.24 in. of R.—*Porchester* (II). Heavy TS. A light piece of ribbon-like cloud, believed to be a waterspout, was seen.—*Borden Wood* (II). A whirlwind occurred just after 2 p.m., its general direction being W.N.W. to E.S.E. It extended for about 3 miles, trees, sheaves of corn, etc., being thrown down. Some of the debris was hurled into the air and carried a long way. The width of the path of damage was about 150 yards; .21 in. of R fell in 10 minutes accompanied by T.—*Radlett* (III). Two boys aged 14 and 11, while sheltering under a tree between Radlett and Watford, were struck by L; the elder was killed the younger seriously injured.—*Newmarket Heath* (III). A waterspout burst over the Heath. It resembled a gigantic mushroom with a spiral stem, and approached rapidly from the Cam at Burwell, remained stationary for a moment near the grand stand and collapsed simultaneously with a vivid flash of L and a loud peal of T. Heavy R followed immediately.—*Wisbech* (III). A boy sheltering under a tree at Walsoken was struck by L and killed.—*Ingatestone, Furze Hall* (IV). Between 4.25 and 4.35 p.m. R and H fell amounting to .54 in. It ceased temporarily but came on again after a great deal of bright L and heavy T, and finally ceased

about 6.30 p.m. when the total fall amounted to .96 in.—*Cressing* (IV). The spire of the Parish Church was struck by L and the roof set on fire.

### SEPTEMBER.

2nd.—*Maidstone, Rumwood Langley* (II). TS with .40 in. of R in 8 minutes.

6th.—*Oxford, Banbury Road* (III). In 4 minutes .10 in. of R fell.—*Pen-y-Guryl* (XI). Heavy H storm at 3.50 p.m. followed by L.

7th.—*Alderney* (XI). Large waterspout seen N. of the island.

10th.—*Fareham, Paulsgrove* (II). TS, which had a curious effect. The L, during R, turned the R into steam which remained in view for 5 minutes and showed the track of an electric current which burnt a stack of corn standing close to the railway.—*Llwydiarth Esgob* (XI). Thick fog.

14th.—*Drumnadrochit* (XVIII). Fine solar halo from 7 to 9 a.m. in a thin brownish haze.

16th.—*Guildford* (II). TS with loud continuous T for nearly 4 hours, but little R.

17th.\*—*Abinger Hall* (II). Four distinct TSS occurred to N. and N.E., and the T was exceedingly heavy.—*Frimley, Tomlinscote* (II). TS. In 2 hours 1.26 in. of R fell.—*Pyrford Croft* (II). A terrific TS, with extraordinarily large H stones, occurred between 2.30 and 4.10 p.m. and in that time 1.30 in. of R fell.—*Byfleet, West Hall Gardens* (II). In little over an hour 1.66 in. of R fell, with several inches of H, which did much damage. The L struck a number of trees.—*Epsom* (II). TS in which small cubes of transparent ice fell and the forked L was of a deep blue colour. All the R, .14 in., fell in 2 minutes.—*Buckingham, Adstock Fields* (III). During a severe TS 1.15 in. of H and R fell in 40 minutes.—*Oxford, Banbury Road* (III). At 2 p.m. distant T was heard in the S.E. and at 2.30 p.m. L was first seen. The clouds were appalling and at 3 p.m. R began to fall, but slightly at first. Suddenly the storm burst with dense H. The T and L were by then fairly incessant, and the sky very dark, but the noise and excitement of the H were the most striking features. At 3.35 p.m. the R measured 1.19 in. and there were still H stones in the funnel. The drains were all choked, the H having brought down leaves and twigs,

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\* See also *Met. Mag.*, October, 1909, p. 165; November, 1909, p. 186.

besides the volume of water being too great for them, and many houses were flooded. The scene was most wintry, the grass and parts of the roads being covered with H, which in places was from 2 to 4 inches deep. The stones were not abnormally large, the largest being about the size of a marble. The storm appeared to travel nearly due N.—*Woodstock, Hampton Poyle* (III). Severe storm of T and H. A house in Oxford was struck and crops were much damaged.—*Shrewton* (V). Sharp TS with .36 in. of R in 13 minutes.—*Stoke Bishop* (VI). Thick fog in morning.—*Stow-on-the-Wold* (VI). Heavy TSS and 1.02 in. of R in an hour and a half.—*Farnborough* (VI). Severe TS. Two horses were killed by L under an elm tree.

22nd.—*Detling* (II). After a fine and warm day, with an upper current from N.W. to 6 p.m., a second upper current from S.E. was noticed setting in, the surface wind rising suddenly in squalls from S. and S.W. Distant rolling T was heard after 3 p.m. in N. and N.E., working slowly round to the E. where distant T was heard at 6.40 p.m. Only at 8.27 p.m. was T heard with any distinctness, the storm lying apparently to S.E. At 8.30 p.m. forked L was seen in S.E., followed by T in 20 seconds. The storm moved slowly along low ground to the S., the forked L varying in colour between pale yellow and golden, the sheet L being of a diffused red colour. At 9 p.m. the centre of the storm was S., the L being followed by long rolling T at an interval of 3 seconds. During the next 30 minutes the storm moved in a W. direction, both forked and sheet L being frequent and very vivid. A peculiar type of phosphorescent cloud was visible to S.W. At 10 p.m. the storm was passing slowly up the Medway Valley in a W. by N.W. direction, the storm hanging very much in the valley. The last T was at 10.40 p.m., but there was sheet L till near midnight.—*Eastchurch, Sheppey* (II). During a TS a stack of wheat valued at £200 was struck by L, set on fire and destroyed.—*Bury St. Edmunds, Westley* (IV). Thick fog with T.—*Great Casterton* (VII.) An unusually heavy TS occurred in the morning with vivid L and heavy R from 7 a.m. until after 9 a.m. The most severe storm experienced here for 30 years.

23rd.—*Swerford* (III). During a TS an oak tree was struck by L. The trunk of the tree was about 2 feet in diameter and 14 feet up to the branches. The current appeared to have gone down the centre as there were cracks showing on the N. and S. sides, from top to bottom, as though a wedge had been driven in. For about 4 feet from the top and the same distance from the ground, or about one

third of the height, the bark for about a foot in width was torn off and lay at the foot of the tree.—*Eye, Newborough* (III). TS at 9 a.m. with H.—*Wittering* (III). Violent TS in early morning. A farm and church spire were struck by L, and 2·84 in. of R fell in about 3 hours.—*Thorney* (III). Severe tempest from 6 to 9.30 a.m. Terrific R and H caused much damage in the district.—*Castle Bytham* (VII). The severest storm in living memory began soon after 7 a.m., and in three hours 3·38 in. of R fell. Many houses were flooded, corn was floated away out of the fields, cattle were swept off by the flood, and the school could not meet.—*Grantham, Little Ponton* (VII). Between 8 a.m. and 11 a.m. 1·80 in. of R fell.—*Munsfield* (VII). Heavy TS with thick fog.—*Shipley* (IX). Heavy TS about 10 a.m.

24th.—*Thurso, Buckies* (XIX). Dense fog all day.

25th.\*—*Epsom* (II). Torrential R at 4.30 p.m. when ·24 in. fell in 3 minutes.—*Kenley* (II). During the magnetic storm which raged for some hours, a curious effect was observed in this valley. A quivering golden light was seen, and at one time a broad, straight band of light. There was no R nor T, but much L was seen over Dorking.—*Maidstone, Oaklands* (II). Sharp R storm producing ·53 in. in 25 minutes.—*Rousdon* (V). Bright aurora at 8.30 p.m.—*Bethesda, St. Ann's Vicarage* (XI). Earth tremor at 9.55 p.m. It seemed to travel from W. to E., and lasted about 2 seconds, accompanied by a heavy subterranean rumble.—*Dumfries* (XII). Magnetic storm which seriously affected telegraphic and telephonic communications between 11.45 a.m. and 9 p.m.—*Arisaig* (XV). An unusually brilliant and beautiful display of aurora borealis from 7 p.m. to midnight.—*Strachur* (XV). Magnetic disturbance from noon to 2.5 p.m., during which time telegraphic communication was suspended in the district.—*Fanad* (XXIII). Aurora borealis at night.

27th—28th.†—*Kentchurch Rectory* (VI). Heavy R causing great floods in S. Wales. The floods were probably due more to the intensity than to the amount of R.—*Llanybythir* (XI). Very heavy R doing much damage to mountain corn, and flooding the valley.—*Cwm Dyli* (XI). Heavy R, causing floods.—*Ballindoney* (XXI). Heavy R storm in night and until 10 a.m. on 28th.

27th—29th.†—*Kington, Gravel Hill* (VI). R fell almost continuously

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\* See also *Met. Mag.*, October, 1909, p. 163.

† See also *Met. Mag.*, October, 1909, p. 158.

from between 8 and 9 p.m. on 27th until after 2 a.m. on 29th. It was light for the first 20 hours, but heavy after 4 p.m. on 28th.

28th.\*—*Ledbury, Putley Court* (VI). The R, amounting to 1·65 in., was the heaviest fall recorded in more than a quarter of a century.—*Oystermouth* (XI). Hurricane of wind and R. Damage was done to trees, and chimneys were blown down.—*Neath, Fairy Land* (XI). The R, amounting to 2·83 in., was a record daily fall in more than 25 years' observations. The streets were completely flooded in the town, and much damage was done.—*Glyncorrwg* (XI). Heavy R, 3·16 in. being measured, most of which fell between 8.30 and 11.30 p.m. The river rose 7 feet in an hour, and caused considerable damage to house and railway property. The main girder bridge gave way and a man who was standing on it at the time was drowned.—*Aberavon* (XI). The town was devastated by a flood of unprecedented severity, more than 5 feet of water standing in the ground floor rooms of some streets. About 200 people were rendered homeless.

28th—29th.—*Shrewton* (V). Steady R from 9 a.m. 28th to noon on 29th, amounting to 2·96 in. in the 27 hours.

29th.—*Rousdon* (V). TS at noon, with ·35 in. of R in 15 minutes.—*North Bovey* (V). In a remarkable storm which occurred soon after noon, the wind suddenly rose with whirlwind force and snapped off, close to the ground, a large ash tree with trunk about 2 feet in diameter, lifting the tree bodily to a considerable height. Other trees were also broken off, and the water in the river was carried up in the air as high as a house. Some of the rooms in Black Aller Farmhouse were blown so full of leaves that these had to be removed in baskets. The storm, which was focussed upon a very small area, lasted only about five minutes.—*Ilfracombe* (V). Nearly 2·50 in. of R fell in 45 minutes between 2 and 3 a.m.—*North Cadbury* (V). Owing to the heavy R the clergy had to ford a part of the adjoining garden to get to church.

## OCTOBER.

5th.—*St. Pancras, Camden Square* (I). Sharp R storm at 4.35 p.m., in which ·10 in. of R fell in 2 minutes.

6th.†—*Abinger Hall* (II). Brilliant meteor seen in the N.W. at 9.30 a.m. It had a slight trend to W. but otherwise pursued a

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\* See also *Met. Mag.*, October, 1909, p. 158.

† See also *Met. Mag.*, October, 1909, p. 163; and November, 1909, p. 185.

straight downward course. Although the sun was shining a slight flash was perceptible.—*Swerford* (III). The explosion of a meteor shook the doors and windows of houses.

7th.—*Fanad* (XXIII). Heavy gale from S. veering to W. Some trees were uprooted.

10th.—*Totland Bay* (II). Between 3.15 and 3.45 p.m. .55 in. of R fell.

11th.—*Balbriggan, Ardgillan* (XXI). Heavy shower at 11.15 a.m., when .21 in. fell in 5 minutes.

12th.—*Carke-in-Cartmel* (VIII). Beautiful triple rainbow at 5 p.m. Although the rainbows were bright the indigo and violet colours were faint, and the impression was of only three colours, purple, yellow and green.—*Jardington* (XII). Stormy evening, with high wind and flood.—*Pakenham Hall* (XXI). Sharp H shower, accompanied by T and L.

13th.—*Ardingly, Lywood House* (II). In 2 minutes .17 in. of R fell.—*Droitwich* (VI). From 7.45 to 8.15 a.m. .80 in. of R fell.

14th.—*Dunoon* (XV). Very severe gale, steamers in the evening were unable to embark passengers at the pier.—*Buchlyvie* (XV). S.W. gale from 5 to 7.30 p.m. Trees were uprooted.—*Tiree, Cornaigmore* (XV). Wind of hurricane force, with heavy R; very violent for 4 hours.—*Glenelg* (XVIII). Heavy gale, causing damage to trees and out-standing crops.—*Fanad* (XXIII). Fierce W.S.W. gale and incessant R.

14th.—15th.—*Llyn Llydaw, Copper Mill* (XI). The 14th was fine until 2.30 p.m., then an occasional shower to 5.15 p.m. followed by a steady downpour until 9 a.m. on 15th, when 7.18 in. was measured.

15th.—*Glyncorrwg* (XI). Great flood which washed away four cottages, and did much damage to property.—*Perth* (XVI). Tay in flood; the height of the water being 12 feet 7 inches at 5 a.m.

18th.—*Epsom* (II). Aurora, with red and green streamers, from 8.15 to 8.30 p.m.—*Meltham* (IX). Bright aurora, but very transient from 8.30 to 8.45 p.m.

23rd.—*Wimborne, Broadstone* (V). Fine lunar rainbow at 9.21 p.m.—*Bristol, Horfield* (VI). About 5.30 p.m. an unusually heavy fall of R occurred which gave the impression of a succession of small cloud bursts. It seemed to descend in volumes without waiting to fall in drops, and was succeeded by other storms of a normal type. The roads were flooded, but this was partly due to the fallen leaves which blocked the drains.—*Kendal, Holmcroft* (X). R measuring 2.18 in. caused the greatest flood for 11 years.—*Moate* (XXI). About .45 in. of R fell in half an hour.

24th.—*Talycafn, Bodnant Hall* (XI). A cloud-burst about half a mile away caused heavy local R and great damage to bridges.

25th.—*Mayfield House [Ashbourne]* (VI). S fell mingled with R, and the hills in the neighbourhood were coated with 2 inches of S.

26th.\*—*Tenterden* (II). R measuring 1·98 in. caused extensive floods in the river valleys.—*Cranbrook* (II). The heaviest fall of the year, the total R amounting to 2·95 in.—*Goudhurst Vicarage* (II). Heaviest daily fall in 40 years, the R amounting to 2·17 in.—*Staplehurst* (II). In about 6 hours 2·50 in. of R fell.—*Folkestone, Capel Lodge* (II). R amounted to 2·88 in.; 30 yards of a concrete wall, 10 feet high and 8 inches thick, were thrown down by the R.—*Brighton, Preston Drove* (II). A record fall of R, 3·15 in. being measured.—*Brighton, Preston, Ashford Road* (II). R measuring 3·35 in.—*Brighton, Ditchling Road* (II). The R amounted to 3·48 in.—*Horeham Grange* (II). The R, 2·81 in., was the heaviest ever recorded here.—*Battle, Whatlington* (II). The R measured 2·26 in., and was the heaviest daily fall since observations began in 1886.—*Heathfield, White Cottage* (II). The R measured 2·99 in.—*Robertsbridge, Salehurst* (II). The heavy R, amounting to 3·21 in., led to floods, unequalled in living memory.—*Wadhurst, Lower Cousley Wood* (II). 2·12 in. of R fell.—*Totland Bay* (II). The wettest day since 11th November, 1894, the R amounting to 2·11 in.—*East Coves* (II). The R measured 2·82 in.—*Winborne, Broadstone* (V). Heavy R; 2·12 in. fell in 24 hours. All low lying country flooded.—*Shrewton* (V). The R measured 2·51 in., and was the heaviest fall recorded for 14 years.—*Dorchester, Wollaston House* (V). The R, amounting to 2·75 in., was the heaviest daily fall in the 15 years' record.—*Tiverton* (V). River Exe high and River Lowman in flood.—*Strachur* (XV). A meteor of extraordinary size and brilliancy was seen in S.E. direction in the evening. It emerged from Pegasus in the S.E. corner of the great square and passed perpendicularly E. of the moon with Saturn to the left. Its light was white and very bright with a long fiery red tail. It appeared larger than Mars which had risen to the right.

26th—27th.\*—*St. Pancras, Camden Square* (I). R fell continuously from 10.45 a.m. on 26th to 2.40 a.m. on 27th, nearly 16 hours.

26th—28th.\*—*Maidstone* (II). Heavy R each day amounting to 4·62 in.—*Detling, The Croft* (II). The R for the 3 days yielded 4·37 in.—*Folkestone* (II). R fell measuring 5·61 in. of which 3·00 in.

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\* See also *Met. Mag.*, November, 1909, pp. 175, 182.

fell on 28th.—*Folkestone, Radnor Park* (II). Heavy R storms. The fall of 2·07 in. on 26th was the heaviest recorded for 18 years, but this was eclipsed on 28th by a fall of 2·45 in., resulting in much damage and flooding.—*Broadstairs, Providence House* (II). Heavy R each day, amounting to 5·88 in., of which 3·14 in. fell on 28th.—*St. Peter's* (II). The R for the three days totalled 5·79 in., of which 2·73 in. fell on 28th. A cloud-burst, or waterspout, must have occurred at 1 a.m. (29th) for the R coming down the chimney flooded a room.

27th.\*—*Canterbury* (II). R fell heavily nearly all day, the fall being heaviest between 5.25 and 5.31 p.m., in which time ·38 in. fell.—*Heathfield, Tottingworth Park* (II). A downpour in the morning amounting to 2·73 in., caused a flood and much damage.

28th.\*—*Ramsgate, Southwood W.W.* (II). Record fall of R, 2·96 in. being measured.—*Carlton Hall* (III). High flood in the low places.

29th.—*Clonmel* (XX). Shade min. 20°, which has only occurred in October once previously in 45 years, viz., October 20th, 1905.

29th—30th.—*Wirksworth* (VII). About an inch of S fell in the night.

30th.—*Stoke Bishop* (VI). Thick fog at night.—*Omagh, Edenfel* (XXIII). S fell from 7 to 11 a.m.

## NOVEMBER.

3rd.—*Wallington* (II). Thick fog; artificial light was used nearly all day.

11th—12th.—*Thurso, Buckies* (XIX). Incessant R on 11th amounting to 2·70 in., and causing the river Thurso to rise to an unprecedented height on 12th, the water touching the lower beam of the iron bridge at Aimster. Several land-slips occurred in the vicinity.—*Castletown* (XIX). Continuous R from 9 a.m. on 11th to 2 p.m. on 12th, amounting to 3·42 in. There was heavy flooding on the low ground, and many culverts and bridges were damaged.

13th—14th.—*Dunstable* (III). S 4 inches deep.—*Alford* (XVII). S, measuring 4½ to 5 inches on morning of 14th.

14th.—*Buntingford* (III). S storm, the total depth being about 5 inches.—*Swerford* (III). Heavy S fell from 8 to 11 a.m.—*Middlesbrough* (IX). S fell to a depth of 9 inches.

14th—18th.—*Drumnadrochit* (XVIII). Frosts of great severity,

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\* See also *Met. Mag.*, November, 1909, pp. 175, 182.

causing much damage to potatoes in the ground and in pits. Such hard frost is not remembered in this district at such an early period of the winter.

15th.—*Gravesend* (II). Vivid aurora at 8.15 a.m. — *Dulverton*, *Liscombe* (V). Quite 6 inches of S fell and lay for 5 days.

15th—18th.—*Loch Fyne* (XV). Owing to the sharp frost the upper reaches were frozen over, from Inveraray to the head of Loch Fyne, by a coating an inch thick.—*Alford*, *Lynturk Manse* (XVII). Extraordinarily hard frosts. Min. temp.  $3^{\circ}\cdot5$  on 16th.

16th.—*Glasgow* (XIV). Skating was going on in the parks, but dense fog stopped all steamer traffic on the river, and several coast towns were isolated all the time. Four people lost their lives by falling into the Clyde during the fog.

17th—20th.—*Londonderry*, *Dunruadh* (XXIII). Severe frosts, more than  $20^{\circ}$  of frost being registered each night.

25th.—*St. Pancras*, *Camden Square* (I). Fog in evening, becoming dense at 9 p.m. Traffic delayed.

27th.—*Dunmanway* (XX). T in morning.—*Darrynane Abbey* (XX). Three flashes of L and heavy peals of T at 9.30 a.m.

30th.—*Gravesend* (II). Brilliant meteor seen at 6.50 p.m.

## DECEMBER.

2nd.\*—*Shrewton* (V). Heavy S.W. gale, with sleet and R squalls.—*Wimborne*, *Broadstone* (V). Severe S.W. gale at night.

2nd—3rd.\*—*Hampstead*, *Akenside Road* (I). Remarkable gale and fall of bar., the lowest corrected reading being 28.465 in. The strong wind blew in windows, upset carts, and did much other damage in the early morning of 3rd.—*St. Pancras*, *Camden Square* (I). Squalls of great violence from between W. and S.W. at night until about 9 a.m. on 3rd. A good deal of damage was done in various parts of London, several shop windows having been blown in, and many chimneys blown down.—*Bulmer Lodge* (IV). Violent gale in night, continuing with less violence until towards evening on 3rd. Some trees were blown down.—*Edington* (V). A severe S.W. to W. gale passed up the Bristol Channel, causing serious shipwrecks.—*Birmingham* (VI). In the gale a chimney fell through the roof of a house in Sandy Lane, and killed a woman in her bed.—*Blairgowrie*,

\* See also *Met. Mag.*, December, 1909, pp. 198, 200; January, 1910, p. 229.

*Ballintuim House* (XVI). Unusually low bar., the reading at 9 a.m. on 3rd being the lowest in 10 years' record.

3rd.\*—*Udimore* (II). At 5 a.m. the bar. (corrected) stood at 28·61 in.—*Milton Bryant* (III). Two heavy gales, causing much damage to trees.—*Reepham, Whitwell Vicarage* (IV). The bar. (corrected) fell to 28·20 in., a record minimum.—*Whitney-on-Wye* (VI). The River Wye was in flood, the greatest for many years, and some sheep were drowned.—*Chelford, Astle Hall* (VIII). Violent storm from N.W. during the night and most of the day, with R, S and H. Trees were blown down and streams much flooded.—*Sowerby Bridge, Haugh End* (IX). Bar., corrected to sea level, at 4.30 a.m., 28·120 in., this being the lowest record since December 8th, 1886.—*Shipley* (IX). The highest flood in the River Aire since October 9th, 1903.—*Weardale, Cowskill* (X). Earthquake shock.—*Wearhead* (X). An earth tremor was felt in several parts. There were considerable disturbances in the lead mines.

3rd—4th.—*Chellaston* (VII). Tremendous floods in the Trent and Derwent valleys.—*Dungavel* (XIV). S fell to a depth of 8 inches between 7 p.m. on 3rd and 7 a.m. on 4th.

5th.—*Tenterden* (II). Vivid forked L at 3.27 p.m.—*Wimborne, Broadstone* (V). T, L, heavy R and H, between 3 and 3.20 p.m.

6th.—*New Malden* (II). Thick fog from 9 a.m. to noon.

7th.—*Havering Grange* (IV). Low fog with low intensity L of a dull red colour reflected on it.—*West Linton* (XIII). Shade max. only reached 19°·3.

9th.—*Inveraray* (XV). R amounting to 3·31 in., the greatest fall ever measured here.—*Ladyfield* (XV). R measured 3·59 in., and caused the greatest flood of the year.—*Arisaig House* (XVIII). R measuring 2·94 in. was the heaviest daily fall since observations began in 1883.

9th—10th.—*Ayrshire* (XIV). Heavy floods were caused by melting S as well as by the heavy R.—*Ardgour* (XV). R commenced at 11 a.m. on 9th, with a moderate S.W. wind, and at 9 a.m. on 10th totalled 4·12 in.

10th.—*Kendal* (X). The river overflowed into the town.

10th—11th.—*Lochwinnoch, Garthland* (XIV). R commenced about noon on 10th, and was slight until after sunset when it became heavy, and cleared about 7 a.m. on 11th. The fall measured 3·31 in.—*Perth* (XVI). River in flood.

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\* See also *Met. Mag.*, December, 1909, pp. 198, 200; January, 1910, p. 229.

14th.—*Plockton* (XVIII). Magnificent aurora from 5.30 to 10.30 p.m.

15th—16th.—*Dulverton, Liscombe* (V). About 9 inches of S fell.

18th.—*Drogheda* (XXI). S fell to a depth of 6 inches in a few hours.—*Drumconrath* (XXI). S fell to a depth of 6 inches at night.

18th—20th.—*Wirksworth* (VII). S storm. The fall measured 5 inches in depth on the morning of 19th, and 8 inches on the morning of 20th.—*Liscard* (VIII). Heavy falls of S at intervals. The total depth, undrifted, amounted to 11 inches.—*Castletown* (XIX). Heavy S storm which blocked the country roads. On 19th it lay about 12 inches deep on the plain, with heaps from 4 to 6 feet deep.

19th.—*Matlock* (VII). S commenced at 7 a.m. and at 9 a.m. was  $4\frac{1}{2}$  inches deep. It continued throughout the day, the total fall being 10 inches.—*Leeds* (IX). S fell for 10 hours, and the cost of clearing the streets amounted to £1,300, equal to a rate of one-sixth of a penny in the pound.—*Meltham* (IX). S fell from 7.15 a.m. to 5 p.m. to a depth of 10 inches.—*Carmarthen* (XI). Stormy night, with T, L and S.—*Collooney, Markree* (XXII). S fell to a depth of 13 inches.—*Belturbet* (XXIII). S 7 inches deep.

19th—22nd.—*Wilmslow* (VIII). S 9 inches deep, and the most remarkable fall for 40 or 50 years.

20th.—*Chelford, Astle Hall* (VIII). About 8 inches of S on ground.—*Clonmel, Bruce Villa* (XX). The coldest day since February, 1900; shade min.  $11^{\circ}$ .

21st.\*—*Kingskerswell, Edginswell* (V). Between 6 p.m. on 21st and 6 a.m. on 22nd, 2.44 in. of R fell.—*Wimborne, Broadstone* (V). After  $12^{\circ}$  of frost in early morning a sharp thaw set in at midday, and the wind changed from N.E. to S.E. S, sleet and H showers fell during evening, but by 9 p.m. the S had turned to R, which fell very heavily.—*Ottery St. Mary* (V). R amounting to 2.33 in. produced a large flood.—*Combe Raleigh* (V). Sudden thaw, and at night 2.00 in. of R fell in from 4 to 6 hours, causing floods in the Otter Valley, and much damage to roads and culverts.—*Uffculme, Bullmoor* (V). R fell on frozen ground in the night and caused the worst floods known here for 16 years.—*Chard* (V). Heavy R amounting to 2.07 in. The streets were torn up to a depth of about 2 feet.—*Pembroke* (VI). S  $3\frac{1}{2}$  inches deep, followed by heavy R and high floods.—*Hodsock Priory* (VII). Temp. fell to  $2^{\circ}9$  in the screen, and  $-7^{\circ}3$  on the grass.—*Bolton-upon-Dearne* (IX). Heavy storm of R and wind in the early

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\* See also *Met. Mag.*, January, 1910, p. 229.

morning. The low lying land on both sides of the river Dearne was flooded for a considerable distance.—*Strata Florida, Hafod* (XI). Heavy S. The wind drove the S through roofs and cottage windows, and it was said to be 3 feet deep in a cottage bedroom. The local doctor left his carriage in a drift and the next day it was buried and could not be found.—*Cork, The Palace* (XX). The R, amounting to 1·86 in., was the heaviest fall since September 21st, 1901.—*Rathmines, Leinster Road* (XXI). Temp. fell to 11°·8, the lowest recorded since 1895, allowing of one day's skating.—*Ballindoney* (XXI). Shade min. 15°, the lowest temp. recorded since February, 1895.

21st—22nd.\*—*High Clundon* (II). The whole countryside was flooded by the heavy R which fell during the night.—*Sidmouth* (V). River very high; some wooden bridges were washed away.—*Crediton Okefield* (V). Between 6 p.m. on 21st and 5 a.m. on 22nd 1·65 in. of R fell, and the ground being frozen serious floods resulted.—*Tipton, St. John* (V). The heavy R caused a great flood in the River Otter, which wrecked the Post Office and damaged the railway line so seriously that traffic on the Budleigh Salterton line had to be stopped.—*Tiverton* (V). R commenced at 7.30 p.m. on 21st and 1·39 in. fell in less than 12 hours. The Exe was in flood, and as the ground was frozen hard none of the R could soak in until the thaw on the morning of 22nd.—*Lannceston, Landue* (V). Rapid thaw at 4 p.m. on 21st. R began to fall at 5.30 and continued through the night, amounting to 1·58 in. The rivers were in flood by 7 a.m. on 22nd.

22nd.\*—*Tenterden* (II). Floods in the valleys.—*Meltham* (IX). Severe gale from midnight to 6 a.m. S fell at first and then R, yielding 1·00 in.—*Plas Draw* (XI). A S blizzard at night blocked most of the roads in drifts.—*Buchlyvie* (XV). Four inches of S fell.

22nd—23rd.—*Arminster* (V). The ground was frozen hard when R began to fall, which, in 24 hours, amounted to 2·95 in. Roads were torn up, and bridges, gates and fences were carried away.

23rd.—*Merthyr* (XI).

“A landslip occurred on Thursday night at Pontsarn, near Merthyr, a large tract of main roadway, which passes round a hill, giving way bodily and going over the lower slope into the valley. What remains of the roadway is insufficient for vehicular traffic, and repairs will occupy several weeks. The collapse is believed to be due to the bursting of an underground culvert flooded by the recent storm.”—*The Times*.

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\* See also *Met. Mag.*, January, 1910, p. 229.

## OBSERVERS' NOTES ON THE MONTHS.

## JANUARY.\*

## ENGLAND.

I. LONDON.—*Hampstead, Akenside Road*. Never really cold until 20th, when temp. fell below  $40^{\circ}$  and did not reach it again. Severe frosts on the last 8 nights. Mean temp.  $36^{\circ}\cdot 8$ .—*St. Pancras, Camden Square*. Dull, sunless conditions characterized the first week, but the following fortnight was fair or fine with much wind between 13th and 18th. Severe frosts occurred in the last week, with unusually dense fog throughout 27th, 28th, and to noon on 29th. Duration of sunshine 44·6 hours, and of R 19·0 hours. Mean temp.  $38^{\circ}\cdot 5$ , or  $0^{\circ}\cdot 4$  above the average. R 1·27 in., or 64 per cent., below the average of 50 years.

II. SOUTH EASTERN COUNTIES.—*Weybridge*. Fine, mild and sunny to 20th, then cold with frosts each night to end. Mean temp.  $37^{\circ}\cdot 0$ .—*Wallington*. Duration of sunshine 46·4 hours (Jordan), was slightly above the average. Mean temp.  $38^{\circ}\cdot 2$ .

III. SOUTH MIDLAND COUNTIES.—*Harrow Weald*. R 1·13 in. below the average of 20 years.—*Mill Hill*. Duration of sunshine 67·4 hours.—*Goring*. Dry, and distinguished by many beautiful days. Mild in the early part, but continuous cold reigned during the last part with fog in the valleys, though often bright sunshine on the hills.

IV. EASTERN COUNTIES.—*Copdock*. Mild and still at first but ending in a spell of brilliant frost, with a good deal of sunshine. Curiously free from fog. Duration of sunshine 72·6 hours. Mean temp.  $37^{\circ}\cdot 0$ .

V. SOUTH WESTERN COUNTIES.—*Ashburton, Druid*. R 2·96 in. below the average of 44 years.—*Sidmouth*. Duration of sunshine 66·1 hours. Mean temp.  $40^{\circ}\cdot 9$ .

VI. WEST MIDLAND COUNTIES.—*Cirencester*. Except for a rough period from 13th to 18th the month was quiet, with a great deal of fog but little R.—*Mayfield House [Ashbourne]*. Comparatively mild till 20th, then very cold for 8 days. Duration of sunshine 51·5 hours.

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\* See also *Met. Mag.*, February, 1909, pp. 7, 8, 19; March, 1909, p. 25.

VII. NORTH MIDLAND COUNTIES.—*Louth*. R 1·46 in. below the average of 37 years.—*Buxton*. R 2·12 in. below the average of 35 years. Duration of sunshine, 58·0 hours, was 29·8 hours above the average. Mean temp. 35°·3.

VIII. NORTH WESTERN COUNTIES.—*Chatburn*. R 1·33 in. below the average of 20 years.—*Broughton-in-Furness*. The driest January since 1897 and the third driest in 30 years. Strong winds and damp, mild weather in first three weeks, then frosty and cold.

XI. WALES.—*St. Asaph*. The first week was dull and mild, with light breezes from S.W., but from 7th to 18th strong winds and gales were prevalent from between N.W. and S.W. Colder weather prevailed from 19th to 28th with light breezes from the S.E. quarter.

### SCOTLAND.

XII. SOUTHERN COUNTIES.—*Moniaive*. R 2·42 in. above the average. From 13th to 18th 4·93 in. of R fell, causing a heavy flood.

XV. WEST MIDLAND COUNTIES.—*Kilsyth*. The month opened with moderate weather, but it became rough on 11th, sleet and R falling till the morning of 15th, when all was white and bad for walking. Heavy S fell on 16th, but after 18th the weather was fine and dry with sharp frosts in the mornings.—*Buchlyvie*. R 1·77 in. above the average of 20 years.

XVIII. NORTH WESTERN COUNTIES.—*Glenelg Manse*. The first three weeks were stormy and wet, the last ten days drier and milder. The S storm in the middle of the month was less severe than in many places in the south, the fall averaging 4 inches. This was followed by heavy floods, but fortunately no damage was done.—*Drumadrochit*. R 1·37 in. above the average of 23 years.

XIX. NORTHERN COUNTIES.—*Castletown*. At the opening the country roads were blocked with S and the mails were unable to get through from 28th December to 2nd January. The road to Thurso was cleared by 4th, and to Wick by 7th. S lay in frozen heaps on the roadside and in shaded places throughout the whole month.

### IRELAND.

XXI. LEINSTER.—*Ballybrack*. R 1·78 in. below the average of 30 years.

XXII. CONNAUGHT.—*Ballinasloe*. Although there were few rain days, yet the gales, S and R, from about 13th to 17th, caused such widespread floods that great damage was caused.

XXIII. ULSTER.—*Banbridge, Milltown*. R 73 in. above the average of 45 years.

## FEBRUARY.\*

### ENGLAND.

I. LONDON.—*St. Pancras, Camden Square*. The greater part of the month was fair or fine and unusually dry, but the closing days were wintry and S fell on every day from 25th to 28th. A feature of the month was the consistently low min. temp., the mean, 30°·3, being the lowest February value since the memorable frosts of 1895. Duration of sunshine 66·9 hours, and of R 32·1 hours. Mean temp. 36°·6, or 3°·2 below the average. R 1·12 in., or 69 per cent., below the average of 50 years.

II. SOUTH EASTERN COUNTIES.—*Epsom*. Fine and dry with frequent frost, S setting in towards the close. From 18th to 21st the weather was brilliant and cloudless. A feature of the month was the exceptionally thick deposits of hoar frost on grass and trees. Mean temp. 35°·5.—*Wallington*. Garden produce much cut up. Duration of sunshine 62·5 hours (Jordan). Mean temp. 36°·6, or 2°·1 below the average.—*Patching*. The driest February since 1895.—*Fordingbridge*. The driest February since 1895, and the third driest in 34 years.—*Hartley Wintney*. The coldest February since 1895, and the driest since 1891.

III. SOUTH MIDLAND COUNTIES.—*Harrow Weald*. R 1·13 in. below the average of 20 years.—*Mill Hill*. Duration of sunshine 92·6 hours.—*Culham Vicarage*. Dry and cold, particularly during the last half. R was badly needed for the water supply.

IV. EASTERN COUNTIES.—*Saffron Walden*. R 1·15 in. below the average of 34 years.—*Copdock*. After three warm days at the opening the weather was persistently cold and still. A wonderful spell of sunshine occurred from 18th to 24th. Duration of sunshine 86·4 hours. Mean temp. 36°·0.—*Norwich*. R was greatly deficient and water was much needed in country districts.

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\* See also *Met. Mag.*, March, 1909, pp. 25, 26, 41.

V. SOUTH WESTERN COUNTIES.—*Woodborough*. At the end of the month the water in the deep Heath well was 33 feet lower than at the same time in 1908.—*Rousdon*. The driest February since 1895 when only .06 in. was recorded.—*Tiverton*. An unusually dry month. From 14th to 24th the weather resembled a Swiss winter with clear blue skies, warm sunny days and frosty nights.

VI. WEST MIDLAND COUNTIES.—*Clifton*. The driest February since 1896, the R only one quarter of the average.—*Mayfield House* [*Ashbourne*]. Duration of sunshine 81.7 hours. Mean temp. 34.7.

VII. NORTH MIDLAND COUNTIES.—*Louth*. R 1.03 in. below the average of 37 years.—*Mansfield*. Fine and dry, but with frost nearly every night. A fine bright spell prevailed from 12th to 25th, and from 16th to 20th the sky was absolutely cloudless.—*Burton*. R 1.67 in. below the average of 35 years. Duration of sunshine 83.0 hours, or 34.0 hours above the average. Mean temp. 34°·3, or 1°·8 below the average.

VIII. NORTH WESTERN COUNTIES.—*Chatburn*. R 1.70 in. above the average of 20 years.—*Blackpool*. Dry, cold and sunny, with E. winds prevailing throughout. R 1.27 in. below the average of 35 years. Duration of sunshine 93.2 hours, or 30.2 hours above the average. Mean temp. 37°·9, or 1°·4 below the average.

XI. WALES.—*Llanfrechfa Grange*. Owing to the deficient R the springs were getting low. Temp. was low and vegetation was much checked.—*Preccelley, Henry's Mount*. Cold and bleak until the end. The last few days being like summer greatly favoured the lambing for which the district is noted.

#### SCOTLAND.

XVI. EAST MIDLAND COUNTIES. — *Compar Angus*. The least February R since 1891. Mean temp. 36°·9.

XVIII. NORTH WESTERN COUNTIES.—*Drumnadrochit*. R 1.29 in., and rain days 6, below the average of 23 years.

#### IRELAND.

XX. MUNSTER.—*Fethard-on-Sea*. Dry and generally cold, especially during the last week.

XXI. LEINSTER.—*Abbey Leix*. The driest February since 1874, excepting only 1891.—*Ballybrack*. R 1.74 in. below the average of 30 years.—*Rathmines*. The driest February since 1895, but unlike

that month which was the coldest on record, this was a mild month, the only really severe day being the 28th.—*Balbriggan*. The driest February since 1893.—*Pakenham Hall*. The best February experienced for some years. There was a considerable amount of sunshine and although, for the greater part, it was accompanied by cold winds, it proved very beneficial to the country.

XXIII. ULSTER.—*Banbridge, Milltown*. R  $\cdot 67$  in. below the average of 45 years.—*Sion Mills*. The first ten days were stormy and unsettled, and heavy R on 2nd, 3rd and 4th threatened a repetition of the floods of last month. A sudden change to fine weather occurred on 11th, but the last week was rather dull, cold and unsettled.—*Fanad, Tanney*. The weather was distinctly favourable, for although the R was up to the average the number of rain days was much below it. After an exceedingly wet period from 2nd to 9th excellent spring weather set in and ploughing was well advanced. A cold spell commenced on 24th, and the weather at the close was wintry. Mean temp.  $41^{\circ}7$ .

### MARCH.\*

#### ENGLAND.

I. LONDON.—*St. Pancras, Camden Square*. The weather was dull and cheerless almost throughout, with much R and S. Bar. always below 30 in., and average bar. the lowest for March in record of 52 years. Duration of sunshine  $59\cdot7$  hours, and of R  $94\cdot0$  hours. Mean temp.,  $39^{\circ}8$ , or  $2^{\circ}3$  below the average, being equal to the average for February. R  $1\cdot16$  in., or 69 per cent., above the average of 50 years.

II. SOUTH EASTERN COUNTIES.—*Abinger Hall*. One of the coldest months in memory. S, R, H, frost and sleet made it impossible to touch the land, and there was much sickness everywhere owing to the cold.—*Warlingham*. The first half was very cold, with much S, while the latter half was milder but with copious falls of R. Gardening operations were greatly retarded, and much sickness prevailed.—*Epsom*. An unusually wet month, R or S falling on no fewer than 28 days. A heavy S fall occurred at the opening culminating in a depth of 10 inches on 3rd and 4th, and further slight falls occurred to 17th. Mean temp.  $38^{\circ}1$ .—*Wallington*. Duration of sunshine,  $60\cdot9$  hours

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\* See also *Met. Mag.*, April, 1909, pp. 45, 47, 61.

(Jordan), was the least, and number of rain days, 28, was the greatest in the record. The coldest March since 1900, and the wettest since 1897. Extremely unhealthy month, and many deaths occurred.—*Detling*. Work was very much hindered. Very little Lent corn was sown, and in some cases the ground was not even ploughed. Hop dressing was hardly commenced.

III. SOUTH MIDLAND COUNTIES.—*Harrow Weald*. R 1·04 in. above the average of 20 years.—*Mill Hill*. Duration of sunshine 72·6 hours.—*Goring*. Abnormally great R and long continued cold, with absence of sunshine, and frequent piercing winds. Everything was backward and no sowing was possible.—*Cambridge, Sydney Street*. The wettest March in 36 years, excepting only 1896.

IV. EASTERN COUNTIES.—*Copdock*. A worse March could not well be imagined. Intensely cold to 17th, and sunless and wet throughout. The garden was very backward and such flowers as appeared were spoiled by the cold and wet. Duration of sunshine 72·3 hours. Mean temp. 38°·7.

V. SOUTH WESTERN COUNTIES.—*Warminster*. The wettest March in the 35 years' record.—*Winterbourne Steepleton*. The coldest March since the record began in 1893, and also the wettest except 1905.—*Ashburton, Druid*. R 3·98 in. above the average of 44 years.—*Sidmouth*. The wettest March in the 28 years' record.

VI. WEST MIDLAND COUNTIES.—*Mayfield House [Ashbourne]*. Duration of sunshine 84·2 hours. Mean temp. 36°·5.—*Worcester*. The first three weeks were very cold and the severest part of the winter. The last week was milder but there was no really fine day in the month, and garden operations were much delayed.

VII. NORTH MIDLAND COUNTIES.—*Louth*. R 1·91 in. above the average of 37 years, and the wettest March in that period.

VIII. NORTH WESTERN COUNTIES.—*Chatburn*. R ·79 in. below the average of 20 years.—*Blackpool*. Wintry weather was experienced during the early part, and the climatic conditions were generally unsettled. R ·47 in. above the average of 35 years. Duration of sunshine, 109·9 hours, slightly above the average. Mean temp. 38°·6.

IX. YORKSHIRE.—*Multon*. The heaviest March R since 1888.

X. NORTHERN COUNTIES.—*Newcastle*. The wettest March in 42 years except 1888.—*Ilderton*. Remarkable for heavy R and S fall, absence of sunshine and of wind, and low temp. Late seed time, and everything very backward.

## SCOTLAND.

XIII. SOUTH EASTERN COUNTIES.—*Whittingehame Gardens*. The wettest March since the record began in 1890.—*Cockburn Hill*. Much S, T, R and cold winds. Roads were partly blocked at the beginning and some S was still lying at the close.

XV. WEST MIDLAND COUNTIES.—*Holy Loch, Ardnadam*. Predominating E. winds, with dry, dull and dismal weather. Unhealthy, and backward so far as vegetation is concerned.—*Buchlyvie*. R 1·36 in. below the average of 20 years.

XVI. EAST MIDLAND COUNTIES.—*Coupar Angus*. Memorable for the S storm in the second week and for the absence of any severe frosts. The day and night temp. was very low throughout, and the R was 1·40 in. above the average.

XVII. NORTH EASTERN COUNTIES.—*Alford*. Severe S storms began on 6th and 18th. The S lay very deep and at the close was still a foot or two deep on the roads.

XVIII. NORTH WESTERN COUNTIES.—*Drumnadrochit*. R 1·03 in. below, and rain days 2 above, the average of 23 years.

## IRELAND.

XX. MUNSTER.—*Dunmanway*. Cold and dry up to the evening of St. Patrick's Day, but the last fortnight was mild and changeable. The days were unusually fine, most of the R falling at night.—*Fethard-on-Sea*. Cold and dry till 18th when a heavy S.E. gale, with bar. reading 28·87 in., brought very wet but milder weather.

XXI. LEINSTER.—*Rathmines*. The month commenced with mid-winter conditions, and the temp. never reached 40° until 7th. A prolonged cold thaw succeeded the arctic spell, but although temp. rose many degrees after 17th there was not one springlike day in the month, which closed with densely clouded skies, almost constant R, haze and gloom.

XXIII. ULSTER.—*Banbridge, Milltown*. R 1·62 in. above the average of 45 years.—*Sion Mills*. The first half was very wintry, the max. temp. only exceeding 40° on two occasions. The latter half was slightly milder but very wet, and vegetation was much behind.—*Fanad, Tamney*. Weather of great severity; small R and large number of rain days. S fell on 9 days, but gales were not severe. A brief but pleasant spell of fine weather prevailed from 20th to 27th, but the month ended dull, stormy and cold.

## APRIL.\*

## ENGLAND.

I. LONDON.—*St. Pancras, Camden Square*. April showers were less frequent than usual, there being no R until 12th, and half the subsequent total falling in less than nine hours on two days. The duration of sunshine, 218·5 hours, was unusually great, and there was only one sunless day. Records of 10 hours or more occurred on 7 days, and on 25th the duration was 11·8 hours. Duration of R 32·7 hours. Mean temp. 49°·8, or 1°·7 above the average. R ·26 in., or 16 per cent., above the average of 50 years.

II. SOUTH EASTERN COUNTIES.—*Abinger Hall*. No R until the 12th and then showery and growing weather to the end.

III. SOUTH MIDLAND COUNTIES.—*Mill Hill*. Duration of sunshine 243·5 hours.—*Heddon*. Fine and dry till 19th, then glorious spring weather, with copious R and much sunshine.

IV. EASTERN COUNTIES.—*Copydock*. A lovely month, with more than 250 hours of sunshine. The R towards the close was much needed as everything was very dusty and hard. Mean temp. 48°·4.

V. SOUTH WESTERN COUNTIES.—*Edlington*. A fine spring month, much more genial than usual. The weather of Easter was brilliant in the extreme and did much to advance vegetation.

VI. WEST MIDLAND COUNTIES.—*Temple Guiting*. A favourable month for farmers. The first half was dry with fairly warm days and no frosts at night, and the latter half showery and mild.—*Church Stretton, Wolstaston*. Very dry for tillage to 11th, but cold and wet from 17th to the end, making growth generally very backward.—*Mayfield House [Ashbourne]*. Duration of sunshine 216·2 hours. Mean temp. 45°·3.

VII. NORTH MIDLAND COUNTIES.—*Louth*. R ·23 in. above the average of 37 years.—*Burton*. R ·14 in. above the average of 35 years. Duration of sunshine 239·0 hours, or 113·0 hours above the average. Mean temp. 43°·9.

VIII. NORTH WESTERN COUNTIES.—*Chatburn*. R 1·78 in. above the average of 20 years.—*Blackpool*. Dry to 12th, but showery and changeable during the remainder of the month. R 1·06 in. above the average of 35 years. Duration of sunshine 217·4 hours, or 63·4 hours above the average, with only one sunless day. Mean temp. 46°·5, or slightly above the average.

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\* See also *Met. Mag.*, May, 1909, pp. 65, 81.

X. NORTHERN COUNTIES.—*Ilderton*. Fairly good weather to 12th, but from then to the end it was cold and sunless, with much R. Farming operations were very backward, and much corn had still to be sown.

### SCOTLAND.

XV. WEST MIDLAND COUNTIES.—*Buchlyvie*. With the exception of a few fine days round the 7th, the weather was very changeable with frequent ground frosts at night checking vegetation. R 2·26 in. above the average of 20 years, and, except in 1904, the largest April amount in the record. About the middle the ground became so saturated that farm work was practically at a standstill.

XVI. EAST MIDLAND COUNTIES. — *Coupar Angus*. The wettest April since 1898. The weather was favourable for seed sowing until the 12th, but thereafter it was cold, wet and cloudy to the end.

XIX. NORTHERN COUNTIES.—*Altnaharra*. Cold, with keen frosts occasionally at night. Heavy S showers during the last few days stopped all outdoor work.—*Buckies*. The best seed time experienced in Caithness for many years, work never being stopped by R.—*Castletown*. Although there was heavy R during the night of 3rd—4th, and the last two days were rough and cold with H and S, the weather was very favourable for the downlay of crops.

### IRELAND.

XX. MUNSTER.—*Dunmanway*. R fell without cessation from 2 p.m. on 1st to 2 p.m. on 4th, with fairly high bar. and S.E. wind. A fine warm week followed with frosts at night, and from 12th to 21st old-fashioned April weather prevailed, heavy showers alternating with bright sunshine. The last week was cold, with frosts at night.—*Darrynane Abbey*. The wettest April in 30 years.

XXI. LEINSTER.—*Ballybrack*. R 2·33 in. above the average of 30 years.—*Rathmines*. Although the wettest April since the record began in 1882, it was by no means an unfavourable month. A heavy R storm from 2nd to 4th was succeeded by brilliant weather, and temp. rose to 69°·8 on 10th. The remainder of the month was of typical April character, with alternate showers and sunshine.

XXII. CONNAUGHT.—*Ballinasloe*. The wettest April in 38 years.

XXIII. ULSTER.—*Banbridge, Milltown*. R ·77 in. above the average of 45 years.—*Sion Mills*. The first few days were stormy, with cold

wind from S. and S.E., and much R. The weather from 5th to 10th was exceptionally fine, but the remainder of the month had typical April weather, showers nearly every day with a fair proportion of sunshine.—*Fanad, Tumney*. Favourable from a farmer's point of view, with frequent R and a good proportion of genial sunshine. Unusual warmth prevailed during Holy Week, which was more like June than April. Less favourable conditions set in on Easter day, and the close was severe and wintry. Mean temp.  $45^{\circ}7$ .

### MAY.\*

#### ENGLAND.

I. LONDON.—*St. Pancras, Camden Square*. Fine, dry and sunny generally, there being but little R until 24th, but on this and the three succeeding days 1.53 in., or 85 per cent. of the total for the month, fell. The duration of sunshine, 276.1 hours, was the greatest for any month since the record began, and there were no sunless days. Duration of R 28.3 hours. Mean temp.  $54^{\circ}5$ , or  $0^{\circ}5$  above the average. R .07 in., or 4 per cent., below the average of 50 years.

II. SOUTH EASTERN COUNTIES.—*Epsom*. A brilliant month throughout, with an almost complete absence of R until the last week. Mean temp.  $52^{\circ}2$ .—*Wallington*. The duration of sunshine, 288.6 hours (Jordan), was the greatest ever recorded in May.—*Broughton*. Almost unbroken sunshine occurred daily throughout. The drought and winds during the first half were very trying to vegetation, and the nights were cold.

III. SOUTH MIDLAND COUNTIES.—*Harrow Weald*. R .24 in. below the average of 20 years.—*Mill Hill*. The sunniest May remembered; duration of sunshine 293.6 hours. Max. temp. exceeded  $70^{\circ}$  on seven days, and reached  $80^{\circ}$  on one.—*Slough, Upton*. Much E. wind, especially in the early part. Hot days and cold nights prevailed, and on 22nd the shade max. reached  $82^{\circ}5$ . The duration of sunshine, 312.9 hours, surpassed the previous record and was 111 hours in excess of the average. Blossom was prodigious in quantity.—*Goring*. The first three weeks were marked by continuous cold winds, with bright sunshine and absence of R, which brought about a serious outlook for the hay harvest, and which later R did little to improve. The amount of sunshine was abnormally great. The total R is very

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\* See also *Met. Mag.*, June, 1909, pp. 88, 101; July, 1909, p. 111.

misleading owing to the incidence. There was practically none until 24th on which day  $\cdot 86$  in., or nearly half the total for the month, fell.

IV. EASTERN COUNTIES.—*Copdock*. Both the lowest and highest temp. ever recorded in May occurred within a week, viz., min.  $30^{\circ}0$  on 15th, max.  $83^{\circ}0$  on 22nd. Disastrous frosts occurred about the middle, doing great damage to fruit, and the R at the close was much needed. The duration of sunshine, 270·7 hours, was unusually great. Mean temp.  $52^{\circ}2$ .

VI. WEST MIDLAND COUNTIES.—*Hoar Cross*. The duration of sunshine, 250·5 hours, constituted a record, and there were no sunless days.—*Mayfield House* [*Ashbourne*]. Duration of sunshine 240·0 hours. Mean temp.  $48^{\circ}7$ .—*Worcester*. Unusually dry, with an absolute drought of 23 days. Fine and bright with high temp. on the whole, although the week between 10th and 18th was quite wintry. Ground frosts occurred almost every night, and R of great value to farmers and gardeners began on 24th.

VII. NORTH MIDLAND COUNTIES.—*Louth*. R  $\cdot 95$  in. below the average of 37 years.—*Buxton*. R  $\cdot 63$  in. below the average of 35 years. Duration of sunshine 252 hours, or 95 hours above the average. Mean temp.  $48^{\circ}4$ .

VIII. NORTH WESTERN COUNTIES.—*Blackpool*. R  $\cdot 10$  in. above the average of 35 years. The duration of sunshine, 287·9 hours, was 84·9 hours above the average, and exceeded all previous records. There were no sunless days. Mean temp.  $49^{\circ}6$ .—*Broughton-in-Furness*. The first 21 days were mostly fine with only  $\cdot 39$  in. of R on 5 days, but of the last 10 days 8 were wet and had 3·02 in. of R. Frosts at the beginning and in the middle of the month did a good deal of damage to potatoes.

XI. WALES.—*St. Asaph*. The first three weeks were characterized by almost no R with cold winds, and grass crops were much retarded. Warmer weather was experienced from 19th to 25th, and moderate R fell from 24th to the end, but the total R amounted to less than 39 per cent. of the average.

## SCOTLAND.

XV. WEST MIDLAND COUNTIES.—*Buchlyvie*. R  $\cdot 94$  in. above the average of 20 years.

XVIII. NORTH WESTERN COUNTIES.—*Drumnadrochit*. R  $\cdot 65$  in., and rain days 2, above the average of 23 years.

## IRELAND.

XX. MUNSTER.—*Clonmel*. There were 7 clear days and 15 with but little cloud. The records in the last 44 years show no other case of such severe frost so late in the month. Gardens were much injured.—*Miltown Malbay*. Dry, frosty and cold; incalculable damage was done to potato crop.

XXI. LEINSTER.—*Rathmines*. Except during the last week, which was changeable and showery, brilliant sunshine prevailed almost throughout. The max. temp.,  $76^{\circ}1$  on 21st, was the highest, and the min. temp.,  $29^{\circ}8$  on 2nd, was the lowest, in May since 1888.—*Pakenham Hall*. Late frosts and continued drought in the early part did considerable damage to crops, especially potatoes.

XXIII. ULSTER.—*Banbridge, Milltown*. R  $1\cdot07$  in. below the average of 45 years.—*Belfast*. The finest May since 1896. The R at the end was most welcome, and of real service to farmers.—*Funad, Tannoy*. Although there was an unusual amount of sunshine the month was cold and rough, with biting N.E. winds which continued boisterous throughout. Vegetation and farming were backward owing to the deficient R and want of heat. Mean temp.  $50^{\circ}2$ .

## JUNE.\*

## ENGLAND.

I. LONDON.—*Fulham, West Kensington*. The coldest June in 26 years, the mean temp. being  $4^{\circ}9$  below the average. R nearly double the average.—*St. Pancras, Camden Square*. With the exception of the third week, which was fine and sunny, the weather throughout was of a cheerless nature. Cloudy skies and frequent R were associated with some remarkably low temp. records. Duration of sunshine  $91\cdot9$  hours, and of R  $56\cdot1$  hours. Mean temp.  $55^{\circ}6$ , or  $4^{\circ}8$  below the average, and the lowest in the 52 years' record. R  $1\cdot49$  in., or 65 per cent. above the average of 50 years.

II. SOUTH EASTERN COUNTIES.—*Epsom*. Wet, sunless and cold. Max. temp. of  $70^{\circ}$  or above was recorded on only two days, and  $65^{\circ}$  or above on only six. Mean temp.  $54^{\circ}2$ .—*Wallington*. The duration of sunshine,  $93\cdot0$  hours (Jordan), and the mean temp.  $54^{\circ}3$ , were the lowest June values in the record.—*Heathfield*. A cold, uneventful month. Overcoats were worn in the day and winter quilts at night.

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\* See also *Met. Mag.*, July, 1909, pp. 106, 107, 108, 110, 121.

III. SOUTH MIDLAND COUNTIES.—*Harrow Weald*. R 1·44 in. above the average of 20 years.—*Mill Hill*. A remarkably sunless month, the duration of sunshine, 102·4 hours, being only 10 hours greater than in February, and 141 hours less than in April. The max. temp. never reached 70°, and there were three grass frosts.—*Hitchin*. The coldest June since 1849, and the wettest on record with three exceptions.—*Throcking Rectory*. The coldest June in 30 years.—*Swerford*. R 2·46 in. above the average of 15 years, and the greatest June fall in the period.—*Stretham*. The wettest June since 1879.

IV. EASTERN COUNTIES.—*Copdock*. Cold, wet, sunless and most disquieting weather. The duration of sunshine, 102·6 hours, was little more than one-third of that registered in May, and the R was the greatest on record for June. Mean temp. 54°·4.—*Colchester, Lexden*. The wettest June since the record began in 1889.

V. SOUTH WESTERN COUNTIES.—*Weymouth*. Duration of sunshine 153·1 hours. Mean temp. 55°·8.—*Torquay*. The wettest June on record except 1879 and 1891.—*Rousdon*. The wettest June since observations began in 1883. The duration of sunshine was only half that recorded in May, and TSS were unusually frequent.

VI. WEST MIDLAND COUNTIES.—*Mayfield House* [*Ashbourne*]. Duration of sunshine 111·3 hours. Mean temp. 51°·9.

VII. NORTH MIDLAND COUNTIES.—*Louth*. R ·34 in. above the average of 37 years.—*Grimsby*. Bitterly cold and wild, and would have made a very good November. Remarkably little sunshine, but strong E. and N. winds. Overcoats were worn generally most of the month.—*Hodsock Priory*. Dull and very cold, with a good deal of R in the last fortnight. The mean temp. and duration of sunshine were both lower than in any previous June since the record commenced.

VIII. NORTH WESTERN COUNTIES.—*Chatburn*. R ·36 in. below the average of 20 years.

IX. YORKSHIRE.—*Lowthorpe*. The wettest June since 1894.—*Ingleby Manor*. The wettest June recorded in 25 years.

X. NORTHERN COUNTIES.—*Burnopfield*. Cold and unseasonable. Cold winds from N.E. prevailed all the first half, and a great deal of R fell in the latter part.

XI. WALES.—*St. Asaph*. Generally fine but cold, with persistent N. and E. winds to 18th and then R daily to 28th. Frequent heavy showers and slight TSS on 23rd and 24th. Crops were late and hay crop scanty owing to the long period of dry weather.

## SCOTLAND.

XV. WEST MIDLAND COUNTIES.—*Kilsyth*. A strong drying E. wind during the first fortnight checked growth, but the R at the end refreshed vegetation again.—*Buchlyvie*. R .55 in. below the average of 20 years.

XVIII. NORTH WESTERN COUNTIES.—*Glenelg Manse*. The lowest R of any month since May, 1901, but while dry it was cold almost throughout, with N. and N.E. winds. The only real warmth came during the last two days, and the long drought was unfavourable to growing crops.—*Drumnadrochit*. R .94 in., and rain days 2, below the average of 23 years.

## IRELAND.

XXI. LEINSTER.—*Rathmines*. Although practically rainless until 20th the weather was by no means summerlike, and several of the rainless days were sunless as well. Temp. exceeded 70° on one day only, and failed to reach 60° on 8 days. Polar winds mostly prevailed but never exceeded the force of a moderate breeze.

XXIII. USTER.—*Banbridge, Milltown*. R .17 in. below the average of 45 years.—*Fanad, Tamney*. Dry, harsh, comparatively sunless and very cold, with persistent N.E. winds. There was nearly a drought during the first half, and the hay crop was unusually short. Mean temp. 52°·2.

## JULY.\*

## ENGLAND.

I. LONDON.—*St. Pancras, Camden Square*. Changeable weather prevailed throughout, fine, bright days alternating with cloud and R. Duration of sunshine 163·0 hours, and of R 53·3 hours. Mean temp. 61°·4, or 1°·9 below the average. R 1·14 in., or 49 per cent., above the average of 50 years.

II. SOUTH EASTERN COUNTIES.—*Epsom*. Another wet month, with low temp. and clouded skies. Squally conditions prevailed from 21st to 26th. On only 11 days did the temp. reach 70°. A feature of the month was the continued persistence of the R. Mean temp. 60°·2.—*Wallington*. Cold, cloudy, wet and very unhealthy. R .59 in.

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\* See also *Met. Mag.*, August, 1909, pp. 126, 137.

above the average. Duration of sunshine 164·9 hours (Jordan), or 50·7 hours below the average. Mean temp.  $60^{\circ}4$ , or  $2^{\circ}3$  below.

III. SOUTH MIDLAND COUNTIES.—*Harrow Weald*. R ·92 in. above the average of 20 years.—*Mill Hill*. Duration of sunshine 165·3 hours.—*Goring*. As in June there was an absence of summer conditions, with abnormally low temp., little sunshine, and much R.

IV. EASTERN COUNTIES.—*Copdock*. If possible a worse month than June, being continuously wet, with one or two disastrous R storms. Agriculture in the district was in a most critical condition. Duration of sunshine 173·2 hours. Mean temp.  $59^{\circ}8$ .

V. SOUTH WESTERN COUNTIES.—*Weymouth*. Duration of sunshine 227·6 hours. Mean temp.  $60^{\circ}6$ .

VI. WEST MIDLAND COUNTIES.—*Mayfield House* [*Ashbourne*]. Duration of sunshine 152·6 hours. Mean temp.  $57^{\circ}2$ .—*Worcester*. Dull, chilly and damp, with some few fine days but none really summerlike. The hay crop was harvested with difficulty and much was still out at the close. Strawberries and other small fruit were very plentiful.

VII. NORTH MIDLAND COUNTIES.—*Louth*. R 1·75 in. above the average of 37 years.—*Chellaston*. Unsettled, cold and stormy, with heavy westerly winds. The hay harvest was much delayed, and damage done to the crops.—*Buxton*. R 1·00 in. above the average of 35 years. Duration of sunshine 173·0 hours, or 8·2 hours above, and mean temp  $55^{\circ}4$ , or  $2^{\circ}4$  below, the average.

VIII. NORTH WESTERN COUNTIES.—*Macclesfield*. R 1·56 in. above the average of 57 years.—*Chatburn*. R 3·15 in. above the average of 20 years, and the heaviest fall for July in that period.—*Blackpool*. Cool and unseasonable, especially during the latter part when the climatic conditions were characteristic rather of March than of July. Most of the R fell on 6 days, and the month's fall was 1·80 in. above the average of 35 years. Duration of sunshine 172·3 hours. Mean temp.  $57^{\circ}8$ , or  $2^{\circ}1$  below the average.—*Hampson-in-Ellel*. The wettest July in 16 years' record.—*Carke-in-Cartmel*. The coldest July for 31 years.—*Broughton-in-Furness*. The wettest July in the 37 years' record, and with ·49 in. more R than in 1879, the previous wettest. Mean temp.  $57^{\circ}2$ , which was much below the average.

XI. WALES AND THE ISLANDS.—*Douglas, Woodville*. The worst summer month since observations began in 1875. Very stormy, cold, gloomy and winterlike, and unredeemed by one summerlike or really calm day. Temp. was persistently low, especially in the third week.

## SCOTLAND.

XII. SOUTHERN COUNTIES.—*Whithorn, Cuttrouch*. The wettest July since 1896, and temp. considerably below the average.

XIV. SOUTH WESTERN COUNTIES.—*Girvan, Pinmore*. R 4·17 in. above the average, making it the wettest July since the record was started in 1875.

XV. WEST MIDLAND COUNTIES.—*Buchlyvie*. R 72 in. above the average of 20 years.—*Islay, Eallabus*. The wettest July since the record was started in 1866.

XVIII. NORTH WESTERN COUNTIES.—*Drumnadrochit*. R 90 in., and rain days 4, above the average of 23 years.

## IRELAND.

XXIII. ULSTER. —*Banbridge, Milltown*. R 07 in. below the average of 45 years.—*Fenal, Tanney*. Absolutely the worst July on record. Comment on the weather is unnecessary—it is writ large in the figures of R and mean temp. 53°·5.

## AUGUST.\*

## ENGLAND.

I. LONDON.—*St. Pancras, Camden Square*. The first half was fine, dry and hot, the shade max. exceeding 80° on 10 consecutive days, from 6th to 15th. Thereafter it was cloudy, showery and cooler, but with a fair amount of sunshine as a rule. TS on 25th. Duration of sunshine 189·0 hours, and of R 36·5 hours. Mean temp. 62°·8, or 0°·7 above the average. R 87 in., or 37 per cent., below the average of 50 years.

II. SOUTH EASTERN COUNTIES.—*Epsom*. The month opened and closed with cold, inclement weather, there being only one marked period of warmth, from 7th to 15th. The shade max. reached 87° on 12th, and 92° on 15th. Mean temp. 62°·1.—*Wallington*. R 23 in. below the average. Duration of sunshine 210·1 hours (Jordan), or 12·0 above the average. Mean temp. 62°·1.

III. SOUTH MIDLAND COUNTIES.—*Harrow Weald*. R 14 in. below the average of 20 years.—*Mill Hill*. Duration of sunshine 215·4 hours.—*Goring*. The only real summer weather of the year was

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\* See also *Mct. Mag.*, September, 1909, pp. 146, 153.

experienced from 5th to 13th, and the remainder of the month was wet, inclement and cold. Like the hay harvest, the corn harvest was greatly hindered.

IV. EASTERN COUNTIES.—*Copdock*. A welcome break in the persistent bad weather occurred on 4th when a spell of brilliant warmth set in until 15th. Duration of sunshine 204·7 hours. Mean temp. 61°·4.

V. SOUTH WESTERN COUNTIES.—*Axminster*. Unusually brilliant with cloudless skies and ideal harvest conditions in first fortnight. Unsettled with much R from 17th to 24th, after which the weather was again fine, with seasonable temp.—*Falmouth*. Duration of sunshine 272·9 hours. Mean temp. 64°·8.

VI. WEST MIDLAND COUNTIES.—*Hoar Cross*. Perfect summer weather prevailed in the first fortnight, with high temp., the max. on 6th reaching 87°, followed by cold and rainy weather. Duration of sunshine 194·0 hours.—*Mayfield House* [*Ashbourne*]. Duration of sunshine 191·3 hours. Mean temp. 58°·1.

VII. NORTH MIDLAND COUNTIES.—*Louth*. R 1·37 in. above the average of 37 years.—*Grimsby*. The first half had fine, warm summer weather which broke up with a severe TS on 16th, after which the weather was as bleak as December, and very wet.—*Chellaston*. After 1st the weather was fine and hot until 16th when a heavy TS occurred. The remainder of the month was rainy, squally, cold and unfavourable for the harvest.

VIII. NORTH WESTERN COUNTIES.—*Chatburn*. R 2·58 in. below the average of 20 years.

### SCOTLAND.

XV. WEST MIDLAND COUNTIES. — *Strachur*. Fine, summerlike weather in the first half; the latter half was broken with heavy R.

XVIII. NORTH WESTERN COUNTIES.—*Drumnadrochit*. R 1·29 in. below, and rain days 2 above, the average of 23 years.

### IRELAND.

XX. MUNSTER.—*Cork*. The driest August for at least 15 years.—*Glanmire*. Owing to the continued dryness the springs were lower than they had ever been in the memory of man. Trees were flagging from want of moisture, and it was feared that many shrubs would be lost.—*Clonmel*. The driest August since the record began in 1864.

XXI. LEINSTER. — *Rathmines*. The driest August since 1896. Glorious summer weather was experienced until 15th, and during this period temp. exceeded  $70^{\circ}$  on 10 days and on 15th reached  $82^{\circ}\cdot 0$ . After this a sudden drop in temp. occurred and the remainder of the month was cool and almost sunless, but the R was inconsiderable. Mean temp.  $59^{\circ}\cdot 1$ . — *Athlone, Twyford*. R  $3\cdot 21$  in. below the average of 20 years, and the driest August since 1875.

XXIII. ULSTER. — *Banbridge, Milltown*. R  $1\cdot 50$  in. below the average of 45 years.

## SEPTEMBER.\*

### ENGLAND.

I. LONDON. — *St. Pancras, Camden Square*. Dull, rainy and cold weather prevailed almost throughout, with occasional bright, sunny days. Much gloom or fog was experienced during the last week. Duration of sunshine  $100\cdot 6$  hours, and of R  $55\cdot 4$  hours. Mean temp.  $55^{\circ}\cdot 6$ , or  $2^{\circ}\cdot 1$  below the average. R  $\cdot 35$  in., or 16 per cent., above the average of 50 years.

II. SOUTH EASTERN COUNTIES. — *Wallington*. The wettest September since 1896, and the coldest since 1894. — *Ticehurst*. Cold and wet, the only short spell of fine weather being from 17th to 21st. The harvest in this neighbourhood was practically ruined. — *Fordingbridge, Oaklands*. The wettest September since 1896, and the fourth wettest in the 34 years' record.

III. SOUTH MIDLAND COUNTIES. — *Harrow Weald*. R  $1\cdot 33$  in. above the average of 20 years. — *Mill Hill*. Duration of sunshine  $106\cdot 6$  hours. — *Goring*. A deplorable month with an absence of sunshine, save on three days. Wet, dark and gloomy for the rest, seriously impeding harvest operations. Many crops were seriously damaged. One large field of barley was still uncut and was beaten into the ground by the heavy R.

IV. EASTERN COUNTIES. — *Copdock*. The duration of sunshine only amounted to  $113\cdot 3$  hours, and the mean temp. was only  $55^{\circ}\cdot 2$ .

V. SOUTH WESTERN COUNTIES. — *Weymouth*. Duration of sunshine  $142\cdot 9$  hours. Mean temp.  $57^{\circ}\cdot 3$ .

VI. WEST MIDLAND COUNTIES. — *Mayfield House [Ashbourne]*. Duration of sunshine  $80\cdot 4$  hours. Mean temp.  $52^{\circ}\cdot 1$ . — *Worcester*. A disappointing month, with only about 6 really fine days. Dry and cold,

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\* See also *Met. Mag.*, October, 1909, pp. 161, 173.

with slight R on most days, which though sufficient to interfere with harvesting, was of no use to the gardens. Only .82 in. of R fell up to 26th, but the last 4 days produced 2.50 in.

VII. NORTH MIDLAND COUNTIES.—*Louth*. R .93 in. below the average of 37 years. Very bad harvest conditions consequent on the soaked condition of the land in August, the number of rain days, and the lack of sunshine.—*Buxton*. R .92 in. below the average of 35 years. Duration of sunshine 100 hours. Mean temp.  $50^{\circ}3$ , or  $2^{\circ}3$  below the average.

VIII. NORTH WESTERN COUNTIES.—*Chatburn*. R .62 in. below the average of 20 years.—*Blackpool*. The weather during the first week was changeable, but with the exception of 23rd, 27th and 28th the remaining period was dry and pleasant. R .41 in. below the average of 35 years. Duration of sunshine 119.9 hours, or 8.1 hours below the average. Mean temp.  $53^{\circ}0$ , or  $2^{\circ}5$  below the average.

XI. WALES.—*Carmarthen*. Fine and very dry until near the end. Water supplies were unusually low, and fodder was scarce.

#### SCOTLAND.

XV. WEST MIDLAND COUNTIES.—*Buchlyvie*. The first half was bright and summerlike, with, however, several cold nights, but favourable for harvesting. The second half was dull, damp, cool and unfavourable, and at the close much corn was uncut and nearly all was still in the fields.

XVIII. NORTH WESTERN COUNTIES.—*Drumnadrochit*. R .84 in. below, and rain days 1 above, the average of 23 years.

XIX. NORTHERN COUNTIES.—*Castletown*. Cool and wet conditions prevailed until 13th, followed by fine and fairly sunny weather to 19th. The last 10 days were damp with more or less fog. Corn cutting did not become general until 23rd.

#### IRELAND.

XX. MUNSTER.—*Darrynane Abbey*. With the exception of 1895, when .99 in. of R fell, it was the driest September in 30 years.

XXIII. ULSTER.—*Banbridge*, *Milltown*. R 1.00 in. below the average of 45 years.—*Fanad*, *Tamney*. The broken, unsettled weather of the latter part of August was continued until 13th, when a beautiful spell set in which continued practically without interruption to the end of the month, and was most beneficial to harvesting. The corn crop was the heaviest for years. Mean temp.  $53^{\circ}5$ .

## OCTOBER.\*

## ENGLAND.

I. LONDON.—*St. Pancras, Camden Square.* Almost throughout the weather was of a gloomy nature, with great persistency of R. Temp. was unusually high, except during the last week, 60° or above being registered daily to 23rd, but from 26th to the close the temp. never reached 50°. Duration of sunshine 68·8 hours, and of R 86·4 hours. Mean temp. 53°·2, or 3°·4 above the average. R 1·49 in., or 56 per cent., above the average of 50 years.

II. SOUTH EASTERN COUNTIES.—*Wallington.* R 1·59 in. above the average of 20 years. Duration of sunshine 84·8 hours (Jordan), or 13 hours below the average.—*Tenterden, Summerhill.* The R in the last week alone amounted to 3·63 in., and there was a great deal of water out in the marshes. Many sheep and poultry were lost.—*Ulcombe Place.* The greatest amount of R recorded in any one month in the past 10 years. From 26th to 28th 3·84 in. fell.—*Worthing.* The wettest October since 1882.—*Compton [Petersfield].* The wettest October on record, and 6·58 in. above the average of 28 years.—*Ryde, Beldornie Tower.* The wettest month recorded in 23 years.—*Lyndhurst.* The greatest R in any month since observations began in 1891.—*West Dean.* Remarkably wet, with severe gales and heavy R. R fell on every day except 28th. Mild to 24th but cold at the close.—*Hartley Wintney.* The wettest October since 1891, and the first month in the record with R on every day.

III. SOUTH MIDLAND COUNTIES.—*Harrow Weald.* R 1·34 in. above the average of 20 years.—*Mill Hill.* Duration of sunshine 79·1 hours.—*Buntingford, Throcking.* R fell on 28 days, and with the exception of August, 1891, is the only month in the record with so large a number of rain days.—*Goring.* The month in its wet dreariness surpassed anything the living have experienced here. Including the last 8 days of September R fell on 36 out of 39 days.

IV. EASTERN COUNTIES.—*Copdock.* A depressing month except for the mildness of the first 23 days and a week's bright sunshine from 6th to 12th. The duration of sunshine, 78·8 hours, was the lowest on record. Mean temp. 51°·8.—*Sudbury.* Unsettled and wet especially at the latter end. Low lying meadows were flooded from 28th to 31st.

V. SOUTH WESTERN COUNTIES.—*Weymouth.* Duration of sunshine 118·8 hours. Mean temp. 54°·9.—*Edington.* Wet and stormy, with

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\* See also *Met. Mag.*, November, 1909, pp. 179, 195.

almost incessant precipitation. Many of the crops in the hilly districts were ungathered and consequently destroyed. Temp. was generally high, and very oppressive in the third week.

VI. WEST MIDLAND COUNTIES.—*Cirencester, Dollarward House.* Wet throughout, the 30th being the only rainless day. A good deal of corn was rotting in the fields, and much was still uncut.—*Mayfield House [Ashbourne]*. Duration of sunshine 96·4 hours. Mean temp. 48°·6.

VII. NORTH MIDLAND COUNTIES.—*Louth.* R 25 in. above the average of 37 years.—*Buxton.* R 1·30 in. above the average of 35 years. Mean temp. 47°·5, or 2°·3 above the average. Duration of sunshine 116·0 hours.

X. NORTHERN COUNTIES.—*Ilkerton.* Unsettled throughout, harvest operations being much retarded. The Cheviots were covered with S from 29th.

XI. WALES.—*Llanybythir.* The wettest month in the record. Corn was still standing in the fields at the close, and the river was in flood nearly all the month.—*Snowdon, Cwm Dyli.* Very stormy and wet. There were big floods causing much damage, and L, H, S and frost were experienced.

## SCOTLAND.

XII. SOUTHERN COUNTIES.—*Auchencairn, Torr House.* The greatest R of any month since observations began in 1870.—*Dalbeattie, Little Richorn.* The wettest October on record, and crops much damaged in consequence.—*Kirkpatrick Durham.* The wettest month since the record began in 1891.—*Jardington.* The heaviest monthly R in 16 years. The grain crop in late localities fared badly and a great part of the potato crop suffered from the hard frost at the end.—*Lochmaben, Esthwaite.* Unusually heavy R, the total fall being the greatest for any month since observations began in 1903.

XVI. EAST MIDLAND COUNTIES. — *Coupar Angus.* R fell persistently to 24th and was very detrimental to harvest work. The land was waterlogged and unfit for tillage, but favourable for green crops. Mean temp. 46°·7.—*Aberfeldy.* The wettest month for many years. In the four days, 11th to 14th, 3·42 in. of R fell.

XVIII. NORTH WESTERN COUNTIES. — *Glenelg.* The heaviest October R in 11 years. High winds and heavy R characterised the first three weeks, and severe frost marked the last week, doing injury to the potato crop.—*Drumnadrochit.* R 2·18 in., and rain days 5,

above the average of 23 years. The frosts in the last week were the most severe recorded in October in 37 years.

XIX. NORTHERN COUNTIES.—*Castletown*. Breezy, wet and changeable conditions prevailed. The corn cutting was practically finished by 15th, and was mostly secured into stackyards by the end. There was quite an average crop of corn, and straw was above the average.

## IRELAND.

XX. MUNSTER.—*Clonmel*. The wettest October since 1891.

XXIII. ULSTER.—*Banbridge, Milltown*. R 2·50 in. above the average of 45 years.—*Fanad, Tamney*. The early part was mild, rainy and boisterous, the period from 5th to 15th being unusually stormy. A cold snap set in on 26th, and the month closed under most winterlike conditions. Mean temp. 50°·5.

## NOVEMBER.\*

### ENGLAND.

I. LONDON.—*St. Pancras, Camden Square*. The outstanding feature of the month was its low R, following, as it did, an unusually wet October. Of the total fall 35 in., or 47 per cent., fell on 29th. The weather was generally of a cloudy type, but on several days considerable sunshine was recorded. Duration of sunshine 59·0 hours, and of R 18·6 hours. Mean temp. 41°·5, or 1°·5 below the average. R 1·56 in., or 68 per cent., below the average of 50 years.

II. SOUTH EASTERN COUNTIES.—*Weybridge*. The coldest November since 1896. Mean temp. 39°·7.—*Wallington*. R 1·66 in. below, but rain days 3 above, the average. The duration of sunshine, 70·1 hours (Jordan), has only been exceeded three times in November since 1885. Mean temp. 41°·2, or 2°·8 below the average.

III. SOUTH MIDLAND COUNTIES.—*Harrow Weald*. R 1·48 in. below average of 20 years.—*Mill Hill*. Duration of sunshine 73·8 hours.—*Much Hadham*. The driest November for 40 years.

IV. EASTERN COUNTIES.—*Copdock*. The greatest amount of sunshine and the least R ever recorded in November. The duration of sunshine was 86·6 hours, of which 78 hours were recorded from 5th to 24th. The mean temp., 40°·8, was low owing to the N. wind which prevailed throughout except for 4 days at the end.

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\* See also *Met. Mag.*, December, 1909, pp. 198, 215 ; March, 1910, p. 29.

V. SOUTH WESTERN COUNTIES.—*Weymouth*. Duration of sunshine 121·9 hours. Mean temp.  $44^{\circ}0$ .—*Torquay*. Duration of sunshine 115·8 hours, or 46·3 hours above the average. Mean temp.  $44^{\circ}9$ , or  $4^{\circ}0$  below the average.—*Falmouth*. The duration of sunshine, 115·3 hours, was the highest record for November in 29 years.

VI. WEST MIDLAND COUNTIES.—*Mayfield House* [*Ashbourne*]. Duration of sunshine 68·2 hours. Mean temp.  $39^{\circ}3$ .

VII. NORTH MIDLAND COUNTIES.—*Louth*. The driest November in the record. R 2·00 in. below the average of 37 years.—*Hodsock Priory*. Fine and very dry, with cold nights. R less than in any of the previous 34 years.—*Burton*. The lowest R on record for November. Duration of sunshine  $61^{\circ}0$  hours, or 22 hours above the average. Mean temp.  $38^{\circ}3$ , or  $1^{\circ}9$  below the average.

VIII. NORTH WESTERN COUNTIES.—*Chatburn*. R 1·65 in. below the average of 20 years.—*Broughton-in-Furness*. The coldest and sunniest November of the last 12 years, and the fourth driest in 35 years.

IX. YORKSHIRE.—*Doncaster*. The driest month since observations commenced in 1881 with the single exception of February, 1891.—*East Layton Hall*. The finest and driest month of the whole year, including several weeks of bright, sunny weather.

#### SCOTLAND.

XII. SOUTHERN COUNTIES.—*Jardington*. The driest November since 1896. There was a good deal of sunshine, and the month was deficient in high winds, but from 15th to 25th there was an exceptionally hard frost which did much damage to potatoes and withered up the grass. Curlers enjoyed themselves for a week on the ponds, after which a mild thaw set in.

XVI. EAST MIDLAND COUNTIES.—*Colinsburgh Manse*. The driest month for 8 years, the R amounting to only ·37 in., of which only ·07 in. fell on the first 26 days.—*St. Andrews*. Dry and cold. No one remembers such a long frost in November before. Skating and curling were enjoyed for quite a fortnight.

XVIII. NORTH WESTERN COUNTIES.—*Drumnadrochit*. R ·81 in., and rain days 1, below the average of 23 years.

#### IRELAND.

XX. MUNSTER.—*Cork, Fernhurst Avenue*. The driest November since 1879, and, with one exception, the coldest. There was an

absolute drought of 15 days' duration ending on 24th.—*Clonmel, Bruce Villa*. The coldest November since the record began in 1866. The duration of sunshine was unusually great.

LEINSTER.—*Balbriggan*. The driest November since observations commenced in 1893 with the exception of 1896 when .92 in. fell.

ULSTER.—*Banbridge, Milltown*. R 1.69 in. below the average of 45 years.—*Sion Mills*. The early part was fairly mild with occasional slight frosts. On 14th S fell, followed by a week of severe frost. The shade max. did not exceed 24° on 16th, 17th and 18th. A slight thaw commenced on 20th, but the weather remained cold to the end.—*Fanad, Tanney*. After a mild and rather wet beginning a very persistent frost with S set in on 14th and continued to 21st. The remainder was cold and stormy. Mean temp. 41°0.

## DECEMBER.\*

### ENGLAND.

I. LONDON.—*St. Pancras, Camden Square*. Cloudy or overcast skies with frequent but not heavy R, prevailed almost throughout the month. Duration of sunshine 30.0 hours, and of R 64.1 hours. Mean temp. 40°5, or 1°3 above the average. R .68 in., or 32 per cent., above the average of 50 years.

II. SOUTH EASTERN COUNTIES.—*Wallington*. Duration of sunshine 45.4 hours (Jordan), or 7.6 hours above the average. Mean temp. 40°1.

III. SOUTH MIDLAND COUNTIES.—*Harrow Weald*. R .44 in. above the average of 20 years.—*Mill Hill*. Duration of sunshine 46.7 hours.—*Woodstock, Hampton Poyle*. There were severe floods in the neighbourhood, and all business was much hindered in consequence.

IV. EASTERN COUNTIES.—*Copdock*. Duration of sunshine 48.7 hours. Mean temp. 38°4.—*North Walsham*. R 4.85 in. The wettest month since October 1886 when 4.89 in. fell.

V. SOUTH WESTERN COUNTIES.—*Weymouth*. Duration of sunshine 63.7 hours. Mean temp. 42°5.—*Torquay*. Duration of sunshine 61.7 hours, or 8.6 hours above the average. Mean temp. 43°2.—*Sidmouth*. Duration of sunshine 67.7 hours, or 17.3 hours above the average. Mean temp. 41°3.

VI. WEST MIDLAND COUNTIES.—*Mayfield House [Ashbourne]*. Duration of sunshine 34.1 hours. Mean temp. 36°3.—*Worcester*. Great

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\* See also *Met. Mag.*, January, 1910, pp. 218, 243 ; March, 1910, p. 29.

alternations in temp., with S and R, made this a trying month. The last week was mild with a good deal of sun. The Severn was partially in flood, but did not cause any serious damage.

VII. NORTH MIDLAND COUNTIES.—*Lincoln*. The city and the country for miles around were flooded rather badly towards the end of the month. Some streets were entirely under water for four days.—*Louth*. R 2·06 in. above the average of 37 years.

VIII. NORTH WESTERN COUNTIES.—*Macclesfield*. The wettest month since June, 1882. S fell from 18th to 21st to a depth of 10 inches, the heaviest fall since January, 1886.—*Garston*. The wettest December in 31 years' record.—*Chatburn*. R 2·32 in. above the average of 20 years.—*Broughton-in-Furness*. The wettest December since 1891. More than 1·00 in. of R fell on each of 4 days.

IX. YORKSHIRE.—*Sheffield*, *Ranmoor*. Continuous R and S, the total fall being the greatest in any month for 30 years.—*Doncaster*. The wettest December since 1881.

#### SCOTLAND.

XIII. SOUTH EASTERN COUNTIES.—*West Linton*. Very severe weather for the first week, with deep S and trees crusted with frozen fog, making a magnificent spectacle on quiet cloudless days, such as 5th and 7th. Day temp. very low.

XVIII. NORTH WESTERN COUNTIES.—*Drumnadrochit*. R 1·97 in., and rain days 1, below the average of 23 years.

#### IRELAND.

XXIII. ULSTER.—*Fanad*, *Tamney*. The month began with a heavy fall of S. A mild period set in on 9th and continued till 17th, when severe frost ensued. A "white Christmas" was saved by a rapid thaw on 22nd, and the close was humid and mild. Mean temp. 40°·4.

## OBSERVERS' NOTES ON THE YEAR, 1909.

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When an average is referred to in these Notes without a statement of the number of years on which it is based the figure should not be accepted as necessarily comparable with the average at any other station.]

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### ENGLAND AND WALES.

#### DIVISION I.—LONDON.

FULHAM, EDITH ROAD, WEST KENSINGTON.—A cold and rather wet year, the mean temp. being  $0^{\circ}\cdot9$  below the average, and the lowest since 1892; and the R 1·87 in. above the average. Chiefly remarkable for the singularly cold, wet and gloomy June. There were no absolute droughts, but a partial drought occurred from 15th January to 27th February, 44 days with ·39 in. of R.—*G. Searle*.

HAMPSTEAD, AKENSIDE ROAD.—A year of low temp. and rather high R. No month was exceptionally wet, but February was the only month with very low R. There were three spells of high temp.; one in April when temp. rose to  $74^{\circ}\cdot3$ , and another in May, when it reached  $84^{\circ}\cdot1$ . The third, in August, was the longest and the most persistent, but the temp. did not quite reach the May level. The only spell of unusual cold was in March, when the thermometer fell to  $13^{\circ}\cdot8$ , with 10 inches of S on the ground. The mean temp. of the year was  $47^{\circ}\cdot3$ .—*E. L. Hawke, F.R.Met.Soc.*

ST. PANCRAS, CAMDEN SQUARE.—The most noteworthy points in connection with the R were the large number of rain days and the great duration recorded. R was excessive in the summer and early autumn, and deficient during the winter months. In the first two months of the year only 1·21 in. fell, or 2·39 in. less than the average, but with a wet March and a normal fall during the next two months the aggregate deficiency was only an inch at the end of May. June and July both had R largely in excess of the average, and there was an aggregate excess for the remainder of the year. October was wet, but, as in 1908, November was extremely dry. The R for the whole year was 1·68 in., or 7 per cent., above the average of 50 years. No

absolute drought occurred, the longest rainless periods being from February 15th to 25th, April 1st to 11th, May 1st to 11th and August 2nd to 15th, inclusive. A partial drought extended from January 16th to February 26th, 40 in. of R falling on 42 days. There were no rain spells. Only one day's fall exceeded an inch, viz., 1.14 in. on July 27th, but in the three days, October 26th to 28th, 2.13 in. of R fell. The number of rain days was largely above the average during March, September, October and December, and in no month much below the average, the result being that for the year the number amounted to 191, or 30 more than the average. This was the largest number recorded since 1877, and had been exceeded only four times in 52 years. The duration of rainfall was equally remarkable, the total for the year reaching 576.5 hours, or 164.1 hours more than the average of 24 years. This was the largest annual duration recorded in 29 years, with the exception of 688.5 hours in 1903. The greatest excesses in 1909 occurred in March and October. January and November were the only months in which the duration fell considerably below the average. On five occasions the duration exceeded 12 hours in the rainfall day, the maximum being 16.5 hours on October 26th. The mean temp. for the year was  $49^{\circ}2$ , or  $0^{\circ}8$  below the average, and the lowest since 1892. The deficiency was mainly due to the comparatively cold winter months and to the unprecedentedly cold June. July and September were also cold months. The only month with temp. considerably above the average was October, when the mean temp. reached  $53^{\circ}2$ , or  $3^{\circ}2$  in excess. The highest shade temp. during the summer was  $86^{\circ}4$  on August 12th; the temp. reached  $80^{\circ}$  on 12 days, of which 10 were in August. Frost occurred in the screen on 68 days, and on the grass on 135; the latest frosts of spring were, in the screen, on April 9th, and on grass on May 18th, and the earliest of the autumn, in the screen on October 30th, and on the grass on October 26th. The total duration of sunshine amounted to 1368.1 hours. The outstanding features were the extraordinarily sunny April and May, and the equally extraordinarily sunless June. July and August also fell short of their normal amount of sunshine. No sunshine was recorded from January 1st to 6th, from June 2nd to 6th and from December 10th to 17th, inclusive; on the other hand bright sunshine occurred on every day in May and, with a single exception, on every day from March 31st to June 1st. There were 84 sunless days during the year.—*Hugh Robert Mill, F.R.Met.Soc.*

## DIVISION II.—SOUTH EASTERN COUNTIES.

**SURREY.**

HASLEMERE, HAZELHURST.—March, October and December were the wettest months, and R fell on every day in October. February and November were unusually dry, and the total fall for the year was 3·03 in. above the average.—*T. P. Newman, F.R.Met.Soc.*

WITLEY, THE MOUNT.—Certainly a wet year, but a year of extremes. February was the driest month, and March and October were exceptionally wet. There were no heavy TSS, and the only summer temp. occurred during the last days of May and the first two weeks of August.—*Juliana Foster, F.R.Met.Soc.*

HASCOMBE.—The hay and corn harvests were seriously damaged by the continuous R. Many acres of corn were taken up only for litter.—*Chas. T. Musgrave.*

EWHURST, CONEYHURST.—The third heaviest R in the past 21 years. A bad year for crops in general, there being much R and little sun ; fungoid pests were very prevalent.—*J. Russell.*

FARNHAM, SHORT HEATH LODGE.—March was very cold and gloomy, and S fell on 11 days. Except for the fortnight, August 3rd to 16th, the summer was generally cold and sunless. Frosts occurred in the screen on 111 days, 72 being in the first half and 39 in the second half of the year.—*Geo. Chrystie.*

GUILDFORD, CRAIGIE, MERROW.—An unsettled year. March was very wet and October still wetter. The first fortnight of August was warm and dry, and the only spell of real summer. The R was the highest recorded since 1903, and the number of rain days was the greatest since the record commenced in 1896.—*Ellen S. Lomer.*

LYDEN CROFT [EDENBRIDGE].—The dryness of February and November were responsible for the deficiency of ·77 in. from the average R of 18 years.—*C. Planck.*

EPSOM, ASHLEY ROAD.—The summer was a complete failure, the whole of the warmth occurring in the nine days from August 7th to 15th. Owing to the miserable weather the harvest was entirely spoilt, and oats were still in shock on November 21st. There were seven TSS, two of which, occurring in January, were cyclonic. The wind reached or exceeded gale force on only three days throughout the year. There were 99 frosts in the screen, and 144 on the grass. The mean temp. was 47°·9.—*Spencer C. Russell, F.R.Met.Soc.*

WALLINGTON, COTSWOLD.—The number of rain days in March, June and December, were the largest in the record, and the total

number for the year exceeded the average of 20 years by no less than 44. The duration of sunshine, 1447·1 hours (Jordan), was 96·7 hours below the average.—*F. Campbell Bayard, F.R.Met.Soc.*

### KENT.

TENTERDEN, SUMMERHILL.—A cold, ungenial year, the only hot weather being from August 7th to 16th, when the temp. rose to over 80° on 5 days. Much blight in summer and a plague of caterpillars, perhaps due to the wholesale destruction of birds here.—*Mary Wilkin, F.R.Met.Soc.*

TENTERDEN.—The wettest since 1877.—*J. Ellis Mace.*

HOO ST. MARY, ST. MARY'S HALL.—Heavy wind, S and low temp. occurred in the second week in March. The latter part of August, the greater part of September, and all October, were very wet, and with the exception of a fine fortnight in the first part of August, there was practically no summer.—*Henry Pye.*

SELLING, HAREFIELD.—R 7·16 in. above the average of 42 years.—*Sidney Neame.*

RECVLVER.—The third wettest year since observations began in 1886. There was a scarcity of drying wind and sun between the rains, which had a damaging effect on crops in general. The dry state of subsoils and the low level of springs greatly helped to absorb the large amount of water.—*Allington Collard.*

MARGATE, CLIFTONVILLE.—With one exception the R was the greatest in the 29 years' record. The total duration of sunshine was 1669 hours: over 300 hours, a record amount, occurred in May.—*John Stokes, F.R.Met.Soc.*

### SUSSEX.

TORTINGTON.—With the exception of the last fortnight in March the early part of the year was very dry. October and December were so wet that the chalk hills appeared saturated, and the level of the ponds on the flat land, between the Downs and the sea, was higher than it had been for at least six years.—*J. A. Travers.*

CHICHESTER, WESTGATE.—R 4·06 in. above the average of 65 years.—*G. Ashley Tyacke.*

FUNTINGTON.—A gloomy, wet year, the only approach to summer being during the first fortnight in August. The artesian well never ceased to overflow.—*J. A. Greenwood, F.R.Met.Soc.*

CLAYTON RECTORY.—R 5·94 in. above the average of 20 years.—*T. H. R. Shand.*

MAYFIELD, FIVE ASHES.—The early part was dry, but unsettled weather prevailed from the beginning of June to November, with the exception of a fine, hot fortnight at the beginning of August. Floods in the autumn were very high.—*Emily Aston, F.R.Met.Soc.*

TICEHURST, MYSKYNS.—The year leaves an impression of consistent wetness except during May and the first fortnight of August. October was particularly wet, and though November had not much R it was damp and was followed by a wet December.—*E. H. Cartwright.*

WADHURST, LOWER COUSLEY WOOD.—R 4·79 in. above the average of 28 years.—*Frederick Wilkin, F.R.Met.Soc.*

### HAMPSHIRE.

TOTLAND BAY, ASTON HOUSE.—R 6·64 in. above the average of 23 years.—*John Dover, F.R.Met.Soc.*

CHRISTCHURCH, WINKTON LODGE.—A dry, cold spring, but with a fall of 3·80 in. of R in March. May and the first half of August were fine and hot, but the summer was generally cool with R almost every day. The weather, however, interfered but little with outdoor pursuits.—*Jane Lassell.*

BISHOPS WALTHAM, HILL PLACE.—R exceeded the average of 33 years by 5·35 in.—*W. A. Daubeny.*

STOCKBRIDGE, ASHLEY. — The intermittent King's Somborne stream, which ceased to flow in August, 1908, remained dry through the year until the end of October. The flow was very small until the middle of November, when it became rather brisk at the upper sources and continued practically unchanged to the close of the year.—*Legh S. Powell.*

### BERKSHIRE.

MAIDENHEAD, THE FIRS, CASTLE HILL.—January and February were generally foggy, damp and cold, but with some warm days. March was unpleasant, with S and R, causing much sickness. April and May were sunny, but June and July were wet, with cold nights and but little sunshine. Dry, sunny weather prevailed in August until 18th, when a sharp TS was followed by a cool, showery period. Much corn was spoilt by the R of September, and October and November were both wet. December was stormy and wet with great variations of temp.—*J. W. Duncan, F.R.Met.Soc.*

STEVENTON, MILTON HILL.—From a farmer's standpoint it was the most wretched season since 1879. March had almost incessant R, and May though dry, had harsh N.E. winds. June and July were provokingly showery, and from August to October was very wet. In some cases the harvest was impossible.—*R. H. Betteridge.*

### DIVISION III.—SOUTH MIDLAND COUNTIES.

#### MIDDLESEX.

MILL HILL.—Duration of sunshine 1559·0 hours.—*Frances Mill, F.R.Met.Soc.*

PONDERS END, BYLOCK HALL.—January and February were fine and dry, but March was cold and wet, with much S and severe frost at the commencement. April and May were very sunny and warm, followed by a cool, cloudy and wet June and July. The first half of August was fine and hot, but the remainder was cool and showery, as was also September. October, which was wet and warm, was followed by a dry, cold November, and the closing month was wet and changeable.—*Harold E. Freir.*

#### HERTFORDSHIRE.

WATFORD, WEETWOOD.—The R was much below the average in the first quarter, but above in all the others, and much above in the last quarter. The summer was unusually wet, 9·00 in. of R falling in June, July and August, and the large number of rain days was a feature.—*J. Hopkinson, F.R.Met.Soc.*

CHESHUNT, GOFF'S OAK HOUSE.—R 1·77 in. above the average.—*W. M. Cuningham.*

ST. ALBANS, COUNTY MUSEUM.—The R was more than 2·50 in. above the average of 20 years, and fell on 30 days more than the average. April was the only month in which the temp. was appreciably above the average. The summer and autumn were cold, June being especially so, and also very wet, but October was much the wettest month.—*J. Hopkinson, F.R.Met.Soc.*

BUNTINGFORD, THROCKING RECTORY.—R 3·20 in. above the average of 30 years; except 1903, the greatest since 1882.—*C. Wigan Harvey.*

#### BUCKINGHAMSHIRE.

HEDSOR.—Cold and wintry until the middle of March, and then fine and springlike. Dry and warm in May, then continuously wet and unseasonable till the end of October.—*Boston.*

WINSLOW.—The main feature of the year was the frequent showery days throughout the months June to October. The hay crop promised well, but little was secured in good order, while much was completely destroyed. Cereals, beans and peas shared a similar fate, and though grass was plentiful it was too soft to be nourishing. Foot rot among sheep, and hoose or husk among young cattle, were very prevalent.—*R. A. Easton.*

BUCKINGHAM, ADSTOCK FIELDS.—The number of rain days was greater than in any year since observations began in 1874.—*J. E. S. Weston.*

### OXFORDSHIRE.

CAVERSHAM, HEMDEAN ROAD —Notwithstanding the heavy R in March and April, the aggregate fall for the first five months was below the average. The next five months yielded 17·59 in., and at the end of October the R was 5·26 in. above the average. November was dry, but December closed with an excess of 4·02 in. for the year.—*Wm. Simpson.*

ABINGDON, CULHAM VICARAGE.—The great feature was the dry early part of the year up to May 24th, except that March was wet. After May 24th the year was continuously wet and unsettled, with the exception of the first half of August and a dry November.—*F. C. Clutterbuck.*

### NORTHAMPTONSHIRE.

CASTLE ASHBY.—The R, though only slightly below the average, was very unequally distributed. The first five months were dry, and the remainder of the year, except November, had R much above the average.—*R. G. Scriven.*

WELLINGBOROUGH, CROYLAND ABBEY. — R ·93 in. above the average of 40 years.—*E. Sharman.*

SCALDWELL.—A cold, dry spring, and a cold and cheerless summer. The harvest was late, and was much damaged by R in September and October. Fruit ripened badly and was of poor flavour.—*R. Soames.*

### CAMBRIDGESHIRE.

WESTON COLVILLE.—Although not the wettest, it was the most persistently wet summer in 18 years' record. January, February and November had a total fall of only 1·89 in., which is below the average of any of these months.—*Gerald H. Long.*

## DIVISION IV.—EASTERN COUNTIES.

## ESSEX.

SOUTHEND, BROADWAY.—No severe frosts occurred in the first two months, but severe weather was experienced in the first half of March, with S 9 inches deep on level, and drifts 2 feet deep. The summer was wet and comparatively cold with the exception of a brilliant fortnight from August 3rd to 15th. The autumn was no better, heavy and continual R causing deplorable conditions in the country.—*H. J. G. Ralph.*

BRENTWOOD, SHENFIELD.—A remarkably wet year with the exception of two spells of dry weather, each approaching a drought. The first occurred in January and February, and the second in May, but wet or fine the prevailing wind was persistently from N. Neither the total R nor the number of rain days adequately represents the saturation from which we suffered.—*Harcourt P. Lander.*

SAFFRON WALDEN.—R 5·30 in. above the average of 35 years.—*J. S. Wycliffe Leverett.*

## SUFFOLK.

IPSWICH, ROOKWOOD, COPDOCK.—The worst March on record was followed by a glorious April and May. The summer was the worst in living memory, and the autumn corresponded, but November was fine and bright. Mean temp. 47°·8.—*F. L. Bland.*

CLARE, HAWKEDON RECTORY.—A moist summer and a wet harvest time, the latter being one of the worst known. Many crops were utterly spoiled, and some never harvested. The only fine month was May—*B. P. Oakes.*

COCKFIELD RECTORY.—The greatest R since the record began in 1894, except in 1903. A disastrous harvest, and the most protracted in living memory.—*Edwin Hill.*

BURY ST. EDMUNDS, WESTLEY.—R 2·61 in. above the average. The longest and most disastrous harvest known, and the most corn spoilt.—*R. Burrell.*

HALESWORTH, RUMBURGH.—Not so much R as in 1903, but more unpleasant wet days and very little sunshine. Ponds were all brimful since June. Commons were swamped, and farmers' roads impassable.—*W. Linton Wilson.*

LOWESTOFT, BELLE VUE PARK.—R ·67 in. below the average.—*Chas. W. Edwards.*

**NORFOLK.**

EMNETH.—Except for 14 days in the first half of August, the fall since May was fairly persistent, so that the land never had a chance of becoming dry.—*F. M. Bland.*

REEPHAM, WHITWELL VICARAGE. — From August 16th to December 31st R fell on 104 out of 138 days. The first six months produced only 9·68 in. of R, but the latter six gave 19·22 in.—*R. Freeman.*

**DIVISION V.—SOUTH WESTERN COUNTIES.****WILTSHIRE.**

MAIDEN BRADLEY.—R 11·39 in., and rain days 17, above the average of 21 years, and, excepting 1903, the wettest year since observations began in 1888.—*A. W. Hartopp.*

SALISBURY PLAIN, SHREWTON.—As 1908 was remarkable for S storms, so was 1909 notable for big R storms. It was a disastrous year for farming, the crops being spoiled and next year's wheat endangered.—*F. J. Wardale.*

**DORSETSHIRE.**

UPWEY, PORTLAND WATER WORKS.—The year was remarkable for the number of days on which more than 1·00 in. of R fell, no less than 7 such days being recorded, compared with 7 days during the previous 5 years. S fell on 12 days during the year.—*R. S. Henshaw.*

BEAMINSTER VICARAGE.—R 3·33 in. above the average of 37 years.—*A. A. Leonard.*

**DEVONSHIRE.**

TAVISTOCK, STAFFORD, WHITCHURCH.—A cold, fine and sunny year, with less R and rain days than usual. There were two absolute droughts of 15 days each ending February 25th and May 15th. The longest rain spells were 22 days ending March 25th, with 4·99 in., and 18 days ending October 17th, with 6·74 in. Mean temp. 47°·9.—*Edwin E. Glyde, F.R.Met.Soc.*

BROAD CLYST, BROCKHILL.—R ·45 in. below, and rain days 5 above, the average of 30 years.—*W. T. Bayne.*

IDEFORD RECTORY.—R ·62 in. above the average of 22 years.—*Gerard J. Ford.*

AXMINSTER, LEA COMBE HOUSE.—A dry, cold winter was followed by a genial, dry spring, changing in its later weeks to one of the dreariest summers on record. This early gave place to a wet, inclement and tempestuous autumn. Although the R was about 10 inches above the average, the number of rain days was not excessive. *A. C. F. Luttrell.*

BIDEFORD, BEECHCROFT.—The R was insufficient until October, and the town water supply was frequently cut off for much of the 24 hours. With the exception of the early part of August there was little summer heat, and things in the garden did not seem to grow as well as usual, yet small fruit was abundant.—*A. H. Hobhouse.*

TIVERTON, ST. PETER STREET.—Wet and cold except during February and May and the first fortnight of August. Low temp. and frequent showers through the summer were bad for flowers, fruit and hay; some of the hay was not got in till the fine weather in August. Heavy R and floods occurred in October.—*M. E. Gill.*

PARRACOMBE.—A dry and warm spring was followed by a dry May and June, but every other month, except November, was abnormally wet. October and December together had nearly 20 in. of R.—*J. F. Chanter.*

### CORNWALL.

HELSTON, TENDERAH.—One of the driest seasons known, the total R from April 1st to September 30th amounting to only 9·65 in., and the total for the year being fully 6 inches below the average. The prevailing wind in the summer months was N.—*J. Walker Tyacke.*

REDRUTH, TREWIRGIE.—R 5·13 in. below the average of 30 years. There were two absolute droughts of 16 and 15 days' duration respectively, ending on May 16th and August 16th. A rain spell occurred from September 30th to October 16th, 17 days, with 5·60 in. of R. Mean temp. 49°·2.—*Arthur Pearse Jenkin, F.R.Met.Soc.*

EMPACOMBE [DEVONPORT].—R 1·52 in. below the average of 20 years.—*J. Sandercock.*

LOSTWITHIEL, LANWITHAN.—R 3·46 in. below the average of 25 years.—*Mabel Foster.*

CALLINGTON, MOUNT LODGE.—R about 2 inches below, and rain days about 20 below, the average. The wettest week of the year was that ending 26th September, when 3·33 in. of R were measured. An absolute drought of 20 days duration lasted from July 28th to August 16th.—*Geo. Brown.*

**SOMERSET.**

BRIDGWATER NURSERIES.—In the early part of the year the ground got very dry to some depth and it was not until the autumn that it got wet again. Fruit trees suffered a great deal, various forms of blight being very prevalent.—*Henry Corder.*

EDINGTON.—The winter was dry and cold, with short but severe frosts, and the spring was fine and genial. The summer was the worst on record since 1888, and, except for August, had no pretence to that name. The hay, though abundant, was late and much was damaged. The autumn was wet, rough and inclement in spite of a dry November, and temp. was generally low. The year as a whole was wet, cold and gloomy, and although crops were abundant their quality suffered from want of heat and sunshine.—*A. C. F. Luttrell.*

CRANMORE HALL.—R 4·01 in. above the average of 35 years.—*Edward B. Whish.*

STON EASTON.—R 1·37 in. above the average of 41 years.—*H. E. Hippisley.*

EAST HARPTREE, HARPTREE COURT.—R 3·12 in. above the average of 27 years.—*W. W. Kettlewell.*

**DIVISION VI.—WEST MIDLAND COUNTIES.****GLOUCESTERSHIRE.**

CLIFTON, PEMBROKE ROAD.—R 2·19 in. above the average, but all the excess was in the last quarter.—*R. F. Sturge, F.R.Met.Soc.*

STROUD, STANLEY PARK.—R 2·77 in. above the average of 21 years.—*W. H. Marling.*

LONGNEY VICARAGE.—One of the worst years known, recalling 1879. Especially disastrous to hay crops and also to corn crops. March, October and December had the most R.—*W. E. Stewart.*

GLOUCESTER, BELGRAVE ROAD.—R ·72 in. below, and rain days 4 above, the average of 26 years. Mean temp. 1°·5 below the average.—*W. Piffe Brown.*

CIRENCESTER, DOLLARWARD HOUSE.—A dry winter ended with a cold, snowy and wet March. April and May were warm, and the latter month remarkably sunny and dry, but the rest of the year, except for 10 hot days in August and a mild and dry November, was cold and wet. The year will be remembered for the magnificent crops ruined by the prolonged wet of the summer and autumn.—*C. P. Hooker, F.R.Met.Soc.*

**HEREFORDSHIRE.**

MUCH DEWCHURCH, BRYNGWYN.—Until September the year was a dry one, but the wet months of October and December brought the total fall above the average. Temp. was low with the exception of a hot fortnight in August.—*James Rankin, F.R.Met.Soc.*

BURGHILL COURT.—Great warmth in April and May, and a want of it in July, August and September. The harvest was good and well got in, but was wanting in colour. Fruit was sweet, especially peaches and pears.—*E. D. Woodhouse, F.R.Met.Soc.*

**STAFFORDSHIRE.**

MAYFIELD HOUSE [ASHBOURNE].—The total duration of sunshine 1407·9 hours, was much above the average. Mean temp. 45°·3.—*Graham C. Lawson.*

**WORCESTERSHIRE.**

WORCESTER, BOUGHTON PARK.—The first three months were cold, but April was more springlike except for a fall of S on the last day. The dry May did not improve matters, and there was practically no summer except for a beautifully hot, dry fortnight in the first half of August. The wet September prevented the gathering in of an otherwise good harvest, and farmers suffered much loss. Winter set in early, with frost and a good deal of S in the middle of November.—*Amy A. Isaac.*

**WARWICKSHIRE.**

LONG COMPTON, WESTON PARK.—The year began well, but the heavy R and S of March 6th spoiled all that month for farm work, and the R on July 27th and August 1st did enormous damage to corn.—*H. A. Warriner.*

FARNBOROUGH.—The R was the heaviest since 1884, and altogether the year was gloomy and sunless.—*D. J. G. Prater.*

**DIVISION VII.—NORTH MIDLAND COUNTIES.****LEICESTERSHIRE.**

BLABY, WHETSTONE ROAD.—January and February were dry and bright, with cold spells. Heavy S falls occurred early in March,

followed by a cold spell ending on 18th. Fine weather followed until well into May, but the summer was dull and dreary except for 13 days in August. September, October and December were wet, but November was cold and fine.—*G. F. Shoults*.

MARKET BOSWORTH, OSBASTON HALL.—In spite of cold and wet, crops were good, especially wheat. May was dry, and June and July cold and ungenial, but redeemed by hot sunshine from August 2nd to 16th. Most of the wheat and oats were carted in September, but barley was not carted until the end of October.—*Thomas Cope*.

BELVOIR CASTLE.—R 2·43 in. above the average. Mean temp. 46°·5, or 1°·5 below the average. Duration of sunshine 1608·4 hours, or 96·5 hours above the average ; 61 sunless days.—*W. H. Divers*.

### LINCOLNSHIRE.

WELBOURN.—There was a general absence of sunshine and warmth, the only hot spell being at Whitsuntide. There was no summer to speak of, and the harvest season was wet and cold.—*Margaret Burt*.

LOUTH, WESTGATE.—R 1·76 in. above the average of 37 years.—*F. Faussett*.

### NOTTINGHAMSHIRE.

NOTTINGHAM, BEESTON FIELDS.—R 3·05 in. above the average, and mean temp. 1°·0 below the average. The summer months were all deficient in warmth.—*Geo. Fellows*.

WORKSOP, HODSOCK PRIORY.—A cool and rather wet year, but with more than average sunshine. April and October were warm months, while March and June, especially the latter, were cold ones. The only summer weather was for a fortnight early in August. The wettest month was December, while February and November were very dry, the latter exceptionally so. Crops were on the whole fairly good, but haymaking was interfered with by R, as was also the harvest on the later soils.—*Henry Mellish, F.R.Met.Soc.*

## DIVISION VIII.—NORTH-WESTERN COUNTIES.

### CHESHIRE.

CHESTER, CHRISTLETON HALL.—The winter was generally dry, with bright days and frosty nights. A dry, bright spring was followed by a dull, wet and unsettled summer, with low temp. Of the autumn months October and December were both unusually wet, and November was drier but colder than usual.—*John Weaver*.

**LANCASHIRE.**

BLUNDELLSANDS, PARK CORNER.—R 2·76 in. above the average of 33 years, and, with the exception of 1903, the greatest in any year since 1892.—*A. L. Reade.*

ACCRINGTON, ST. JAMES'S VICARAGE.—More remarkable for the number of rain days than for the amount of R. A very disappointing year except for waterworks companies.—*A. Spencer.*

CATON, ESCOWBECK.—A cold year with little sunshine. Temp. only reached 70° on 9 days, never reaching it in June and only once in July. December was the wettest month since October, 1903.—*Albert Greg.*

ARKHOLME, STORRS HALL.—In spite of a fair amount of bright sunshine the weather was rather disagreeable and disappointing. The getting in of the hay was seriously interfered with by the wet July. August was also wet, and a wet October damaged the grain crop.—*F. F. Pearson.*

BROUGHTON-IN-FURNESS.—There was a deficiency in the R at the end of each of the first six months, but the heavy fall in July caused the aggregate at the end of that month to be 4 inches in excess. This excess was maintained until the end of October, but the wonderfully dry November reduced the amount to almost the average. The heavy R of December gave an excess for the year of 4·36 in. above the average of 10 years.—*Chas. P. Chambers, F.R.Met.Soc.*

**DIVISION IX.—YORKSHIRE.****WEST RIDING.**

DONCASTER, WADWORTH HALL.—The wettest year in 21 years' record.—*J. C. Ross, F.R.Met.Soc.*

WATH-UPON-DEARNE, CHAPEL STREET.—Duration of sunshine 1421 hours ; 67 sunless days. Mean temp. 44°·5. The latest and earliest frosts occurred on June 7th and October 25th respectively. There were 10 TSS and 4 gales.—*F. J. Burman.*

MELTHAM, HAREWOOD LODGE.—R about 6 per cent. above the average, and rain days normal. The coldest year since 1892.—*C. L. Brook, F.R.Met.Soc.*

WAKEFIELD, WALTON HALL.—A cheerless year, for the sunshine of May and November could not blot out the trials of haytime and harvest, nor the tastelessness of fruit.—*Edward Simpson.*

**HORBURY, HIGHFIELDS.**—January and February were remarkably dry, and until the end of May all crops suffered from drought. From June to September it was rainy, cold and dull. November was fine, dry and sunny, and December was the wettest month of that name in memory.—*J. H. Green.*

**PUDSEY, FULNECK.**—The summer was cold and unfavourable to flowers and root crops. The autumn was late and generally mild and damp. November was a glorious month with only two sunless days.—*E. C. Lawford.*

**KEIGHLEY, LONG LEE.**—Though the R was 4·50 in. below the average of 24 years, the year was a poor one for vegetable growth, there having been much cloud and a great deficiency of solar heat. The first 11 days of August were bright and warm, and there was a spell of relatively hot weather in the first half of May, but with these exceptions the year was a disappointing one.—*Chas. Croft.*

### NORTH RIDING.

**LEYBURN, BOLTON HALL.**—R 88 in. above the average of 33 years. The year generally was remarkable for excess of cloudy, sunless weather, evaporation thereby being rendered slow, and these conditions, coupled with low temp., were not favourable for growth.—*F. Scrivener.*

**INGLEBY MANOR.**—R 3·25 in. above the average of 25 years.—*De L'Isle.*

## DIVISION X.—NORTHERN COUNTIES.

### DURHAM.

**SUNDERLAND, WEST HENDON HOUSE.**—R 2·24 in. above the arithmetical average, and 2·58 in. above the geometrical mean for 46 years. March was the wettest month with 4·47 in., and January the driest with ·65 in. S fell on 37 days, attaining its maximum depth of 4½ inches on March 4th.—*T. W. Backhouse, F.R.Met.Soc.*

### NORTHUMBERLAND.

**NEWCASTLE, TOWN MOOR.**—R 2·04 in. above the average of 42 years.—*A. Wright.*

**ILDERTON, LILBURN TOWER.**—A fine spring, but drought in May and June. The summer and autumn were cold and sunless except the first half of August.—*W. Lovett.*

**CUMBERLAND.**

MILLOM, LEYFIELD.—R 2·56 in. above the average of 19 years, wholly due to the heavy fall in December.—*Cedric Vaughan*.

SEASCALE, WHINTHWAITE.—R 5·37 in. above the average of 20 years.—*Robert Hellon*.

BRAYSTONES.—R 8·82 in. above the average of 36 years.—*H. H. Watson*.

EGREMONT, THE GRANGE.—R above the average. Corn crops were good but a month late in ripening owing to the wet summer, then the heavy October R completely spoiled large quantities. Root crops, especially turnips, were below the average.—*John Sherwen*.

ULLOCK.—R 4·76 in. above the average of 15 years. A cold backward year, and a very difficult one for securing crops.—*J. H. Walker*.

COCKERMOUTH, WHINFELL HALL.—There was such dearth of R in May and early June that crops could not grow. The hay harvest was spoiled by bad weather. The heavy R on July 23rd, 24th and 25th flooded two large meadows, and washed away that which was lying cut and spoiled the uncut crop. Heavy floods occurred from October 12th to 24th, which completely spoiled the after crop of grass and made it unsafe to put sheep on.—*F. M. Peile*.

**DIVISION XI.—MONMOUTH, WALES AND THE ISLANDS.****MONMOUTH.**

LLANFRECHFA GRANGE.—A cold summer, with average fruit and hay crops. The wheat harvest was impaired by R, and oats were very bad.—*F. J. Mitchell, F.R.Met.Soc.*

**GLAMORGANSHIRE.**

LOWER PENARTH.—Unusually damp, with many days of high winds and gales. In spite of the dreary weather the health of the town was good, the death rate being 8·3 per 1,000, which has only been equalled once in 20 years.—*Edgar I. Evans*.

OYSTERMOUTH, NEWTON.—January was mild and damp, with little sunshine until 17th, when it became cold and brighter until February 9th, and then dry and frosty until March when S fell to 6th. April was fine till 12th and afterwards stormy and sunless, and May was dry and cold with violent wind to 24th and then milder and wet. June was dry, but July was sunless and wet. August

had a long drought, and September was moderately fine, but October was wet and dull all through with stormy winds and no sunshine. November was mild and damp, and December generally wet and cold.—*Secretan Jones.*

### CARMARTHENSHIRE.

CARMARTHEN, THE FRIARY.—The S was remarkably small in the early part of the year, especially in February. Water was scarce in March and again in September, although the R for the year was up to the average. Crops suffered through the continuous wet weather.—*L. M. Bowen-Jones.*

LLANWRDA, DOLAUCOTHY.—An exceptionally wet year with some abnormal falls of R. The hay crops were quite up to the average, but the corn crops suffered.—*J. Hills-Johnes.*

### PEMBROKESHIRE.

ST. DAVIDS.—The year, on the whole, was dry, the wettest months being March and October, and the driest February and May. Hay crops, though light, were good. Corn crops were excellent, yielded well and were carried in good condition.—*D. P. Williams.*

NEWPORT, LLWYNGWAIR.—The R of March and April, which delayed agricultural operations, was followed by a drought in May and June, when many springs ran dry. The hay crop was very light, but the corn harvest, although late, was excellent.—*G. B. Bowen.*

### BRECONSHIRE.

CRICKHOWELL, GWERNVALE.—A heavy deficiency in R in the first quarter was balanced by the excess in the last quarter, that of the second and third quarters being nearly the average. Hay crops were good but delayed by R in making.—*E. Pirie Gordon.*

### FLINTSHIRE.

ST. ASAPH, ST. BEUNO'S COLLEGE.—With a cold March and a dry May all crops were much retarded, though the wet weather of the summer months caused some improvement in the yield whilst interfering with the gathering. Apart from the fine May the only real summer weather was in the first fortnight of August. November, though dull, had a very low R, but this was more than made up by the excess in December.—*J. Rowland.*

**DENBIGHSHIRE.**

CYFFYLLIOG, FACHLWYD HALL.—Owing to the small R in May and very moderate and drizzling fall in June, the springs gave out and water was very short until September.—*Elliott S. Currey, F.R.Met.Soc.*

**GUERNSEY.**

ST. MARTINS, LES BLANCHES.—R 1·63 in. below the average. February was the driest month of that name since 1896, and October was the fourth wettest month since 1894. Absolute droughts of 23 and 15 days respectively, ended on May 23rd and August 14th. A rain spell lasted from February 26th to March 25th. 28 days with 4·14 in. of R.—*Basil T. Rouswell.*

**SCOTLAND.****DIVISION XII.—SOUTHERN COUNTIES.****WIGTOWN.**

WHITHORN, CUTROACH.—R slightly in excess of the average ; the number of falls above an inch was the greatest in 15 years. The temp. in most months was decidedly below normal, though the year closed with very mild weather.—*J. G. Martin.*

**KIRKCUDBRIGHT.**

CARGEN [DUMFRIES].—R about 9 inches above the average of 50 years.—*R. F. Dudgeon.*

**DUMFRIES.**

MONIAIVE, MAXWELTON HOUSE.—R 6·07 in. above the average.—*David Brougham.*

**ROXBURGH.**

MELROSE ASYLUM.—R 2·86 in. above the average of 27 years. Rain days normal.—*A. C. Pattman.*

**DIVISION XIII.—SOUTH EASTERN COUNTIES.****MIDLOTHIAN.**

COCKBURN HILL.—Wet and unsettled, with a marked scarcity of sunshine. A remarkable feature was the severe frost in November, which was disastrous to potato and turnip crops.—*Robert Cross.*

**LINLITHGOW.**

BO'NESS, GRANGE.—A fine, but not hot summer, with a great quantity of bloom on trees and shrubs. A heavy and good harvest was got in before the wet weather began in October.—*H. M. Cadell.*

**DIVISION XIV.—SOUTH WESTERN COUNTIES.****LANARK.**

BUSBY, THORNTON HALL.—On the whole a cold and bleak year, with a wet and late harvest season. Early and severe frosts completely ruined the potato crop on many farms in the district, and on some farms oats never ripened.—*John Wilson.*

**DIVISION XV.—WEST MIDLAND COUNTIES.****STIRLING.**

POLMONT, VELLORE.—An exceptionally wet October followed by early and severe frost in November caused serious damage to grain, potato and turnip crops in the district, and consequently much loss to farmers.—*W. Brown.*

FALKIRK, INGLEWOOD, LAURIESTON.—One of the outstanding features was the absence of any lengthened period of warm, summer-like weather, and the sudden changes.—*W. Ballantine.*

BUCHLYVIE, THE MANSE.—R 2·67 in. above the average of 20 years. Corn crops were much damaged by the R in October, and potatoes and turnips by the frost.—*J. A. Macdonald.*

**ARGYLL.**

BALLACHULISH HOUSE.—R about 15 inches below the average of 27 years,—*F. C. Beresford Drummond.*

MULL, QUINISH.—R 8·09 in. below the average of 30 years. In spite of a cold, late spring and a dripping, sunless summer, the crops in the west and north of Scotland, on well farmed land, were up to the average, while oats were far above the average both in grain and straw.—*J. N. Forsyth.*

**DIVISION XVI.—EAST MIDLAND COUNTIES.****FIFE.**

KILMANY, MOUNTQUHANIE HOUSE.—The spring was cold and wet, and growth was at a standstill. The summer, though fairly good, was far from ideal. Hard frost and S prevailed in the last two months.—*David Dinwoodie.*

**PERTH.**

COUPAR ANGUS.—R 26 in. above the average of 30 years. The fall was unusually heavy in October and deficient in August.—*John Robertson.*

BLAIRGOWRIE, BALLINTUIM HOUSE.—A most unfortunate year for farmers. The harvest was late and R came just when the corn should have been carried. A week's hard frost in the end of October spoilt the potatoes.—*M. A. Macdonald.*

**FORFAR.**

FORFAR, LILYFIELD.—The most prominent features were the cold, wet and backward spring, the dryness of August, September and especially November, and the severe and prolonged frosts of the last three months.—*D. M. Mackie.*

**DIVISION XVII.—NORTH EASTERN COUNTIES.****KINCARDINE.**

FETTERCAIRN, THE BURN.—The R was about the average, but very irregularly distributed throughout the year. The season was chiefly noticeable for the constant and often sudden and extreme changes of wind and temp.—*C. McInroy.*

**ABERDEEN.**

BALMORAL.—January and February were fine, but March and April were stormy followed by cold and unsettled weather to the end of July. The first part of August was good, but the remainder of the year was stormy.—*J. M. Troup.*

ALFORD, LYNTURK MANSE.—A very late harvest which was prolonged into December. S fell in early November, and unparalleled frosts occurred from 15th to 18th.—*James B. Duncan.*

**NAIRN.**

CAWDOR CASTLE.—A cold and backward year, with abnormal R and very little sunshine. Winter set in early, and hard frosts occurred in the last three months.—*David Chapman.*

## DIVISION XVIII.—NORTH WESTERN COUNTIES.

## INVERNESS.

GLENELG MANSE.—The year was marked by frequent changes, and, although the R was deficient, the number of rain days was unusually large. Practically three weeks of dry harvesting weather in September were followed by a wet and stormy October, and the severe frosts at the end of that month and in November damaged the potato crop very seriously.—*Alex. Mactaggart*.

LOCH NESS, DRUMNADROCHIT.—R 2·93 in. below, and rain days 4 above, the average of 23 years. Crops were late on account of the unfavourable weather, and on the higher grounds were much damaged by frost and S.—*Angus Grant*.

## ROSS AND CROMARTY.

BRAEMORE HOUSE.—S set in during the last week of October and continued till the end of the year with an occasional interval of a few days' thaw. Severe frost set in at the same time with the result that tons of potatoes had to remain unlifted in the ground.—*Alice Fowler*.

ALNESS, ARDROSS CASTLE.—A cold and very unsettled year, but with R slightly below the average. Frosts were excessive, with S falls in November and December.—*W. L. Minty*.

TARBAT GARDENS.—The winter was somewhat mild, but was followed by a cold, late spring, with continuous E. winds. Summer was even more disappointing, and matters did not improve until autumn.—*C. Dyer*.

## DIVISION XIX.—NORTHERN COUNTIES.

## SUTHERLAND.

STRATH MORE, ALTNACAILLICH.—The oldest inhabitant does not remember such a wet year.—*Duncan Fraser*.

## CAITHNESS.

CASTLETOWN, THE CLETT.—The first half of the year was drier than usual, and farmers were able to get their crops laid down under favourable conditions. The harvest was rather late, and before the crops were secured heavy R set in which, with frosts, destroyed some of the corn.—*John Calder*.

**ORKNEY.**

BALFOUR CASTLE.—A fairly dry and mild spring was followed by a wet summer. The last three months were excessively wet, cold and stormy, with heavy S from December 18th to 21st.—*W. Liddell.*

**IRELAND.****DIVISION XX.—MUNSTER.****CORK.**

BALLINEEN, KILMEEN RECTORY.—A particularly dry year in S.W. Ireland. The summer was also remarkable for low temp. after May.—*W. A. Lamb.*

MIDDLETON, BALLYNACURRA.—The year was remarkable for the small number of rain days and for some heavy falls in short periods. There were periods of drought in May, August, September and November.—*J. H. Bennett.*

CORK, FERNHURST AVENUE.—R 8·06 in., and rain days 27, below the average. Mean temp. 47°·4, or 2°·6 below the average.—*Wm. Miller.*

GLANMIRE, LOTA LODGE.—The year was remarkable for the dry summer, the cattle suffering much from the grass being dried up in August and September. The deep springs dried up in the latter month and did not re-open until the middle of December.—*A. F. Sharman Crawford.*

MALLOW, SUMMER HILL.—R 7·02 in. below the average, this being the driest year in 20 years' record.—*J. F. Williamson.*

**KERRY.**

DARRYNANE ABBEY.—The R was 10 per cent. below the average of 30 years.—*D. O'Connell.*

**WATERFORD.**

WATERFORD, BROOK LODGE.—R 2·66 in. below the average of 35 years.—*C. Percival Bolton.*

**TIPPERARY.**

NENAGH, KILBOY.—Cold and gloomy until August when there were three weeks of very fine weather. September was fair, and

October very wet. There was an unusually large amount of sunshine throughout November, and 10 days' hard frost from 16th to 26th of that month.—*M. F. Dunalley.*

NENAGH, CASTLE LOUGH.—R 6·08 in., and rain days 20, below the average of 31 years.—*S. G. J. Parker-Hutchinson.*

NENAGH, HIGHLANDS.—A mild winter and spring, with no frosts to interfere with farm operations. Hay time was serious on account of a rather sunless summer, and for the same reason the harvest was somewhat late.—*John Mounsey.*

### CLARE.

NEWMARKET-ON-FERGUS, CARRIGORAN.—The spring was wet, cold and sunless, with frequent frosts until the middle of May. The summer was dry and very sunless except for about half of August, and the autumn was wet and cold, excepting the middle of September.—*Alfred Barker.*

MILTOWN MALBAY.—Wintry, cold conditions prevailed until August when there were 12 days of torrid heat, and vegetation sprang into life. The warmth of August and September gave the country fair average crops, but the last three months were rainy, cold and tempestuous, with some S, and much T and L.—*M. Molohan.*

## DIVISION XXI.—LEINSTER.

### WEXFORD.

FETHARD-ON-SEA.—The temp. was low as a rule, but there was an unusually large amount of bright sunshine, and few rain days. The summer was dry, bright, cool and bracing.—*W. F. A. Ellison.*

### WICKLOW.

NEWCASTLE, KILLADREENAN.—Cold and windy as a whole, but very fine in August and September. One of the driest summers for many years.—*L. T. Barra.*

### QUEEN'S COUNTY.

SUNNYSIDE [CARLOW].—The genial summer and autumn resulted in the best harvest for many years.—*E. Shackleton.*

### DUBLIN.

KILLINEY, CLONEEVIN.—R 2·14 in., and rain days 12, below the average of 24 years.—*R. O'B. Furlong.*

RATHMINES, LEINSTER ROAD.—January was mild and featureless, and February, as is frequently the case, was the driest month in the year. The only spell of real winter weather occurred in the first week in March. April was a typical month of sunshine and showers, and was followed by a very sunny, but cold and harsh, May. June was cold, bleak and almost sunless, and July had miserable weather. The only real summer occurred in the first fortnight in August when some high temp. was recorded. September was the coldest since 1887, and October opened warm and showery, but had a remarkable frost in the last week. November was mostly fine, dry and cold, and December was remarkable for two heavy S storms.—*E. H. Cannon.*

BALBRIGGAN, ARDGILLAN.—R 1·51 in., and rain days 13, below the average of 16 years.—*E. R. Taylor, F.R.Met.Soc.*

#### WESTMEATH.

RATHOWEN, CROMLYN.—A cold, sunless and dry year. Hard frost set in in October with S, followed by an unusually dry November.—*C. Maud Battersby.*

#### DIVISION XXII.—CONNAUGHT.

##### GALWAY.

TUAM, GARDENFIELD.—R 4·30 in. below the average of 30 years. The summer was rather cold and very dry, the R of June, July and August being less than half the average.—*H. Kirwan.*

##### MAYO.

CONG, THE GLEBE.—R 4·15 in. below the average. The weather from May to September was remarkably fine and dry.—*R. Y. Lynn.*

#### DIVISION XXIII.—ULSTER.

##### CAVAN.

KILLESHANDRA, DROM MULLAC.—There were more fine days than in 1908, but the R was greater, and there were more floods than usual in some places.—*Prudence M. Lough.*

BALLYCONNELL HOUSE.—R ·34 in. below the average of 15 years.—*S. B. Roe.*

**MONAGHAN.**

MONAGHAN, ROWANTREE HOUSE.—A mild January was followed by a warm February with a good deal of sunshine. March was cold and stormy except during the third week, and April was showery. May was dry, but with many night frosts, and June was mostly dry but with scorching winds in the middle. July was very showery and at times cold, but August was a splendid month of warm, dry weather. September was showery in the beginning, dry in the middle, and dark and misty at the end. October was a bad harvest month, but November was dry. December was a severe month of frosts and S.—*J. Campbell Hall.*

**DOWN.**

BANBRIDGE, MILLTOWN.—R 2·02 in. below the average of 45 years.—*John Smyth, F.R.Met.Soc.*

**ANTRIM.**

BELFAST, QUEEN'S UNIVERSITY.—R 3·00 in. above the average of 43 years.—*G. Robinson.*

**TYRONE.**

SION MILLS, SION HOUSE.—The early part was decidedly wet, but temp. and R in spring were about the normal, and the weather was favourable for agricultural and gardening work. The summer months, except July, were drier than usual, but the autumn was very wet, making harvest operations difficult, and in many cases crops were spoilt.—*G. I. Herdman.*

**DONEGAL.**

FANAD, TAMNEY RECTORY.—The most salient features were the unusually dry spring and the very severe autumn and early winter. July was by far the worst month of the year. September was an excellent harvesting month and the corn crop was the best for many years. Hay was a complete failure owing to the dry and cold spring, and root crops suffered from the autumnal R.—*A. C. Digby French.*

LOUGH SWILLY, CARRABLAGH.—R 8·30 in. above the average of 22 years.—*A. C. Digby French.*

## HEAVY RAINS IN SHORT PERIODS.

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WE dealt at some length with this section last year, and endeavoured to increase the interest in heavy showers amongst Observers. The most accurate information on the subject would be afforded by recording rain-gauges if such were provided with drums revolving at least once in 24 hours so as to give an open time-scale, and if the Observers could find time to measure the traces, or would send them to us for that purpose. Unfortunately very few records reach us from this source, and we have to rely mainly on observations from ordinary rain gauges, read by enthusiastic Observers who are on the watch after the cessation of a heavy fall of rain which they have timed. As there are but few Observers with the necessary leisure and zeal there can be no guarantee that the heaviest falls on any particular day are noted; and too often, even when the observation is made, there is some uncertainty as to the exact measurement (for a little rain might have collected before the timing began), or as to the exact duration of the heavy fall. But if these uncertainties prevent us from formulating general statements as to the intensity with which rain *may* fall, the observations that reach us are at least sufficient to show that some very remarkable falls have taken place, and, as what has occurred before may reasonably be expected to occur again, they are some guide to the future. Observations of the kind have a distinct practical importance. Sewerage works, for example, intended to cope with the heaviest rainfall in the shortest time that is likely to occur, should be constructed in view of the greatest intensity of rain that has hitherto been recorded. The element of frequency is, however, very important in such circumstances, for it might be considered better economy to run the risk of a rainfall occurring once in fifty years in such volume as to overtax the pipes, than to spend a very large sum of money in providing a system large enough to carry off a fall that may never occur at all in the particular locality.

To show the intensity of rain which may be looked upon as sufficiently remarkable to place on record we again give the diagram produced last year, with the 1909 heavy falls marked upon it, showing, by the shaded area, falls of low intensity which occur so frequently as to call for no remark, and by the three divisions included by two

curves, the falls of noteworthy, remarkable, and very rare, intensity.

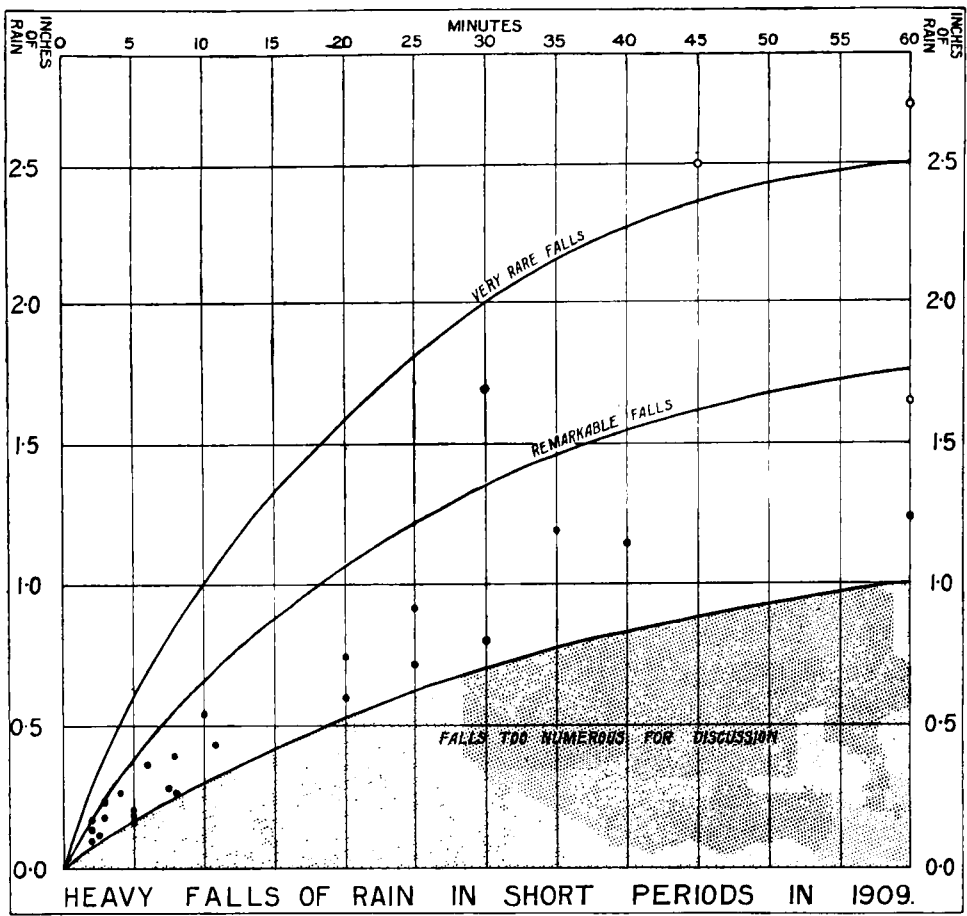


Table I. gives in figures the smallest amount of falls of rain lasting for 10, 20, 30, 40, 50 and 60 minutes respectively, which would

TABLE I.—Limits of Remarkable Falls.

Minutes.	WORTHY OF NOTICE.		REMARKABLE.		VERY RARE.	
	Amount.	Rate per hour.	Amount.	Rate per hour.	Amount.	Rate per hour.
	in.	in.	in.	in.	in.	in.
10.....	·30	1·80	·65	3·90	1·00	6·00
20.....	·53	1·59	1·06	3·18	1·58	4·74
30.....	·70	1·40	1·35	2·70	2·00	4·00
40... ..	·82	1·23	1·54	2·31	2·26	3·39
50.....	·92	1·10	1·67	2·00	2·42	2·90
60.....	1·00	1·00	1·75	1·75	2·50	2·50

TABLE II.—*Rainfalls of very rare Intensity lasting for one hour or less.*

Year.	Date.	Div.	Station	Amount.	Duration.	Rate per hour.
				in.	hr. min.	in.
1888	Mar. 24	XI.	Chepstow, Shirenewton Hall..	·33	0 2	9·90
1906*	June 17	IX.	Ilkley, Eaton Road.....	·50	0 4	7·50
1893	Aug. 10	VIII.	Preston, Corporation Offices...	1·25?	0 5?	15·00?
"	June 14	XI.	Chepstow, Shirenewton Hall..	·62	0 5	7·44
1906	Aug. 2	II.	Guildford, Piccard's Rough ...	·89	0 8	6·68
1892	July 3	VIII.	Bolton, The Park.....	1·00?	0 9?	6·67?
1902	May 30	III.	Cambridge, Sydney Street....	1·10	0 10	6·60
1878	June 23	I.	St. Pancras, Camden Square..	1·00	0 10	6·00
1906	Aug. 2	II.	Haslemere, Lower Street.....	1·46	0 15?	5·84?
1878	June 23	I.	St. Pancras, Camden Square..	1·43	0 15	5·72
1875	Aug. 7	II.	Canterbury, Harbledown.....	2·12	0 20	6·36
1878	June 23	I.	St. Pancras, Camden Square..	1·80	0 20	5·40
1897	" 24	III.	Luton Pumping Station .....	1·65	0 20	4·95
1878	" 23	I.	St. Pancras, Camden Square..	2·30	0 28	4·93
1880	July 22	XI.	Cowbridge, Ash Hall.....	2·90	0 30	5·80
1895	June 27	IX.	Middleton-in-the-Wolds .....	2·00	0 30	4·00
1902	Sep. 10	II.	Surbiton, Vronvelin.....	2·00	0 30	4·00
1904	July 27	"	Cooling, Broomy Farm .....	2·66	0 45	3·55
1909	Sep. 29	V.	Ilfracombe Reservoir.....	2·50?	0 45	3·33?
1895	June 26	"	Marlborough .....	2·71	0 50	3·25
1903	July 18	VI.	Betley Hall [Crewe].....	2·53	0 50	3·04
1905	" 9	III.	Enfield, Carisbrooke.....	2·44	0 50	2·93
1901	" 29	II.	Wadhurst, Lower Cousley Wood..	3·25?	0 55	3·55?
"	" 12	"	Maidenhead, Lowood.....	3·63	1 0?	3·63?
1903	May 30	"	Beddington Corner.....	3·50	1 0	3·50
1897	July 21	IV.	Ipswich, Bishops Hill .....	2·95	1 0	2·95
1895	June 26	VI.	Worcester, Diglis Lock.....	2·75	1 0	2·75
1909	" 1	XII.	Carsphairn, Shiel.....	2·71	1 0?	2·71?
1873	July 28	XVII.	Fettercairn .....	2·60	1 0	2·60
1889	June 7	II.	Tonbridge, Ferndale.....	2·60?	1 0?	2·60?
1886	July 25	VIII.	Sale, Brooklands.....	2·58	1 0	2·58
1899	" 22	V.	Dorchester Water Works.....	2·56	1 0?	2·56?
1875	" 22	"	Trowbridge, Sunnyside.....	2·53	1 0	2·53
"	June 29	III.	Cardington .....	2·50	1 0	2·50
1886	July 25	IX.	Wakefield, Stanley Vicarage..	2·50	1 0	2·50

\* Did not appear in *British Rainfall*.

entitle the rainfall to be considered noteworthy, remarkable or very rare ; from the diagram corresponding values for every minute can easily be obtained.

The very rare falls, as defined in this diagram, which have been recorded since 1868 amount to only 35 instances, and two of these have been added in 1909. As they are extreme values it follows that in some cases at least the question arose as to whether they were sufficiently authenticated to be put on record ; the fact that they are

included shows that the verdict was in their favour, but the frequency of a query to the figures shows that in some instances doubt was not wholly dissipated. It is interesting to notice that of the 35 very remarkable falls 4 were reported from Camden Square and 9 from Division II., the south-east of England, while only 2 were reported from Wales, 2 from Scotland and none from Ireland ; in other words they were most numerous where the observations were most systematic, or the number of observers greatest. Undoubtedly such falls occur far more frequently, and are far more widely distributed, than the Table suggests, but we can only deal with the data which are available.

It is convenient to remember that the greatest fall of one hour's duration which has been recorded in any part of the British Isles is 3·63 in. ; the greatest fall in half an hour (or in three-quarters) is 2·90 in. ; the greatest in twenty minutes, 2·12 in. ; and the greatest in five minutes (or in ten minutes), 1·25 in.

The heavy falls in 1909 which come within the limits of the diagram are shown upon it in black dots if the figures are definite, and in rings if the figures are subject to uncertainty. Full particulars are given in Table III., and the list is not a long one. It contains, however, two instances marked with the double cross indicating "very rare" intensity. The more remarkable is the fall of 2·50 in. in 45 minutes, at Ilfracombe, on September 29th, though a slightly larger fall in the same time (2·66 in. in 45 minutes) was reported at Broomy Farm, Cooling, Kent, on July 27th, 1904, and as much as 2·90 in. fell in 30 minutes at Ash Hall, Cowbridge, Glamorgan, on July 22nd, 1880. The other very rare fall of 2·71 in. in 1 hour, has been exceeded on seven occasions at least within the last 41 years.

Six of the instances of heavy falls exceeding one hour's duration come into the class of remarkable falls ; but only one of the instances of less than an hour's duration does so.

As regards regional grouping one only of the entries in Table III. relates to Ireland, two to Scotland and none to Wales ; four refer to London, and no less than sixteen to the counties in Division II., thus nearly half the entries were reported from the south-eastern corner of England. We do not suppose that intense rain is much commoner there than in other parts of the country ; but there are certainly more Observers looking out for it.

None of the instances of heavy falls reported occurred in January, February, March, May or November, and only one each in April and

December. Three occurred in July, six in October and seven in June, while nine occurred on three days in August. Most interest attaches to the twelve instances in September, three of which occurred on the 23rd, and no less than six on the 17th, a date on which there was no very great rainfall in the 24 hours. As usual the heavy falls characterise the days of summer thunderstorms, and the area affected by each fall is probably very small.

TABLE III.—*Heavy Rains in Short Periods in 1909.*

Date.	Div.	Station.	Amount.	Duration.	Rate per hour.
			in.	hr. min.	in.
July 13 ...	I.	St. Pancras, Camden Square <del>X</del>	·17	... 2	5·10
Oct. 13 ...	II.	Ardingly, Lywood House.....	·17	... 2	5·10
Sept. 17 ...	„	Epsom, Ashley Road.....	·14	... 2	4·20
Oct. 5 ...	I.	St. Pancras, Camden Square <del>X</del>	·10	... 2	3·00
June 27 ...	IX.	Huddersfield Cemetery.....	·12	... 2½	2·88
Sept. 25 ...	II.	Epsom, Ashley Road.....	·24	... 3	4·80
Aug. 18 ...	III.	Burnham, Lincoln Hatch .....	·18	... 3	3·60
July 13 ...	I.	St. Pancras, Camden Square <del>X</del>	·27	... 4	4·05
Oct. 11 ...	XXI.	Balbriggan, Ardgillan .....	·21	... 5	2·52
July 7 ...	II.	Brighton, Preston Drove .....	·20	... 5	2·40
June 24 ...	I.	St. Pancras, Camden Square..	·18	... 5	2·16
Oct. 27 ...	II.	Canterbury, Medical Hall ...	·38	... 6	3·80
April 27 ...	I.	Hampstead, Akenside Road <del>X</del>	·29	... 7½	2·32
Sept. 2 ...	II.	Maidstone, Rumwood, Langley	·40	... 8	3·00
June 29 ...	„	Upton Grey, Hoddington House	·27	... 8	2·03
Aug. 25 ...	IV.	Ingatestone, Furze Hall .....	·54	... 10	3·24
„ 25 ...	II.	Betchworth, The Holmes .....	·44	... 11	2·40
June 29 ...	III.	Potters Bar, Little Heath.....	·74	... 20	2·22
Aug. 16 ...	IX.	Hull, Pearson Park .....	·60	... 20	1·80
„ 16 ...	VII.	Chellaston .....	·92	... 25	2·21
June 17 ...	V.	Bradford-on-Avon, Bearfield Ho.	·72	... 25	1·73
July 4 ...	II.	Bodiam, South Park.....	1·57	... 30	3·14
„ 4 ...	„	Tenterden, View Tower.....	1·25	... 30	2·50
Oct. 13 ...	VI.	Droitwich.....	·80	... 30	1·60
Sept. 17 ...	III.	Oxford, Banbury Road .....	1·19	... 35	2·04
„ 17 ...	„	Buckingham, Adstock Fields.	1·15	... 40	1·73
„ 29 ...	V.	Ilfracombe Reservoir .....	2·50?	... 45	3·33?xx
June 1 ...	XII.	Carsphairn, Shiel .....	2·71	1 0?	2·71?xx
Sept. 17 ...	II.	Byfleet, West Hall Gardens...	1·66	1 0?	1·66?
June 6 ...	V.	Honiton, Combe Raleigh .....	1·24	1 0	1·24
Sept. 17 ...	II.	Pyrford Croft .....	1·30	1 40	·78
Aug. 18 ...	„	Cookham Vicarage .....	2·50	1 45	1·43 x
July 25 ...	XVI.	St. Andrews, South Street ...	2·81	2 0	1·41 x
Aug. 18 ...	II.	Maidenhead, Castle Hill .....	2·69	2 0	1·35 x
Sept. 17 ...	„	Frimley, Tomlinscote.....	1·26	2 0	·63
Aug. 18 ...	„	Cookham Vicarage .....	2·81	2 30	1·12 x
Sept. 23 ...	VII.	Castle Bytham.....	3·38	3 0	1·13 x
„ 23 ...	III.	Wittering Rectory .....	2·84	3 0?	·95?x
„ 23 ...	VII.	Grantham, Little Ponton.....	1·80	3 0	·60
Aug. 16 ...	X.	Darlington, Hurworth Grange	2·25	4 45	·47
Oct. 26 ...	II.	Staplehurst, Lindridge Farm..	2·50	6 0?	·42?
Dec. 21 ...	V.	Honiton, Combe Raleigh .....	2·00	6 0	·33

## HEAVY FALLS ON RAINFALL DAYS IN 1909.

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FROM every record of daily rainfall the largest fall is extracted, and the series of maximum falls thus obtained is subjected to special study and discussion. The number of records available for this purpose in 1909 was 3,666, although the total number of records dealt with in the volume is much greater. This is accounted for mainly by the fact that many of the rain gauges from which an annual total is obtained are read only once a month or once a week ; but there are also a good many rain gauges which, although read nearly every day, are occasionally left for two or three days, and may thus accumulate the fall of several days. In the case of these records the maximum fall is only utilized when there was a reading on the previous day also, or when from other evidence we were satisfied as to the entry referring to one day only. In other cases the rain gauge is visited at an hour other than 9 a.m., and such records cannot be utilized, as for purposes of comparison it is essential that the same period of twenty-four hours should be considered. Although the statistical study of maximum falls affords valuable material for the comparison of the rainfall of one year with another throughout the greater part of the existence of the British Rainfall Organization, the process of obtaining the statistics is also turned to account in the preparation of a series of studies on wet days which is of still greater importance. Whenever the list of maximum falls shows that on a particular day a very heavy or a widespread rainfall occurred, we prepare a map of the distribution of rainfall on that day, utilizing the data from all stations and not only from those at which it was the wettest day in the year. When the rain continues unbroken from one day to another so that the rainfall was divided at 9 a.m. between two rainfall days, we often group these two days so as to deal with the whole rainfall of the storm at once in order to collect material for arriving at some general conclusion on the natural history of showers. The study of maximum falls, which was formerly an end in itself, has, during the last ten years, gradually assumed the position of a starting point for many different lines of investigation of daily rainfall. Thus while Part II., the Abstract, has changed little from the form in which it has always

appeared, Part I., the Chronicle, has developed greatly, and by the increasing use of cartographic methods, including the tracks of barometrical depressions taken from the Meteorological Office Weather Reports, we are able to exhibit relationships which promise to throw light on the place of heavy falls of rain in the larger system of meteorology.

As space is not available for printing all maximum falls on rainfall days (to save space the letter **M** is used instead of repeating the words "maximum fall") only the most important are selected for quotation, the limits being so arranged as to include all **M** greater than 2·50 in., which are remarkable in whatever part of the country they may occur, and also all **M** greater than 7·5 per cent. of the rainfall of the year, which though remarkable in the drier districts would be excluded if the former standard alone were adopted. For 1909 there are 229 **M** quoted which, although a larger number than that for 1908, is still far less than has often been quoted for a single day. Out of the 229 only 23 come in under the percentage rule as less than 2·50 in.

NOTE.—At this point we desire to call special attention to the errata referring to "British Rainfall, 1908," on the back of the title page of this volume.

## Part I.—Chronicle.

### January 17th.

**M** occurred at about 40 stations in Scotland and the north of Ireland, the heavy rain melting large quantities of snow which was lying on the ground and giving rise to floods in some districts. Five of the stations in Scotland gave quantities large enough to quote.

XIII.	Gameshope Farm (Edinburgh W.W.)...	2·64 in.	or 3·6 per cent.
XVI.	Balquhiddy (Stronvar) .....	3·20 "	4·7 "
"	Lochearnhead (Ardvoirlich) .....	2·55 "	4·6 "
XVIII.	Loch Arkalg (Achnacarry).....	3·09 "	4·7 "
"	Invergarry .....	2·85 "	4·9 "

### February 2nd.

The commencement of a prolonged rain in the west of Scotland, north of England and north of Ireland brought **M** to about 30 stations, mainly in Scotland, and 16 of these appear below. The falls of 6·46 in. at Kinlochquoich and 5·58 in. at Kinlochleven were amongst the most remarkable in the year.

X.	Ambleside (Skelwith Bridge).....	3·54 in.	or 3·8 per cent.
XV.	Dunoon (Reservoir) .....	3·50 „	4·7 „
„	Strachur (Tombuidhe) .....	3·24 „	4·7 „
„	Inveraray (Brenchoillie) .....	3·40 „	4·3 „
„	Dalmally (Schoolhouse) .....	4·28 „	5·3 „
„	Morvern (Ardtornish) .....	2·62 „	3·8 „
„	Strontian (Laudale) .....	3·02 „	3·7 „
„	Glenleven (Blackwater) .....	3·92 „	5·8 „
„	„ (Kinlochleven) .....	5·59 „	7·0 „
„	Loch Eil (Corran).....	3·25 „	4·6 „
XVIII.	Loch Arkaig (Glen Dessary) .....	4·80 „	5·2 „
„	Loch Nevis (Inverie) .....	2·75 „	3·6 „
„	Lochquoich (Kinlochquoich) .....	6·46 „	5·7 „
„	„ (Glenquoich) .....	4·26 „	4·3 „
„	Glencarron .....	2·55 „	3·6 „
„	Kinlochewe.....	3·00 „	4·4 „

### February 3rd.

The continuation of the heavy rain of the previous day brought **M** to about 30 stations in the north of Ireland and the north of England where three falls heavy enough to quote were recorded.

IX.	Slaidburn (Brennand) .....	2·70 in.	or 3·6 per cent.
„	„ (Whitendale) .....	3·35 „	4·4 „
X.	Dungeon Ghyll .....	3·77 „	3·4 „

### March 6th.

**M** occurred at about 150 stations stretching across England from the south-east to the north, and due in most cases to a severe snow-storm accompanied by thunder and lightning. The fall for the day usually varied from 1 to 2 inches, and it is right to mention the fact that the fall reported below was twice as great as at most of the neighbouring stations.

VII.	Mansfield (Berry Hill) .....	2·59 in.	or 7·3 per cent.
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### March 8th.

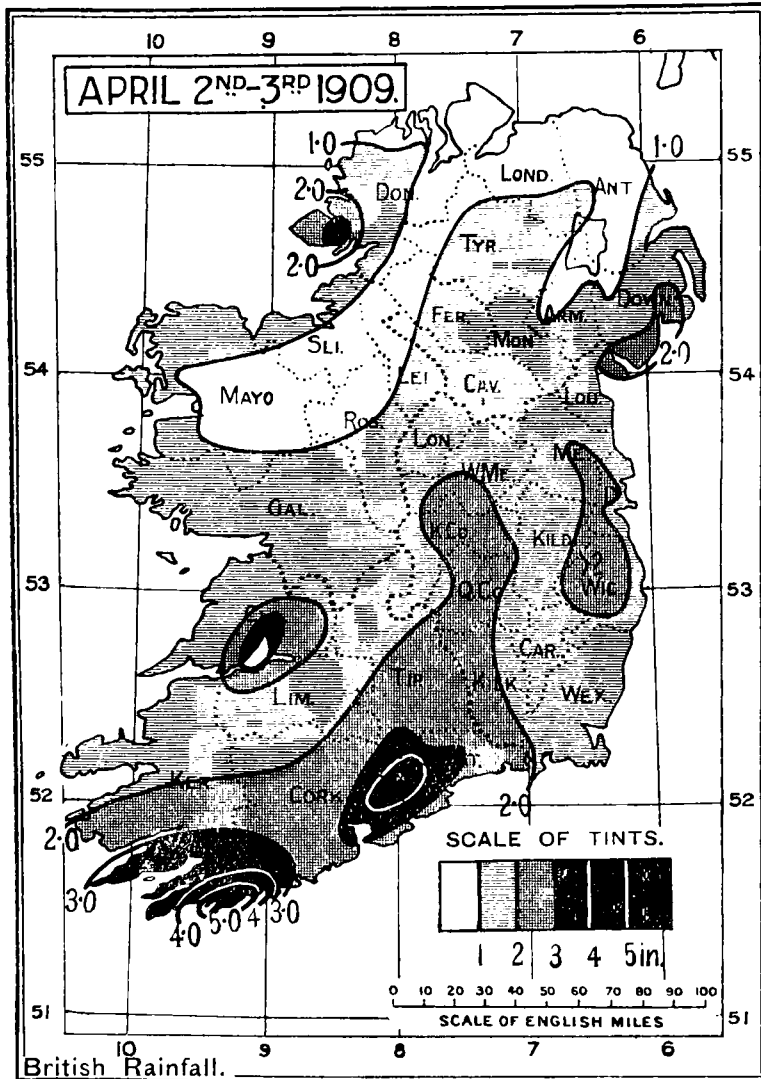
A local fall of considerable intensity brought **M** to about 40 stations in Devonshire and Somerset, seven of which we quote. The rain falling on frozen or snow-covered ground made the effects more severe.

V.	Chudleigh (Ideford Rectory) .....	2·56 in.	or 7·5 per cent.
„	„ (Trusham) .....	2·57 „	7·1 „
„	Moretonhampstead (Mardon) .....	2·90 „	6·9 „
„	„ Rectory .....	2·74 „	6·9 „
„	Spreyton Vicarage .....	2·46 „	8·4 „
„	Chulmleigh (Leigh House).....	2·51 „	6·9 „
„	Instow .....	2·55 „	8·8 „

### April 2nd and 3rd.

For the two days **M** were noted at about 60 stations in Ireland and the south-west of Scotland, those on the 2nd in the south-west of

Ireland mainly, those on the 3rd in the north and in Scotland ; but though the greater amount of rain fell on one day or the other the fall was practically continuous for 48 hours, and serious floods occurred in the south-west. There was very little rain in England. A map of the two days' fall for Ireland has been constructed and



shows that there were four splashes of more than 3 inches of rain ; a very small one in Donegal, a slightly larger on the lower Shannon, a larger one in Cork and Waterford, and the most important in western Cork and Kerry with a maximum in which more than 5 inches fell in the two days around Skibbereen.

Measurements show the following figures :—

	Area, sq. miles.	General Rainfall, inches.	Volume of Rain, sq. miles x inches.
Over 5 inches.....	50	5·05	252
4—5     "     .....	213	4·23	901
3—4     "     .....	1627	3·39	5510
2—3     "     .....	6910	2·36	16305
1—2     "     .....	18308	1·50	27547
Total over 1 inch	27108		50515

The general rainfall on the area with more than 1 inch of rain was 1·86 in. There were only 5462 square miles of Ireland with less than 1 inch for the two days, and the general rainfall for the whole island was 1·69 in., corresponding to a total precipitation of 3,558,210,000 tons, or 797,000 million gallons of water.

There were barometric depressions both in the Atlantic and in the Mediterranean, but none appeared to cross Ireland.

#### April 2nd.

XX. Castletownshend (Glen Barrabane) .....	2·86 in. or 5·5 per cent.
„ Skibbereen (Hollybrook) .....	2·78 „ 6·3 „
„ „ Rectory ... ..	3·12 „ 6·8 „

#### June 1st.

At nearly 100 stations in the south-east of England there were **M**, but the only one of sufficient importance to quote was an absolutely isolated instance in Scotland. The report of this is circumstantial, the observer stating that the fall of 2·71 in. occurred in about an hour; but it must have been of an extremely local character as stations a few miles away had less than an inch.

XII. Carsphairn (Shiel).....	2·71 in. or 3·4 per cent.
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#### June 6th.

Sporadic thunderstorms brought some heavy showers in the south of England, but only 2 **M** were noted, and of these one was

II. Porchester (Noel Cottage) .....	2·62 in. or 8·0 per cent.
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#### June 20th—29th.

Thunderstorms occurred over most parts of England and Wales on one or the other of these ten days, during which a depression wandered slowly across the British Isles from west to east in the south, and then from east to west farther north. Some **M** were recorded on each day, but most on the 23rd (about 50) and the 24th (about 80). The heavy falls were of extremely limited extent, those of the 24th in the Derwent Valley being all in a line  $2\frac{1}{2}$  miles long, other stations within half a mile or a mile of either end giving quite small amounts.

**June 24th.**

VII.	Derwent Dale (Walker House) .....	2.58 in.	or 5.2 per cent.
„	„ „ (Birchinlee) .....	2.53 „	4.7 „
„	„ „ (Howden Dam) .....	2.53 „	5.0 „
„	„ „ (Ridge Farm) .....	3.10 „	7.1 „

**June 25th.**

IV.	Cockfield Rectory .....	2.84 in.	or 9.4 per cent.
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**June 28th.**

III.	Thorney (Wryde House) .....	2.70 in.	or 10.0 per cent.
XI.	Glynceiriog .....	2.74 „	5.9 „

**July 25th.**

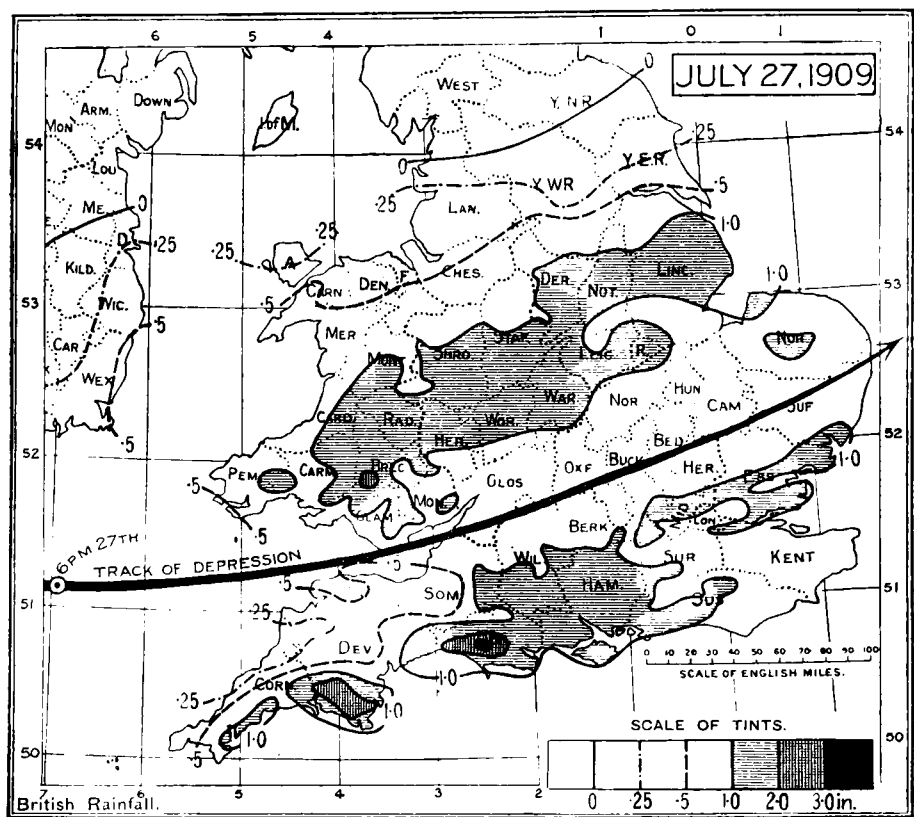
Violent thunderstorms, accompanying a depression which crossed the British Isles from south-west to north-east, brought **M** to about fifty stations in the north of England and the south and east of Scotland. The most severe falls occurred in the East Neuk of Fife where the following were recorded.

XVI.	Colinsburgh (Balcarres) .....	2.73 in.	or 8.3 per cent.
„	Carnbee (Ovenstone W.W.) .....	2.90 „	10.7 „
„	St. Andrew's (Waterworks) .....	2.47 „	8.8 „
„	„ (Greenside Place) .....	2.75 „	8.9 „
„	„ (Queen's Gardens) .....	2.81 „	8.6 „

**July 27th.**

The first great cyclonic rain of the year brought **M** to at least 350 stations in two parallel strips stretching right across the south and the centre of England. The track of the depression, in the rear of which the barometer rose rapidly, crossed from the southern part of Irish Sea, where its centre lay at 6 p.m. on the 27th, to off the coast of Norfolk, where the centre was situated at 7 a.m. on the 28th. The map shows a great smear with more than 1 inch of rain stretching continuously, for 230 miles, from South Wales to Lincolnshire, with an average breadth of 45 miles. At one point in South Wales a fall exceeding 2 inches was recorded, but, except for a small patch in Hereford and Worcestershire, the rainfall did not reach 1.50 in. elsewhere in the northern smear. South of this smear there was a belt of country (50 miles wide) with less than 1 inch but, except in the south-west, with more than half an inch of rain, through the centre of which the track of the depression ran, and south of it again came a narrower smear measuring, with three short gaps, 320 miles in length and averaging rather less than 40 miles wide, extending to the south coast, and broken into four separate splashes where the rainfall exceeded 1 inch. In the south of Devon and of Dorset the centre

of the splash had more than 2 inches of rain, and the heaviest falls, in one case exceeding 3 inches, were in the Dorset patch. These two supply the five records quoted at the end of the paragraph.



The measurement of the rainfall in the two great smears is as follows :—

	Area, sq. miles.	General Rainfall, inches.	Volume of Rain, sq. miles x inches.
<i>Northern Area.</i>			
Over 2 inches.....	29	2.24	65
1—2     ,,     .....	10408	1.20	12443
Total .....	10437		12508
<i>Southern Area.</i>			
Over 3 inches.....	22	3.41	75
2—3     ,,     .....	372	2.36	877
1—2     ,,     .....	6671	1.28	8547
Total .....	7065		9499
<i>Combined Areas.</i>			
Over 3 inches.....	22	3.41	75
2—3     ,,     .....	401	2.35	942
1—2     ,,     .....	17079	1.23	20990
Total .....	17502		22007

The general rainfall over 1 inch in the northern area was 1·20 in., that in the southern area 1·34 in., and the general rainfall over all with more than 1 inch was 1·26 in. On the occasion of this fall light rain extended into the south-east of Ireland, but only extended in Great Britain to a line drawn from Fleetwood to Whitby; to the west and north of those limits the day was rainless.

In view of the frequency with which the heavy fall in a cyclonic rain lies wholly to the left of the track of the centre: this map is very instructive. Had the whole system been shifted 50 miles or so to the south it would have abundantly confirmed the earlier generalization, for the southern smear would then have been lost at sea. As it was, however, the heaviest fall is seen to have occurred in the smear which lay wholly to the right of the apparent track of the centre. We must not, in making this generalization, forget, however, that the isohyetal lines are plotted with so many data that, as represented, they cannot be more than a mile or so from their true position at any point; but the track is drawn from two extreme points between which it quite probably diverged considerably from a straight line.

V.	Winterbourne Steepleton .....	2·85 in.	or 6·5 per cent.
„	Bradford Peverel House .....	2·53 „	5·9 „
„	„ „ .....	2·78 „	5·7 „
„	Wynford House.....	3·75 „	7·8 „
„	South Brent (Great Aish) .....	2·85 „	4·5 „

#### August 1st.

A long-continued, heavy fall of rain in the north-east of England brought **M** to about 60 stations. The depression accompanying the rain passed southward from the Scottish border through the centre of England and turned eastward to the North Sea coast in Suffolk. All the heavy falls, of which four are large enough to quote, occurred to the left of the track.

VII.	Thornton Curtis .....	2·31 in.	or 7·6 per cent.
IX.	Hull (Pearson Park).....	2·68 „	8·7 „
„	„ (Springhead).....	2·89 „	9·0 „
„	Cottingham (Waterworks).....	2·25 „	7·7 „

#### August 15th—16th.

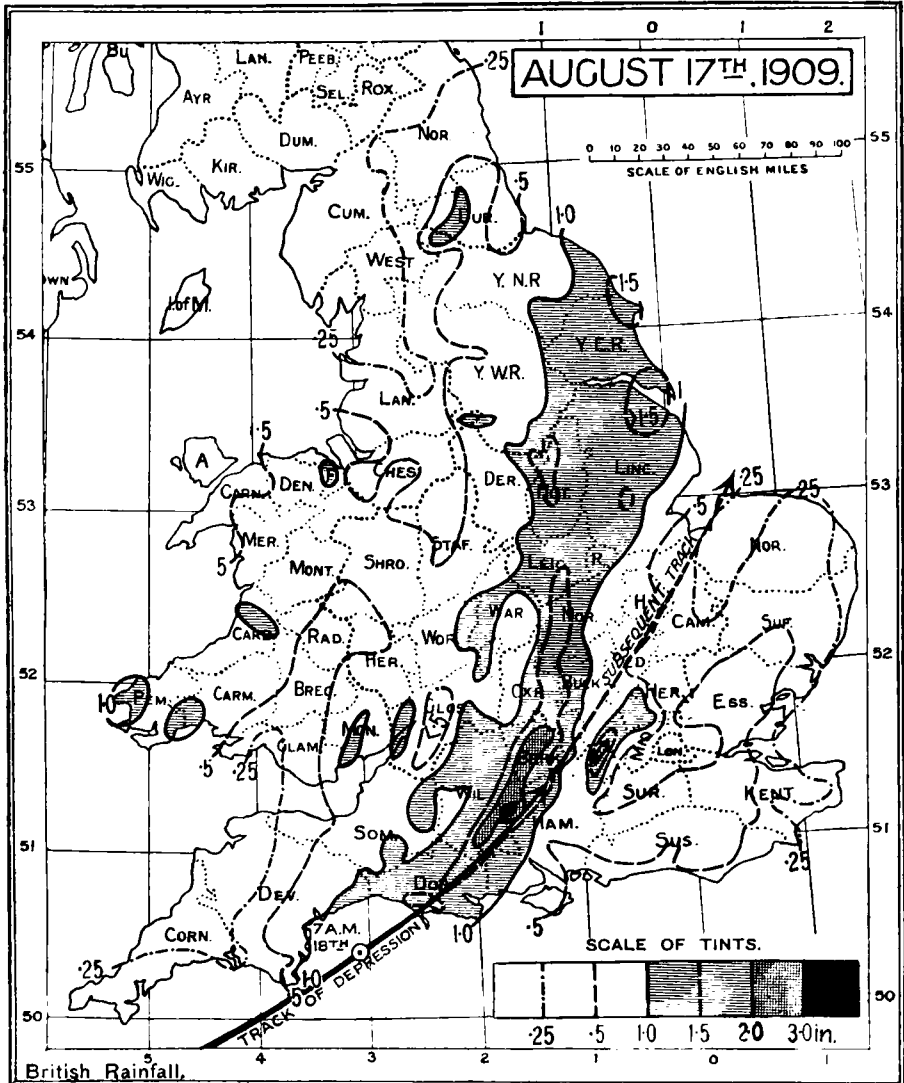
About 20 **M** occurred along the track of a depression which traversed England from North Devon to the Wash. Falls much exceeding an inch occurred only in Yorkshire and Northumberland, one occurred on the 16th in a dry enough district to make it noteworthy.

#### August 16th.

X.	Darlington (Hurworth Grange).....	2·25 in.	or 8·2 per cent.
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**August 17th.**

A second depression followed on the 17th—18th, nearly in the track of that of the 15th—16th; the track ran south of Cornwall and Devon and then curved north-eastward from Dorset to the Wash. It produced a steady, prolonged rain broken by some heavy thunder-showers, and **M** were reported from about 270 stations, almost all on



the 17th, and affecting a comparatively narrow belt of country running from Lyme Regis to Whitby. Of these, eight come within the limits to be quoted below. The map shows that there were at least three belts with more than an inch of rain in the rainfall day of the 17th, the largest running continuously from South Devon to the North

Riding, a distance of 350 miles with a mean breadth of about 45 miles, a smaller one parallel to it on the south-east between Farnborough and Luton, only 45 miles long and about 8 wide. The track of the depression appeared to pass between these two with the larger on the left. Each wet area contained a strip with more than 2 inches, the larger running for 60 miles, from near Crewkerne to Abingdon, with a central patch of more than 3 inches near Ludgershall. A third belt of high rainfall ran in a chain of isolated 1-inch areas from Pembroke to Durham, parallel with the other two but separated from the long wet belt by a broad area in which the rainfall at many places was less than half an inch. The other lines on the map indicate a general structure of parallel belts of higher and lower rainfall.

The measurements of the area with more than one inch of rain are:—

*Western Area.*

	Area, sq. miles.	General Rainfall, inches.	Volume of Rain, sq. miles $\times$ inches.
Over 1 inch .....	505	1.11	562

*Central Area.*

Over 3 inches.....	14	3.07	43
2—3     ,, .....	354	2.30	814
1—2     ,, .....	11177	1.31	14640
Total .....	11545		15497

*Eastern Area.*

Over 2 inches.....	25	2.32	58
1—2     ,, .....	303	1.17	354
Total .....	328		412

*Three Areas.*

Over 3 inches.....	14	3.07	43
2—3     ,, .....	379	2.30	872
1—2     ,, .....	11985	1.30	15556
Total .....	12378		16471

The general rainfall where more than 1 inch fell was 1.11 in. in the Western Area, 1.34 in. in the large Central Area, and 1.26 in. in the small Eastern Area; the general rainfall for all parts of the country with more than 1 inch was 1.33 in.

II. Tidworth House [Ludgershall] .....	3.30 in. or 11.1 per cent.		
„ Maidenhead (Heywood Park) .....	2.63 „	8.8 „	
„     „     (The Firs, Castle Hill).....	2.69 „	9.4 „	
„ Cookham Vicarage .....	2.66 „	9.1 „	

II.	Wantage .....	2·43 in. or 9·0 per cent.
„	Abingdon (The Square House) .....	2·20 „ 8·4 „
„	„ (Twickenham House) .....	2·21 „ 8·5 „
„	„ (Caldecott House) .....	2·04 „ 7·6 „
V.	Ludgershall (Collingbourne Kingston)..	2·43 „ 8·6 „

### September 17th.

Severe thunderstorms brought about 10 M in Divisions II. and III., one of which has to be noted.

II.	West Byfleet (Broadoaks) .....	2·12 in. or 7·7 per cent,
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### September 22nd.

Violent thunderstorms affected many parts of England, but brought few very heavy falls, only about 10 M being recorded. One, however, was of considerable amount.

III.	Wittering Rectory .....	2·84 in. or 10·3 per cent.
VII.	Stamford (St. George's Square).....	2·17 „ 7·8 „

### September 27th—29th.

An irregular shallow depression was crossing the British Isles from the westward on September 27th, 28th and 29th, and produced rain generally over Ireland and the west of Great Britain on the 27th, over Wales and the west of England on the 28th, and in the east of England on the 29th, when a few sporadic heavy falls occurred during thunderstorms. On the 27th, M were reported from about 50 stations in Ireland and Wales; on the 28th from about 260 stations in Wales and England; and on the 29th from about 10 stations in England. The track of the depression is given on the map we reproduce as it is shown in the *Monthly Weather Report*, but an examination of the daily maps as given in the *Daily* and in the *Weekly Weather Report*, leaves us in some doubt as to the actual movement of the centre, which seems from them to have been farther to the south and west, and we do not lay any stress on the relation of the distribution of rain to this track. The large falls in North Devon and South Wales, which are quoted below, all occurred on the 28th: but as the rain, though much lighter on the 27th, was continuous for the greater part of the two days, we have prepared the map for the 48 hours. It is a fairly characteristic cyclonic smear, the area with more than 1 inch widening from the west of Ireland to the middle of Great Britain, with heavier splashes in the west of Ireland, and especially in Wales and North Devon. The measurements show for the 48 hours:—

*Ireland.*

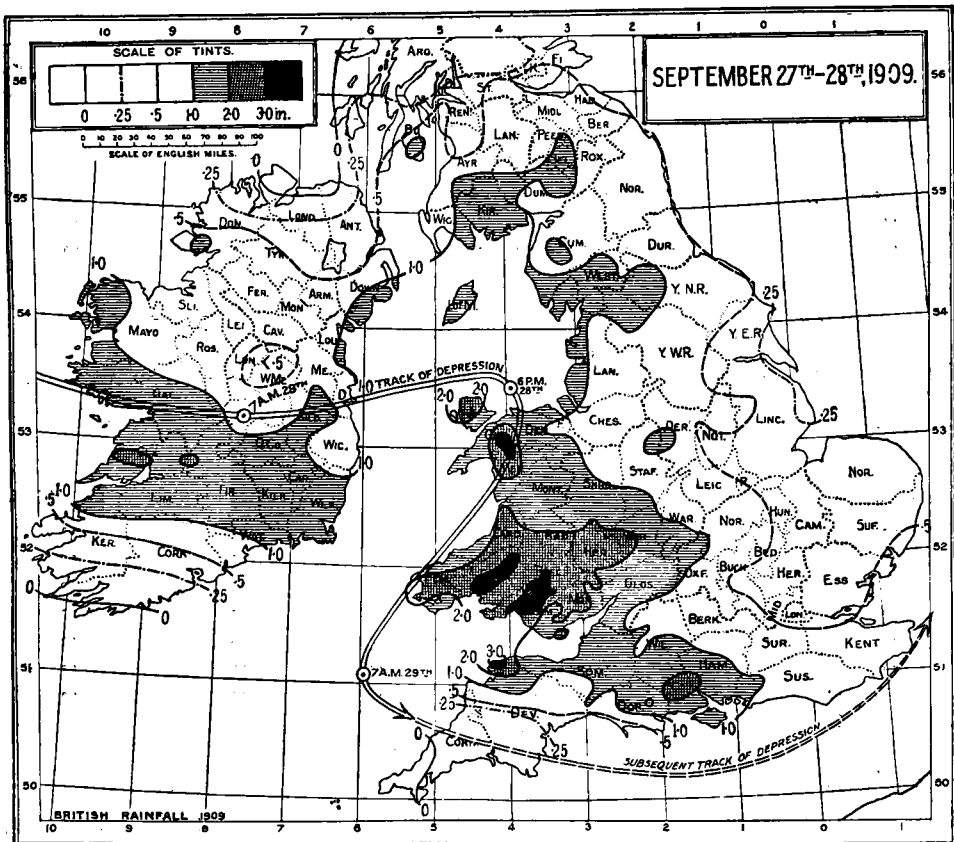
	Area, sq. miles.	General Rainfall, inches.	Volume of Rain, sq. miles x inches.
Over 2 inches.....	256	2.16	554
1—2   ,,   .....	11451	1.34	15313
Total .....	11707		15867

*Great Britain.*

Over 3 inches.....	621	3.52	2188
2—3   ,,   .....	4686	2.37	11120
1—2   ,,   .....	18277	1.49	27150
Total .....	23584		40458

*British Isles.*

Over 3 inches.....	621	3.52	2188
2—3   ,,   .....	4942	2.36	11674
1—2   ,,   .....	29728	1.43	42463
Total .....	35291		56325



The general rainfall of the areas on which more than an inch fell, was for Ireland 1.36 in., for Great Britain 1.72 in., and altogether 1.60 in.

**September 28th.**

V.	Woolacombe .....	3.13 in.	or 9.0 per cent.
„	Parracombe ..	2.54 „	4.7 „
„	Ilfracombe (Reservoir).....	2.94 „	6.2 „
„	„ (Bickleighscombe) .....	2.95 „	6.9 „
VI.	Mitcheldean (Blaisdon) .....	2.20 „	7.6 „
XI.	Mumbles (Bristol Channel Yacht Club)	2.72 „	6.7 „
„	Swansea (Le Mayals) .....	2.51 „	3.6 „
„	Neath .....	2.93 „	5.2 „
„	„ (Fairy Land) .....	2.83 „	5.9 „
„	Treherbert (Bute Colliery).....	2.76 „	3.3 „
„	„ (Tyn-y-waun) .....	2.78 „	3.2 „
„	Rhondda (Pont Lluest Wen Res.) .....	2.92 „	4.6 „
„	Aberdare (The Mardy) .....	2.85 „	4.8 „
„	Merthyr Tydfil (Penbryn Filters).....	2.78 „	5.0 „
„	Brecon (New Inn).....	2.95 „	5.3 „

**October 12th.**

About 35 instances of M occurred in Wales, the Lake District, and the south of Scotland ; only one requires notice.

X.	Egremont (Ringingstone) .....	2.60 in.	or 4.7 per cent.
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**October 15th.**

M were reported from about 30 stations in the west of England and in Wales, three of which were remarkable.

V.	Challacombe .....	2.72 in.	or 4.3 per cent.
„	Hawkridge (Liscombe) .....	2.70 „	4.7 „
„	Simonsbath.....	2.60 „	3.9 „

**October 19th.**

Heavy falls of rain occurred on the higher land surrounding the Irish Sea, and M were reported from about 30 stations, most of them in the Lake District. Six of these and one from Snowdon exceeded 2.50 in.

VIII.	Hawkshead (Tower Bank, Sawrey) .....	2.53 in.	or 3.6 per cent.
„	Duddon Valley (Seathwaite Vicarage)...	2.55 „	3.2 „
„	Skelwith Fold [Ambleside] .....	2.71 „	2.9 „
X.	Cleator Moor Water Works .....	2.95 „	4.2 „
„	Borrowdale (Grange) .....	3.30 „	3.7 „
„	Egremont (The Grange) .....	2.75 „	4.4 „
„	Ullock .....	2.55 „	4.5 „
XI.	Snowdon (Old Road) .....	3.15 „	2.8 „

**October 23rd.**

In the course of the passage of a depression from the north of Ireland to Scotland, about 50 stations recorded their M ; and of these, a group in North Wales produced three heavy falls.

XI.	Lake Cowlyd Valley (Llethyr Gwyn) ...	2.52 in.	or 3.0 per cent.
„	„ „ (Ffrith Fawr) .....	3.08 „	3.7 „
„	„ „ (Ffrith Carreg Wen) .....	3.13 „	3.7 „

**October 26th—28th.**

A cyclonic storm of exceptional extent affected the southern part of the British Isles, though the track of the centre ran far to the south. On the 26th, the centre was almost stationary over the mouth of the English Channel from 7 a.m. to 6 p.m., and the system was deepening and spreading, then from 6 p.m. to 7 a.m. on the 27th it moved south-eastward to the northern part of the Bay of Biscay, the wind over the south-east of England changing gradually from south-east to east and north-east, increasing in force while rain fell steadily, and by 9 a.m. on the 27th unprecedented falls were measured at many stations of long standing. The *M* of the year was reported from about 400 stations, of which no less than 45 are quoted below ; almost all of them, it is interesting to note, on account of exceeding 2·50 in. and not merely because of forming a large percentage of the annual fall. The distribution of the rainfall is shown on the first map, the measurements for which are :—

	Area, sq. miles.	General Rainfall, inches.	Volume of Rain, sq. miles x inches.
Over 3 inches.....	69	3·14	217
2—3     ,,     .....	1953	2·35	4587
1—2     ,,     .....	8862	1·42	12584
Total .....	10884		17388

The general rainfall over the area with over one inch was 1·60 in.

Throughout the 27th, and until 7 a.m. on the 28th, the centre of the depression, which was now beginning slowly to fill up, moved eastward into France, and the wind over the south of England became more northerly. The rain ceased in many places, but still continued over the south-east of England in a gentler way ; and for the 27th, *M* were reported only at half-a-dozen places, and there were no very heavy falls. At Dinan, in Brittany, the 27th was the wettest of the three days, the fall being 1·80 in.

During the 28th the depression continued to fill up, and moved rapidly north-eastward along the south coast of the Channel, and by 7 a.m. on the 29th the centre was somewhere near the Dutch and German boundary on the North Sea. The wind in the south-east of England had gone round sharply to north and north-west, with a rapidly rising barometer, accompanied by a tremendous downpour in the extreme east of Kent. *M* were reported from 230 stations mainly in Kent, Essex and Suffolk ; the 18 quoted below being all in Kent, and many of these are falls unprecedented in the locality. The map of the 28th is most interesting in showing the final phase of the

storm. No rain was reported to the north-west of a line drawn from Barnstaple to Hull ; not more than a quarter of an inch between that and a line drawn from Lyme Regis to Grimsby ; less than half an inch between that and a line drawn from Weymouth to Hunstanton. More than an inch fell in a few spots in East Anglia, and in a roughly triangular area with its corners near Southampton, Brighton and Hitchin, from which a belt with more than an inch ran narrowing through the south of London, and spread out sharply to the coast between Herne Bay and St. Leonard's. Within this extension a funnel-shaped area with more than one and a half inches appeared ; and along the south-east coast from Winchelsea to Margate, more than two inches fell ; and between Folkestone and Sandwich there was an area of about 100 square miles with more than three inches of rain, culminating in 3·60 in. at Acrise.

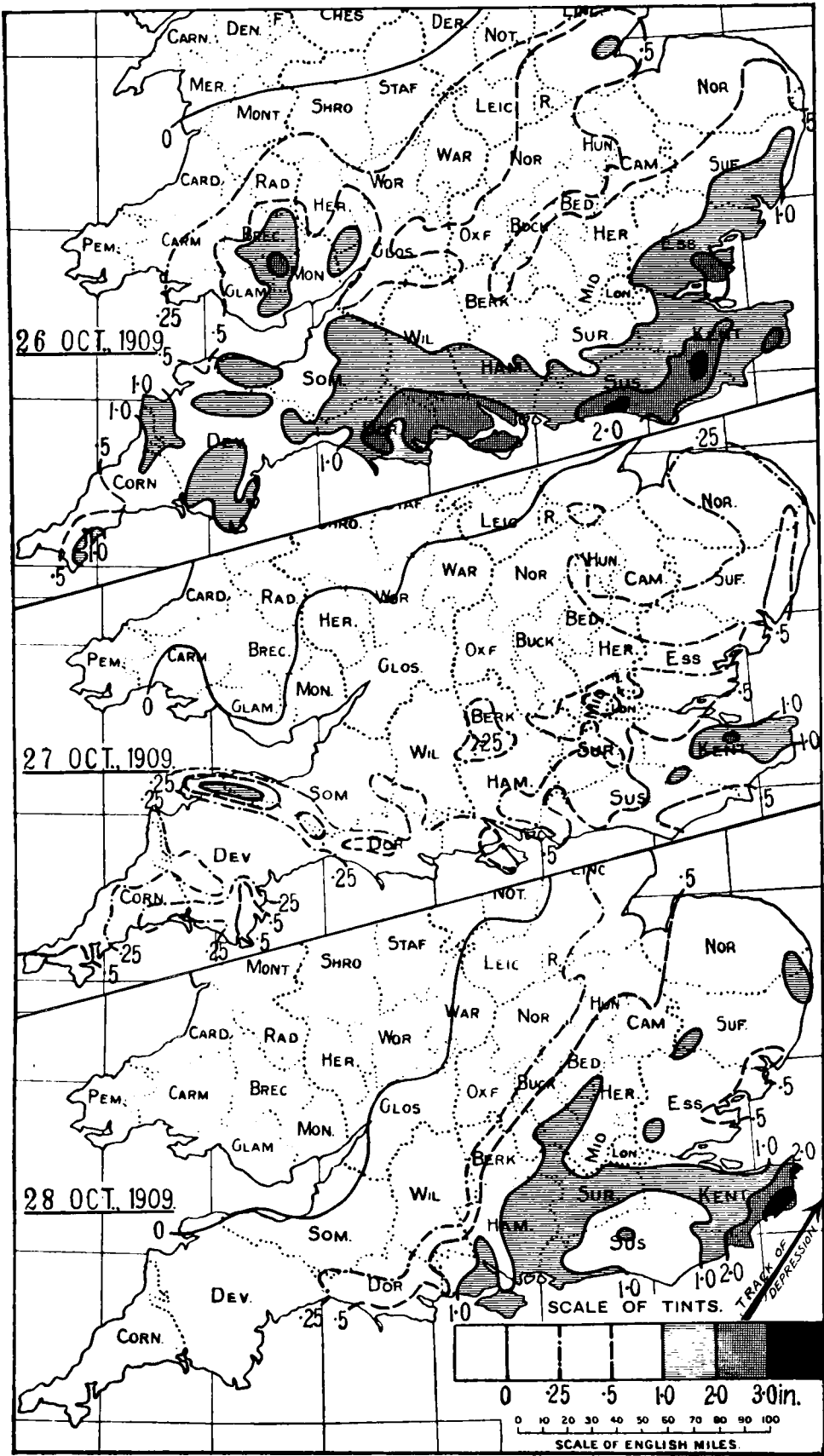
The measurements on the 28th were as follows :—

	Area, sq. miles.	General Rainfall, inches.	Volume of Rain, sq. miles × inches.
Over 3 inches .....	94	3·24	304
2—3    ,,   .....	310	2·35	730
1—2    ,,   .....	3444	1·26	4330
Total .....	3848		5364

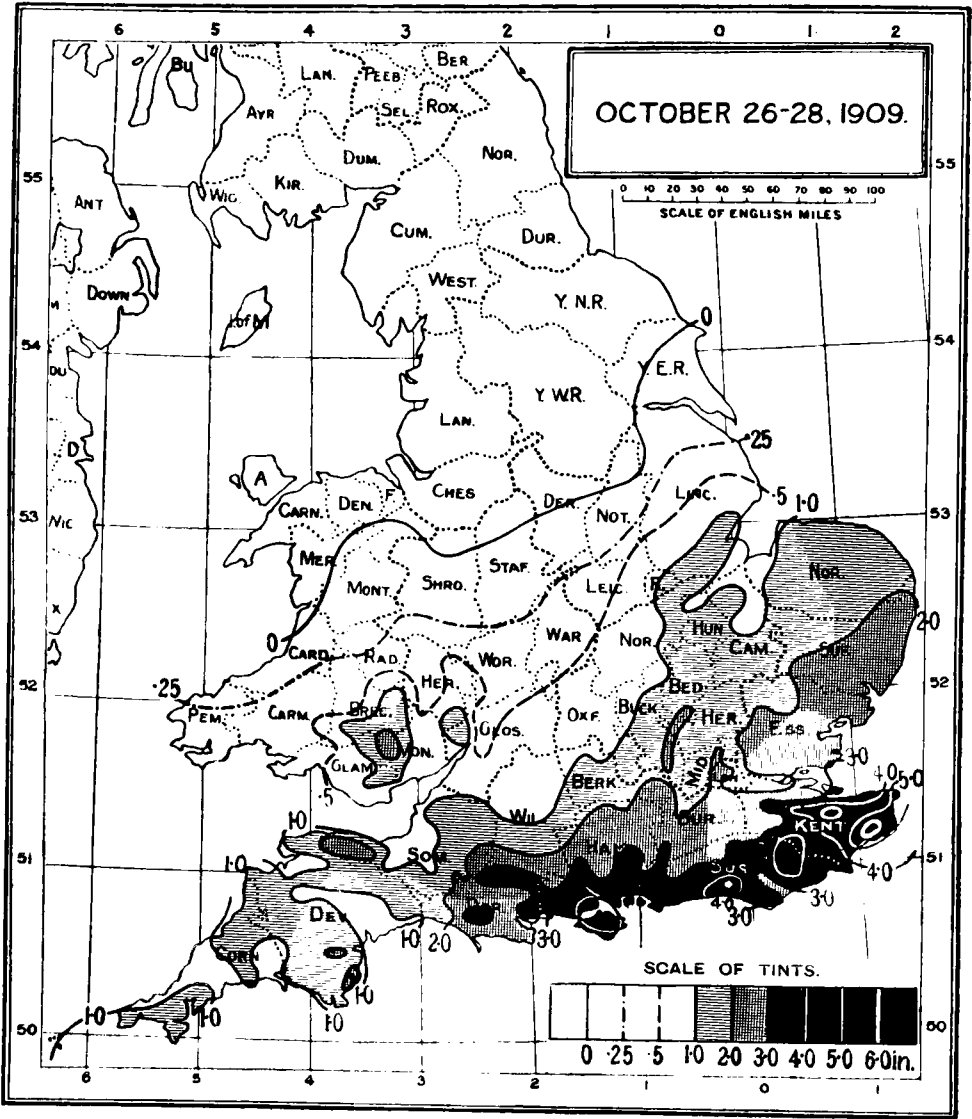
The general rainfall for the area, with more than 1 inch of rain, was 1·39 in.

Each day represented a fragment of the storm ; the total rainfall of the three days showed its full effect so far as England is concerned, but, unfortunately, a great part of the very wet area lay in the Channel and passed unrecorded. A few records from France show that the isohyets could in some cases be completed on the other side of the water, both in the east and the west, and there is no reason to doubt that the downpour over the sea was as severe in parts as on the land. In order to call attention to the amount of rain in the three days, we have prepared a table giving the falls for each day at all the stations with a total of 4 inches or more. The map for the three days shows that practically no rain fell north-west of a line from Aberystwyth to Scarborough, and no falls above half-an-inch north-west of a line from Llanelly to Sutton-on-Sea. More than 2 inches fell nearly everywhere south-east of a line from near Lyme Regis to Lowestoft ; and 3 inches in a broad strip along the coast from Bournemouth to Southend, within which, four areas had more than 4 inches, in the largest, the extreme east of Kent, more than 5 inches, and between Folkestone and Deal more than 6 inches. The

RAINFALL OF OCTOBER 26th, 27th & 28th 1909.



# **TOTAL RAINFALL OF THE THREE DAYS** **OCTOBER 26th, 27th & 28th, 1909.**



measurement of this map gives as a result of the whole activity of the depression in terms of rain for 72 hours :—

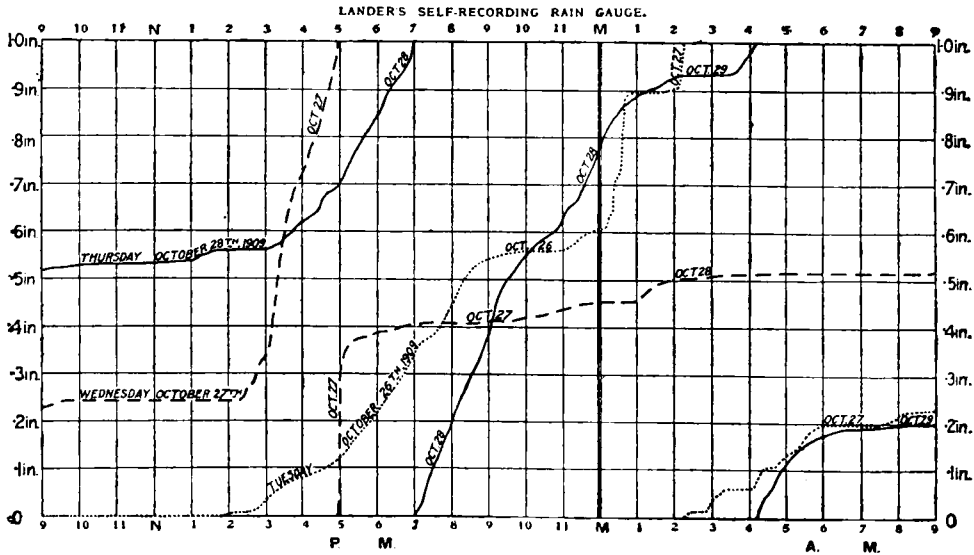
	Area, sq. miles.	General Rainfall, inches.	Volume of Rain, sq. miles x inches.
Above 6 inches .....	47	6·40	301
5—6     ,,     .....	173	5·45	943
4—5     ,,     .....	784	4·42	3464
3—4     ,,     .....	2271	3·43	7788
2—3     ,,     .....	6097	2·37	14433
1—2     ,,     .....	12548	1·46	18291
Total .....	21920		45220

*Stations at which 4·00 in. or more of Rain fell on the 3 days,  
October 26th—28th, 1909.*

STATIONS.		26th	27th	28th	TOTAL.
		in.	in.	in.	in.
Kent, W. ....	Hawkhurst (Hensill) .....	3·22	·55	1·05	4·82
„     .....	Maidstone (Rumwood Langley)..	1·69	1·27	1·60	4·56
„     .....	„     (Lower Tovil) .....	1·50	1·18	1·73	4·41
„     .....	„     (W.W. Barming) .....	1·45	1·08	1·60	4·13
„     .....	„     (Brenchley Gardens) ..	1·48	1·30	1·96	4·74
„     .....	„     (Mill Street) .....	1·53	1·26	1·83	4·62
„     .....	Detling (The Croft) .....	1·50	1·43	1·44	4·37
Kent, E. ....	Hythe (Sandling Park) .....	1·38	·82	2·19	4·39
„     .....	„     (Hillhurst Farm) .....	1·25	·80	2·06	4·11
„     .....	Sandgate .....	1·69	·70	2·75	5·14
„     .....	Folkestone (Cheriton Road) ....	1·87	·74	3·00	5·61
„     .....	„     (Radnor Park) .....	2·07	·71	2·45	5·23
„     .....	„     (Cherry Gardens).....	1·76	·79	3·16	5·71
„     .....	„     (Lower Standen, Capel) ...	2·22	·98	3·32	6·52
„     .....	Acrise Park .....	2·03	1·14	3·60	6·77
„     .....	Ashford (Willesborough Rectory)	1·67	·79	1·63	4·09
„     .....	„     (Oakwood) .....	1·72	·70	1·77	4·19
„     .....	Dover (Water Works).....	1·25	·92	2·24	4·41
„     .....	Kearsney (Chilton Farm) .....	2·19	·88	2·97	6·04
„     .....	Dover (Martin Mill).....	1·66	·94	2·45	5·05
„     .....	Deal & Walmer W.W. ....	1·93	·80	2·33	5·06
„     .....	Wye (S.E. Agricultural College).	1·31	·88	2·10	4·29
„     .....	Charing Pumping Station .....	1·98	1·02	1·55	4·55
„     .....	Eastry .....	1·38	1·07	3·14	5·59
„     .....	Sandwich (Upton House, Word).	1·43	1·18	3·15	5·76
„     .....	Wingham (Crockshard) .....	1·62	1·17	1·95	4·74
„     .....	Selling (Luton) .....	1·41	1·42	1·51	4·34
„     .....	„     (Harefield).....	1·34	1·45	1·60	4·39
„     .....	Sandwich (St. George's Golf Club)	1·35	·95	2·36	4·66
„     .....	Littlebourne House .....	1·27	1·24	1·97	4·48
„     .....	Canterbury (Irrigation Works)...	1·17	1·22	1·91	4·30
„     .....	„     (Medical Hall).....	1·22	1·28	1·67	4·17
„     .....	Boughton Blean Vicarage .....	1·44	1·69	1·12	4·25
„     .....	Bicknor Rectory .....	1·79	1·82	1·21	4·82
„     .....	Canterbury (St. Thomas' Hill) ...	1·00	1·46	1·76	4·22
„     .....	Faversham (Colkins) .....	1·41	1·42	1·51	4·34
„     .....	Ospringe (Lorenden).....	2·12	2·24	1·22	5·58
„     .....	Faversham (Westwood Court) ...	1·56	1·85	1·33	4·74

*Stations at which 4·00 in. or more of Rain fell on the 3 days,  
October 26th—28th, 1909 (continued).*

STATIONS.		26th	27th	28th	TOTAL.
		in.	in.	in.	in.
Kent, E.	Minster (Gas Works) .....	1·38	1·37	2·06	4·81
"	Ramsgate (Southwood W.W.) ...	1·42	1·62	2·96	6·00
"	Broadstairs (Providence House)..	1·51	1·23	3·14	5·88
"	St. Peter's .....	1·50	1·56	2·73	5·79
"	" Court .....	1·37	1·48	2·37	5·22
"	Margate (Cliftonville) .....	1·50	1·10	2·93	5·53
Sussex, E.	Brighton (Old Steyne).....	3·32	·79	·89	5·00
"	" (W.W. Lewes Road) ...	2·41	·85	·80	4·06
"	" ( " UpperPortslade)	3·34	·54	·98	4·86
"	" ( " Patcham) .....	2·88	·70	·77	4·35
"	" ( " Race Hill) .....	2·69	·90	·85	4·44
"	" (PrestonDrove,Preston)	3·15	·61	·89	4·65
"	" (Ditchling Road, " )	3·48	·81	·98	5·27
"	Falmer Court.....	3·42	·73	·44	4·59
"	Hurstmonceux Place .....	2·84	·40	·88	4·12
"	Horeham Manor .....	2·66	·47	·88	4·01
"	" Grange .....	2·81	·45	·85	4·11
"	" Road (Hollycroft Cott.)	2·61	·63	·78	4·02
"	Battle (North Lodge) .....	2·70	·47	·97	4·14
"	Heathfield (Tottingworth Park)..	2·73	·68	·65	4·06
"	Robertsbridge (Salehurst Vic.) ...	3·21	·50	·95	4·66
"	Bodiam (South Park) .....	2·63	·48	1·04	4·15
"	Wadhurst (The Olives) .....	2·64	·72	·80	4·16
"	Ticehurst (Myskins).....	2·78	·62	·96	4·36
"	Wadhurst (Uplands) .....	2·26	·98	·79	4·03
"	Frant (Henley House) .....	2·14	1·07	·79	4·00
Hants, I. of W.	Shanklin .....	2·10	·46	1·75	4·31
"	Newport (Grammar School) .....	2·23	·55	1·43	4·21
"	Ryde (Beldornie Tower) .....	2·43	·30	1·33	4·06
"	Wootton (Fernhill) .....	2·90	·37	1·16	4·43
"	East Cowes (Spring Hill) .....	2·82	·37	·93	4·12
"	Milford-on-Sea (Salt Grass) .....	2·19	·44	1·51	4·14

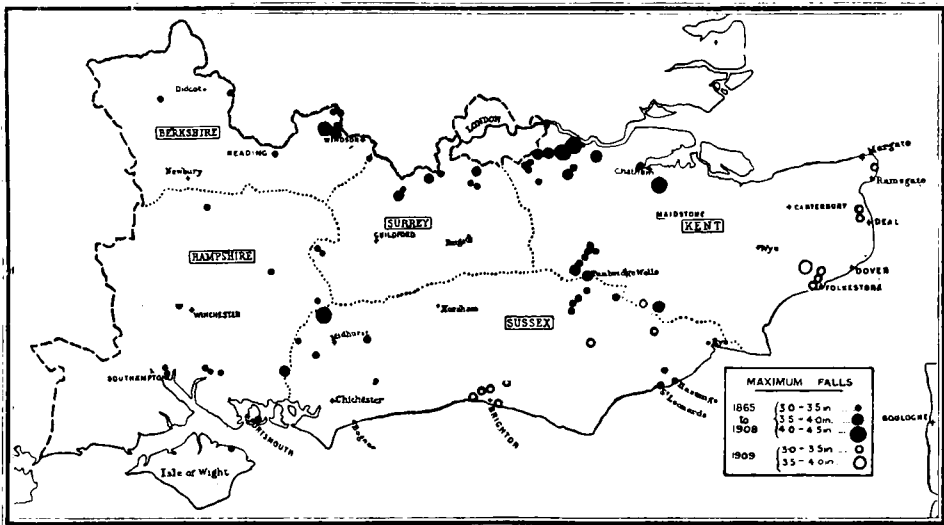


The general rainfall for the whole area with more than 1 inch in the three days was, from the measurements, 2·06 in.

We are indebted to Mr. A. Lander, of Canterbury, for the trace of his recording rain gauge for the three days, and, although his station lay too far west to get the full intensity of the rain of the 28th, it probably had as great a duration of rain as any in Kent. We reproduce the curve of the Lander recording gauge much reduced, distinguishing the fall of each day by the character of the line. This fall of rain challenges comparison with that in the valleys of the Thames and Lee for the three days June 13th—15th, 1903, which was discussed in detail in *British Rainfall*, 1903, Part I.

In giving the following lists of remarkable maximum falls on the 26th—28th we take the opportunity of referring to Mr. Symons's well-known dictum that there is no part of the British Isles in which a fall of 4 inches may not occur in 24 hours. The small map

*Map of Division II. showing heaviest falls.*



indicates by solid dots the places in Division II. where falls exceeding 3 inches, 3·50 in. and 4 in. respectively, in 24 hours, had been recorded in *British Rainfall* since 1865, and by rings of corresponding size the places where such falls occurred in 1909. Although no fall of as much as 3 inches had ever been recorded within 20 miles of Brighton, or within 40 miles of Broadstairs, before 1909, they had been noted frequently in other parts of the division.

#### October 26th.

II. Hawkhurst (Hensill) .....	3·22 in. or 9·2 per cent.
„ Cranbrook .....	2·95 „ 8·1 „

II.	Staplehurst (Lindridge Farm) .....	2.50 in.	or 6.9 per cent.
„	Brighton (Old Steyne) .....	3.32 „	10.7 „
„	„ (W.W. Goldstone Bottom) ...	2.48 „	7.8 „
„	„ ( „ Upper Portslade) .....	3.34 „	9.4 „
„	„ ( „ Patcham) .....	2.88 „	7.5 „
„	„ ( „ Race Hill) .....	2.69 „	7.8 „
„	„ (Preston Drive, Preston) .....	3.15 „	9.9 „
„	„ (Ditchling Road, „ ) .....	3.48 „	9.6 „
„	Falmer Court.....	*3.42 „	8.9 „
„	„ (Brighton W.W.) .....	2.94 „	8.8 „
„	Lewes (Bedford Lodge) .....	2.39 „	7.9 „
„	Hurstmonceux Place .....	2.84 „	9.7 „
„	Hassocks (Pyecombe) .....	2.58 „	7.0 „
„	Hurstpierpoint (Danny Park) .....	2.52 „	6.1 „
„	Horeham Manor .....	2.66 „	8.0 „
„	„ Grange .....	2.81 „	8.1 „
„	„ Road (Hollycroft Cottage) ...	2.61 „	7.3 „
„	Battle (North Lodge) .....	2.70 „	7.3 „
„	Heathfield (The White Cottage) .....	2.99 „	8.7 „
„	„ (Tottingworth Park) .....	2.73 „	7.4 „
„	Robertsbridge (Salehurst Vicarage) ...	3.21 „	8.0 „
„	Bodiam (South Park) .....	2.63 „	7.4 „
„	Etchingham (Shoyswell Manor) .....	2.87 „	7.4 „
„	Wadhurst (The Olives) .....	2.64 „	7.3 „
„	Ticehurst (Myskins).....	2.78 „	7.2 „
„	Wootton (Fernhill) .....	2.90 „	7.3 „
„	East Cowes (Spring Hill) .....	2.82 „	8.4 „
IV.	Shoeburyness.....	2.50 „	10.2 „
„	Southend (Corporation Observatory) ...	2.00 „	7.8 „
„	Foulness (The Lodge) .....	1.96 „	7.9 „
„	Canewdon Vicarage.....	2.75 „	8.5 „
V.	Dorchester (Wollaston House) .....	2.75 „	6.5 „
„	Charminster (Brooklands) .....	2.63 „	6.1 „
„	Wimborne (Codford) .....	2.65 „	7.2 „
„	„ (Stoneham).....	2.62 „	7.7 „
„	Witchampton.....	2.67 „	7.5 „
„	Horton Vicarage .....	2.40 „	7.7 „
„	Wimborne St. Giles (St. Giles Ho.).....	2.80 „	7.7 „
„	Iwerne Courtney (Ranston) .....	2.54 „	7.1 „
„	„ „ (Shroton) ..	2.51 „	7.0 „
„	„ Minster House Gardens .....	2.66 „	7.1 „
„	Ashmore Rectory .....	2.90 „	6.8 „
XI.	Ebbw Vale (Iron Works) .....	2.90 „	4.9 „

## October 28th.

II.	Sandgate .....	2.75 in.	or 9.0 per cent.
„	Folkestone (Surrenden Road) .....	3.00 „	9.3 „
„	„ (Radnor Park) .....	2.45 „	7.5 „
„	„ (Cherry Gardens).....	3.16 „	9.0 „
„	„ (Capel Lodge) .....	2.98 „	8.1 „
„	„ (Lower Standen, Capel).....	3.32 „	8.8 „
„	Acrise Park .....	3.60 „	7.8 „
„	Kearsney (Chilton Farm) .....	2.97 „	7.9 „
„	Dover (Martin Mill).....	2.45 „	8.6 „
„	Deal and Walmer W.W. ....	2.33 „	8.0 „

\* Gauge overflowed

II.	Eastray .....	3·14 in.	or 9·6 per cent.
„	Sandwich (Upton House, Word) .....	3·15 „	9·8 „
„	„ (St. George's Golf Club) .....	2·36 „	9·7 „
„	Ramsgate (Southwood W.W.) .....	2·96 „	10·2 „
„	Broadstairs (Providence House) .....	3·14 „	9·9 „
„	St. Peter's .....	2·73 „	8·6 „
„	„ Court .....	2·37 „	7·9 „
„	Margate (Cliftonville).....	2·93 „	10·3 „

**November 11th.**

A heavy continuous rain brought M to about 20 stations in the north of Scotland, of which the following have to be quoted. The depression, in advance of the centre of which the rain fell, came from the north-west and passed south-eastwards across Caithness.

XIX.	Loch Stack (Ardehullin) .....	2·95 in.	or 4·7 per cent.
„	Bettyhill .....	2·63 „	7·0 „
„	Wick (Nosshead) .....	2·40 „	9·1 „
„	Thurso (Buckies) .....	2·70 „	6·8 „
„	Castletown (The Clett) .....	2·72 „	7·2 „
„	Dunnet Head.....	2·65 „	9·6 „
„	Stroma .....	2·32 „	7·6 „
„	Pentland Skerries.....	2·47 „	9·0 „
„	Hoy (Cantickhead) .....	2·62 „	7·6 „

**November 28th.**

An isolated M, very moderate for a wet district.

XVIII.	Fort William (Atholl Bank) .....	2·68 in.	or 4·0 per cent.
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**December 2nd.**

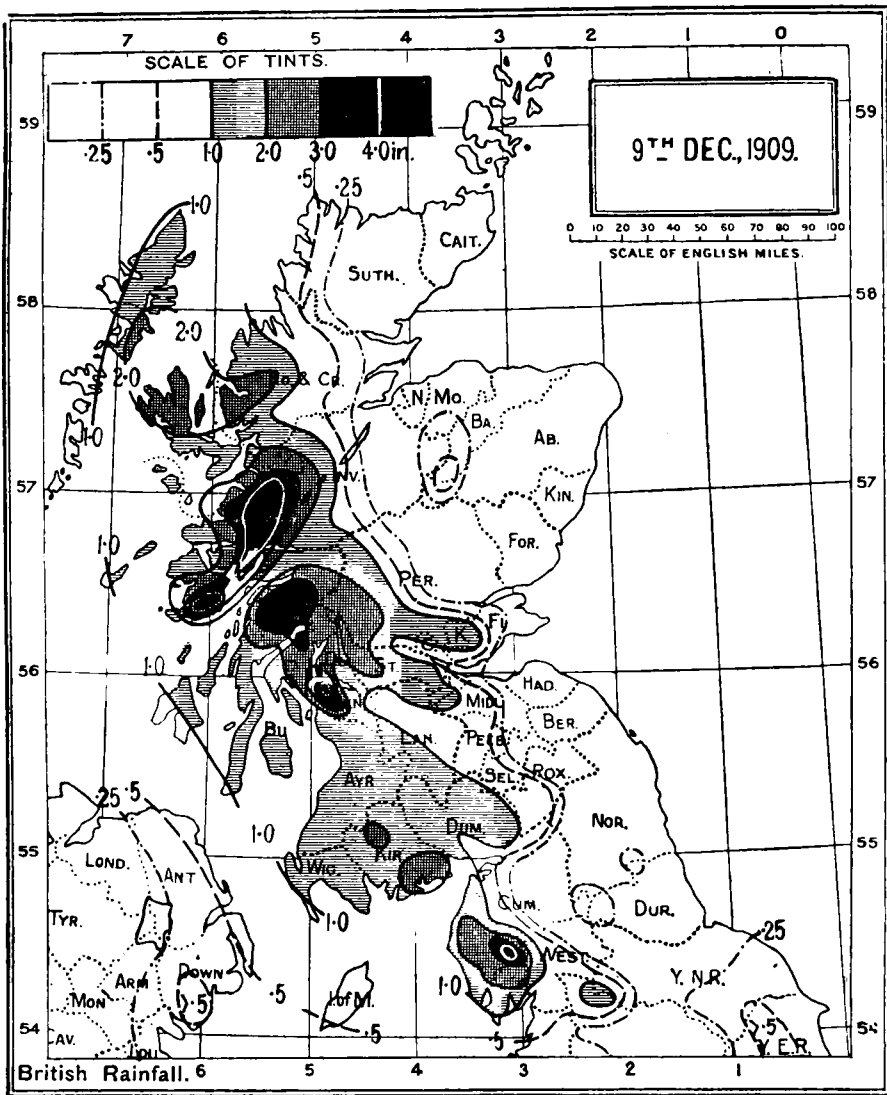
A depression crossing the north of Ireland and north of England from west to east, in a period of disturbed pressure conditions, brought M to about 300 stations of which only two require to be noted. The map is reproduced as it shows, like so many others in 1909, the nearly symmetrical distribution of rainfall on both sides of the track.

The measurements are :—

<i>Northern Area.</i>	Area, sq. miles.	General Rainfall, inches.	Volume of Rain, sq. miles x inches.
1—2 inches.....	8531	1·16	9912
<i>Southern Area.</i>			
Over 3 inches.....	25	3·17	79
2—3 „ .....	606	2·28	1385
1—2 „ .....	14407	1·28	18471
Total .....	15038		19935
<i>Both Areas.</i>			
Over 3 inches.....	25	3·17	79
2—3 „ .....	606	2·28	1385
1—2 „ .....	22938	1·24	28383
Total .....	23569		29847



pressure area to the south and were dry, while the north of England and Scotland, situated on the low-pressure side, were very wet in the



west. The number of **M** reported for this day was only about 70, thirty-one of which are quoted, but the area covered by these was very great and it happens to include that part of Great Britain in which rainfall stations are fewest and farthest between. The distribution of rainfall closely resembles that for a typical month or even for a year, and it seems as if this heavy fall were of the class of orographical rather than that of meteorological rains, being produced by the wind carrying moisture from the sea against the mountains, rather than by a down-

pour due to uprising air currents actuated by some cause within the atmosphere itself apart from the form of the surface. In this connection it is instructive to notice the two lines of low rainfall, one from the Firth of Lorne to the Moray Firth through the Great Glen traversed by the Caledonian Canal, the other from the Sound of Sleat towards the Dornoch Firth. Of course where rain records are so few as in this region it is impossible to delineate the distribution of the day's fall with the certainty attained in such an instance as the South of England fall of October 26th—28th, but the map is most instructive as showing the distribution of rain due entirely to south-west wind.

The measurement of the map shows :—

	Area, sq. miles.	General Rainfall, inches.	Volume of Rain, sq. miles × inches.
Over 4 inches.....	408	4·39	1792
3—4     ,,     .....	884	3·45	3054
2—3     ,,     .....	3603	2·50	9001
1—2     ,,     .....	9888	1·42	14088
Total .....	14783		27935

The general rainfall of the area over which more than 1 inch fell was 1·89 in. It is to be noted how sharply the rain fell off on the eastern side, the half-inch and quarter-inch lines running close to the one inch line. The actual falls were very large, no less than 7 of them figuring in the list of 16 heaviest falls of the year in Table I. of the Abstract. The fall of 6·32 in. at Lochbuie has only been exceeded on seven occasions since 1865 by the heaviest fall of the year in any part of the British Isles.

X.	Borrowdale (Seathwaite).....	4·61 in. or 3·6 per cent.
„	Rydal (The Stepping Stones).....	2·63 „ 3·1 „
„	Loughrigg (High Close) .....	2·73 „ 3·1 „
„	Ambleside (Rydal Farm).....	2·50 „ 3·0 „
„	Grasmere (The Wray) .....	3·64 „ 3·9 „
XII.	Auchencairn (Torr House) .....	3·01 „ 5·3 „
XIV.	Lochwinnoch (Garthland) .....	3·31 „ 4·8 „
„	Shaws W.W. (Gryfe Reservoir) .....	3·90 „ 5·8 „
„	„ „ (Mansfield) .....	2·93 „ 4·5 „
„	„ „ (Compensation Reservoir) .....	3·40 „ 5·0 „
„	„ „ (Loch Thom) .....	3·45 „ 4·9 „
„	„ „ (Hole Glen) .....	3·50 „ 5·7 „
„	„ „ (New Yetts Dam) .....	3·50 „ 5·4 „
„	Port Glasgow (Elmworth) .....	2·79 „ 4·8 „
„	Greenock (Prospect Hill) .....	4·10 „ 6·7 „
XV.	Tarbert (Bunawe Cottage).....	2·52 „ 4·0 „
„	Dunoon (Redhurst) .....	3·37 „ 4·5 „
„	Holy Loch (Ardnadam) .....	2·90 „ 3·9 „
„	Loch Eck (Benmore).....	2·90 „ 3·5 „
„	Lochgoilhead (Nuthill) .....	2·53 „ 3·6 „

XV.	Inveraray (Newtown) .....	3·31 in.	or 4·8 per cent.
„	„ Castle .....	2·53 „	3·3 „
„	„ (Stronshira).....	3·55 „	5·2 „
„	Glen Aray (Ladyfield) .....	3·50 „	4·0 „
„	Glen Shira (Drimlie) .....	3·95 „	5·0 „
„	Morvern (Kingairloch).....	4·55 „	5·2 „
„	Ardgour .....	4·12 „	4·7 „
„	Mull (Lochbuie Castle) .....	6·32 „	7·7 „
„	„ Sound of .....	2·90 „	5·0 „
XVIII.	Loch Shiel (Glenfinnan) .....	4·62 „	4·5 „
„	Arisaig House .....	2·94 „	5·1 „

### December 10th.

The steady south-westerly wind of the 9th continued, and as the pressure fell slightly over England, a steady downpour similar to that of the 9th extended farther south into England and Wales, while the rain ceased in the north. In the Lake District the two days' rain was practically continuous, the greater fall occurring on the 9th in the north and west, and on the 10th in the south and east of the District.

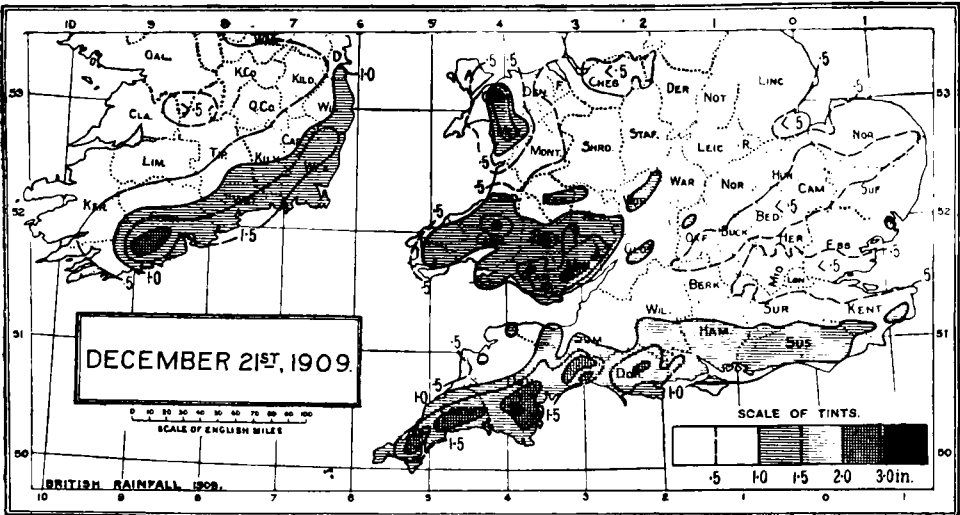
On this day **M** were recorded at about 70 stations in Wales and the Lake District, eleven of which are quoted below. These include the largest fall in one day ever recorded in South Wales, 6·14 in., near the Cray reservoir of the Swansea Waterworks, at the source of the Usk.

X.	Bowness (Lindeth Howe) .....	2·52 in.	or 3·8 per cent.
XI.	Glyncorwg Colliery .....	3·44 „	3·9 „
„	Felindre (Upper Lliw Reservoir) .....	2·83 „	4·7 „
„	Ystalyfera (Wern Schools).....	2·69 „	4·0 „
„	Swansea W.W. (Nantyrwydd) .....	2·70 „	3·3 „
„	„ „ (Bwlch) .....	6·14 „	4·3 „
„	Blaenau Festiniog (Oakley Quarries) ...	3·34 „	3·4 „
„	Snowdon (Cwm Dyli) .....	2·55 „	2·8 „
„	„ (Pen-y-gwryd) .....	2·85 „	2·5 „

### December 21st.

**M** were recorded from about 200 stations in Ireland, Wales and the south-west of England, apparently in connection with a large depression, the centre of which was moving north-eastward some distance to the west of Ireland. The area mainly affected was in the south-west of England, and we have to quote eleven falls in Cornwall and Devon. The wind over the whole of the south of England was south-easterly or southerly, changing very slightly during the twenty-four hours. A broad belt with more than 1 inch of rain ran round the south coast of Ireland from near Bantry to Dublin, with a

patch over 2 inches in the west ; a similar belt ran along the south coast of England from Penzance to Deal, with a row of large splashes



over 2 inches in Cornwall, Devon and Dorset. Other large areas with more than one inch occurred in Wales, and in the east of England two long narrow tracts with less than half-an-inch ran parallel to the two main lines of wet areas.

The measurements on the map gave :—

*Ireland.*

	Area, sq. miles.	General Rainfall, inches.	Volume of Rain, sq. miles x inches.
Over 2 inches.....	227	2·10	477
1—2     ,,     .....	4715	1·44	6775
Total .....	4942		7252

*England and Wales.*

Over 3 inches.....	22	3·10	67
2—3     ,,     .....	1097	2·27	2487
1—2     ,,     .....	11953	1·37	16325
Total .....	13072		18879

The general rainfall of the part of Ireland with more than one inch of rain was 1·47 in., and the corresponding general rainfall in England and Wales was 1·44 in. The general rainfall of the whole land area with over 1 inch of rain was 1·45 in.

V. Ashburton (Holne Vicarage) ..	3·15 in. or 5·5 per cent.	
,,     ,,     (Druid House) .....	2·50     ,,     5·2     ,,	
,, Moretonhampstead (Bullaton) .....	2·75     ,,     6·5     ,,	
,,     ,,     (Kennick) .....	2·87     ,,     7·0     ,,	
,,     ,,     (Laployd) .....	2·68     ,,     6·5     ,,	

V.	Moretonhampstead (Blackingstone) ...	3·04 in. or 7·1 per cent.
„	Axminster (Lea Combe House).....	2·50 „ 6·3 „
„	Roche (Glencoe) .....	2·61 „ 6·8 „
„	Bodmin (Polgwin).....	2·61 „ 6·8 „
„	„ (Castle Hill) .....	2·61 „ 6·2 „
IX.	Slaithwaite (Blackmoorfoot).....	2·60 „ 5·1 „

### December 22nd.

M were recorded at about a dozen stations, of which the following group of records at the Neuadd reservoir in the Taff Fechan valley were the only remarkable falls.

XI.	Taff Fechan (Neuadd Res.), No. 1 .....	3·15 in. or 4·1 per cent.
„	„ „ ( „ ) No. 4 .....	3·60 „ 4·1 „
„	„ „ ( „ ) No. 4A ...	4·32 „ 4·9 „
„	„ „ ( „ ) No. 11.....	4·66 „ 6·2 „

### Part II.—Abstract.

In order to compare the maximum falls of 1909 with those of earlier years we give, as usual, in Table I. a list of the 16 highest recorded in the year, almost all of which exceed 4 inches and all of them come from stations at which the total rainfall for the year exceeded 60 inches. The greatest falls at Kinlochquoich, at Lochbuie, and at Bwlch in South Wales, are very notable figures, and could only be matched in 13 years out of the last 45. All the falls quoted are due to winter rains on this occasion, and they all occurred in the wettest places, the Lake District, Wales and the west of Scotland.

Table II. (which, to economise space, is placed after Table III.) compares the mean of the sixteen highest falls for different years, and it is seen that this in 1909 is higher than that in any other year except 1897, while the stations for which this record applies had a higher annual fall than in any year since 1898. The absolutely highest fall was only exceeded on six occasions since 1865.

Table III. gives the sixteen falls which formed the highest percentage of the annual fall, and they give prominence to heavy falls in dry areas, eleven out of the sixteen being products of the two wet October days, 26th and 28th, in the south-east of England. These figures are not remarkable, the mean of the sixteen being practically equal to the average of 45 years as shown in Table IV., this being brought about not by the amount of these falls being low, for it is a trifle above the average, but by the annual fall being high, 1·4 in. above the average. The highest percentage of the year was

only 11.1, or 2.0 below the average, indeed it was only lower on seven occasions in 45 years.

Table V. gives figures which can be handled with more satisfaction than the extremes with which we have been dealing. The first column shows that the number of returns available for dealing with maximum falls in 1909 is 3,666, seventy more than in 1908. In all its other columns the Table shows a close accordance of the year with the average and calls for no special remark.

Table VI., however, brings some interesting points to light. No less than 558, or 15.2 per cent. of all the maximum falls exceeded 2 inches in amount. This proportion has only been exceeded six times since 1882. Of maximum falls exceeding 3 inches there were 69, or 1.9 per cent. of the total number, a proportion also above the average, though it has been exceeded in eight years since 1882. The contrast in the number of maximum falls of 2 inches or more reported in 1909 and in the two previous years is very remarkable; and on examining the maps of exceptionally wet days it will be seen that during the cyclonic storms of the year far larger areas were affected by simultaneous heavy rain than in 1907 and 1908, indeed we must go back to the memorably wet year 1903 to match the number of heavy falls.

It is seen, on looking at the summary of Maximum Falls for the three kingdoms separately, that the mean amount, the percentage of the annual total, and the proportion of falls above 2 inches to the whole number was least in Ireland and greatest in Scotland, except in the percentage of the annual total which was greatest by a shade in England and Wales. This indicates that in Ireland the year was exceptionally free from very wet days, and in Scotland it superabounded with them.

*Summary of Maximum Falls in 1909.*

	No. of Records.	Mean Amount.	Mean Percent- age of Annual Fall.	Falls of 2.00 in. or more.	Per Cent. of Total Number.	Falls of 3.00 in. or more.	Per Cent. of Total Number.
		in.		No.		No.	
England & Wales...	3069	1.47	4.4	427	13.9	37	1.2
Scotland .....	393	1.81	4.3	117	29.8	31	7.9
Ireland .....	204	1.46	4.0	14	6.9	1	0.5
British Isles....	3666	1.51	4.4	558	15.2	69	1.9

The comparison of the figures for the last five years, given below, shows in a striking way the immense preponderance of heavy falls in Scotland, where nearly one third of the stations in the country recorded maximum falls of 2 inches or more, and one quarter of these had 3 inches or more ; and it also shows the remarkably small number of heavy falls in Ireland. In England and Wales the percentage of stations with falls exceeding 2 inches was 14 per cent. of the whole, and, except 1906 when nearly 11 per cent. had such falls, none of the last five years had more than  $6\frac{1}{2}$  per cent.

*Comparison of Maximum Falls.*

	No. of Records.	Mean Amount.	Mean Percent- age.	Falls of 2·00 in. or more.	Per Cent. of Total.	Falls of 3·00 in. or more.	Per Cent. of Total.
		in.		No.		No.	
ENGLAND AND WALES—							
1905.....	2719	1·28	4·9	176	6·5	12	0·4
1906.....	2846	1·31	4·6	310	10·9	24	0·8
1907.....	2915	1·30	4·2	95	3·3	16	0·6
1908.....	3002	1·26	4·5	178	5·9	25	0·8
1909.....	3069	1·47	4·4	427	13·9	37	1·2
SCOTLAND—							
1905.....	332	1·29	3·5	32	9·6	2	0·6
1906.....	325	1·68	3·9	78	24·0	6	1·8
1907.....	342	1·59	3·9	21	6·1	3	0·9
1908.....	386	1·54	4·2	68	17·6	9	2·3
1909.....	393	1·81	4·3	117	29·8	31	7·9
IRELAND—							
1905.....	199	1·88	5·9	72	36·2	31	15·6
1906.....	194	1·14	3·3	7	3·6	0	0·0
1907.....	208	1·21	3·1	2	1·0	2	1·0
1908.....	208	1·47	4·0	29	13·9	2	1·0
1909.....	204	1·46	4·0	14	6·9	1	0·5

TABLE I.—*Maximum Falls in 1909.*

Date.	Div.	Station.	Depth.	Per Cent.	Total.
Feb. 2 ...	XVIII.	Lochquoich, Kinlochquoich	6·46 in.	5·7	112·48 in.
Dec. 9 ...	XV.	Mull, Lochbuie Castle ...	6·32 „	7·7	81·67 „
„ 10 ...	XI.	Swansea W.W., Bwlch.....	6·14 „	4·3	143·98 „
Feb. 2 ...	XV.	Glenleven, Kinlochleven ...	5·59 „	7·0	80·32 „
„ „ ...	XVIII.	Loch Arkaig, Glen Dessary.	4·80 „	5·2	93·18 „
Dec. 22 ...	XI.	Taff Fechan, Neuadd Res., No. 11	4·66 „	6·2	75·24 „
„ 9 ...	XVIII.	Loch Shiel, Glenfinnan .....	4·62 „	4·5	102·56 „
„ „ ...	X.	Borrowdale, Seathwaite ...	4·61 „	3·6	128·62 „
„ „ ...	XV.	Morvern, Kingairloch .....	4·55 „	5·2	87·16 „
„ 22 ...	XI.	Taff Fechan, Neuadd Res., No. 4A	4·32 „	4·9	87·97 „
Feb. 2 ...	XV.	Dalmally Schoolhouse .....	4·28 „	5·3	80·51 „
„ „ ...	XVIII.	Lochquoich, Glenquoich ...	4·26 „	4·3	98·60 „
Dec. 9 ...	XV.	Ardgour .....	4·12 „	4·7	87·92 „
„ „ ...	XIV.	Greenock, Prospect Hill ...	4·10 „	6·7	60·84 „
„ „ ...	XV.	Glen Shira, Drimlie.....	3·95 „	5·0	79·61 „
Feb. 2 ...	„	Glenleven, Blackwater Dam	3·92 „	5·8	67·67 „

TABLE III.—*Maximum Percentages in 1909.*

Date.	Div.	Station.	Per cent	Depth.	Total.
Aug. 17 ...	II.	Tidworth House [Ludgershall]	11·1	3·30 in.	29·75 in.
Oct. 26 ...	„	Brighton, Old Steyne .....	10·7	3·32 „	30·98 „
July 25 ...	XVI.	Carnbee, Ovenstone W.W..	10·7	2·90 „	27·06 „
Oct. 28 ...	II.	Margate, Cliftonville.....	10·3	2·93 „	28·45 „
Sept. 22 ...	III.	Wittering Rectory.....	10·3	2·84 „	27·64 „
Oct. 28 ...	II.	Ramsgate, Southwood W. W.	10·2	2·96 „	29·06 „
„ 26 ...	IV.	Shoeburyness .....	10·2	2·50 „	24·56 „
June 28 ...	III.	Thorney, Wryde House ...	10·0	2·70 „	26·88 „
Oct. 26 ...	II.	Brighton, Preston Drive, Preston	9·9	3·15 „	31·84 „
„ 28 ...	„	Broadstairs, Providence Ho.	9·9	3·14 „	31·74 „
„ „ ...	„	Sandwich, Upton Ho., Word	9·8	3·15 „	32·09 „
„ 26 ...	„	Hurstmonceux Place .....	9·7	2·84 „	29·19 „
„ 28 ...	„	Sandwich, St. George's Golf Club	9·7	2·36 „	24·42 „
„ 26 ...	„	Brighton, Ditchling Rd., Preston	9·6	3·48 „	36·29 „
„ 28 ...	„	Eastry ..	9·6	3·14 „	32·55 „
Nov. 11 ...	XIX.	Dunnet Head .....	9·6	2·65 „	27·66 „

TABLE II.—*Comparison of Maximum Falls with those in previous years.*

MEAN OF 16 HIGHEST.				ABSOLUTE HIGHEST.			
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	4·4	86·2	6·38	3·6	„ .....	„
1867 ...	3·17	9·0	m 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	m 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	m 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 ...	m 2·83	6·1	56·8	4·93	13·0	GalwayQueen's Coll.	XXII.
1888 ...	4·20	5·9	77·0	5·20	5·4	Wythburn Vic.....	X.
1889 ...	3·89	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	M 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 ...	M 5·24	5·3	95·1	M 8·03	5·6	„ .....	„
1898 ...	4·61	5·3	100·8	6·70	M 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	Ikley, Cherry Bank	IX.
1901 ...	4·21	9·9	53·5	5·66	5·7	Dungeon Ghyll ...	X.
1902 ...	3·79	7·9	59·4	5·92	3·8	Ben Nevis Obs.	XVIII.
1903 ...	4·13	7·2	84·7	4·78	2·2	„ „ „ .....	„
1904 ...	4·02	7·4	69·5	5·62	6·0	Skelwith Bridge ...	X.
1905 ...	3·90	M 11·5	42·6	5·71	14·0	Glen-na-Smoel.....	XXI.
1906 ...	3·63	m 4·3	90·0	6·15	4·7	Seathwaite .....	X.
1907 ...	3·53	7·3	59·3	4·86	9·4	Kingsbridge.....	V.
1908 ...	3·93	8·0	60·7	4·80	9·9	Treharris .....	XI.
Average	3·80	6·6	70·6	5·43	7·2	.....	...
1909 ...	4·79	5·4	91·8	6·46	5·7	Lochquoich, Kinlochquoich	XVIII.
Diff. ...	+·99	-1·2	+21·2	+1·03	-1·5	.....	...

TABLE IV.—*Comparison of Maximum Percentages with those in previous years.*

MEAN OF 16 HIGHEST.				ABSOLUTE HIGHEST.			
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 Priory 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, Queen's 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 Asylum ...	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 ...	10·3	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	Maidenhead, The Firs	II.
1902 ...	12·7	2·90	22·8	15·5	3·51	Esher Sewage Works.	„
1903 ..	10·6	M 3·76	35·6	12·8	4·41	Dartford, West Hill House	„
1904 ...	12·5	2·87	23·0	15·8	3·48	Leamington, Binswood Av.	VI.
1905 ...	13·8	3·67	26·7	14·9	3·98	Cofton Vicarage .....	V.
1906 ...	10·5	2·51	24·0	11·9	2·50	Cambridge, Herschel House	III.
1907 ...	10·7	3·01	28·5	12·5	3·40	Lincoln, St. Botolph's	VII.
1908 ...	11·4	2·78	24·5	16·0	3·45	Great Glemham. ....	IV.
Aver....	10·3	2·84	28·0	13·1	3·75	.....	...
1909 ...	10·1	2·96	29·4	11·1	3·30	Tidworth Ho. [Ludgershall]	II.
Diff. ...	— 2	+ 12	+ 1·4	— 2·0	— 45	.....	...

TABLE V.—*Comparison of the Mean of all the Maximum Falls of 1909 with similar data for previous years.*

Years.	Number of Returns.	Mean Percentage.	Mean Amount.	Mean Total Fall in year.	Ratio taking 33=100.	Total Fall being assumed =33in. Mean Max. =
			in.	in.		
1865.....	481	5·1	1·70	33	100	5·2 per cent
1866.....	590	3·7	1·48	40	121	4·5 „
1867.....	584	4·6	1·44	31	94	4·4 „
1868.....	676	4·3	1·43	33	100	4·3 „
1869.....	637	4·2	1·42	34	103	4·3 „
1870.....	687	4·9	1·30	27	82	3·9 „
1871.....	752	4·9	1·49	30	91	4·5 „
1872.....	743	m 3·4	1·59	M 47	M 142	4·8 „
1873.....	809	4·6	1·35	29	88	4·1 „
1874.....	1010	4·4	1·41	32	97	4·3 „
1875.....	1081	5·0	M 1·83	37	112	M 5·5 „
1876.....	1112	3·9	1·49	38	115	4·5 „
1877.....	1180	3·8	1·56	41	124	4·7 „
1878.....	1186	4·3	1·49	35	106	4·5 „
1879.....	978	4·2	1·52	36	109	4·6 „
1880.....	1117	4·8	1·72	36	109	5·2 „
1881.....	1194	4·1	1·45	35	106	4·4 „
1882.....	1463	3·6	1·42	39	118	4·3 „
1883.....	1505	4·0	1·41	35	106	4·3 „
1884.....	1691	4·8	1·32	28	85	4·0 „
1885.....	1801	4·5	1·41	31	94	4·3 „
1886.....	1718	4·6	1·64	35	106	5·0 „
1887.....	1921	4·5	m 1·14	m 25	m 76	m 3·5 „
1888.....	1974	4·4	1·41	32	97	4·3 „
1889.....	1812	4·8	1·41	29	88	4·3 „
1890.....	2081	5·0	1·46	29	88	4·4 „
1891.....	2218	4·1	1·47	35	106	4·5 „
1892.....	2231	5·4	1·62	30	91	4·9 „
1893.....	2267	4·8	1·30	27	82	3·9 „
1894.....	2321	4·2	1·46	35	106	4·4 „
1895.....	2423	4·5	1·37	30	91	4·2 „
1896.....	2465	4·4	1·33	30	91	4·0 „
1897.....	2598	4·1	1·36	33	100	4·1 „
1898.....	2691	5·0	1·42	28	85	4·3 „
1899.....	2791	4·7	1·42	30	91	4·3 „
1900.....	2702	4·6	1·61	35	106	4·9 „
1901.....	2747	M 5·7	1·58	28	85	4·8 „
1902.....	2832	4·4	1·20	27	82	3·6 „
1903.....	2936	4·0	1·67	41	124	5·1 „
1904.....	3093	4·6	1·31	29	88	4·0 „
1905.....	3250	4·8	1·31	27	82	4·0 „
1906.....	3365	4·5	1·40	31	94	4·2 „
1907.....	3465	4·1	1·32	32	97	4·0 „
1908.....	3596	4·4	1·31	30	91	4·0 „
Average.	1836	4·5	1·45	33	100	4·4 „
1909.....	3666	4·4	1·51	34	103	4·6 „
Diff.....	+1830	-0·1	+·06	+ 1	+ 3	+0·2 „

TABLE VI.—*Maximum 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	..... 9·6	..... 8	..... 0·6
3 .....	1505	.....	170	..... 11·3	..... 23	..... 1·5
4 .....	1691	.....	138	..... 8·2	..... 9	..... 0·5
5 .....	1801	.....	179	..... 10·0	..... 24	..... 1·3
6 .....	1718	.....	158	..... 9·2	..... 44	..... 2·6
7 .....	1921	.....	52	..... <i>m</i> 2·7	..... 4	..... <i>m</i> 0·2
8 .....	1974	.....	374	..... 18·9	..... 34	..... 1·7
9 .....	1812	.....	170	..... 9·4	..... 24	..... 1·3
1890 .....	2081	.....	345	..... 16·6	..... 54	..... 2·6
1 .....	2218	.....	270	..... 12·2	..... 39	..... 1·8
2 .....	2231	.....	470	..... 21·1	..... 81	..... <i>M</i> 3·6
3 .....	2267	.....	183	..... 8·1	..... 29	..... 1·3
4 .....	2321	.....	313	..... 13·5	..... 36	..... 1·6
5 .....	2423	.....	249	..... 10·3	..... 31	..... 1·3
6 .....	2465	.....	249	..... 10·1	..... 16	..... 0·6
7 .....	2598	.....	275	..... 10·6	..... 62	..... 2·4
8 .....	2691	.....	373	..... 13·9	..... 72	..... 2·7
9 .....	2791	.....	283	..... 10·0	..... 43	..... 1·5
1900 .....	2702	.....	641	..... <i>M</i> 23·7	..... 89	..... 3·3
1 .....	2747	.....	497	..... 18·1	..... 68	..... 2·5
2 .....	2832	.....	163	..... 5·8	..... 30	..... 1·1
3 .....	2936	.....	625	..... 21·3	..... 83	..... 2·8
4 .....	3093	.....	246	..... 8·0	..... 29	..... 0·9
5 .....	3250	.....	280	..... 8·6	..... 45	..... 1·4
6 .....	3365	.....	395	..... 11·7	..... 30	..... 0·9
7 .....	3465	.....	118	..... 3·4	..... 21	..... 0·6
8 .....	3596	.....	275	..... 7·7	..... 36	..... 1·0
Mean .....	2443	.....	283	..... 11·6	..... 39	..... 1·6
1909 .....	3666	.....	558	..... 15·2	..... 69	..... 1·9
Diff. ....	+1223	.....	+275	..... +3·6	..... +30	..... +0·3

## THE DISTRIBUTION OF RAINFALL IN TIME.

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For the purpose of making an analysis of the incidence of rainfall from day to day throughout the year the thousands of carefully kept daily registers, which are sent to us annually, provide a nearly inexhaustible reservoir of information upon which to draw, but the great amount of labour involved and the limited time render it necessary to limit complete discussion to only a small number of records. For this purpose, therefore, 73 stations, distributed as uniformly as possible over the British Isles, have been selected, the same records being employed, as far as possible, as in previous years in order to ensure as good a basis for comparison of one year with another as can be obtained. It must not be supposed that these are the only daily observations of which direct use is made; on the contrary the whole of the individual entries in each register received are carefully examined and, in a great number of instances, the values at one station are critically compared, day by day, with those of several others in the neighbourhood for the purpose of testing the accuracy of the readings and the consistency of the method of entering. Besides this the daily readings on individual days at almost every station are utilized in the preparation of the maps illustrating the section dealing with the wettest days of the year.

It is probable that the number of records used for the special study of the daily rainfall intensity and the occurrence of droughts and rain spells is sufficiently large to ensure a fairly good representation of the country as a whole, since these phenomena are not as a rule of a very local nature, and although their distribution might possibly be more satisfactorily discussed if there were a larger number of points on the map, the network is close enough to exclude the probability that any local deviation from the general conditions, likely to be of importance, escapes attention.

## I.—Rain Days and Intensity of Rainfall in 1909.

A glance at the final column of the General Table of Rainfall at the end of the volume makes it evident that, although the number of days with rain is subject to no such wide variations as is the amount of the rainfall, considerable differences exist between the numbers given for stations in the same neighbourhood and having a total rainfall of approximately the same amount. Several causes may contribute to this, the chief of which undoubtedly is the failure of some Observers to visit the rain gauge *every day* during the year. We believe that this is far less frequently the case than formerly, and fortunately when details of the daily readings have been supplied there is little difficulty in distinguishing these comparatively imperfect records from those yielding a full number of readings. Although, in many instances of this kind, the total number of days as reported has been allowed to stand in the General Table, any tendency to enter an accumulation of several small falls as the rainfall of one day is sufficient to disqualify the record for a place in this Section. Another, and too frequent, source of error, which is in no way the fault of the Observer, and which is more difficult of detection from the returns, is that in many measuring glasses the lowest graduation representing the unit,  $\cdot 01$  in., of rainfall measurement is so difficult to read as to introduce considerable error in the measurement of small quantities of rain. The consequence is that the quantity taken to represent the minimum amount read in different glasses is not always the same. This does not, of course, affect the other graduations of the glass, and introduces a quite insignificant error into the total amount of rainfall as made up by the sum of all the individual readings. It has been suggested by many Observers that this anomaly could be removed if the definition of a "rain day" were to be altered so as to include only those days with  $\cdot 02$ ,  $\cdot 03$ ,  $\cdot 05$  or even  $\cdot 10$  in. of rain, but we are convinced that, taking into consideration the climatic peculiarities of the British Isles,  $\cdot 01$  in. of rain has a real significance, and that this limit, apart from the sanction of half a century, is by far the best to use. The sole method which suggests itself for the removal of the difficulty lies in the more extended use of the recently introduced "Camden" type of rain glass in which the lower part of the measure is narrowed so as to show the half-hundredth, or  $\cdot 005$  in., mark clearly.

The number of rain days during 1909 is shown on the accompany-

ing map which was drawn from several hundred points sufficiently close together to ensure a fair degree of accuracy. It is probable, however, that minor local divergences from the indications on the map may occur without the figures being necessarily erroneous, since



it is only possible to draw the lines of equal frequency in a general manner. The broad features of the map are probably the same every year, namely a fairly uniform increase in the number of rain

days as one proceeds from south-east to north-west, but the line limiting the area with more than 250 days has been pushed on this occasion almost to the extreme limits of the north and west of Scotland and Ireland, indicating that the frequency reached this large number only on the sea-board exposed to the full effect of the Atlantic winds, instead of extending some way inland as it appears to have done for several years past. The transition from more than 250 rain days in the north-west to less than 175 in the south-east was very uniform in Ireland. A similar, though rather less regular, transition occurred in Scotland, where, however, the only place with less than 175 days was a narrow strip round the Firth of Tay. A characteristic east wind effect is shown in the occurrence of more than 200 rain days in the north of Aberdeenshire, a similar phenomenon appearing over the Yorkshire Wolds, and in a small patch of the exposed coast of East Anglia. In England and Wales the range from east to west was considerably smaller than usual, more wet days than the normal being as a rule found in those places where the frequency is commonly least, and a somewhat smaller number than usual in the more rainy districts. A narrow strip with slightly less than 175 days recurred at intervals on the south and east coasts, always, it will be noticed, in situations where considerable shelter exists on the side of the prevailing wind. In the Midlands the number of rain days was a little above the average, but except for spots in the Lake District and Snowdonia few parts of England and Wales experienced so many as 225 days with rain during the year.

Owing to the difficulties mentioned above in reducing the number of rain days to a common standard of comparison, no very satisfactory averages at present exist, but the variations from year to year do not appear to be great, and it is hoped that a few more years will enable us to construct a more satisfactory average map with which to compare each year's results. For the present we use the old average of 12 years, based on 62 stations, which possibly errs by being slightly too low.

The Table comparing the means of the results of the 73 stations with this average shows that in England and Wales rain fell in general on 195 days, or 14 more than the average; in Scotland on 216 days, showing an excess of 10 over the average, whilst Ireland with 209 days was 7 in defect, the excess over the average for the whole British Isles being 7. The amount of rain at these stations

*Number of Rain Days and Total Fall compared with the Average.*

	Average 1891—1902.*			Year 1909.†			Difference from Average.		
	No. of Rain Days.	Total Fall.	Rate per Rain Day.	No. of Rain Days.	Total Fall.	Rate per Rain Day.	No. of Rain Days.	Total Fall.	Rate per Rain Day.
England & Wales	181	in. 35·57	in. ·197	195	in. 37·49	in. ·192	+14	in. +1·92	in. —·005
Scotland .....	206	43·93	·213	216	45·88	·212	+10	+1·95	—·001
Ireland .....	216	42·38	·196	209	37·84	·181	— 7	—4·54	—·015
British Isles .....	197	39·63	·201	204	39·75	·195	+ 7	+ ·12	—·006

\* Mean of 62 Stations. † Mean of 73 Stations

was above the 12 years' average by nearly 2·00 in. in Great Britain and below it by 4·50 in. in Ireland, the mean for the whole country closely approximating to the average. The fall per rain day was everywhere a little below the average, but most so in Ireland as the number of days with rain was not reduced in proportion to the total amount.

The same relations expressed in the form of percentages are given in comparison with similar data for the previous six years in the following table, which shows that whilst Great Britain differed little

*Difference from Averages of 1891—1902 expressed as percentages.*

	1903.		1904.		1905.		1906.		1907.		1908.		1909.	
	Rain Days.	Total Rain.	Rain Days.	Total Rain.	Rain Days.	Total Rain.	Rain Days.	Total Rain.	Rain Days.	Total Rain.	Rain Days.	Total Rain.	Rain Days.	Total Rain.
England & Wales	+17	+26	+4	—11	+3	—16	+ 6	+ 2	+12	+ 2	+4	—9	+8	+ 5
Scotland	+18	+35	+6	— 3	+8	— 2	+10	+10	+13	+ 6	+7	0	+5	+ 4
Ireland	+17	+21	+7	— 2	+2	—15	+ 7	— 7	+11	— 3	+6	—7	—3	—11
British Isles	+16	+26	+5	— 8	+3	—12	+ 7	+ 2	+11	+ 1	+5	—7	+4	+0

from the other years in respect of excess over the presumably defective average, the deficiency in Ireland although apparently slight was the greatest observed since at least 1903.

The Intensity of Daily Rainfall, *i.e.*, the number of times each amount was registered as the daily fall at all the stations under discussion is set out in the large table on pages [127]—[129], and the means of the various columns grouped according to country may be compared with similar means for each year since 1903. It is clear from the general similarity of the results for the different years that the

conditions thus represented express more or less a fixed type rather

### England and Wales.

*General Number of Days on which various amounts fell.*

Year.	in. ·01	in. ·02-·04	in. ·05-·09	in. ·10-·24	in. ·25-·49	in. ·50-·99	in. 1·00-1·99	in. 2·00 or over	Total.
1903...	24	39	36	52	35	19	5	1	211
1904...	24	41	34	47	28	12	2	0	188
1905...	26	42	35	45	24	12	2	0	186
1906...	21	38	35	50	31	14	3	0	192
1907...	22	43	36	53	32	14	3	0	203
1908...	24	42	34	48	27	12	2	0	189
1909...	22	40	36	50	28	14	4	1	195
Average of 7 years	24	41	35	49	29	14	3	0	195

than the individual characteristics of any particular year. In no group of amounts for England and Wales did the values for 1909 differ by more than 2 days from the average of 7 years, and probably the most striking feature, the undoubtedly large number of falls exceeding 1·00 in. is obscured rather than emphasized. This reached a mean of 5 per station for the year, whereas the extraordinary rains of 1903 only brought the mean per station to 6, and in no other year quoted did the mean exceed 3.

In Scotland the numbers for 1909 exceeded the average in no

### Scotland.

*General Number of Days on which various amounts fell.*

Year.	in. ·01	in. ·02-·04	in. ·05-·09	in. ·10-·24	in. ·25-·49	in. ·50-·99	in. 1·00-1·99	in. 2·00 or over	Total.
1903...	21	39	39	63	48	27	7	0	244
1904...	19	42	42	58	36	18	4	0	219
1905...	19	43	40	61	37	19	3	0	222
1906...	18	42	37	60	44	20	4	1	226
1907...	20	45	40	62	42	19	4	0	232
1908...	19	46	42	57	35	17	5	0	221
1909...	18	40	38	60	35	19	5	1	216
Average of 7 years	19	42	40	60	40	20	5	0	226

group except the last, where, however, the summary hardly does justice to the number of daily falls exceeding 2·00 in. over the whole country.

The general dryness of Ireland during the year appears to have been principally due to a shortage among the moderate daily amounts which make up the greater part of the year's precipitation, especially

**Ireland.***General Number of Days on which various amounts fell.*

Year.	in. ·01	in. ·02-·04	in. ·05-·09	in. ·10-·24	in. ·25-·49	in. ·50-·99	in. 1·00-1·99	in. 2·00 or over.	Total.
1903...	23	41	42	72	50	20	4	0	252
1904...	24	42	41	67	40	15	2	0	231
1905...	20	46	46	63	31	13	2	0	221
1906...	16	44	42	75	40	13	1	0	231
1907...	18	46	47	74	39	14	2	0	240
1908...	23	46	44	62	36	15	2	0	228
1909...	19	43	39	57	35	14	2	0	209
Average of 7 years	20	44	43	67	39	15	2	0	230

in Ireland, and the deficiency of 10 days with falls from ·10—·24 in. is particularly noteworthy. This year had the smallest number of rain days in Ireland since the detailed analyses of records were commenced in 1903, the mean, 209, being no less than 21 below the 7 years' average, which is perhaps nearer to the truth than that given on page [123].

The peculiar character of the rainfall of 1909, namely the frequency of large daily rainfalls is brought out prominently by the following table. With the exception of 1903, 1909 is decidedly the

*Falls of 1·00 in. or more.*

## Number of Stations out of 73 reporting

	Never.	One occasion.	Twice.	Three or Four times.	Five or more times.
1903 ...	1	6	13	25	27
1904 ...	10	33	13	8	9
1905 ...	23	19	9	12	10
1906 ...	15	21	11	12	14
1907 ...	16	17	12	15	13
1908 ...	22	15	9	14	13
1909 ...	3	15	16	20	19

most remarkable of the 7 years in this respect, only 3 of the stations failing to get a fall of 1·00 in., and no fewer than 39, or more than half the total number having 3 or more. The largest number of 1·00 in. falls was as usual at Seathwaite, the only station representing the Lake district, where this amount of rain or more fell on 43 days during the year.

In order to bring into strict comparison all parts of the country the means of the values in the Intensity Table have been brought together in various characteristic groups, and the values, together with those of four individual stations, reduced to add to a uniform total of 204 days, the mean value for the whole country for the year.

This has the effect of throwing into relief the comparatively small number of falls of  $\cdot 01$  in. in the very wet places, Seathwaite and Inveraray, whilst Camden Square and Ballinasloe, representing

*Frequency of Falls of Rain in 1909 reduced to 204 rain days.*

	$\cdot 01$ in.	$\cdot 02$ - $\cdot 04$ in.	$\cdot 05$ - $\cdot 09$ in.	$10$ - $\cdot 24$ in.	$\cdot 25$ - $\cdot 49$ in.	$\cdot 50$ - $\cdot 99$ in.	$1\cdot 00$ - $1\cdot 99$ in.	$2\cdot 00$ in. and over.
STATIONS.								
Camden Square.....	28	34	55	47	32	7	1	0
Seathwaite.....	7	15	18	49	31	43	31	10
Inveraray .....	10	36	34	46	37	32	6	3
Ballinasloe.....	29	52	32	52	27	11	1	0
GROUPS.								
England, I—IV.....	29	46	37	54	24	12	2	0
England and Wales	23	42	38	52	29	15	4	1
Wales & Lake Dist.	16	30	30	52	39	25	10	2
Scotland.....	17	38	36	56	33	18	5	1
Ireland .....	18	42	38	56	34	14	2	0
British Isles .....	20	40	37	54	32	16	4	1

respectively the interior of England and Ireland, give practically identical numbers. It is worthy of notice that for falls between  $\cdot 10$  in. and  $\cdot 50$  in. there is an extremely small range of difference over the whole country, but for falls exceeding  $\cdot 50$  in. the wetter places stand out prominently. Similar characteristics, though of a less pronounced degree, hold good for the comparison of the groups of dry stations with those of wet stations.

*Intensity of Daily Rainfall and Number of Rain Days at 73 Stations in 1909.*

Div.	STATION.	Number of Days on which various amounts of Rain fell.										No. of Rain Days.	Total Rainfall.	Amount per Rain day.		
		in. '01.	in. '02-'04.	in. '05-'09.	in. '10-'14.	in. '15-'19.	in. '20-'24.	in. '25-'29.	in. '30-'39.	in. '40-'49.	in. '50 or over.					
ENGLAND & WALES.																
I.	St. Pancras, Camden Square.....	26	32	51	44	30	6	1	0	190	26.75	in.	.14			
II.	Hythe, Hillcrest Road .....	28	37	30	59	20	10	5	0	189	32.30		.17			
"	Brighton, Old Steyne.....	18	33	34	48	24	11	0	1	169	30.98		.18			
"	Totland Bay, Aston House .....	33	56	27	44	22	10	6	1	179	34.47		.19			
III.	Basingstoke, Sherborne St. John .....	25	54	37	51	23	12	2	0	204	31.21		.15			
"	Oxford, Magdalen College .....	25	39	37	54	18	10	1	0	184	26.47		.14			
IV.	Blisworth, Crieff House.....	29	48	34	49	12	14	1	0	187	25.61		.14			
"	Colchester, Lexden.....	27	52	27	39	28	8	2	0	183	27.81		.15			
"	Saffron Walden, Market Place.....	20	47	31	52	22	16	0	0	188	29.52		.16			
"	Geldeston [Beccles] .....	46	46	39	46	15	13	1	0	206	25.67		.12			
"	Swaffham .....	25	39	30	54	24	10	0	0	182	26.66		.15			
V.	Torquay, Cary Green.....	22	35	35	36	21	15	4	1	169	33.78		.20			
"	Barnstaple, N. Devon Athenæum .....	7	51	44	52	35	11	1	0	201	33.45		.17			
"	St. Austell, Trevarna.....	23	31	44	51	34	16	0	2	201	38.99		.19			
"	Crewkerne, Merefield House .....	22	38	41	35	32	14	6	0	188	37.39		.20			
"	Bath, Henrietta Park.....	28	38	33	54	23	10	2	0	188	30.16		.16			
VI.	Ross, The Graig .....	21	45	33	40	21	6	4	0	170	25.57		.15			
"	Shifnal, Neachley .....	29	56	39	52	28	10	1	0	215	29.51		.14			
VII.	Market Overton .....	31	51	42	57	19	10	3	0	213	29.15		.14			
"	Louth, Westgate.....	8	32	38	55	23	10	4	0	170	30.35		.18			
"	Worksop, Hodsock Priory .....	20	55	39	40	24	9	2	0	189	27.83		.15			
"	Chellaston.....	39	41	32	52	27	9	2	0	202	29.66		.15			
VIII.	Northenden, Wythenshawe .....	19	26	38	63	28	17	1	0	192	34.93		.18			
"	St. Michael's-on-Wyre Vicarage .....	31	38	35	54	39	12	4	0	213	38.39		.18			
IX.	Harrogate, Harlow Moor.....	25	51	45	43	30	11	2	0	207	31.97		.15			
"	Sedburgh, Akay .....	7	21	31	49	50	30	8	1	197	59.56		.30			
"	Lowthorpe, The Elms .....	14	47	47	47	30	9	3	0	197	33.15		.17			
X.	Darlington, Hurworth Grange.....	15	54	32	61	18	10	0	1	191	27.35		.14			

RAIN DAYS.

*Intensity of Daily Rainfall and Number of Rain Days at 73 Stations in 1909—(continued).*

Div.	STATION.	Number of Days on which various amounts of Rain fell.										No. of Rain Days.	Total Rainfall.	Amount per Rain Day.		
		in.														
		in. .01.	in. .02-.04.	in. .05-.09.	in. .10-.24.	in. .25-.49.	in. .50-.99.	in. 1.00-1.99.	in. 2.00 or over.	in.						
ENGLAND & WALES—(con.)																
X.	Morpeth, Bothalhaugh .....	30	51	47	40	24	15	1	0	208	29.90	in.	.14			
"	Borrowdale, Seathwaite.....	7	16	19	52	33	45	33	10	215	128.62		.60			
"	Brampton, Denton House .....	14	44	38	53	36	12	4	0	201	38.13		.19			
XI.	Treherbert, Tyn-y-waun. ....	20	26	23	41	42	31	23	4	210	86.34		.41			
"	Llanwrda, Dolaucothy .....	7	44	26	66	40	33	2	1	219	53.85		.25			
"	Haverfordwest, High Street.....	11	26	30	48	45	13	5	0	178	41.04		.23			
"	Lake Vyrnwy .....	16	31	28	48	50	29	2	1	205	53.35		.26			
"	Denbigh, Garn .....	21	31	38	58	36	12	2	0	198	35.19		.18			
"	Llandudno.....	30	34	43	59	28	11	2	0	207	31.97		.15			
SCOTLAND.																
XII.	Whithorn, Cutroach .....	9	52	27	58	25	18	6	0	195	40.28		.21			
"	Jardington [Dumfries] .....	13	31	22	45	39	19	4	2	175	44.48		.25			
XIII.	Edinburgh, Royal Observatory...	21	47	30	49	19	12	3	0	181	29.57		.16			
XIV.	Biggar .....	19	37	41	48	36	16	2	0	199	37.03		.19			
"	Girvan, Pinnore .....	21	39	29	71	43	20	5	0	228	50.63		.22			
XV.	Buchlyvie, The Manse .....	49	39	29	55	32	28	6	1	239	53.97		.23			
"	Inveraray, Newtown .....	11	40	38	51	42	36	7	3	228	68.45		.30			
"	Strontian, Laudale .....	1	30	31	52	47	41	15	2	219	81.72		.37			
"	Islay, Eallabus.....	15	45	48	62	49	23	1	0	243	47.90		.20			
XVI.	Blair Atholl .....	22	30	42	52	28	10	3	0	187	30.82		.16			
"	Dundee, Eastern Necropolis.....	22	45	37	44	16	9	3	0	176	26.36		.15			
XVII.	Aberdeen, Cranford.....	13	65	38	59	22	13	1	1	212	33.36		.16			
"	Strathdon, School House .....	18	47	36	72	27	15	2	0	217	37.57		.17			
"	Keith Station.....	31	43	38	59	37	12	3	0	223	36.33		.16			
XVIII.	Fort Augustus, St. Benedict's...	14	37	48	55	31	11	6	0	202	37.44		.19			
"	Loch Torridon, Bendauph.....	1	10	41	86	45	39	10	2	234	75.69		.32			
"	Alness, Ardross Castle .....	37	43	43	54	40	14	1	0	232	38.04		.16			

*Intensity of Daily Rainfall and Number of Rain Days at 73 Stations in 1909—(continued).*

Div.	STATION.	Number of Days on which various amounts of Rain fell.										No. of Rain Days.	Total Rainfall.	Amount per Rain Day.
		in. .01.	in. .02-.04.	in. .05-.09.	in. .10-.24.	in. .25-.49.	in. .50-.99.	in. 1.00-1.99.	in. 2.00 or over.					
XIX.	SCOTLAND—(con.)													
"	Loch Stack, Ardehullin .....	13	28	49	96	53	21	5	1	266	in. 62.54	in. .24		
"	Thurso, Buckies .....	18	45	64	65	33	12	2	1	240	39.45	.16		
XX.	IRELAND.													
"	Glanmire, Lota Lodge.....	21	41	37	41	30	10	5	0	185	34.34	.19		
"	Darrynane Abbey .....	20	40	51	66	45	18	2	1	243	45.81	.19		
"	Killarney, District Asylum.....	35	51	33	56	43	20	1	0	239	43.39	.18		
"	Waterford, Brook Lodge .....	14	41	30	36	36	16	3	0	176	36.67	.21		
"	Dundrum Rectory.....	8	23	38	62	31	10	3	0	175	36.11	.21		
"	Miltown Malbay .....	29	51	37	61	40	14	2	1	235	40.78	.17		
XXI.	Gorey, Courtown House.....	19	26	23	53	19	20	1	0	161	32.99	.20		
"	Bray, Fassaroe.....	11	37	44	50	27	12	4	0	185	34.76	.19		
"	Abbey Leix, Blandsfort.....	29	34	33	55	38	11	4	0	204	36.33	.18		
"	Moynalty, Westland .....	18	58	36	47	29	18	2	0	208	35.83	.17		
XXII.	Ballinasloe .....	32	56	35	57	29	12	1	0	222	31.67	.14		
"	Westport, St. Helen's .....	21	47	46	63	53	7	5	0	242	42.48	.18		
"	Collooney, Markree Observatory .....	14	47	48	75	40	11	3	0	238	40.72	.17		
XXIII.	Armagh Observatory.....	24	54	43	45	30	11	0	0	207	28.88	.14		
"	Seaforde .....	6	44	40	50	27	20	2	0	189	38.66	.20		
"	Bushmills, Dundarave.....	3	35	49	72	27	10	2	0	198	34.29	.17		
"	Convoy.....	21	42	32	76	59	16	2	0	248	49.50	.20		
	ENGLAND & WALES (Mean).....	22	40	36	50	28	14	4	1	195	37.49	.19		
	SCOTLAND ( " ).....	18	40	38	60	35	19	5	1	216	45.88	.21		
	IRELAND ( " ).....	19	43	39	57	35	14	2	0	209	37.84	.18		
	BRITISH ISLES ( " ).....	20	40	37	54	32	16	4	1	204	39.75	.19		

## II.—Droughts in 1909.

The spells of rainless or of very dry weather occurring in 1909 have been examined by the same methods as those used for many years past, and for the purpose all periods have been extracted which fall under the following definitions:—

- I. The ABSOLUTE DROUGHT or period of *more than* 14 consecutive days no one of which is a rain day.
- II. The PARTIAL DROUGHT or period of *more than* 28 consecutive days the mean rainfall of which does not exceed .01 in. per day.

The same records were employed as for the preceding discussion of the Intensity of Daily Rainfall, and in the list on pages [132]-[133] are set out the names of all those stations at which either absolute or partial drought was found to have taken place, those for which no droughts were reported being omitted in order to economise space. This list is shorter than usual, the number of partial droughts especially being conspicuously below the average. This is shown also by the short table below giving the similar periods in each year

*Comparison of Droughts at 73 Stations.*

	ABSOLUTE DROUGHTS.				PARTIAL DROUGHTS.			
	No. of Droughts at 73 Stations	Duration.		Stations without one.	No. of Droughts at 73 Stations	Duration.		Stations without one.
		Mean.	Greatest.			Mean.	Greatest.	
		days.	days.			days.	days.	
1903	16	19	25	57	24	34	41	51
1904	9	16	18	64	13	34	41	60
1905	19	17	20	54	43	36	48	44
1906	53	17	25	34	29	36	55	45
1907	41	19	25	37	22	32	41	52
1908	54	18	32	35	38	35	54	50
1909	34	17	23	48	13	37	51	61

since 1903. A comparison with a longer period of years is made possible by reducing the numbers of droughts recorded at 73 stations to the equivalent numbers for 50 stations, these being all that were utilized in this section of *British Rainfall* before 1903. When this reduction is made the numbers for 1909 are shown to fall short of the average of 21 years by 7 absolute and 15 partial droughts.

*Comparative Summary of Droughts.*

	ABSOLUTE DROUGHTS.				PARTIAL DROUGHTS.			
	No. of Droughts at 50 Stations	Duration.		Stations without one.	No. of Droughts at 50 Stations	Duration..		Stations without one.
		Mean.	Greatest.			Mean.	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
1902	5	17	18	45	2	37	41	48
1903*	11	19	25	39	16	34	41	35
1904*	6	16	18	44	9	34	41	42
1905*	13	17	20	37	29	36	48	30
1906*	36	17	25	23	20	36	55	31
1907*	28	19	25	26	15	32	41	36
1908*	37	18	32	24	26	35	54	34
Mean	30	18	26	27	24	37	55	31
1909*	23	17	23	33	9	37	51	42
Diff.	-7	-1	-3	+6	-15	0	-4	+11

\* Reduced to value of 50 stations for comparison.

The three most important absolute droughts took place in February and early in May and August. In these cases the south-west of England was principally affected ; the February and August droughts occurring also in parts of Wales, and the May drought being extended to the south-east of Ireland.

The first partial drought stretched from the middle of January to the beginning of March, and was confined practically to the south-east of England and East Anglia. The only other was that of November, which occurred at two stations in the north Midlands, at three in the east of Scotland and at two in Ireland, but the very dry weather was more pronounced on this occasion than this fact indicates, and probably large areas escaped a partial drought by a narrow margin.

The geographical distribution of the droughts is indicated on the accompanying map by appropriate signs, the area over which no stations reported either absolute or partial droughts being emphasized by a tint (see p. [134]). This shows that more than half the British Isles was without droughts in 1909.

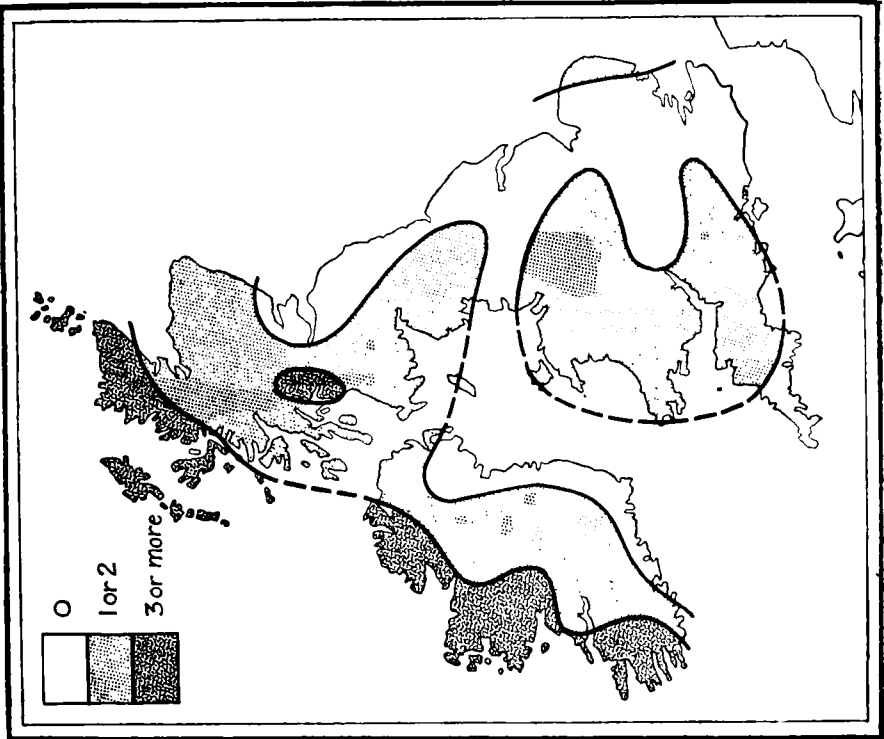
*Droughts in 1909.*

STATION & COUNTY.	ABSOLUTE DROUGHTS.			PARTIAL DROUGHTS.			
	Began.	Ended.	Last- ed.	Began.	Ended.	Last- ed.	Amount.
<b>ENGLAND &amp; WALES.</b>			Days			Days	in.
St. Pancras (Camden Square) ... <i>London, North.</i>	None			Jan. 16	Feb. 26	42	·40
Brighton (Old Steyne)..... <i>Sussex, East.</i>	July 28	Aug. 15	19	Jan. 18	Mar. 1	43	·42
Totland Bay (Aston House) ..... <i>Hampshire.</i>	May 2 July 28	May 16 Aug. 16	15 20	Jan. 19	Mar. 1	42	·36
Basingstoke (Sherborne St. John) <i>Hampshire.</i>	May 1	May 15	15	None			
Colchester (Lexden)..... <i>Essex.</i>	None			Jan. 11	Feb. 8	29	·27
Swaffham ..... <i>Norfolk.</i>	None			Jan. 14	Mar. 5	51	·51
Torquay (Cary Green)..... <i>Devon, South.</i>	Jan. 19 Feb. 11 May 1 July 29	Feb. 3 Mar. 1 May 16 Aug. 16	16 19 16 19	None			
Barnstaple (N. Devon Athenæum) <i>Devon, North.</i>	May 2	May 16	15	None			
St. Austell (Trevarna)..... <i>Cornwall.</i>	Feb. 11 May 1	Mar. 1 May 16	19 16	None			
Crewkerne (Merefield House) ... <i>Somerset, South.</i>	May 1 Aug. 2	May 17 Aug. 16	17 15	None			
Bath (Henrietta Park) ..... <i>Somerset, North.</i>	Jan. 19 Feb. 11 May 1	Feb. 3 Feb. 25 May 23	16 15 23	None			
Ross (The Graig) ..... <i>Herefordshire.</i>	Jan. 19	Feb. 3	16	None			
Worksop (Hodsock Priory) ..... <i>Nottinghamshire.</i>	None			Oct. 25	Nov. 30	37	·37

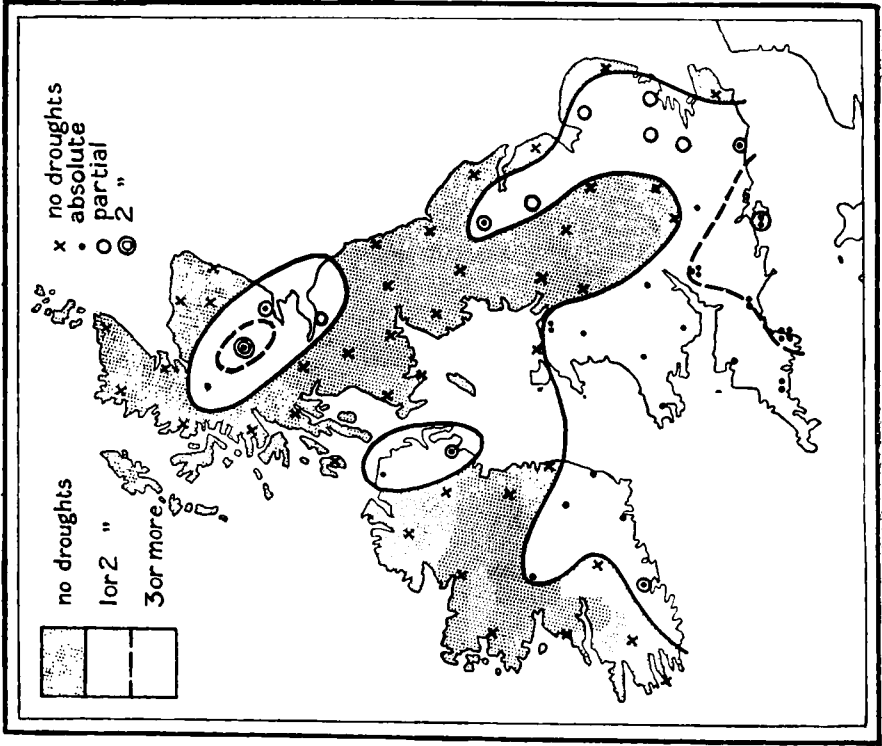
*Droughts in 1909—(continued).*

STATION & COUNTY.	ABSOLUTE DROUGHTS.			PARTIAL DROUGHTS.			
	Began.	Ended.	Last- ed.	Began.	Ended.	Last- ed.	Amount.
<b>ENGLAND &amp; WALES—(con.)</b>			Days			Days	in.
Harrogate (Harlow Moor) ..... <i>Yorkshire, W.R. (N.)</i>	Jan. 19	Feb. 2	15	Oct. 25	Nov. 26	33	·30
Treherbert (Tyn-y-waun) .... <i>Glamorganshire.</i>	Feb. 12	Feb. 26	15	None			
Llanwrda (Dolaucothy) ..... <i>Carmarthenshire.</i>	Sept. 8	Sept. 22	15	None			
Haverfordwest (High Street) .. <i>Pembrokeshire.</i>	Aug. 2	Aug. 16	15	None			
Lake Vyrnwy ..... <i>Montgomeryshire.</i>	Feb. 15	Mar. 5	19	None			
Denbigh (Garn) ..... <i>Denbighshire.</i>	Feb. 11 Aug. 2	Feb. 25 Aug. 16	15 15	None			
<b>SCOTLAND.</b>							
Edinburgh (Royal Observatory)... <i>Midlothian.</i>	None			Oct. 24	Nov. 26	34	·15
Blair Atholl ..... <i>Perthshire.</i>	Feb. 10	Feb. 26	17	Feb. 3 Oct. 24	Mar. 5 Nov. 26	31 34	·25 ·29
Dundee (Eastern Necropolis)..... <i>Forfar.</i>	Nov. 3	Nov. 19	17	Oct. 24	Nov. 30	38	·32
Fort Augustus (St. Benedict's) ... <i>East Inverness.</i>	June 3	June 18	16	None			
<b>IRELAND.</b>							
Glanmire (Lota Lodge) ..... <i>Cork.</i>	Nov. 10	Nov. 24	15	Oct. 26	Nov. 25	31	·14
Waterford (Brook Lodge) ..... <i>Waterford.</i>	May 1	May 16	16	None			
Gorey (Courtown House) ..... <i>Wexford.</i>	Apr. 29	May 13	15	None			
Abbey Leix (Blandsfort) .. <i>Queen's County.</i>	Aug. 2	Aug. 17	16	None			
Ballinasloe..... <i>Galway.</i>	May 3	May 19	17	None			
Seaforde..... <i>Down.</i>	June 1	June 17	17	Oct. 24	Nov. 25	33	·30
Bushmills (Dundarave) ..... <i>Antrim.</i>	June 1	June 16	16	None			

RAIN SPELLS IN 1909.



DROUGHTS IN 1909.



### III.—Rain Spells.

A Rain Spell may be looked upon as the opposite of an absolute drought, since it consists of a period of a like minimum duration, during which every day has measurable rain. We continue to use the definition :—

A RAIN SPELL is a period of *more than* 14 consecutive days, every one of which is a rain day.

In 1909 the number of rain spells, like the number of droughts, fell short of those for several years past, the comparative table showing it, in fact, to have been the least during the seven years for which these data have been extracted. This agrees with the general impression created by the Observers' remarks which speak of 1909 as a year of frequent bursts of heavy rain rather than one of protracted periods of persistent wetness. The duration of the spells recorded was also comparatively short, and although the greatest was one of 45 days in the English Midlands, this appears to have been a case by itself, and there were but two other rain spells reaching a duration of 30 days, both occurring in Ireland where such durations are not infrequent. No station reported so many as five rain spells, although no year of the previous six failed to produce this number at several stations. It will be observed that five spells are

*Comparative Table of Rain Spells at 73 Stations.*

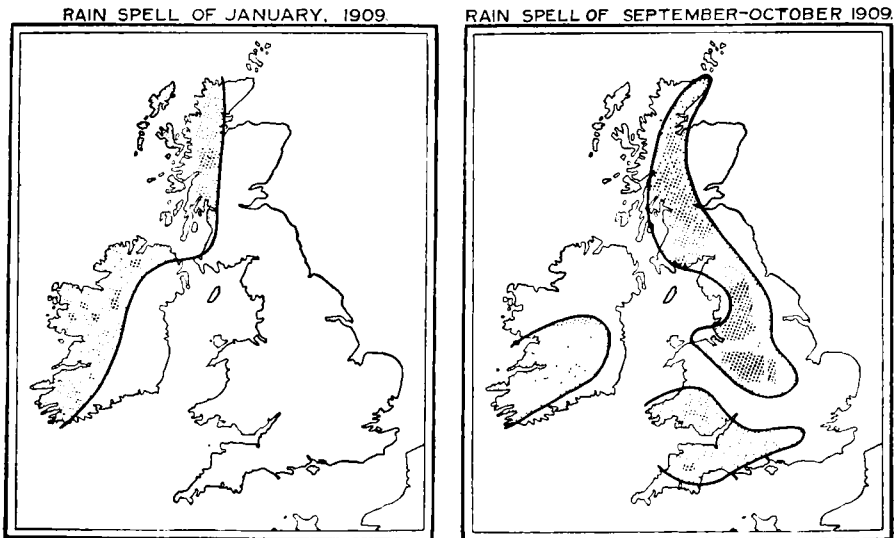
Year.	No. of Rain Spells.	DURATION OF SPELLS.				STATIONS WITH			
		Mean.		Greatest.		None.	1 or 2.	3 or 4.	5 or more.
		days.	Mean R per day. in.	days.	Mean R per day. in.				
1903...	203	22	·28	52	·51	8	30	19	16
1904...	111	19	·22	34	·27	23	37	8	5
1905...	88	19	·24	44	·38	33	28	9	3
1906...	91	21	·25	50	·40	28	34	8	3
1907...	129	21	·25	45	·17	28	22	13	10
1908...	116	19	·24	49	·43	15	43	9	6
1909...	80	19	·26	45	·12	26	38	9	0

included in the general list under Darrynane Abbey, Co. Kerry, but since one of these fell almost entirely in 1908 and was in part quoted in the list for that year it has been omitted in the summary for 1909.

The number of rain spells recorded in various parts of the British Isles during the year is expressed in the map on p. [134], which is

lightly shaded so as to indicate the areas where either one or two took place, and more darkly shaded in those places where there were three or more. The latter were confined to the western coasts of Ireland and Scotland, being roughly co-incident with the strip over which the number of rain days during the year amounted to 250 or more. The greater part of the eastern coasts of Great Britain as far north as Dundee, and of Ireland as far north as Belfast, Cornwall and about half the English Midlands were without rain spells.

Only two of the rain spells during the year were of importance on account of wide distribution, and the accompanying sketch maps give a rough outline of their extent. The first of these, which lasted from about January 4th to 21st, affected the whole of the western half of Scotland and Ireland. The mean duration was 18 days, and



the mean rate of fall during that period was  $\cdot 27$  in. per day, a rather large amount due to the fact of the spell occurring entirely in normally rainy districts. The second spell, that of October, extended over three large areas, covering nearly half of the British Isles. The date of commencement in some of the English districts was towards the end of September, but in most places a break occurred in the first week of October, and the end was nearly everywhere within a few days before or after October 25th, although at Market Overton, in Rutland, an uninterrupted succession of rain days extended till November 4th, making a total duration of 45 days.

The most conspicuous instances of rain spells with a very great intensity of rainfall have been brought together in the following

short table, which includes all the spells during which the mean rate of fall was as much as  $\cdot 40$  in. per day. These, as might be expected, occur mainly in the places with a high average rainfall.

*Rain Spells of a Mean Rate of  $\cdot 40$  in. or more per day in 1909.*

Div.	Station.	Began.	Ended.	Lasted.	Total Fall.	Rain per Day.		
						Max.	Min.	Mean.
				days.	in.	in.	in.	in.
IX.	Sedbergh .....	Oct. 7	Oct. 24	18	7·64	1·49	·01	·42
X.	Seathwaite .....	Aug. 12	Aug. 30	19	8·14	1·48	·01	·43
XI.	Tyn-y-waun .....	Oct. 2	Oct. 26	25	19·22	2·65	·01	·77
„	Dolaucothy .....	„ 2	„ 26	25	10·10	1·23	·02	·40
XII.	Jardington .....	„ 1	„ 25	25	10·16	2·13	·01	·41
XV.	Inveraray .....	Jan. 5	Jan. 22	18	8·34	1·77	·03	·46
„	„ .....	Oct. 1	Oct. 24	24	10·99	1·31	·02	·46
„	Strontian .....	Jan. 5	Jan. 22	18	8·55	1·24	·01	·48
XVIII.	Bendamph .....	„ 1	„ 21	21	10·48	1·82	·10	·50

*Table of Rain Spells, 1909.*

STATION & COUNTY.	Began.	Ended.	Lasted.	Total Rain.	RAIN PER DAY.		
					Max.	Min.	Mean
			Days	in.	in.	in.	in.
ENGLAND & WALES.							
Basingstoke (Sherborne S. John) <i>Hampshire.</i>	Sep. 27	Oct. 17	21	4·55	·78	·01	·22
Geldeston [Beccles] .....	Nov. 27	Dec. 11	15	2·77	·57	·01	·18
Torquay (Cary Green) .....	Sep. 28	Oct. 17	20	3·73	·61	·01	·19
„ <i>Devon, South.</i>							
Barnstaple (N Devon Athenæum) <i>Devon, North.</i>	Oct. 7	Oct. 27	21	5·40	·85	·02	·26
Crewkerne (Merefield House) ... <i>Somerset, South.</i>	Oct. 14	Oct. 28	15	3·83	1·01	·01	·26
Shifnal (Neachley) .....	Sep. 28	Oct. 17	20	3·59	1·10	·01	·18
„ <i>Shropshire.</i>							
Market Overton .....	Sep. 21	Nov. 4	45	5·35	·75	·01	·12
„ <i>Rutland.</i>							
Chellaston .....	Sep. 21	Oct. 5	15	2·06	·47	·01	·14
„ <i>Derbyshire.</i>	Dec. 9	Dec. 25	17	2·48	·55	·01	·15
Northenden (Wythenshawe) ... <i>Cheshire.</i>	Oct. 7	Oct. 25	19	4·54	·78	·01	·24

Table of Rain Spells, 1909—(continued).

STATION & COUNTY.	Began.	Ended.	Lasted.	Total Rain.	RAIN PER DAY.		
					Max.	Min.	Mean
ENGLAND & WALES—(con.)			Days	in.	in.	in.	in.
Harrogate (Harlow Moor) ..... <i>Yorkshire, W.R. (N.)</i>	Oct. 3	Oct. 17	15	1·62	·39	·01	·11
Sedbergh (Akay) ..... <i>Yorkshire, W.R. (N.)</i>	Aug. 12 Oct. 7	Aug. 30 Oct. 24	19 18	3·96 7·64	·64 1·49	·01 ·01	·21 ·42
Borrowdale (Seathwaite) ..... <i>Cumberland.</i>	Aug. 12	Aug. 30	19	8·14	1·48	·01	·43
Brampton (Denton House)..... <i>Cumberland.</i>	Oct. 7	Oct. 24	18	4·69	1·03	·01	·26
Treherbert (Tyn-y-waun) ..... <i>Glamorganshire.</i>	Jan. 5 Oct. 2	Jan. 19 Oct. 26	15 25	3·68 19·22	·70 2·65	·01 ·01	·25 ·77
Llanwrda (Dolaucothy) ..... <i>Carmarthenshire.</i>	Oct. 2 Dec. 15	Oct. 26 Dec. 30	25 16	10·10 5·04	1·23 ·90	·02 ·01	·40 ·32
Haverfordwest (High Street)... <i>Pembrokeshire.</i>	Oct. 9	Oct. 26	18	5·93	1·14	·01	·33
Lake Vyrnwy ..... <i>Montgomeryshire.</i>	Nov. 24	Dec. 12	19	7·10	2·16	·01	·37
Denbigh (Garn)..... <i>Denbighshire.</i>	Sep. 30 Nov. 23	Oct. 17 Dec. 12	18 20	2·80 4·01	·70 ·98	·01 ·01	·16 ·20
Llandudno ..... <i>Carnarvonshire.</i>	Oct. 7	Oct. 24	18	3·25	·56	·01	·18
SCOTLAND.							
Whithorn (Cutroach) ..... <i>Wigtown.</i>	Oct. 9	Oct. 25	17	6·15	1·02	·02	·36
Jardington [Dumfries]..... <i>Kirkcudbright.</i>	Oct. 1	Oct. 25	25	10·16	2·13	·01	·41
Biggar..... <i>Lanark.</i>	Oct. 9	Oct. 24	16	5·35	1·08	·01	·33
Girvan (Pinmore)..... <i>Ayrshire.</i>	Dec. 25 (1908) Oct. 2	Jan. 20 Oct. 25	27 24	5·97 8·16	·72 1·25	·01 ·01	·22 ·34
Buchlyvie (The Manse) ..... <i>Stirlingshire.</i>	May 17 July 12 Oct. 2	June 5 July 26 Oct. 24	20 15 23	4·67 2·60 8·93	·97 ·72 1·30	·01 ·01 ·01	·23 ·17 ·39
Inveraray (Newtown) ..... <i>Argyll, Mainland.</i>	Jan. 5 Oct. 1	Jan. 22 Oct. 24	18 24	8·34 10·99	1·77 1·31	·03 ·02	·46 ·46
Strontian (Laudale)..... <i>Argyll, Mainland.</i>	Jan. 5 May 17	Jan. 22 May 31	18 15	8·55 5·38	1·24 ·75	·01 ·03	·48 ·36

Table of Rain Spells, 1909—(continued).

STATION & COUNTY.	Began.	Ended.	Lasted.	Total Rain.	RAIN PER DAY.		
					Max.	Min.	Mean
			Days	in.	in.	in.	in.
SCOTLAND—(con.)							
Islay (Eallabus).....	Jan. 5	Jan. 22	18	5·06	·95	·02	·28
<i>Argyll, Insular.</i>							
Blair Atholl .....	Oct. 9	Oct. 23	15	4·96	1·17	·01	·33
<i>Perthshire.</i>							
Aberdeen (Cranford House) ...	Feb. 26	Mar. 20	23	3·38	·73	·01	·15
<i>Aberdeenshire.</i>							
Strathdon (School House) .....	Dec. 14	Dec. 28	15	1·14	·26	·01	·08
<i>Aberdeenshire.</i>							
Keith Station .....	Aug. 21	Sep. 8	19	3·50	·60	·01	·18
<i>Banffshire.</i>							
Fort Augustus (St. Benedict's)	Jan. 5	Jan. 21	17	5·49	1·60	·02	·32
<i>West Inverness-shire.</i>							
	Oct. 5	Oct. 24	20	7·05	1·40	·01	·35
Loch Torridon (Bendamph) ...	Jan. 1	Jan. 21	21	10·48	1·82	·10	·50
<i>West Ross-shire.</i>							
	May 11	June 3	24	5·30	·67	·02	·22
	July 3	July 25	23	5·39	·67	·05	·23
Alness (Ardross Castle) .....	Jan. 5	Jan. 19	15	3·73	·59	·01	·25
<i>East Ross-shire.</i>							
	Oct. 9	Oct. 24	16	4·49	·78	·01	·28
Loch Stack .....	Jan. 3	Jan. 21	19	4·72	·80	·02	·25
<i>Sutherland.</i>							
	July 12	July 28	17	4·40	1·40	·03	·26
	Nov. 22	Dec. 11	20	5·86	1·33	·03	·29
Thurso (Buckies) .....	July 12	July 26	15	1·54	·40	·01	·10
<i>Caithness.</i>							
	Aug. 26	Sep. 9	15	2·75	·50	·01	·18
	Oct. 10	Oct. 30	21	3·26	·63	·02	·16
IRELAND.							
Darrynane Abbey .....	Dec. 16	Jan. 2	18	4·14	·70	·01	·23
<i>Kerry.</i>							
	(1908)						
	Jan. 4	Jan. 20	17	2·97	·42	·02	·17
	July 12	July 26	15	2·03	1·12	·01	·14
	Sep. 30	Oct. 26	27	8·76	1·07	·01	·32
	Nov. 25	Dec. 12	18	5·69	·68	·01	·32
Killarney (District Asylum) ...	Jan. 4	Jan. 19	16	3·96	1·15	·01	·25
<i>Kerry.</i>							
	Apr. 15	Apr. 30	16	3·37	·51	·01	·21
	Sep. 30	Oct. 30	31	8·30	·89	·01	·27
	Nov. 25	Dec. 11	17	4·30	·79	·02	·25
Dundrum Rectory .....	Oct. 2	Oct. 17	16	4·12	·78	·04	·26
<i>Tipperary.</i>							
Miltown Malbay .....	Jan. 5	Jan. 20	16	3·43	1·09	·02	·21
<i>Clare.</i>							
	Sep. 30	Oct. 26	27	5·62	·67	·01	·21

\* Part of this spell was quoted in the Table for 1908.

Table of Rain Spells, 1909—(continued).

STATION & COUNTY.	Began.	Ended.	Lasted.	Total Rain.	RAIN PER DAY.		
					Max.	Min.	Mean
IRELAND—(con.)			Days	in.	in.	in.	in.
Abbey Leix (Blandsfort)..... <i>Queen's County.</i>	Oct. 2	Oct. 17	16	3·84	1·09	·01	·24
Moynalty (Westland) ..... <i>Meath.</i>	Sep. 26	Oct. 25	30	6·16	·88	·01	·21
Ballinasloe ..... <i>Galway.</i>	Jan. 5	Jan. 20	16	2·38	·53	·01	·15
	Apr. 15	Apr. 30	16	2·80	·87	·01	·18
	Oct. 9	Oct. 25	17	3·74	·77	·01	·22
Westport (St. Helen's) ..... <i>Mayo.</i>	Jan. 5	Jan. 19	15	4·51	1·30	·03	·30
	Jan. 27	Feb. 10	15	2·29	·45	·01	·15
	Apr. 10	May 2	23	3·70	·56	·02	·16
	Aug. 18	Sep. 8	22	3·34	·68	·01	·15
Collooney (Markree Observat'ry) ..... <i>Sligo.</i>	Jan. 5	Jan. 21	17	4·32	1·36	·02	·25
	Nov. 24	Dec. 10	17	3·42	1·00	·01	·20
Bushmills (Dundarave) ..... <i>Antrim.</i>	Jan. 5	Jan. 19	15	3·44	·60	·03	·23
Convoy ..... <i>Donegal.</i>	Jan. 5	Jan. 21	17	5·89	1·67	·03	·35
	Mar. 6	Mar. 20	15	2·10	·31	·01	·14
	Dec. 17	Dec. 31	15	2·76	·43	·01	·18

## MONTHLY RAINFALL, 1909.

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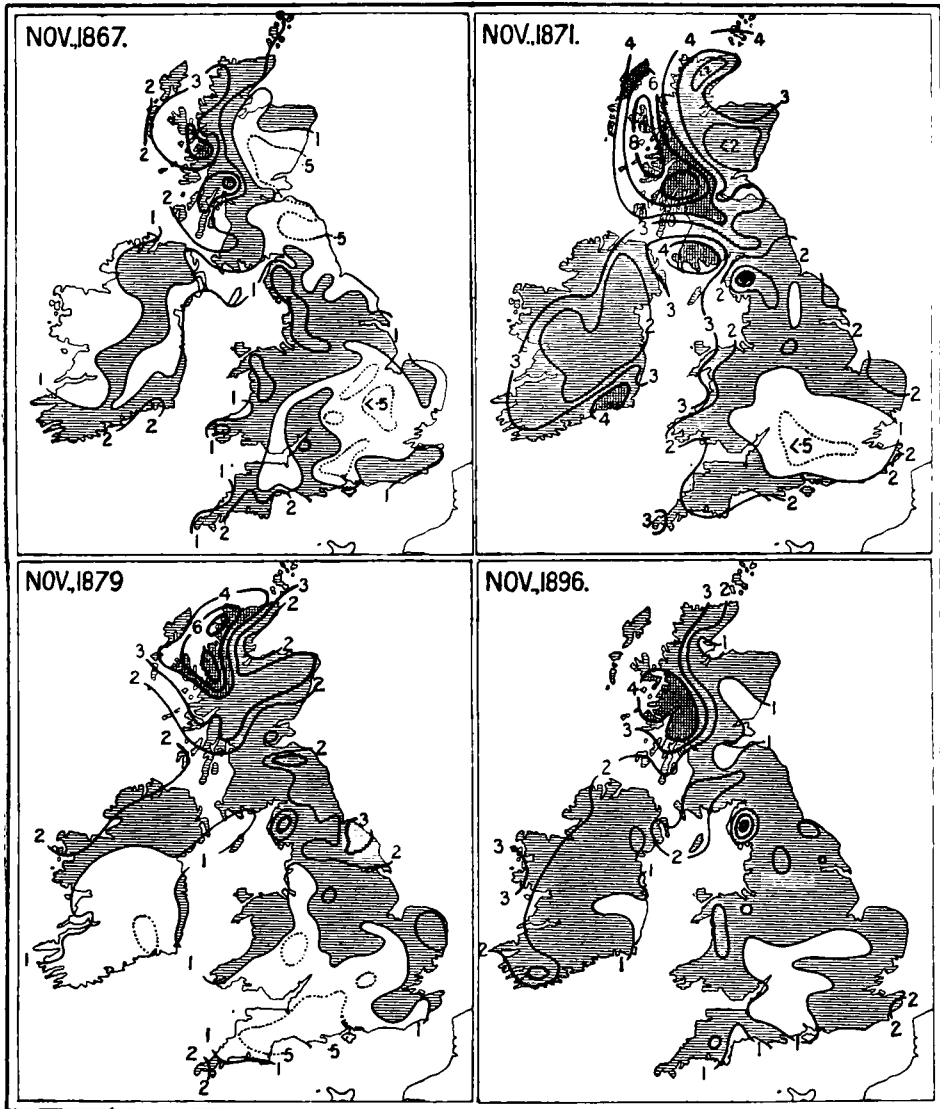
IN this section last year we described the method of preparing and reproducing the detailed maps of monthly amount of rainfall, which were then given for the first time, and we refer our readers to *British Rainfall 1908* for the details. It is sufficient to say here that the two maps which face each other at each opening represent, on the left-hand side of the page, the distribution of depth of rain represented by lines enclosing areas within which more than 1, 2, 3, etc., inches fell in the month, and on the right-hand side representing the proportion of the average of that month which fell, the average being represented for convenience as 100, and lines drawn for every 50 per cent. above the average, and for 50 and 25 per cent. below the average. The left-hand map shows the actual distribution of rain for the month, all places which had more than 3 inches being shaded; the right-hand map shows the distribution of rain with regard to the average, all places having more than their average fall for the month being shaded. The maps of actual rainfall are prepared from about 2,000 stations in the British Isles; they are photographed down from large maps, and supersede those prepared monthly from about 1,000 stations for the Meteorological Office and published in the *Monthly Weather Report*. The Table of 232 stations given at the end of this section includes a selection of the stations distributed uniformly over the country. The percentage maps are prepared from 73 uniformly distributed stations, at each of which there is a long record. The percentage figures are placed upon the map, and they are also given in Table I. The average used is that for the period of 30 years, 1870-99, which is being employed for the last time, as we hope next year to introduce a better average. The percentage maps are not so much reduced as the others, and are not so precise, but they show the general variation from the average in a satisfactory way.

The summary at the end of the long table shows that for the British Isles the general rainfall of the month was greatest in October,

with 6·00 in. ; December coming next with 5·09 in. ; and then July with 3·78 in. ; and least in February, with 1·69 in. ; May was the next driest month, with 2·07 in., and November came third with 2·08 in., which is practically the same. Table I., however, shows that, since October is normally the month of highest rainfall and February the month of lowest rainfall, neither of these differed so much from the average as did the month of March for wetness, with an excess of 52 per cent., and November for dryness, with a deficiency of 53 per cent. The four months of March, April, October and November were all very wet ; the four months, January, February, August and November, were all very dry with relation to their respective averages. The dryness of November was so remarkable that we have looked back through the volumes of *British Rainfall*, and find that there was no November to compare with it in the last 13 years ; but in 1896 the month had a similar character. Before that we have to go back to 1879, and then to 1871 and 1867 ; altogether five Novembers which may be admitted to compete for the distinction of being the driest in the last 50 years.

There are sufficient data to prepare detailed maps of each, which when measured would enable us to determine the total rainfall of each with great exactness, but this would consume too much time, and delay the publication of this volume too long to be justifiable. A shorter if less precise method has been followed. A map on a small scale has been prepared for each November from the data given in the long table of monthly rainfall in *British Rainfall* for the year in question, extended in the earlier years by additional data taken from the original returns. The mean of the rainfall at all the stations in each of the great divisions was then taken as an index to the actual rainfall, and in this operation a fairly trustworthy figure results for England and Wales, where the stations are sufficiently numerous, uniformly distributed and representative, and also for Ireland where, although the distribution is imperfect, the range of rainfall is sufficiently small to leave them representative ; but for Scotland the figure is rather less satisfactory as the range of rainfall is very great, and a slight difference in the distribution of stations from year to year might give undue weight to the drier or the wetter part of the country. The mean of all the stations in the British Isles in each year is not quite so trustworthy as that for those in England and Wales and Ireland, but more so than for Scotland, and may be accepted without much hesitation.

The maps of the four driest Novembers before 1909 are given herewith, and though the scale is smaller, they may be compared with the map of November, 1909, on p. [170], which shows the actual rainfall for that month.



Percentage maps cannot be prepared to compare with that on p. [171], because a different period for the average was adopted in each decade ; but it would be possible to compare the relative dryness of the different Novembers if we could arrive at the average general rainfall of November for the different divisions. The Table of percentages at 73 stations in this volume enables us to get the general

rainfall for November from a limited number of stations, and though this is only a rough approximation, it may be made to serve, the calculation being then as follows :—

*Rainfall of the Driest Novembers.*

	No. of Stations.	General Rainfall.	Average.	Per cent. of Average
<b>1867.</b>				
England and Wales .....	70	1·19	3·63	33
Scotland .....	40	2·00	4·62	43
Ireland .....	28	1·15	3·93	30
British Isles .....	139*	1·41	3·96	36
<b>1871.</b>				
England and Wales .....	67	1·44	3·63	40
Scotland .....	38	3·72	4·62	80
Ireland .....	38	2·56	3·93	65
British Isles .....	144*	2·35	3·96	59
<b>1879.</b>				
England and Wales .....	84	1·22	3·63	34
Scotland .....	44	2·84	4·62	61
Ireland .....	37	1·01	3·93	26
British Isles .....	166*	1·60	3·96	43
<b>1896.</b>				
England and Wales .....	121	1·36	3·63	38
Scotland .....	58	1·96	4·62	42
Ireland .....	51	1·42	3·93	36
British Isles .....	230	1·53	3·96	39
<b>1909.</b>				
England and Wales .....	123	1·33	3·63	37
Scotland .....	57	3·61	4·62	78
Ireland .....	52	2·16	3·93	55
British Isles .....	232	2·08	3·96	52

\* The apparent discrepancy between the number of stations in the British Isles, and the sum of the numbers in the countries, arises from the inclusion of I. of Man in the former.

This shows that for the British Isles, as a whole, the driest November was that of 1867, with a general rainfall of 1·41 in., or 36 per cent. of the average; then came November, 1896, with a general rainfall of 1·53 in., or 39 per cent. of the average; third, November, 1879, with a general rainfall of 1·60 in., or 43 per cent. of the average; November, 1909, thus comes fourth with a general rainfall of 2·08 in., or 52 per cent. of the average. In 1867, the area with less than half-an-inch of rain was the largest, and was not confined to England, as there was a notable portion of it in the east of Scotland. The area over 4 inches was much the largest in 1909, when the wetness of the west of Scotland raised the general rainfall to a considerable extent.

Leaving the general character of the months over the whole

country to look at the three kingdoms separately, we find that in England and Wales the month with greatest general rainfall was October with 5·52 in., next December with 5·28 in., and third, March with 3·83 in. ; but as March is normally a month of low rainfall, it shows the greatest excess over the average (80 per cent.) of any month in the year, December coming next with an excess of 64 per cent. The month of lowest general rainfall was February with 1·12 in., and next November with 1·33 in. ; but as November has normally the higher rainfall of these two months, it showed the greater deficiency from the average (64 per cent.), having scarcely more than one-third of the normal fall ; February coming next with a deficiency of 59 per cent.

In Scotland most rain fell in October, when the general rainfall was 6·91 in. ; then came December, January, July, and fourth, April with 3·62 in. ; but as April is normally the month of lowest rainfall amongst these, it showed the greatest excess (62 per cent.), October coming next with an excess of 45 per cent. The month with least rain in Scotland was June with a general rainfall of 2·06 in., then February with 2·44 in., and third, September with 2·51 in. ; but September showed the greatest deficiency from the average (39 per cent.), June having a deficiency of only 29 per cent.

In Ireland the month of greatest rainfall was October with 6·12 in., and next April with 4·95 in. ; but April being normally the month of lower rainfall, showed an excess of 85 per cent., the excess in October being only 41 per cent. The month with least rain in Ireland was August with a general rainfall of 1·80 in., and that was relatively the driest month also, the deficiency from the average being 58 per cent.

Thus, considering total amount of rain, the month with most in all divisions of the British Isles was October ; the month with least in England and Wales was February, in Scotland, June, and in Ireland, August. As regards difference from the average falls for each month, March was the wettest in England and Wales, April in Scotland and Ireland ; while August was the driest in Ireland, September in Scotland, and November in England and Wales.

TABLE I.—*Monthly Rainfall in 1909 : the Average, 1870-1899, being taken as 100.*

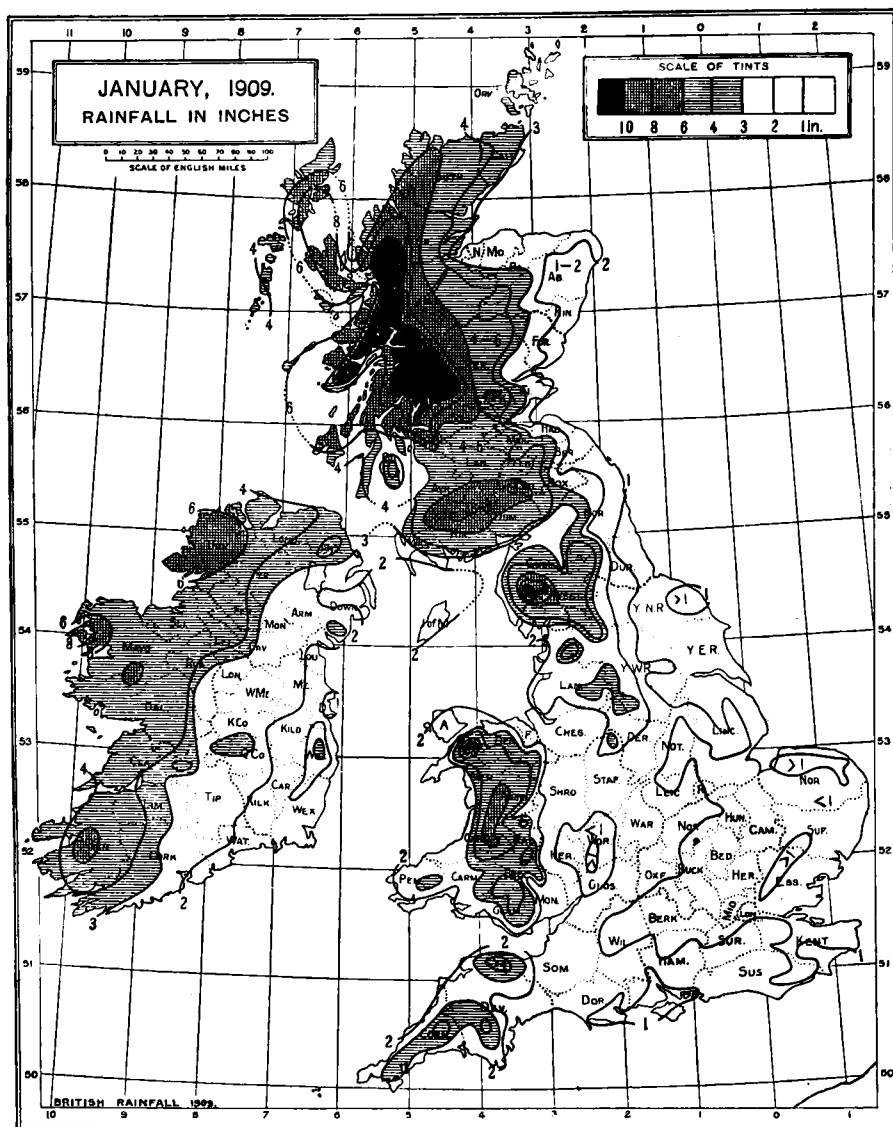
Div.	Station.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
I.	St. Pancras, Camden Square ..	38	31	175	112	105	181	140	63	112	146	30	132	106
II.	Tenterden .....	37	35	230	94	67	137	173	102	111	166	27	196	116
"	Arundel, Patching .....	41	15	215	111	88	137	99	95	113	203	26	187	111
"	Southampton, Cadland .....	36	14	169	66	91	165	101	90	141	244	17	127	107
III.	Basingstoke, Sherborne St. John ..	37	26	181	105	87	245	107	82	113	171	27	152	109
"	Hitchin, Wratton .....	43	28	212	93	97	262	127	96	86	168	39	153	117
"	Oxford, Magdalen College .....	39	27	165	97	129	172	87	145	128	130	32	145	108
IV.	Wellingborough, Croyland Abbey ..	44	27	155	94	62	152	103	92	133	121	37	185	101
"	Shoeburyness .....	43	96	188	117	85	150	146	126	87	210	57	159	124
"	Bury St. Edmunds, Westley .....	56	33	157	95	65	172	119	100	125	143	33	199	110
"	Norwich, Brundall .....	38	40	161	85	75	145	106	82	58	122	49	219	99
V.	Evershot, Melbury House .....	34	19	233	86	75	183	113	90	83	213	19	173	107
"	Sidmouth, Sidmout .....	55	15	236	86	76	141	118	91	68	151	17	166	99
"	Northam Vicarage .....	64	13	262	118	62	54	50	52	85	134	49	132	89
"	Falmouth Observatory .....	73	22	225	75	47	114	75	56	36	152	40	119	87
"	Altarnon .....	79	21	166	86	47	128	83	55	40	140	48	115	86
"	East Harptree, Sherborne Res..	48	30	168	135	113	142	108	89	100	177	45	151	108
VI.	Stroud, Upfield .....	45	33	196	103	58	133	88	94	130	144	40	165	101
"	Leominster, Farm .....	31	27	139	105	43	138	117	74	112	120	28	163	91
"	Church Stretton, Wolstaston ..	58	47	143	140	34	170	111	65	97	107	26	161	94
"	Coventry, Kingswood .....	50	35	179	82	73	127	141	56	84	117	23	125	90
VII.	Boston .....	57	31	235	95	52	174	172	123	71	135	31	207	115
"	Lincoln, Doddington .....	67	38	188	89	40	118	153	132	112	103	13	211	106
"	Mickleover Manor .....	52	34	224	81	90	80	149	92	96	125	19	181	102
VIII.	Northwich, Highfield .....	70	50	138	117	49	140	124	106	137	136	41	245	110
"	Blackburn, Guide Reservoir .....	65	73	98	198	116	107	195	81	65	136	49	154	110
IX.	Barnsley, Church Street .....	67	34	173	90	105	183	160	89	111	61	19	223	111
"	Wetherby, Ribston Hall .....	42	40	227	142	87	141	133	124	65	68	29	193	107
"	Arncliffe Vicarage .....	76	103	84	166	105	107	181	109	86	151	66	155	115
"	Hull, Pearson Park .....	36	56	200	102	68	149	164	208	57	87	24	193	114
"	Middlesbrough, Albert Park .....	35	96	261	114	94	81	101	202	79	82	69	138	112
X.	Newcastle, Town Moor .....	47	109	254	150	95	107	96	109	77	74	32	155	106
"	Borrowdale, Seathwaite .....	72	98	86	120	79	68	179	75	44	159	62	128	97
XI.	Cardiff, Ely .....	54	22	152	114	74	86	87	71	90	151	39	173	94
"	Llanwrda, Dolaucothy .....	57	31	120	151	80	64	96	50	113	148	40	135	90
"	Haverfordwest, High Street .....	46	14	207	135	58	74	112	43	68	132	40	125	86
"	Aberystwyth, Gogerddan .....	83	21	110	155	73	100	118	60	90	144	49	142	96
"	Llandudno .....	84	55	128	142	51	98	149	106	110	118	46	143	103
"	Douglas .....	43	66	143	137	63	70	147	59	80	171	27	146	96

## MONTHLY RAINFALL.

[ 147 ]

TABLE I.—Monthly Rainfall in 1909: the Average, 1870–1899, being taken as 100—(continued).

Div.	Station.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
XII.	Auchencairn, Torr House .....	96	75	140	182	122	100	170	51	83	236	44	172	122
"	Moffat, Eriestane.....	98	50	112	151	95	121	134	48	52	215	25	90	95
XIII.	Marchmont House .....	70	110	217	179	93	73	80	66	93	101	18	129	98
XIV.	Girvan, Pinnore .....	103	93	100	127	66	103	214	79	61	152	39	118	104
"	Loch Thom .....	130	84	64	177	124	85	141	78	46	179	74	144	109
XV.	Falkirk, Kerse .....	149	53	117	172	120	71	86	66	59	144	22	172	102
"	Islay, Tallabhs .....	130	81	75	158	129	50	181	96	56	132	77	79	100
"	Mull, Quinish .....	111	80	38	144	124	34	108	78	44	131	70	84	86
XVI.	Balquhider, Stronvar .....	116	54	46	186	132	57	69	60	41	188	60	88	90
"	Dundee, Eastern Necropolis...	70	39	169	178	205	39	89	58	55	131	11	104	91
XVII.	Braemar .....	113	20	301	144	138	57	111	55	43	145	26	83	97
"	Aberdeen, Crauford.....	84	33	233	148	101	66	165	67	62	76	48	146	101
"	Keith .....	60	102	196	234	127	77	85	84	87	101	123	111	111
"	Cawdor .....	114	62	137	148	128	67	133	61	57	154	65	69	98
XVIII.	Fort Augustus, St. Benedict's ..	121	47	21	93	136	33	126	72	43	178	81	66	86
"	Applecross Gardens.....	98	64	47	153	97	50	147	92	71	141	104	94	97
XIX.	Dunrobin Castle .....	128	64	126	198	109	90	67	68	75	112	109	81	100
"	Thurso, Holborn Head .....	119	94	72	153	113	110	61	121	70	85	164	61	100
XX.	Cork, The Palace .....	43	71	130	215	88	80	43	9	50	161	20	92	81
"	Killarney .....	70	75	92	131	83	55	85	18	45	133	40	79	75
"	Waterford, Brook Lodge .....	49	25	157	209	100	88	99	25	92	182	22	118	93
"	Nenagh, Castle Lough .....	85	66	102	138	83	68	73	26	80	158	45	104	84
"	Miltown Malbay .....	106	76	103	158	71	82	92	27	110	134	67	96	92
XXI.	Abbey Leix, Blandsfort.....	86	31	114	225	88	144	97	47	94	179	61	103	103
"	Dublin, Fitz William Square...	58	30	145	204	76	101	126	43	85	85	55	184	97
"	Mullingar, Belvedere .....	89	66	105	212	93	87	86	27	82	131	69	128	96
XXII.	Ballinasloe .....	73	54	107	219	74	72	70	22	73	126	65	112	85
"	Crossmolina, Enniscoe .....	102	79	97	171	75	66	105	54	89	162	72	108	98
"	Collooney, Markree Observatory	138	76	88	161	80	59	86	60	90	150	76	106	97
XXIII.	Belturbet, Cloverhill .....	93	63	140	187	114	77	89	44	83	158	54	127	100
"	Seaforde .....	63	51	225	193	82	101	109	58	67	153	24	125	100
"	Ballymena, Hurrayville .....	121	88	149	202	93	83	132	79	74	128	52	101	105
"	Omagh, Edenfel .....	113	76	166	183	106	42	103	63	85	131	61	107	100
"	Buncrana, Rockfort.....	149	91	117	126	103	48	116	75	59	89	65	132	96
ENGLAND & WALES (38 Stations)		53	41	180	112	77	135	123	94	91	139	36	161	104
SCOTLAND.....(18 "		106	67	123	162	120	71	120	72	61	145	64	105	99
IRELAND.....(16 "		90	64	127	185	88	78	94	42	78	141	53	114	94
BRITISH ISLES.....(73 "		74	52	154	141	90	106	117	77	81	141	47	138	100



**January.**—There was a close approach to the normal distribution of rainfall ; but the tendency to high rainfall in the west of Ireland and the north-west of Scotland was somewhat exaggerated ; a large area in the west of Scotland having more than 10 inches was fringed by a broad zone with more than 6 inches, and falls over 6 inches occurred also in the south-west of Scotland, at various points in the west of Ireland, and in north and central Wales. The east of Ireland and the east of Great Britain had less than 2 inches, and a very large part of the east of England had less than an inch of rain.



The percentage map shows that the whole of the north-west of Ireland, and the west and centre of Scotland had more than the average for the month, but only in a small area east of Glasgow did the excess reach 60 per cent. All the rest of the country was below the average, and the south-east of Ireland, south-west of Wales and the whole east and south of England (except Cornwall and Devon) were very dry, having a deficiency of more than 50 per cent. The general character of the month may be summed up in relation to the average as wet in the north-west and very dry in the south-east.





more than an average fall being the smallest for any month in the year. The country was in fact abnormally dry ; most of England and Wales had less than 50 per cent., or half of the average rainfall, and the south-west of England and Wales, and the south-east of Ireland had less than a quarter of the average. It is exceedingly rare to find two consecutive winter months so dry as January and February on this occasion ; over England and Wales the two months together only produced the normal rainfall of one month, and no other month of the year, and few in any year, produced so little rain as did these two in central England.



**March.**—The wettest and most remarkable month in the year. The peculiar distribution of atmospheric pressure made the prevailing wind in the north northerly and easterly, and in the south southerly and westerly. The effect of this wind direction is beautifully shown in the maps. The west of Scotland was unprecedentedly dry owing to the infrequency of westerly wind, there being a large area with less than one inch and part of it with less than half an inch near Fort William. The east of Scotland, on the other hand, had a high rainfall, more than 6 inches falling over a large part of Aberdeenshire and also in the eastern border counties, each centre culminating with



over 8 inches. The winds over England were prevailing southerly and south-westerly, the greater part of the country having more than 3 inches and a large area in Cornwall and Devon more than 6 inches.

The percentage map shows that the only parts with less than the average rainfall were the west of Scotland, west of Ireland and the English Lake District. Near Fort William less than 25 per cent. of the average amount of rain fell. On the east and south the greater part of Great Britain had more than twice the average rainfall, (the area with an excess of 100 per cent. being the largest for any month) and in Aberdeenshire more than three times the amount.



**April.**—Much of the south-west of Ireland had more than 6 inches of rain, and all Ireland, except a narrow strip on the north coast, had more than 3 inches ; this was in great part due to the very heavy falls on the 2nd and 3rd which are mapped in an earlier section. There were considerable areas in Scotland also with more than 6 inches, and the greater part of that country and of Wales had more than 3 inches ; but almost the whole of England had less than this, and at a few points on the east coast the rainfall was as low as 1 inch.

The excessive nature of the rain in Ireland, which made April the



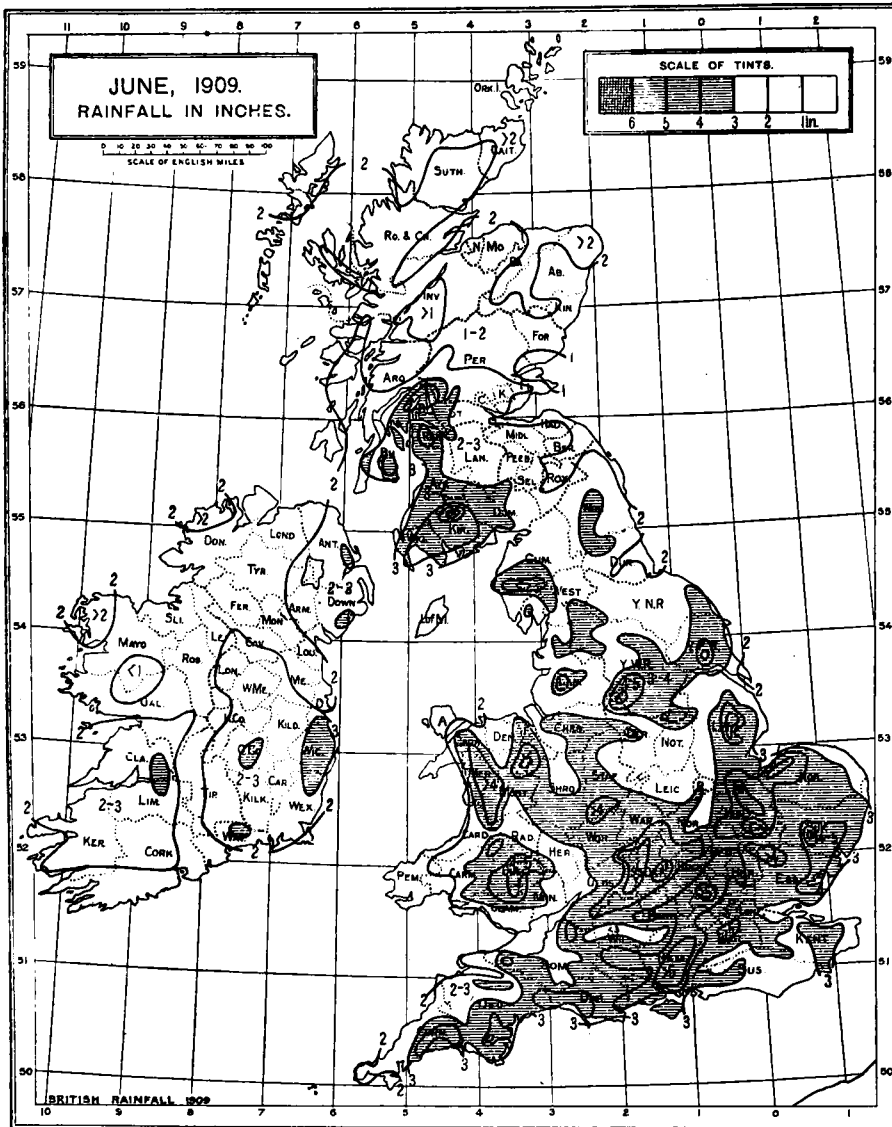
wettest month in the year for that island, is shown on the percentage map by the very large area in the south and east which had more than twice the normal rainfall. The greater part of Scotland and the north of England had 50 per cent. excess, and it was only in a strip of country from Cornwall and Hampshire to Lincoln and Suffolk that a rainfall less than the average was experienced. The two months March and April had between them the rainfall of three months; thus for the country as a whole the precipitations of the first four months was just about the average.



**May.**—Except in the west and centre of Scotland, rainfalls exceeding 3 inches were only recorded in a few isolated patches in the west of England and Wales, and the west and south of Ireland, and falls of 6 inches or over were very rare. No other month had so large an area with less than 3 inches, and the greater part of England had less than 2 inches of rain, while round the Wash there was less than 1 inch.



The percentage map shows that the greater part of Scotland and a few strips in England (the area of which is perhaps exaggerated on the map) and in Ireland had more than the average fall, and in the neighbourhood of Dundee there was twice the average amount, though the area with so great an excess was perhaps rather smaller than is shown. With these exceptions the rainfall did not deviate very much from the average amount.



**June.**—The weather was dominated by cyclones, the track of which lay through the south of England or the north of France, the result being that though there was practically no place with more than 6 inches of rain (a less area, in fact, than in any other month of the year) the greater part of England and Wales had more than 3 inches, while more than half of Scotland and Ireland had less than 2 inches, the normal distribution of rainfall as regards north and south being inverted.



The percentage map shows that parts of the west of Scotland and north of Ireland had less than half the average fall, while the greater part of England and Wales had more than the average, and a stretch of country between Cambridge and Salisbury, where thunderstorms were frequent, had more than twice the average amount of rain. For the country generally it may be said that the month was very dry in the north-west, average in the middle, and very wet in the south-east.



**July.**—The rainfall was high but extremely irregular in its distribution. The regions of normally high rainfall in the west of Great Britain had considerable areas with more than 6 inches, enclosing patches where more than 10 inches fell, and there were only narrow strips of coast here and there with less than 2 inches. The rain was for the most part of a cyclonic character, a great number of depressions crossing the country during the month, the most remarkable, on July 27th, is mapped in the section on maximum falls (p. [92]).



The greater part of Ireland, the country round the Bristol Channel in England and Wales, and that north of the Moray Firth in Scotland, and between the Tay and Tees, had less than the average rainfall. The greatest excess above the average was in a long narrow belt running from Islay to the Wash, within which there was an excess of more than 50 per cent., rising in points to 100 per cent., or nearly so.



**August.**—This was also a month the weather of which depended on many depressions. These brought heavy rain, mainly in the west of Scotland and the north of Ireland and England. There was only a small area with more than 6 inches, but the north coast of Ireland, the west of Scotland and most of the north of England and North Wales had more than 3 inches. The driest part of the British Isles was the south of Ireland, where a stretch of country had less than half-an-inch of rain, and most of Ireland had less than 2 inches. Only



small patches in the east of Scotland and in various parts of England had less than 2 inches.

The percentage map shows that the only great excess of rain above the average was in the east of England, where some places in the north had more than twice the usual amount. The driest place was the south-west of Ireland, which had less than one-quarter of the normal fall, the month being the driest known in Ireland for many years.



**September.**—The rainfall was rather less than usual, the least occurring in the south of Ireland and east of Scotland, where less than an inch fell in some places. Less than 2 inches occurred in the east of Great Britain and also in Cornwall and Devon; but between these regions of low rainfall there was a broad belt running from the south coast of England through Wales and the Lake District to the West of Scotland, within which there was almost everywhere more than 3 inches, but in only a few patches in Wales and one in Scotland was there as much as 6 inches.



The percentage map shows that it was only in the south and centre of England and Wales that the average for the month was reached. The south-west, the east and the north of England were dry, and so were Scotland and practically all Ireland. The west and centre of Scotland had less than half the usual rainfall, and so had the extreme south-west of Ireland and England and the central part of the Lake District. The great deficiency in the regions where rainfall is normally highest was the leading characteristic of the month.

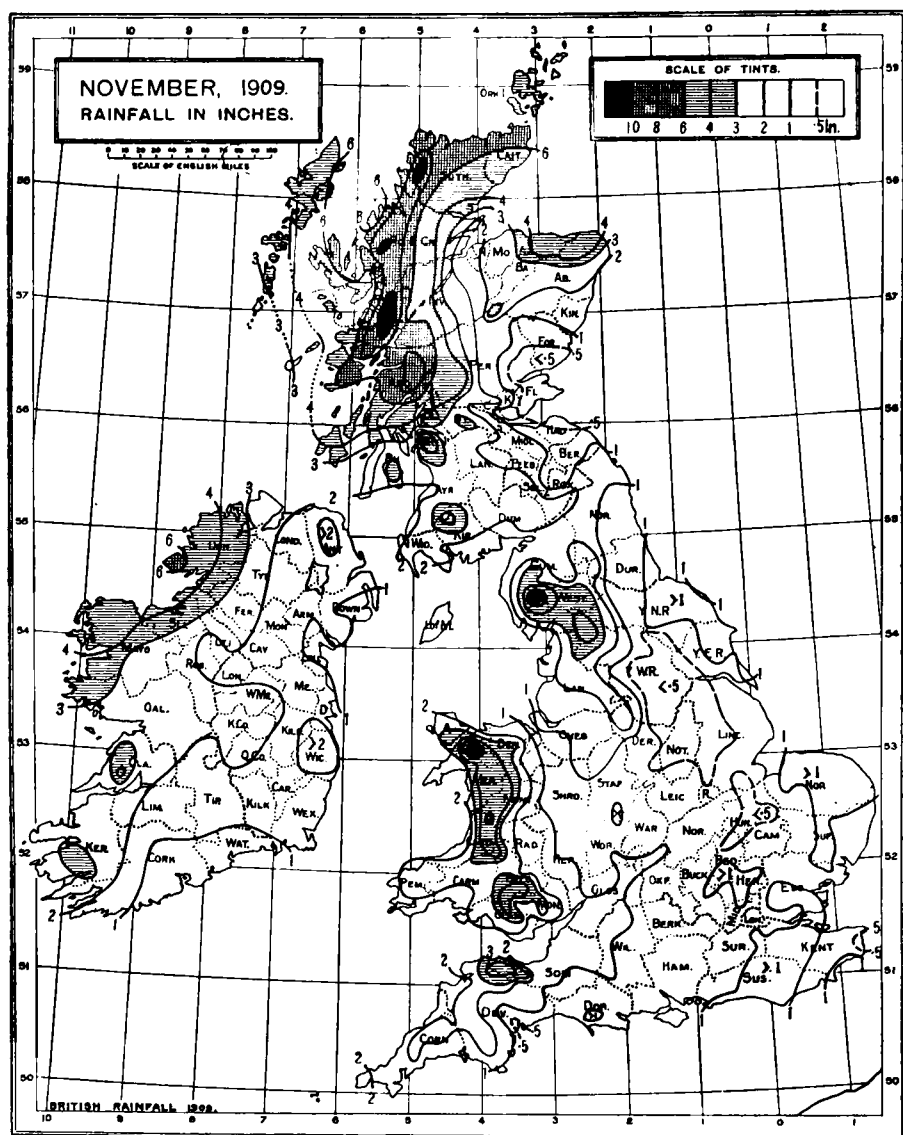


**October** had the highest rainfall of any month in the year. No part of the country had less than 2 inches of rain except a small patch in the West Riding of Yorkshire, and the smallness of the unshaded area in the east shows how little had less than three inches. The great rain storms of 26th—28th account for the broad belt with more than 6 inches in the south of England, where so heavy a monthly fall is rare. The wide extension of the areas over 6 inches and over 10 inches in Wales, the Lake District, Scotland and Ireland, is associated with large stretches, shown by special shading inside the solid black, where more than 12 inches fell in the month. The area with



more than 6 inches was greater than in any other month of the year.

The second map shows that a small space round Dublin, a strip of the east of Scotland and a wider belt of the north-east of England had less than their average rainfall ; but the area below the average was less than in any other month. A portion of the south-west of Scotland and a broad band in Sussex, Hampshire and Dorset had more than twice the average fall. The most interesting feature of this month of normally high rainfall was that each of the three kingdoms showed nearly the same excess, 39 per cent. in England and Wales, 45 per cent. in Scotland and 41 per cent. in Ireland.

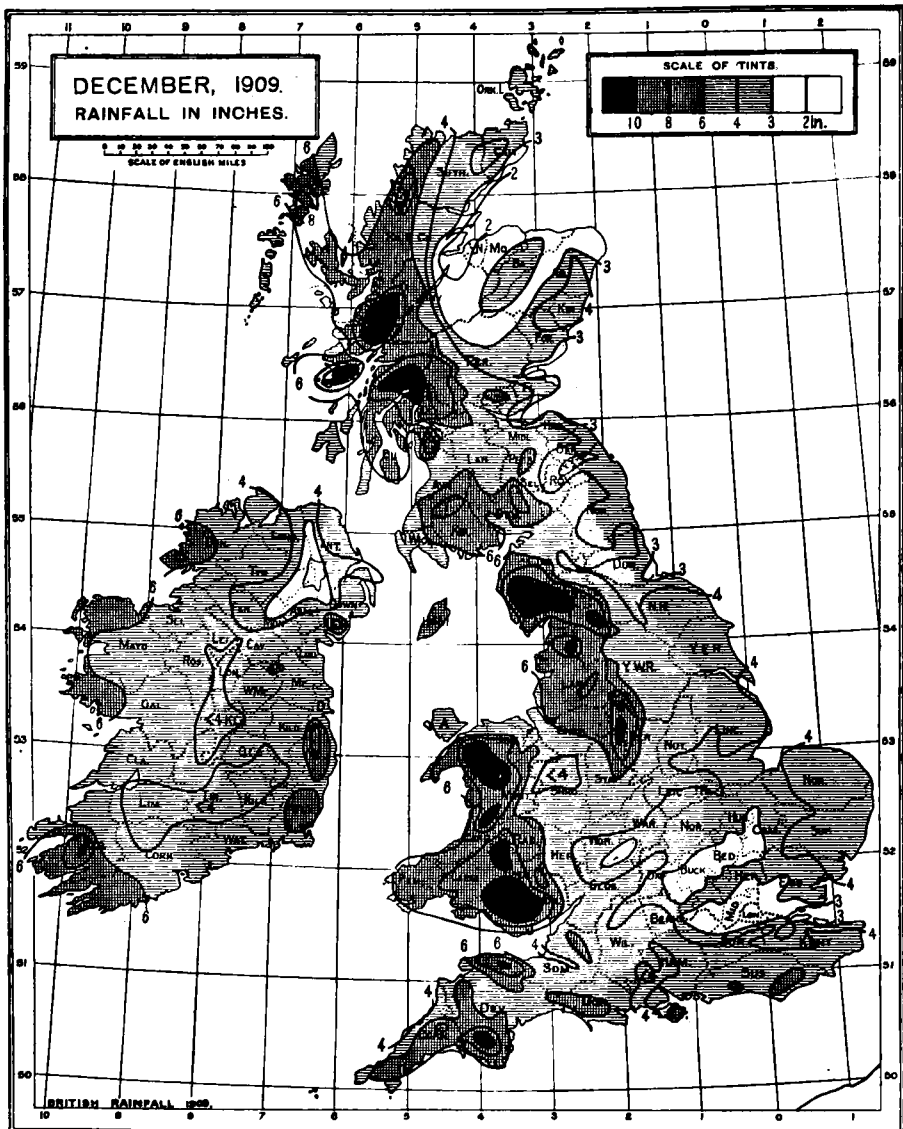


**November.**—The remarkably low rainfall of this month has been referred to at some length in the introduction to this section where a comparison is given with other dry Novembers. The west of Scotland was practically the only part of the British Isles where more than six inches of rain occurred. Less than one inch fell over the south and centre of England, and less than half an inch in the West Riding, the west of Lincolnshire and in Nottinghamshire. Less than half an inch was also experienced in the east of Scotland, and a portion of the south of Ireland had less than an inch of rain.

The second map shows that the average rainfall was exceeded only



in the north of Scotland, where, on account of the heavy fall of the 11th, more rain fell in 24 hours than in the whole month at most stations in the British Isles ; that one day bringing to the north of Caithness more than eight times as much rain as the thirty days brought to Nottinghamshire. Nearly the whole of England, scarcely less than half Scotland, and a third of Ireland had less than half the average, no other month having so large an area with a deficiency of 50 per cent. ; and the south-east of Scotland, the centre and the south of England, and the extreme south of Ireland had less than one quarter of the average rainfall.



**December.**—Next to October this was the month of highest rainfall, the general fall for the British Isles being 5 inches as compared with 6; but there was, especially in England, a smaller area with less than 3 inches than in any other month. The areas with more than 10 inches were smaller than in October, and did not contain any parts where as much as 12 inches was registered. The distribution of rainfall was substantially similar to that of October, and it is most instructive to notice how the great fall of the 9th (see map in Heavy Falls on Rainfall Days p. [107]) sketched out the month's fall in Scotland and the north of England; while the map of



the rain of the 21st (p. [110]) shows that that day's rain helped to build up the map of the month for the south of England.

The south-west of Ireland and the north-west of Scotland, considerable as their rainfall was, had yet less than the average of the month, which in those parts is the highest of any month in the year. The wettest part of the country was a strip extending from North Wales to the coasts of Lincoln and Norfolk, in which more than twice the average was experienced. The wetness of the east appears more prominently on the maps than the dryness of the west, as in a normal December the contrast between west and east is very great.

## SEASONAL RAINFALL OF 1908-09.

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THERE is a close affinity between the rainfall of January and December, but the affinity is not between January and December of the same year ; it is between January and the immediately preceding month, the December of the year before. Similarly the autumn and the following winter often show characteristics in common, just as do the spring and the following summer, and it is important not to lose sight of the fact that the months of a century succeed each other like 1,200 divisions on one long strip, not like 12 divisions on each of a hundred separate strips. The chief defect in treating of any element of climate for individual years is that the continuity of one year with another is necessarily broken, and it is in order to diminish the risk of wrong impressions that we group the rainfall of the winter and summer half-years in this section.

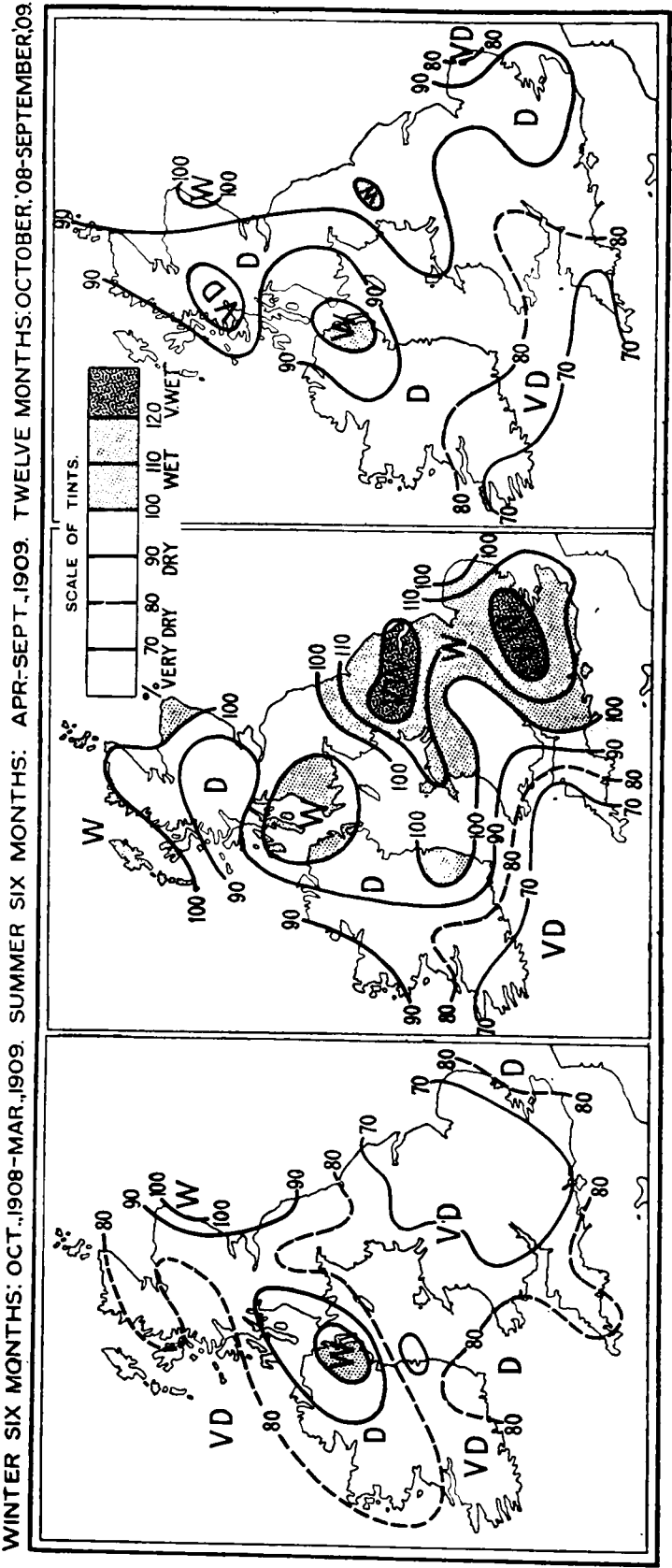
The Table of Seasonal Rainfall shows for 73 stations the total rainfall of the six months, October, 1908—March, 1909, the average rainfall, the difference from the average in inches, and the actual rainfall expressed as a percentage of the average which is taken as 100 ; the same figures are given for the summer half-year, and finally the percentage of the average for the 12 months, October, 1908—March, 1909.

The three last months of 1908 were all dry, October particularly so, and January and February were dry also, leaving only March with an excess of rain above the average ; the mean of the six months showed a large deficiency in each of the great divisions, the country as a whole having a rainfall 22 per cent. below the average. For the six months only the north-east of Ireland showed a fall equal to the average, and the first of the small diagrammatic maps shows that in the greater part of England and Wales the deficiency exceeded 30 per cent. This is a serious matter, because it occurred in a part

of the country which depends largely on wells for its water-supplies, and the winter six months are those which are most useful in replenishing the store of underground water, which is just as much dependent on rainfall as is the water in a river.

The summer six months, April to September, 1909, included a wet April, a rather wet July and an average June, but a dry May and a very dry August taking the British Isles as a whole. Ireland had a rainfall much lower than the average in almost every month, while England had large excesses in most months, the result being that while the British Isles, as the last line of the Table shows, was scarcely below the average in rainfall, Ireland was decidedly dry, and England and Wales near the average but rather dry. The distribution is shown in the second diagrammatic map, which indicates a slight excess in the north-east and east of Ireland and in the south-west of Scotland, and a very marked excess in the centre and east of England, where the average was exceeded by 20 per cent. over part of the region where in the previous six months there was a deficiency of more than 30 per cent. The result on combining the two periods is to give a fall for the twelve months deficient by 13 per cent. in England and Wales, by 11 per cent. in Scotland, and by 14 per cent. in Ireland. The third diagrammatic map shows that for the twelve months the average was exceeded only in the north-east of Ireland and a spot in the north of England, while the greatest deficiencies, exceeding 30 per cent., occurred in the extreme south-west of Ireland and England.

*Diagrammatic Maps of Seasonal Rainfall, 1908-09.*



*Seasonal Rainfall, 1908-1909, in Relation to the Average, 1870-1899.*

Div.	Stations.	Winter Six Months, October, 1908 - March, 1909.				Summer Six Months, April - September, 1909.				12 Months, Oct., 1908-Sept., 1909.
		Rain- fall.	Aver- age.	Difference from Average.	Per cent. of Aver.	Rain- fall.	Aver- age.	Difference from Average.	Per cent. of Aver.	
I.	St. Pancras, Camden Square.....	in. 8.59	in. 12.55	in. - 3.96	68	in. 15.00	in. 12.61	in. + 2.39	119	94
II.	Tenterden .....	11.85	15.66	- 3.81	76	14.75	12.70	+ 2.05	116	94
"	Arundel, Patching .....	12.87	17.62	- 4.75	73	13.99	13.11	+ .88	107	87
"	Souhampton, Cadland .....	11.77	18.18	- 6.41	65	15.75	14.26	+ 1.49	110	85
III.	Basingstoke, Sherborne St. John	10.20	15.62	- 5.42	65	15.91	13.11	+ 2.80	121	91
"	Hitchin, Wratten .....	8.85	12.21	- 3.36	72	15.65	12.45	+ 3.20	126	99
"	Oxford, Magdalen College .....	7.38	12.08	- 4.70	61	15.75	12.46	+ 3.29	126	94
IV.	Wellingborough, Croyland Abbey	7.69	12.29	- 4.60	63	13.89	13.02	+ .87	107	85
"	Shoeburyness .....	8.33	10.09	- 1.76	83	11.49	9.66	+ 1.83	119	100
"	Bury St. Edmunds, Westley .....	8.40	12.16	- 3.76	69	15.15	13.23	+ 1.92	114	93
"	Norwich, Brundall .....	8.46	12.63	- 4.17	67	11.61	12.77	- 1.16	91	79
V.	Evershot, Melbury House .....	17.69	22.48	- 4.79	79	16.65	16.14	+ .51	103	89
"	Sidmouth, Sidmount .....	15.18	17.86	- 2.68	85	13.95	14.51	- .56	96	90
"	Northam Vicarage .....	16.19	20.70	- 4.51	78	10.62	15.49	- 4.87	69	74
"	Falmouth Observatory .....	20.64	26.48	- 5.84	78	10.89	16.74	- 5.85	65	73
"	Altarnon .....	23.44	36.17	- 12.73	65	17.57	23.76	- 6.19	74	68
"	East Harptree, Sherborne Res....	15.21	22.49	- 7.28	68	20.89	18.67	+ 2.22	112	88
VI.	Stroud, Upfield .....	10.37	15.02	- 4.65	68	15.07	14.83	+ .24	102	85
"	Leominster, Farm .....	9.78	14.66	- 4.88	67	14.02	14.31	- .29	98	82
"	Church Stretton, Wolstaston ..	12.06	17.18	- 5.12	70	15.79	15.86	- .07	100	84
"	Coventry, Kingswood .....	9.61	14.50	- 4.89	66	13.89	14.71	- .82	94	80
VII.	Boston .....	7.81	11.05	- 3.24	71	14.38	12.25	+ 2.13	117	95
"	Lincoln, Doddington .....	7.67	11.36	- 3.69	67	13.72	12.42	+ 1.30	110	90
"	Mickleover Manor .....	8.72	12.57	- 3.85	69	14.05	14.14	- .09	99	85
"	Northwich, Highfield .....	11.98	15.03	- 3.05	80	16.42	15.93	+ .49	103	92
VIII.	Blackburn, Guide Reservoir .....	14.06	20.32	- 6.26	69	23.74	19.64	+ 4.10	121	95

*Seasonal Rainfall, 1908-1909, in Relation to the Average, 1870-1899—(continued.)*

Div.	Stations.	Winter Six Months, October, 1908—March, 1909.				Summer Six Months, April — September, 1909.				12 Months, Oct., 1908—Sept., 1909.	
		Rain- fall.	Aver- age.	Difference from Average.	Per cent. of Aver.	Rain- fall.	Aver- age.	Difference from Average.	Per cent. of Aver.		Per cent. of Average.
		in.	in.	in.		in.	in.	in.			
IX.	Barnsley, Church Street.....	8.43	13.20	— 4.77	64	17.66	14.08	+ 3.58	125		96
"	Wetherby, Ribston Hall.....	9.77	12.97	— 3.20	75	16.16	13.99	+ 2.17	116		96
"	Arncliffe Vicarage .....	29.55	35.06	— 5.51	84	32.35	25.90	+ 6.45	125		102
"	Hull, Pearson Park .....	8.82	13.52	— 4.70	65	17.57	13.50	+ 4.07	130		98
X.	Middlesbrough, Albert Park.....	8.85	11.26	— 2.41	79	15.13	13.01	+ 2.12	115		99
	Newcastle, Town Moor .....	12.08	13.87	— 1.79	87	14.66	14.12	+ .54	104		96
XI.	Borrowdale, Seathwaite .....	60.45	78.82	— 18.37	77	48.80	53.86	— 5.06	91		82
	Cardiff, Ely.....	16.44	23.27	— 6.83	71	16.64	19.54	— 2.90	85		77
"	Llanwrda, Dolaucothly .....	24.41	33.85	— 9.44	72	23.07	25.72	— 2.65	90		80
"	Haverfordwest, High Street .....	22.97	28.12	— 5.15	82	15.77	19.76	— 3.99	80		81
"	Aberystwyth, Gogerddan .....	16.38	24.58	— 8.20	67	19.99	20.83	— .84	96		80
"	Llandudno .....	12.50	16.92	— 4.42	74	15.60	14.06	+ 1.54	111		91
XII.	Douglas, Woodville .....	17.80	24.86	— 7.06	72	16.87	18.44	— 1.57	92		80
	Anchencairn, Torr House .....	21.71	25.66	— 3.95	85	23.00	20.79	+ 2.21	110		96
XIII.	Moffat, Eriestane .....	24.53	33.95	— 9.42	72	19.96	21.02	— 1.06	95		81
XIV.	Marchmont House .....	16.37	17.57	— 1.20	93	16.17	17.37	— 1.20	93		93
	Girvan, Pinnore .....	26.26	28.36	— 2.10	93	21.90	20.51	+ 1.39	107		99
XV.	Loch Thom.....	33.14	36.09	— 2.95	92	28.10	27.99	+ .11	100		96
	Falkirk, Kerse .....	15.03	17.13	— 2.10	88	12.82	14.48	— 1.66	89		88
" "	Islay, Ballabus .....	24.62	28.00	— 3.38	88	20.75	19.68	+ 1.07	105		95
	Mull, Quinish.....	26.13	33.58	— 7.45	78	19.73	23.95	— 4.22	82		80
XVI.	Balquhadder, Stronvar.....	36.40	45.49	— 9.09	80	24.45	29.22	— 4.77	84		81
	Dundee, Eastern Necropolis .....	11.64	14.32	— 2.68	81	14.10	14.63	— .53	96		89
XVII.	Braemar .....	16.94	19.17	— 2.23	88	14.36	16.90	— 2.54	85		87
	Aberdeen, Cranford .....	18.15	17.22	+ .93	105	15.96	15.79	+ .17	101		103
"	Keith Station.....	11.94	15.30	— 3.36	78	18.53	17.42	+ 1.11	106		93

*Seasonal Rainfall, 1908-1909, in Relation to the Average, 1870-1899—(continued).*

Div.	Stations.	Winter Six Months, October, 1908—March, 1909.				Summer Six Months, April — September, 1909.				12 Months, Oct., 1908—Sept., 1909.	Per cent. of Average.
		Rain- fall.	Aver- age.	Difference from Average.	Per cent. of Aver.	Rain- fall.	Aver- age.	Difference from Average.	Per cent. of Aver.		
XVII.	Cawdor .....	in. 10.10	in. 14.19	in. — 4.09	71	in. 14.30	in. 15.18	in. — .88	94	83	
XVIII.	Fort Augustus, St. Benedicts ..	18.61	26.69	— 8.08	70	13.80	17.02	— 3.22	81	74	
XIX.	Applecross Gardens .....	26.96	32.12	— 5.16	84	22.55	22.68	— .13	99	90	
	Dunrobin Castle .....	14.26	17.45	— 3.19	82	13.46	14.15	— .69	95	88	
XX.	Thurso, Holbornhead .....	13.54	17.93	— 4.39	76	13.33	13.27	+ .06	100	86	
	Cork, The Palace .....	16.60	23.39	— 6.79	71	12.60	16.27	— 3.67	77	74	
"	Killarney .....	24.16	34.58	— 10.42	70	15.48	23.53	— 8.05	66	68	
	Waterford, Brook Lodge.....	18.28	22.13	— 3.85	83	16.62	17.17	— .55	97	89	
"	Nenagh, Castle Lough.....	16.70	21.36	— 4.66	78	13.69	18.64	— 4.95	73	76	
	Miltown Malbay .....	20.66	23.28	— 2.62	89	18.01	21.20	— 3.19	85	87	
XXI.	Abbey Leix, Blandsfort .....	15.23	18.24	— 3.01	84	18.42	16.95	+ 1.47	109	96	
"	Dublin, Fitzwilliam Square .....	8.75	14.06	— 5.31	62	13.94	13.69	+ .25	102	82	
	Mullingar, Belvedere .....	13.96	18.33	— 4.37	76	16.97	18.15	— 1.18	93	85	
XXII.	Ballinasloe .....	15.75	19.10	— 3.35	82	14.39	17.94	— 3.55	80	81	
"	Crossmolina, Enniscoe .....	24.67	29.44	— 4.77	84	19.02	21.06	— 2.04	90	86	
	Collooney, Markree Observatory	19.04	22.10	— 3.06	86	16.71	19.73	— 3.02	85	85	
XXIII.	Belturbet, Cloverhill .....	16.02	16.53	— .51	97	15.15	16.39	— 1.24	92	95	
"	Seaforde .....	22.48	20.56	+ 1.92	109	17.75	18.05	— .30	98	104	
	Ballymena, Harryville.....	21.24	21.00	+ .24	101	19.65	18.64	+ 1.01	105	103	
"	Omagh, Edenfel.....	18.08	19.32	— 1.24	94	16.95	18.53	— 1.58	91	93	
	Buncrana, Rockfort .....	19.99	22.24	— 2.25	90	16.39	19.24	— 2.85	85	88	
	ENGLAND & WALES (38 stations)	14.09	19.32	— 5.23	73	16.95	16.51	+ .44	103	87	
	SCOTLAND (18 " )	20.35	24.46	— 4.11	83	18.18	19.00	— .82	96	89	
	IRELAND (16 " )	18.23	21.60	— 3.37	84	16.36	18.45	— 2.09	89	86	
	BRITISH ISLES (73 " )	16.59	21.17	— 4.58	78	17.12	17.57	— .45	97	87	

# MONTHLY RAINFALL AT 232 STATIONS IN THE BRITISH ISLES DURING 1909

## ENGLAND AND WALES.

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
I.	London	St. Pancras (Camden Sq.)	.71	.50	2.85	1.90	1.80	3.79	3.49	1.46	2.56	4.16	.74	2.79	26.75
II.	Surrey, West	Haslemere (Lowder Mill)	1.30	.57	5.23	1.86	2.16	2.92	3.35	2.59	2.99	9.05	.74	5.48	38.24
"	" East	Warlingham (Redvers Rd.)	1.35	.76	4.15	2.08	1.47	3.46	3.98	2.29	3.87	6.11	1.22	4.41	35.18
"	Kent, West	Tenterden	.88	.64	4.35	1.67	1.16	2.68	3.92	2.42	2.90	5.97	.87	5.38	32.81
"	" East	Hythe (Hillcrest Road)	1.07	.73	4.63	1.84	.81	2.61	2.58	2.70	3.22	5.81	1.00	5.30	32.30
"	"	Ospringe (Lorenden)	.73	.95	2.96	1.78	1.54	3.27	2.73	2.52	3.37	8.18	1.21	4.07	33.31
"	Sussex, West	Arundel (Patching)	1.11	.31	4.07	1.74	1.48	2.60	2.62	2.34	3.21	8.42	.96	5.36	34.22
"	" East	Isfield Place	.97	.31	3.44	1.52	1.34	2.25	2.50	2.56	2.72	6.57	1.17	4.67	30.02
"	Hants, I. of W.	Totland Bay (Aston House)	.91	.32	3.72	1.36	1.38	3.62	2.34	2.86	4.16	9.12	.77	3.91	34.47
"	"	Rps. Waltham (Swanmore Ho)	1.38	.38	4.98	1.63	1.98	4.26	3.31	2.36	3.74	8.90	.81	5.19	38.92
"	"	West Dean	.88	.21	3.98	1.48	1.98	3.30	2.69	3.01	3.97	7.60	.58	3.57	33.25
"	"	Basingstoke (Sherborne S.J.)	.92	.56	3.31	1.90	1.63	4.83	2.77	1.92	2.86	5.66	.86	3.99	31.21
III.	Berks.	Farnborough Rectory	1.00	.77	3.88	2.00	1.73	4.33	2.27	3.67	3.31	4.84	.96	4.73	33.49
"	Herts	Hertford (Bayfordbury)	.69	.52	3.65	1.86	1.00	3.69	2.89	2.32	2.25	3.95	.75	3.04	25.61
"	"	Royston (Therfield Rec.)	.83	.38	3.23	1.45	1.60	4.28	3.46	2.47	2.35	4.36	.89	3.06	28.36
"	Bucks	Slough (Upton)	.76	.30	2.84	2.08	1.17	3.08	2.99	2.01	2.63	4.18	.65	2.58	25.27
"	"	Greenlands (Henley-on-Thames)	1.00	.41	3.35	2.04	1.66	4.72	2.97	2.19	2.95	4.48	.63	2.72	29.12
"	"	Buckingham (Adstock)	.94	.42	2.06	1.97	1.84	3.54	3.51	2.60	3.63	3.60	.66	2.99	27.76
"	Oxford	Oxford (Magdalen College)	.75	.45	2.27	1.55	2.22	3.56	2.19	3.37	2.86	3.62	.75	2.88	26.47
"	Northampton	Wellingboro' (Croyland Abbey)	.85	.45	2.44	1.69	1.16	3.00	2.86	2.07	3.11	3.21	.87	3.86	25.57
"	Bedford	Shillington	.88	.43	3.21	1.28	1.27	4.20	2.74	1.98	1.96	3.85	.88	2.95	25.63
"	Cambridge	Stretham Engine	.88	.18	2.25	1.03	1.58	4.66	3.77	1.59	2.56	3.11	.35	2.62	24.58
IV.	"	Wisbech (Bank House)	.75	.42	4.22	.85	1.25	3.91	3.09	2.23	.90	3.15	.66	3.37	24.80
"	Essex	Loughton (High Beech)	.71	.78	2.59	2.00	1.65	4.15	4.36	1.77	2.25	3.94	.76	2.70	27.66
"	"	Chelmsford (High Street)	.82	.94	3.21	1.85	1.13	3.65	3.26	2.36	2.73	4.07	1.22	3.00	28.24
"	"	Braintree (Bocking, Fennes)	.78	.76	2.28	1.74	.95	3.77	3.45	2.93	1.59	3.21	.74	3.26	25.46
"	Suffolk	Ipswich (Woolverstone Park)	.74	1.06	2.66	1.49	1.05	3.70	4.37	2.57	2.13	4.35	.95	4.42	29.49
"	"	Aldborough (Aldringham Ho)	.55	.71	2.40	1.55	1.23	3.25	2.42	1.95	2.13	4.53	1.01	4.31	26.04
"	"	Walsham-le-Willows	.75	.57	2.78	1.03	1.45	3.30	2.62	2.69	2.14	3.98	1.02	4.57	26.90
"	Norfolk	Geldeston [Beccles]	.70	1.01	2.69	1.12	.95	2.67	2.60	1.97	2.17	4.20	1.14	4.45	25.67
"	"	Swaffham	.75	.28	2.95	1.20	1.22	3.56	3.47	2.32	1.62	3.89	.88	4.52	26.66

# ENGLAND—(continued.)

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
IV.	Norfolk	Aylsham (Woodgate).....	.68	.74	3.12	1.16	1.28	3.07	3.97	2.67	1.72	4.77	1.82	5.04	30.04
V.	Wilts	Trowbridge (W. W. Biss)...	1.04	.72	4.94	1.85	1.12	3.54	2.72	2.54	3.79	6.78	1.13	5.17	35.34
"	"	Marlborough (Mildenhall)...	.81	.67	4.07	1.71	1.32	3.15	2.44	3.57	3.34	5.46	.65	4.29	31.48
"	Dorset	Swanage (R. Victoria Hotel)...	.96	.35	4.95	1.04	2.07	2.83	2.32	2.81	3.40	8.63	.79	5.14	35.29
"	"	Beamminster Vicarage.....	1.40	.52	5.15	2.08	1.48	4.58	3.89	2.81	2.68	8.84	.92	6.57	40.92
"	"	Wimborne (Horton Vic.)...	.94	.45	3.25	1.49	1.54	3.08	2.69	2.53	2.99	7.88	.43	3.94	31.21
"	Devon, South	Dartmoor (Lowery).....	2.67	.79	7.43	3.90	1.87	2.57	5.28	3.07	1.97	11.08	1.79	9.06	51.48
"	"	Teignmouth (Den Gardens)	1.41	.52	5.86	1.88	1.09	4.04	2.00	1.70	1.29	5.92	.67	5.33	31.01
"	"	Cullompton .....	1.77	.59	5.34	2.94	1.35	2.83	2.85	2.18	1.96	6.07	1.26	5.30	34.44
"	"	Okehampton (Oaklands)...	3.12	.71	6.94	3.50	1.99	2.81	2.65	2.17	1.63	8.53	2.16	7.17	43.38
"	"	South Molton (Castle Hill Sch.)	3.03	.62	5.40	4.60	1.95	1.99	3.51	2.39	3.12	7.26	2.37	5.25	41.49
"	"	Penzance (Morrab Garden)	2.93	.83	5.84	2.07	.95	2.06	2.09	1.81	1.00	7.65	2.29	5.96	35.48
"	"	St. Agnes .....	2.43	.55	4.35	1.81	.83	2.59	2.20	1.68	1.04	5.95	1.49	4.26	29.18
"	"	Stratton (Poughill) .....	2.18	.65	4.47	2.24	1.50	2.72	2.93	1.79	1.66	6.00	1.49	5.29	32.92
"	"	Crewkerne (Bincombe House)	1.45	.55	4.85	2.36	1.52	3.03	3.35	2.07	3.02	6.66	.96	5.02	34.84
"	"	Holford (Woodlands House).	1.81	.37	3.12	2.04	1.41	3.67	1.34	1.82	2.98	4.72	1.03	5.24	29.55
"	"	Street .....	1.30	.54	2.59	2.78	.91	2.76	2.26	1.93	2.31	4.77	.72	4.03	26.90
VI.	Gloucester, West	Clifton (Pembroke Road).	1.58	.63	3.59	3.37	1.77	4.07	3.30	2.79	3.08	6.06	1.56	5.25	37.05
"	"	Stroud (Upfield) .....	1.10	.71	3.65	2.12	1.22	2.97	2.56	2.66	3.54	4.45	1.20	4.03	30.26
"	"	Fairford (Hatherop Castle)	1.25	.38	3.89	2.01	1.66	4.72	2.64	2.97	3.20	4.78	.74	4.03	32.54
"	"	Mickleton (Bank House)...	.86	.42	3.43	2.05	.71	3.90	2.34	2.50	2.94	3.06	.62	3.00	25.83
"	"	Ross (The Graig).....	1.06	.44	2.77	2.02	.97	2.11	1.61	2.02	2.72	4.18	.89	4.78	25.57
"	"	Leominster (Farm) .....	.77	.55	2.38	1.93	1.02	3.29	3.07	1.91	2.80	3.76	.77	4.12	26.37
"	"	Ch. Stretton (Wolstaston)	1.63	1.06	2.88	3.00	.88	4.18	2.95	2.12	2.66	4.28	.84	4.71	31.19
"	"	Oswestry (The Mount Res.)	2.16	1.25	3.19	2.82	1.51	4.34	2.10	2.52	2.82	5.15	1.06	5.17	34.09
"	"	Penkridge (Rodbaston) ...	1.54	.48	2.60	1.69	1.30	3.74	3.49	1.60	2.68	3.30	.94	4.41	27.77
"	"	Burton (Shobnall) .....	1.31	.71	2.54	1.22	1.57	2.19	3.11	2.06	2.54	3.48	.65	4.41	25.79
"	"	Market Drayton (Old Springs)	1.70	.71	2.49	2.33	.95	2.99	4.29	2.76	2.59	4.44	.90	4.01	30.16
"	"	Mayfield Ho. [Ashbourne]	1.89	.76	3.56	1.92	1.72	2.59	4.25	2.76	3.26	6.03	.84	7.40	36.98
"	"	Worcester (Belmont Rd.)	.79	.27	2.83	1.86	1.06	3.61	2.61	1.54	3.43	2.61	.81	3.15	24.57
"	"	Stourbridge (Hagley Rec.)	1.15	.69	2.54	2.23	1.41	4.57	3.55	1.85	3.42	3.09	.87	4.20	29.57
"	"	Leamington (Cubington)	1.06	.60	3.39	1.57	1.58	2.86	3.23	2.48	2.64	3.52	.74	2.92	26.59
"	"	Bedworth Cemetery .....	1.07	.76	3.05	1.34	1.71	3.42	3.38	2.10	2.42	3.65	.48	3.66	27.04
VII.	"	Loughboro' (Nan Pantou Res)	.94	.63	3.18	1.27	1.22	2.80	3.23	2.63	2.16	3.07	.65	4.45	26.23
"	"	Belvoir Castle.....	1.05	.59	3.27	1.22	1.28	2.30	3.95	2.76	4.17	2.68	.61	4.02	27.90
"	"	Market Overton .....	1.05	.65	4.08	1.25	2.06	1.90	3.64	2.87	3.00	3.40	.61	4.64	29.15

# ENGLAND—(continued.)

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
VII.	Lincoln, South...	Sleaford (Rauceby Hall)...	1.05	.40	3.57	1.70	1.12	2.80	3.73	3.56	2.67	2.79	.62	4.28	28.29
"	"	Market Rasen .....	.81	1.20	3.18	1.78	.85	2.30	4.44	4.07	1.42	3.57	.39	4.22	28.32
"	"	Burton-on-Stather Vic. ...	.81	.80	2.98	2.60	1.21	2.84	3.89	4.20	1.50	2.52	.32	4.49	28.16
"	Notts .....	Ollerton (Boughton W. W.)	.89	.56	2.74	1.29	1.06	3.98	3.64	3.36	2.73	2.85	.26	4.29	27.65
VIII.	Derby .....	Buxton (Devonshire Hospital)	2.54	2.33	4.72	3.01	2.64	2.64	5.12	2.69	3.25	6.69	1.57	9.98	47.18
"	Cheshire .....	Northwich (Highfield)....	1.59	.95	2.59	2.06	1.08	3.60	3.77	3.44	2.47	4.57	1.18	6.84	34.14
"	Lancashire, South	Manchester (Withington)	1.60	1.16	2.56	2.92	1.53	1.92	4.73	2.86	2.07	5.17	1.10	6.26	33.88
"	Central	Southport (Hesketh Park)	2.09	.98	2.85	2.98	1.40	2.68	4.99	3.00	2.47	4.64	1.70	5.94	35.72
"	"	Burnley (Swinden) .....	2.60	3.05	3.45	3.65	2.43	2.92	6.21	3.25	2.51	5.09	1.72	5.55	42.43
"	"	St Michael's-on-Wyre Vic.	1.97	1.26	2.74	3.15	2.08	2.37	5.93	3.28	2.67	5.49	1.64	6.58	39.16
IX.	York, W. R., S.	Rotherham (Moorgate)....	.91	.59	3.40	1.27	1.37	3.69	2.97	2.50	2.53	2.39	.31	4.79	26.72
"	"	Meltham (Harewood Ldge)	3.38	3.18	3.80	3.79	2.13	3.45	5.48	2.88	3.20	5.64	1.84	8.24	47.01
"	"	Garforth (Manor Farm)...	1.08	.55	2.70	3.03	2.13	3.72	3.47	2.83	1.63	2.37	.32	4.60	28.43
"	"	Slaidburn (Whitendale)...	4.66	8.69	4.77	5.09	3.19	2.30	11.93	5.78	4.62	9.86	4.74	10.09	75.72
"	"	Ripon (Mickley) .....	1.36	.73	4.56	2.67	1.85	2.80	2.79	3.23	1.95	2.85	.94	4.47	30.20
"	"	Wharfedale (Oughtershaw Hall)	4.76	5.11	5.25	5.29	2.94	3.45	8.86	5.19	4.65	10.55	.96	10.02	70.43
"	"	Patrington .....	.64	1.29	2.77	1.58	1.67	1.89	3.50	5.66	.99	2.82	1.03	4.26	28.10
"	"	Market Weighton (Dalton Hall)	1.08	1.28	2.67	2.58	1.70	4.19	3.34	4.44	1.80	3.67	.76	3.97	31.48
"	"	Lowthorpe (The Elms) ...	.68	1.47	4.42	2.55	2.06	3.63	3.01	4.77	1.45	3.52	.99	4.60	33.15
"	"	New Malton .....	.82	1.34	3.84	2.76	1.48	1.41	2.54	3.40	1.61	2.77	.81	5.44	28.22
"	"	Thirsk (Mount St. John)...	.59	.81	4.23	2.04	1.18	2.85	2.76	3.53	2.26	2.69	.82	3.60	27.36
"	"	Whitby (Mulgrave Castle)	.86	1.22	5.33	2.50	1.87	3.42	3.28	5.06	2.28	2.57	1.33	3.66	33.38
"	"	Middlesbrough (Ormesby)	.57	1.29	3.85	1.98	1.77	2.88	2.93	5.33	2.10	2.59	2.14	3.61	31.04
X.	Durham .....	Barnard Castle (County School)	1.94	1.61	4.63	1.84	1.56	2.23	2.41	1.97	2.03	2.35	.66	3.90	27.13
"	"	Ushaw (St. Cuthbert's College)	1.13	1.19	4.79	2.51	1.55	1.98	2.63	4.17	2.29	2.44	.64	3.99	29.31
"	Northumberland	Corbridge (Howden Cene)	1.78	2.20	4.45	1.98	1.67	2.64	2.25	3.03	1.76	2.10	.68	3.75	28.29
"	"	Morpeth (Bothalhaugh)...	1.51	1.74	4.57	2.97	2.08	1.87	2.81	3.00	1.86	2.48	1.08	3.78	29.75
"	"	Howick Hall .....	1.22	2.08	5.83	3.06	2.38	1.85	3.42	3.10	2.38	2.66	1.29	3.54	32.81
"	"	Ilderton (Lilburn Cottage)	1.86	3.22	5.82	3.52	1.55	2.22	1.77	4.16	2.16	3.57	1.05	3.12	34.02
"	Cumberland	Millom (Leyfield) .....	2.38	2.52	4.20	3.71	2.93	2.30	6.19	2.99	3.45	6.55	1.58	8.17	46.97
"	"	Borrowdale (Seathwaite)...	10.63	11.45	9.08	7.54	5.73	4.74	16.75	8.46	5.58	21.14	8.64	18.88	128.62
"	"	Wigton (Brookfield) .....	3.76	1.98	4.49	2.54	1.48	2.65	5.80	2.87	2.82	6.12	1.57	5.53	41.61
"	"	Brampton (Denton House)	2.66	2.18	2.51	2.84	1.60	2.68	5.88	3.92	2.16	5.25	1.76	4.69	38.13
"	"	Kendal (Holmercroft) .....	4.79	2.94	4.17	5.26	2.35	3.09	6.74	3.85	3.70	8.72	3.14	10.41	59.16
"	Westmorland	Appleby (Castle Bank) ...	4.13	1.76	3.13	2.94	1.70	2.28	3.62	4.51	2.22	5.35	1.41	4.16	37.21

# MONMOUTH, WALES AND THE ISLANDS.

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
XI.	Monmouth	Chepstow (PiercefieldPk.)	1.45	.66	4.09	2.22	1.13	2.77	2.89	2.55	3.81	6.87	1.95	5.74	36.13
"	"	Abergavenny (The Chain)	1.37	.93	4.79	2.94	1.16	2.42	1.99	1.76	3.22	5.78	1.29	7.30	34.95
"	Glamorgan	Cardiff (Penylan)	1.82	.57	4.14	2.74	1.80	2.08	2.55	3.27	3.83	7.34	1.63	6.93	38.70
"	"	Neath (Fairy Land)	2.33	.75	4.68	4.50	1.99	3.10	4.17	1.88	5.49	8.08	2.04	9.18	48.19
"	Cardigan	Carmarthen (The Friary).	2.43	.58	4.67	3.74	1.85	1.75	3.47	2.14	5.30	9.03	1.81	8.88	45.65
"	"	Llanwrda (Dolaucothy) ...	3.33	1.41	5.02	4.95	2.53	2.27	4.82	2.86	5.64	10.12	2.53	8.37	53.85
"	Pembroke	St. David's	1.64	.49	5.06	3.27	.89	1.46	2.67	2.15	2.76	5.22	1.49	4.51	31.61
"	"	Castle Malgwyn (Llechryd)	2.76	.76	4.77	4.21	1.53	1.91	2.95	1.86	3.14	7.77	2.10	6.19	39.95
"	Cardigan	Strata Florida (Hafod) ...	4.45	1.50	4.25	4.72	2.13	2.35	7.66	4.34	5.53	9.45	1.57	7.13	55.08
"	"	Aberystwyth (N. Parade).	2.26	.48	2.54	2.88	1.73	2.07	3.51	2.19	2.93	5.93	1.61	4.83	32.96
"	Brecon	Brecon (New Inn)	1.68	1.15	5.74	4.78	1.30	3.94	3.63	2.02	5.68	12.29	2.81	10.79	55.81
"	"	Llysdinam (Newbridge)...	3.85	.89	3.46	3.97	1.84	3.35	4.02	2.03	3.79	6.63	2.18	7.70	43.71
"	Montgomery	Newtown (Gregynog).....	3.93	.96	2.66	3.63	1.31	2.89	3.36	2.16	3.43	5.52	1.88	5.48	37.21
"	Flint	Bodfari (Henblas)	1.77	1.33	1.88	2.76	.69	2.74	2.49	3.49	3.16	3.88	1.29	4.43	29.91
"	Denbigh	Gresford (Trewythen).....	1.73	.80	2.41	1.77	1.61	3.45	1.82	2.82	2.66	3.52	.66	4.80	28.05
"	Merioneth	Dolgelly (Bryntirion) .....	3.84	1.74	3.92	5.95	2.36	4.01	8.55	3.26	5.71	9.06	3.78	7.60	59.78
"	"	Llanderfel (Palé).....	3.67	1.98	3.44	4.34	1.68	2.47	3.00	2.56	3.32	7.05	3.16	7.58	44.25
"	"	Blaenau Festiniog(Oakley Qrs.)	5.92	2.64	8.73	8.82	3.22	4.33	11.11	4.30	9.46	17.43	5.83	16.75	98.54
"	Carnarvon	Llandudno	2.16	1.08	2.52	2.58	.94	1.95	3.89	3.03	3.21	4.83	1.56	4.22	31.97
"	Anglesey	Llanerchymedd	2.30	.88	3.48	3.12	1.71	1.86	5.68	2.49	3.46	6.84	2.55	5.34	39.71
"	Isle of Man	Douglas (Woodville) .....	1.85	2.19	4.10	3.33	1.45	1.76	4.88	2.36	3.09	8.16	1.32	6.92	41.41
England and Wales. Mean of 123 stations.....			1.73	1.12	3.83	2.53	1.60	3.07	3.71	2.83	2.90	5.52	1.33	5.28	35.45

## SCOTLAND.

XII.	Wigtown	Garliestown (Galloway House)	2.88	2.88	4.10	3.99	1.58	2.96	4.70	1.54	2.62	7.29	2.27	6.83	43.64
"	"	Stoneykirk (Ardwell Ho.)	1.75	2.51	3.57	2.64	1.07	4.15	4.74	1.96	1.99	7.33	2.76	5.30	39.77
"	Kirkcudbright	Dalbeatie (LittleRichorn)	3.56	1.74	4.33	4.06	2.81	3.05	4.10	2.16	2.16	11.64	1.43	7.45	48.49
"	"	Dalry (Glendarroch) .....	5.48	3.81	5.28	3.90	2.35	4.40	5.30	1.99	2.80	9.77	2.28	7.50	54.86
"	Dumfries	Langholm (Ewes School)...	7.30	2.17	4.16	5.36	2.79	2.50	4.09	2.96	2.71	9.00	2.11	7.76	52.91
"	Roxburgh	Hawick (Wolfelee) .....	2.97	1.75	4.70	3.30	1.48	1.80	2.22	1.58	2.39	5.14	.85	3.18	31.36
XIII.	Selkirk	Selkirk (The Hangingshaw)...	3.49	1.96	5.62	3.18	2.49	2.45	2.29	2.38	1.66	5.96	.70	3.41	35.59
"	Peebles	Stobo (Dawyck Gardens)...	3.97	2.08	5.18	3.36	2.50	2.34	3.92	2.43	2.66	6.97	1.68	4.98	42.07
"	Berwick	Marchmont House .....	1.74	2.49	5.47	4.09	2.22	1.90	2.75	2.32	2.89	3.75	.65	3.94	34.21

# SCOTLAND—(continued.)

Dir.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
XIII.	Haddington .....	Whittingehame Gardens.	1.03	2.18	6.71	2.62	2.04	1.48	2.87	3.38	2.84	3.12	.27	3.21	31.75
XIV.	Midlothian .....	Edinburgh (Royal Obs.)...	2.61	1.23	4.20	2.14	1.59	1.91	3.32	1.72	2.64	4.49	.85	2.87	29.57
	Lanark .....	Leadhills .....	6.46	2.97	4.72	4.50	3.21	3.63	7.12	5.16	2.82	11.03	3.06	4.69	59.37
	" .....	Hamilton (Water Works)	5.90	2.30	1.80	2.60	2.20	2.25	3.50	2.20	2.10	7.00	2.25	4.95	39.05
	" .....	Barrhill (Dochroyle) .....	4.50	2.90	2.15	2.80	1.50	3.02	4.70	2.25	2.52	6.18	2.10	4.92	39.54
	Ayr .....	Maybole(CulzeanGardens)	4.10	4.40	3.25	2.10	1.50	2.15	5.15	2.70	2.15	6.20	1.90	4.10	39.70
	" .....	Kilmarnock (North Craig)	5.70	3.40	2.10	3.70	2.60	3.20	5.30	4.50	2.10	6.00	3.20	4.90	46.70
XV.	Dumbarton .....	Cardross (KilmaheW).....	6.19	2.57	2.81	5.10	3.26	3.12	3.12	2.90	1.95	6.82	2.69	5.48	46.01
	Stirling .....	Falkirk (Cauldham) .....	4.28	1.50	2.63	3.44	2.91	1.53	2.61	3.04	1.66	4.72	2.04	4.84	35.20
	" .....	Buchlyvie (The Manse)...	7.16	2.38	2.60	5.08	4.08	2.68	4.10	3.78	2.03	8.93	2.79	8.36	53.97
	" .....	Rothsay (Orichnton Road)	5.34	2.54	2.28	6.26	2.97	3.12	5.22	3.30	2.44	6.96	3.09	6.00	49.52
	Bute .....	Campbeltown (Witchburn)..	4.31	2.95	3.33	3.50	2.65	2.72	4.46	3.20	2.51	5.16	1.99	5.47	42.25
	Argyll, Mainland	Lochgilphead (Poltalloch)	6.50	3.19	1.23	4.25	3.70	3.18	6.33	4.20	2.61	8.01	4.85	6.11	54.16
	" .....	Inveraray (Newtown).....	9.35	4.32	.93	5.23	5.20	2.06	5.91	4.62	2.91	10.99	6.12	10.81	68.45
	" .....	Morvern (Drimmin).....	7.68	4.85	1.37	4.10	4.44	1.15	5.28	4.31	3.44	9.15	5.59	5.61	56.97
	" .....	Ballachulish House.....	11.05	5.53	.72	6.52	6.17	1.27	4.39	4.83	3.10	11.41	7.33	7.39	69.71
	" .....	Islay (Ardbeg).....	6.17	3.06	1.48	2.44	2.21	2.77	6.69	4.16	2.77	6.06	4.09	3.69	45.59
XVI.	Fife .....	Colinsburgh (Balcarres) ...	1.99	1.23	5.26	3.76	2.61	1.55	4.73	2.23	1.45	3.92	.32	3.77	32.82
	Perth .....	Glendevon (Tornaukin)...	7.86	1.70	4.47	4.81	4.06	1.56	3.75	3.33	2.03	9.08	2.32	7.76	52.73
	" .....	Balquhiddler (Stronvar) ...	10.24	3.65	2.65	7.24	5.29	2.45	3.28	3.64	2.55	14.05	5.03	7.44	67.51
	" .....	Coupar Angus .....	2.19	.66	3.17	3.26	3.07	.83	2.74	1.39	1.64	4.16	.48	3.12	26.71
	" .....	Blair Atholl .....	4.48	.57	1.65	3.69	2.65	1.21	2.91	1.74	1.39	6.43	1.77	2.33	30.82
	" .....	Arbroath (Dishland Hill).	1.28	.81	3.42	2.65	2.59	.63	2.87	1.76	1.43	2.87	.50	2.73	22.54
	Forfar .....	Kirriemuir (Balnakeilly)..	3.60	.50	5.10	3.30	3.00	1.70	2.70	1.30	1.10	5.40	.50	2.80	31.00
XVII.	Kincardine .....	Fettercairn (The Burn) ...	1.84	.65	5.86	3.73	3.39	1.17	4.83	2.39	.82	3.88	.98	4.72	34.26
	Aberdeen .....	Braemar (Derry Lodge)...	4.58	1.27	8.00	3.64	3.12	1.10	2.44	2.18	2.00	6.22	2.68	2.51	39.74
	" .....	Aberdeen (Cranford) .....	1.95	.79	5.65	3.29	2.23	1.39	5.00	2.17	1.88	2.41	1.05	4.95	33.36
	" .....	Alford (Lynturk Manse)..	1.61	1.08	8.14	3.30	3.46	1.49	4.15	2.53	2.52	2.71	1.86	3.04	35.89
	" .....	New Deer School House..	1.39	1.46	4.65	2.74	2.08	2.14	2.77	2.79	3.60	3.68	4.85	2.74	34.89
	" .....	Grantown .....	3.68	1.58	4.32	3.38	2.39	1.27	4.22	2.18	2.12	4.53	2.26	3.06	34.99
	" .....	Gordon Castle .....	2.01	1.34	4.40	2.85	2.92	1.61	2.21	2.80	2.56	4.14	3.39	2.40	32.63
	" .....	Nairn (Achareidh) .....	.79	.36	3.69	2.03	2.02	1.82	2.41	1.64	1.78	4.40	1.57	1.94	26.59
	" .....	Fort William(AthollBank)	12.25	3.70	.30	3.97	4.57	.86	6.16	5.03	2.88	12.32	6.92	7.92	66.88
XVIII.	Inverness .....	Arisaig House .....	6.19	3.79	.79	3.05	3.75	1.19	7.96	6.30	3.71	7.05	5.30	8.51	57.59
	" .....														

SCOTLAND—(continued.)

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
XVIII.	Inverness ..	Skye (Glendrynnoch) .....	6·47	3 02	2·96	5·11	5·00	1·39	7·37	5·72	2·99	8·79	6·02	7·86	62·70
"	"	Loch Quoich (Glenquoich) .....	13·97	8·42	1·52	4·93	5·80	1·68	8·29	8·55	4·80	18·23	11·85	10·56	98·60
"	"	Loch Ness (Garthibeg).....	3·67	1·49	1·11	2·03	2·76	·86	3·63	2·43	2·23	7·49	2·42	3·25	33·37
"	Ross & Cromarty	Applecross (Gardens) .....	5·45	2·74	1·88	4·18	3·10	1·50	6·00	4·02	3·75	8·93	6·45	5·41	53·41
"	"	Kinlochewe .....	9·81	5·49	3·00	4·48	4·26	1·08	4·92	6·00	2·84	12·28	9·18	6·00	68·34
"	"	Ullapool (Drunruinie).....	7·32	2·45	5·29	4·13	5·46	2·51	7·47	10·12	6·66	11·03	11·55	10·38	84·37
XIX.	"	Evanton (Novar Gardens)	4·34	1·59	4·01	3·39	3·02	2·69	2·69	1·61	2·30	5·91	2·90	2·51	36·96
"	Sutherland .....	Invershin .....	3·13	2·08	2·09	2·84	2·23	1·70	2·61	2·39	1·96	4·47	3·75	1·89	31·14
"	"	Dunrobin Castle .....	3·36	1·54	3·11	3·58	2·20	1·93	1·90	1·81	2·04	3·71	3·54	2·73	31·45
"	"	Altnaharra .....	5·76	2·41	2·10	2·72	1·85	1·52	2·98	3·08	2·17	5·81	6·19	3·44	40·03
"	"	Loch Stack .....	6·25	3·93	2·61	2·38	2·86	2·81	6·06	6·61	4·20	7·48	10·94	6·41	62·54
"	"	Bettyhill .....	4·49	1·79	1·89	2·28	1·49	2·12	2·13	3·70	2·69	5·05	6·74	3·40	37·77
"	"	Berriedale .....	3·20	1·60	2·60	2·40	2·10	2·27	2·40	2·79	1·89	4·56	5·03	2·13	32·97
"	Caithness .....	Thurso (Langwell).....	3·96	1·51	2·87	2·15	2·34	2·33	3·01	3·57	2·42	3·89	7·60	3·80	39·45
"	"	Thurso (Buckies).....													
Scotland. Mean of 57 stations.....			4·95	2·44	3·43	3·62	2·97	2·06	4·22	3·29	2·51	6·91	3·61	5·00	45·01

IRELAND.

XX.	Cork .....	Castletownshend (Glen Barrabane)	2·75	1·87	5·26	8·85	2·28	1·58	4·01	·14	1·11	11·76	1·77	10·28	51·66
"	"	Bandon (Ardnacarrig) ...	2·23	3·30	3·81	6·29	2·05	·98	1·34	·24	·96	7·90	1·04	5·17	35·31
"	"	Middleton (Ballinacurra) ..	1·42	2·08	3·49	6·64	2·21	1·20	1·35	·30	·71	6·15	·77	3·88	30·20
"	"	Mallow (Summer Hill) ...	2·34	2·58	2·99	5·73	1·97	2·29	1·32	·23	1·75	5·76	1·24	3·13	31·33
"	"	Mitchelstown Castle. ....	2·61	2·19	3·12	7·01	2·54	1·39	3·03	·91	2·35	6·79	1·15	4·49	37·58
"	Kerry .....	Darrynane Abbey .....	3·68	3·05	4·80	6·44	3·41	1·54	3·86	·84	1·02	8·75	2·38	6·04	45·81
"	"	Kenmare (Dunkerron).....	4·97	6·47	5·61	8·61	2·64	2·30	2·97	·62	1·02	8·47	3·30	6·86	53·84
"	Waterford .....	Waterford (Brook Lodge)	1·97	·81	4·01	5·36	2·10	2·30	3·08	·94	2·84	7·28	·88	5·10	36·67
"	Tipperary.....	Clonmel (Bruce Villa) ...	1·73	1·62	3·15	4·10	2·94	2·37	2·14	·71	2·08	6·37	·96	3·85	32·02
"	"	Dundrum (The Rectory)...	2·24	1·22	3·22	6·16	3·07	1·27	2·97	1·04	3·27	6·22	1·82	3·61	36·11
"	Clare .....	Carrigaholt Castle .....	3·61	2·11	2·56	3·84	1·42	2·15	2·67	·70	2·54	6·48	2·07	4·18	34·33
"	"	Newmarket-on-Fergus (Carrigoran) ..	3·60	2·00	3·99	6·16	1·81	2·20	2·51	1·09	3·56	6·30	2·34	4·47	40·03
"	"	Miltown Malbay .....	4·34	2·44	2·99	4·35	1·85	2·65	3·32	1·31	4·53	5·75	2·84	4·41	40·78
"	"	Scariff (Woodpark).....	3·78	2·50	2·89	4·50	1·92	1·99	3·25	1·51	3·04	5·41	2·32	4·66	37·77
XXI.	"	Templeudigan (Ballindoney)	1·84	·85	4·07	5·20	2·58	2·56	3·45	1·20	3·01	5·89	1·21	5·10	36·96
"	Wexford .....	Gorey (Courtown House)...	1·43	·75	3·04	4·14	1·56	2·70	4·07	1·40	1·70	5·02	1·68	5·50	32·99
"	"	Laragh (Glendalough).....	3·28	1·82	5·98	7·60	2·08	3·92	3·57	1·54	2·61	9·50	2·76	7·85	52·51
"	"	Bray (Fassaroe) .....	1·47	1·07	5·10	4·94	1·35	3·33	2·47	1·01	1·78	4·70	1·95	5·59	34·76

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)...	2.69	.79	2.72	5.40	2.00	3.51	2.97	1.86	2.68	6.16	1.97	3.58	36.33
	King's County...	Birr Castle .....	2.68	.97	3.05	4.24	2.60	1.72	1.97	1.18	2.10	4.31	1.87	3.70	30.39
	Kildare .....	Monasterevan (Moore Abbey) ..	1.81	.66	3.13	5.34	1.79	2.84	2.95	1.24	2.07	5.60	1.96	4.26	33.65
	Meath .....	Dunboyne (Stirling, Clouee) ..	1.61	.67	3.14	4.91	1.41	1.91	3.22	1.11	2.01	4.22	1.86	4.39	30.46
	" .....	Athboy .....	2.30	1.01	3.19	4.67	1.66	2.31	2.33	1.24	2.63	5.46	1.88	5.07	33.75
	" .....	Mullingar (Belvedere) ..	2.72	1.65	2.59	5.68	2.23	2.37	2.99	1.08	2.62	4.47	2.36	4.40	35.16
	Westmeath .....	Ardee (Lisrenny) .....	1.92	.84	2.74	3.56	1.38	1.20	2.79	1.02	1.98	5.10	.97	4.44	28.34
	Louth .....	Greenore .....	2.26	1.59	4.74	4.58	1.60	2.00	3.62	1.62	2.29	4.35	1.08	4.48	34.21
	" .....	Ballymahon (New Castle) ..	2.72	1.20	2.76	4.19	1.61	2.55	3.17	1.40	2.54	5.04	2.17	4.26	33.61
	Longford .....	Ballinasloe .....	2.55	1.35	2.63	5.08	1.84	1.94	2.31	.89	2.33	4.35	2.33	4.07	31.67
XXII.	Galway .....	Tuam (Gardenfield) .....	4.76	2.74	2.87	4.41	2.27	.84	3.06	1.39	3.41	6.90	2.19	4.47	39.31
	" .....	Strokestown (Castlenode) ..	3.38	1.33	2.69	4.30	2.10	1.51	2.91	1.16	2.23	4.88	1.76	4.50	32.75
	Roscommon .....	Cong (The Glebe) .....	5.69	2.73	2.84	4.67	2.39	.80	3.35	1.50	3.44	9.70	2.79	6.12	46.02
	Mayo .....	Newport (Burrishoole Ho.) ..	5.15	3.20	3.10	4.59	2.42	1.36	5.45	3.16	3.04	7.49	4.39	4.33	47.68
	" .....	Dugort (Slievemore Hotel) ..	8.54	4.46	3.87	5.06	3.94	2.06	5.49	5.29	3.98	8.68	4.42	7.09	62.88
	" .....	Crossmolina (Enniscroe) ..	5.12	3.17	3.82	4.95	2.21	1.94	3.78	2.49	3.65	8.17	4.05	6.29	49.64
	" .....	Collooney (Markree Obs.) ..	4.97	2.17	2.63	3.70	2.08	1.85	3.13	2.50	3.45	6.82	3.00	4.42	40.72
	Sligo .....	Ballyconnell House .....	4.58	1.89	4.10	5.30	2.31	1.41	3.73	2.20	2.93	5.91	2.31	5.37	42.14
	Cavan .....	Enniskillen (Portora) .....	4.17	2.31	3.18	4.27	3.03	1.48	3.28	1.96	3.13	5.63	2.53	3.99	39.01
	Fermanagh .....	Belleek .....	4.80	2.61	2.86	4.29	2.92	2.03	6.25	3.50	3.34	5.22	3.03	3.72	44.57
XXIII.	" .....	Dartrey [Cootehill] .....	2.85	1.41	3.12	4.85	1.93	1.75	3.99	1.99	2.39	5.71	1.58	4.30	35.87
	" .....	Armagh Observatory .....	2.42	1.34	2.61	3.07	1.70	2.20	2.79	1.99	1.85	4.78	1.10	3.03	25.88
	Down .....	Seaforde .....	2.30	1.51	5.76	4.99	2.01	2.76	3.70	2.04	2.25	5.86	.93	4.55	38.66
	" .....	Donaghadee .....	1.28	1.84	3.40	4.61	1.00	2.56	2.82	1.63	2.77	5.65	1.11	3.42	32.09
	" .....	Belfast (Springfield) .....	2.55	3.35	4.21	4.49	1.51	2.36	4.37	3.11	2.14	5.83	1.45	4.07	39.44
	Antrim .....	Ballymena (Harryville) ..	4.53	2.49	4.08	4.64	2.40	2.40	4.48	3.07	2.66	4.97	2.02	3.97	41.71
	" .....	Bushmills (Dundarave) ..	4.01	2.39	2.61	2.91	2.14	1.75	4.68	3.00	2.64	3.33	1.78	3.05	34.29
	" .....	Garvagh (Moneydig) .....	3.38	2.65	4.28	3.59	1.80	2.13	3.53	2.30	2.71	4.30	1.85	3.68	36.20
	Londonderry ..	Omagh (Edenfel) .....	3.79	1.88	4.11	4.12	2.57	1.21	3.48	2.56	3.01	4.85	2.17	4.04	37.79
	Tyrone .....	Cookstown (Lissan) .....	3.54	2.28	4.60	4.46	2.69	1.98	2.82	2.32	1.94	4.46	1.46	3.91	36.46
	" .....	Killybegs (White House) ..	7.28	6.69	3.91	5.96	3.45	1.31	8.52	5.51	4.14	8.34	5.40	5.65	66.16
	Donegal .....	Convoy .....	6.44	4.28	4.87	4.26	2.93	1.48	3.80	3.25	2.65	6.69	3.32	5.53	49.50
	" .....	Buncrana (Rockfort) .....	5.22	2.52	3.49	2.94	2.57	1.38	4.27	2.93	2.30	4.20	2.67	5.51	40.00
	" .....	Horn Head .....	5.46	3.57	3.89	2.85	1.91	2.05	5.74	4.10	2.37	6.57	4.00	4.84	47.35
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Ireland. Mean of 52 stations ..			3.44	2.20	3.61	4.95	2.20	1.99	3.44	1.80	2.53	6.12	2.16	4.74	39.18
BRITISH ISLES. Mean of 232 stations .....			2.90	1.69	3.68	3.34	2.07	2.58	3.78	2.71	2.72	6.00	2.08	5.09	38.64

## THE RELATION OF THE TOTAL FALL OF RAIN IN 1909 TO THE AVERAGE.

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THIS section sums up the character of the year as regards rainfall, and brings together the general results of the study of individual days with heavy falls, of the runs of days with rain or without which constitute rainspells and droughts, and of the conditions of the several months. We wish it were possible to give a map of the actual rainfall of the year, but the difficulty of time comes in the way. The General Table from which such a map would have to be compiled is not settled until the last moment before publication, as there are always many records of which we have cause to doubt the accuracy, and the correspondence regarding them is rarely completed in time for us to have the whole body of nearly 5,000 figures entered in their places on the map and the proper lines drawn. A preliminary map is, indeed, drawn at an early date and used for many purposes, but it is not good enough to be put on record permanently. We always hope that "next year" the map may be ready in time, and that hope burns as brightly now as ever it did ; but we dare not translate it into a promise.

It is, of course, quite clear that any attempt to estimate the difference from the average of the rainfall over the country for any year must depend on the existence of accurate records of rainfall extending back for many years at the same stations and in the same conditions, and that these stations must be sufficiently numerous and sufficiently uniform in their distribution to be representative of all parts of the country. When the condition of a long record is not fulfilled the attempt must be made to compute averages, and when this has been done in the following Table the result is given in brackets. Next year we propose to adopt a new period for the averages which will give us a much wider choice of stations ; but for 1909 we can at least say that the data at our disposal are better than we ever had before, and the conclusions we are able to draw can be stated with greater confidence.

There are necessarily some changes in the Table of 177 stations, as several of the records which appeared last year have come to an end, or are imperfect for 1909. In selecting substitutes it has been found possible in some cases to improve the distribution, but this perhaps involves leaving out a station to which no fault can be found, though it makes the selection more representative if, considering the necessary changes, it is omitted. Distinct improvement results from the introduction of Brampton (Denton House), Lochgilphead (Poltalloch), Stornoway, and Convoy; the other changes were mainly in the way of substitution.

The variation from the average rainfall at each station may be seen from the Table to range from an excess of 32 per cent. at Loch Finlas, in Ayrshire, to a deficiency of 25 per cent. at Killarney; but it is only by examining the map given in the frontispiece that the grouping of the wet and dry areas can be appreciated. The map is prepared from the stations in the Table, which are shown upon it in solid black dots, supplemented by nearly as many other stations for which an average is available, these being shown on the map by rings. The map shows some striking resemblances to those for 1906, 1907 and 1908, the similar colouring of which makes comparison very easy.

Considering first the map of 1909 by itself we see that only three parts of Ireland (the north-west, the north-east and Co. Kildare) have the blue tint indicating an excess over the average amount of rain, and only in Donegal does the excess exceed 10 per cent. All the rest of Ireland has the pink tint indicating a deficiency of rain, and in the south this deficiency exceeds 10 per cent., while in the west of Co. Cork and the east of Co. Kerry it exceeds 20 per cent. In Scotland the south-west showed a considerable excess, more than 20 per cent. in Kirkeudbrightshire and the north of Argyll. The north-east also showed an excess but not to the same extent, while the centre of the country was dry, and in the central parts of Perthshire, Invernessshire, and Ross and Cromarty the deficiency was more than 10 per cent. Practically the whole of Wales was dry though a shade more than the average amount of rain fell along the north coast, in Brecon and in part of Glamorgan. In England three areas were dry, one in the north-west of small size, one in the Midlands running in a triangle from the Welsh border to Huntingdon, and one in the south-west, consisting of Somerset, Devon and Cornwall, in the central part of which the deficiency was more than 10 per cent. The whole of

the east of England, the centre and the south as far as Dorset were wet, a large part having more than 10 per cent. of excess, and small areas in Hampshire and round the Estuary of the Thames had more than 20 per cent. of excess. The dryness of the south of Ireland and the south-west of England was prominent in every month except March, April and October. The belts of excessively high rainfall in the south of England and the east of Great Britain were clearly outlined in March and intensified in June and October, while the remarkable dryness of the west of Scotland north of Mull was prominent in March and April and again in June, August and September. It would not be difficult to trace the impression of such heavy daily falls as those of October 26th and 28th on the annual map.

Returning now to the comparison of the last four years, it is very interesting to see that in every one of them the south of Ireland and the south-west of England have been dry or very dry. The number of stations in the south of Ireland is regrettably small, and it may be that the deficiency of rainfall is not fairly dealt with in the maps on that account ; but there can be no question that from 1906 to 1909 inclusive these districts have never had an average year's rainfall. It will be noticed also that in each of the five years the rainfall in the north of Ireland and the south-west of Scotland was above the average, and the same is true of the north-east of Scotland, at least as regards Aberdeenshire. The north-west of England was also wet in each of the five years ; but whereas the east of England was dry or very dry in 1906, 1907 and 1908, in 1909 it was wet, and in the south-east very wet.

The means of all the stations given at the end of this section are set out in the accompanying abstract.

## ABSTRACT.

COUNTRIES.	No. of Records utilized.	Average. 10 years 1890-99.	Average. 30 years 1870-99.	1909.	Diff. from Average 1870-99.	
					Amount.	Per cent.
		in.	in.	in.	in.	
England and Wales...	94	32·37	34·39	35·30	·91 +	3
Scotland.....	46	45·80	45·48	45·59	·11 +	0
Ireland .....	37	39·91	40·57	38·13	2·44 —	6
British Isles .....	177	37·44	38·56	38·56	·00 +	0

This indicates that, compared with the average, the general rainfall of England and Wales showed an excess of nearly 1 inch, or 3 per

cent. ; that of Scotland showed an excess of one-tenth of an inch, that is to say much less than 1 per cent., while for Ireland there was a deficiency of nearly  $2\frac{1}{2}$  inches, or 6 per cent. For the British Isles as a whole the excesses exactly balanced the deficiencies and the total rainfall was exactly the average.

These figures are confirmed by the means for the stations quoted in the section on Monthly Rainfall, which gave an excess of 4 per cent. for England and Wales, a deficiency of 1 per cent. for Scotland, and a deficiency of 6 per cent. for Ireland, the British Isles having exactly the average.

While the averages of the stations quoted in the Table are, as given in the abstract, 34·39 in. for England and Wales, 45·48 in. for Scotland, 40·57 in. for Ireland, and 38·56 in. for the British Isles ; the general rainfalls calculated from the map showing the same 30 years' average (a map which can now be much improved) were 33·92 in. for England and Wales, 46·85 in. for Scotland, 42·28 in. for Ireland, and 39·25 in. for the British Isles, and as the approximate rainfall of previous years had been compared with the latter set of figures, we add the values for 1909 to the following rough comparison, which shows on that basis an excess of 4 per cent. for England and Wales, a deficiency of 3 per cent. for Scotland, and of 10 per cent. for Ireland, and a deficiency of 2 per cent. for the British Isles as a whole. The rough comparison is the less satisfactory estimate, but it has the merit of enabling us to compare a number of years in the same way. It will be seen that the succession of wet year following two dry years is borne out once more for England and Wales, thus :—

1889, — 8	1892, —11	1895, — 8	1898, —13	1901, —12	1904, —11	1907, — 1
1890, —11	1893, —17	1896, — 9	1899, — 7	1902, —17	1905, —15	1908, —10
1891, +10	1894, + 6	1897, + 1	1900, + 7	1903, +29	1906, + 1	1909, + 4

A similar relationship appears occasionally, but not regularly, in the cases of Scotland and Ireland ; but for the British Isles as a whole it held good until 1905, thus :—

1889, —10	1892, — 5	1895, — 7	1898, — 2	1901, —11	1904, — 9	1907, — 1
1890, — 3	1893, —12	1896, — 6	1899, — 5	1902, —17	1905, —14	1908, — 7
1891, + 5	1894, + 5	1897, + 3	1900, + 8	1903, +26	1906, — 1	1909, — 2

During the last 21 years dry years have been more than twice as frequent as wet years ; but if the Table could be carried back (as we hope it will some time be possible to do) for 21 years farther, the

reverse will probably be found to be the case, during the late seventies and early eighties of the last century there were nine consecutive years all above the average ; we have just completed six consecutive years all below the average.

*Rough Comparison of the Rainfall for 29 Years.*

	ENGLAND & WALES.			SCOTLAND.			IRELAND.			BRITISH ISLES.			Corrected Values.
	Fall.	Diff. from Average.		Fall.	Diff. from Average.		Fall.	Diff. from Average.		Fall.	Diff. from Average.		
		Amt.	p.c.		Amt.	p.c.		Amt.	p.c.		Amt.	p.c.	
Average	in. 33·92	in. —	—	in. 46·85	in. —	—	in. 42·28	in. —	—	in. 39·25	in. —	—	
Year.													
1881	35·81	1·89	+ 6	38·09	8·76	—19	36·11	6·17	—15	36·26	2·99	— 8	+ 2
1882	41·91	7·99	+24	44·75	2·10	— 4	40·83	1·45	— 3	42·42	3·17	+ 8	+18
1883	36·82	2·90	+ 8	39·81	7·04	—15	39·91	2·37	— 6	37·51	1·74	— 4	+ 6
1884	29·24	4·68	—14	40·25	6·60	—14	35·50	6·78	—16	31·56	7·69	—20	—10
1885	33·25	·67	— 2	33·78	13·07	—28	35·52	6·76	—16	33·41	5·84	—15	— 5
1886	37·53	3·61	+11	37·31	9·54	—20	41·61	·67	— 2	37·59	1·66	— 4	+ 6
1887	23·60	10·32	—30	29·14	17·71	—38	24·72	17·56	—42	24·80	14·45	—37	—27
1888	31·66	2·26	— 7	37·10	9·75	—21	39·61	2·67	— 6	32·98	6·27	—16	— 6
1889	31·10	2·82	— 8	32·81	14·04	—30	33·49	8·79	—21	31·52	7·73	—20	—10
1890	30·07	3·85	—11	46·56	·29	— 1	38·54	3·74	— 9	36·20	3·05	— 8	— 3
1891	37·36	3·44	+10	43·59	3·26	— 7	39·35	2·93	— 7	39·41	·16	+ 0	+ 5
1892	30·35	3·57	—11	42·55	4·30	— 9	39·13	3·15	— 7	35·42	3·83	—10	— 5
1893	28·21	5·71	—17	41·67	5·18	—11	32·50	9·78	—23	32·63	6·62	—17	—12
1894	36·14	2·22	+ 6	44·20	2·65	— 6	40·82	1·46	— 3	39·18	·07	— 0	+ 5
1895	31·32	2·60	— 8	39·32	7·53	—16	37·63	4·65	—11	34·66	4·59	—12	— 7
1896	30·94	2·98	— 9	42·11	4·74	—10	37·35	4·93	—12	35·06	4·19	—11	— 6
1897	34·14	·22	+ 1	43·70	3·15	— 7	43·53	1·25	+ 3	38·38	·87	— 2	+ 3
1898	29·42	4·50	—13	49·82	2·97	+ 6	38·40	3·88	— 9	36·46	2·79	— 7	— 2
1899	31·52	2·40	— 7	47·82	·97	+ 2	40·04	2·24	— 5	37·28	1·97	— 5	— 5
1900	36·37	2·45	+ 7	53·38	6·53	+14	45·48	3·20	+ 8	42·34	3·09	+ 8	+ 8
1901	29·83	4·09	—12	41·04	5·81	—12	40·33	1·95	— 5	34·85	4·40	—11	—11
1902	28·01	5·91	—17	38·73	8·12	—17	37·56	4·72	—11	32·71	6·54	—17	—17
1903	43·81	9·89	+29	59·05	12·20	+26	51·11	8·83	+21	49·26	10·01	+26	+26
1904	30·25	3·67	—11	43·70	3·15	— 7	40·67	1·61	— 4	35·81	3·44	— 9	— 9
1905	28·80	5·12	—15	43·04	3·81	— 8	35·80	6·48	—15	33·92	5·33	—14	—14
1906	34·23	·31	+ 1	48·69	1·84	+ 4	37·85	4·43	—10	38·71	·54	— 1	— 1
1907	33·61	·31	— 1	47·33	·52	+ 1	41·55	·73	— 2	38·87	·38	— 1	— 1
1908	30·65	3·27	—10	45·09	1·76	— 4	40·63	1·65	— 4	36·44	2·81	— 7	— 7
1909	35·30	1·38	+ 4	45·59	1·26	— 3	38·13	4·15	—10	38·56	·69	— 2	— 2

**COMPARISON OF THE RAINFALL OF THE YEAR 1909  
WITH THE AVERAGE OF THE PERIODS  
1890-99 & 1870-99.**

**ENGLAND & WALES.**

DIV.	COUNTY.	STATION.	Average, 1890-9.	Average, 1870-99.	Depth in 1909.	Difference from average, 1870-99.
						Per Amount. cent.
			in.	in.	in.	in.
I.	London, North.	St. Pancras (Camden Square)..	22.78	25.16	26.75	1.59 + 6
II.	Surrey, East ...	Dorking (Denbies) .....	29.73	32.04	37.69	5.65 + 18
"	Kent, West ...	Tenterden .....	26.76	28.36	32.84	4.48 + 16
"	" " ...	Tonbridge (Beech Hurst) .....	27.01	27.72	29.68	1.96 + 7
"	" East ...	Selling (Harefield) .....	28.83	29.55	36.29	6.74 + 23
"	Sussex, West...	Chichester (Chilgrove) .....	33.60	33.82	38.90	5.08 + 15
"	" East ...	Falmer Court .....	32.47	33.58	38.43	4.85 + 14
"	Hampshire.....	Ventnor (Consumption Hos.)..	27.97	29.10	34.77	5.67 + 19
"	" .....	Alresford (Ovington) .....	30.41	(32.00)	40.70	8.70 + 27
"	" .....	Basingstoke(Sherborne StJohn)	26.90	28.73	31.21	2.48 + 9
III.	Hertfordshire..	Hertford (Bayfordbury) .....	22.84	24.97	26.61	1.64 + 7
"	" .....	Hitchin (Wratten) .....	23.25	24.66	28.81	4.15 + 17
"	Buckingham ...	Slough (Langley) .....	23.25	24.00	23.99	.01 — 0
"	" .....	Buckingham (Adstock) .....	23.85	(26.40)	27.76	1.36 + 5
"	Oxfordshire ...	Oxford (Magdalen College) ...	21.40	24.54	26.47	1.93 + 8
"	" .....	Bloxham Grove .....	23.40	(27.20)	30.72	3.52 + 13
"	Northampton...	Wellingboro'(Croyland Abbey)	21.55	25.31	25.57	.26 + 1
"	Cambridgeshire	Stretham Engine .....	20.96	22.16	24.58	2.42 + 11
"	" .....	Wisbech (Bank House) .....	22.28	24.89	24.80	.09 — 0
IV.	Essex .....	Chelmsford (High Street) .....	21.22	22.96	28.24	5.28 + 23
"	" .....	Newport .....	24.27	(24.80)	28.34	3.54 + 14
"	Suffolk .....	Rendlesham Hall .....	22.60	(23.70)	26.00	2.30 + 10
"	" .....	Walsham-le-Willows .....	25.17	25.87	26.90	1.03 + 4
"	Norfolk .....	Geldeston [Beccles] .....	22.97	23.93	25.67	1.74 + 7
"	" .....	Swoffham (Dunham) .....	25.92	28.41	29.20	.79 + 3
"	" .....	North Walsham (Dilham) .....	24.85	(27.10)	27.08	.02 — 0
V.	Wiltshire .....	Salisbury (Wilton House) .....	30.13	31.73	37.65	5.92 + 19
"	" .....	New Swindon .....	26.26	(28.20)	28.66	.46 + 2
"	Dorsetshire ...	Wareham (South Street) .....	30.32	(31.90)	35.88	3.98 + 12
"	" .....	Beaminster Vicarage .....	34.87	(38.20)	40.92	2.72 + 7
"	Devonshire, S...	Ashburton (Druid House) .....	49.99	52.92	47.99	4.93 — 9
"	" " .....	Polapit Tamar [Launceston]...	36.79	38.85	36.07	2.78 — 7
"	" " .....	Cullompton .....	33.72	(36.20)	34.44	1.76 — 5
"	" N. ....	Northam Vicarage .....	34.35	36.19	32.21	3.98 — 11
"	Cornwall .....	Penzance (St. Clare) .....	41.33	(43.40)	36.04	7.36 — 17
"	" .....	St. Austell (Trevarna) .....	42.75	47.16	38.99	8.17 — 17
"	Somerset, N...	Street .....	26.90	30.40	26.90	3.50 — 12
VI.	Gloucester, W..	Clifton (Pembroke Road) .....	32.59	35.45	37.05	1.60 + 5
"	" " .....	Stroud (Upfield) .....	26.83	29.85	30.26	.41 + 1
"	Herefordshire...	Ross (The Graig) .....	25.61	29.51	25.57	3.94 — 13

## ENGLAND &amp; WALES—(continued).

DIV.	COUNTY.	STATION.	Average, 1890-9.	Average, 1870-99.	Depth in 1909.	Difference from average, 1870-99.	Per Amount. cent.
			in.	in.	in.	in.	
VI.	Herefordshire...	Kington (Lynhales) .....	29·50	33·56	30·91	2·65	— 8
„	Shropshire .....	Church Stretton (Wolstaston) .....	28·96	33·04	31·19	1·85	— 6
„	„ .....	Shifnal (Haughton Hall) .....	25·41	28·21	28·27	·06	+ 0
„	„ .....	Market Drayton (Buntingsdale) .....	26·53	(28·70)	30·71	2·01	+ 7
„	Staffordshire .....	Burton (Rangemore) .....	24·96	28·01	26·60	1·41	— 5
„	„ .....	Cheadle (The Heath House) .....	30·05	(33·50)	37·72	4·22	+ 13
„	Worcestershire .....	Northwick Park .....	25·24	29·22	31·81	2·59	+ 9
„	„ .....	Grt. Malvern (Church Street) .....	24·79	(29·00)	30·29	1·29	+ 4
„	„ .....	Stourport (Lincombe Lock) .....	(22·52)	(26·70)	26·26	·44	— 2
„	Warwickshire .....	Coventry (Kingswood) .....	26·98	29·21	26·30	2·91	— 10
VII.	Leicestershire .....	Thornton Reservoir .....	24·17	26·48	26·55	·07	+ 0
„	Rutland .....	Market Overton .....	24·05	(26·90)	29·15	2·25	+ 8
„	Lincoln, South .....	Boston .....	20·20	23·30	26·86	3·56	+ 15
„	„ „ .....	Stubton [Newark] .....	21·47	24·87	25·16	·29	+ 1
„	„ „ North .....	Louth (Westgate) .....	27·59	29·18	30·35	1·17	+ 4
„	„ „ .....	Brigg .....	24·40	26·31	28·89	2·58	+ 10
„	Nottingham .....	Worksop (Hodsock Priory) .....	22·67	(24·70)	27·83	3·13	+ 13
„	Derbyshire .....	Matlock Bath .....	28·93	35·07	37·34	2·27	+ 6
VIII.	Cheshire .....	Chester (Christleton Hall) .....	26·85	(28·65)	28·71	·06	+ 0
„	„ .....	Chelford (Aste Hall) .....	28·49	(30·60)	35·29	4·69	+ 15
„	„ .....	Torrside Reservoir .....	43·93	44·98	48·56	3·58	+ 8
„	Lancashire, Cen. .....	Ormskirk (Rufford) .....	32·63	33·71	37·12	3·41	+ 10
„	„ „ .....	Stonyhurst College .....	48·16	47·57	49·07	1·50	+ 3
„	„ „ N. .....	Ulverston (Poaka Beck) .....	52·16	51·80	54·86	3·06	+ 6
IX.	York, W.R., S. .....	Barnsley (Church Street) .....	25·25	27·28	30·21	2·93	+ 11
„	„ „ Central .....	Malham Tarn .....	58·44	58·17	59·82	1·65	+ 3
„	„ „ North .....	Wetherby (Ribston Hall) .....	23·69	26·96	28·87	1·91	+ 7
„	„ „ E. Riding .....	Brandesburton (Hempholm Lock) .....	23·53	25·50	30·19	4·69	+ 18
„	„ „ N. Riding .....	Scarborough (Osgodby) .....	25·11	(27·70)	31·52	3·82	+ 14
„	„ „ .....	Northallerton (Osmotherley) .....	23·86	27·35	31·99	4·64	+ 17
„	„ „ .....	Middlesbrough (Albert Park) .....	24·72	(24·30)	27·30	3·00	+ 12
X.	Durham .....	Wearhead Station .....	(53·80)	(55·00)	48·21	6·79	— 12
„	„ .....	Sunderland (W. Hendon House) .....	25·11	26·19	28·19	2·00	+ 8
„	Northumberland .....	Hallington (Fawcett) .....	28·73	29·12	28·39	·73	— 3
„	„ .....	Rothbury (Crag-side) .....	33·27	34·41	35·14	·73	+ 2
„	„ .....	Howick Hall .....	26·90	28·29	32·81	4·52	+ 16
„	Cumberland .....	Borrowdale (Seathwaite) .....	134·08	132·68	128·62	4·06	— 3
„	„ .....	Wigton (Brookfield) .....	38·63	35·66	41·61	5·95	+ 17
„	„ .....	Brampton (Denton House) .....	34·39	(35·50)	38·13	2·63	+ 7
„	Westmorland .....	Kirkby Stephen (Redman Ho.) .....	46·05	42·12	39·25	2·87	— 7
XI.	Glamorgan .....	Cardiff (Ely) .....	39·51	42·81	40·20	2·61	— 6
„	„ .....	Neath .....	47·28	(50·50)	56·27	5·77	+ 11
„	Carmarthen .....	Llanwrda (Dolaucothy) .....	(55·06)	(59·57)	53·85	5·72	— 10
„	Pembroke .....	Pembroke (Stackpole Court) .....	37·70	(41·20)	34·31	6·89	— 17
„	„ .....	Castle Malgwyn [Llechryd] .....	40·85	43·85	39·95	3·90	— 9
„	Cardigan .....	Aberystwyth (Gogerddan) .....	44·67	45·41	43·75	1·66	— 4
„	Brecon .....	Nanthir Reservoir [Aberdare] .....	57·08	(60·20)	61·98	1·78	+ 3

## ENGLAND &amp; WALES—(continued).

DIV.	COUNTY.	STATION.	Average, 1890-9.	Average, 1870-99.	Depth in 1909.	Difference from average, 1870-99.	Per Amount, cent.
			in.	in.	in.	in.	
XI.	Brecon .....	Nantgwillt .....	56·82	61·45	60·74	·71	— 1
„	Flint .....	Bodfari (Nantlys) .....	26·30	28·71	28·03	·68	— 2
„	Merioneth .....	Llanderfel (Palé) .....	45·65	(48·20)	44·25	3·95	— 8
„	Carnarvon .....	Criccieth (Talarvor) .....	35·56	35·83	34·35	1·48	— 4
„	Anglesey .....	Llanerchymedd (Llwydiarth Esgob) ...	38·60	38·21	39·71	1·50	+ 4
„	Isle of Man ...	Douglas (Woodville) .....	41·83	(43·30)	41·41	1·89	— 4
„	Scilly .....	St. Mary's .....	31·23	(32·80)	26·95	5·85	— 18

## SCOTLAND.

XII.	Wigtown .....	Stoneykirk (Ardwell House)...	34·77	(35·05)	39·77	4·72	+ 13
„	Kirkeudbright.	Auchencairn (Torr House) ...	46·02	46·45	56·62	10·17	+ 22
„	„	Cargen [Dumfries] .....	43·90	43·43	52·65	9·22	+ 21
„	Dumfries .....	Moffat (Ericstane) .....	52·60	54·97	52·32	2·65	— 5
„	Roxburgh .....	Hawick (Braxholme) .....	33·89	(34·80)	33·25	1·55	— 4
XIII.	Selkirk .....	Galashiels (Abbotsford Road).	31·26	33·82	31·54	2·28	— 7
„	Berwick .....	Marchmont House .....	31·93	34·94	34·21	·73	— 2
„	Haddington ..	Prestonkirk (Smeaton) .....	24·33	25·72	25·36	·36	— 1
„	Midlothian.....	Pentland Hills (Glencorse) ...	38·93	39·55	43·75	4·20	+ 11
XIV.	Lanark .....	Airdrie (Hillend Res.) .....	38·68	37·30	39·97	2·67	+ 7
„	Ayr.....	Girvan (Pinmore) .....	46·98	48·87	50·63	1·76	+ 4
„	„	Loch Finlas .....	50·86	(51·70)	68·27	16·57	+ 32
„	„	Kilmarnock (North Craig) ...	42·45	39·46	46·70	7·24	+ 18
„	Renfrew.....	Gorbals W.W. (Waulk Glen)..	49·00	46·91	49·35	2·44	+ 5
XV.	Argyll .....	Mull of Kintyre .....	40·58	40·33	41·57	1·24	+ 3
„	„	Lochgilphead (Poltalloch).....	50·77	51·58	54·16	2·58	+ 5
„	„	Inveraray (Newtown) .....	72·27	(62·80)	68·45	5·65	+ 9
„	„	Strontian (Laudale) .....	68·69	(72·20)	81·72	9·52	+ 13
„	„	Islay (Ardbeg) .....	43·00	(44·60)	45·59	·99	+ 2
„	„	Mull (Quinish) .....	56·30	(57·50)	49·44	8·06	— 14
XVI.	Kinross .....	Loch Leven Sluice.....	35·83	36·20	36·50	·30	+ 1
„	Fife .....	Colinsburgh (Balcarres) .....	32·93	(34·90)	32·82	2·08	— 6
„	Perth .....	Balquhiddel (Stronvar).....	72·98	(74·70)	67·51	7·19	— 10
„	„	Blair Atholl .....	32·08	(33·36)	30·82	2·54	— 8
„	Forfar .....	Dundee (Eastern Necropolis)..	27·55	28·95	26·36	2·59	— 9
„	„	Kirriemuir (Lintrathen) .....	33·03	(35·60)	32·40	3·20	— 9
XVII.	Kincardine ...	Fettercairn (The Burn).....	33·34	34·75	34·26	·49	— 1
„	Aberdeen .....	Braemar .....	34·51	36·07	35·02	1·05	— 3
„	„	Logie Coldstone (Loanhead) ...	30·68	30·00	32·80	2·80	+ 9
„	„	Ellon .....	30·09	30·91	33·06	2·15	+ 7
„	Banff .....	Keith Station.....	33·84	32·72	36·33	3·61	+ 11
„	Elgin .....	Grantown .....	31·69	31·00	34·99	3·99	+ 13
„	Nairn .....	Cawdor .....	30·34	29·37	28·69	·68	— 2
XVIII.	Inverness, West	Loch Shiel (Glenfinnan) .....	108·85	105·29	102·56	2·73	— 3
„	„ East	Glenquoich .....	112·44	108·26	98·60	9·66	— 9
„	„ „	Fort Augustus (St. Benedict's)	46·85	(43·71)	37·44	6·27	— 14
„	Ross, West ...	Glencarron .....	93·91	(88·40)	71·01	17·39	— 20

## SCOTLAND—(continued.)

DIV.	COUNTY.	STATION.	Average, Average,		Depth in 1909.	Difference from average 1870-99.	
			1890-9.	1870-99.		Amount.	Per cent.
XVIII.	Ross, West	Loch Torridon (Bendamph) ...	88·95	(86·50)	75·69	10·81	— 12
"	"	Braemore House.....	64·48	58·56	60·52	1·96	+ 3
"	"	Stornoway .....	51·19	50·73	46·19	4·54	— 9
"	" East	Strathpeffer .....	31·86	(31·30)	29·37	1·93	— 6
"	"	Fearn (Lower Pitkerrie) .....	23·50	23·52	21·19	2·33	— 10
XIX.	Sutherland	Invershin .....	32·66	32·76	31·14	1·62	— 5
"	"	Dunrobin Castle.....	32·26	31·60	31·45	·15	— 0
"	Caithness	Wick .....	30·91	(29·30)	33·55	4·25	+ 15
"	Orkney	Shapinsay (Balfour Castle) ...	32·74	31·66	31·41	·25	— 1

## IRELAND.

XX.	Cork	Cork (The Palace) .....	(38·75)	(39·66)	31·94	7·72	— 19
"	Kerry	Kenmare (Derreen) .....	66·16	(69·50)	55·61	13·89	— 20
"	"	Valencia (Glanleam) .....	55·30	(55·90)	48·34	7·56	— 14
"	"	Killarney (District Asylum)...	55·10	58·11	43·39	14·72	— 25
"	Waterford	Waterford (Brook Lodge).....	38·56	(39·30)	36·67	2·63	— 7
"	"	Glenam [Clonmel] .....	40·89	42·17	35·74	6·43	— 15
"	Tipperary	Nenagh (Castle Lough).....	39·42	(40·00)	33·72	6·28	— 16
"	Limerick	Foynes .....	39·64	(40·69)	36·09	4·60	— 11
"	Clare	Miltown Malbay.....	45·31	(44·50)	40·78	3·72	— 8
XXI.	Wexford	Enniscorthy (Ballyhyland) ...	41·45	42·87	40·31	2·56	— 6
"	"	Gorey (Courtown House) .....	33·62	35·72	32·99	2·73	— 8
"	Kilkenny	Kilkenny (Lavistown House)..	30·73	(31·60)	28·89	2·71	— 9
"	Wicklow	Bray (Fassaroe) .....	39·68	40·55	34·76	5·79	— 14
"	Queen's Co.	Abbey Leix (Blandsfort) .....	36·52	35·19	36·33	1·14	+ 3
"	King's Co.	Birr Castle .....	32·96	33·06	30·39	2·67	— 8
"	Dublin	Dublin (FitzWilliam Square)..	27·30	27·75	26·94	·81	— 3
"	Meath	Moynalty (Westland) .....	36·67	(37·40)	35·83	1·57	— 4
"	Westmeath	Mullingar (Belvedere) .....	36·50	(36·50)	35·16	1·34	— 4
"	Louth	Dundalk (Farndreg) .....	30·95	(30·90)	30·89	·01	— 0
XXII.	Galway	Ballinasloe .....	36·58	37·04	31·67	5·37	— 15
"	"	Tuam (Gardenfield) .....	42·18	(41·90)	39·11	2·79	— 7
"	Mayo	Crossmolina (Enniscoe) .....	52·60	(50·50)	49·64	·86	— 2
"	Sligo	Collooney (Markree Obsy.) ...	41·27	41·83	40·72	1·11	— 3
XXIII.	Cavan	Belturbet (Cloverhill) .....	32·72	(32·92)	32·77	·15	— 0
"	Armagh	Armagh Observatory .....	30·97	31·36	28·88	2·48	— 8
"	Down	Seaforde .....	36·27	38·61	38·66	·05	+ 0
"	"	Donaghadee .....	30·39	(32·00)	32·09	·09	+ 0
"	Antrim	Belfast (Queen's University)...	32·00	33·23	36·88	3·65	+ 11
"	"	Ballymena (Harryville).....	39·52	(39·60)	41·71	2·11	+ 5
"	"	Bushmills (Dundarave) .....	36·70	(38·20)	34·29	3·91	— 10
"	Londonderry	Garvagh (Moneydig) ....	37·95	39·16	36·20	2·96	— 8
"	"	Londonderry (Creggan Res.) ..	41·36	(41·20)	43·27	2·07	+ 5
"	Tyrone	Omagh (Edenfel) .....	39·66	37·85	37·79	·06	— 0
"	Donegal	Killybegs (White House) .....	59·87	(59·40)	66·16	6·76	+ 11
"	"	Convoy .....	43·00	44·67	49·50	4·83	+ 11
"	"	Ardnadrean Rectory .....	46·29	(45·60)	44·37	1·23	— 3
"	"	Malin Head .....	31·76	(34·50)	32·30	2·20	— 6

## EXTREMES OF RAINFALL IN 1909.

Greatest Rainfall, at the Styne (C), Cumberland.....176·30 in.

Least Rainfall, at Fortrose, Hollyside, East Ross..... 19·45 ,,

## ENGLAND.

GREATEST.		LEAST.	
Div.	in.	Div.	in.
X. The Styne, C.....	176·30	IV. Southey .....	21·37
.. Mickleden .....	132·09	VI. Bartestree (Hagley Park) .....	21·60
.. Borrowdale (Seathwaite).....	128·62	III. Stanground Sluice .....	21·69
.. Ullscarf .....	119·10	II. Erith (Crossness).....	21·84
.. Dungeon Ghyll .....	115·75	III. Peterborough (Ashfield).....	21·84
.. Little Langdale (Fell Foot) ..	115·00	VI. Hereford (Holmer Hall).....	21·98

## MONMOUTH AND WALES.

GREATEST.		LEAST.	
Div.	in.	Div.	in.
XI. Snowdon (Crib Goch) .....	167·03	XI. Monmouth (The Hendre) .....	26·83
.. Swansea W.W. (Bwlch) .....	143·98	.. .. (Leasbrook).....	26·87
.. Eigion (Upper) .....	128·30	.. Rhyl (Sewage Works) .....	27·66
.. .. Lake .....	117·70	.. Llanddwyn Island .....	27·93
.. .. (Dam Site) ....	99·50	.. Bodfari (Nantlys) .....	28·03
.. Blaenau Festiniog (Oakley Quarries)	98·54	.. Gresford (Trewythen) .....	28·05

## SCOTLAND.

GREATEST.		LEAST.	
Div.	in.	Div.	in.
XVIII. Loch Quoich (Laon) .....	151·10	XVIII. Fortrose (Hollyside) .....	19·45
.. .. (Kinlochquoich) ..	112·48	.. Fearn (Lower Pitkerrie).....	21·19
.. Achnashellach (Glenuaig) ....	107·00	XVI. Montrose (Melville Gardens) ..	22·80
.. Loch Shiel (Glenfinnan) .....	102·56	.. Arbroath (Dishland Hill) .....	23·54
.. Loch Quoich (Glenquoich) ....	98·60	.. .. (Muirheads Res.) ....	24·02
.. Loch Arkaig (Glen Dessary) ..	93·18	XII. St. Boswells (Monksford) .....	24·24

## IRELAND.

GREATEST.		LEAST.	
Div.	in.	Div.	in.
XXIII. Killybegs (Faiafannan).....	78·71	XXI. Kingstown (Harbour Yard) ....	23·92
XX. Gap of Dunloe (Garrymeen) ..	76·60	.. Blackrock (Charleville).....	24·68
XXIII. Killybegs (White House) .....	66·16	.. Skerries (Milverton Hall).....	25·05
XX. Lough Caragh (Lickeen) .....	66·02	.. Malahide (The Green) .....	25·25
XXIII. Mourne Mountains (Fofanny Res.)	64·05	.. Killiney (Cloneevin) .....	25·36
XXII. Dugort (Slievemore Hotel) ....	62·88	.. Lambay Island .....	25·56

## NOTE.

Second gauges and those at Lighthouses are excluded from the above, as also are those to which a ? has been attached in the General Table. In selecting the minima, records are only used from gauges the receiving surface of which is known to be less than 3 feet above the ground. The highest only of the records from the Snowdon Power Company's gauges in Carnarvonshire has been quoted, and records from the Isles of Scilly and the Channel Islands have been excluded. Italics signify corrected values.

GENERAL TABLE  
OF  
TOTAL RAINFALL IN 1909,  
AT MORE THAN  
4500 STATIONS  
IN THE  
BRITISH ISLES.

## EXPLANATORY NOTE.

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The divisions in the General Table are shown in the map at the end of the Table. They 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 reference to the stations is facilitated by sub-dividing some of the larger counties. The stations in each county or sub-division are arranged nearly in the order of their latitude from South to North.

For convenience in finding the locality of any gauge, the first name is almost always that of a place given in *Bradshaw*, the *Post Office Guide*, or, for England, the *Clergy List*; the second name is added to fix the site of Observation more closely. 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 near Beccles, which is in another county.

In the column headed “diameter,” figures in old-style type 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 complete for the year, and that the printed amount is the correct total of the daily entries. The letter M indicates that the gauge is read only on the first of each month. (R) denotes that the gauge used is a self-registering or a recording instrument.

A few entries of total rain will be found in italics—indicating that the values have been corrected, *e.g.*, when monthly gauges are read on a date other than the 1st, or when snow is neglected.

A dagger (†) denotes that the rain gauge has been visited and examined by the Editor or his assistants, and a section (§) that it has not been seen by the Editor, but is subject to inspection by the Meteorological Office or by one of the Meteorological Societies. A note of interrogation (?) implies doubt, not necessarily error; the absence of information is indicated by ...

In the column of altitudes the sign ₧ means that a series of levels has been taken from the gauge to an Ordnance Survey bench mark; 7, that the height has been ascertained approximately from the same source; L, that levels have been taken from the gauge to the sea, or to some non-official datum; and B, that the altitude has been taken by the barometer.

## COUNTY INDEX TO GENERAL TABLE.

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Cheshire.....	254	Lancashire .....	255	Staffordshire...	244
Cornwall .....	236	Leicestershire .....	247	Suffolk .....	227
Cumberland .....	272	Lincolnshire .....	248	Surrey .....	200
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Argyll .....	291	Forfar .....	295	Peebles.....	286
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Banff .....	297	Inverness .....	297	Renfrew .....	289
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Dumfries .....	285	Nairn.....	297	Wigtown .....	284
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### I R E L A N D .

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Armagh.....	307	Kildare .....	304	Queen's County ...	304
Carlow .....	303	Kilkenny ..	303	Roscommon .....	306
Cavan .....	306	King's County ...	304	Sligo .....	306
Clare .....	302	Leitrim .....	306	Tipperary .....	302
Cork .....	301	Limerick .....	302	Tyrone .....	308
Donegal.....	308	Londonderry.....	308	Waterford.. .....	302
Down .....	307	Longford .....	305	Westmeath .....	305
Dublin .....	304	Louth.....	305	Wexford.....	303
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# ENGLAND AND WALES.

## DIVISION I.—LONDON.

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with .01 or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
<b>NORTH OF THE THAMES.</b>						
D§ PADDINGTON (Harrow Road) ...	C. W. Heinemann, Esq.	8	1 0	101	26·19	193
D† KENSINGTON (V. & A. Museum).	J. Storr, Esq. ....	8	0 6	27	24·22	195
D " (Holland House) ...	Mr. C. Dixon ....	5	4 6	68	25·01	193
D " (Addison Gardens).	G. H. M. Whish, Esq..	5	1 1	23	24·43	185
D† " (Campden Hill) ...	Met. Water Board.....	8	1 0	142	27·69	199
D HAMMERSMITH (The Creek).....	London County Council	8	20 0	35	24·14	183
<b>FULHAM,</b>						
D† W. Kensington (Edith Rd.)	G. Searle, Esq. ....	5	0 10	16	24·28	183
D CHELSEA (Lots Road) ...	M. Fitzmaurice, Esq., CE	8	33 6	54	23·08	190
D " (Paulton Square) ....	A. Hampton Brown, Esq.	5	1 0	21	22·77	186
D " (Pumping Station) ...	M Fitzmaurice Esq CMG	8	1 0	19	23·80	185
D " (Physic Garden) ....	W. Hales, Esq. ....	5	1 0	20	24·74	190
D " (St. Luke's Gardens) .	T. W. E. Higgins Esq. CE	5	1 0	25	25·00	184
D WESTMINSTER (Grosvenor Wharf)	Mr. W. A. Cairns ....	4	28 0	48	23·94	179
D† " (Winchester Street) ..	Mr. G. T. Osborn ....	4	6 6	21	23·54	193
D " ( " " " ) ..	" " " " " " " " " "	4	6 6	21	23·22	...
D " (Chester Square) ....	late C. Lethbridge, Esq.	5	10 0	35	24·11	199
D† " (Buckingham Palace)	Major Hussey .....	5	8 6	35 ?	25·25	177
D " (Kensington Gardens)	Mr. W. Beecher .....	8	1 10	...	21·39?	163
D§ " (St. James's Park) ...	Meteorological Office ..	8	1 0	54	24·93	200
D " (Spring Gardens) ... (1)	M Fitzmaurice Esq CMG	8	66 4	95	23·41	...
D " ( " " " ) ... (2)	" " " " " " " " " "	12	65 11	95	22·42	...
D " ( " " " ) ... (3)	" " " " " " " " " "	8	6 0	35	24·17	...
D " (Strand) .....	J. J. Steward, Esq. ...	5	40 0	80	25·77	174
<b>ST. MARYLEBONE</b>						
D " (Northwick Terrace) ....	E. Heron Allen, Esq. ...	5	0 5	130	27·61	...
D§ " Regent's Pk (R Botanic Gdns)	J. B. Sowerby, Esq. ...	8	0 8	126	27·44	192
D " (Hamilton Terrace) .....	Miss Cobb .....	5	0 11	125	28·05	...
D† HAMPSTEAD (Barrow Hill Res.)..	Met. Water Board.....	5	3 4	197	24·65	191

## DIVISION I.—LONDON.—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain.	Days with 40 or more recorded.
		Diameter	Height Above Ground		Height Above Sea Level	1909	
		in.	ft.	in.	feet.	inches.	
NORTH OF THE THAMES-(con.)							
D HAMPS TEAD (Akenside Road) ...	E. L. Hawke, Esq. ...	5	0	8	285 π	28·18	217
" "							

## DIVISION I.—LONDON—(continued).

STATIONS.	AUTHORITIES.	Diameter	Rain Gauge.		Depth of Rain.	Days with .01 or more recorded.
			Height Above Ground	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
SOUTH OF THE THAMES—(con.)						
WANDSWORTH,						
	Clapham Com. (Macaulay Rd.)	Miss A. H. Boyson.....	5	1 0	75	24.68 ...
	" " (The Chase)	H. N. Prentice, Esq....	5	1 5	70	22.29 ...
D	CAMBERWELL (Dulwich Wood Pk.)	F. C. Bayard, Esq. ....	5	1 2	276	28.18 181
D†	" Nunhead (Southwark W.W.)	Met. Water Board.....	5	1 0	173	22.95 189
D	DEPTFORD (Telegraph Hill)	London County Council	5	9 6	135	21.55 159
D†	" (Kent Water Works)	Met. Water Board.....	5	1 0	20	22.47 154
GREENWICH						
D†	(Deptford Pumping Station)	M Fitzmaurice Esq CMG	10	4 0	18 7	26.96 165
D†	" (Royal Observatory)	No. 8 Sir W. Christie, K.C.B.	8	1 0	150 T	25.07 188
D†	" ( " " )	No. 6 " " "	8	0 5	150 T	25.71 193
†	" ( " " )	No. 7 " " "	8	0 5	155 T	24.83 196
†	" ( " " )	No. 5 " " "	8	10 0	165 T	25.03 199
†	" ( " " )	No. 4 " " "	8	21 6	176 T	22.92 195
†	" ( " " )	No. 3 " " "	8	38 4	193 T	20.33 196
LEWISHAM,						
D	Forest Hill (Dartmouth Rd.)	F. C. Bayard, Esq. ....	5	1 0	220	26.76 165
D†	" " (Barr Beacon)	Met. Water Board.....	5	1 0	344 7	25.63 198
	WOOLWICH, Eltham (High St.)	" " "	5	1 0	245	26.27 163

## DIVISION II.—SOUTH EASTERN COUNTIES.

## WEST SURREY.

	Haslemere (High Field)	Earl of Altamont .....	5	1 6	680 ?	39.17 196
D	" (Lowder Mill)	A. F. Parbury, Esq....	5	0 10	501 7	38.24 194
	" ( " " )	M " " "	5	1 0	501 7	37.40 ...
D	" (Courts Hill)	T. P. Newman, Esq....	8	4 0	481 7	36.41 183
D	" (Hazelhurst)	" " "	5	1 0	550 B	38.96 204
	" (Clammer Hill)	Col. Farquhar Glennie..	5	1 0	400	34.41 182
	" (Grayswood Hill)	B. E. C. Chambers, Esq..	5	1 0	580 7	34.35 ...
	Dunsfold (Durfold)	Miss Billiter .....	5	1 0	225 T	30.63 ...
	Hindhead (Stoatley Hall)	H. Simmons, Esq.....	5	1 0	800	39.51 ...
	Dunsfold Rectory	Rev. W. H. Winn.....	5	1 0	170	31.92 ...
	Haslemere (Weycombe)	J. Buckton, Esq. ....	5	1 0	562 7	32.85 ...
D	Churt (Furze Hills)	Rev. Clements G. O. Bond	5	1 0	390	35.11 201
D	Oakwood Vicarage	Rev. Canon J. Shearme	5	0 9	285 T	31.58 172
D	Witley (King Edward's School)	J. Wood, Esq. ....	5	1 3	400	36.17 181
D	" (The Mount)	Mrs. J. H. Foster .....	5	1 0	375 B	34.84 197
	Hascombe Rectory	C. T. Musgrave, Esq...	8	0 6	450 7	34.51 163
D	Cranleigh Common (Homefield Cott.)	A. F. Jones, Esq. ....	5	1 2	175 T	33.27 194
	" (Stonewall)	W. Welch, Esq.....	5	1 0	182 7	34.28 ...
§	" (County School)	Royal Meteorological Soc	5	1 0	232 7	31.28 193
D	" (Winterfold)	Mr. R. Turvey .....	8	3 6	603 T	34.37 173
D	Bramley (Grafham Grange)	Sherringham A. Shepherd, Esq	8	0 4	180 T	33.57 179
	Milford (Heath End)	Surrey Advertiser.....	...	...	...	31.92 ...
	Godalming (Busbridge Park)	" " "	...	...	400	32.15 ...



## DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with $\geq 0.1$ or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
WEST SURREY—(con.)						
d Frimley (Hale Cottage) .....	Dr. F. N. Brown .....	5	1 6	210 $\nabla$	29.96	175
„ (Tomlinscote) .....	<i>Surrey Advertiser</i> .....	...	...	...	30.00	...
d Woking (The Grange) .....	Rev. F. Wilson .....	5	0 8	78 $\uparrow$	28.28	206
d „ (Northwood) .....	S. Price-Williams, Esq. ....	5	1 3	119 $\nabla$	25.92	165
d Pyrford (Pyrford Croft) .....	H. W. Page Phillips, Esq. ....	5	1 6	100 $\uparrow$	28.11	182
d Brookwood (Knapp Hill) .....	Mr. G. C. H. Simmonds .....	5	1 0	181 $\uparrow$	27.41	201
d Horsell (Lindisaye) .....	H. Horncastle, Esq. ....	5	4 2	120 $\uparrow$	25.26	185
„ „ „ „ „ weekly g. ....	„ „ „ „ „ „ „ „ „ „ „ „ .....	5	0 9	120 $\uparrow$	25.16	...
d „ (Kettlewell Hill) .....	Claude Marzetti, Esq. ....	5	0 9	115	26.41	192
d§ Wisley (R.H.S. Gardens) .....	W. Miles, Esq. ....	8	1 0	150	27.30	185
„ (West Hall Gardens) .....	<i>Surrey Advertiser</i> .....	...	...	75 $\uparrow$	27.73	...
Woking (Woodham Hall) .....	„ „ „ „ „ „ „ „ „ „ „ .....	...	...	105 $\uparrow$	26.52	...
d Chobham (Chobham House) .....	Miss C. M. Perceval .....	5	1 6	80	31.80	159
West Byfleet (Broadoaks) .....	R. W. Pretor-Pinney Esq. ....	5	1 0	66	27.47	163
Bagshot (Penny Hill Park) .....	<i>Surrey Advertiser</i> .....	7	...	350 $\uparrow$	29.92	195
d Chertsey (Ottershaw) .....	R. H. Otter, Esq. ....	5	1 0	200 $\uparrow$	25.93	195
„ (Long Cross) .....	F. A. Baker, Esq. ....	5	3 0	205 $\uparrow$	24.98	...
„ (Botleys Park Gardens) .....	<i>Surrey Advertiser</i> .....	...	...	100 $\uparrow$	25.73	...
d Windlesham (Westwood) .....	Col. G. A. Curzon .....	5	0 10	300 $\uparrow$	28.03	159
d† Sunningdale (The Camp) .....	Lady Hooker .....	5	1 2	252	27.47	169
d Weybridge (Field Place) .....	Mrs. Yool .....	5	1 0	118 $\nabla$	27.48	207
„ „ „ „ „ M .....	„ „ „ „ „ „ „ „ „ „ „ .....	5	1 0	109 $\nabla$	26.65	...
„ (Heath Field) .....	Miss A. T. Gardiner .....	5	1 0	100 $\uparrow$	26.96	170
„ (Portmore Road) .....	<i>Surrey Advertiser</i> .....	...	...	...	26.74	167
d „ (West Oaks) .....	A. Whittet, Esq. ....	5	1 0	36 $\uparrow$	25.59	190
d „ (Station Road) .....	H. K. G. Rogers, Esq. ....	5	1 1	85	27.94	202
d „ (Lyncroft) .....	Maj.-Gen. J. P. Battersby .....	5	0 10	70	25.44	181
d Virginia Water (St. Ann's Heath) .....	Rev. J. Peck .....	8	1 1	120	24.64	186
d Egham (Runnymede Park) .....	J. R. FitzGerald, Esq. ....	4	0 11	150 $\uparrow$	24.70	162
Englefield Green (Queenswood) .....	W. R. Rigden, Esq. ....	8	1 0	200	28.77	210
EAST SURREY.						
d Lyden Croft [Edenbridge] .....	Surg.-Gen. C. Planck .....	8	1 0	212 $\nabla$	26.96	182
d Outwood (The Orchards) .....	H. Gurney, Esq. ....	5	1 0	280	27.69	207
† Dorking (Fir Tor) .....	F. Taylor, Esq. ....	5	1 0	300 $\nabla$	35.37	...
d† „ (Rose Hill) .....	Lt.-Col. J. R. Greenhill .....	5	1 0	240	35.31	206
d „ (West Street) .....	Mrs. W. A. Marsh .....	8	26 0	224 $\uparrow$	29.09	152
d „ (Denbies) .....	Mr. J. Ansell .....	5	0 9	610 $\uparrow$	37.69	201
d† „ (Pixham Firs) .....	J. Croft Deverell, Esq. ....	8	0 6	150 $\uparrow$	33.27	206
d Brockham (North Lodge) .....	H. R. Kempe, Esq. ....	8	0 9	160 $\uparrow$	31.84	159
d Reigate (Hartswood) .....	R. W. Clutton, Esq. ....	5	1 0	174	30.43	205
d South Nutfield (Hale Edge) .....	F. C. Bayard, Esq. ....	5	1 0	270	28.21	184
d Earlswood (Sewage Farm) .....	F. T. Clayton, Esq., C.E. ....	5	1 6	196 $\nabla$	28.48	178
d Redhill (Station Road) .....	W. H. Fowler, Esq. ....	5	18 0	270 $\nabla$	30.49	163
d Reigate (Holmfels) .....	T. Jackson, Esq. ....	5	1 2	260 $\uparrow$	29.46	191
d „ (The Gas Works) .....	F. C. Bayard, Esq. ....	10	1 0	275	31.23	195
d „ (The Knowle) .....	G. Weston, Esq. ....	5	1 0	390 $\uparrow$	31.01	206

## DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain. 1909	Days with .01 or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level			
		in.	ft. in.	feet.	inches.		
<b>EAST SURREY—(con.)</b>							
Reigate (Wray Lodge) .....	A. Rosling, Esq. ....	5	1 0	316 T	31.91	196	
„ (Northcote) .....	F. C. Pawle, Esq. ....	5	1 0	375	32.36	215	
„ (Castle Grounds) .....	F. T. Clayton, Esq., C.E. ....	5	1 6	350 T	29.56	195	
„ (Laglands) .....	J. Welch, Esq. ....	5	1 2	375 T	33.87	195	
„ Redhill (Sid Court) .....	Miss Janvrin .....	5	1 0	290	32.81	210	
„ Nutfield Priory .....	Mrs. Fielden .....	8	1 2	468 T	31.37	215	
„ „ .....	Mr. J. Moffatt .....	8	1 2	431 T	31.53	209	
„ „ (Holmesdale) .....	C. Trentham Maw, Esq. ....	8	3 0	500 T	29.29	185	
„ Blechingley House .....	Rev. Canon A. H. S. Barwell .....	5	1 0	550 T	33.70	196	
„ Betchworth (Sandhills) .....	C. J. Whittington, Esq. ....	8	3 0	250 T	29.42	161	
„ „ (The Holmes) .....	F. R. Rushton, Esq. ....	5	0 8	322 T	34.14	213	
„ Reigate (Hatherlow Observatory) .....	S. T. Klein, Esq. ....	5	0 9	405	31.33	177	
„ Dorking (High Ashurst) .....	Mr. G. Bond .....	5	3 0	550	31.14	...	
„ Mickleham (Juniper Hall) .....	G. MacAndrew, Esq. ....	...	...	200 ?	33.77	...	
„ Upper Gatton .....	F. Druce, Esq. ....	5	1 0	601	34.25	195	
„ Headley (The Hurst) .....	F. C. Bayard, Esq. ....	5	1 3	450	35.70	...	
„ Walton-on-the-Hill (Hedgecroft) .....	G. R. Crompton, Esq. ....	5	1 0	570 T	34.04	204	
„ „ „ (Shirley) .....	E. P. Hawthorn, Esq. ....	5	0 6	650	33.06	185	
„ Caterham Reservoir .....	A. E. Cornwall-Walker, Esq. ....	5	1 0	705 T	35.64	189	
„ Leatherhead (Downside) .....	A. Tate, Esq. ....	5	1 0	250	32.34	187	
„ „ (Emlyn House) .....	Meteorological Office .....	5	1 0	160	30.21	...	
„ Chaldon Rectory .....	F. C. Bayard, Esq. ....	5	1 0	542	32.90	181	
„ Chipstead (Shabden Park) .....	„ „ „ .....	5	1 0	550	32.60	205	
„ „ (Eyhurst) .....	D. Morphew, Esq. ....	5	0 11	538	34.31	201	
„ Caterham Asylum .....	Dr. P. E. Campbell .....	5	1 0	610 T	33.56	205	
„ „ Valley (Bradenhurst) .....	Henry Haes, Esq. ....	5	1 0	600 B	35.35	192	
„ Warlingham (The Larches) .....	Mrs. B. F. Harris .....	5	1 0	615	35.99	215	
„ „ (Redvers Road) .....	R. H. Curtis, Esq. ....	8	1 0	610 T	35.18	203	
„ „ (Egremont) .....	H. Rogers, Esq. ....	8	1 0	614 B	35.82	186	
„ Banstead (Burgh Heath) .....	Capt. E. R. Taylor .....	5	1 0	571 T	33.88	200	
„ „ „ „ Reservoir .....	W. Vaux Graham Esq. C.E. ....	5	1 0	570 T	35.27	187	
„ Chipstead (How Green Reservoir) .....	„ „ „ .....	5	1 0	528 T	32.40	172	
„ Kenley (Hazelea) .....	Mrs. Carr Dyer .....	5	1 0	281 T	29.45	203	
„ Ashted (Hill Field) .....	C. F. Howell, Esq. ....	5	1 0	215	30.37	205	
„ „ (D'Abernon Chase) .....	Sir W. Vincent, Bart. ....	5	1 0	280 T	28.40	179	
„ „ (Barnet Wood Lane) .....	Rev. Theodore E. R. Phillips .....	5	1 0	167 T	28.30	193	
„ „ (Oakfield Road) .....	H. F. Acocks, Esq. ....	5	0 9	189	29.08	195	
„ „ (The Hut) .....	F. C. Bayard, Esq. ....	5	0 5	200	30.42	173	
„ Cobham (Hatchford Park) .....	Sir H. B. Samuelson, Bart. ....	8	1 0	170	29.43	...	
„ „ (Fairfield) .....	Surrey Advertiser .....	...	...	...	28.90	...	
„ „ (Sandpit Hall) .....	„ „ .....	...	...	...	26.22	...	
„ Oxshott (Oaklands) .....	„ „ .....	...	...	...	30.82	169	
„ Banstead (The Hall) .....	F. C. Bayard, Esq. ....	8	1 0	480	32.19	181	
„ „ (Basing House) .....	„ „ „ .....	8	1 0	456	31.75	181	
„ „ (Benhillton) .....	J. C. M. Stanton, Esq. ....	8	1 6	125	28.15	192	
„ Chelsham (Fairchildes) .....	A. S. Daniell, Esq. ....	8	1 0	600 T	34.49	...	
„ „ „ .....	Mr. G. Mansfield .....	5	0 10	600 T	35.75	...	
„ Epsom (Ashley Road) .....	Spencer C. Russell, Esq. ....	5	1 0	161 T	32.50	214	
„ „ (Water Works) .....	W. Vaux Graham Esq. C.E. ....	5	3 1	149 T	28.80	157	

STATIONS.	AUTHORITIES.	Rain Gauge			Depth of Rain. 1909	Days with 10 or more recorded.	
		Diameter	Height Above Ground.	Height Above SeaLevel			
		in.	ft.	in.	feet.	inches.	
<b>EAST SURREY—(con.)</b>							
D Weybridge (Burcote) .....	C. Sanger, Esq. ....	5	0	9	120	25·83	183
D Purley (Riddlesdown Road) No.1	J. Edmund Clark, Esq.	5	1	0	365 T	30·72	205
D " " " " No.2	" " " "	5	1	0	365 T	30·92	205
D " (Pumping Station) .....	A. E. Cornewall-Walker, Esq.	5	1	0	215 T	30·54	179
D " (Russell Hill).....	C. J. Barker, Esq. ....	8	1	0	314 B	26·79	...
D Sanderstead (Beechwood Road)..	E. Alexander, Esq. ...	5	0	10	370	28·05	196
D Sutton (Camborne Road) .....	F. E. Wright, Esq. ...	5	1	0	250 T	29·01	176
D Esher (Sewage Works).....	F. C. Bayard, Esq. ...	5	1	0	42 T	23·45?	169
D South Croydon (Avondale Road)	Dr. G. J. Hinde, F.R.S.	5	1	0	225 T	29·51	216
D Addington (Hares Bank).....	F. C. Bayard, Esq. ...	8	1	0	331 T	29·42	196
D† " Hills Reservoir.....	" " " "	8	0	9	473 T	29·41	209
D Wallington (Cotswold).....	" " " "	5	4	1	140 T	28·81	211
D " " " ".....	" " " "	8	1	0	140 T	27·99	209
D Sutton (Water Works).....	W. Vaux Graham Esq. CE	5	1	6	166 T	26·71	174
D " (Sewage Works) .....	C. C. Smith, Esq., C.E.	8	1	0	94 T	27·59	181
D Carshalton (Sewage Works).....	Baldwin Latham Esq CE	5	1	0	118 T	25·58	180
Beddington (Foxley Lane) .....	F. C. Bayard, Esq. ...	5	1	0	350	31·21	...
D " (Sewage Farm) .....	" " " "	5	1	0	129	23·43?	193
D§ " (Riverside).....	" " " "	5	1	0	120	27·66	200
D Croydon (Waddon New Road)..	G. Corden, Esq. ....	5	1	0	146	27·38	195
D " (Woburn Road) .....	A. Malden, Esq. ....	5	1	6	182	26·37	179
D " (Park Hill Rise).....	H. F. Parsons, Esq., M.D.	5	1	3	240	25·75	191
D " ( " " House).....	Baldwin Latham Esq CE	8	1	0	265 T	29·32	204
D Worcester Park (Parkside) .....	A. Vaughan Pott, Esq.	5	1	0	80	28·57	155
D " " (Manor Lodge). .....	F. C. Bayard, Esq. ...	5	1	9	120	27·61	171
D Beddington Corner (Millgreen Rd)	G. Miller, Esq. ....	5	4	0	80	27·09	179
D† Surbiton (Seething Wells)	Met. Water Board.....	5	0	10	34 T	25·23	191
D " (Vronvelin, Lovelace Rd.)	F. J. Barclay, Esq. ....	5	1	0	50	26·71	186
D " (Tandridge House) .....	Charles Price, Esq. ...	5	0	10	...	26·40	180
D South Norwood (Woodvale).....	F. C. Bayard, Esq. ...	5	1	0	216	28·95	203
D† West Molesey.....	Met. Water Board.....	5	1	0	32 T	24·43	181
D New Malden Sewage Works	R. H. Jeffes, Esq. ....	5	5	0	45	24·14	162
D " (Edenfield).....	W. J. Carter, Esq. ....	5	1	0	40 T	26·07	195
D Kingston (County Hall) .....	E. Underwood, Esq. ...	5	0	9	31 T	26·36	179
D " Sewage Works .....	F. C. Bayard, Esq. ...	5	1	0	25	27·47	196
D " (Union Street) .....	Mr. T. Davis .....	8	3	0	26	24·76	178
D Norwood (Auckland Road) .....	Miss J. Cooper .....	5	1	5	230 T	24·24	171
D Penge (Anerley Town Hall).....	H. W. Longdin, Esq. C.E.	5	1	6	120 T	25·83	172
D Wimbledon (Raynes Park) .....	C. H. Cooper, Esq., C.E.	5	1	0	50 T	24·73	176
D " (Kingston Road) ...	H. A. Marshall, Esq....	5	1	0	54 T	26·56	198
D " Park (Park View)...	S. Single, Esq. ....	5	1	0	150	26·30	191
D " (Sewage Works).....	C. H. Cooper, Esq., C.E.	5	1	0	55 T	24·21	175
D " (Alyn Bank, The Downs)	Francis Fox, Esq. ....	5	1	1	162 T	27·64	202
D " Common (The Priory)	H. J. Hunt, Esq. ....	5	0	6	172	26·64	...
D Richmond (The Terrace) .....	F. C. Bayard, Esq. ...	8	1	6	109	24·29	181
D " (The Old Palace).....	Rev. A. Welsh Owen...	8	0	9	...	24·08	166
D† " (Kew Observatory)(R)	Dr. C. Chree, F.R.S....	11	1	9	19 T	23·75	187
D Kew (Kew Gardens Road) .....	Dr. L. Burrell .....	5	1	2	19	25·54	192

DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

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## DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Diameter	Rain Gauge.		Depth of Rain. 1909	Days with '01 or more recorded.
			Height Above Ground	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
<b>WEST KENT—(con.)</b>						
Bromley (Rodway Road) .....	E. Kinder, Esq. ....	5	2 3	220	25·88	160
D „ (Kinnaird Avenue) ...	C. T. Drew, Esq. ....	8	2 0	300 ?	24·53	187
Shortlands (The Gables) .....	A. March Tapp, Esq....	5	1 0	200	25·08	...
D Beckenham (Croydon Road)..	J. A. Angell, Esq....	8	1 0	110 T	32·99?	190
Chislehurst (Foxbury) .....	H. F. Tiarks, Esq....	8	5 6	250	26·80	203
D „ (Hawkwood) .....	F. C. Bayard, Esq....	5	1 0	300	26·62	175
D Gravesend (Thong) .....	C. H. Scriven, Esq. ...	5	1 0	255 B	29·90?	211
D Frindsbury (Stonehouse) .....	E. W. Wood, Esq....	5	5 0	20	26·03	165
D Southfleet (Kent Waterworks)...	Met. Water Board.....	5	1 0	82	25·84	185
D Wilmington ( „ „ ) .....	„ „ „ „ „ „ „ „	5	1 0	25	24·51	189
D Dartford (West Hill House).....	F. C. Bayard, Esq. ...	5	1 3	100	28·50?	170
D Higham (Oakleigh) .....	C. Lake, Esq....	8	1 2	25	23·05	144
D Cooling (Broomy Farm) .....	Mr. J. Filmer .....	5	1 6	10	26·28	178
D Hoo St. Mary (St. Mary's Hall)...	H. Pye, Esq., Junr. ...	5	5 6	146 T	24·61	191
D Erith (Crossness) .....	MFitzmaurice EsqCMG	14	0 6	16 T	21·84	169
<b>EAST KENT.</b>						
§Dungeness .....	Meteorological Office ...	8	1 3	21	35·51	196
D Hythe (Hillcrest Road) .....	J. B. Jordan, Esq....	5	1 0	190 T	32·30	189
D „ (Sandling Park) .....	Lawrence Hardy EsqMP	8	1 0	268	35·28	167
D „ (Hillhurst Farm) .....	G. F. Deedes, Esq. ...	5	1 6	280 T	32·96	189
D Sandgate .....	C. J. Conquest, Esq., C.E.	5	1 0	52 T	30·47	165
§Folkestone (Sanatorium) .....	Royal Meteorological Soc	5	1 0	102 T	32·96	173
D „ .....	J. Duncan Walker, Esq.	5	1 0	160	32·19	172
D „ (Radnor Park) .....	J. W. Stainer, Esq. ...	5	4 8	129 T	32·83	165
D „ (Cherry Gardens) ...	H. Turner, Esq....	5	1 6	230 T	34·95	180
D „ (Capel Lodge).....	E. Norton, Esq., M.D..	5	1 0	470 T	36·88	178
D „ (Lower Standen, Capel) .....	H. Turner, Esq....	5	2 11	250 T	37·45	172
§Dover .....	Meteorological Office ...	8	1 0	231	29·52	182
D Acrise Park .....	F. A. MacKinnon, Esq.	5	0 9	500 T	46·22	164
D Ashford (Willesborough Rectory) .....	Rev. A. L. Brine .....	5	1 1	175	32·13	202
D „ (Oakwood) .....	H. F. Horsnail, Esq....	5	1 4	170 T	34·02	176
D Dover (Water Works) .....	W. C. Hawke, Esq., C.E.	5	1 6	200 T	32·24	166
D Kearsney (Chilton Farm) .....	„ „ „ „ „ „ „ „	5	1 6	127 T	37·88	163
Dover (Martin Mill) .....	F. L. Ball, Esq....	5	11 0	298 T	28·45	152
D Wye (S.E. Agric. College) .....	H. C. Chapelow, Esq....	8	1 0	150	31·87	160
D „ (Bilting House) .....	W. W. Knight, Esq....	5	1 3	158	35·48	169
D Charing Pumping Station .....	F. L. Ball, Esq....	5	1 0	593 T	35·38	209
Deal and Walmer W.W. ....	M. A. Mantle, Esq. ....	12	1 0	110 T	29·30	...
D „ „ „ „ „ „ „ „	„ „ „ „ „ „ „ „	5	1 0	110 T	29·28	176
D „ Sewage Works .....	E. Kent Scientific Soc.	5	1 0	11	30·84	...
D Eastry .....	L. A. Fawcett, Esq....	5	0 10	85 T	32·55	182
D Sandwich (Upton House, Word) .....	W. Elwin Napier, Esq.	5	1 0	32	32·09	168
D Chilham (Lower Ensden) .....	F. Ivo Neame, Esq. ...	5	3 0	305 T	31·83	181
D Wingham (Crockshard).....	J. E. Elgar, Esq. ....	5	1 0	50 T	32·62	150

## DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with $\geq 0.1$ or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
EAST KENT—(con.)						
Wingham (Margate W.W.) .....	Mr. W. R. Hosking ...	5	1 0	138 $\nabla$	32.58	161
D Selling (Luton) .....	F. Ivo Neame, Esq. ...	5	4 9	263 $\nabla$	34.70	196
D „ (Harefield) .....	Sidney Neame, Esq. ...	5	4 6	219 $\nabla$	36.29	214
D Sandwich (St. George's Golf Club) .....	W. Ryder Richardson Esq.	6	1 1	3	24.42	152
§ „ (Mayfields) .....	Roy. Meteorological Soc.	...	...	17	28.77	180
D Littlebourne House .....	T. M. Patterson, Esq. ...	5	1 6	37	30.69	187
D Canterbury (Irrigation Works) ..	C. Terry, Esq., C.E. ...	5	2 6	15 $\nabla$	30.19	176
„ (Medical Hall) .....	A. Lander, Esq. ....	5	1 0	40	29.32	...
„ (Sturry Road) .....	E. Kent Scientific Soc.	...	...	15	30.66	...
Sittingbourne (Sharsted Court) ..	H. Court, Esq. ....	5	2 6	287 $\nabla$	26.68	...
D Bicknor Rectory .....	No. 1 Rev. W. T. Martin ...	5	0 9	540 $\nabla$	36.38	161
D „ „ No. 2, <i>Snowdon g.</i> ..	„ „ „ ..	5	0 9	540	39.10	161
D Canterbury (St. Thomas' Hill) ..	J. Spillett, Esq. ....	5	0 6	230 $\nabla$	33.85	156
„ ( „ „ „ ) ..	E. Kent Scientific Soc.	...	...	95	27.58	...
D Ospringe (Lorenden) .....	Walter C. Stunt, Esq. ..	5	1 2	180 $\nabla$	33.31	157
Teynham (New Gardens) .....	J. F. Honeyball, Esq. ...	5	1 5	30 $\nabla$	28.46	...
Faversham (Westwood Court) ..	Messrs. G. W. Finn & Sons.	...	...	30 $\nabla$	30.94	...
D „ (Uplees Marshes) ..	F. G. Palmer, Esq. ...	5	4 4	9 $\nabla$	22.65	160
Minster (Gas Works) .....	W. Thomson, Esq., C.E.	6	1 0	60 $\nabla$	28.33	...
D Ramsgate (Southwood W.W.) ..	„ „ „ ..	6	1 0	169 $\nabla$	29.06	159
D Broadstairs (Providence House) ..	Cecil Hamersley, Esq. ...	5	2 0	50 $\nabla$	31.74	180
D Sittingbourne (Newington Vic.) ..	Rev. P. M. Bowman ...	5	0 9	60	28.33	189
D Whitstable (Western House) ..	J. W. Hayward, Esq. ...	5	0 10	17 $\nabla$	26.46	168
D „ (Tankerton) .....	F. Gaster, Esq. ..	8	0 11	73	24.21	164
Herne Bay (Water Works) .....	G. J. Lavel, Esq. ....	5	0 6	122 $\nabla$	24.97	...
D Reculver .....	Allington Collard, Esq.	5	5 2	27 $\nabla$	25.20	168
D St. Peter's .....	Rev. H. C. V. Snowden	5	0 9	140 $\nabla$	31.95	169
D „ „ Court .....	A. J. Richardson, Esq.	5	0 8	135 $\nabla$	30.06	180
D Margate (Cliftonville) .....	J. Stokes, Esq. ....	5	1 0	77	28.45	165
Kingsgate (White Ness) .....	Mr. T. Tullett .....	5	3 6	98 $\nabla$	30.08	168
† Sheppey (Old Rides, Eastchurch) ..	H. C. Warren, Esq. ...	5	2 0	40 $\nabla$	28.78	...
WEST SUSSEX.						
D† Selsey (Large Acres) .. <i>Snowdon</i>	E. Heron Allen, Esq. ...	5	1 0	30 $\nabla$	38.22	173
D† „ ( „ „ ) .....	„ „ „ ..	5	1 0	30 $\nabla$	36.89	173
§ Bognor .....	Royal Meteorological Soc.	8	1 0	15	28.99	291
„ (Albert Road) .....	H. L. F. Guernonprez, Esq.	8	1 0	20	29.09	168
„ (Lidsey Lodge) .....	H. Neale, Esq. ....	8	1 2	25	30.28	148
D Littlehampton (Dorset House) ..	G. H. Beecheno, Esq. ...	5	2 0	30	29.38	151
D Worthing (Victoria Park) .....	Dr. R. H. Wilshaw ...	8	1 0	36 $\nabla$	32.11	178
D West Thorney (The Manor House) ..	H. Padwick, Esq. ....	5	1 0	23 $\nabla$	30.31	146
Arundel (Yapton) .....	W. Harrison, Esq. ....	5	1 0	24 $\nabla$	28.48	152
„ ( „ „ Drove Farm) ..	„ „ „ ..	5	1 0	14 $\nabla$	28.42	152
Angmering .....	Rev. J. B. Orme .....	5	0 9	44	31.26	...
D Tortington .....	Major J. A. Travers ...	5	1 0	25 $\nabla$	33.56	174
D Chichester (Westgate) .....	G. A. Tyacke, Esq. ...	8	0 6	40	32.45	177
D Arundel (Patching) .....	J. Drewitt, Esq. ....	5	1 0	180	34.22	166

## DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with .01 or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
WEST SUSSEX—(con.)						
d Arundel (Patching) .....	Mrs. Joad .....	5	0 10	130 B	34·86	178
d West Bourne [Emsworth] .....	Rev. L. B. Birkett .....	5	0 8	51 T	36·90	188
d Funtington .....	J. A. Greenwood, Esq. ....	5	1 0	95 T	35·38	169
West Stoke Rectory .....	Rev. W. F. Shaw .....	5	1 0	176 T	34·78	167
Chichester (Goodwood Gardens).	Mr. F. Brock .....	5	1 3	200 ?	37·85	187
d Steyning .....	Mrs. Ingram .....	5	1 0	80 T	39·87	157
„ (Crescent Road) .....	Mr. H. J. Hide .....	5	1 0	80 T	37·17	...
d Chichester (Watergate) .....	W. M. Christy, Esq. ....	5	1 0	236 T	40·08	206
„ (West Dean Park) ..	Mr. W. H. Smith .....	10	1 6	190 T	43·05	...
„ (Chilgrove) .....	J. W. Woods, Esq. ....	5	0 6	284 T	38·90	...
Sutton (Coldharbour) .....	Mr. J. Campbell .....	5	2 0	340	38·14	147
d Midhurst (Cocking Rectory) ..	Mrs. Randall .....	5	1 2	225	40·78	192
„ (Linch Farm, Bepton).	G. Eames, Esq. ....	5	0 8	276 T	40·00	...
„ (Fairfield, Bepton) ..	Major W. A. Chauncy..	5	0 8	155 T	37·42	160
d „ (Oakhurst) .....	Miss Jebb .....	5	1 5	200	38·27	192
d Selham Rectory .....	Rev. R. D. H. Gray ...	5	1 0	77 T	36·82	195
d Stedham (Rotherhill) .....	Dr. W. A. Wills .....	8	0 8	170 T	39·58	195
d Easebourne (Hollist House) .....	Nigel V. Combe, Esq. ...	5	0 10	107 T	39·21	181
d Compton House [Petersfield] ..	Rev. H. M. Langdale...	5	1 0	255 T	42·48	190
d Petworth Park .....	Mr. E. W. Pull .....	5	1 0	182 T	34·52	161
Cowfold (Maple Bank) .....	Mr. S. Ford .....	5	1 6	373	29·46	...
Tillington (River House) .....	Lady Cunliffe .....	5	1 0	230	32·86	177
Midhurst (Lodsworth) .....	Lt.-Col. E. O. Hollist, RA	8	1 3	220 T	30·38	165
§ „ (K. Edward VII. San.)	Roy. Meteorological Soc. ...	...	...	489	36·59	184
d Linchmere (Borden Wood) .....	E. G. Lamb, Esq. ....	8	1 0	260 T	36·28	191
„ (Hollycombe) .....	J. C. Hawkshaw, Esq. ..	8	6 6	550	36·46	...
Billingshurst (Hawkhurst Court)	B. de F. Osmaston, Esq.	5	1 6	120	28·62	...
Fernhurst (Blackdown House)...	Lady Philipson Stow...	5	1 6	700 T	32·41	...
d Lower Beeding (Leonardslee) ..	Sir E. G. Loder, Bart. ...	8	1 0	365	31·69	200
„ „ (The Warren) ..	Leicester M. Reed, Esq. ...	5	0 10	430 T	31·58	...
d Horsham (Denne Park) .....	Mr. H. Harris .....	5	4 0	246 T	32·50	164
§ „ (Christ's Hospital) .....	Royal Meteorological Soc	5	1 0	161	30·75	175
d Slinfold (Rapkyns) .....	W. Duncan Knight, Esq. ...	5	1 0	170	27·65?	149
† Horsham (Manor House) .....	H. Padwick, Esq. ....	8	0 10	140 T	32·16	180
d† „ (Richmond Road) .....	Miss L. E. Whitling ...	5	1 2	190	33·33	193
d† „ (Wimblehurst) .....	Miss E. M. Alleard ...	5	1 0	195 T	31·56	204
d Linchmere (Shottermill) .....	the late Rev. C. Holland	5	4 0	450	41·41	163
EAST SUSSEX.						
† Beachy Head .....	Miss Brodie Hall .....	5	1 0	515 T	27·50	...
d† Eastbourne (Wilmington Square)	S. R. Henderson, Esq. ..	5	1 0	39	35·21	181
d „ (Glenthorne) .....	Miss Woodd .....	8	1 6	86 T	35·28	194
„ (Arundel Road) .....	J. C. Wright, Esq. ....	5	0 4	70	36·60	...
d „ (Cemetery) .....	Eastbourne Burial Board	5	4 0	160 T	30·64	158
d „ (Staveley Cross) .....	J. Weston, Esq. ....	5	1 6	110 T	35·57	201
Seaford College .....	Col. F. W. Savage .....	5	1 6	38 T	29·78	145

## DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain. 1909	Days with $\frac{1}{10}$ or more recorded.
		Diameter	Height Above Ground.		Height Above Sea Level		
		in.	ft.	in.	feet.	inches.	
EAST SUSSEX—(con.)							
d West Dean .....	F. Stileman, Esq., C.E.	8	1	0	112 $\nabla$	30·73	178
d Jevington (Church Farm) .....	" " "	8	0	9	274 $\nabla$	39·69	194
Litlington (Plough & Harrow Inn) .....	" " "	8	1	0	19 $\nabla$	32·04	...
d Newhaven (Poverty Bottom) ...	J. T. Bickford, Esq. ...	8	1	1	51 $\nabla$	31·96	169
d§ Brighton (Old Steyne) .....	D. Forbes, Esq., M.D..	5	1	0	32 $\nabla$	30·98	169
d " (W.W. Goldstone Bottm) .....	J. Johnston, Esq., C.E.	8	0	7	140 $\nabla$	31·86	171
d " ( " Lewes Road) ...	" " "	8	3	6	88 $\nabla$	33·59	166
d " ( " Upper Portslade) .....	" " "	8	1	3	167 $\nabla$	35·48	177
d " ( " Patcham) .....	" " "	5	1	6	207 $\nabla$	38·35	198
d " ( " Race Hill Res.) .....	" " "	8	1	0	466 $\nabla$	34·43	170
d " (Preston Drove, Preston) .....	F. H. Phillips, Esq. ...	8	1	0	143 $\nabla$	31·84	184
d " (Ditchling Road, " ) .....	G. Berry Hamlin, Esq.	5	1	0	302 $\nabla$	36·29	188
" (Upper Roedale) .....	" " "	5	1	0	385 $\nabla$	37·00	...
§ Bexhill (Marina) .....	Meteorological Office ...	8	1	0	27	30·35	175
§ St. Leonards (West Marina) ...	H. Colborne, Esq. ....	8	1	0	21 $\nabla$	31·70	185
§ " (Gensing Gardens) .....	" " "	8	1	0	179 $\nabla$	31·43	191
d Polegate (Alciston) .....	R. Matthews, Esq. ....	5	1	0	172 $\nabla$	36·65	199
d Hailsham .....	Rev. F. Clyde Harvey..	5	1	0	105	33·91	151
d Falmer Court .....	late R. R. Verrall, Esq.	5	4	0	312 $\nabla$	38·43	180
d " (Brighton W.W.) .....	J. Johnston, Esq., C.E.	8	1	8	209 $\nabla$	33·53	194
d§ Lewes (Little Dene) .....	Hon. C. Brand .....	8	1	0	58 $\nabla$	35·68	249
d " (Bedford Lodge) .....	Mrs. Kemp .....	5	1	0	85 $\nabla$	30·49	198
d Hailsham (Magham Down) .....	W. E. Bear, Esq. ....	5	2	9	90 $\nabla$	34·54	157
Hurstmonceux Place .....	H. A. James, Esq. ....	5	1	8	83 $\nabla$	29·19	...
Hastings (Newgate) .....	(R) P. H. Palmer, Esq., CE	8	5	6	240	32·27	160
" (Filsham Reservoir) ...	H. Colborne, Esq. ....	5	0	10	91	31·76	...
" (Halton Reservoir) .....	" " "	5	0	10	301	34·86	...
" (Fairlight Reservoir) ...	" " "	5	0	10	517	33·56	...
d§ " (Cemetery) .....	Walter Field, Esq. ...	5	0	8	500	34·40	166
" (High Beech, Hollington) .....	Miss Lewis .....	5	1	0	320 $\nabla$	32·44	201
d " (Guestling Rectory) ...	Rev. E. N. Bloomfield.	5	1	5	125 $\nabla$	33·33	169
d Hassocks (Pyecombe) .....	Mr. F. S. Mitchell .....	5	0	7	392	37·07	167
Clayton Windmills .....	E. A. Martin, Esq. ....	5	1	0	584 $\nabla$	39·18	...
" Rectory .....	Rev. T. H. R. Shand...	9	1	6	201 $\nabla$	37·82	182
Hurstpierpoint (Danny Park) ...	Mr. J. J. Bunney .....	8	1	3	180	41·39	...
d Ditchling .....	E. A. Martin, Esq. ....	5	1	0	220 $\nabla$	36·73	164
Keymer (The Limes) .....	Miss Berry .....	5	1	1	145 $\nabla$	40·44	...
d Horeham Manor .....	Miss P. C. Harrison ...	5	0	9	250	33·02	206
d " Grange .....	W. F. Beauford, Esq..	5	1	2	260 $\nabla$	34·74	184
" Road (Hollycroft Cottage) .....	J. Hamlin, Esq. ....	5	1	0	300 $\nabla$	35·64	207
d Isfield Place .....	Major H. King .....	5	1	0	51	30·02	183
" " .....	" " .....	5	1	0	51	29·87	...
" " .....	" " .....	5	1	0	51	29·87	...
d Battle (North Lodge) .....	H. Hamilton Bridge, Esq	5	1	3	284	37·07	169
d " (Whatlington) .....	Miss H. Gripper .....	5	1	3	90 $\nabla$	35·94	176
Udimore (The Hammonds) .....	J. G. Mair-Rumley, Esq.	8	1	0	144 $\nabla$	30·89	167
Burgess Hill (Ote Hall) .....	Mrs. Woods .....	5	1	6	...	35·98	...

## DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with $\cdot 01$ or more recorded.	
		Diameter	Height Above Ground.		Height Above Sea Level		1909
			ft.	in.	feet.		
EAST SUSSEX—(con.)							
Uckfield (Agricultural College)...	Prof. S. Allinson Woodhead	8	1	0	166 $\nabla$	28·85	186
Heathfield (The White Cottage)	J. F. Leigh Clare, Esq.	5	1	3	500 $\nabla$	34·57	172
D „ (Tottingworth Park).	Mr. J. Masson	5	1	0	500 $\nabla$	36·87	171
D Bolney Vicarage ...	Rev. T. Austen Holcroft	5	0	11	99 $\nabla$	31·69	178
D Haywards Heath (Franklyn Road)	Mr. R. Inglis	5	1	0	260 $\nabla$	34·09	167
D „ „ (S. Wilfrid's Par.)	Mr. J. E. Shirley	5	1	0	300	33·41	182
D Robertsbridge (Salehurst Vic.)...	Rev. E. J. Sing	5	0	9	110 $\nabla$	40·17	204
D Buxted Park	Mr. H. C. Prinsep	8	1	0	94	33·25	198
„ (Strawberry Hall).....	C. Rintoul, Esq.	5	1	0	180	36·49	174
D Cuckfield (Henmead Hall) .....	Maj. Gen W. M. Campbell	5	4	5	365 $\nabla$	34·92	195
D Mayfield (Five Ashes) .....	Miss Emily Aston	5	1	5	300	34·70	215
D Bodiam (South Park) .....	L. M. Jackson, Esq.	5	1	1	208 $\nabla$	35·36	170
Etchingham (Shoyswell Manor).	Isaac Seligman, Esq.	4	1	9	250 $\nabla$	38·90	...
D Nutley Vicarage .....	Rev. H. J. Peckham	5	1	0	386 $\nabla$	35·92	207
D „ (The Hall).....	The Misses Cook	5	0	10	417	35·62	201
D „ (Chelwood Beacon) .....	Sir H. Clarke Jervoise, Bt	5	1	3	530 $\nabla$	40·49	202
D Crowborough (Jarvis Brook).....	Crowborough Water Co.	5	1	0	325 $\nabla$	38·71	191
D „ (Te Whare).....	Miss Hames	5	1	0	796 $\nabla$	43·38	233
D Haywards Heath (Brook House)	H. R. G. Clarke, Esq.	8	1	0	240	35·29	176
D Ardingly (Lywood House) .....	G. Forrester Scott, Esq.	5	0	9	240 $\nabla$	34·34	205
D Balcombe (The Gables) .....	Mr. G. J. Warren	8	1	3	358 $\nabla$	35·94	199
D Wadhurst (The Olives).....	Miss Edith P. Luck	5	1	0	380	36·28	211
D Ticehurst (Myskyns).....	E. H. Cartwright, Esq.	5	1	0	340 $\nabla$	38·71	195
D „ House .....	Mr. J. D. Jordan	5	4	9	423 $\nabla$	35·25	163
D „ (Whiligh).....	G. J. Courthope, Esq.	5	1	0	455 $\nabla$	36·97	181
D Wadhurst (Uplands).....	Miss M. C. Watson	5	1	0	480	37·05	198
D „ (Lower Cousley Wood)	F. Wilkin, Esq.	5	1	0	416 $\nabla$	33·42	186
D Balcombe (Stockcroft) .....	R. Newton, Esq.	5	1	1	341 $\nabla$	37·18	194
D Forest Row (Wych Cross Place)...	D. W. Freshfield, Esq.	5	0	10	600 $\nabla$	40·59	201
D „ „ (Hindleap Lodge)...	Mr. A. Adam	5	1	6	620	34·93 $\nabla$	156
D „ „ (Charlwood Farm)...	A. Hoare, Esq.	5	1	0	250 $\nabla$	35·04	...
D Frant (Henley House) .....	E. Malden, Esq.	5	1	0	445 $\nabla$	35·52	196
D „ (Eridge Castle) .....	Mr. A. Wilson	5	2	0	400	37·66	155
D „ (Highfield) .....	C. M. R. Clewe, Esq.	5	2	3	413	34·83	...
D Crawley Down (Grange) <i>Snowdon</i>	T. H. W. Buckley, Esq.	5	1	0	430 $\nabla$	36·11	207
D Worth (South Hill) .....	T. E. Ravenshaw, Esq.	8	1	6	558 $\nabla$	38·26	221
D East Grinstead (Cranston Road).	Mr. G. Mitchell	8	2	2	420 $\nabla$	36·08	191
D Glen Andred [Groombridge] ...	Mrs. Boardman	8	1	0	320	34·12	180
Cozleigh [ „ ] ...	J. Anderson, Esq.	8	2	0	230	33·40	164

## HAMPSHIRE.

## ISLE OF WIGHT.

D <sup>†</sup> Ventnor (Flint Cottage)	J. S. Ineson, Esq.	5	1	0	99 $\nabla$	34·65	173
† „ (Consumption Hospital)	Roy. Meteorological Soc.	5	1	0	80	34·77	184
D Shanklin	E. C. Cooper, Esq., C.E.	8	1	0	184 $\nabla$	37·73	156
D Sandown (Free Library)	C. E. Gilchrist, Esq.	8	1	0	15	35·72	188

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain.	Days with $\frac{1}{16}$ or more recorded.
		Diameter	Height Above Ground		Height Above Sea Level	1909	
		in.	ft.	in.	feet.	inches.	
<b>HAMPSHIRE—(<i>con.</i>)</b>							
<b>ISLE OF WIGHT—(<i>con.</i>)</b>							
† Totland Bay (Aston House).....	J. Dover, Esq. ....	8	1	3	145 $\nabla$	34·47	179
† Newport (Grammar School).....	C. D. Vibert, Esq. ....	5	1	0	65	37·55	186
† Ryde (New Lodge, St. John's Park)	Capt. W. A. Dobie.....	5	1	1	147	34·85	180
† „ (Pier Street).....	T. Cole Flower, Esq....	12	9	0	35	37·93	149
„ „ .....	C. Mathew, Esq. ....	8	2	0	6 $\nabla$	34·26	165
† „ (Beldornie Tower) .....	P. Craven Hall, Esq....	5	1	0	30 $\nabla$	33·10	176
† Wootton (Fernhill) .....	C. G. Brodie, Esq.....	8	0	6	118 $\nabla$	39·51	146
„ East Cowes (Spring Hill).....	G. Shedden, Esq. ....	5	1	0	136 $\nabla$	33·52	183
<hr/>							
„ Bournemouth (West Cliff) .....	Rev. G. A. Rideout ...	5	1	0	130	33·11	170
„ „ (Clarendon Court).....	G. Galpin, Esq.....	5	1	0	130 $\nabla$	32·83	152
„ „ (South Cliff) .....	C. Dales, Esq. ....	5	1	0	41	30·07	176
„ „ (Pleasure Gardens) .....	„ „ „ .....	5	1	0	41	34·47	176
§ „ (Vale View) .....	„ „ „ .....	5	1	0	145	33·58	175
„ „ (Wellington House).....	Messrs. Primavesi Bros.	5	1	0	100 $\nabla$	32·46	180
„ „ (Bodorgan House).....	Judge Philbrick, K.C....	5	1	6	151 $\nabla$	34·63	...
„ Milford-on-Sea (Salt Grass) .....	A. C. G. Heygate, Esq.	5	1	0	6	35·22	169
„ „ „ (Milford House).....	E. L. Agar, Esq. ....	5	0	8	40	34·05	172
„ Christchurch (Winkton Lodge).....	Miss Lassell .....	5	1	0	34 $\nabla$	30·19	180
„ „ (Mill House, Hurn).....	The Earl of Malmesbury	8	1	0	25 $\nabla$	33·85	158
„ Lymington (The Salterns) .....	P. A. Ouvry, Esq.....	5	1	0	1	34·98	179
„ „ .....	F. Hill Parr, Esq., C.E.	5	1	0	78 $\nabla$	36·24	170
„ Milton (Wootton Hill) .....	Lt.-Col. R. Harman ...	5	1	0	188 $\nabla$	38·97	174
„ Portsmouth (Eastney) .....	P. Murch, Esq., C.E....	8	0	9	16 $\nabla$	28·73	...
„ „ (Victoria Park) .....	Dr. A. Mearns Fraser...	5	1	0	18 $\nabla$	32·60	161
„ Hayling Island (Littlemead) ...	Douglas S. Bird, Esq....	5	1	2	5 $\nabla$	31·77	162
„ „ (Lama House).....	J. Johnson, Esq. ....	5	1	2	14 $\nabla$	30·47	174
„ Ringwood (Park View, Burley).....	Rev. W. Esdaile.....	5	1	0	200 $\nabla$	39·66	148
„ „ (West Mount) .....	R. F. Williams, Esq....	5	1	0	100 $\nabla$	37·47	190
„ „ Vicarage .....	Rev. W. D. Bodkin ...	15	4	0	60 $\nabla$	34·10?	...
„ Porchester (Noel Cottage).....	Miss Montgomerie Frost	5	2	0	...	32·94	169
„ Fareham (Belvoir House) .....	E. Woakes, Esq., M.D.	5	0	11	20	32·68	...
„ „ (The Mount) .....	H. R. Pink, Esq. ....	5	1	6	250 $\nabla$	34·78	171
† Havant (Farlington).....	H. Ashley, Esq., C.E....	5	1	0	77 $\nabla$	31·57	167
† „ „ „ .....	„ „ „ .....	5	1	0	77 $\nabla$	31·86	...
† „ „ „ .....	„ „ „ .....	5	1	0	25 $\nabla$	27·92	174
† „ „ „ .....	„ „ „ .....	5	1	0	25 $\nabla$	28·32	...
„ „ (Warblington Cottage).....	G. H. Evans, Esq.....	5	0	6	9 $\nabla$	31·95	...
„ Southampton (Cadland) .....	A. C. Drummond, Esq.	8	4	6	52 $\nabla$	34·82	175
„ „ (Heathfield, Dibden).....	Jesse Reeves, Esq.....	5	1	3	127	37·65	173
„ Lyndhurst (Cuffnells) .....	R. G. Hargreaves, Esq.	6	1	0	200	43·21	...
„ Netley (Lake House).....	Col. W. A. Pennington	8	1	0	54 $\nabla$	36·76	206
„ Cosham (Purbrook Grange) .....	Miss F. A. Deverell ...	8	0	9	100 $\nabla$	37·04	148
„ Fordingbridge (Cuckoo Hill) ...	Heywood Sumner, Esq.	5	0	7	150	35·12	176
„ Southampton (East Park).....	Col. S. C. N. Grant ...	8	1	0	65 $\nabla$	36·09	182

DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain.	Days with '01 or more recorded.
		Diameter	Height Above Ground.		Height Above Sea Level	1909	
		in.	ft.	in.	feet.	inches.	
HAMPSHIRE—(con.)							
Southampton (Thornhill Park)...	Col. F. Willan .....	5	1	8	220 T	32·68	...
D „ (Bitterne, Park).....	H. Satchell, Esq. ....	5	1	0	52 T	37·54	195
„ ( „ Moorlands)	Courtenay F. Wilson Esq	5	1	0	200	34·65	160
„ (Anglesea Rd., Shirley)	A. Spooner, Esq. ....	5	1	1	83	38·15	...
Lyndhurst (Fritham House) ...	Mrs. F. E. Chapman ...	5	1	0	420	33·85	150
Southampton Common Res. ... M	C.H.Roberts, Esq., C.E.	5	1	0	193 A	28·11	...
D Wickham (The Croft) .....	Miss C. L. Rashleigh...	5	0	11	80 T	34·65	189
D Botley (Hedge End) .....	Rev. T. H. Philpott ...	8	1	1	160 ?	36·04	174
D „ (Botley Hill) .....	Lady Jenkyns .....	5	1	6	36 T	34·83	195
D „ (Beechcroft, Curdridge)..	Miss L. M. S. Pasley...	5	1	0	96	34·02	191
† Horndean (Blendworth Lodge)...	Mrs. Long .....	8	0	10	217	41·34	189
D Fordingbridge (Oaklands) .....	S. B. Rake, Esq. ....	8	1	0	135 T	34·64	168
D Hambledon (Rosecroft).....	Mr. L. Dawes.....	5	2	6	200 T	40·66	198
Bishops Waltham (Swanmore House)	W. H. Myers, Esq. ....	8	1	0	390 T	38·92	178
D „ „ (Hill Place) .....	Major W. A. Daubeny.	8	0	9	260 T	37·48	183
„ „ (Northbrook Ho.)	H. W. Trinder, Esq....	5	1	0	136 A	38·99	173
D „ „ (Wintershill Hall)	J. S. Moss, Esq.....	5	1	0	290 A	33·87	157
D Droxford (Uplands) .....	Miss Bridge .....	5	1	0	279 T	39·85	184
D „ (Fir Hill) .....	Capt. Mackenzie-Grieve	5	3	6	212 A	37·81	179
D Eastleigh (Fair Oak Park) .....	G. H. Pember, Esq. ...	5	1	0	180	35·06	203
D Chandlers Ford (Fryern) .....	Miss Grace Stuart .....	5	1	2	200	37·32	145
D† Petersfield (Ditcham Park) .....	C. J. P. Cave, Esq. ...	8	1	0	554 A	40·36	197
† „ ( „ „ ) .....	„ „ „ .....	5	0	11	539 A	38·53	...
† „ (Downley) .....	M „ „ „ .....	5	1	2	374 A	41·60	...
† „ (Sunwood) .....	M „ „ „ .....	5	0	10	479 A	38·82	...
„ (The Miscombe) ... M	„ „ „ .....	5	1	1	250 B	39·66	...
† „ (Old Ditcham).....	„ „ „ .....	5	1	1	250 T	38·06	...
D „ (Weston) .....	Capt. P. W. Seward ...	8	0	9	300	38·88	168
„ (Nursted House) .....	J. Rowe Bennion, Esq..	5	1	9	300	38·50	...
D† East Meon (Westbury House) ...	Col. LeRoy Lewis, D.S.O.	5	2	6	296 A	40·09	184
D Ampfield Vicarage .....	Rev. Vere Awdry .....	5	3	0	233 T	34·33	174
D Otterbourne (Elderfield) .....	G. Norsworthy, Esq....	5	1	0	137 A	36·82	192
D „ (W.W., Shawford).	C.H.Roberts, Esq., C.E.	5	1	0	113 A	33·14	164
„ ( „ „ ) M	„ „ „ .....	5	1	0	113 A	33·53	...
D† Petersfield (Fairley) .....	A W Leachman, Esq. MD	5	0	9	202 T	37·39	181
„ (The Mount, Ramshill)	Mr. J. North .....	8	1	0	250	38·93	163
„ (Langrish) .....	Col. Alfred Bibby .....	5	1	0	400 T	42·94	152
D† „ (Bordean House).....	„ „ „ .....	5	1	0	525 A	42·83	212
West Meon (East End).....	F. W. Dowson, Esq. ...	3	4	0	300	40·20	...
D Romsey (Timsbury).....(R)	W. Matthews, Esq., C.E.	8	1	8	96 A	31·89	172
D Twyford (Pumping Station)..(R)	„ „ „ .....	8	1	9	139 A	32·26	161
Kilmeston Manor .....	C. G. Heathcote, Esq...	5	4	6	323 T	37·71	...
Privett (Stocks Farm) .....	Col. LeRoy Lewis, D.S.O.	5	5	0	450 T	30·76	...
D West Dean .....	Rev. E. Wells .....	5	1	0	149 B	33·25	186
D Liss (Highfield) .....	J. S. Gamble, Esq., C.I.E., F.R.S.	5	0	9	325 A	36·62	189
„ (Kippences) .....	Rev. W. A. H. Thorold	5	0	9	250	34·88	...
D „ (Berry Grove) .....	E. Latter, Esq. ....	5	1	3	250	37·88	197
D Colmer Rectory .....	Rev. A. C. Hervey.....	5	1	1	560 A	38·35	171

## DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain.	Days with $\geq 0.1$ or more recorded
		Diameter	Height Above Ground.		Height Above Sea Level	1909	
		in.	ft.	in.	feet.	inches.	
HAMPSHIRE—(con.)							
Alresford (Ovington Rectory) ...	Rev. H. F. La M. Stowell	5	1	0	221 T	40.70	205
Greatham (King's Holt) .....	Mrs. Chase Parr .....	5	1	7	325 T	35.43	166
„ (Manor House) .....	F. Coryton, Esq. ....	7	4	0	250	31.89	...
Horsebridge (Bossington House)	W. H. Deverell, Esq. ...	8	0	9	92 A	34.49	187
Stockbridge (Ashley) .....	Legh S. Powell, Esq. ...	5	1	3	235 A	34.97	170
Broughton .....	W. Steele Tomkins, Esq.	5	1	0	125 T	35.68	195
Liphook (Fowley) .....	E. A. Lee, Esq. ....	5	0	10	296 T	36.25	189
East Tisted (Rotherfield Park)...	Mr. W. H. Yates .....	5	1	0	550 T	41.86	196
Newton Valence Vicarage .....	Rev. A. C. Maclachlan.	5	1	0	586	37.08	224
Grayshott [Hindhead] .....	Mrs. Lyndon .....	5	1	0	660 T	36.60	213
Headley (Eveley) .....	Mr. T. Carter .....	5	1	3	295 T	35.75	176
Liphook (Bordon Camp) .....	Lt. Col. J. F. Baines Hewitt.	8	1	0	268 A	31.92	179
Swarraton Rectory .....	Rev. W. L. W. Eyre ...	5	1	0	310 A	35.62	197
Headley Park .....	Mr. G. Glaysher .....	8	1	6	250 ?	29.68	...
Barton Stacey (Moody's Down)...	H. J. Gardiner, Esq. ...	5	1	3	230	31.25	171
Alton (Ashdell) .....	the late F. Crowley, Esq.	8	3	6	433 A	37.39	175
„ (Eagles Nest) .....	J. „ „ „ „	5	52	4	505	23.11	...
„ (Shalden Manor) .....	J. G. Wood, Esq. ....	8	3	0	494 T	38.85	183
Bentley (Marelands) .....	E. L. Seawell, Esq. ...	5	0	8	310	31.35	...
Andover (Junction Road) .....	G. H. Westbury, Esq. ..	5	0	10	200 T	31.66	174
Ellisfield Manor .....	H. Hoare, Esq. ....	...	...	...	600	39.66	156
Herriard Vicarage .....	Rev. E. L. Crawhall ...	5	1	0	557 A	34.65	185
Tidworth House [Ludgershall]..	Mr. G. A. Inglefield ...	5	1	8	357 T	29.75	168
Warren Corner [Farnham] .....	F. Wilkin, Esq. ....	5	1	0	575 T	30.15	191
Upton Grey (Hoddington Ho.)...	Lord Basing .....	8	1	0	378 A	36.71	169
Oakley Rectory .....	Rev. F. G. Hume .....	5	1	6	400	35.97	200
Maplederwell .....	H. B. Thorp, Esq. ....	8	1	2	270	29.14	154
Aldershot (Sewage Works) .....	Dr. E. W. Routley ...	...	...	...	231	31.10	207
Basingstoke (Pumping Station)...	F. R. Phipps, Esq., C.E.	5	0	6	320 A	31.65	...
„ (Sherborne St. John) .....	Rev. D. W. Chute .....	5	1	2	267 T	31.21	204
Fleet .....	<i>Fleet News</i> .....	...	...	...	275 ?	30.40	...
Winchfield (Elvetham Park) ...	Mr. G. B. Mitchison ...	8	1	0	217 T	30.82	193
Hartley Wintney .....	W. G. Machin, Esq. ...	5	1	2	222 T	29.81	194
„ Grange .....	F. Walkinshaw, Esq. ...	8	1	0	221 A	32.05	183
Kingsclere (Tower Hill House)...	Dr. R. Maples .....	5	0	3	327 T	35.21	199
Strathfieldsaye Rectory .....	Rev. F. Page-Roberts..	5	1	0	164	28.85	200
„ Gardens .....	Mr. A. G. Nichols .....	5	1	8	166	29.65	182
Heckfield (Highfield Park) .....	late F. B. Marson, Esq.	5	1	3	262	27.99	185
„ (Park Corner) .....	J. Martineau, Esq. ....	5	1	2	257	26.93	184
BERKSHIRE.							
Sandhurst Lodge .....	Sir W. J. Farrer .....	8	2	9	263	31.72	184
Wellington College .....	C. A. Stocken, Esq. ...	5	1	0	283 A	30.22	185
Finchampstead (West Court) ...	C. E. Harris-St. John, Esq.	5	1	0	180 A	27.87	207

## DIVISION II.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain.	Days with '01 or more recorded.
		Diameter	Height Above Ground		Height Above Sea Level	1909	
		in.	ft.	in.	feet.	inches.	
BERKSHIRE—(con.)							
Mortimer (Wokefield Park) .....	A. Palmer, Esq.....	5	4	0	180	27·62	184
D Newbury (Sandleford Priory) ...	Mr. R. H. Butcher ...	8	2	0	381	37·50	195
D „ (Greenham Common)..	H. L. Bowman, Esq....	5	1	0	328	30·72	175
D Sulhampstead (Firlands) .....	J. T. Strange, Esq. ...	5	1	0	300	29·08	181
D Aldermaston Wharf .....	„ „ „ „ .....	5	1	0	181	29·33	206
D Sunningdale (Lynwood) .....	G. Rodie Thompson, Esq.	5	1	0	266	30·66	196
D Ascot (Winkfield Manor) .....	C. A. Ferard, Esq.....	5	1	0	240	28·75	207
D Wokingham (Staverton) .....	H. C. Mylne, Esq. ....	5	1	0	220	28·35	210
§ „ (Pinewood) .....	Meteorological Office...	8	1	0	219	29·81	182
D Newbury (Woodspeen) .....	R. d'Eyncourt Day, Esq.	5	1	3	200	28·33	183
D Woolhampton (Douai Abbey) ...	Rev W. B. Buggins, o.s.B.	5	1	3	365	27·90	186
D Beenham House .....	Capt. W. Waring .....	8	2	2	320	28·60	165
§ Bucklebury Place .....	Meteorological Office ...	4	1	0	409	28·24	184
D Bracknell (Warfield).....	Rev. B. C. Littlewood..	5	0	6	206	26·89	175
D Windsor (Royal Gardens).....	Mr. T. Edwards.....	5	1	0	88	26·41	205
D Reading (Englefield).....	J. H. Benyon, Esq. ...	5	1	1	175	28·49	177
D „ (Calcot Place).....	Maj.-Gen. Swettenham	5	1	4	176	29·69	202
§ „ (Leighton Park).....	Meteorological Office...	8	1	0	265	24·91?	173
D „ (Forbury Gardens).....	J. Bowen, Esq., C.E....	5	1	5	145	28·77	210
D „ (University College) ...	Dr. H. N. Dickson.....	5	1	0	152	26·58	198
„ (The Cedars, London Rd.)	W. Haynes, Esq. ....	5	2	7	151	29·04	206
„ (Earley) .....	M. J. Sutton, Esq. ...	8	1	6	150	26·36	...
D Newbury (Welford Park).....	Mr. C. Pope .....	5	1	0	341	33·52?	192
D „ (Weston) .....	R. Osmond, Esq. ....	5	1	4	335	28·40	188
D Frilsham House .....	Mr. W. E. Austen.....	5	1	0	370	30·70	183
D Yattendon Court .....	Mr. F. Pitman .....	5	0	10	440	31·03	194
D Lambourn (East Garston) .....	J. H. Spackman, Esq...	5	2	6	395	30·33	194
„ (Clarionville) .....	F. Gullett, Esq.....	5	1	6	500	32·37	181
D Maidenhead (Heywood Park) ...	Greville H. Palmer, Esq.	8	1	0	100	29·86	187
D „ (The Firs, Castle Hill)	J. W. Duncan, Esq. ...	5	1	0	170	28·63	208
D Farnborough Rectory .....	Rev. J. B. H. Whitehurst	5	1	3	713	33·49	203
D Bisham Vicarage .....	Rev. W. Farrer .....	5	1	0	100	29·33	176
D Cookham Vicarage.....	late Rev. R. W. Rogers	5	1	3	90	29·09	154
D Temple House [Marlow] .....	Mr. G. Groves.....	5	1	0	106	29·71	221
D Wallingford (Aston Tirrold) ...	J. Harold Slade, Esq...	5	1	1	...	25·85	151
D Didcot (Upton) .....	Miss Fry.....	5	2	3	240	26·66	198
D Wantage (Ginge Manor) .....	Miss Elliot .....	3	3	0	332	29·53	210
D „ .....	W. Hanson, Esq., C.E.	5	1	0	304	26·85	165
„ (St. Katherine's School)	Miss J. O. Cudlipp.....	5	1	0	300	26·81	182
Steventon (Milton Hill) .....	R. H. Betteridge, Esq.	5	6	0	300	27·09	...
D Wallingford (Woodlea).....	G. F. Slade, Esq. ....	5	0	6	...	26·89	173
„ Castle .....	Miss Hedges .....	5	1	0	175	28·68	183
D „ (Brightwell).....	Lt.-Col. G. Hart Dyke.	5	1	4	164	26·16	180
D Little Wittenham .....	J. Latham, Esq. ....	5	2	0	187	23·13?	180
D Long Wittenham (Manor Ho.)...	Admiral Clutterbuck...	12	1	0	170	25·87	174
D „ „ (Willington)...	H. J. Hewett, Esq.....	5	1	0	167	25·92	192
„ „ (Lovegrove's Cott.)	Rev. F. C. Clutterbuck	5	1	0	165	25·22	...
Faringdon .....	Mr. C. Luker .....	5	1	0	333	29·12	155

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with -01 or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level		
		i n.	ft. in.	feet.	inches.	
BERKSHIRE—( <i>con.</i> )						
D Abingdon (The Square House)...	E. Estridge, Esq. ....	5	1 9	180 T	26·37	188
„ (Twickenham House)...	Mr. A. Fawdry ....	5	10 0	180	25·87	159
„ (Park Road).....	A. Pettipher, Esq.....	5	1 6	180 B	27·65	198
D „ (Caldecott House) ...	Maj.-Gen. I. M. Bailie.	5	1 6	177 A	26·68	171
„ (Sewage Works) ....	G. Winship, Esq., C.E.	5	0 6	169	25·87	...
D „ Union .....	Mr. J. Fray .....	5	1 0	196	27·67	189
„ (Northcourt House)...	M. T. Tatham, Esq. ...	5	0 7	190 T	27·05	...

## DIVISION III.—SOUTH MIDLAND COUNTIES.

## MIDDLESEX.

Laleham .....	J. Thornton, Esq. ....	...	1 0	50 ?	23·19	...
D† Hampton .....	Met. Water Board.....	8	1 3	42 A	24·92	196
D Staines (Belle Vue) .....	J. Gundry, Esq. ....	5	1 0	51 A	27·49	170
„ (Cambria House).....	C. Ashby, Esq. ....	5	0 10	50 ?	26·21	181
D Twickenham (Sewage Works)...	F.W. Pearce, Esq., C.E.	5	1 7	37 A	22·90	180
§ Isleworth (Mandeville House) ...	Meteorological Office ...	...	1 0	35 ?	27·76	170
Sipson (Hollycroft) .....	Mr. W. J. Mitchell ...	5	1 0	95 ?	22·44	...
D† Kew Bridge .....	Met. Water Board.....	8	3 0	37 A	24·82	174
Chiswick (Grove Park).....	A. E. Brounger, Esq....	5	1 1	18 A	23·60	...
D Hayes (Council Offices).....	Douglas C. Fidler, Esq.	8	4 0	135 A	24·46	186
D Ealing (Grange Park) .....	H. M. Baker, Esq.....	5	1 6	97 A	24·18	189
„ ( „ „ ) .....	„ „ „ „ „ „ „ „	5	...	97 A	23·43	...
„ (Longfield Avenue) .....	C. Jones, Esq., C.E. ...	5	9 0	114	24·03	173
„ (Gordon Road) .....	Joseph Box, Esq. ....	5	10 0	85 T	23·48	173
„ (Castle Bar Hill) .....	T. Simpson, Esq. ....	5	1 0	152 A	25·28	186
D „ (St. Stephen's Road) ...	H. W. Peal, Esq. ....	8	1 10	159 T	23·60	177
„ (Woodville Gardens) ...	N. Langsmith, Esq. ...	5	1 1	130 ?	25·79	...
Perivale (Northern Sewage Farm)	C. Jones, Esq., C.E. ...	5	12 0	56	25·74	217
D Willesden (Donnington Road)...	G. Ralph Baker, Esq...	5	1 0	184 A	25·22	165
D† „ Reservoir .....	Met. Water Board.....	5	2 6	199 A	24·76	163
D† „ Green (Strode Road)...	Miss Lamport.....	5	1 0	150	27·72?	199
D „ (Stonebridge Farm) (R)	O. C. Robson, Esq., C.E.	10	5 9	100 A	25·27	171
D Highgate (North Hill) .....	L. J. Tatham, Esq. ...	5	1 0	400	26·40	191
D „ ( „ „ ) .....	E.J. Lovegrove, Esq., CE	5	3 10	302	27·06	195
D Harrow .....	J.P. Bennetts, Esq., C.E.	5	1 0	215	27·85	198
D Hendon (Central School) .....	J. W. Butler, Esq. ....	5	1 4	200	24·60	206
D Crouch End (Barrington Road)...	E.J. Lovegrove, Esq., CE	6	...	140 ?	25·24	173
D Tottenham (Drayton Road) .....	W. P. West, Esq.....	5	1 3	53 T	24·92	167
D† Hornsey (High Street) .....	Met. Water Board.....	5	4 0	109	26·54	190
D Muswell Hill (Grand Avenue)...	G. Michael Williams, Esq	5	1 0	317	28·23	222
D „ „ (Colney Hatch Lane)	Miss Abethell.....	5	0 10	310 T	28·17	199
D „ „ (Irish Corner Sewage Farm)	E.J. Lovegrove, Esq., CE	8	4 8	216 A	26·23	182
Wealdstone House .....	K. R. Cobb, Esq. ....	5	0 11	236 T	25·35	...
D Wood Green (Maryland Road)...	Mr. F. C. Hornsey.....	8	9 4	...	25·31	190
D Finchley (Victoria Park) .....	C. J. Jenkin, Esq., C.E.	5	1 0	272 A	28·69	212

## DIVISION III.—SOUTH MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain.	Days with .01 or more recorded.
		Diameter	Height Above Ground.		Height Above Sea Level	1909	
		in.	ft.	in.	feet.	inches.	
<b>MIDDLESEX—(con.)</b>							
D Finchley (Etchingham Park) ...	Mrs. J. W. Scott .....	5	1	2	295 †	27.49	223
§ Harefield (The Scrubbs) .....	Meteorological Office ...	5	1	0	338	26.43	174
„ Place .....	Mr. W. Watson .....	5	0	10	370	27.36	...
Pinner Green (Northwold) .....	Miss Stanley Smith ...	8	0	6	200	27.43	187
D „ (Hatch End) .....	W. M. Cann, Esq. ....	5	0	11	260	28.52	202
D Northwood (Haslemere) .....	Miss McBean .....	5	1	0	...	26.44	175
D „ (The Grange) .....	A. P. Blathwayt, Esq..	5	1	0	220 †	27.35	186
D Harrow Weald (Hill House) ...	A. Crossman, Esq. ....	5	3	6	284	28.09	217
D North Finchley .....	Miss M. Shoults .....	5	0	8	295 †	26.70	193
D Southgate (Reservoir Road) .....	W. B. Butler, Esq. ....	5	1	0	255 †	25.60	194
D† Mill Hill (Tennyson Road) .....	Mrs. Edwards .....	5	1	0	250	26.72	180
D† „ „ (The Hollies) .....	Mrs. H. R. Mill .....	5	1	0	380	26.20	198
† „ „ ( „ „ ) .....	„ „ „ „ .....	5	1	0	350	25.73	...
„ „ (Sunnyside) .....	H. Harris, Esq. ....	5	0	6	390	26.43	...
D Ponders End (Bylock Hall) .....	H. E. Freir, Esq. ....	5	1	0	50	25.13	196
D† „ „ .....	Met. Water Board .....	8	1	0	45 †	26.11	179
D Enfield (Southbury Road) .....	„ „ „ „ .....	5	4	0	109 †	24.44	175
D† „ „ (Carisbrooke Culloden Rd.)	J. McEwan, Esq. ....	5	1	0	204 †	25.98	212
Trent Park [New Barnet] .....	Mr. H. Parr .....	5	1	1	400	27.39	...
D Enfield (Clay Hill) .....	G. H. C. Lea, Esq. ....	5	1	0	200 ?	26.82	222
D† Ramme Marsh [Waltham Abbey]	Met. Water Board .....	8	1	6	60 †	28.76	176
D Potters Bar (Little Heath) .....	Henry Ellis, Esq. ....	5	4	8	375	27.50	202
<b>HERTFORDSHIRE.</b>							
D Easby [Northwood] .....	Mrs. Sandford Fawcett	8	0	10	400 †	27.86	191
D Rickmansworth (Moor Park) .....	Lord Ebury .....	5	2	0	340	24.97	220
D „ (Croxley Green) .....	S. Ingleby Oddie, Esq..	5	0	7	250 †	27.22	163
† Totteridge (West Lodge) .....	W. H. Newman, Esq. ...	5	1	0	390 †	27.05	193
D† „ (Dollis Brae) .....	C. Stewart King, Esq..	5	1	0	350 †	27.32	184
Elstree (Bays Hill) .....	H. S. Winter, Esq. ...	5	1	0	430 †	27.60	168
D „ (Aldenham House) .....	Mr. E. Beckett .....	10	4	9	305	24.00	159
D Watford (Bushey Hall Road) ...	J. Durst, Esq. ....	5	...	...	...	27.00	189
D „ (Colne Valley W.W.) ...	W. Verini, Esq. ....	5	1	0	220 †	25.47	190
D „ (London Orphan Asylum)	Rev. Dr. Cockrem .....	5	1	0	230 †	26.29	187
D „ (Weetwood) .....	J. Hopkinson, Esq. ....	5	1	0	269 †	27.48	216
„ ( „ „ ) .....	„ „ „ „ .....	5	1	0	269 †	27.30	...
D Barnet (Gas Works) .....	„ „ „ „ .....	8	0	9	212	28.86	193
D „ (Summerhill) .....	F. A. Milne, Esq. ....	5	0	10	400 †	24.64	198
D „ (Bedford Avenue) .....	Rev. J. B. Lee .....	5	1	3	350	28.76	216
„ (Dyrham Park Gardens).	<i>Gardener's Chronicle</i> ..	...	...	...	300 ?	28.87	...
D† Shenley (Kitwells) .....	T. H. Riches, Esq. ...	5	1	0	420	27.21	194
„ ( „ „ ) .....	„ „ „ „ .....	5	1	0	420	26.32	...
Chipperfield (Little Callipers) ...	A. W. Rivington, Esq.	5	1	0	407 †	26.59	...
D Cheshunt (Goff's Oak House) ...	W. M. Cuninghame, Esq.	5	1	0	310 †	26.32	207
D Northaw (St. Just) .....	Miss E. J. Poland .....	5	1	0	400	27.76	212
„ (Newgate Street) .....	Rev. H. W. Southey ...	5	1	0	370 †	28.50	...

## DIVISION III.—SOUTH MIDLAND COUNTIES—(continued.)

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with $\geq 0.1$ or more recorded.
		Diameter	Height Above Ground		Height Above Sea Level	1909
		in.	ft.	in.	feet.	inches.
<b>HERTFORDSHIRE—(con.)</b>						
D London Colney (Bowmans) .....	C. Barwell Field, Esq...	5	1	0	235	24.86
D† Broxbourne (Stafford House) ...	A. F. Newbery, Esq. ...	5	1	0	118 T	29.34
D Hemel Hempstead (Apsley Mills)	Messrs. J. Dickinson & Co.	24	1	4	260	29.44
D " " (Church Croft)	Rev. Canon F. H. Fisher	5	3	0	300	31.62
D St. Albans (Bone Hill) .....	J. Hopkinson, Esq. ...	5	1	0	336 T	28.12
D " " (Hill End) .....	G. Goodchild, Esq. ...	5	1	0	295 T	26.11
D " " (County Museum) ...	J. Hopkinson, Esq. ...	5	1	0	389 T	29.05
D " " (Gorhambury) .....	Mr. W. Newberry .....	5	1	0	423 T	28.35
D† Hoddesden (Feilde's Weir) .....	Met. Water Board .....	8	3	8	95 T	24.94
D† Berkhamsted (Rosebank) .....	E. Mawley, Esq. ....	8	1	0	401 T	29.99
† " " ( " ) .....	M. " " .....	8	1	0	401 T	29.75
D Haileybury College .....	P. H. Latham, Esq. ...	8	1	0	270 T	26.01
D Gilston Park .....	Mr. E. Leach .....	8	0	7	175 T	30.00
D Hatfield (Holwell House) .....	Wilfrid E. Laurie, Esq.	5	1	6	240 T	25.49
D Hertford (Bayfordbury) .....	H. W. Clinton Baker, Esq.	8	1	2	250	26.61
D Stanstead Abbots .....	E. H. Barlow, Esq. ...	5	1	2	115 T	24.56
D† Hertford (Sewage Works) .....	Met. Water Board .....	8	1	0	121 T	21.60
D Tring (Grove Lodge) .....	Miss Boyson .....	8	1	0	450	30.77
D " " (Pendley Manor) .....	Mrs. Williams .....	5	2	0	420	32.30
D " " (Cowroast Lock) .....	Gordon C. Thomas, Esq.	5	3	8	394 T	31.16
§ Harpenden (Rothamsted) .....	A. D. Hall, Esq., F.R.S.	5	0	9	420 T	28.38
§ " " ( " ) .....	" " "	8	0	9	420 T	26.79
D§ " " ( " ) .....	" " "	72X87	0	9	420 T	30.01
D Ware (Red House) .....	Met. Water Board .....	5	4	0	115 T	23.85
D§ " " (Grammar School for Girls)	Miss M. A. Adamson...	5	1	0	120	23.88
D " " (Fanham's Hall) .....	Miss V. M. Croft .....	8	1	0	210 T	26.45
D Much Hadham .....	T. W. Mott, Esq. ....	5	1	0	212	28.07
D Bishops Stortford (Hadham Road)	H. Sheppard, Esq. ....	5	7	0	300 ?	26.81
D§ Bennington House .....	Rev. Dr. J. D. Parker..	5	1	0	406 T	27.29
D " " Lordship .....	A. F. Bott, Esq. ....	5	0	10	365 T	28.45
D Little Hadham (Hadham Hall) ..	W. Minet, Esq. ....	5	0	10	338	29.80
D Standon (Libury Hall) .....	Mr. E. Seiter .....	6	2	6	...	25.98
D Buntingford (Hamels Park) .....	H. Shepherd Cross, Esq.	5	1	3	390 T	30.56
D " " (Westmill, Coles Pk.)	T. Greg, Esq. ....	5	0	8	379 T	28.56
D Hitchin (Preston) .....	R. de V. Pryor, Esq. ...	8	2	5	480 T	27.43
§ Offley Vicarage .....	Rev. E. P. Gatty .....	5	1	6	525	30.39
D† Hitchin (Wratten) .....	W. Lucas, Esq. ....	5	2	1	238 T	28.81
D† " " (The Maples) .....	W. Hill, Esq. ....	8	1	1	220 T	27.15
D† " " (The Chilterns) .....	F. Ransom, Esq. ....	5	0	9	300 T	26.73
D† " " (High Down) .....	Miss E. Pollard .....	5	1	1	422 T	26.81
D " " (Roxley Court, Willian)	Mrs. Bendixson .....	5	1	6	360	28.54
D Weston Park .....	M. R. Pryor, Esq. ....	5	0	8	470 T	28.15
D Buntingford (Throcking Rectory)	Rev. C. Wigan Harvey	5	1	0	487 T	27.38
D Baldock (High Street) .....	Dr. F. W. Langston Day	5	1	0	214 T	28.29
D Royston (Therfield Rectory) .....	Mr. J. Cracknell .....	5	1	0	513 T	28.36
D " " (Barley) .....	W. W. Cook, Esq. ....	5	1	0	300	26.80
D " " (Earlshill House) .....	J. Phillips, Esq. ....	8	1	6	225 T	26.73

### DIVISION III.—SOUTH MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with 40 or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
<b>HERTFORDSHIRE—(con.)</b>						
D Royston (Union Workhouse) ...	late J. W. Wesson, Esq.	5	1 0	217 T	27·43	192
D „ (Melbourne Street) .....	late J. E. J. Phillips, Esq.	8	0 11	201 T	26·13	180
<b>BUCKINGHAMSHIRE.</b>						
D Horton (Horton Cottage) .....	R. M. Ker, Esq. ....	5	1 0	66 T	23·86	193
D Eton (Tangier Islands) .....	C. Sainty, Esq. ....	5	1 0	67 T	25·05	191
D Slough (Langley) .....	R. H. Major, Esq. ....	8	0 10	85 T	23·99	176
† „ (Upton) .....	R. Bentley, Esq. ....	8	2 0	80 T	23·89	...
D† „ ( „ ) .....	„ „ „ .....	5	2 0	78 T	25·27	201
Taplow Court .....	Lord Desborough .....	8	1 0	217 T	25·68	...
Burnham (Burnham Cottage) ...	G. J. Williams, Esq. ....	5	3 0	182 T	27·31	...
D „ (East Burnham Lodge) .....	Mrs. Harvey .....	5	1 0	255	27·91	187
D Farnham Royal (Broomlands) ...	F. C. Moscrop-Young Esq.	5	1 0	205 T	26·94	200
D „ „ (The Chase) ...	F. C. Carr-Gomm, Esq.	5	3 0	175 T	28·64	179
Greenlands [Henley-on-Thames]	Hon. W. F. Smith, M.P.	8	1 3	116	29·12	202
D Hedsor .....	Lord Boston .....	8	1 0	170 T	31·52	182
D Marlow (Thames Bank) .....	S. H. Wright, Esq. ....	8	2 0	105	30·49	210
§ Beaconsfield (Norfolk House) ...	Meteorological Office ...	8	1 0	484	27·22	165
„ (Ledborough Lane) .....	A. G. Robins, Esq. ....	5	1 0	400	31·21	158
D High Wycombe .....	H. S. Wheeler, Esq. ....	5	0 11	253 T	29·70	196
D Chalfont St. Giles (The Stone) ...	Col. R. W. Phipps. ....	5	1 4	270 T	31·13	205
„ „ ( „ ) M .....	„ „ „ .....	5	1 0	270 T	30·74	...
D „ „ (Woodlands) ...	A. D. Gordon, Esq. ....	5	0 11	400 T	31·01	196
„ „ ( „ ) M .....	„ „ „ .....	5	0 11	400 T	31·15	...
D Amersham (The Plantation) .....	G. Weller, Esq. ....	8	1 0	464 T	31·68	202
Chesham (Chesham Bois Rectory) ..	Rev. T. H. Fitzpatrick.	5	0 11	530 T	31·21	...
Chearsley Hall .....	Mrs. Bernard .....	6	0 3	395	24·54?	...
D Wendover (Halton Gardens) ...	Mr. R. C. Sanders. ....	5	1 10	400	30·46	207
Bulbourne [Tring] .....	Gordon C. Thomas, Esq.	5	2 3	401 T	26·21	175
Mentmore Gardens .....	Mr. J. MacGregor .....	5	1 2	...	26·56	...
D Oving House .....	H. Yates Thompson, Esq.	5	1 0	515 T	26·14	208
„ „ „ M .....	„ „ „ .....	5	1 6	515 T	25·69	...
D Swanbourne House .....	Lord Cottesloe .....	5	1 0	411 T	28·32	189
D Winslow (Market Square) .....	R. A. Easton, Esq. ....	8	1 0	380 T	28·29	198
D „ (Norden House) .....	Dr. T. F. Vaisey. ....	5	0 7	...	27·68	148
D „ (Addington Manor) ...	Mr. J. Collins .....	8	1 0	309 T	26·56	197
Stockgrove Pk. [Leighton Buzzard]	Mr. J. Clues .....	5	1 2	500	29·50	155
D Buckingham (Adstock Fields) ...	J. E. S. Weston, Esq. ....	5	0 9	352 T	27·76	206
D „ (The Vicarage) .....	Rev. P. P. Goldingham	5	2 0	278 T	29·71	168
D Wolverton (St. George's Vic.) ...	Rev. W. L. Harnett ...	5	1 0	270 T	26·18	198
D „ (The School House) ...	H. J. Hipsley, Esq. ....	5	1 0	264 T	26·19	209
D Newport Pagnell (The Croft) ...	F. Littleboy, Esq. ....	5	2 0	191 T	25·30	192
D „ „ (Lovat Bank) ...	F. J. Taylor, Esq. ....	5	2 0	190	27·10	178
<b>OXFORDSHIRE.</b>						
D Caversham (Hemdean Road) ...	W. Simpson, Esq. ....	5	1 0	129 T	29·11	208
„ (Eastfield) .....	C. M. Powell, Esq. ....	5	1 0	180 T	28·44	190

## DIVISION III.—SOUTH MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain.	Days with 0.1 or more recorded.
		Diameter	Height Above Ground.		Height Above Sea Level	1909	
		in.	ft.	in.	feet.	inches.	
OXFORDSHIRE—(con.)							
D Caversham (St. Benet's House) ..	Mr. H. Hall .....	...	...	...	...	28.69	190
D " (Kidmore End School) ..	T. F. Higgins, Esq. ...	5	0	11	330 T	29.71	151
D Goring (Elmcroft).....	Major E. Gambier Parry	5	0	10	160	30.57	198
D Henley-on-Thames (Peppard) ...	Rev. Hubert Shears ...	5	1	0	336	27.44	206
D " " " (Greys Green) ..	Miss Mary Davis .....	5	2	0	350 T	31.51	208
D " " " ( " Road) ..	G. Potter, Esq. ....	5	0	9	123	27.39	163
Nettlebed (Joyce Grove) .....	Mr. A. Johnstone .....	5	1	0	590 T	33.31	...
D Assenton .....	Mr. J. Ratty .....	5	1	0	281 B	29.68	159
Crowmarsh School [Wallingford]	S. Heaton, Esq. ....	6	1	6	160	28.68	182
D Dorchester (Bishops Court) .....	T. Latham, Esq. ....	5	2	0	169	23.64?	194
D Abingdon (Culham Vicarage) ...	Rev. F. C. Clutterbuck	5	1	0	200 A	26.83	195
D " ( " School House) ..	F. Mitchell, Esq. ....	5	0	10	180	25.17	183
D " ( " College) .....	J. S. Davis, Esq. ....	8	0	11	213 T	25.45	208
D Clifton Hampden (Manor House)	Lord Aldenham .....	5	1	0	190 T	22.64	177
Watlington School .....	S. Heaton, Esq. ....	6	1	0	260 ?	24.19?	...
† " (Pyrton Hill).....	W.H.Dines, Esq. F.R.S.	5	1	0	520 T	29.12	...
D " ( " Manor).....	Mr. A. Beckenham ...	5	1	6	321 T	27.29	184
Brightwell Baldwin School .....	S. Heaton, Esq. ....	...	...	...	400	30.40	...
Lewknor (Manor House) .....	Miss Spencer .....	5	1	3	360	27.82	164
Nuneham Park Gardens .....	Mr. C. E. Munday .....	8	3	0	280 T	26.29	...
D Toot Baldon (Potland) .....	D. Clinkard, Esq. ....	5	1	0	288	27.47	196
" " School .....	S. Heaton, Esq. ....	6	1	0	292 T	26.87	196
Clanfield (The Schools).....	Mr. R. C. Lucas.....	5	1	0	220	27.51	...
Great Haseley (Manor House) ...	F. Gelderd-Somervell, Esq....	5	1	0	280 T	25.17	169
Thame (British School).....	S. Heaton, Esq. ....	6	1	0	250 ?	22.13?	...
" (C. of E. " ) .....	" " " " " " " " " " " "	6	1	0	250 ?	21.06?	...
D Oxford (Hincksey Pumping Sta.)	W.H.White, Esq., C.E.	8	1	0	187 A	27.61	183
D " (Magdalen College) .....	R. T. Günther, Esq. ...	5	1	0	186 A	26.47	184
" ( " " ) .....	" " " " " " " " " " " "	5	33	11	223 A	24.40	...
D† " (Radcliffe Observatory) ..	Dr. A. A. Rambaut, FRS	8	1	8	210 A	27.50	190
D† " ( " " ) (R) ..	" " " " " " " " " " " "	11	2	4	210 A	27.73	189
D " (Banbury Road) .....	Miss E. M. Tawney ...	5	1	1	211 A	26.23	178
D " (Warneford Asylum) ...	Dr. J. Neil .....	5	1	0	300 T	25.89	163
D " (Headington Hill) .....	Miss Davenport .....	5	0	10	354	28.20	186
D " (Elsfield) .....	Miss M. J. Parsons ...	5	1	0	330 T	26.51	188
Thame (Tythrop House) .....	A. W. Smith, Esq.....	...	...	...	230 ?	24.31	...
Witney (C. of E. School) .....	F. Hayter, Esq. ....	5	1	0	303	32.05	...
D " (Ringwood Farm) .....	J. W. Abraham, Esq. ...	5	1	0	400 ?	30.22	179
" (Hailey School) .....	S. Heaton, Esq. ....	6	1	0	365 ?	27.77	...
Stanton St. John (Woodperry)...	J. Thomson, Esq. ....	6	1	0	399 T	29.28	205
D Islip.....	Col. G. E. Eliot .....	5	1	0	200 T	27.67	154
D Hampton Poyle Rectory .....	Rev. S. T. Gwilliam ...	5	1	0	201 T	26.93	179
Charlton-on-Otmoor School .....	S. Heaton, Esq. ....	6	1	3	197 T	31.03	...
Woodstock (Freeland Lodge) ...	W. J. Short, Esq. ....	8	0	9	345	28.13	157
D " (Wootton Rectory)...	Rev. F. R. Marriott ...	5	0	10	370 T	29.82	167
D Charlbury (Wychwood House)...	J. H. Glen, Esq. ....	5	1	5	450	29.24	223
" School .....	S. Heaton, Esq. ....	6	1	3	400	31.77	183

DIVISION III.—SOUTH MIDLAND COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with .01 or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
<b>OXFORDSHIRE—(<i>con.</i>)</b>						
d Lyneham.....	R. de M. Pratt, Esq....	5	1 7	351 T	32.44	193
d Sarsden (Estate Office).....(R)	J. M. Blair, Esq. ....	8	3 0	492 T	28.21	192
d „ Gardens.....	Mr. J. Vine .....	5	0 10	538 T	29.27	183
Chipping Norton.....	A. Pettipher, Esq.....	5	1 6	700 B	32.52	...
„ „ (Heythrop) ...	Albert Brassey, Esq....	10	4 0	700	25.90	178
d Bicester (Ivy Cottage) .....	R. C. Sikes, Esq., C.E.	5	1 0	231 T	26.90	191
„ „ (Bank) .....	H. A. Fane, Esq. ....	5	0 10	221 T	28.61	...
d „ „ (Middleton Park) .....	The Earl of Jersey.....	5	2 6	338 T	31.62	202
Steeple Barton School .....	S. Heaton, Esq. ....	6	1 0	375 ?	33.50	...
d „ „ Aston (The Grange) ...	Miss Bradshaw .....	8	1 0	400 T	30.59	192
„ „ „ School .....	S. Heaton, Esq. ....	6	1 6	445	30.92	199
Little Tew .....	Guy G. Croft, Esq. ...	5	1 0	590 T	33.61	...
Somerton School.....	S. Heaton, Esq. ....	6	1 0	350 ?	31.95	...
d Swerford .....	W. Hall, Esq. ....	5	1 0	500 T	31.29	226
d Adderbury (Cross Hill).....	G. H. Norris, Esq.....	5	1 1	338 T	30.26	190
d Bloxham Grove .....	W. H. Warriner, Esq.	8	3 10	387 T	30.72	177
d Sibford Ferris.....	Joshua Lamb, Esq. ...	5	1 0	575 T	31.19	183
d Bodicote House .....	J. F. Starkey, Esq. ...	8	1 3	388 T	28.11	179
„ „ (Draycott House) .....	F.B.Judge Baldwin, Esq	5	1 8	391 T	30.28	183
Wroxton.....	Hon. Mrs. FitzGerald...	8	1 3	700	34.13	194
<b>NORTHAMPTONSHIRE.</b>						
d King's Sutton (Astrop).....	E. Browne, Esq. ....	5	2 0	338 T	28.57	186
d Brackley House .....	J. Allen, Esq.....	5	1 0	425 T	32.38	200
d Grimsbury (Banbury W.W.) ...	W. E. Wood, Esq.....	5	1 3	320 T	25.59	192
§ Middleton Cheney (Council Sch.)	Roy. Meteorological Soc.	...	...	460	29.98	...
Thorpe Mandeville.....	C. A. Markham, Esq....	5	1 0	530	31.49?	...
d Towcester (Bradden Rectory) ...	Rev. C. Blathwayt ...	5	4 6	403	26.13	202
d „ „ (Stoke Bruern Park)..	Mr. W. Batchelor .....	5	1 0	320	25.19	159
§ Roade (Council School) .....	Roy. Meteorological Soc.	...	...	371	26.71	203
d Blisworth (Crieff House) .....	A. Westley, Esq .....	5	5 0	330	25.61	187
d „ „ .....	T. W. Millner, Esq. ...	5	1 6	300 T	24.79	195
d Lichborough Hall .....	E. Grant, Esq. ....	5	1 10	500	27.46	181
d Daventry (Fawsley) .....	The Lady Knightley ..	5	1 0	477 T	27.27	175
d Castle Ashby ...	R. G. Scriven, Esq. ...	5	1 0	263 T	26.76	214
d Great Houghton House.....	C. E. Paget, Esq. ....	5	1 6	300	24.87	212
d Little Houghton House.....	Christopher Smyth, Esq.	5	2 2	271 T	24.92	171
d Northampton (Hazlewood Road)	C. A. Markham, Esq....	...	...	...	24.50	192
d „ „ (Dallington Av.)...	„ „ „ „ .....	5	1 0	265 T	24.33	196
d „ „ (Berry Wood).....	Mr. W. R. Budgen ...	8	1 4	399 T	24.15	203
d Great Billing Rectory .....	Rev. G. H. Mullins ...	8	1 6	275 T	26.19	206
d Daventry (Badly Road) .....	C. A. Markham, Esq....	5	1 0	486	26.67	192
d Althorp House .....	„ „ „ „ .....	8	3 10	310 T	23.56	158
d Great Brington .....	„ „ „ „ .....	5	2 9	448	24.60	163
d Daventry (Tunnel End) .....	T. W. Millner, Esq. ...	5	1 6	394	27.62	209
Long Buckby Wharf.....	G. M. Soames, Esq. ...	...	...	400 ?	28.55	...
d Sywell Hall .....	T. A. Dickson, Esq. ...	5	1 0	371 T	28.34	195

## DIVISION III.—SOUTH MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain. 1909	Days with 40 or more recorded.
		Diameter.	Height Above Ground.		Height Above Sea Level		
		in.	ft.	in.	feet.	inches.	
<b>NORTHAMPTONSHIRE—(con.)</b>							
D Pitsford (Sedgebrook) .....	C. A. Markham, Esq....	5	1	0	311 $\nabla$	25·37	209
„ „ „ „ „ „ M	„ „ „ „ „ „	5	1	0	311 $\nabla$	25·06	...
D Rushden (Alfred Street School) ..	S. Saddler, Esq. ....	5	1	3	200 ?	24·34	180
D Wellingborough (Swanspool) ...	N. P. Sharman, Esq. ...	5	0	2	155	26·44	199
D „ „ (Croyland Abbey) .....	E. Sharman, Esq. ....	5	1	0	174 $\nabla$	25·57	181
D Watford Court .....	C. A. Markham, Esq... 9	1	2	380	27·50	168	
D§ Ravensthorpe (Coton Mill) .....	G. S. Eunson, Esq. ... 5	1	0	355	27·89	208	
D Finedon Hall .....	C. A. Markham, Esq... ..	...	...	...	24·96	178	
Scaldwell .....	Capt. R. Soames .....	5	1	0	404 $\nabla$	24·16	...
D§ Raunds (Day School) .....	Leon G. H. Lee, Esq... 8	1	0	205 $\nabla$	24·63	180	
D Winwick Warren .....	Col. R. H. Ainsworth... 8	1	5	648 $\nabla$	28·42	194	
D Lilbourne .....	Rev. T. R. Price .....	8	1	3	330	24·55	199
D Burton Latimer Rectory .....	Rev. W. B. Jacques ... 5	3	0	280	24·83	181	
D Cranford (Woodford House) .....	E. N. Plevins, Esq. ... 8	0	8	262 $\nabla$	24·69	194	
D Kettering W.W. (Cransley) .....	T. R. Smith, Esq., C.E. 8	0	6	275 $\nabla$	23·95	166	
„ „ (Workhouse) .....	A. Sattin, Esq. .... 5	0	5	297 $\nabla$	25·41	158	
D „ „ (Sewage Works) .....	T. R. Smith, Esq., C.E. 8	1	0	199 $\nabla$	24·57	181	
D „ „ (George Street) .....	C. W. Lane, Esq. .... 5	1	0	288 $\nabla$	25·56	182	
D „ „ W.W. (Clover Hill) ..	T. R. Smith, Esq., C.E. 5	0	7	344 $\nabla$	24·95	188	
D „ „ (Warkton) .....	Owen W. Gillson, Esq. CE 5	1	0	344 $\nabla$	23·83	181	
„ „ „ „ „ „ „ „	Mr. R. H. Brett .....	5	1	3	275 $\nabla$	23·68	152
Rothwell (Loddington) .....	Mr. J. Oliff .....	5	1	0	400	26·74	...
Thrapston (Islip) .....	J. Edmonds, Esq. .... 5	1	6	145 $\nabla$	22·92	...	
„ „ (Drayton House) .....	„ „ „ „ „ „	5	1	6	220 $\nabla$	23·98	...
D Welford (Salford House) .....	J. Gee, Esq. .... 5	1	3	566	26·43	207	
D Aldwinkle St. Peter Rectory ...	C. A. Markham, Esq... 5	0	11	175	24·19	165	
D Rushton Manor .....	R. A. Willows, Esq. ... 5	1	0	400 $\nabla$	25·72	167	
D Desborough (Council School) ...	H. Wallis, Esq. .... 5	1	0	398 $\nabla$	25·93	186	
D „ „ „ „ „ „ „ „	G. E. Marlow, Esq. ... 5	3	0	457 $\nabla$	25·54	182	
D Marston Trussell Rectory ... (R)	Rev. J. Knight Law... 10	1	6	314 $\nabla$	25·57	175	
Dingley [Market Harborough] ..	F. Clipstone, Esq. .... 5	1	9	...	24·69	...	
D Barnwell (Lilford Hall) .....	Mr. E. Wilson .....	5	1	0	...	24·15	153
Oundle .....	J. M. Siddons, Esq. ... 5	3	4	105 $\nabla$	23·14	...	
§ „ „ Waterworks .....	Meteorological Office ... 5	1	0	147	25·24	183	
D Corby (Weldon Grange) .....	John Rooke, Esq. .... 8	1	0	342 $\nabla$	25·05	202	
Rockingham Castle Gardens .....	C. A. Markham, Esq... 5	4	4	300 $\nabla$	23·44	...	
Kings Cliffe (Fineshade Abbey) ..	„ „ „ „ „ „	5	0	9	200	26·34	...
Peterborough (Thorpe Hall) .....	Col. C. I. Strong .....	6	1	0	30	22·34	...
D „ „ (Ashfield) .....	J. A. Percival, Esq. ... 5	0	7	30 ?	21·84	181	
D „ „ (Milton House) ...	C. A. Markham, Esq... ..	...	...	...	24·14	148	
D Wittering Rectory .....	Rev. S. B. Warde .....	5	1	0	160	27·64	186
D Eye (Newborough) .....	R. Williams, Esq. .... 5	1	0	8 $\nabla$	25·91	200	
D Etton [Market Deeping] .....	J. C. Gill, Esq., C.E.... 8	1	0	25 $\nabla$	24·59	164	
<b>HUNTINGDONSHIRE.</b>							
D St. Neots (Waresley Park) .....	Lady Caroline Duncombe 5	0	11	190	27·74	189	
D „ „ (Great Paxton) .....	Rev. A. G. Cane .....	5	1	0	100 $\nabla$	24·37	155

## DIVISION III.—SOUTH MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain. 1909	Days with .01 or more recorded.
		Diameter	Height Above Ground.		Height Above Sea Level		
		in.	ft.	in.	feet.	inches.	
<b>HUNTINGDONSHIRE—(con.)</b>							
Offord D'Arcy .....	W. Priestley, Esq. ....	5	0	9	51 $\nabla$	25.79	168
<sup>D</sup> Buckden (Stirtloe House).....	J. Linton, Esq. ....	5	1	0	75	24.68	161
<sup>D</sup> Hemingford Grey Vicarage .....	Rev. Byrom Holland...	5	1	0	25	24.53	187
<sup>D</sup> Huntingdon (Brampton) .....	Miss May Bird .....	5	1	1	39 $\uparrow$	26.37	179
<sup>D</sup> „ (Bosworth House)...	H. Lucas, Esq. ....	5	1	6	35 $\nabla$	26.23	205
<sup>D</sup> „ (Hinchingsbrooke)(R)	Earl of Sandwich .....	10	6	0	74 $\uparrow$	25.77	164
<sup>D</sup> St. Ives (Slepe House) .....	Dr. W. R. Grove .....	5	1	0	25	25.93	179
<sup>D</sup> Houghton Grange .....	C. H. Coote, Esq. ....	5	1	0	114	28.15	195
<sup>D</sup> Catworth.....	Miss E. M. Conway ...	5	0	9	210 $\nabla$	24.39	201
<sup>D</sup> Somersham Vicarage.....	Mrs. de Courcy-Ireland	5	0	10	36	22.68	149
Whittlesea Mere .....	A. Lunn, Esq., C.E. ...	8	1	6	10 $\text{?}$	23.32	...
<b>BEDFORDSHIRE.</b>							
<sup>D</sup> Dunstable (Kensworth).....	Miss Jones .....	5	1	5	630 $\text{B}$	31.60	182
Luton (Stockwood) .....	Francis Crawley, Esq..	5	3	0	539 $\uparrow$	28.25	187
<sup>D</sup> „ (Pumping Station).....	S. F. L. Fox, Esq., C.E.	5	1	0	343 $\nabla$	29.80	180
<sup>D</sup> „ (Tennyson Road) .....	Harold F. Smith, Esq.	5	1	1	530 $\uparrow$	30.34	200
<sup>D</sup> Woburn (Milton Bryant).....	Mr. C. J. Kilby .....	5	1	0	510	28.96	194
<sup>D</sup> Shillington .....	Kilham Roberts, Esq...	5	1	0	182 $\nabla$	25.63	189
<sup>D</sup> Holwell Bury [Hitchin] .....	C. Chittick, Esq. ....	5	1	0	185 $\uparrow$	26.85	143
<sup>D</sup> Ampthill (Higham Bury).....	E. J. Jekyll, Esq. ....	5	1	0	310 $\uparrow$	26.64	184
<sup>D</sup> Shefford (Upper Stondon).....	R. Long, Esq. ....	5	1	0	241 $\uparrow$	26.78	160
Aspley Guise (Oaklands) .....	Mrs. Dymond.....	5	1	0	410 $\uparrow$	24.62	197
<sup>D</sup> Woburn (Crawley Mill Farm)...	H. M. Freear, Esq. ...	8	1	0	292 $\uparrow$	25.19	195
<sup>D</sup> „ (Fruit Farm, Ridgmont)	W. H. Neild, Esq.....	5	1	0	270 $\uparrow$	25.66	210
<sup>D</sup> Stotfold (Three Counties Asylum)	Dr. J. E. de Lisle .....	5	1	0	220 $\uparrow$	25.00	196
Shefford (Clifton Bury) .....	A. Inskip, Esq. ....	5	2	1	150	24.68	...
„ Hardwick .....	H. Inskip, Esq. ....	5	2	6	90 $\text{?}$	25.14	...
<sup>D</sup> Cranfield School.....	Alfred Death, Esq. ...	5	1	6	365	26.54	179
<sup>D</sup> Biggleswade (Waterworks) .....	H. Carne, Esq., C.E....	5	1	6	170 $\nabla$	25.95 $\text{?}$	181
<sup>D</sup> „ (Old Warden Park).....	Mr. W. C. Modral .....	8	1	2	90	31.91 $\text{?}$	207
<sup>D</sup> Potton (Wrestlingworth) .....	H. J. King, Esq. ....	5	1	0	119 $\uparrow$	28.06	170
Sandy (The Lodge) .....	Viscount Peel.....	5	1	0	200 $\text{?}$	24.54	184
<sup>D</sup> „ (Beeston Grange) .....	Col. Maunsell Bowers..	5	1	0	85 $\text{?}$	23.56	208
<sup>D</sup> „ Rectory .....	Rev. J. Richardson ...	5	1	0	120	25.49	189
<sup>D</sup> Bedford (The Park) .....	N. Greenshields, Esq... (R)	8	5	8	123 $\nabla$	23.51	199
„ (Castle Road) .....	Miss M. E. Newbery...	5	7	0	100	26.27	172
Goldington (Castle Mills).....	W. H. Rogers, Esq. ...	5	1	6	90 $\nabla$	22.56	153
<sup>D</sup> Great Barford House.....	J. Arnold Whitchurch Esq	5	1	0	120 $\uparrow$	24.65	174
Sharnbrook (Colworth Gardens)	Mr. J. Hoad .....	5	2	0	250	26.05	...
<b>CAMBRIDGESHIRE.</b>							
<sup>D</sup> Odsey [Ashwell] .....	Sir H. G. Fordham ...	5	1	0	256 $\nabla$	26.84	194
<sup>D</sup> Foxton (The Bury) .....	J. Gifford, Esq. ....	5	1	0	60 $\uparrow$	24.87	204
<sup>D</sup> Meldreth (Chiswick Farm) .....	A. Howard, Esq. ....	5	1	1	70 $\uparrow$	24.86	184

## DIVISION III.—SOUTH MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with .01 or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
CAMBRIDGESHIRE—(con.)						
D Meldreth (Belmington Close) ...	G. Warren Bindloss, Esq.	5	1 0	65 T	25.83	179
Abington Pigotts .....	Mr. J. N. Woodham ...	5	0 8	130	24.19	...
D Whittlesford (Sawston Hall) ...	D. L. Huddleston, Esq.	5	1 1	86 T	23.75	163
D Harston Vicarage .....	Mrs. E. C. Baldwin ...	5	0 8	47	22.69	144
D Wimpole Hall .....	Mr. W. J. Snell .....	5	1 0	141	25.21	176
D Stapleford House .....	J. H. H. Linton, Esq..	5	2 3	64	24.01	170
Great Shelford (Riversdale).....	T. Hacking, Esq. ....	5	1 0	60	23.79	195
D Weston Colville.....	Gerald H. Long, Esq...	5	1 0	327 T	24.51	164
D Carlton Hall .....	A. S. Nice, Esq.....	5	1 6	290 T	27.90	177
D Brinkley Hall.....	R. W. King, Esq.....	5	1 0	380	26.23	174
D Trumpington .....	C. Parsons, Esq. ....	5	1 0	60 T	24.36	160
D Grantchester Mill .....	J. Nutter, Esq. ....	5	5 0	31 T	22.91	160
D Cambridge (W.W., Fulbourne)...	W. W. Gray, Esq., C.E.	5	1 0	37 T	23.57	189
D „ (W.W. Cherryhinton).	„ „ „	5	1 0	35 T	23.41	186
D „ (Southacre) .....	L. De Bunsen, Esq. ...	5	1 0	43	23.49	180
D† „ (Harvey Road) .....	Smith Nutter, Esq. ...	8	5 5	45	23.66	187
D† „ (Herschel House) ...	C. N. H. Lock, Esq. ...	5	1 1	36 T	20.12?	150
D† „ (Sidney Street) .....	W. E. Pain, Esq. ....	8	53 0	83 T	22.60	182
D† „ (Tenison Avenue) ...	W. B. Parsons, Esq....	8	1 2	...	22.60	182
D† „ (Pinehurst) .....	C. F. Foster, Esq.....	5	0 10	36	23.31	175
D† „ (Botanic Gardens) ...	R. Irwin Lynch, Esq...	8	0 10	43	23.06	179
D „ (Quy Hall) .....	T. Musgrave Francis Esq	5	0 5	24 T	26.07	190
D Croxton Park.....	G. D. Newton, Esq. ...	5	2 6	200 ?	25.55	152
D „ Rectory .....	Rev. A. T. Thompson..	5	1 6	207 T	25.19	146
D Boxworth [St. Ives] .....	E. H. Thornhill, Esq...	5	1 0	76 T	25.84	196
D Burwell .....	R. Stephenson, Esq....	5	2 0	58	27.56	177
D Conington Hall [St. Ives] .....	Philip T. Gardner, Esq.	8	0 5	50 T	28.37	189
D Cottenham (Bernard House).....	A. Bull, Esq.....	5	3 6	30 T	24.87	159
D Soham .....	T. Everett, Esq. ....	5	2 0	25 T	27.15	141
Stretham (Dimocks Cote).....	H. Nightingale, Esq...	5	13 7	...	25.11	...
D „ Engine .....	Mr. J. Housley .....	9	4 9	13 T	24.58	148
D „ (Orchard House) .....	C. Wright, Esq.....	8	5 0	42	25.90	164
D Ely (The Palace) .....	Mr. A. Sewell.....	5	1 0	64 T	28.32	205
D Chatteris (Holwood Farm) .....	Mr. G. Argent .....	5	0 10	12	25.35	147
Mepal Engine.....	Mr. J. Goodman.....	5	20 6	25	20.68	...
D Littleport (Highfield House) ...	H. G. Martin, Esq. ...	8	2 7	67 T	25.39	154
D Chatteris (Aylesby House) .....	A. H. Ruston, Esq. ...	8	1 0	—10	27.05	170
„ (The Priory) .....	H. F. Fryer, Esq.....	5	0 7	31	25.97	...
Stanground Sluice .....	A. Lunn, Esq., C.E. ...	8	1 6	...	21.69	...
D March .....	„ „ „	9	2 0	...	26.97	181
D Upwell (Marmont Priory Lock)..	„ „ „	8	1 1	...	23.03	201
D „ (Euximoor House) .....	H. West, jun., Esq. ...	5	0 8	15	26.10	182
D Thorney (Bedford Office) .....	A. J. Forrest, Esq. ...	8	3 6	9 T	23.30	163
D S „ (Wryde House) .....	the late S. Egar, Esq..	5	1 0	7 T	26.88	147
Wisbech (Bank House).....	Lord Peckover of Wisbech	8	0 8	6	24.80	...
D „ (Monica Road) .....	W. Climensson, Esq. ...	8	1 2	6	25.57	158

#### DIVISION IV.—EASTERN COUNTIES.

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with +0·1 or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
<b>ESSEX.</b>						
d Grays Sewage Works .....	A. C. James, Esq., C.E.	8	2 3	12 ½	23·37	172
§ East Ham (Central Park).....	F. J. Kendall Esq. ...	5	1 0	13 ½	24·12	171
d " " Well .....	Met. Water Board.....	8	0 11	17 ½	23·56	163
d § Shoeburyness .....	Superintendt. of Expts.	8	1 0	13 ½	24·56	189
§ " " " " M .....	" " "	5	1 0	13 ½	24·88	...
d West Ham (Abbey Mills).....	M Fitzmaurice Esq. CMG	8	1 0	11 ½	24·20	187
d Barking Cemetery .....	H. Hargreaves, Esq....	5	1 0	18	23·47	160
Southend (Corporation Obsy.) ...	Southend Corporation..	8	1 0	90	25·68	146
d " (Broadway) .....	H. J. G. Ralph, Esq....	5	1 0	85 B	27·74	192
d " (Water Works) .....	Southend Water Wks Co	8	1 0	112 ½	26·80	200
d Vange Pumping Station .....	" " "	5	1 0	43 ½	23·42	159
d Pitsea " " .....	" " "	5	1 0	29 ½	23·40	174
d Leigh Reservoir .....	" " "	5	1 0	177 ½	27·54	167
d Eastwood Pumping Station .....	" " "	8	1 0	50 ½	28·18	194
d Wanstead (Red Bridge) .....	Met. Water Board.....	8	8 0	33 ½	23·41	166
Manor Park (Albany Road)... M	A. J. Wilmshurst, Esq.	5	3 0	40	22·65	...
d Leyton (Town Hall) .....	W. Dawson, Esq., C.E.	5	1 0	22 ½	24·57	168
d † Lea Bridge .....	Met. Water Board.....	8	0 6	23 ½	25·44	176
d Upminster Hall ...	Captain G.H.T. Swinton	5	1 0	121 T	23·86	198
d † Walthamstow (Ferry Lane).....	Met. Water Board.....	8	0 10	30 ½	25·58	168
d Thundersley Reservoir .....	Southend Water Wks Co	5	1 0	277 ½	27·42	177
d Nevendon Pumping Station .....	" " "	5	1 0	43 ½	24·96	155
d Romford (Harold Wood) .....	J. G. Broodbank, Esq..	5	4 0	120	25·10	186
d † Woodford (Haggard Lane) .....	Met. Water Board.....	8	0 8	176 ½	24·63	176
Foulness (The Lodge) .....	B. C. Hall, Esq.....	5	1 2	9 ½	24·64	...
d Billericay (Service Tank).....	Southend Water Wks Co	5	1 0	310 ½	29·48	190
d " (Ramsden Hall) .....	T. W. Bacon, Esq.....	5	0 9	260 ½	31·30	199
d Canewdon Vicarage .....	Mrs. Hardy .....	5	0 8	125 T	32·50	147
d Wickford (Runwell Hall).....	Lt.-Col. H. Kemble ...	5	1 0	75 T	30·92	171
d Havering Grange .....	G. P. Hope, Esq. ....	5	1 0	255 ½	28·39	247
d " -atte-Bower(Fernside)	Benjamin Smith, Esq..	5	1 0	341 T	29·78	239
d † Buckhurst Hill Reservoir.....	Met. Water Board.....	8	1 7	275 ½	26·40	189
d " " (Ardmore) .....	Mrs. Eliot Howard ...	8	1 0	270	28·14	168
d † Chingford Mill .....	Met. Water Board.....	8	0 6	40 ½	24·29	160
d " (Sewardstone Lodge)..	W. P. Robertson, Esq.	8	0 10	200 ?	24·47	177
d Brentwood (Shenfield, The Lodge)	H. P. Landon, Esq. ...	5	0 7	303 ½	28·86	189
d † Loughton (High Beech Reservoir)	Met. Water Board.....	8	1 0	376 ½	27·66	184
Theydon Bois (Suttons) .....	Lady Cunliffe Smith ...	5	0 4	115 ?	24·72	...
d " " (Thriffs Hall) ...	H. B. Debenham, Esq..	5	0 9	200	26·36	216
d Southminster .....	H. Murton, Esq. ....	5	1 1	85 ½	26·57	149
d Ingatestone (Fryerning) .....	A. E. Christy, Esq. ...	5	1 0	291 ½	27·75	204
d " { " Furze Hall)...	E. H. N. Wilde, Esq..	5	1 0	285 T	28·43	201
d " " " " No.2 .....	" " "	5	1 0	285 T	28·41	...
d † Waltham Abbey.....	Met. Water Board.....	8	5 0	66 ½	25·07	168
d " (Gunpr. Factory)	The Superintendent ...	5	2 0	64 ½	26·81	222
d Epping (The Hemnalls) .....	J. Nicholl, Esq. ....	8	0 8	345	31·74	153
d Maldon (Hazeleigh Rectory) ...	Rev. G. H. Raynor ...	7	1 1	161 ½	26·44	178

## DIVISION IV.—EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with $\frac{1}{16}$ or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
ESSEX—(con.)						
D Bradwell-on-Sea (Bradwell Hall)	J.C. Chillingworth, Esq.	5	1 1	27	27·02	170
D Danbury Rectory	Rev. J. Bridges Plumptre	5	1 0	365 T	26·73	181
D Writtle (Melbourne)	E. Rosling, Esq.	5	0 9	140 T	29·15	192
"	R. Woodhouse, Esq.	8	2 0	100 ?	28·32	...
" (The House)	Miss Osborne	5	3 6	100	31·62	...
Chelmsford (High Street)	F. Chancellor, Esq.	8	1 0	92 T	28·24	197
" (County Hort. School)	C. W. Aylett, Esq.	5	1 0	...	28·09	...
D§ " (Spergula)	J.C. Thresh, Esq., M.D.	5	1 0	136 T	28·74	185
D " (Springfield Place)	Miss Jackson	5	0 11	143 T	28·86	222
D " (Roxwell)	R. W. Christy, Esq.	5	1 0	180 T	27·22	144
Abbees Roding Rectory	Rev. L. Capel Cure	8	1 0	300	26·87	...
D Clacton-on-Sea (Clacton College)	H. Picton, Esq.	5	0 9	40	27·70	216
D§ " " "	Mr. A. W. Shadick	5	1 2	55 T	25·05	168
Great Clacton (Clay Hall)	Philip Smith, Esq.	5	2 0	40 T	25·98	167
D Witham (Terling Vicarage)	H. C. Boutflower, Esq.	5	1 0	115 T	26·01	190
D Great Leighs (Lyons Hall)	J. H. Tritton, Esq.	5	3 0	130 T	26·48	157
D Kelvedon (White Barn)	W. & H. J. Sheldrake, Esqs.	5	1 5	135 T	25·63	170
Fingringhoe (Ballast Quay Farm)	T. B. Grubb, Esq.	5	2 0	47	28·97	178
D Colchester (Berechurch)	R. P. Blyth, Esq.	5	1 3	120 ?	30·47	162
" (King's Ford)	Hon. Lady Digby	5	0 1	103 T	29·69	206
D " (Borough Surveyor's Office)	H. Goodyear, Esq., C.E.	8	17 0	82 T	26·52	163
D " (Hill House, Lexden)	S. F. Hurnard, Esq.	5	1 0	90 T	27·81	183
" " " " " M	" " " " " "	5	1 0	90 T	27·83	...
" (Home Farm, " " )	Mr. W. Bird	5	1 0	125 T	28·85	...
Great Bromley	F. J. Baker, Esq.	5	1 0	120 ?	30·12	...
D Braintree (Bocking, Fennes)	H. S. Tabor, Esq.	5	1 0	240 T	25·46	168
Great Saling (Saling Grove)	Capt. J. N. Harrison	8	1 0	290 T	24·79	165
D Hassobury [Bishop Stortford]	T. S. Gosling, Esq.	5	0 10	290 ?	27·65	199
Earls Colne (Chalkney House)	H. F. Hills, Esq.	5	1 0	188 T	28·77	164
Ardleigh (Hungerdowns)	C. R. Baker, Esq.	5	1 0	151 T	29·41	157
D Manningtree (Bradfield Lodge)	G. Hempson, Esq.	5	1 0	113 T	31·33	183
D Harwich (Hill House, Ramsey)	Miss K. Hempson	5	0 6	80	32·06	183
D " (Coastguard Station)	Mr. W. Bevan	5	1 0	40	23·93	144
D§ Halstead (The Brewery)	E. T. Adams, Esq.	5	1 0	144	26·07	187
D Lawford (Dale Hall)	W. H. Richardson, Esq.	5	1 0	110 T	28·91	172
D Dedham (Dalethorpe)	J. D. Tremlett, Esq.	5	1 1	54	28·41	185
Langham Rectory	Rev. T. S. Raffles	5	0 11	134	31·60	192
Boxted (Cheshunts)	R. G. Wylde, Esq.	5	1 0	144 T	30·47	...
Great Maplestead (Monk's Lodge)	T. F. Miller, Esq.	5	0 9	245 T	27·26	...
D Newport	late Rev. G. F. Tamplin	5	1 0	208 T	28·34	191
" (Wood Hall)	Charles Beadle, Esq.	5	1 0	400	27·98	148
D Saffron Walden (Market Place)	J. S. W. Leverett, Esq.	5	1 0	201 T	29·52	188
D " " (Audley End)	Mr. J. Vert	5	1 0	155 T	28·71	187
D Bulmer Lodge [Sudbury]	The Misses Burke	5	1 3	200 T	30·25	222
D Great Chesterford Mills	Ernest H. King, Esq.	5	1 0	130	25·30	181

#### DIVISION IV.—EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain.	Days with -01 or more recorded.
		Diameter	Height Above Ground		Height Above Sea Level	1909	
		in.	ft.	in.	feet.	inches.	
SUFFOLK.							
§ Felixstowe (West View) .....	S. Alexander, Esq.....	5	1	0	70	29·35	177
§ „ .....	Meteorological Office...	8	1	0	10	28·32	183
East Bergholt (Ackworth House)	A. Harwood, Esq. ....	8	1	6	145	27·57	208
Trimley (The Avenue) .....	G. Binyon, Esq. ....	8	1	0	80 T	30·57	157
Capel St. Mary School .....	B. B. Taylor, Esq.....	5	1	0	135 ?	29·12	...
Ipswich (Woolverstone Park) ...	C. H. Berners, Esq. ...	8	1	0	100 T	29·49	191
„ (Orwell Park) .....	Mr. A. K. Turner .....	8	1	0	60 A	30·86	193
„ (Belstead Hall) .....	Miss Wilson .....	5	1	0	100	28·96	188
„ (Rookwood, Copdock)...	F. L. Bland, Esq. ....	5	1	6	170 T	27·61	207
Alderton Rectory .....	Rev. C. G. Archer .....	8	2	2	35 ?	28·20	168
Sudbury (Great Cornard).....	A. B. Legard, Esq.....	5	1	0	100 ?	27·77	164
„ (Friars Street) .....	E. Ransom, Esq. ....	5	1	7	93 T	26·07	207
Ipswich (Museum).....	F. Woolnough, Esq....	8	0	10	72	28·80	186
„ (Bishop's Hill).....	Miss D. E. Biddell....	5	1	0	104 A	28·50	...
„ (Parkside) .....	F. Turner, Esq. ....	5	1	0	125 T	26·44	175
„ (Dale Hall) .....	Percy Turner, Esq.....	8	1	0	135 T	27·19	183
Waldringfield Old Rectory .....	Rev. T. H. Waller.....	8	1	2	60 ?	25·29	...
Hollesley Manor .....	G. P. Hope, Esq. ....	5	1	0	65 T	27·60	193
Boyton Rectory .....	Rev. A. Washington...	5	1	10	33 T	27·39	176
Lavenham (High Street) .....	C. Mellis, Esq. ....	...	...	...	200 ?	27·69	183
Woodbridge Abbey .....	Col. R. J. Carthew ..	8	1	2	46 A	26·96	187
„ (Melton Asylum) ...	Dr. S. G. Longworth...	8	1	4	74 A	26·37	175
Rendlesham Hall .....	Lord Rendlesham .....	5	1	0	88 A	26·00	171
Clare (Cordell Hall, Stansfield)..	J. Slater, Esq. ....	5	1	0	300 A	27·82	...
„ (Hawkedon Rectory) .....	Rev. B. P. Oakes .....	5	3	4	305 A	27·79	196
Cockfield Rectory .....	Rev. Edwin Hill .....	5	1	0	305 T	30·19	189
Ash Bocking Vicarage..... No. 1	Rev. M. B. Cowell.....	5	1	0	231 A	28·32	165
„ „ „ „ „ No. 2	„ „ „ „ „ .....	5	3	4	231 A	27·69	165
Charsfield Hall .....	Hugh P. Youngman Esq..	5	...	...	150	27·74	...
Parham (The High House) .....	H. R. Smith, Esq.....	5	1	0	93	27·06	...
Aldborough (Aldringham Ho.)..	F. Garrett, Esq.....	8	4	5	50 B	26·01	180
Great Glemham (Glemham Grove)	Col. A. Bloomfield .....	5	1	2	80 T	31·05	162
Little Saxham Rectory .....	Rev. H. I. Kilner .....	8	0	10	220	26·92	192
Bury St. Edmunds (Westley) ...	R. Burrell, Esq.....	5	1	0	226 A	28·00	175
„ „ „ (Fornham St. Martin)	Rev. J. S. Pratt .....	5	1	0	100	24·54	160
„ „ „ (Hengrave) .....	Mr. W. Nichol .....	5	1	2	91	25·83	...
Westleton (St. Helena).....	J. R. Grimsey, Esq. ...	8	2	0	65 A	27·84	165
† Walsham-le-Willows .....	Miss M. C. Martineau..	5	1	0	...	26·90	183
Stradbroke Vicarage .....	Rev. Canon W. Tate...	5	1	3	172 T	28·54	...
Wangford (Henham Gardens)...	Earl of Stradbroke.....	5	3	6	50	29·72	183
„ (Ford House) .....	Hon. Agnes Eden .....	5	0	10	25 ?	29·43	152
† Barningham .....	Miss A. K. Lingwood..	8	1	0	136	22·70?	...
Elveden Hall .....	Viscount Iveagh, K.P..	5	1	0	130 T	25·87	219
Halesworth (Rumburgh) .....	Rev. W. Linton Wilson	4	3	0	148 T	26·68	212
Bungay (Flixton Vicarage) .....	Rev. H. Trethewy .....	5	1	0	80 T	26·70	174
Beccles (Sotterley Hall) .....	Capt. Miles Barne .....	5	0	11	50 A	30·06	182
† Lowestoft (Belle Vue Park).....	C. W. Edwards, Esq...	5	1	0	86 T	23·36	175
Herringfleet (The Gables) .....	G. H. Wyllys, Esq. ...	5	0	8	52	27·45	217

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with "or more recorded."
		Diameter	Height Above Ground.	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
<b>SUFFOLK—(con.)</b>						
d Lound Pumping Station .....	Lowestoft Water & Gas Co.	8	1 0	34	24·87	175
Fritton [Yarmouth] .....	Mrs. H. E. Buxton.....	8	0 10	40	25·36	177
d Burgh Hall [Yarmouth] .....	H. P. Frederick, Esq....	8	0 6	45 T	23·95	199
<b>NORFOLK.</b>						
d Diss (Council School) .....	T. M. Pullen, Esq.....	5	1 0	90	24·73	193
d† Thetford (Waterworks) .....	Mr. E. S. Greenwood...	8	1 0	170 T	23·99	189
d† „ (Ford Place Gardens)..	Mr. H. Simpson.....	5	1 0	95	23·29	182
Kenninghall (Council School) ...	A. B. Smith, Esq. ....	5	0 6	160 ?	23·66	157
d Pulham St. Mary .....	W. G. Rutter, Esq. ....	5	1 0	...	24·61	185
„ „ „ School .....	W. H. Pumfrey, Esq...	5	1 0	140 ?	26·60	...
d Santon [Brandon] .....	A. W. Preston, Esq....	5	0 10	32	25·83	186
Weeting [ „ ] .....	S. J. Adcock, Esq.....	5	0 7	32 T	22·59	147
d§ Geldeston [Beccles] .....	E. T. Dowson, Esq....	5	1 0	38 T	25·67	206
§ „ [ „ ] .....	M. „ „ „ „ „ „ .....	8	1 0	38 T	24·48	...
d Long Stratton (Gt. Moulton Rec.)	Rev. T. D. Chute .....	5	1 0	100	26·04	150
d „ „ (Fritton Rectory)..	Mrs. Howes .....	5	1 0	120 T	25·53	206
d Raveningham Hall [Beccles] ...	N. H. Bacon, Esq. ....	8	1 3	...	26·74	194
d Southery .....	J. Stanley, Esq.....	5	1 3	13	21·37	156
d Saxlingham Nethergate .....	Mrs. Pitt.....	5	1 5	...	24·08	193
d Loddon (Langley Park) .....	Sir R. P. Beauchamp, Bt.	5	2 0	80	25·30	163
d Caston Rectory .....	Rev. W. H. Partridge..	5	1 0	148 T	27·57	203
d Wymondham .....	J. B. Pomeroy, Esq. ....	8	1 3	118 T	25·98	197
d Watton .....	A. A. Gompertz, Esq...	5	1 0	166 T	28·18	196
d Hingham Hall .....	E. Noel, Esq.....	5	1 1	190 T	26·95	209
d Norwich (Dunston Hall) .....	A. W. Preston, Esq....	...	...	...	26·65	191
d Denver .....	„ „ „ „ „ „ .....	...	...	...	27·27	141
d Stoke Ferry (Wereham) .....	G. Read, Esq.....	5	2 3	66 T	28·10	192
d† Keswick Old Hall .....	E. Knight, Esq.....	5	1 0	90 ?	26·95	204
d Hethersett .....	A. W. Preston, Esq....	5	0 9	150 T	26·76	208
d Outwell (Wellbreck Sluice) .....	Lunn, Esq., C.E. ....	9	2 6	16	25·16	176
d Moulton .....	A. W. Preston, Esq....	4	...	...	26·20	152
Emneth .....	F. M. Bland, Esq.....	6	1 0	6	25·05	171
§ Yarmouth (Sailors' Home) .....	Meteorological Office...	8	4 0	27	24·16	183
d „ (Market Place).....	Harvey Palmer, Esq...	5	1 0	25	24·39	199
d† Norwich (Christ Church Rd. Eaton)	A. W. Preston, Esq....	5	1 0	98 T	27·82	233
d „ (Carrow House) .....	Miss Colman .....	5	1 3	35 T	25·25	204
d§ „ (Brundall) .....	A. W. Preston, Esq....	5	1 0	66 T	25·13	188
d „ (Ipswich Road) .....	J. H. Willis, Esq.....	5	1 0	110 T	26·55	221
d „ (Heigham) .....	A. W. Preston, Esq....	5	3 2	37 T	26·57	219
d Acle .....	„ „ „ „ „ „ .....	5	0 6	51	26·41	213
d Swaffham .....	W. H. Plowright, Esq.	5	5 0	250 T	26·66	182
d „ .....	H. W. Coe, Esq.....	5	0 8	245 T	29·61	203
d „ (Homewood) .....	Messrs. Vynne & Everett	5	2 6	210	31·31?	223
d Honingham .....	A. W. Preston, Esq....	...	...	...	26·18	213
d Sprowston Hall .....	E. Gurney, Esq.....	5	1 0	90 T	22·70	188
d „ (Oak Lodge) .....	late T. Cozens Hardy, Esq	5	1 0	101 T	25·02	216

## DIVISION IV.—EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with .01 or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
NORFOLK—(con.)						
Yarmouth (Ormesby St. Michael)	Gt. Yarmouth W. W. Co.	8	1 0	21 $\nabla$	26.45	255
Hemsby School .....	R. Cobden Jones, Esq...	5	5 0	15	23.50	...
Sporle .....	T. S. Matthews, Esq...	8	4 0	230	30.20	225
Swaffham (Dunham) .....	A. W. Preston, Esq...	5	1 1	320	29.20	230
Drayton .....	...	...	...	...	27.04	174
Wiggenhall (St. Germans Sluice)	A. Lunn, Esq., C.E. ...	8	1 6	...	26.50	150
Middleton Hall .....	J. de Pass, Esq. ....	5	0 9	100 ?	27.92	...
Gayton Pumping Station .....	J. H. Webb, Esq. ....	5	1 0	131 $\nabla$	28.81	150
Bylaugh Park Gardens .....	Mr. G. Beeton .....	5	1 0	130 $\nabla$	29.86	193
Coltishall .....	A. W. Preston, Esq. ...	...	...	...	29.90	221
Reepham (Great Witchingham)..	Maj. W. Amphlett Moss	5	1 4	60 ?	31.85	194
Great Massingham .....	W. S. Freuer, Esq. ...	5	3 2	245 $\nabla$	31.79	207
Reepham (Whitwell Vicarage)..	Rev. R. Freeman .....	8	1 6	130 $\nabla$	28.90	219
Aylsham (Rippon Hall) .....	Major H. S. Marsham..	5	0 6	90 ?	29.84	152
Cawston Rectory .....	A. W. Preston, Esq. ...	5	1 0	120	28.42	169
Aylsham (Woodgate) .....	R. J. W. Purdy, Esq... A. W. Preston, Esq....	5	1 0	50	30.04	193
North Walsham (Dilham) .....	A. W. Preston, Esq....	5	0 8	...	27.08	229
" " (Worstead) ...	R. Cross, Esq. ....	8	1 0	...	28.79	180
" " (Empson House)	W. S. Horn, Esq. ....	5	1 0	102 $\nabla$	25.38	201
Hillington School .....	Rev. H. Ffolkes.....	5	3 6	93 $\nabla$	33.56	214
Sandringham House .....	Mr. T. H. Cook .....	5	1 1	121 $\nabla$	36.23	200
West Rudham .....	W. S. Freuer, Esq. ...	5	0 10	180 $\nabla$	32.75	...
East Rudham .....	Miss F. E. Mays .....	5	2 0	150 ?	32.74	216
Cromer (Northrepps Hall) .....	Mrs. R. Gurney.....	5	0 4	200	29.18	208
" " .....	W. H. Archer, Esq. ...	8	1 0	197 $\nabla$	23.78?	225
" " (The Warren) .....	F. H. Barclay, Esq. ...	8	1 6	...	27.63	172
Burnham Overy Staithe .....	Rev. F. W. Walter ...	3	3 0	15	31.87	170
Blakeney (Wiveton) .....	A. W. Preston, Esq....	...	...	40 ?	26.83	180
" " .....	Mr. R. Lee .....	5	1 3	29	24.69	163
Wells (Holkham Hall) .....	The Earl of Leicester...	12	4 0	43	26.90	...

## DIVISION V.—SOUTH WESTERN COUNTIES.

## WILTSHIRE.

Landford (Northlands) .....	Mrs. Wigram .....	5	1 10	167 $\nabla$	32.63	199
Downton (Wick House) .....	Dr. F. G. Penrose .....	8	0 5	120	33.16	174
Longford Castle.....	The Earl of Radnor ...	5	1 0	141 $\nabla$	33.10	175
Tisbury (The Academy) .....	J. Bristol, Esq. ....	5	0 9	380 $\nabla$	38.01	172
East Knoyle (Slades).....	E. H. Miles, Esq. ....	5	2 0	560 $\nabla$	39.14	194
Salisbury (Fowlers Hill) .....	Mrs. T. Awdry .....	5	1 0	225 $\nabla$	29.73	170
" " (Brown Street) .....	T. H. Baker, Esq. ....	5	1 0	155 $\nabla$	32.82	202
" " (De Vaux Lodge) .....	H. Peniston, Esq. ....	5	1 0	150	32.23	171
" " (Wilton House).....	T. Challis, Esq. ....	8	0 6	180 $\nabla$	37.65	210
Stratford-sub-Castle(The Manor Ho.)	J. Carpenter, Esq.....	5	0 9	165 $\nabla$	30.81	186
Mere (The Limes).....	E. Bracher, Esq. ....	5	1 0	300	35.73	166

## DIVISION V.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with .01 or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
<b>WILTSHIRE—(con.)</b>						
D Mere .....	W. W. Farnfield, Esq.	5	2 6	340 T	35.37	200
D „ (Charnage) .....	A. R. White, Esq. ....	5	1 0	426 T	35.58	191
D Codford St. Mary (Stockton Ho.)	G. Knowles, Esq. ....	5	1 0	260	36.91	191
D Maiden Bradley .....	The Duke of Somerset.	8	1 6	626 T	50.13	201
D Warminster (Rye Hill) .....	Stiles E. Jefferys, Esq..	8	2 0	466 T	40.06	208
D Cholderton Rectory .....	Rev. A. E. Brisco Owen	8	1 0	320	31.42	213
D Bulford (Manor House) .....	Mr. J. Bryan .....	5	1 0	242 T	31.08	200
Salisbury Plain (Chitterne House)	R. Hayward, Esq. ....	11	4 0	319 T	28.85	174
D „ „ (Shrewton) .....	F. J. Wardale, Esq. ...	5	0 9	322	36.12	199
D Corsley (Sturford Mead) .....	H. Theodore Cookson Esq	5	0 9	459	36.15	204
Market Lavington .....	Miss A. P. Bouverie ...	5	0 10	290 T	27.80	187
D Ludgershall (Conholt Park) .....	E. A. Wigan, Esq. ...	5	1 3	800 T	33.61	188
D „ (Collingbourne Kingston)	Baldwin Latham Esq CE	5	1 0	470 T	28.30	175
D Trowbridge (Water Works, Biss)	W. W. Gray, Esq., C.E.	5	1 0	311	35.34	177
D „ (Rood Ashton) .....	Mr. W. Strugnell .....	8	1 6	250	33.99	211
D „ (Wingfield) .....	T. H. Clark, Esq. ....	5	1 0	190	29.66	175
D Devizes (Chirton Old Manor Fm.)	Mr. T. Selfe .....	5	3 0	374	30.22	186
D Bradford (The Chantry) .....	Dr. J. Beddoe, F.R.S..	5	0 9	125	30.56	179
D „ (Winsley Manor) .....	E. W. Knatchbull, Esq.	5	0 6	400	29.52	195
D „ (Bearfield House) .....	G. A. R. FitzGerald, Esq.	5	1 10	290 T	31.74	166
D Devizes (Wilts Co. Asylum) ...	Dr. J. Ireland Bowes...	8	2 3	385 T	26.29	182
D Buttermere Rectory .....	Rev. W. E. Burkitt ...	5	3 6	847	32.85	186
D Woodborough .....	Rev. C. W. Hony .....	5	1 0	400 T	29.85	188
D Pewsey (Wilcot) .....	W. R. Wilbraham, Esq.	5	0 6	415 T	32.63	163
D „ (Stowell Park) .....	J. H. Smith-Barry, Esq.	5	1 0	450 T	30.26	...
D Shalbourne (West Court) ....	Mr. T. Barns .....	5	1 0	640 ?	31.81	199
D Bishops Cannings .....	Mrs. H. H. Mogg .....	5	1 0	446 T	29.34	173
D Devizes (Shepherd's Shore) .....	Mr. J. Carter .....	5	1 6	555 T	28.20	185
§ Marlborough (College) .....	Royal Meteorological Soc	5	1 0	425	33.00	201
D „ (Mildenhall) .....	Rev. Gordon Soames ...	5	1 0	456	31.48	172
D Calne (High Street) .....	H. Wilkins, Esq. ....	5	3 6	244 T	26.08	167
D Chippenham (Kington Langley).	H. H. Palairret, Esq. ...	5	1 0	250	29.31	189
D Aldbourne (The Warren) .....	Henry Brown, Esq. ...	5	1 0	550 T	33.56	207
D Wroughton (Basset Down House)	Mrs. Story Maskelyne..	5	1 0	500 ?	28.89	166
D „ (Burderop Park) ...	A. Ashford, Esq. ....	5	0 9	550 ?	30.07	186
D Wootton Bassett (The Lime Kiln)	H. Bevir, Esq. ....	5	1 6	422 T	29.33	180
D New Swindon .....	H. J. Southwell, Esq. ...	8	0 11	378	28.66	204
§ Malmesbury (Cowbridge House).	Royal Meteorological Soc	5	1 0	236	32.40	197
D „ (Charlton Cottage).	Countess of Suffolk ...	6	0 9	500	34.27	197
D Highworth (Hannington Hall)...	Mrs. Hussey-Freke ...	5	1 0	375	27.42	201
<b>DORSETSHIRE.</b>						
§ Portland Bill (New Lighthouse).	Meteorological Office ...	8	1 0	23	26.98	170
D „ (Easton) .....	R. S. Henshaw, Esq. C.E.	5	1 6	265 T	30.75	170
D „ (H.M. Breakwater) .....	L. Parr, Esq., C.E. ...	8	1 5	23 T	31.92	170
D Weymouth (Belfield Ho., Wyke Regis)	Mrs. Pretor .....	5	0 6	158 T	29.60	172
D § „ (Westham) .....	I. J. Brown, Esq. ....	5	1 0	25	27.68	160

## DIVISION V.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with '01 or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
<b>DORSETSHIRE—(con.)</b>						
D Weymouth (Massandra) .....	H. W. Green, Esq. ...	5	1 6	40 B	33·83	192
D Swanage (Royal Victoria Hotel)	H. B. Vincent, Esq....	5	1 11	50 A	35·29	159
D Chickerell (Montevideo) .....	Mrs. Richardson .....	5	1 0	100	29·29	181
D „ Rectory .....	Rev. Sealy Poole .....	8	1 0	103	28·62	185
D East Fleet (Fleet House) .....	Dorset Field Club .....	5	1 2	40	27·15	...
D† West Lulworth Vicarage .....	Rev. W. Percy Schuster	5	1 0	128 A	35·72	156
D East Lulworth Vicarage .....	Dorset Field Club .....	5	0 9	175	39·27	154
D Abbotsbury (New Barn) .....	J. C. P. White, Esq....	5	1 6	111 T	32·56	191
D Upwey (Portland W. W.) .....	R. S. Henshaw, Esq. C.E.	8	1 0	290 A	37·15	211
D Warmwell House .....	Dorset Field Club .....	5	1 0	160	41·26	181
D Wareham (East Holme) .....	Gerald D. Bond, Esq...	5	1 0	24	37·07	152
D „ (Kings Barrow) .....	L. G. Pike, Esq.....	5	1 0	15 T	34·23	...
D „ (Worgate Hill) .....	S. W. Bennett, Esq. ...	5	1 1	108	32·28	193
D „ (South Street) .....	„ „ „ .....	5	2 6	18	35·88	171
D „ (Binnegar Hall) .....	Lt.-Col. P. Farrer.....	5	1 0	65	36·15	143
D Winterbourne Herringstone.....	Dorset Field Club .....	5	2 6	200	41·83	154
D Abbotsbury (Littlebredy) .....	Rev. C. E. R. Romilly.	5	0 6	372	39·57	163
D Winterbourne Steepleton.....	H. Stilwell, Esq. ....	8	1 0	316 A	43·82	198
D Dorchester Water Works.....	P. T. Harrison, Esq....	8	1 0	315 A	41·47	183
D „ (Wollaston House) ...	Capt. J. E. Acland.....	5	1 0	200 A	42·27	184
D Poole (Parkstone) .....	W. H. Symes, Esq. ...	5	1 3	160 T	35·53	162
D§ „ ( „ Heatherlands)	Mr. C. Mabey.....	5	1 0	197	37·93	184
D Bourne Valley [Bournemouth]...	H. W. Woodall, Esq...	8	1 3	84 T	32·97	153
D Lyme Regis (Colway Cottage)...	Dr. J. Spurr .....	5	1 0	250	33·86	163
D Charmouth (Leslie Cottage).....	M. E. Mills, Esq. ....	8	1 3	120 A	32·58	167
D „ ( „ „ ) weekly	„ „ „ .....	5	1 0	120 A	33·10	...
D Bridport (Coneygar) .....	H. Gordon, Esq., C.E..	5	1 0	110 T	33·29	160
D Bradford Peverell House .....	Mrs. Middleton .....	6	1 1	380	42·75	186
D „ „ .....	Major A. H. Platt.....	5	0 3	300	49·09?	148
D Charminster (Brooklands).....	R. Dymond, Esq. ....	8	1 3	...	42·71	150
D Puddletown Vicarage.....	Rev. A. Helps .....	5	2 8	195 ?	41·25	155
D Wynford House .....	Dorset Field Club .....	5	0 6	410	48·33	179
D Bere Regis (Barrow Hill).....	Mr. A. Lucas .....	5	1 0	120	35·82	167
D „ „ (Bloxworth Rectory).	Rev. O. P. Cambridge FRS	5	1 6	205 T	36·88	141
D „ „ ( „ House)...	F. G. A. Lane, Esq. ...	5	1 6	118	38·21	177
D Wimborne (Broadstone) .....	J. E. James, Esq. ....	5	1 4	140 T	34·54	159
D „ (Corfe Mullen) .....	D. Kitchingman, Esq. CE	5	1 6	82	36·71	...
D Maiden Newton (Cattistock Lodge)	Major H. H. F. Fagan	5	1 0	361	44·94	176
D Bere Regis (Longthorns) .....	Mr. S. Smart .....	5	1 0	...	41·70	177
D Winterbourne Whitchurch Vic..	Rev. H. H. T. Bassett.	8	0 6	280 ?	40·26	143
D Sturminster Marshall (Bailie Ho.)	Rev. J. Cross .....	5	0 6	85	34·56	164
D Wimborne (Codford).....	G. H. Batterbury, Esq. MD	5	0 9	69 T	36·83	179
D „ (Stoneham) .....	Horace J. Tuck, Esq...	5	1 0	200	33·85	157
D Beaminster Vicarage .....	Rev. A. A. Leonard ...	5	1 0	216 T	40·92	182
D „ (Fleet Street) .....	J. Andrews, Jun., Esq.	5	1 0	200 T	40·66	184
D Broadwindsor Vicarage.....	Rev. G. C. Hutchings..	5	0 7	540 T	42·71	189
D „ (Blackdown House)	C. E. M. Pinney, Esq..	5	0 9	515	43·25	203

## DIVISION V.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Day with or more recorded.
		Diameter	Height above Ground.	Height above Sea Level		
		in.	ft. in.	feet.	inches.	
<b>DORSETSHIRE—(con.)</b>						
D Milton Abbas (Milton Abbey) ...	Mr. C. H. Perkins .....	5	0 10	333 T	44·40	193
D Evershot .....	R. Stanley Clarke, Esq. ....	8	1 2	580	43·35	205
D „ (Melbury House) .....	Mr. R. Rintoul .....	5	1 6	500	41·22	176
D Chedington Court .....	Sir Henry Peto, Bart. ...	5	1 0	605	39·37	175
Witchampton .....	Miss A. L. Homer .....	5	1 0	130	35·71	...
D Horton Vicarage .....	Rev. G. Wellington ...	5	1 0	133 T	31·21	180
D Leigh Vicarage .....	Rev. T. L. Jenkins ...	...	1 0	250 ?	40·40	178
D Holwell (Westrow) .....	Mr. H. Caines .....	5	1 0	252	37·18	178
D Wimborne St. Giles (St. Giles Ho.)	Earl of Shaftesbury ...	8	1 0	165	36·51	158
D Iwerne Courtney (Ranston) .....	Sir Randolph Baker Bart	5	1 6	180 ?	35·59	157
D „ „ (Shroton) .....	Admiral R. Stopford ...	5	1 2	200 T	35·90	163
D Sturminster Newton (Riverside).	A. R. Hallett, Esq. ...	5	5 0	205	32·42	157
D „ „ Rectory ...	Dorset Field Club .....	5	2 7	180 T	34·95	172
Iwerne Minster House Gardens..	J. H. Ismay, Esq. ....	5	1 0	244 A	37·26	...
D Sherborne Castle .....	Mr. T. Turton .....	5	1 0	195 T	35·46	200
Ashmore Rectory .....	Rev. A. J. Reed .....	8	1 3	700	42·56	...
D Shaftesbury .....	Rev. F. Ehlers .....	5	1 2	722	33·64	183
D Buckhorn Weston Rectory .....	Rev. W. Hughes D'Aeth	5	1 0	285	31·17	188
D Gillingham .....	S. H. Stephens, Esq. ....	5	1 2	244 T	37·18	180
<b>SOUTH DEVON.</b>						
D Salcombe (Sandhills) .....	W. H. Pike, Esq. ....	5	1 0	118	34·49	176
§ „ .....	Royal Meteorological Soc	5	1 0	137	38·26	175
South Huish .....	W. Balkwill, Esq. ....	5	5 6	68 T	39·71	...
D Kingsbridge (Collapit Creek) ...	Ashley A. Froude, Esq. C.M.G.	5	1 6	51 A	36·23	185
„ (Westcombe) .....	T. W. Latham, Esq. ....	5	1 0	100	44·29	177
D Start Bay (Slapton) .....	Horace G. Morgan, Esq.	5	1 0	130	41·31	176
Revelstoke (Membland) .....	Mr. G. Baker .....	5	1 0	180 T	34·86	...
D Dartmouth (Stoke Fleming) .....	C. F. Selby, Esq. ....	5	0 9	356 A	42·45	182
„ (Redlap House) .....	L. Karslake, Esq. ....	5	1 1	220 T	37·61	177
„ (Kingswear) .....	W. L. G. Bennett, Esq.	5	1 1	100	40·26	...
East Allington (Fallapit) .....	W. H. Tucker, Esq. ...	5	1 0	350	47·81	162
Ermington (Strode) .....	H. Gore Hawker, Esq.	5	1 0	100 B	41·26	175
D „ (Thornham) .....	C. S. Pearse, Esq. ....	5	1 3	71 T	44·91	188
† Plymouth (The Hoe) .....	Meteorological Office ...	8	1 0	116 A	35·26	181
D „ (Drake's Reservoir) ..	F. Howarth, Esq., C.E.	5	1 0	149 A	35·09	159
D „ (Hartley Reservoir) ..	„ „ „	5	1 0	321 A	37·72	177
D Devonport (Rowdens Res.) .....	F. W. Lillierap, Esq., CE	5	1 0	201 A	32·05	178
D Brixham (Lindthorpe) .....	T. Lakeman, Esq. ....	5	7 0	120 T	42·53	164
D Ivybridge (Langham Hill) .....	Miss Glanville .....	5	1 0	400 T	49·46	181
D Plympton (Leigham) .....	Vere Cholmondeley, Esq	5	1 0	50	40·31	194
D South Brent (Great Aish) .....	Miss Kingwell .....	5	1 0	500 T	63·36	187
D Totnes (North Gate House) .....	Horace F. Lovejoy, Esq.	8	1 0	...	42·40	164
D „ (Berry Pomeroy) .....	C. Barran, Esq. ....	5	1 0	185 A	42·56	157
Bere Ferrers Rectory .....	Rev. F. T. W. Wintle.	5	1 0	100	39·85	179
D Bickley (Roborough Reservoir) ..	F. Howarth, Esq., C.E.	5	1 0	548 A	44·79	191

DIVISION V.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with '01 or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level	1909	
		in.	ft.	in.	feet.	inches.
SOUTH DEVON—(con.)						
Lee Moor Clay Works .....	T. Martin, Esq. ....	8	1	6	950	60.25
D Torquay (Cockington Court) ...	Roger C. Mallock, Esq.	5	1	0	180	41.15
\$ „ (Princess Gardens) .....	F. March, Esq. ....	5	1	0	12	33.74
D\$ „ (Cary Green) .....	„ „ .....	5	1	0	12	33.78
D Kingskerswell (Edginswell) .....	Capt. H. Langford Brown	8	1	2	150 T	40.02
D Totnes (Broadhempston) .....	Charles Mole, Esq. ....	5	1	0	135 T	40.08
§ Sheepstor Vicarage .....	Roy. Meteorological Soc.	...	...	...	750	59.01
„ „ .....	M. F. Howarth, Esq., C.E.	5	1	0	1024 T	53.84?
D „ (Red Stone) .....	„ „ „	5	1	0	763 T	57.83
D „ (Burrator) .....	„ „ „	5	1	0	755	58.08
D „ (Head Weir) .....	„ „ „	5	1	0	720	54.71
D Dartmoor (Lowery) .....	F. W. Lillicrap, Esq., CE	5	1	0	890 T	51.48
D „ (Deancombe Farm) ...	F. Howarth, Esq., C.E.	5	1	0	830 T	54.77
D „ (Leather Tor Farm) ...	„ „ „	5	1	0	910 T	60.96
„ (Siwards Cross) .....	M. „ „ „	5	1	0	1200 T	64.98
„ (Cramber Tor) .....	M. „ „ „	5	1	0	1435 T	50.58
D Kingskerswell (South Hill) .....	E. A. Foster, Esq. ...	5	1	0	270 T	33.14
D Abbotskerswell (Court Grange) ..	Mrs. Marcus Hare .....	5	1	1	150 B	42.93
D Ashburton (Holne Vicarage) ...	Rev. J. Gill .....	5	1	6	650 B	57.76
„ „ (Dolbear) .....	Maj. W. W. Battiscombe	5	1	0	300 T	46.95
D\$ „ (Druid House) .....	J. S. Amery, Esq. ....	5	1	0	584 T	47.99
D Newton Abbot (The Chestnuts) ..	E. D. Wylie, Esq. ....	5	0	6	100 T	33.58
D Teignmouth (Woodlands) .....	W. B. Harris, Esq. ...	8	1	2	98 T	31.65
D\$ „ (Den Gardens) .....	Mr. G. Rossiter .....	5	1	0	20 T	31.01
„ „ (Bonnieliff) .....	the late Capt. J. Horner	5	1	0	260 T	32.14
\$ „ (Benton) .....	W. C. Lake, Esq., M.D.	5	1	0	320	30.82
D\$ Tavistock (Statsford, Whitchurch)	E. E. Glyde, Esq. ....	5	1	0	594 T	47.80
D „ (Public Library) .....	Mr. J. Quick .....	8	20	0	283 T	40.46
D Princetown (Huccaby House) ...	R. Burnard, Esq. ....	5	0	11	900 T	56.22
\$ „ (H.M. Prison) .....	Royal Meteorological Soc	5	1	0	1360	78.78
Dartmoor (Leeden Tor) .....	M. F. Howarth, Esq., C.E.	5	1	0	1270 T	47.06
„ „ (N. Hessary Tor) No. 1	„ „ „	5	1	0	1625 T	59.47
„ „ „ „ „ No. 2	„ „ „	5	1	0	1502 T	55.62
† „ „ (Cowsic Valley) .....	F. W. Lillicrap, Esq., CE	8	1	6	1352 T	64.05
† „ „ (Black Dunghill) No. 5	„ „ „	8	1	0	1590 T	47.20
† „ „ (Beardown Tor) No. 3	„ „ „	8	1	0	1550 T	43.00
† „ „ (White Tor) .....	No. 1 „ „ „	8	1	0	1640 T	49.85
† „ „ (Devil's Tor) .....	No. 2 „ „ „	8	1	0	1785 T	47.75
† „ „ (Cowsic Head) ...	No. 4 „ „ „	8	1	0	1580 T	58.25
Marytavy Rectory .....	Rev. Irvine K. Anderson	8	1	0	560 T	49.88
D Dawlish (Blyth) .....	Commander Plenderleath, RN	5	1	0	44 T	30.89
D „ „ (The Lawn) .....	S. F. C. Churchward, Esq	5	1	0	18 T	31.35
D „ „ (Burrows Reservoir) ...	„ „ „	5	1	0	420 T	31.72
D Chudleigh (Ideford Rectory) ...	Rev. G. J. Ford .....	4	1	0	300 T	34.17
D Bovey Tracey (Colehays) .....	Mr. G. Heath .....	5	1	0	400	45.82
Milton Abbot (Endsleigh) .....	Mr. F. Yole .....	5	1	0	180 T	41.30
D Lifton (Kelly House) .....	Rev. Maitland Kelly ...	8	2	6	462 T	40.01

DIVISION V.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with -01 or more record d.
		Diameter	Height Above Ground.	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
<b>SOUTH DEVON—(con.)</b>						
d Coryton Rectory .....	Rev. H. N. Fowler ...	5	1 6	400	35·82	199
d Starcross (Cofton Vicarage) .....	Rev. C. F. Benthall ...	5	1 9	60	28·89	150
d Exmouth (Nidderdale) .....	Mrs. Herbert Stewart..	5	1 0	51	26·25	152
" (Manor Grounds) .....	S. Hutton, Esq., C.E....	5	1 0	13 A	27·38	174
" (Filters, Salterton Rd.) .....	" " " ...	8	8 6	195	29·32	176
" (" Capel Lane)... ..	" " " ...	5	8 0	240	28·27	165
d " (Marpool Hall) .....	Mrs. Chichester .....	5	1 0	87 T	28·25	150
Chudleigh (Trusham) .....	Rev. Offley H. Cary ...	5	0 6	322 T	36·33	174
Budleigh Salterton (Knowle Ho.) .....	Capt. Arthur Pepys ...	5	1 0	200	27·32	...
" " (Squabmoor). .....	S. Hutton, Esq., C.E....	5	1 0	267	29·85	182
+East Budleigh (Otterton Vic.)...	Rev H Mackworth Drake	5	1 0	80	29·28	158
d+ " " (Bicton).....	Mr. J. Mayne.....	5	1 0	90	30·09	152
" " (" Common)	S. Hutton, Esq., C.E....	5	1 0	300	30·04	...
d Polapit Tamar [Launceston] ...	R. C. Coode, Esq. ....	5	1 0	315 A	36·07	202
d Moretonhampstead (Bullaton) ...	S.C.Chapman, Esq., C.E.	8	1 0	928 A	42·17	200
" (Mardon) ...	" " "	8	1 0	835	41·91	202
d " (Kennick) ...	" " "	8	1 0	836 A	41·24	223
" (Laployd) ...	" " "	5	1 6	1041 A	41·58	202
" (Blackingstone) .....	" " "	8	1 0	1158 A	42·82	202
d " Rectory.....	Rev. S. D. Dewey .....	5	1 0	600 B	39·59	235
d Chagford (Dartmoor Sanatorium)	Dr. A. Scott-Smith ...	5	1 3	750 T	44·31	161
d+Sidmouth (Sidmount) .....	Miss C. Radford.....	5	1 0	149 A	32·15	182
d+Seaton .....	Mrs. Pattinson .....	5	0 10	25	34·24	175
d Axmouth (Millmead).....	E. H. Waters, Esq. ...	5	4 9	20	32·54	172
d\$Rousdon [Lyne Regis] .....	Hon. Lady Peek.....	5	1 0	516 A	35·05	181
\$ " [" " "] .....	" " " .....	3	1 0	516 A	35·31	...
d Pinhay* [" " "] .....	Mr. J. F. Stobo .....	5	1 11	465 A	36·74	178
d Aylesbeare (Rosamondford) .....	A. T. Loram, Esq.....	5	0 10	220 T	30·44	164
d+Exeter (St. Thomas) .....	E. N. Snow, Esq. ....	5	0 8	65	31·47	158
d+ " (Devon & Exeter Inst.)...	J. E. Coombes, Esq. ...	5	13 7	155 A	28·11	156
d+ " (Elmfield House) .....	W.B.Heberden, Esq.CB	5	4 0	100 T	27·85	153
Cheriton Bishop .....	Lt.-Col. E. C. Thwaites	5	1 0	575 P	30·74	...
+Broad Clyst (Brockhill) .....	W.T.Bayne, Esq. LL.D.	5	1 0	80	28·77	175
d+Ottery St. Mary (West Hill) ...	B. Stansbury, Esq.....	5	1 6	340 T	35·78	190
d+ " " (Broad Street)..	H. D. Badcock, Esq. ...	5	4 0	170 B	37·23	156
d+ " " (Manor House).	W. A. Willock, Esq....	5	1 2	200	37·36	155
d Northleigh Rectory .....	Mrs. W. Champernowne	5	0 6	335	43·95	196
d Kilmington (Haddon Corner) ...	A. Hitchcock, Esq.....	5	1 0	400 T	39·28	188
Axminster (Lea Combe House)..	A. C. F. Luttrell, Esq..	5	2 0	180	39·98	...
Newton St. Cyres .....	Rev. J.A. Welsh Collins	5	1 0	145 T	33·13	186
Upton Pyne (The Parsonage) ...	Rev. A. Hillyard .....	5	1 0	213 T	32·59	159
d+Brampfod Speke Station .....	Mr. A. Tucker .....	5	1 0	83	28·82	168
\$Silverton (Killerton) .....	Royal Meteorological Soc	10	2 0	161	32·00	175
d Beaworthy (Halwill Manor).....	W. J. Harris, Esq. ...	5	1 0	535	42·32	210
d Crediton (Okefield) .....	Seymour F. Pope, Esq.	5	1 0	325 T	31·16	198
d Honiton (Combe Raleigh).....	Lt.-Col. M. James .....	5	2 4	500 T	37·76	196
d Chardstock Vicarage.....	Rev. A. Lewis .....	5	0 8	333	39·15	178

\* Formerly called Clevelands.

## DIVISION V.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with '01 or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
<b>SOUTH DEVON—(con.)</b>						
d§ Cullompton .....	M. T. Foster, Esq.....	5	1 0	202 T	34·44	208
†Tiverton (Broomhill) .....	Mrs. Dickinson .....	5	1 0	380	33·71	198
d† „ (Highfield) .....	Maj.-Gen.G.W.Hanson .....	5	1 10	450 T	42·09	222
d „ (St. Peter Street) .....	Miss Gill.....	5	6 0	270 B	34·19	200
d „ (Blundell's School) ...	E. G. Peirce, Esq. ....	5	6 3	265 A	35·81	193
d Halberton .....	Capt. G. Izat, R.N. ...	5	0 6	240 T	33·77	175
d Uffculme (Bullmoor) .....	Miss M. E. Gowring ...	5	1 0	280	33·90	216
d Bampton (Huntsham Court) ...	H. Acland Troyte, Esq..	8	1 0	640 T	36·65	187
„ (Wonham) .....	Mrs. J. R. Holland ...	5	1 0	530	36·88	193
<b>NORTH DEVON.</b>						
d Okehampton (Oaklands) .....	Maj.-Gen. Holley .....	5	1 0	500 T	43·38	173
d Spreyton Vicarage.....	Rev. H. P. Knapton ...	5	1 5	735	29·28	201
d Holsworthy (Dunsland) .....	W. Clifton Mogg, Esq. .	5	1 6	495 A	41·25	206
d Petrockstow (HeantonSatchville)	Mr. A. Eames .....	5	1 0	332 A	37·75	187
„ Dolton (Hilliers) .....	A. Smythies, Esq.....	5	1 3	380 A	37·93	...
d Chumleigh (Leigh House).....	Mr. W. Gillies .....	5	1 0	400	36·43	190
d Roborough (Ebberly).....	J. S. C. Davis, Esq.....	5	1 0	506 T	36·53	198
d Torrington (Enfield) .....	G. M. Doe, Esq. ....	5	1 0	336 A	37·16	206
d „ (Little Silver).....	L. L. Lloyd, Esq. ....	5	1 0	395 T	39·82	201
d Parkham (Melbury Moor).....	Baldwin Latham EsqCE	5	1 0	623 A	44·29	238
d „ „ Reservoir)...	„ „ „ „	5	1 0	516 A	48·07	237
d Hartland Abbey.....	Mr. G. Sleep .....	5	1 6	222 T	30·72	159
d Warkleigh Rectory .....	Rev. J. H. Thompson...	5	1 0	510 A	36·02	217
Alverdiscott (The Firs).....	F. A. Trevan, Esq. ...	5	2 6	330 T	36·98	185
d Abbotsham (Riccard's Down) ...	Mrs. Hibbert .....	5	1 0	87 A	32·70	191
d Bideford (Gammaton W. W.)...	Baldwin Latham EsqCE	5	1 0	335 A	31·57	162
d „ (Webbery) .....	Mrs. C. E. Boyd.....	5	1 10	350 A	35·77	183
d „ Rectory .....	Rev. T. Newton Leeke.	5	1 2	150 T	36·27	177
d „ (Beechcroft) .....	A. H. Hobhouse, Esq...	2	1 0	120 T	34·14	196
„ (Northam Road).....	Mr. W. Littlejohns ...	5	0 6	20	33·83	163
„ (Horwood House) .....	Rev. J. Dene .....	5	1 0	288 T	30·90	193
d Molland .....	S. J. Case, Esq. ....	5	1 9	674 T	45·95	210
d Northam Vicarage.....	RevPrebDimond-Churchward	5	1 3	173 A	32·21	171
d Westward Ho! (Bellevue) .....	A. H. Boyd, Esq. ....	8	1 0	200 A	27·96	190
Instow.....	Miss Lock .....	5	1 0	100 B	29·10	...
d§ South Molton (Castle Hill School)	W. H. Reeve, Esq.....	8	1 0	363 A	41·49	218
„ „ „ „ Gardens)	T. Wainwright, Esq....	12	3 6	317	40·62	207
d West Buckland (County School)	G. C. Fry, Esq. ....	5	1 6	651 T	44·89	200
Barnstaple (Newport) .....	T. Wainwright, Esq....	5	1 0	138	34·21	198
d† „ (N.Devon Athenæum) ..	„ „ „ „	8	1 0	25 T	33·45	201
„ (Pilton).....	„ „ „ „	5	1 0	83 T	32·89	172
Stoke Rivers .....	„ „ „ „	5	1 0	670	46·58	199
†Braunton (Preston Ho., Saunton)	Miss Durham .....	5	0 8	120 B	31·49	166
d§ Arlington Court .....	No. 1 Miss Chichester .....	5	1 0	613 B	52·52	241
„ „ „ „ No. 2 .....	„ „ „ „	5	1 0	613 B	50·20	244

DIVISION V.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Diameter	Rain Gauge.		Depth of Rain. 1909	Days with 0·1 or more recorded.	
			Height Above Ground	Height Above Sea Level			
		in.	ft.	in.	feet.	inches.	
NORTH DEVON—(con.)							
D Challacombe .....	O. M. Prowse, Esq., C.E.	5	1	2	815	62·60	202
D§ Woolacombe .....	Miss Chichester .....	5	1	0	60 A	34·77	194
Parracombe .....	Rev. J. F. Chanter ...	5	1	0	795 T	53·64	202
D Ilfracombe (Reservoir) .....	O. M. Prowse, Esq., C.E.	5	1	0	395	47·19	220
D „ (Bickleighscombe) ...	Mrs. Slade King .....	5	1	0	300	42·96	198
§ „ (Hotel).....	Royal Meteorological Soc	5	1	0	24	34·00	199
D Martinhoe Rectory .....	Rev. R. W. Oldham ...	5	2	3	808	41·60	198
Lynton (Lee Abbey) .....	C. F. Bailey, Esq. ....	5	0	6	320 T	37·52	...
D Lynmouth (Gwynallt) .....	A. L. Ford, Esq. ....	8	0	8	284 T	41·95	194
D „ (Rock House) .....	T. H. Mead-Briggs, Esq.	5	0	11	22 A	39·00	209
CORNWALL.							
Lizard .....	A. P. Jenkin, Esq.....	5	1	0	244 A	28·07	...
St. Keverne (Lanarth) .....	P. D. Williams, Esq..	5	0	10	290 T	39·37	196
D „ „ (Rosuick Cottage)...	G. W. Jevons, Esq. ...	5	1	0	250 T	39·41	226
Bosahan .....	Cornwall County Council	...	...	...	240	28·15	167
Helston (Tenderah) .....	J. Walker Tyacke, Esq.	5	1	6	210 T	34·83	181
D† Penzance (Morrab Garden) ..	C. H. Benn, Esq. ....	5	1	0	55	35·48	196
„ (Rosehill) .....(R)	David Howell, Esq ...	10	3	0	212 T	29·32	185
D† „ (St. Clare) .....	Rev. Preb. Hedgeland..	5	1	0	213 T	36·04	197
† „ (Trengwainton).....	T. Robins Bolitho, Esq.	10	1	0	400 T	38·09	165
Marazion .....	T. W. Field, Esq. ....	5	2	0	30	33·92	178
D§ Falmouth (New Observatory)(R)	E. Kitto, Esq. ....	11	2	0	169 T	35·98	195
D§ „							

## DIVISION V.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with .01 or more recorded.
		Diameter	Height Above Ground.		Height Above Sea Level	
		in.	ft.	in.	feet.	inches.
CORNWALL—(con.)						
D Looe (Morval).....	Miss Florence Tremayne	5	1	0	150 T	42·41 145
„ (Bray St. Germans) .....	Mrs. George Sneyd ...	5	1	0	450 T	38·73 187
D† Lostwithiel (Lanwithan) .....	Miss Foster.....	5	1	0	80	39·00 173
D Newquay (Tresillian House) ...	Col. E. Gully-Bennet...	5	2	0	230	33·56 161
„ (Reservoir) .....	Dr. C. C. Vigurs .....	5	1	0	214	26·30 ...
D§ „ .....	„ „ „ .....	5	1	0	100	25·24 175
D Roche (Glencoe).....	S. Browne, Esq.....	5	0	9	602 T	38·27 201
D† Liskeard (Trevillis) .....	L. C. Foster, Esq.....	5	1	0	320 T	40·59 184
D „ (Dean Terrace) .....	S. W. Jenkin, Esq., C.E.	5	1	1	400 T	44·19 200
D Withiel Rectory.....	Rev. W. S. Cruddas ...	5	0	11	360	40·39 200
D St. Wenn (Trewollack).....	W.H.L. Shadwell, Esq.	8	1	0	251 T	39·98 213
Saltash (Pentillie Castle) .....	Mr. W. T. Johnson ...	5	2	4	150 B	46·15 161
D St. Mellion Rectory .....	Rev. F. T. Wintle .....	5	1	0	400	39·75 184
D Bodmin (Polgwin).....	H. D. Foster, Esq.....	5	1	0	280	38·60 205
D „ (Castle Hill).....	Rev. Prebendary Every	5	0	9	480 T	42·29 210
Liskeard (St. Cleer Down) .....	S. W. Jenkin, Esq., C.E.	5	1	1	620 T	40·85 ...
D Callington (Pencrbar).....	Miss A. H. Horndon ...	5	1	9	450 T	42·20 187
D „ (Mount Lodge) .....	G. Brown, Esq. ....	8	1	0	400	46·00 181
D St. Mabyn (Pencarrow).....	Mr. A. C. Bartlett.....	5	5	9	...	36·06 201
Callington (Drakewalls Place)...	Mr. C. A. Wadge .....	5	3	0	650 T	42·39 176
D Wadebridge (St. Kew) .....	Major W. C. Braddon..	5	1	0	110 T	32·69 196
D Launceston (Landue) .....	Miss S. E. Tregoning...	5	0	11	225 T	38·93 205
„ (Hexworthy) ... (R)	R. B. Rogers, Esq. ...	5	1	6	270 T	40·99 172
D Altarnon Vicarage.....	Rev. A. H. Malan .....	5	1	0	620 T	51·81 216
D Launceston (Tamar Terrace) ...	Captain L. Ching, R.N.	5	0	10	446	35·64 184
Egloskerry (Tregeare) .....	E.G.B. Lethbridge, Esq.	5	1	0	575	40·26 ...
North Tamerton (Ogbeare) .....	Mr. J. S. Bray .....	5	5	0	460 T	32·66 172
D Stratton (Poughill) .....	Miss Field .....	5	1	0	200 B	32·92 212
D Morwenstow Vicarage .....	Rev. H. Lynne Jones...	5	0	10	331 T	32·38 201
SOUTH SOMERSET.						
Chard (Tatworth Vicarage) .....	Rev. H. Stuart King...	5	1	3	347 T	39·07 187
D „ Vicarage.....	Rev. Preb. Walter Farrer	5	1	0	380 T	41·09 193
Cricket St. Thomas (Cricket Ho.)	Mr. S. Lyon .....	5	1	0	444	39·78 180
D Crewkerne (Bincombe House) ...	Miss Sparks .....	5	1	2	294 T	34·84 196
D „ (Merefield House) ...	J. Tompsett, Esq. ....	8	14	5	240 T	37·39 188
D Ilminster (Laurel Bank) .....	W. Beckwith, Esq. ...	5	1	0	180 T	30·53 185
D „ (Whitelackington Ho.)	S. Creed, Esq. ....	5	3	0	200 T	30·28 181
D Yeovil (Gas Works) .....	E. Howell, Esq. ....	5	22	0	122 T	29·79 167
D „ (Sew. Wks., Pen Mill) ...	Dr. H. Page .....	5	1	0	101 T	32·74 195
D South Petherton (Yeabridge) ...	Miss E. F. Blake .....	8	0	9	100 T	26·98 185
„ „ Vicarage .....	Rev. D. Twemlow-Cooke	5	1	0	140 T	25·01 ...
D Wellington (Old Way House) ...	T. Fox, Esq. ....	5	1	1	300	32·28 209
D Stoke-under-Ham .....	Miss Gillett.....	8	1	0	...	32·06 188
D Tintinhull (Manor House).....	Rev. Dr. S. T. M. Price	5	0	10	145	30·42 161

## DIVISION V.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with 0.1 or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
SOUTH SOMERSET—(con.)						
D Dulverton (Exebridge Fishery) ..	T. F. Tracy, Esq. ....	5	1 0	400	38.97	191
Taunton (Blagdon Reservoir) ...	H. T. Coles, Esq. ....	8	1 6	590 A	32.06	...
„ (Leigh Hill Reservoir) ..	„ „ „ „ ..	8	1 6	525 T	31.06	...
D „ ( „ Court) ..	A. Eastwood, Esq. ....	8	1 0	350 T	33.64	189
D „ (Linden Grove) ..	H. Le B. Gunner, Esq. ....	5	1 0	70 B	27.13	182
D Rimpton ..	H. H. G. Andrews, Esq. ....	8	3 0	100	29.65	177
Templecombe Rectory ..	Rev. J. C. Fox ..	5	0 6	215	37.67	213
Sutton Montis ..	Rev. H. A. Boys ..	5	8 2	...	33.88	198
D Milverton (Spring Grove) ..	C. Roberts Gawen, Esq. ....	5	0 8	500 A	34.40	202
D Wiveliscombe (The Croft) ..	W. A. Buller, Esq. ....	5	1 0	409 T	36.47	189
D Langport (The Grange) ..	Dr. H. Page ..	5	1 0	50 A	26.17	220
D Milverton (The Mount, Halse) ..	Miss J. E. Smith ..	5	1 2	254 B	30.24	179
D Maperton Rectory ..	Rev. D. E. Norton ..	5	1 0	367 A	37.24	211
D North Cadbury Rectory ..	Rev. H. A. Boys ..	8	1 3	256 A	32.28	193
„ „ (Woolston) ..	„ „ „ „ ..	...	...	...	34.34	175
Wincanton (Holbrook) ..	Mrs. Angerstein ..	5	1 6	450 T	34.12	...
D „ (Roundhill Grange) ..	General C. H. P. Ducat ..	5	1 9	350	36.59	196
D Pen Selwood Rectory ..	Rev. Newton Parsons ..	5	0 10	650 T	36.79	180
Somerton (Kingweston) ..	Rev. G. de Y. Aldridge ..	5	2 6	200 T	31.16	179
Cothelstone House ..	C. E. J. Esdaile, Esq. ....	5	1 0	430	31.70	198
D North Petherton (Shovell) ..	A. M. Wilson, Esq. ....	8	1 0	200 ?	25.79	150
D „ „ (The Old Rectory) ..	E. C. Curtis, Esq. ....	8	0 6	136 A	30.45	184
D Hawkridge (Liscombe) ..	Mr. E. W. Darby ..	5	3 6	980	57.82	225
D Winsford School ..	W. Dickier, Esq. ....	5	1 2	685	53.29	202
D Cutcombe (Wheddon Cross) ..	H. H. P. Bouverie, Esq. ....	3	1 2	940 A	50.25	224
D Simonsbath ..	Rev. H. F. Ramsay ..	5	1 3	1080 T	67.34	222
Bridgwater (Nurseries) ..	Mr. H. Corder ..	5	0 6	30 ?	25.18	184
D „ (Blake Gardens) ..	F. Parr, Esq., C.E. ....	5	3 1	27 A	24.25	177
D „ (Ashford) ..	„ „ „ „ ..	5	1 5	102 A	26.34	171
D Cannington (Brymore) ..	H. H. P. Bouverie, Esq. ....	5	1 6	65 T	25.97	164
Williton (Sampford Brett) ..	Rev. A. M. Foster ..	5	1 0	115 T	26.69	...
„ (Aller Farm) ..	T. Hosegood, Esq. ....	5	3 6	210	28.08	...
D Quantockshead (St. Audries) ..	Mr. F. S. Hayne ..	8	1 0	250 T	27.03	166
D Holford (Woodlands House) ..	Miss I. L. Joseph ..	5	1 0	391 T	29.55	184
Stockland Bristol (Manor House) ..	Rev. H. A. Daniel ..	5	1 0	65	26.77	153
D Minehead (Mariansleigh) ..	T. F. Twist, Esq. ....	5	1 0	45 B	30.31	160
D Porlock (Lynch Mead, Allerford) ..	J. Dyke Acland, Esq. ....	5	1 3	100 T	29.29	185
NORTH SOMERSET.						
Castle Cary (Alford House) ..	Admiral P. F. Tillard ..	5	1 0	100 ?	30.41	152
D Somerton (Butleigh Court) ..	R. Neville Grenville Esq. ....	8	1 2	95	30.50	165
D Bruton (Sexey's School) ..	H. Crowther, Esq. ....	5	1 0	310	32.17	192
D „ (King's School) ..	D. E. Norton, Esq. ....	5	1 2	200	36.78	204
D Street (Hind Hayes) ..	Joseph Clark, Esq. ....	5	1 5	78 T	26.61	156
D „ ..	W. S. Clark, Esq. ....	8	1 0	100	26.90	192

## DIVISION V.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with .01 or more recorded.
		Diameter	Height Above Ground.		Height Above Sea Level	
		in.	ft.	in.	feet.	inches.
NORTH SOMERSET—(con.)						
Edington.....	A. C. F. Luttrell, Esq..	5	2	6	90 †	30·09 172
Shepton Mallet (Pilton) .....	J. Dredge Allen, Esq...	5	1	3	354	35·12 196
Glastonbury (Ynyswytryn) .....	Mrs. Swayne .....	5	1	8	245 †	26·86 211
Cranmore (Southill House) .....	S. Poyntz-Wright, Esq.	5	1	0	634 †	40·99 206
Shepton Mallet (Charlton) .....	C. E. Burnell, Esq..	5	1	0	481 †	38·52 175
„ „ (Field House) ...	F. H. Berryman, Esq..	5	1	0	500	38·71 178
„ „ (Grammar School) .....	William Aldridge, Esq.	5	1	0	475	39·09 194
„ „ (Sewage Farm)..	W. Reader, Esq. ....	5	0	8	310	39·13 183
Cranmore Hall .....	E. Barclay Whish, Esq.	8	1	9	600 †	43·90 184
Frome W.W. (Egford) .....	F. W. Jones, Esq., C.E.	8	2	0	270	37·02 208
Wells (The Deanery Gardens) ...	Mr. A. King .....	5	1	0	170 †	37·26 181
„ „ (Woodbury House) .....	Sir J. A. Woolfryes, KCB	5	0	9	216 †	40·95 209
„ „ (Somerset & Bath Asylum)	J. E. P. Spera, Esq., M.D.	5	1	0	300	31·96 170
„ „ (Wookey Hole) .....	Messrs. W. S. Hodgkinson & Co.	5	1	4	230 ?	37·85 179
Burnham (Dunstan Ho., Chabury)	H. A. Smith Spark, Esq.	5	1	0	20	27·28 157
„ „ (Brent Knoll) .....	Miss FitzGerald .....	5	2	0	26 †	29·59 189
Mells (Wadbury) .....	Mrs. Sykes .....	5	1	0	375 †	36·94 175
„ „ (Selwood) .....	Miss E. G. Horner .....	5	1	0	344 †	37·63 203
Binegar (Gurneyslade) .....	Rev. P. F. Whiteside...	5	1	0	588 †	47·93 194
Stratton-on-the-Fosse (Downside Abbey)	„ „ „ .....	8	1	0	600 †	42·26 193
Frome (Orchardleigh) .....	Rev. W. A. Duckworth	8	0	10	303 †	33·72 182
„ „ (Beckington) .....	E. M. Nelson, Esq. ..	8	1	3	270 †	32·63 199
Chewton Mendip (The Priory) ...	The Earl Waldegrave..	5	1	5	550 †	46·08 210
Ston Easton .....	H. E. Hippisley, Esq	5	3	0	480 †	41·12 195
E. Harptree (Sherborne Res., Litton)	J. A. McPherson, Esq. CE	5	1	0	338 †	44·28 197
„ „ „ (Harptree Court) ...	W. W. Kettlewell, Esq.	5	1	0	346 †	45·50 188
„ „ „ („ „ Hill) ...	J. A. McPherson, Esq. CE	8	1	0	784	42·37 ...
Compton Martin .....	„ „ „ .....	8	1	0	276	42·07 ...
Blagdon (Nordrach-on-Mendip) ..	R. Thurnam, Esq., M.D.	5	0	4	862 †	45·94 154
Temple Cloud .....	Dr. Theodore Martin...	5	1	0	340 †	37·63 203
Winscombe (The Down) .....	J. Grubb, Esq. ....	5	1	0	295 †	36·83 206
„ „ (Wintrath) .....	F. A. Knight, Esq.....	5	1	0	300 †	32·97 189
Hutton Rectory .....	Rev. W. F. Rose .....	5	1	0	75	32·53 186
Blagdon .....	J. A. McPherson, Esq. CE	8	1	0	550	43·22 ...
„ „ „ .....	„ „ „ .....	8	0	8	115 †	37·87 201
„ „ (Coombe Lodge) .....	„ „ „ .....	8	1	0	388 †	41·66 ...
Nempnett (West Town) .....	„ „ „ .....	8	1	0	263	36·57 ...
Clutton (Council School) .....	J. Pullen, Esq. ....	5	1	6	420 †	33·31 ...
Pensford (Sutton Court) .....	Sir E. Strachey, Bt. M.P.	8	1	0	280	36·17 201
Weston-spr.-Mare (Leycroft Ho.)	C. Brown, Esq. ....	8	1	0	15	28·64 169
§ „ „ „ (Town Hall) ...	F. Allen, Esq.....	5	1	0	21	29·39 162
„ „ „ (Worle) .....	Dr. St. John Kemm ...	5	1	0	...	30·96 190
Bath (Combe Hay Manor) .....	F. G. Smart, Esq.....	5	1	0	...	37·22 208
„ „ (Crossways, Monkton Combe)	M. J. Lipscomb, Esq....	5	1	0	180	35·88 171
Wrington (The Cottage) .....	H. C. Bristowe, Esq. M.D.	5	1	0	100	33·54 178
„ „ (The Rectory) .....	Rev. G. M. Ashdown..	5	5	0	68	34·53 169
„ „ (West Hay) .....	Miss Mary B. Harrison.	5	2	0	100 †	34·61 177

## DIVISION V.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with 0.1 or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
NORTH SOMERSET—(con.)						
Chew Magna .....	J. A. McPherson, Esq. CE	5	1 4	180 T	36.33	184
D Publow Vicarage .....	Rev. H. H. Tripp .....	5	1 0	96 A	33.81	167
Bath (Royal Institution) .....	Dr. W. H. Symons .....	6	8 0	74	31.43	...
D§ „ (Henrietta Park) .....	„ „ „ .....	5	1 0	67 A	30.16	188
D „ (Statutory Hospital) .....	„ „ „ .....	5	1 0	520	33.04	181
D „ (Kingswood School) .....	„ „ „ .....	5	1 0	620 A	30.86	175
D „ (Hampstead, Combe Park). .....	„ „ „ .....	5	1 0	165 A	31.11	173
D „ (Somerset Place) .....	R. Lewis Lloyd, Esq. ...	5	0 10	350	31.31	215
D „ (Charlcombe) .....	J. Dent Young, Esq. C.E.	8	2 0	325 T	31.95	183
„ „ (Hamilton Ho.) .....	F. E. Rogers, Esq. ....	5	1 6	780 T	31.87	...
D Saltford House .....	Col. Rolleston .....	...	...	...	30.79	173
D Batheaston .....	Col. Linley Blathwayt.	5	1 0	166 A	31.32	194
„ „ M .....	„ „ „ .....	5	1 0	166 A	31.85	...
D „ Reservoir .....	J. Dent Young Esq., C.E.	6	2 0	248 A	33.31	204
Yatton (Chelvey) .....	J. A. McPherson, Esq. CE	8	0 8	60	34.49	175
Barrow Gurney Reservoir .....	„ „ „ .....	5	1 6	300 A	38.90	195
D Keynsham (West View Road) .....	S. B. Froude, Esq. ....	5	1 0	102 A	32.55	199
Flax Bourton (The Grange) .....	C. O. Master, Esq. ....	...	...	180 ?	39.78	...
D Long Ashton (Estate Office) .....	H. B. Napier, Esq. ...	8	1 0	134 A	38.27	147
Clevedon (Hagworthingham) .....	Rev. A. Cheales .....	5	1 0	160	30.98	...
D „ (The Knoll) .....	Miss Woodward .....	5	1 0	120 T	32.91	169
D „ (Water Works) .....	J. Harger Pye, Esq. ...	5	1 10	28 A	31.24	189
Bristol (Coronation Road) .....	H. C. Martin, Esq. ...	5	0 10	50	31.57	...
Wraxall (Boys' School) .....	Ebenezer Brown, Esq. ..	5	1 2	...	37.86	181
D Abbots Leigh .....	Sir Henry Miles, Bart.	5	1 0	320 T	38.46	175
D† Failand House [Bristol] .....	Miss Agnes Fry .....	5	1 0	385 T	37.96	207

## DIVISION VI.—WEST MIDLAND COUNTIES.

## WEST GLOUCESTERSHIRE.

D Monkswood Reservoir [Bath] .....	J. Dent Young Esq., C.E.	5	2 0	365 T	34.67	207
D Bristol Docks (Underfall Yard) ..	W. W. Squire, Esq., C.E.	8	19 6	45 A	30.56	178
„ (Telephone Avenue) .....	J. A. McPherson, Esq. CE	5	50 0	80	33.45	174
Clifton (Oakfield Road) .....	„ „ „ .....	5	1 0	200	34.20	179
D „ (Harley Place) .....	Miss Hooper .....	5	1 5	260 B	33.59	187
D „ (Durdham Down) .....	Mrs. Dix .....	6	1 6	310	37.47	202
D „ (Pembroke Road) .....	R. F. Sturge, Esq. ...	8	0 10	215	37.05	182
D§ „ College .....	D. Rintoul, Esq. ....	8	1 2	230	36.72	179
D „ (Stoke Bishop) .....	H. L. P. Lowe, Esq. ...	8	1 3	230 T	37.65	192
Westbury-on-Trym (Cote House) ..	Mrs. H. St. V. Ames ..	8	1 3	243 A	36.56	188
Pucklechurch .....	Rev. S. G. Gillum .....	5	0 10	374 T	34.35	201
D Filton .....	F. W. Gayner, Esq. ...	5	2 0	202 A	31.13	185
D Winterbourne (Kendleshire) .....	J. Marsh, Esq. ....	5	1 0	170 T	33.10	187
D Frampton Cotterell (Park House) ..	H. H. Harding, Esq. ....	5	1 0	158 A	31.98	171
D Chipping Sodbury (Stanshawes Ct) ..	R. N. Hooper, Esq. ...	5	1 3	280 A	35.47	183

## DIVISION VI.—WEST MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with .01 or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
W. GLOUCESTERSHIRE—(con.)						
Chipping Sodbury (The Ridge)...	Lt.-Col. P. Burges.....	5	1 4	375 T	32.82	174
Almondsbury (Over Court, Park)	R. C.C. Lippincott, Esq.	5	0 11	147 T	34.86	197
" ( " " " ) M	" " "	5	1 0	147 T	33.66	...
" ( " " " ) Garden	" " "	8	1 0	137 T	33.04	197
Badminton (Lyegrove) .....	A. M. Miller, Esq.....	8	1 0	550 T	36.09	182
" .....	Mr. W. Nash .....	5	1 0	407	35.71	191
Wickwar Rectory .....	Rev. Canon R. J. Lyon	5	1 0	260 T	34.01	180
Tortworth Court .....	The Earl of Ducie .....	8	1 0	264	31.60	189
" School .....	E. A. Smith, Esq. ....	5	2 0	264	31.51	179
Sedbury Park [Chepstow] .....	Sir W. H. Marling, Bart.	8	1 0	150 T	32.73	161
Castleford [ " ] .....	Mrs. W. R. Lysaght ...	5	0 8	120 T	35.29	152
Pen Moel [ " ] .....	Mrs. Price .....	5	1 0	240 T	38.72	207
§Dursley (Woodmancote) .....	Meteorological Office ...	5	1 0	257	32.14	...
Avening House .....	Maj. Hon. L. Byng ...	8	1 3	350 ?	34.38	...
Cherington Rectory .....	Rev. C. Marriott .....	5	1 2	540 T	29.49	201
Berkeley Castle Gardens .....	Mr. R. Shore .....	5	1 6	62 T	29.66	168
" (Sharpness Docks).....	F. A. Jones, Esq., C.E.	5	3 6	50	27.58	170
Chalford (Hyde House).....	Piers F. Legh, Esq. ...	5	1 6	527 T	34.55	182
Lydney (Clanna) .....	Captain W. B. Marling	5	1 0	260 T	35.49	177
Stroud (Stanley Park) .....	Sir W. H. Marling, Bart.	8	1 0	365 T	32.27	159
" (Upfield).....	Miss E. R. Stanton ...	5	1 0	226 T	30.26	201
Stonehouse (Wycliffe College)...	W. A. Sibly, Esq. ....	5	1 0	125	28.35	179
" (Parklands) ... No. 1	W. Grey Robinson, Esq.	8	2 6	103 T	26.70	177
" ( " ) ... No. 2	" " "	5	2 0	103	26.39	184
Whitminster .....	F. A. Jones, Esq., C.E.	5	1 0	32 T	27.91	179
Haresfield Court .....	Mr. S. Pearce.....	5	1 0	100	26.93	177
Harescombe Grange .....	Miss H. Mary Hutton..	5	1 0	545 T	28.33	204
§Forest of Dean (Whitemead Park)	C. O. Hanson, Esq. ...	8	1 0	200	28.92	144
§ " " " (Blakeney Hill Lo.)	" " " ...	8	1 0	500	27.33	154
§ " " " (Worcester Lodge)	" " " ...	8	0 11	700	29.71	157
§ " " " (Braceland) .....	" " " ...	8	1 0	500	32.86	153
§ " " " (Edgehills Lodge).	" " " ...	8	1 0	700	32.09	160
§ " " " (Ruardean Hill Lo.)	" " " ...	8	1 0	900	36.37	180
Longney Vicarage.....	Rev. W. E. Stewart ...	5	1 0	55 T	25.09	174
Westbury-on-Severn (Chaxhill).	Mrs. Grant .....	5	3 0	122 T	28.52	161
Quedgeley House .....	Col. Curtis Hayward...	5	1 0	65 T	27.81	182
Witcombe Reservoir .....	R. Read, Esq., C.E. ...	8	3 0	297 T	29.70	164
Mitcheldean (Blaisdon).....	Colin MacIver, Esq. ...	5	1 0	117 T	28.85	...
Gloucester (Park Road).....	G. Embrey, Esq. ....	8	1 3	56	24.45	180
" (Belgrave Road) .....	W. Piffe Brown, Esq...	5	1 0	52 T	23.89	172
" (Alexandra Road) ...	A. J. Stephens, Esq. ...	5	1 0	54 T	24.07	...
" (Denmark Road).....	Harley Butt, Esq.....	5	1 5	79 T	24.18	...
" (Barnwood Vicarage).	Rev. F. H. Fowler .....	5	1 0	80 T	26.82	187
" (Llanthony Lock) ...	E. D. Marten, Esq., C.E.	5	1 2	39 T	23.57	176
" (Wotton Asylum).....	Dr. E. F. Kough .....	8	0 9	93 T	24.23	156
Dowdeswell Reservoir .....	J. S. Pickering, Esq., C.E.	5	0 10	357 T	32.12	171
Gloucester (Maisemore Lock) ...	E. D. Marten, Esq., C.E.	5	1 1	39 T	25.00	189

## DIVISION VI.—WEST MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain. 1909	Days with .01 or more recorded.
		Diameter	Height Above Ground		Height Above Sea Level		
		in.	ft.	in.	feet.	inches.	
<b>W. GLOUCESTERSHIRE—(con.)</b>							
D Charlton Kings (The Grange) ...	Miss E. M. Heberden...	5	0	9	300	28·92	170
Tibberton Court.....	Mrs. W. E. Price .....	5	1	0	109	24·96	159
D Cheltenham (Northfield) .....	J. S. Pickering, Esq. C. E.	8	5	0	637 $\nabla$	23·77?	192
D „ (Hewletts Res.) ...	„ „ „	8	1	6	419 $\nabla$	26·33	192
D „ (Sandford Mead) ...	„ „ „	5	2	6	210 $\nabla$	25·51	151
„ (Kemerton Lodge)...	Rev. Percy Burd .....	5	1	0	211	24·86	179
§ „ .....	Royal Meteorological Soc	5	1	0	214	25·16	174
D „ (Prestbury) .....	J. W. Guy, Esq. ....	5	0	10	...	27·96	202
D Winchcombe .....	Dr. J. Halliwell .....	5	1	2	295 $\nabla$	29·63	202
D Tewkesbury (Forthampton Court)	Mr. H. French .....	5	1	0	30 $\nabla$	24·68	170
D „ (Upper Lode) .....	E. D. Marten, Esq., C. E.	5	1	0	41 $\nabla$	23·10	165
D Bromsberrow Pumping Station...	W. Osborne Thorp Esq. C. E.	5	1	0	181 $\nabla$	22·43	170
Wormington Grange .....	(R) R. E. S. Thomas, Esq..	8	0	10	200	29·24	...
<b>EAST GLOUCESTERSHIRE.</b>							
D Fairford (Kempsford) .....	A. T. Iles, Esq. ....	5	1	0	250 ?	29·33	183
D „ (The Close) .....	W. Cobbett Arkell, Esq.	5	1	9	...	30·20	172
D „ (Draycott) .....	C. W. Edmonds, Esq. ...	5	2	0	200	31·73	188
„ (The Croft House).....	C. H. Bloxsome, Esq. ...	5	1	0	300	29·22	...
D Lechlade (Claydon House) .....	T. T. S. Metcalfe, Esq..	5	1	0	250 $\nabla$	27·88	200
„ (Southrop Manor) .....	Thomas Arkell, Esq. ...	...	1	0	...	27·15	...
D § Cirencester (Roy. Agricultl. Coll.)	Prof. Ainsworth Davis.	5	0	10	443	32·15	192
D „ (Cripps Mead).....	Mrs. Wilfred Cripps ...	5	0	8	366 $\nabla$	34·02	199
D „ (Dollarward House) ..	C. P. Hooker, Esq. ...	5	1	6	366	34·49	206
D „ ( „ „ „ ) ..	„ „ „	8	1	6	366	34·12	206
„ (Further Barton) ...	„ „ „	5	1	0	422 $\nabla$	33·95	...
D Fairford (Hatherop Castle) .....	Gardner S. Bazley, Esq.	5	1	0	410 $\nabla$	32·54	200
D Great Barrington .....	H. J. Barrett, Esq. ...	5	1	6	430 $\nabla$	32·07	193
D Northleach (Sherborne House) ...	Mr. A. Mitchell.....	5	1	0	420	33·06	180
D „ (The Vicarage) .....	Rev. R. C. S. Jones ...	5	0	9	545	30·91	192
D „ (Leygore Manor).....	Arthur E. Moss, Esq. ...	5	1	0	700	29·39	202
D Bourton-on-the-Water .....	E. W. Kendall, Esq. ...	5	1	6	434 $\nabla$	31·11	191
„ „ „ (Chardwar) .....	G. F. Moore, Esq. ....	5	2	6	430	32·48	180
D Stow-on-the-Wold (Icomb Place) ..	S. M. Simpson, Esq. ...	...	...	...	550 ?	30·84	166
D „ „ „ (Wych Hill Grdns.)	Mr. J. Dryden .....	5	1	0	400	33·20	175
D „ „ „ (Netherswell Manor) (R)	Mr. D. MacBeath .....	8	3	2	560	29·07	170
D „ „ „ .....	D. W. Horner, Esq. ...	5	1	5	748 $\nabla$	31·29	212
D Temple Guiting .....	Major G. T. Noel .....	5	1	2	680 $\nabla$	31·95	163
Chipping Campden .....	W. Godson, Esq. ....	5	0	4	473 $\nabla$	27·24	...
D † „ „ (Hidcote) ...	Major W. Wright .....	5	1	0	525	24·24	178
D † Mickleton (Bank House) .....	M. J. Salter, Esq. ....	5	1	0	233 $\nabla$	25·83	189
<b>HEREFORDSHIRE.</b>							
D † Walford-on-Wye Vicarage .....	Rev. Kentish Bache ...	5	3	0	112 $\nabla$	28·03	203
D † Ross (Broad Street) .....	late H. M. Purchas, Esq.	5	1	3	123 $\nabla$	26·98	187

## DIVISION VI.—WEST MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with $\geq 0.1$ or more recorded.
		Diameter	Height Above Ground		Height Above Sea Level	1909
		in.	ft.	in.	feet.	inches.
HEREFORDSHIRE—(con.)						
D† Ross (The Graig) .....	H. Southall, Esq. ....	5	1	0	213 $\nabla$	25.57 170
D Kentchurch Rectory .....	Rev. R. P. Dansey .....	5	1	0	215 $\nabla$	31.58 199
† Ross (Perrystone Court) .....	General Clive .....	5	1	3	...	23.30 181
† Much Dewchurch (Bryngwyn) ..	Sir J. Rankin, Bart., M.P. ....	5	0	9	421 $\nabla$	29.23 179
D Much Marcle (The Mount) .....	Miss A. M. Charles ...	5	0	8	240 $\nabla$	24.45 191
D Fownhope (Morney Cross) .....	Miss F. Cresswell .....	5	1	5	...	22.07 156
D Vowchurch (Whitehouse) .....	Arthur S. Wood, Esq. ....	5	5	0	450 $\nabla$	32.90 214
D† Ledbury (Orchardleigh) .....	M. A. Wood, Esq. ....	5	3	6	180	24.14 175
D† „ (Underdown) .....	S. H. Bickham, Esq. ....	5	1	0	307 $\nabla$	24.25 186
† „ ( „ ) .....	M „ „ „ .....	5	1	0	306 $\nabla$	23.36 ...
„ (Putley Court) .....	J. Riley, Esq. ....	5	1	0	290	26.97 180
D „ (Wellington Heath) ..	Rev. F. S. Stooke-Vaughan ..	5	1	2	505 $\nabla$	27.00 196
D† Hereford (St. Michael's Priory) ..	Rev. R. C. Hesketh, O.S.B. ....	5	1	0	291 $\nabla$	23.96 192
D „ (Breinton Court) .....	H. A. Wadworth, Esq. ....	5	3	0	238 $\nabla$	22.15 162
D† „ (Richmond Place) .....	W. Cooke, Esq. ....	8	0	8	184 $\nabla$	22.41 171
† „ (St. Owen Street) .....	Mrs. Jay Jones .....	5	6	0	190 $\nabla$	22.47 174
D „ (Quarry House) .....	Rev. Preb. W. Selwyn ..	5	1	0	180 ?	24.28 171
D† „ (Broadlands) .....	Miss Ida M. Lea .....	5	1	0	280 $\nabla$	23.51 170
† „ (Hinton Court) .....	A. Battiscombe, Esq. ....	5	1	0	185 $\nabla$	23.32 173
D† „ (Holmer Hall) .....	Rev. Preb. M. Hopton ..	8	1	3	241 $\nabla$	21.98 182
Lugwardine (Annandale) .....	C. J. Johnstone, Esq. ....	5	1	0	202	22.39 156
Bartestree Court .....	R. P. Haden Cope, Esq. ....	5	1	0	286 $\nabla$	24.46 218
„ (Hagley Park) .....	Mr. T. Alford .....	5	0	6	311 $\nabla$	21.60 ...
D Credenhill (Swainshill) .....	B. G. Ronalds, Esq. ...	5	1	0	266 $\nabla$	22.79 174
D „ (Stretton Sugwas) ..	S. H. Armitage, Esq. ....	5	3	0	226	22.94 154
D† „ .....	R. M. Whiting, Esq. ....	5	1	5	280 $\nabla$	23.96 199
D† Yarkhill Vicarage .....	Rev. A. G. Jones .....	8	1	0	200 $\nabla$	23.65 183
D† Burghill Court .....	Miss E. D. Woodhouse ..	5	1	2	293 $\nabla$	22.72 186
D† Ocle Pychard (Ocle Court) ..	G. Cresswell, Esq. ....	8	1	2	298 $\nabla$	25.42 194
D Whitney-on-Wye .....	Mr. W. Burgess .....	8	1	0	428 $\nabla$	32.65 193
D Brilley Vicarage .....	Rev. W. Head .....	5	1	0	590 $\nabla$	32.44 193
† Sarnesfield Rectory .....	Rev. W. Marshall .....	5	0	11	400 $\nabla$	25.42 164
D† Bodenham (Pigeon House) .....	R. C. Bailey, Esq. ....	5	1	0	215	25.37 205
† Pencombe Rectory .....	Rev. J. Seymour St. John ..	5	1	0	520 $\nabla$	29.12 199
D Huntington Court .....	E. Radclyffe Crump, Esq. ....	5	1	1	833 $\nabla$	36.99 217
D† Pembridge (Dilwyn) .....	Dr. T. Lambert Hall ..	5	0	8	290 $\nabla$	25.11 171
† „ (Burton Court) .....	Col. P. L. Clowes .....	5	1	8	400	25.50 173
D† Kington (Lynhales) .....	S. Robinson, Esq. ....	8	1	0	566	30.91 197
D† „ (Gravel Hill) .....	Col. G. F. Pearson .....	5	0	8	535 $\nabla$	33.70 244
D† Pembridge (Marston) .....	H. Langston, Esq. ....	5	1	5	347 $\nabla$	28.81 180
D Bromyard (Munderfield Harold) ..	Capt. N. Enderby .....	5	0	10	570 $\nabla$	26.76 192
D† „ (Rowden Abbey) .....	H. J. Bailey, Esq. ....	5	1	0	450 $\nabla$	26.80 185
D† „ (Buckenhill) .....	R. Phipps, Esq. ....	8	1	6	410	28.13 184
† Whitbourne Court .....	Lady Harington .....	5	1	0	...	26.97 ...
D† Leominster (Farm) .....	Miss Southall .....	5	1	5	268 $\nabla$	26.37 199

## DIVISION VI.—WEST MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain. 1909	Days with $\geq 0.1$ or more recorded.
		Diameter	Height Above Ground		Height Above Sea level		
		in.	ft.	in.	feet.	inches.	
<b>SHROPSHIRE.</b>							
Nash Court [Tenbury] .....	Major T. G. C. Reynolds	5	5	6	520 $\nabla$	25.02	179
D Ludlow (Ashford House) .....	W. Downes Hall, Esq.	5	0	5	315 $\nabla$	31.00	191
D Bromfield (Oakly Park) .....	Mr. T. Reason .....	5	1	0	300	27.81	224
D " .....	F. Brayshaw, Esq. ....	5	1	0	320 $\nabla$	28.58	213
Craven Arms (Stokesay Court)...	Mr. J. R. Francis .....	5	0	9	432 $\nabla$	28.35	...
D Clunbury Vicarage .....	Rev. W. Clark Maxwell	5	1	0	497 $\nabla$	28.52	161
D Craven Arms (Stokesay Vicarage)	Rev. W. M. D. La Touche	5	1	0	372 $\nabla$	28.16	187
D Hopesay Rectory .....	Rev. R. J. Roberts .....	5	1	0	565 $\nabla$	28.51	183
D Bishops Castle (Totterton) .....	W. H. Whitaker, Esq.	5	0	7	700	26.70	186
D " " (Castle Street) .....	E. Griffiths, Esq. ....	5	2	0	720 $\nabla$	27.81	175
D " " Vicarage .....	Rev. C. E. Warner .....	5	1	6	596 $\nabla$	31.12	210
" " (More Rectory)...	Rev. Ridley Relton .....	6	0	11	600 $\nabla$	26.53	...
Bridgnorth (Coton Hall) .....	E. M. Wakeman, Esq.	5	1	6	460	26.73	179
" (Woodlands Hall) .....	Miss Burd Brooks .....	5	2	2	428 $\nabla$	25.93	167
D Church Stretton (Sewage Works)	E. J. Marsh, Esq. ....	5	1	0	582 $\nabla$	31.79	226
D† Bridgnorth (Hookfield House)...	Rev. Preb. F. Burd .....	5	0	11	273 $\nabla$	27.27	181
D " (Cantreyn) .....	W. Bayliss, Esq. ....	5	3	0	290	27.03	182
D " ( " ) .....	" .....	5	0	3	290	28.44	182
D " (Aldenham Park) .....	Mr. T. Canning .....	5	3	9	430 $\nabla$	27.14	180
D Church Preen (Preen Manor) .....	Mr. J. Hopkins .....	5	1	0	700 $\nabla$	28.79	174
D Church Stretton (Wolstaston) .....	Mrs. E. D. Carr .....	5	1	5	800 $\nabla$	31.19	188
D Much Wenlock (Willey Park)...	Lord Forester .....	5	3	0	492 $\nabla$	26.97	189
Minsterley (Hampton Hall) .....	J. Whitaker, Esq. ....	...	1	0	630 $\nabla$	25.61	...
D " (Wallop) .....	Mrs. Severne .....	8	1	8	700 $\nabla$	34.07	190
D Shifnal (Hatton Grange) .....	Mr. G. Risebrow .....	5	4	4	262	26.58	201
D " (Neachley) .....	Col. Hon. F. Bridgeman	5	1	6	280 $\nabla$	29.51	215
D " (National School) .....	F. W. Haswell, Esq. ....	5	1	1	279 $\nabla$	26.50	164
D " (Haughton Hall) .....	W. J. Brooke, Esq. ....	5	3	0	355 $\nabla$	28.27	163
D Shrewsbury (The Abbey House)	Miss F. Rouse Boughton	8	1	3	171 $\nabla$	22.09	178
† " (Ordnance Survey Office)	Q.-M.-Serg. Parsifull, R.E.	8	1	0	191 $\nabla$	22.79	187
D " (Highfield) .....	T. M. Howells, Esq. ....	5	4	6	250 $\nabla$	24.23	187
§ " (Roden) .....	Royal Meteorological Soc	8	1	0	209	23.77	172
D " (Fitz Rectory) .....	Rev. W. Brewster .....	5	1	2	238 $\nabla$	23.70	193
" ( " Manor) .....	Major J. F. Horner .....	5	1	4	253 $\nabla$	23.49	186
D Newport (Aston Hall) .....	Col. R. Leeke .....	5	1	4	280 $\nabla$	28.13	195
D " (Agricultural College)...	P. Hedworth Foulkes Esq.	5	1	0	220	25.43	181
D " (Edgmond) .....	J. Bodenham, Esq. ....	8	1	0	261 $\nabla$	27.61	205
" (Chetwynd Park) .....	Mrs. Burton Borough .....	...	...	...	240	29.66	...
D " ( " Gardens) .....	Mr. R. Sherwood .....	5	0	6	235 $\nabla$	30.23	200
D Cheswardine (Knighton Res.) .....	G. R. Jebb, Esq., C.E.	8	1	0	351 $\nabla$	30.56	177
D Oswestry (The Mount Reservoir)	G. W. Lacey, Esq., C.E.	5	1	0	698 $\nabla$	34.09	202
Market Drayton (Buntingsdale)...	Mrs. Tayleur .....	8	3	0	276 $\nabla$	30.71	...
D Ellesmere (The Grange) .....	Mrs. Ashton .....	5	0	10	340	29.20	189
D Whitechurch (Fenns Bank) .....	M. W. Sowden, Esq., C.E.	8	1	0	271 $\nabla$	25.63	175
<b>STAFFORDSHIRE.</b>							
D Netherton (Lodge Farm Res.) .....	G. R. Jebb, Esq., C.E.	5	1	0	445 $\nabla$	25.06	173
D Dudley (Shavers End) .....	H. A. Hill, Esq., C.E.	5	1	0	744 $\nabla$	27.20	187

## DIVISION VI.—WEST MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain.	Days with .01 or more recorded.
		Diameter	Height above Ground.		Height above Sea Level	1909	
		in.	ft.	in.	feet.	inches.	
STAFFORDSHIRE—(con.)							
D Wombourne (The Bratch) .....	Baldwin Latham Esq CE	5	0	9	271 $\nabla$	27.42	191
D West Bromwich .....	(R) A.D. Greatorex, Esq., CE	8	4	9	546 $\nabla$	27.46	185
D Wednesbury (Ocker Hill).....	G. R. Jebb, Esq., C.E.	5	0	8	474 $\nabla$	26.94	190
D Walsall (Brockhurst Sew. Farm)	J. Taylor, Esq. ....	8	0	11	376 $\nabla$	30.65	183
D „ (Wednesbury Sewage Wks.)	T. Wicks, Esq. ....	5	2	8	381 $\nabla$	25.48	193
D Bilston (The Lunt Outfall) .....	Vincent Turner, Esq...	5	1	0	422 $\nabla$	25.99	172
† Wolverhampton (Graiseley) ...	K. C. Berrington, Esq..	6	0	9	506 $\nabla$	30.26	162
† „ (Town Hall) ...	G. Green, Esq., C.E....	5	15	6	481 $\nabla$	27.51	180
† „ (West Park) ...	„ „ „ „ ...	5	1	4	432 $\nabla$	29.64	189
D „ (Wrottesley) ...	Mr. E. Simpson .....	8	1	0	500	26.54	184
D Patshull Park.....	The Earl of Dartmouth	8	1	3	273	28.12	174
D Bloxwich (Sneyd Reservoir).....	G. R. Jebb, Esq., C.E..	5	1	0	507 $\nabla$	26.43	183
D Hammerwich (Cannock Chase Res)	„ „ „ „ .....	5	1	0	475 $\nabla$	24.95	182
D Weston Park [Shifnal].....	The Earl of Bradford...	5	1	6	400 $\nabla$	28.69	179
D Brewood (Belvide Reservoir) ...	G. R. Jebb, Esq., C.E.	8	1	0	367 $\nabla$	27.94	199
D Lichfield (St. John Street) .....	Dr. F. M. Rowland ...	5	0	10	269 $\nabla$	28.02	207
„ (Maple Hayes) .....	A. O. Worthington, Esq.	5	0	11	380 $\nabla$	22.63?	...
D Penkridge (Rodbaston) .....	Mrs. H. Ward .....	5	1	0	324 $\nabla$	27.77	176
D Hednesford (Scout House) .....	H. A. Hill, Esq., C.E..	5	1	0	750 $\nabla$	22.54?	163
Wichnor Park .....	Basil Levett, Esq. ....	5	0	8	100 ?	24.26	...
D Church Eaton Rectory .....	Rev. S. Wickham Jones	8	0	8	298 $\nabla$	28.11	196
Shugborough .....	The Earl of Lichfield...	5	1	0	260	31.92	213
D Burton (Hoar Cross) .....	F. W. Lycett, Esq. ....	8	1	0	400 $\nabla$	29.96	171
D „ (Rangemore) .....	Mr. W. Bennett.....	5	5	6	424 $\nabla$	26.60	145
D „ (Shobnall).....	Messrs. Bass & Co. ...	5	5	6	156 $\nabla$	25.79	154
D Stafford (Tipping Street) .....	W. Fred. Wright, Esq.	5	2	6	258 $\nabla$	30.28	180
„ (West Bank, Doxey) M	Leslie Wilson, Esq. ...	5	0	6	280 $\nabla$	28.86	...
D Eccleshall (Walton Hall).....	Sir H. A. Wiggin, Bart.	5	1	0	344 $\nabla$	34.30	180
D Hanbury Hall .....	Miss Caroline M. Bott..	5	0	11	483 $\nabla$	29.84	188
D Market Drayton (Old Springs)...	F. E. Harding, Esq. ...	5	1	0	423 $\nabla$	30.16	192
Maer Hall Gardens .....	F. J. Harrison, Esq. ...	8	1	6	390 $\nabla$	38.06	187
§ Cheadle (The Heath House).....	Roy. Meteorological Soc.	5	0	6	647 $\nabla$	37.72	204
Betley Hall [Crewe] .....	Col. J. A. Macdonald...	5	1	0	270	32.76	210
Stoke-upon-Trent (The Villas)...	H. H. Goddard, Esq....	5	1	8	430 $\nabla$	33.92	...
D Mayfield House [Ashbourne] ...	Graham C. Lawson, Esq.	8	1	0	374 $\nabla$	36.98	189
D „ „ „ „ [ „ ] Snow g.	„ „ „ „ „ „ „ „	8	1	0	374 $\nabla$	35.20	191
D Leek (Wall Grange) .....	G. B. H. Soame, Esq. C.E.	5	1	0	458 $\nabla$	38.74	192
WORCESTERSHIRE.							
D Blockley (Upton Wold).....	E. W. Arkell, Esq. ...	5	1	0	...	33.99	195
Northwick Park.....	The Lady Northwick...	8	1	6	410 $\nabla$	31.81	...
Shipston (Tidmington House) ...	Miss Staunton .....	5	1	1	...	31.56	...
Upton-on-Severn (Willow Bank)	J. Selwyn Cowley, Esq.	5	1	3	42	25.01	180
D „ „ „ „ (The Eades)...	Major E. W. Tennant..	5	0	9	100 $\nabla$	26.02	204
† Evesham (Eastwick).....	C. Burlingham, Esq....	5	1	0	110	24.86	...

DIVISION VI.—WEST MIDLAND COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with 0.1 or more recorded.
		Diameter	Height Above Ground.		Height Above Sea Level	
		in.	ft.	in.	feet.	inches.
<b>WORCESTERSHIRE—(con.)</b>						
†Evesham (Lansdowne) .....	R. Burlingham, Esq....	5	5	0	108 T	25.87
D „ „ .....	Messrs. Ross Bros., Ltd.	5	1	0	120 T	26.79
Pershore (The Poplars) .....	Col. J. F. Miller .....	5	1	6	104 T	23.38
D Gt. Malvern (British Camp Res.) .....	W. Osborne Thorp, Esq., C.E.	5	0	11	677 T	27.43
D „ „ (Church Street) .....	„ „ „	5	1	0	350 T	30.29
D§ „ „ (Belle Vue House) .....	A. Mander, Esq. ....	5	4	0	520	30.04
D „ „ (Davenham Gardens) .....	Mr. C. A. Bayford .....	5	2	0	300	26.61
D „ „ (Madresfield Court) .....	Mr. W. Crump .....	8	2	6	125 T	26.58
D Shipston (Armescote) .....	W. L. Stanton, Esq. ...	5	1	1	241 T	25.81
D „ „ (Talton) .....	Capt. G. Lainson Field	8	1	0	160 T	23.04
D Kempsey (Draycott House) .....	Col. C. E. Southouse Scott	5	1	0	55	25.65
„ „ (Priors Court) .....	Capt. G. M. Archdale...	5	0	11	80 ?	24.18
D† Worcester (Boughton Park) .....	Mrs. Isaac .....	5	1	0	82 T	27.52
„ „ (Bromwich House) .....	late Rev. Canon T. L. Wheeler	5	0	10	86 T	24.36
D† „ „ (Diglis Lock) .....	E. D. Marten, Esq., C.E.	5	1	0	49 T	20.12
D† „ „ (Belmont Road) .....	G. B. Wetherall, Esq..	5	1	6	180 T	24.57
D† „ „ (Water Works) .....	T. Caink, Esq., C.E. ...	5	0	9	56 T	24.33
D „ „ (Bevere Lock) .....	E. D. Marten, Esq., C.E.	5	1	1	52 T	25.50
Worcester (Hawford Lodge) .....	F. Ames, Esq. ....	5	1	1	70	29.32
D Martley Rectory .....	Rev. J. F. Hastings ...	5	1	0	250 T	27.68
D Droitwich (Holt Lock) .....	E. D. Marten, Esq., C.E.	5	1	1	55 T	25.18
D „ „ .....	H. Hulse, Esq., C.E....	12	2	9	98 T	27.47
Shelsley Walsh .....	Miss M. Constance Hadley	5	0	8	164 T	31.63
D Tenbury (Rochford Rectory) .....	Rev. J. Tomson .....	5	1	0	317 T	25.35
Stockton-on-Teme (Eardiston) .....	Miss M. Wallace .....	5	0	9	200	24.97
D Redditch (Hewell Gardens) .....	Mr. A. A. Pettigrew ...	5	1	0	469 T	32.06
D Bromsgrove (Tardebigge Res.) .....	F. A. Jones, Esq., C.E.	5	3	0	433 T	32.62
D Alvechurch (High Croft) .....	D. B. Grubb, Esq. ....	5	1	0	580	33.32
D Barnt Green (Upwood) .....	Miss M. Gibbins .....	5	0	9	650 T	28.41
D Stourport (Lincombe Lock) .....	E. D. Marten, Esq., C.E.	5	1	0	62 T	26.26
D „ „ (Areley Hall) .....	S. Zachary Lloyd, Esq.	5	0	9	70 T	26.75
D Bromsgrove (Lower Bittal Res.) .....	F. A. Jones, Esq., C.E.	5	3	0	430 T	31.92
D† Bewdley (Winterdyne) .....	Miss K. M. Sturt .....	5	1	0	100 ?	24.54
† „ „ ( „ „ ) .....	„ „ „ „ „	...	...	...	100 ?	27.71
D Kidderminster (Brinton Park) .....	Mr. J. T. Cowderoy ...	5	1	0	160 T	22.88
„ „ (Honeybrook Ho.) .....	Col. R. Talbot Watson..	5	0	9	75	27.59
D Northfield (Longbridge Place) .....	Mrs. Frederick Impey..	5	0	7	560 T	33.36
D „ „ (West Heath House) .....	Prof. Adrian J. Brown	5	1	0	...	32.31
D Halesowen (Frankley) .....	E. Antony Lees, Esq...	5	0	10	570 T	33.95
D Kings Heath (Brandwood House) .....	G. F. Lyndon, Esq. ...	5	1	0	550 T	32.02
Selly Oak (Lodge Hill Cemetery) .....	Mr. W. Garden .....	5	1	4	540 T	32.86
D Stourbridge (Hagley Rectory) .....	Rev. Manley Power ...	5	1	0	750 T	29.57
Moseley (Prospect Road) .....	Rev. F. Oscar Lane ...	5	1	0	550 T	29.85
D Sparkhill [Birmingham] .....	D. H. Owen, Esq. ....	5	1	0	430 T	31.18
D Dudley (Borough Cemetery) .....	J. Gammage, Esq., C.E.	5	1	3	591 T	26.66

## DIVISION VI.—WEST MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with '01 or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
<b>WARWICKSHIRE.</b>						
Long Compton (Weston Park)...	H. A. Warriner, Esq...	8	3 0	510 T	28·70	186
Shipston (Honington Vicarage)...	Rev. E. H. Boddington	5	0 10	215 T	27·39	181
D Farnborough .....	Miss Prater .....	5	1 0	515 T	34·21	218
Stratford-on-Avon (Avonfield) ..	G. W. Everard, Esq....	5	0 10	120 T	26·62	180
D „ „ „ (Shottery Hall)	R. C. Carter, Esq.....	5	0 8	140 T	26·12	185
D „ „ „ (Hardwicke) ..	Miss E. H. Smith .....	12	6 0	146 T	26·36	180
D Alcester (Ragley Hall) .....	The Marquis of Hertford	5	1 0	270 T	28·35	175
D Snitterfield .....	Roden Dixon, Esq.....	8	1 6	274 T	30·08	158
D Leamington (Radford House) ..	C. E. G. Hatherell, Esq.	5	1 2	240 T	27·89	206
D „ (Binswood Avenue)	Rev. A. Corbet .....	5	0 9	...	27·09	171
D „ (Cubbington).....	Mrs. Robins .....	5	1 0	282 T	26·59	175
D Rugby (Bilton Grange).....	W. H. G. Southcomb, Esq	5	1 0	400	22·62?	169
D „ (Temple Observatory) ...	Rev. Denys E. Shorto..	5	1 1	383 T	25·98	187
D Ryton-on-Dunsmore (Ryton Ho.)	Charles Browett, Esq...	5	1 2	260	28·07	157
D Coventry (City Hospital) .....	E. H. Snell, Esq., M.D.	8	1 0	269 T	26·65	217
D „ (Holyhead Road) .....	J. B. Morris, Esq. ....	5	1 0	300 T	24·52	199
D „ (Kingswood) .....	R. B. Caldicott, Esq....	8	1 0	308 T	26·30	172
D Hampton-in-Arden (Hampton Manor)	Mr. W. R. Cooper.....	8	0 7	345 T	33·63	182
D Foleshill (Foxford School) .....	A. F. Smith, Esq. ....	5	10 9	311 T	26·64	158
D Coventry (Keresley Grange).....	Miss H. Rotherham ...	5	0 10	413 T	27·53	222
D Birmingham (Sheldon Rectory) ..	Mrs. Jones-Bateman...	8	1 0	323	32·68	182
D§ „ (Edgbaston) .....	A. Cresswell, Esq.....	8	1 0	525 T	27·72	175
D „ (The Crescent) ... M	J. J. Gilbert, Esq.....	5	7 0	480 T	28·71	...
D „ (Gravelly Hill).....	W. Ll. Mold, Esq.....	5	3 0	450	30·19	175
D Bedworth Cemetery .....	Mr. G. O. Bosworth ...	5	1 0	385 T	27·04	175
Nuneaton (Chilvers Coton Vic.)..	Rev. R. Chadwick .....	5	0 10	283 T	25·58	184
D Witton Res. (Birmingham W.W.)	E. Antony Lees, Esq...	5	3 0	347 T	27·77	203
D Whitacre {	„ „ „	5	1 5	269 T	28·21	216
D Sutton Coldfield (The Park).....	Mr. H. Harland.....	5	1 0	371 T	28·83	190

## DIVISION VII.—NORTH MIDLAND COUNTIES.

## LEICESTERSHIRE.

Lutterworth (Walcote) .....	Major Corbet Smith ...	5	0 6	290 T	26·47	172
D Market Harborough (Rose Hill).	G. O. Nicholson, Esq...	5	1 0	350 T	24·44	176
East Langton Grange .....	J. W. Logan, Esq.....	5	1 0	...	23·95	...
D Kibworth Beauchamp .....	E. V. Phillips, Esq. ...	5	2 6	390 T	24·99	173
D Wistow Hall Gardens .....	Mr. R. W. Thatcher...	5	1 1	310 T	23·88	152
Hallaton Hall.....	S. N. Bankart, Esq. ...	8	1 3	366	24·42	...
Newton Harcourt .....	Hon. T. F. Fremantle..	5	1 0	352 T	22·83	...
Horninghold House... <i>Snowdon g.</i>	Mr. B. Inchley .....	5	1 6	380	25·26	...
„ „ „ <i>float g.</i>	„ „ „	6	2 0	380	23·80	...

## DIVISION VII.—NORTH MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with .01 or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
<b>LEICESTERSHIRE—(con.)</b>						
D Blaby (Whetstone Road) .....	G. F. Shoults, Esq. ...	5	0 6	239 $\nabla$	24.13	195
D „ (Havelock House) .....	F. Atkins, Esq. ....	5	1 6	233 $\nabla$	25.33	197
D Glen Parva (S. Wigston Sew. Fm.)	Mr. W. G. J. Clark ...	8	0 5	231 $\nabla$	22.98	192
D Leicester (Stonegate Road) ...	T. Spencer Smithson Esq	5	0 6	258 $\nabla$	24.87	192
D „ (Town Hall Square) ...	E. G. Mawbey, Esq., C.E.	5	0 6	211 $\nabla$	22.67	185
D† „ ( „ „ „ „ ) (R)	„ „ „ „ „	7	2 0	213 $\nabla$	22.54	183
D Market Bosworth (Osbaston Hall)	Thomas Cope, Esq. ....	8	1 0	393 $\nabla$	27.96	223
Desford (Industrial School) .....	F. Lansdell, Esq. ....	5	1 0	401	26.69	...
Humberstone Asylum .....	J. E. M. Finch, Esq., M. D	8	1 0	266 $\nabla$	26.75	208
Old Humberstone .....	W. R. Kendall, Esq. ...	5	1 6	297 $\nabla$	26.05	...
Leicester (Anstey Pastures) .....	W. P. Viccars, Esq. ...	5	1 1	280	24.46	...
D Thornton Reservoir .....	F. Griffith, Esq., C.E. ...	8	1 2	371 $\nabla$	26.55	180
D Thurcaston (Cropston, Bradgate Res.)	„ „ „	8	1 0	246 $\nabla$	27.24	189
D Barkby Hall .....	Victor R. Pochin, Esq. .	5	0 3	217 $\nabla$	26.11	170
Syston .....	Meteorological Office ...	5	1 6	180 $\nabla$	25.51	158
D Swithland (The Brand) .....	F. Griffith, Esq., C.E. ...	8	1 0	172 $\nabla$	26.76	178
D Ashby-de-la-Zouch (Coleorton Hall)	Mr. H. Wilson .....	5	2 0	540 $\nabla$	30.36	180
D Barrow-upon-Soar (The Mount).	Mrs. C. Stuart Thomson	5	1 6	...	25.32	155
D Charnwood Forest (Blackbrook Res.)	A. H. Walker, Esq., C.E.	8	1 0	367	27.08	188
D Loughborough (Nan Pantan Res.)	„ „ „	8	1 0	269 $\nabla$	26.23	186
„ (The Widenings) .....	Adrian Young, Esq. ...	5	0 7	197 $\nabla$	25.37	178
D „ (Sewage Farm) ...	A. H. Walker, Esq., C.E.	8	1 0	134 $\nabla$	22.29	161
D Burton-on-the-Wolds (Burton Hall)	Lord Ernest St. Maur...	5	1 0	...	25.68	171
D Prestwold Hall .....	E. H. Packe, Esq. ....	8	1 0	209 $\nabla$	26.06	200
D Waltham-on-the-Wolds .....	G. Higgins, Esq. ....	5	1 0	568	29.31	189
D Croxton Kerrial Vicarage .....	Rev. W. E. P. Malden	5	1 0	480 $\nabla$	29.12	219
D Belvoir Castle .....	W. H. Divers, Esq. ...	8	1 0	260 $\nabla$	27.90	222
<b>RUTLAND.</b>						
Liddington (Uppingham W.W.)	Messrs G. & F. W. Hodson	5	1 0	152 $\nabla$	22.42	157
D Uppingham (Ridlington) .....	N. W. Wortley, Esq. ...	5	4 7	527 $\nabla$	28.31	182
Tinwell (Glebe Farm) .....	H. Edwards, Esq. ....	5	1 1	...	25.43	...
D Whitwell Rectory .....	Rev. T. E. Woodhouse.	5	0 11	320	26.47	177
D Great Casterton Rectory .....	E. N. Plevins, Esq. ...	8	1 0	137 $\nabla$	24.99	180
D Market Overton .....	Miss Grace Wingfield...	8	0 11	475 $\nabla$	29.15	213
<b>SOUTH LINCOLNSHIRE.</b>						
(HOLLAND AND KESTIVEN.)						
Stamford (St. George's Square) ..	T. Booth, Esq. ....	5	4 0	88 $\nabla$	27.73	163
D Market Deeping (Wilsthorpe) ...	J. C. Gill, Esq., C.E. ...	8	3 10	53 $\nabla$	22.71	171
D Bourne (Guthram) .....	F. S. Robins, Esq., C.E.	8	1 6	19	19.05	147
Grantham (Stainby Rectory) ...	Rev. W. L. de B. Thorold	5	0 9	496	25.51	...

## DIVISION VII.—NORTH MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with .01 or more recorded.	
		Diameter	Height Above Ground.		Height Above Sea Level		1909
		in.	ft.	in.	feet.	inches.	
SOUTH LINCOLNSHIRE							
(HOLLAND AND KESTIVEN)—(con.)							
D Grantham (Little Ponton Rect.).	Rev. P. R. Worsley ...	5	1	0	250 T	30·80	211
D „ (Denton Manor) .....	Sir C. G. E. Welby, Bt. CB	5	3	0	310	29·20	232
D „ (Saltersford).....	H. Preston, Esq. ....	5	0	6	188 T	27·37	169
D „ (Guildhall) .....	W. Shackleton, Esq. C.E.	5	13	6	202 T	25·60	160
D „ (High Street) .....	Messrs. R. & W. Bird..	5	1	0	202	26·26	175
D Holbeach Marsh (Somerset House)	Miss M. E. West .....	5	0	8	0 T	26·67	151
D Boston (Black Sluice, Skirbeck).	F. S. Robins, Esq., C.E.	8	1	3	11	26·86	196
D „ .....	G. E. Clarke, Esq., C.E.	8	1	0	11 T	26·95	188
D „ (Grand Sluice) .....	J. H. Johnson, Esq., C.E.	8	8	0	18 T	25·68	174
D „ (Bargate End) .....	A. O. Scrivener, Esq. ...	8	1	0	9	26·78	183
D Sleaford (Rauceby Hall) .....	Gen. Sir M. Willson, KCB	5	1	0	125 T	28·29	191
D Leake (Lade Bank Engines).....	J. H. Johnson, Esq., C.E.	8	1	0	10 T	27·06	154
D Stubton [Newark] .....	G. Nevile, Esq. ....	5	4	6	99 T	25·16	163
D Fulbeck .....	Rev. V. F. Willson ...	5	0	8	180 T	25·71	193
D Welbourn .....	Miss M. Burt .....	5	3	6	120 T	23·92	182
D Temple Bruer.....	Miss A. S. Morley .....	5	1	0	300?	26·55	158
Navenby Rectory .....	Mr. J. Thompson .....	5	1	0	218 T	27·05	177
Carlton-le-Moorland.....	J. Brocklebank, Esq. ...	5	1	2	49	25·26	...
Lincoln (Branston Hall) .....	A. S. Leslie Melville, Esq.	5	1	3	122 T	26·13	186
„ (Boultham) .....	Neil McK. Barron Esq. CE	5	1	0	19 T	24·53	161
D „ (Doddington Rectory)...	Rev. R. E. G. Cole ...	5	1	2	92 T	25·25	160
D „ (Skellingthorpe Hall) ...	A. H. B. Coupland, Esq.	5	1	0	...	26·42	154
NORTH LINCOLNSHIRE.							
(LINDSEY.)							
D Carrington Grange .....	Mr. T. J. Ward .....	5	6	0	15 T	29·45	158
Wainfleet .....	G. Booth Walker, Esq.	5	1	0	17 T	25·76	...
D Mareham-le-Fen .....	Mrs. Kime .....	5	3	0	11	29·80	194
Revesby .....	J. Shaw, Esq. ....	5	2	0	135 T	29·54	...
D Woodhall Spa (Galm House) ...	J. Collins, Esq. ....	5	1	0	72	27·05	191
D Skegness .....	V. H. Tippet, Esq. ...	8	1	0	13 T	25·36	184
D Spilsby (Hagnaby Priory) .....	Miss Pocklington .....	8	1	8	47 T	33·26	193
D „ (East Keal Rectory).....	Rev. R. H. Simpson ...	5	0	7	200 T	28·98	239
D „ (Halton Holgate) .....	G. Rattenbury, Esq. ...	5	1	0	89 T	28·65	187
D „ .....	Dr. J. W. Walker.....	5	1	0	160 T	31·33	186
D „ (Ashby Road) .....	J. J. Rainey .....	5	1	0	160 T	27·78	179
D Bucknall.....	Mr. Joshua Bint .....	5	1	0	33 T	25·66	193
D Horncastle.....(R)	H. R. Maynard, Esq. ...	5	1	6	110	31·83	197
Lincoln (St. Botolphs) .....	A. M. Swift, Esq. ....	5	1	2	25 T	28·69	...
„ (Station) .....	Great Central Rly. Co.*	9	3	6	26	25·20	170
„ (Sessions House) .....	W. Barr, Esq. ....	5	1	0	59 T	27·31	197
„ (D'Isney Place) .....	A. H. Leslie Melville Esq.	4	1	0	215 L	27·08	200
D „ (Cottesford Place) .....	F. A. Peacock, Esq. ...	5	0	9	220	27·63	169
Alford Cemetery .....	Mr. E. Hodgson.....	5	1	0	29 T	23·84?	168
D Scampton House .....	Mrs. G. E. Sandars ...	5	1	11	80	26·89	155

\* 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.	Diameter in.	Rain Gauge.		Depth of Rain.		Days with rain or more recorded.
			Height Above Ground. ft. in.	Height Above Sea Level. feet.	1909 inches.		
NORTH LINCOLNSHIRE							
(LINDSEY)— <i>con.</i>							
Willingham-by-Stow .....	R. C. Bacon, Esq. ....	8	1 6	70 I	26·87	186	
D Louth (Westgate) .....	Dr. F. Fawcett .....	5	0 9	120 A	30·35	170	
D Market Rasen .....	Mr. W. B. Jevons .....	5	0 8	84	28·32	146	
" " .....	Great Central Rly. Co..	9	3 6	100	25·96	185	
\$ " " (Tealby) .....	Rev. S. Lewin .....	5	4 0	260	31·60	151	
D Kirmond .....	C. Fieldsend, Esq.....	5	1 2	309 I	36·03	196	
D Gainsborough (Morton).....	J. A. R. Greaves, Esq..	5	1 0	22 A	25·49	152	
" (N. Sandsfield) ...	Mr. J. Creed .....	5	2 3	23 I	24·01	...	
\$ Caistor (Cabourne).....	Rev. R. Thomas .....	5	1 2	280 I	30·98	...	
D Brigg .....	A. Atkinson, Esq., C.E.	8	1 2	11 A	28·89	224	
Irby-on-Humber .....	H. B. Parker, Esq.....	5	1 0	175	30·52	...	
D Grimsby (Abbey Road).....	W. J. Wood, Esq., C.E.	5	3 0	23	29·17	166	
" .....	Great Central Rly. Co..	9	15 0	42	25·53	...	
Barnetby .....	" " " "	9	3 6	51	29·18	152	
D Brocklesby Park . ....	Mr. F. C. Stainsby.....	5	2 0	108 A	31·89	204	
Crowle (Keadby) .....	Great Central Rly. Co..	9	...	17	23·82	186	
Burton-upon-Stather(Normanby)	A. G. Wilkes, Esq.....	5	0 10	185 I	28·21	171	
D " " " Vicarage....	Rev. F. A. Jarvis .....	5	0 6	212 I	28·16	166	
D Thornton Curtis .....	Rev. C. B. Goodacre ...	8	1 4	66	30·36	186	
D Horkstow .....	E. J. Turton, Esq.....	5	0 10	75 A	31·78	182	
Ferriby Sluice .....	A. Atkinson, Esq., C.E.	5	1 0	18 A	27·75	190	
New Holland .....	Great Central Rly. Co..	9	3 6	18	30·88	164	
NOTTINGHAMSHIRE.							
D Kingston (Midland Agric. Inst.)..	F. Wakerley, Esq. ....	5	1 0	126 A	25·39	215	
D " Hall .....	Mr. W. H. Cooke .....	5	0 9	130	26·95	181	
D Plumtree(Normanton-on-Wolds)	T. A. Hill, Esq. ....	8	1 0	170 A	24·16	191	
D Nottingham (Wilford Hill Res.)	F. W. Davies, Esq. ....	8	0 11	296 A	23·81	211	
Cropwell Bishop (Cropwell Grove)	H. Smith, jun., Esq.....	5	1 1	160 I	23·68	...	
Bingham (Whatton Manor) .....	Capt. M. H. Hall .....	5	3 0	104 A	25·69	182	
D Nottingham (Beeston Fields) ...	G. Fellows, Esq. ....	5	0 9	206 A	28·56	188	
" (Trent Lane) ...(R)	A. Brown, Esq., C.E...	8	0 10	85 A	25·10	178	
D " (The Castle) .....	" " " " .....	8	1 2	192 A	26·05	205	
" ( " " ) .....	" " " " .....	8	7 0	268 A	24·40	168	
" (Carisbrook Ho., The Park)	W. Bradshaw, Esq. ....	5	2 0	247 I	25·69	185	
Radcliffe-on-Trent .....	E. T. Yates, Esq. ....	5	1 0	...	25·74	...	
" " " (The Cliff House)	Mrs. Hingston .....	5	0 7	150 I	25·01	...	
D Nottingham (Stoke Bardolph) ...	A. A. Avis, Esq. ....	8	1 0	66 A	23·91	161	
D\$ " (Strelley) .....	T. L. K. Edge, Esq. ...	8	1 0	396 A	28·99	194	
D\$ " { " Hall) .....	" " " " .....	5	1 0	378 A	26·73	195	
\$ " { " " ) .....	" " " " .....	5	1 0	379 A	27·21	...	
" (Mapperley Hall Drive)	A. Brown, Esq., C.E...	...	1 0	245	26·33	170	
D " ( " Hill) .....	E. Powell, Esq. ....	8	1 0	400 I	27·41	178	
Bagthorpe (Isolation Hospital)...	P. Boobbyer, Esq., M.D.	8	2 0	189 A	25·91	205	
D Nottingham (Basford W.W.) ...	F. W. Davies, Esq. ...	8	1 0	169 A	25·32	202	

## DIVISION VII.—NORTH MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with $\geq 0.1$ or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
NOTTINGHAMSHIRE—(con.)						
D Nottingham (Burton Joyce W.W.)	F. W. Davies, Esq. ...	8	0 9	64 $\nabla$	26.04	196
D Bulcote (Corporation Farm).....	A. A. Avis, Esq. ....	10	1 3	65 $\nabla$	24.04	167
Lowdham (Chilwell Nurseries)...	Mr. J. D. Pearson .....	5	5 6	90	22.32	...
D Bulwell (Watnall Reservoir) ...	F. W. Davies, Esq.....	8	0 11	472 $\nabla$	30.16	207
D „ (Bestwood) .....	„ „ „ .....	8	1 2	317 $\nabla$	29.01	184
D Daybrook (Ramsdale Hill Res.)	„ „ „ .....	8	0 10	495 $\nabla$	28.82	201
D Eastwood Colliery .....	J. W. Fryar, Esq.....	5	1 0	245 $\nabla$	28.62	205
D Hucknall Torkard (Forge Mills)	J. D. Walker, Esq.....	5	4 3	200 ?	24.81	168
D Papplewick (Water Works) .....	F. W. Davies, Esq. ...	8	0 10	317 $\nabla$	29.00	188
D Annesley (Selston W.W.).....	G. T. Fletcher, Esq. ...	5	1 0	475 $\nabla$	27.22	162
† Southwell (Westhorpe Hall) ...	General W.E. Warrand	5	1 0	147 $\nabla$	27.86	...
D „ (Elmfield) .....	Dr. H. Handford .....	5	1 0	132 $\nabla$	27.18	214
D „ (Halam House) .....	Rev. Canon J. J. Singleton..	5	1 0	170 $\nabla$	28.70	175
Newark Castle Gardens.....	Mr. J. Mountney .....	5	0 8	63 $\nabla$	23.87	...
D† Farnsfield .....	Dr. C. Wills .....	5	1 0	210 $\nabla$	30.68	205
† Sutton-in-Ashfield W.W. ....	Messrs G. & F. W. Hodson	5	1 1	462 $\nabla$	30.69	179
† Mansfield (W.W. Rainworth) ...	„ „ „ .....	5	1 0	360 $\nabla$	31.91	162
D „ (Berry Hill) .....	W. Hollins, Esq. ....	5	1 0	528 $\nabla$	35.62	201
D „ (High Oakham) .....	P. J. Shacklock, Esq...	5	1 0	425 $\nabla$	36.43	210
D† „ (West Bank) .....	W. Pickard, Esq. ....	8	1 0	405 $\nabla$	30.78	196
D North Collingham .....	E. Turton, Esq.....	5	1 0	28 $\nabla$	27.17	190
Clipstone Waterworks .....	Messrs G. & F. W. Hodson	5	1 0	236 $\nabla$	29.72	...
Ollerton Edwinstowe Hall .....	Mr. B. Bowyer .....	5	0 8	220 ?	32.35	209
D „ (Boughton W.W.) .....	F. W. Davies, Esq. ...	8	0 7	141 $\nabla$	27.65	166
D „ (Thoresby Gardens).....	Mr. A. Simmons .....	8	0 9	125 $\nabla$	33.17	166
Clumber Gardens ...	A. E. Elliott, Esq.....	5	4 0	164 $\nabla$	30.22	...
Elkesley Pumping Station .....	Neil McK. Barron, Esq., C.E.	5	1 0	118 $\nabla$	28.21	162
Rampton Manor.....	C. E. Ellis, Esq.....	5	0 5	40	30.11	185
Worksop .....	Great Central Rly. Co..	9	3 6	127	27.79	176
D „ (Osberton Gardens) ...	Mr. J. B. Allan .....	5	3 6	70	27.26	175
D Retford .....	Great Central Rly. Co..	9	3 6	52	26.46	173
D „ (Grammar School).....	G. R. Davies, Esq.....	8	0 11	53 $\nabla$	28.19	182
D „ (Morton Hall) .....	W. H. Mason, Esq. ...	5	1 0	140 $\nabla$	27.48	175
D „ (Babworth Hall) .....	Col. H. Denison .....	5	1 0	92 $\nabla$	29.35	...
D Worksop (Wigthorpe Hill) .....	R. C. Ramsden, Esq....	5	1 0	100	27.15	179
D† „ (Hodsock Priory) .....	Lt.-Col. H. Mellish ...	8	1 0	56 $\nabla$	27.83	189
† „ { „ „ } ... M	„ „ „ .....	5	1 0	56 $\nabla$	27.27	...
† „ { „ „ } ... (R)	„ „ „ .....	11	1 0	56 $\nabla$	27.73	181
D The Gardens [Bawtry Hall].....	Mr. F. Hogbin .....	5	1 3	31 $\nabla$	26.92	186
Stockwith .....	Great Central Rly. Co.	9	3 6	21	24.47	182
D§ Bawtry (Hesley Hall) .....	B. I. Whitaker, Esq....	8	0 11	61 $\nabla$	24.30	176
DERBYSHIRE.						
D Chellaston .....	H. Chambers, Esq.....	5	1 0	170 $\nabla$	29.66	202
Findern (The Longlands).....	Mrs. B. W. Spilsbury..	5	0 9	186 $\nabla$	25.78	...

## DIVISION VII.—NORTH MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with $\cdot 01$ or more recorded.
		Diameter.	Height Above Ground	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
DERBYSHIRE—(con.)						
Findern (Mill Hill Farm).....	G. I. Spilsbury, Esq...	5	1 6	243	26·26	...
Etwall (Blakeley Lodge) .....	Mr. R. Giles .....	5	1 0	190 $\nabla$	26·18	...
Mickleover (County Asylum) ...	R. Legge, Esq., M.D...	5	3 0	300 $\nabla$	26·02	170
<sup>D</sup> „ Manor.....	Mr. J. Campbell .....	5	2 0	280	27·16	185
Littleover (The Knoll) .....	K. M. Robotham, Esq...	5	1 6	300	27·86	181
„ Old Hall .....	E. McInnes, Esq. ....	5	2 6	346	28·84	172
<sup>D</sup> Derby (Wild Street).....	Messrs. J. Davis & Son	5	1 0	174	28·80	199
<sup>D</sup> † „ (Midland Railway).....	J. Sayers, Esq. ....	5	1 5	156 $\nabla$	26·71	199
<sup>D</sup> § „ (Royal Infirmary) .....	E. Forster, Esq.....	5	1 0	195	25·95	200
<sup>D</sup> „ (Arboretum) .....	J. Ward, Esq., C.E. ...	8	1 0	196 $\nabla$	28·57	197
Kirk Langley (Langley Hall) ...	G. W. Peach, Esq. ...	5	1 10	396 $\nabla$	32·24	191
<sup>D</sup> Breadsall Lodge.....	Col. W. B. Woodforde.	5	1 3	280 $\nabla$	28·47	197
<sup>D</sup> „ Priory .....	Miss H. A. Haslam ...	5	1 6	380 $\nabla$	29·43	186
<sup>D</sup> Duffield (Castle Hill House).....	Messrs. J. Davis & Son	...	...	...	31·13	195
<sup>D</sup> „ (Kirkstyles).....	W B Worthington Esq C E	5	1 0	235 $\nabla$	29·87	181
Hazelwood (Chevin) .....	Sir J. G. N. Alleyne, Bart.	5	4 0	503 $\nabla$	29·39	211
<sup>D</sup> Ashbourne Water Works.....	Mr. J. W. Twigg .....	5	1 0	582 $\nabla$	38·09	203
„ (Yeldersley Hall) ...	E. B. F. Wright, Esq..	5	1 0	635 $\nabla$	34·26	204
<sup>D</sup> § Belper (Quarry Bank) .....	J. Hunter, Esq., C.E....	5	0 8	281 $\nabla$	32·77	192
<sup>D</sup> „ (Highfield) .....	Lt.-Col. M. Hunter ...	8	0 8	310 $\nabla$	32·63	183
<sup>D</sup> Codnor (Cross Hill) .....	A. F. Pine, Esq.....	5	1 0	372 $\nabla$	28·94	169
<sup>D</sup> „ Park .....	W. B. Worthington, Esq., C.E.	5	1 0	243 $\nabla$	31·68	218
Ambergate (Riverside) .....	M. L. Nicholas, Esq. ...	5	1 6	240	34·09	196
„ Reservoir Works ...	The Resident Engineer	5	1 0	659 $\nabla$	34·68	...
<sup>D</sup> Wirksworth (Bridge House) ...	Thomas Gibbs, Esq. ...	5	1 0	500 $\nabla$	37·40	203
<sup>D</sup> Alderwasley Hall .....	F. C. A. Hurt, Esq. ...	5	1 0	535 $\nabla$	37·09	151
Whatstandwell (Meerbrook Sough)	Messrs. G. & F. W. Hodson..	5	1 0	246	38·35	207
Matlock Bath .....	Miss E. Chadwick .....	5	1 1	500	37·34	...
<sup>D</sup> „ (The Gables) .....	Mrs. R. Wildgoose.....	5	1 0	450 $\nabla$	36·78	214
<sup>D</sup> „ (Rockside) .....	J. D. Evans, Esq. ....	5	1 0	637 $\nabla$	35·59	219
<sup>D</sup> Darley Dale (Whitworth Inst.)..	Whitworth Inst. Trustees	5	1 8	361 $\nabla$	32·86	153
<sup>D</sup> „ Hall.....	A. Clay, Esq.....	5	1 0	400 $\nabla$	31·97	194
Hardwick Hall .....	Mr. E. Wilson .....	8	2 6	594 $\nabla$	33·57	183
<sup>D</sup> Grassmoor Colliery .....	Mr. J. Norman .....	5	19 10	370 $\nabla$	28·57	150
<sup>D</sup> Bakewell (Catcliff).....	Dr. T. Fentem .....	12	1 6	411 $\nabla$	36·14	180
<sup>D</sup> Chatsworth Gardens .....	Mr. F. Jennings.....	8	5 5	436 $\nabla$	33·46	199
Chesterfield (Gas Works).....	Chesterfield Corporation	5	1 0	279	26·12	163
„ .....	Great Central Rly. Co..	9	3 6	250	25·52	155
„ (Sewage Works) ...	Mr. W. Tomlinson.....	5	2 0	222	25·56	...
<sup>D</sup> „ (Linacre Reservoir).	Chesterfield Corporation	8	1 0	490	32·65	179
<sup>D</sup> „ „ „	„ „ „	5	1 0	490	31·02	179
„ (Tapton Grove).....	Mr. W. R. Bloxham ...	5	4 3	400	25·55	...
<sup>D</sup> § Buxton (Devonshire Hospital)...	F. T. Kielsen, Esq. ...	5	1 0	988 $\nabla$	47·18	204
<sup>D</sup> „ (Portobello Bar) .....	W. H. Grieves, Esq. C. E.	8	1 0	1600 $\nabla$	59·05	253
<sup>D</sup> „ (Stanley Moor) .....	„ „ „	8	1 0	1340 $\nabla$	56·82	255
<sup>D</sup> „ (Burbage Edge) .....	„ „ „	8	1 0	1400 $\nabla$	56·56	250

## DIVISION VII.—NORTH MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with -01 or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
DERBYSHIRE—(con.)						
D Holmesfield (Barbrook Reservoir)	Gilbert Frith, Esq., C.E.	8	1 0	1080	38·28	258
D Eyam (The Rectory) .....	Rev. F. L. Shaw .....	5	1 0	856 T	38·16	190
D „ (Eyam View) .....	Mr. P. Thorpe.....	5	1 0	945	39·38	204
D „ (Bretton).....	Rev. F. L. Shaw .....	5	1 0	1200	46·02	190
Comb's Moss .....	Great Central Rly. Co..	9	3 6	1669 T	34·04	...
„ Reservoir .....	„ „ „	9	3 6	710 T	37·01	233
Chapel-en-le-Frith .....	„ „ „	9	3 6	965 T	38·00	207
D Totley Hall.....	W. A. Milner, Esq. ...	5	1 0	670	36·67	179
Killamarsh (Norwood) .....	Great Central Rly. Co..	9	3 6	226 T	28·31	197
D† Norton.....	Col. Sir N. Creswick, KCB	5	0 6	700 T	31·71	193
Grindleford (Grouse Inn) No. 58	E. Sandeman, Esq., C.E.	5	1 0	990	35·52	175
Hathersage .....	No. 57 „ „ „	5	1 0	525	35·64	172
Bamford .....	No. 60 „ „ „	8	2 0	508 T	35·17	182
D „ (Engineer's Office) No. 36	„ „ „	8	2 1	509	38·81	240
Castleton .....	No. 55 „ „ „	5	1 0	625	47·52	196
Hope School .....	No. 56 „ „ „	5	1 0	545	42·37	213
Edale (Dale Head) .....	No. 54 „ „ „	5	1 0	1015	54·47	204
„ (Upper Booth) ...	No. 53 „ „ „	5	1 0	910	50·60	200
Bamford (Yorkshire Bridge Weir) No. 59	„ „ „	5	1 0	540	41·37	212
Ashopton (Win Hill) .....	No. 34 „ „ „	5	1 0	1240	40·79	...
„ (Cockbridge Farm) No. 33	„ „ „	5	1 0	620	45·42	201
„ (Wooler Knoll) No. 52	„ „ „	5	1 0	1080	45·94	...
„ Inn.....	No. 32 „ „ „	8	1 0	610	43·85	205
„ (Grimbo Carr)...	No. 51 „ „ „	5	1 0	1100	36·37?	...
„ (Cutthroat Brdg.) No. 31	„ „ „	8	1 0	994	45·17	...
„ (Moscar Flat) ...	No. 30 „ „ „	8	1 0	1154	40·29	...
Derwent Bridge End .....	No. 28 „ „ „	5	1 0	624	44·60	207
„ Dam.....	No. 26 „ „ „	5	1 0	790	43·13	200
Ashopton (Haglee).....	No. 50 „ „ „	8	1 0	783	43·09	214
Blackdean Moor (Crookstone) 49	„ „ „	5	1 0	1460	52·70	...
Derwent (Lockerbrook Fm.) No. 27a	„ „ „	5	1 0	1120	51·08	222
Woodland Dale (Woodlands, S.) 48	„ „ „	5	1 0	1044	49·13	201
„ „ ( „ „ N.) 47	„ „ „	8	1 0	1063	49·90	201
The Peak (Fairbrook).....	No. 46 „ „ „	5	1 0	1009	65·46	211
„ (Nungrain).....	No. 45 „ „ „	5	1 0	1320	64·96	...
Hayfield (Ashop Head) ...	No. 43 „ „ „	5	1 0	1650	49·50	...
Woodland Dale (Rowlee) No. 24	„ „ „	5	1 0	1540	49·35	...
Derwent Dale (Walker Ho.) No. 22	„ „ „	8	1 0	758	49·46	214
Alport Dale (Alport Castles) No. 42	„ „ „	5	1 0	955	55·26	189
Featherbed Moss (Redgate Clough) 44	„ „ „	5	1 0	1730	53·10	...
Derwent Dale (Birchinlee) No. 23	„ „ „	5	1 0	870	53·93	217
Birchinlee Moor (Cote Ridge) No. 18	„ „ „	5	1 0	1440	47·81	...
Lady Clough Moor .....	No. 41 „ „ „	5	1 0	1720	49·70	...
Coldharbour Moor (Summit) No. 39	„ „ „	8	1 0	1670	49·24	...
Derwent Dale (Howden Dam) 17	„ „ „	8	1 0	829	50·55	205
„ „ (Banktop Hey) 16	„ „ „	8	1 0	1340	54·39	...
„ „ (Ridge Farm)... 13	„ „ „	5	1 0	1175	43·75	234

## DIVISION VII.—NORTH MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with '01 or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
<b>DERBYSHIRE—(con.)</b>						
Alport Moor (Glethering Clough)..40	E. Sandeman, Esq., C.E.	5	1 0	1640	48·70	...
Westend Moor (Blacklow Cote) 15	" " "	5	1 0	970	55·34	...
" " ..... No. 10	" " "	5	1 0	1560	50·00	...
Alport Moor.....No. 38	" " "	5	1 0	1790	49·10	...
Derwent Dale (Back Dyke) No. 12	" " "	5	1 0	1546	52·29	...
" " (Mosley Bank) No. 5	" " "	8	1 0	1350	56·20	...
Ridgewalk Moor ..... No. 9	" " "	5	1 0	1650	50·20	...
Bleaklow Stones ..... No. 8	" " "	5	1 0	2060	66·60	...
Derwent Dale (Roundhill) No. 4	" " "	5	1 0	1675	54·10	...
Glossop (W.W., Swineshaw) ...	Mr. J. Garner .....	12	4 0	733 $\frac{1}{2}$	44·11	215
Woodhead Station.....	Great Central Rly. Co..	9	3 6	878 $\frac{1}{2}$	52·92	226

## DIVISION VIII.—NORTH WESTERN COUNTIES.

CHESHIRE.

Audlem Vicarage .....	Rev. J. S. Cotton .....	5	1	6	200	29-14	...
D Baddiley (Nantwich W. W.) ...	Baldwin Latham Esq CE	5	1	0	231	29-30	194
D Nantwich (Dorfold Hall) .....	J. A. Saner, Esq., C.E.	8	1	0	190	29-61	197
D " (Reaseheath Hall) ...	" " " "	8	1	0	130	30-88	184
D Aldford .....	Miss M. Meredith .....	5	1	1	46	27-62	214
D Eaton Hall Gardens .....	Mr. N. F. Barnes .....	6	3	0	72	29-98	194
D Sandbach (Malkins Bank) .....	Mssrs Brunner Mond & Co	5	3	8	244	28-85	179
Eccleston .....	E. Wells, Esq. ....	5	1	1	94	26-85	170
D Tarporley (Summer Hill) .....	Col. J. H. Hamersley...	5	1	0	370	31-32	166
D Congleton (Sewage Works) .....	Randle Burslam Esq. CE	5	1	0	248	36-16	173
D " (Park Lane) .....	the late Rev. W. Besant	8	0	10	422	37-44	171
D " (Buglawton Vicarage)	J. A. Saner, Esq. ....	8	5	0	347	35-74	188
Bosley Reservoir .....	Great Central Rly. Co..	9	3	6	590	33-46	187
" Minns .....	" " "	9	3	6	1210	33-14	213
D Tarporley (Willington Hall) .....	late J. Tomkinson, Esq., M.P.	5	1	0	220	32-92	237
D Chester (Sewerage Works) .....	W. D. Scouller, Esq....	5	1	0	34	26-65	190
§ " (Hawarden Bridge) .....	Meteorological Office...	8	1	0	20	23-93	188
D " (Christleton Hall) .....	Mr. J. Weaver .....	5	1	2	142	28-71	196
" (Water Works) .....	A. Bell, Esq. ....	5	0	10	85	26-21	201
" (Northgate Station) .....	Great Central Rly. Co..	9	3	6	84	27-48	159
D Middlewich .....	Mssrs Brunner Mond & Co	5	3	10	138	27-49	175
" (Bostock Hall) .....	Col. France Hayhurst..	5	2	6	157	31-83	...
D Macclesfield (The Park) .....	Mr. J. Dale .....	5	1	0	501	36-60	182
" .....	Great Central Rly. Co..	9	3	6	539	29-23	171
D Chelford (Astle Hall) .....	G. Dixon, Esq. ....	5	1	0	250	35-29	164
" " " " .....	M " " " "	8	1	0	250	33-95	...

## DIVISION VIII.—NORTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with 0·1 or more recorded.	
		Diameter	Height Above Ground.	Height Above SeaLevel	1909		
		in.	ft.	in.	feet.	inches.	
CHESHIRE—(con.)							
Northwich .....	Great Central Rly. Co.	9	3	6	76 T	30·14	174
d\$ „ (Highfield) <i>Snowdon</i>	J. A. Saner, Esq., C.E..	8	1	0	116 T	34·14	201
d „ (Winnington).....	MssrsBrunnerMond&Co	5	1	0	64 T	32·69	186
d „ (Lostock Gralam) ...	„ „ „ „	5	3	6	75 T	32·96	204
d Frodsham (Helsby) .....	J. H. Howell, Esq.....	5	1	1	200	31·74	165
d Macclesfield (Swanscoe Park) ..	T. C. Horsfall, Esq. ...	5	1	0	676 T	39·53	216
d Neston (Hinderton Lodge) .....	Miss L. H. Bushell ...	5	1	0	145 T	28·97	193
Bollington (Sponds Hill) .....	Great Central Rly. Co..	9	3	6	1279 T	31·23	...
d Eastham (Mill Hey) .....	Roger P. Sing, Esq. ....	5	1	7	125 T	33·15	173
„ House .....	J. H. Vernon, Esq. ...	5	1	0	100 T	33·21	186
d Wilmslow (Parksyde) .....	E. Pearson, Esq. ....	8	1	0	253 T	33·23	173
Whaley Bridge .....	Great Central Rly. Co..	9	3	6	602 T	42·58	204
d Handforth (Clare Cottage) .....	A. Brothers, Esq. ....	5	1	6	260 T	37·69	172
d Disley (Lyme Park) .....	T. Molyneux, Esq.....	12	2	9	674 T	35·57	173
d Runcorn (Weston Point) .....	J. A. Saner, Esq., C.E.	8	1	4	17 T	34·17	181
Wirral W.W. (Prenton) .....	P. H. Bettle, Esq. ....	5	1	0	91 T	27·66?	180
d Rock Ferry (Elmhurst).....	Miss Shepherd ..	8	6	0	110	31·89	177
d West Kirby (Greenfield) .....	H. Bell, Esq .....	5	1	0	75 T	28·22	190
Altrincham (Norman's Place)....	Miss G. A. Griffiths ...	5	8	0	150 T	37·20	...
„ (Barrington House).	C. E. Newton, Esq ,C.E.	8	2	6	103	33·27	...
d\$ Hoylake (District Council Office)	T. Robinson, Esq.....	5	1	0	33 T	28·94	187
\$ Birkenhead(BidstonObservatory)	W. E. Plummer, Esq..	8	1	0	189 T	28·45	202
Cheadle (Adswold) .....	R. W. Wright, Esq....	5	0	0	180 T	48·49	...
d Northenden (Wythenshawe Hall)	T. E. Tatton, Esq. ...	5	1	0	114 T	34·93	192
„ „ „ „ „M	„ „ „ „ „	8	1	0	114 T	33·37	...
Marple Top Lock .....	Great Central Rly. Co..	9	3	6	523 T	35·63	170
d Stockport .....	Dr. H. E. Corbin .....	5	1	0	186 T	37·43	191
d New Brighton (Liscard) .....	H. Norman Edge, Esq.	5	1	0	84 T	34·20	209
d „ „ (Rutland House)..	W. Bell, Esq.....	5	0	11	130 B	33·24	203
Godley Reservoir .....	G. H. Hill, Esq., C.E..	12	2	0	500	35·80	...
Newton .....	Great Central Rly. Co..	9	3	6	396 T	34·91	171
Mottram Station.....	„ „ „ „ „	9	3	6	452 T	36·64	175
d Broadbottom (Harewood Lodge).	Col. Sidebottom .....	5	1	0	440	37·53	180
d Dukinfield (Higher Reservoir)...	F. J. Dixon, Esq., C.E.	8	1	6	495 T	37·02	183
„ (Lower „ „)...	„ „ „ „ „	5	1	0	435 T	36·73	184
d Hadfield (Millbrook House).....	Mr. S. H. Daxon .....	8	3	10	442 T	43·21	206
„ „ „ „ „	„ „ „ „ „	12	4	0	442 T	43·72	206
Arnfield Reservoir.....	G. H. Hill, Esq., C.E..	12	2	6	550	41·89	...
Rhodes Wood Reservoir .....	„ „ „ „ „	12	1	0	520	45·92	...
Torrside Reservoir.....	„ „ „ „ „	12	1	6	680	48·56	...
d Stalybridge(MarketGroundYard)	F. J. Dixon, Esq., C.E.	5	1	0	373 T	42·02	188
Swineshaw Moor (Lees Hill).....	„ „ „ „ „	8	3	0	1168 T	44·16	...
Woodhead Reservoir.....	G. H. Hill, Esq., C.E..	12	0	10	660	52·17	...
SOUTH LANCASHIRE.							
d Garston (Grassendale Park).....	Miss E. C. Abraham ...	5	1	0	35 T	33·77	190
d Aigburth (Holmfield) .....	Miss Maxwell.....	5	1	0	100 T	34·80	202

## DIVISION VIII.—NORTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with .01 or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level	1909	
		in.	ft. in.	feet.	feet.	
<b>SOUTH LANCASHIRE—(con.)</b>						
D Woolton (Roseleigh Gardens) ...	Mr. J. Stoney .....	8	1 0	180	34·61	187
D Warrington (Howley Yard) .....	T. Longdin, Esq. ....	10	0 10	19 A	33·62	189
„ (Central Station) ...	Great Central Rly. Co..	9	3 6	59 A	31·76	156
D Liverpool (Monument Place) ...	J. A. Brodie, Esq., C.E.	5	1 3	126 A	31·98	188
„ (Smithdown Road) ...	„ „ „	10	0 9	135 A	34·65	192
„ (Rathbone Road) .....	„ „ „	10	1 0	199 A	36·03	201
D „ (Huyton Vicarage) ...	Mrs. E. M. Sanderson..	5	0 11	116 A	37·80	204
D „ (Knotty Ash) .....	W. M. Reade, Esq. ...	5	1 0	100	34·10	190
„ (Newsham Park) .....	J. A. Brodie, Esq., C.E.	10	1 0	140 A	35·09	192
„ (Breeze Lane) .....	„ „ „	5	0 9	135 A	36·68	204
„ (Huskinson Station) ...	Great Central Rly. Co.	9	3 6	40 A	32·43	181
D Heaton Mersey [Stockport] .....	W. B. Leigh, Esq.....	5	3 11	218 A	32·12	184
D Heaton Moor [ „ ] .....	F. W. Jordan, Esq., M.D.	5	1 0	235	35·54	177
D West Derby (Basil Grange) .....	Mr. G. Harris.....	8	1 3	120 ?	37·82	177
D „ „ (Croxteth Hall) ...	Mr. J. Gibbins .....	5	1 0	79 T	36·96	177
D† Withington (Palatine Road) ...	L. G. King, Esq. ....	8	1 6	110 T	33·88	198
D Urmston Sewage Works .....	Mr. A. B. Ogden .....	8	2 3	72 A	33·83	172
D Withington (Chorlton-c-Hardy Sew. Wks.)	G. F. Walter, Esq. ...	8	4 0	76 A	36·09	215
D „ ( „ „ ) .....	J. H. Casartelli, Esq....	5	2 0	75	31·01	173
„ (Lady Barn House School)	Miss M. S. Beard .....	5	1 0	122 T	31·79	171
St. Helen's (Eccleston Hill).....	J. J. Lackland, Esq., C.E.	12	2 9	268 T	33·89	174
D Earlestown (Newton Cemetery) ..	A. Bowes, Esq. ....	5	1 0	75 A	39·31	162
Denton Reservoir .....	G. H. Hill, Esq., C.E..	12	2 0	324 T	32·96	...
Gorton „ .....	„ „ „	12	2 0	263 T	34·75	...
D Manchester (Godlee Observatory)	J. H. Reynolds, Esq....	8	...	192	35·55	186
D „ ( „ „ ) (R) .....	„ „ „	11	...	192	35·90	189
„ (Piccadilly) .....	Great Central Rly. Co..	9	40 0	194 T	33·76	190
„ (Fairfield) .....	„ „ „	9	6 0	312 T	36·68	190
D† „ (Oldham Road) .....	Dr. J. Niven .....	5	1 0	191 A	37·02	188
† „ (Whitworth Park) ...	Meteorological Office...	8	1 5	126	34·21	182
D Eccles (Worsley New Hall) .....	Mr. W. B. Upjohn ...	8	10 0	80 T	34·51	161
„ ( „ Old Hall) .....	„ „ „	6	0 6	150	38·37	...
Blundellsands (Park Corner) ...	A. L. Reade, Esq. ....	5	1 0	33 A	32·39	198
Ashton-under-Lyne (Henrietta St. Yard)	F. J. Dixon, Esq., C.E.	7	1 0	394 A	40·88	204
D „ „ „ (Knott Hill Res.)	„ „ „	8	1 3	605 A	42·83	196
„ „ „ (Waterhouses) ...	Great Central Rly. Co..	9	3 6	345 T	36·84	187
D Lower Swineshaw Reservoir.....	F. J. Dixon, Esq., C.E.	7	1 0	886 A	53·20	171
§ Prestwich Asylum .....	Meteorological Office ...	8	1 0	295	41·16	195
„ (Polefield House) ... (R)	B. Carver, Esq. ....	...	3 0	350	39·88	...
„ Reservoir .....	G. H. Hill, Esq., C.E..	12	2 0	356 T	35·87	...
Oldham (Gas Works) .....	„ „ „	5	4 0	600 T	40·01	...
D† „ (Alexandra Park) .....	Dr. J. B. Wilkinson ...	6	1 0	600	43·21	200
„ (Honeywell Lane) .....	Great Central Rly. Co..	8	...	553	42·66	206
„ (Brushes Clough) <i>old g.</i>	C. J. Batley, Esq., C.E.	5	4 0	930 A	49·18	209
„ ( „ „ ) <i>new g.</i>	„ „ „	5	5 0	955 A	50·09	208
D Ormskirk (Aughton Springs) ...	C. E. Maples, Esq. ...	5	1 0	138 A	38·84	225

## DIVISION VIII.—NORTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain.	Days with .01 or more recorded.
		Diameter	Height Above Ground		Height Above Sea Level	1909	
		in.	ft.	in.	feet.	inches.	
SOUTH LANCASHIRE—(con.)							
n† Downholland (Barton Moss).....	J. Baxendell, Esq.....	5	0	9	14 †	36.23	213
n† Bolton (Queen's Park) .....	T. Midgley, Esq. ....	5	1	0	390 †	49.05	222
n† „ (Heaton Reservoir) .....	Lewis Mitchell, Esq., C.E.	5	1	0	500	48.47	229
n „ (Bloomfield, Heaton) ...	Mrs. F. Taylor .....	5	1	0	530 †	47.78	227
n† „ (Smithills Hall) .....	Col. R. H. Ainsworth...	8	1	2	510 †	52.03	202
„ { „ Moor} .....	„ „ „ .....	8	1	2	1375 †	55.65	...
„ { „ „ } .....	„ „ „ .....	...	...	...	1375 †	54.70	...
n Bury (Parsons Lane).....	R. B. Rigby, Esq. ....	8	9	8	316 †	45.52	187
n† Milnrow (Piethorne, Kitcliffe)...	C. J. Batley, Esq., C.E.	5	4	6	769 †	45.85	206
† „ { „ Coldgreave} .....	„ „ „ .....	5	4	6	894 †	42.43	204
† „ { „ Norman Hill} .....	„ „ „ .....	5	4	6	1076 †	39.98	202
† „ { „ Rooden Res.} .....	„ „ „ .....	5	4	6	1131 †	40.16	201
Rochdale (Deeplish Hill) .....	J. H. Lancashire, Esq.	5	1	0	475 †	44.56	192
n† „ (Park Observatory) ...	Dr. A. G. Anderson ...	8	0	6	472	48.55	206
n „ (Fieldhead Yard) .....	S. S. Platt, Esq., C.E..	8	12	0	484 †	43.38	177
n „ { „ „ } .....	„ „ „ .....	...	12	0	484 †	44.43	177
n† „ (Ashworth Moor) .....	J. S. Diggle, Esq., C.E.	5	1	2	957 †	47.75	196
Bury (Gin Hall) .....	No. 1 J. Woodhead Smith, Esq., C.E.	8	1	0	475	48.87	189
„ { „ „ } .....	No. 2 „ „ „ .....	8	1	0	475	48.49	189
n† Bolton (Belmont) .....	Lewis Mitchell, Esq., CE	5	0	9	800	59.45	226
n Rochdale (Nayden Dean Filters).	J. S. Diggle, Esq., C.E.	5	1	8	761 †	51.01	194
„ { „ „ } new g. „ „ „ .....	„ „ „ .....	5	1	4	948 †	48.29	...
† Ramsbottom (Killgate Brook) M	„ „ „ .....	5	1	0	978 †	50.97	...
† „ (Cheesden Barn) M	„ „ „ .....	5	1	0	997 †	49.87	...
† „ (Shuttleworth Moss) M	„ „ „ .....	5	0	11	1076 †	50.13	...
„ { „ Higher Hill} ... M	„ „ „ .....	5	1	0	1400	47.99	...
n Rochdale (Spring Mill Whitworth)	W. Tomlinson, Esq. ...	8	1	7	720	59.17	207
n „ (Cowm, „ ) .....	„ „ „ .....	8	1	7	760	62.53	196
n† Entwistle .....	Lewis Mitchell, Esq., CE	5	1	0	700	55.24	222
Littleborough (Hollingworth Lake)	Rochdale Canal Co.*	8	1	5	600	40.58	...
„ { „ Windy Bank} ...	„ „ „ .....	8	2	0	605 †	41.90	...
† „ (Blackstone Edge).	„ „ „ .....	8	2	0	1225 †	34.60?	...
„ { „ Canal Summit} ...	„ „ „ .....	8	2	0	700	37.59	...
„ { „ Chelburn} .....	„ „ „ .....	8	2	0	800	41.88	...
„ { „ Byron Edge Drain} .....	„ „ „ .....	8	1	5	1250 †	45.54	...
„ { „ Lenches} .....	„ „ „ .....	8	2	0	806	41.05	...
Walsden (Calf Lee) .....	„ „ „ .....	10	1	6	960	42.26	...
„ { „ Warland Drain} .....	„ „ „ .....	8	1	5	1250 †	41.86	...
„ { „ Whiteholme Drain} ...	„ „ „ .....	8	1	5	1250 †	42.90	...
„ { „ Rishworth Drain} .....	„ „ „ .....	8	1	5	1300 †	41.97	...
Todmorden W.W. (Ramsden Res.)	W. Tomlinson, Esq. ...	8	1	0	980 †	54.42	182
† Haslingden (Holden Wood) .....	J. Woodhead Smith, Esq., C.E.	8	1	0	670 †	56.68	196
† „ { „ Calf Hey} .....	„ „ „ .....	8	1	0	800 †	52.40	196
„ { „ Springfield Lodge} ..	John Stott, Esq.....	5	1	0	800 †	52.07	190
Rawtenstall Cemetery .....	J. Johnson, Esq., C.E..	8	1	0	572	53.63	191

\* Returns supplied by C. R. Dykes, Esq.

## DIVISION VIII.—NORTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with .01 or more recorded.	
		Diameter	Height Above Ground.		Height Above Sea Level		1909
		in.	ft.	in.	feet.	inches.	
SOUTH LANCASHIRE—(con.)							
† Rawtenstall (Cloughbottom Res.)	J. Woodhead Smith, Esq., C.E.	8	1	0	1025	47·07	212
† „ (Hapton Reservoir)..	„ „ „	8	1	0	930	48·97	224
CENTRAL LANCASHIRE.							
Upholland Grammar School .....	C. H. Cox, Esq. ....	5	1	0	310	41·29	...
D Wigan Waterworks .....	W. Bolton, Esq. ....	8	1	6	225	39·61	226
D Horwich (Wallsuches) .....	C. E. Barr, Esq. ....	5	1	0	655	42·36	187
D† „ (Lower Rivington) ...	J. Parry, Esq., C.E. ....	8	1	0	440	43·04	211
† „ (Lower Knoll) .....	„ „ „	8	1	4	742	45·53	...
† Rivington (Brown Hill) .....	„ „ „	8	1	4	843	45·18	...
D† „ (Stoneshouse) ... No. 1	„ „ „	8	1	4	623	47·32	216
† „ ( „ ) ... No. 2	„ „ „	8	1	4	623	47·44	...
† „ (Hurst Hill) .....	„ „ „	8	1	10	1029	48·83	...
† „ (Great Hill) .....	„ „ „	8	1	8	1240	54·06	...
† „ (Gamekeeper's) .....	„ „ „	8	0	8	850	49·82	...
† „ (Higher Hill) .....	„ „ „	8	1	4	733	39·49	...
Southport (Birkdale) .....	J. Baxendell, Esq. ....	5	1	0	27	36·00	...
D† „ (Hesketh Park) .....	„ „ „	5	1	0	38	35·59	189
D† „ ( „ „ ) M.O.g. „ „ „	„ „ „	8	1	0	38	35·72	198
D† „ ( „ „ ) ... (R) „ „ „	„ „ „	11	1	5	39	35·23	191
† „ (Lord Street Station).	Great Central Rly. Co. ...	9	3	6	21	32·50	185
Rufford .....	H. Haskell, Esq. ....	5	1	0	41	37·12	...
Haslingden (Mitchells House Res.)	C. Harrison, Esq. ....	5	1	6	990	47·47	169
D Darwen (Sunnyhurst Hey) .....	R. W. S. Saville, Esq. ....	8	1	8	915	49·97	220
D „ (Earnsdale Reservoir) ...	„ „ „	8	1	8	705	49·27	220
D „ (Sewage Works) .....	„ „ „	5	1	6	460	46·08	216
§ „ (Bold Venture Park) ...	Dr. F. G. Haworth ...	8	2	4	722	56·62	217
„ (Hoddlesden) ... No. 1	W. Stubbs, Esq., C.E. ..	8	4	0	680	52·69	219
„ ( „ ) ... No. 2	„ „ „	8	1	0	675	52·91	219
† „ (Daisy Green) ... No. 1	„ „ „	8	1	0	969	49·22	219
„ ( „ ) ... No. 2	„ „ „	8	1	0	969	49·16	219
„ (Pickup Bank) ... No. 1	„ „ „	8	1	0	720	49·47	219
„ ( „ ) ... No. 2	„ „ „	8	1	0	720	50·30	219
D Preston (Walton-le-Dale W.W.)	T. W. Elliott, Esq. ...	5	0	10	316	40·67	228
Lytham .....	J. C. Fisher, Esq. ....	...	...	...	...	33·83	...
† Blackburn (Guide Reservoir) ...	W. Stubbs, Esq., C.E. ..	8	1	0	650	44·05	206
† „ (Witton) .....	„ „ „	8	2	6	315	45·86	203
„ (Store Yard) .....	„ „ „	8	30	0	373	35·48	170
„ (Water Works Office) .....	„ „ „	8	60	0	436	30·83	178
† „ (Corporation Park) ...	„ „ „	8	0	6	584	44·69	209
† „ (Pumping Station) ...	„ „ „	8	6	0	600	44·41	196
D Accrington (St. James's Vicarage)	Rev. A. Spencer. ....	8	1	6	475	45·84	197
„ (Milnshaw Park) .....	Accrington Corporation	5	1	6	464	42·08	180
D Preston (Corporation Offices) ...	T. Cookson, Esq. ....	8	18	7	148	39·45	202
Blackburn (Samlesbury Sew Wks)	W. Stubbs, Esq., C.E. ..	8	...	...	240	38·32	216

DIVISION VIII.—NORTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with $\geq 0.1$ or more recorded.
		Diameter	Height Above Ground.			
		in.	ft.	in.	feet.	inches.
CENTRAL LANCASHIRE-(con.)						
†Causeway Side (Burnley W.W.)	W. Williamson, Esq....	8	2	0	1116 $\nabla$	43.85 ...
†Sheddin ( " " )	" " " " ...	8	2	0	960 $\nabla$	43.63 ...
†CantClough, S.Side ( " " )	" " " " ...	8	2	0	900 $\nabla$	43.76 212
† " " N.Side ( " " )	" " " " ...	8	2	0	900 $\nabla$	42.86 211
Rams Clough Head ( " " )	" " " " ...	8	2	0	1260 $\nabla$	42.16 ...
Huncoat (Burnley Road Res.) ...	C. Harrison, Esq. ....	5	1	6	620 $\nabla$	47.81 194
d§ Burnley (Queen's Park) .....	Dr. Thomas Holt .....	8	1	0	459 $\nabla$	40.20 192
" (Yorkshire Street) .....	W. Williamson, Esq... 8	30	0	420 $\nabla$	34.66 202	
† " (Swinden)..... Upper g.	" " " " ...	8	12	0	820 $\nabla$	42.45 215
† " ( " )..... Lower g.	" " " " ...	8	2	0	745 $\nabla$	42.43 214
† " (Extwistle Moor Top)...	" " " " ...	8	2	0	1310 $\nabla$	45.01 ...
d " (Gawthorpe Hall) .....	Alfred Ford, Esq. ....	8	1	3	316 $\nabla$	42.41 221
d Preston (Haighton) .....	A. E. Coupe, Esq. ....	5	1	2	255 $\nabla$	40.63 182
Alston Reservoir .....	T. Cookson, Esq. ....	8	1	2	320 $\nabla$	46.68 ...
Worthdale (Watersheddles Res.)	W. Fowlds, Esq., C.E.	5	1	0	1115 $\nabla$	51.52 ...
§Stonyhurst College .....	Rev. W. Sidgreaves, S.J.	11	1	0	376 $\nabla$	49.07 213
d§ " " " " (R) .....	" " " " .....	11	1	10	377 $\nabla$	48.77 213
§ " " " " (M) .....	" " " " .....	11	1	0	376 $\nabla$	47.22 ...
Knowle Green (Preston W.W.) M	T. Cookson, Esq. ....	8	1	2	400 $\nabla$	46.65 ...
Loud-scales ( " " ) M	" " " " .....	8	1	2	400 $\nabla$	46.90 ...
Spade Mill ( " " ) M	" " " " .....	8	1	2	400 $\nabla$	46.77 ...
Jeffrey Hill ( " " ) M	" " " " .....	8	1	2	900 $\nabla$	50.57 ...
d Beaton Fell (Barnsfold Res.) ...	A. E. Coupe, Esq. ....	5	1	6	506 $\nabla$	42.50 184
" " " " (M) .....	" " " " .....	5	1	6	506 $\nabla$	42.79 ...
Barrowford Reservoir .....	Leeds & L'pool Canal Co.	8	1	0	473	39.45 ...
Foulridge (Canal Office) .....	" " " " .....	8	1	0	497	44.51 ...
" (Cragg Nook Hill) ..	" " " " .....	8	1	0	690	39.33 ...
" (Upper Reservoir) ...	" " " " .....	8	1	0	582	39.68 ...
d Clitheroe (Low Moor) .....	W. Garnett, Esq. ....	5	1	3	215 $\nabla$	48.46 178
" (Downham Hall) .....	R. C. Assheton, Esq....	10	1	6	464 $\nabla$	43.43 ...
Chatburn (Middlewood) .....	W. K. Wilkinson, Esq.	5	1	3	363 $\nabla$	44.33 ...
NORTH LANCASHIRE.						
d St. Anne's-on-the-Sea .....	Mr. W. E. Procter .....	5	1	0	25 $\nabla$	34.90 194
Weeton .....	J. Cook, Esq., C.E. ...	5	1	0	95 $\nabla$	35.32 ...
d Barton (Anderton Fold) .....	W. H. Mason, Esq. ...	5	0	6	90 $\nabla$	43.08 185
d†Blackpool (Met. Observatory) ...	E. W. Rees Jones, Esq. MD	5	1	0	67 $\nabla$	35.46 198
d Poulton-le-Fylde (Singleton Pk.)	T. H. Miller, Esq. ....	8	0	11	50 ?	39.08 196
d St. Michael's-on-Wyre Vic. Snow.	Rev Archdeacon Hornby	5	1	0	26 $\nabla$	39.16 210
d " " " " " " .....	" " " " " " .....	5	1	0	26 $\nabla$	38.39 213
Rossall Beach .....	T. G. Benn, Esq. ....	8	1	0	20 $\nabla$	35.69 205
§Fleetwood .....	E. Frobisher, Esq. ....	8	1	8	29 $\nabla$	34.42 ...
d Garstang (Bruna Hill) .....	Mrs. Wilson .....	5	0	6	90 $\nabla$	43.69 208
" (Holme Ho., Bleasdale)	A. Wilson, Esq. ....	5	1	0	650 $\nabla$	60.68 ...
" (Fairsnape Fell) .....	" " " " .....	5	1	0	1630 $\nabla$	84.16 ...
† " (Barnacre Reservoir)...	J. Cook, Esq., C.E. ...	5	1	0	617 $\nabla$	50.08 199

## DIVISION VIII.—NORTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with .01 or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
NORTH LANCASHIRE—(con.)						
†Garstang (Grizedale Reservoir)..	J. Cook, Esq., C.E. ...	5	1 0	519 T	48·17	199
† " ( " Stake House)	" " " ...	5	1 0	775	50·26	...
Pilling (Smallwood Hey) .....	Mr. J. H. Curwen .....	5	0 9	12 T	33·53	...
D Garstang (Forton) .....	J. H. Bonny, Esq. ....	5	1 6	65 L	42·33	216
Wyresdale (Abbeystead Res.) ...	J. C. Mount, Esq., C.E.	8	1 0	366 T	48·81	171
D " ( " Gardens)	Mr. T. Wyton .....	8	0 6	420	56·95	208
D Hampson-in-Ellel .....	W. G. Welch, Esq. ...	5	1 6	145 T	43·20	204
Quernmore (Old Gauge Basin) M	J. C. Mount, Esq., C.E.	8	1 0	963 T	51·61	...
D Lancaster (Bailrigg) .....	H. L. Storey, Esq. ....	5	1 3	200	46·12	206
Wyresdale (Wardstone) .....	J. C. Mount, Esq., C.E.	8	1 0	1440 T	71·89	...
Quernmore (Brow Top) .....	" " " ...	8	1 0	552 T	51·08	188
D Heysham House .....	Miss Tomlinson .....	5	1 6	80	48·16	224
D Lancaster (Strathspey) .....	A. B. S. Welch, Esq. ...	5	1 0	85	44·67	208
" (Blea Tarn Reservoir).	J. C. Mount, Esq., C.E.	8	1 0	330	42·70	198
D§ " (Greg Observatory) ...	Neville Holden, Esq. ...	8	1 0	312	45·99	210
" (Robert Street) .....	J. C. Mount, Esq., C.E.	8	1 0	62 T	45·18	203
Caton (Escowbeck) .....	the late A. Greg, Esq. ...	12	1 6	150 T	45·13	187
" Vicarage .....	Rev. W. J. Locke .....	5	1 0	160 T	46·96	...
" Green .....	F. Storey, Esq. ....	5	1 0	250	46·51	209
D§ Morecambe .....	Mr. T. B. Lamb .....	8	1 0	24 A	51·46	203
D Bolton-le-Sands Vicarage .....	Rev. A. R. Tomlinson.	5	1 2	70 T	46·74	206
D " (The Laurels) ...	Major J. Barker .....	5	1 6	75 T	42·43	200
D Wray Vicarage .....	Rev. C. L. Reynolds ...	5	1 0	165 A	49·77	202
D Melling (Hornby Castle) .....	G. S. Beckett, Esq. ...	8	1 8	100	49·29	183
D Barrow-in-Furness .....	W. Fergusson, Esq. ...	11	1 6	36 A	37·08	176
D Carnforth (Over Kellet) .....	W. Farrer, Esq. ....	8	1 0	175	43·10	209
Arkholme (Storrs Hall) .....	F. F. Pearson, Esq. ...	5	1 0	220	44·60	...
D Yealand Conyers (Beechfield) ...	W. E. Roper, Esq. ....	5	1 0	250	47·42	206
D Leck Vicarage .....	Rev. J. Turner .....	5	1 1	400	46·31	209
D Ulverston (Urswick School Ho.).	J. Dobson, Esq. ....	5	1 3	140 T	49·84	195
D Cartmel (Flookburgh Lodge) ...	J. J. Myres, Esq., C.E.	5	1 0	75	47·84	210
Lindal (Moor Mines) .....	Messrs. Harrison, Ainslie & Co.	5	7 0	...	50·07	154
D Cartmel (Carke) .....	W. R. Nash, Esq. ....	5	1 0	76 A	48·22	194
D " (Holker) .....	Lord Richard Cavendish	5	0 9	85 A	50·37	207
D Grange-over-Sands (Eggerslack)	Miss S. M. Arkwright ..	5	2 3	140 B	55·71	187
" " " (Merlewood).	E. C. Miller, Esq. ....	5	0 9	280 B	54·95	193
D Ulverston (Poaka Beck) .....	W. Fergusson, Esq. ...	11	1 6	512 A	54·86	211
D Cartmel (Aynsome) .....	J. Stewart Remington Esq	8	2 0	137 T	62·92	215
D Finsthwaite Vicarage .....	Rev. S. Inman .....	8	1 2	250	63·77	209
D Broughton-in-Furness .....	C. P. Chambers, Esq. ...	5	1 3	101	59·09	202
D Blawith Vicarage .....	Rev. J. Ashburner .....	5	0 10	185	63·32	196
D Cartmel Fell (The Schoolhouse) ..	R. J. Craghill, Esq. ...	5	5 0	220 T	61·32	216
D Coniston (Water Park) .....	Miss C. Marshall .....	5	1 0	180	65·96	187
D Hawkshead (Tower Bank, Sawrey)	Major W. Alcock-Beck	5	1 0	342 T	70·21	205
D Duddon Valley (Seathwaite Vic.)	Rev. J. B. Ditchfield ...	5	1 0	330 T	79·14	217
Monk Coniston Park .....	Miss C. Marshall .....	5	1 2	305 T	87·41	165
Hawkshead (Esthwaite Mount) ..	Miss Headlam .....	5	1 0	246 T	72·84	...

## DIVISION VIII.—NORTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with 0.1 or more recorded.	
		Diameter	Height Above Ground		Height Above Sea Level		
			ft.	in.	feet.		
		in.	ft.	in.	feet.	inches.	
NORTH LANCASHIRE—(con.)							
Hawkshead (Black Fell) .....	Miss C. Marshall .....	5	1	6	1055	82.56	...
n Skelwith Fold [Ambleside] .....	“ “ “ .....	5	1	0	333	85.51	234
“ “ “ [ “ ] ...M	“ “ “ .....	5	1	0	333	84.59	...

## DIVISION IX.—YORKSHIRE.

WEST RIDING (SOUTHERN).							
Sheffield (W.W., Gleadless) ...	Mr. R. Rodinson .....	8	1	0	700	34.28	191
Dinnington Hall .....	Mr. C. Hope .....	5	0	6	392	28.62	175
Sheffield (Fulwood House) .....	J. Dixon, Esq. ....	5	1	0	670	37.62	211
" (Stumperlow Hall) ...	H. J. Dixon, Esq. ....	5	1	0	700	39.45	206
" (Redmires Res.) .....	L.S.M. Marsh, Esq., C.E.	10	5	0	1110	43.03	217
" " " ) weekly	" " " .....	8	4	0	1110	42.19	...
" (Rivelin) .....	" " " .....	10	4	0	564	35.88	203
" " " ) weekly	" " " .....	8	4	0	564	35.95	...
" (Crookes) .....	" " " .....	10	2	0	629	31.04	194
" " " ) weekly	" " " .....	8	2	0	629	30.74	...
Sheffield (Weston Park) .....	E. Howarth, Esq. ....	8	1	0	430	31.58	188
" (Victoria Station) .....	Great Central Rly. Co..	9	3	6	188	26.86	147
" (Dale Dyke Reservoir).	L.S.M. Marsh, Esq., C.E.	10	3	0	715	42.18	211
" " " " ) weekly	" " " .....	8	3	0	715	41.99	...
Rotherham (Ulley Reservoir) ...	E. B. Martin, Esq., C.E.	5	1	0	184	22.32	149
Sheffield (Tinsley Locks) .....	Great Central Rly. Co..	9	...		117	25.15	170
Tickhill (Sandbeck Park) .....	Mr. G. Summers .....	8	1	0	150	27.47	177
Rotherham (Sitwell Vale) .....	Mr. G. Howard .....	5	1	0	300	31.13	189
" (Moorgate) .....	C. E. Chrimes, Esq. ...	5	1	0	262	26.72	163
Tickhill .....	G. G. Phillips, Esq. ...	8	1	0	61	29.18	180
Derwent Dale (Low Seat) No. 21	E. Sandeman, Esq., C.E.	5	1	0	1565	42.51	...
" " (Howden Ho.) 19	" " " .....	8	1	0	775	47.75	211
" " (Row Top) No. 20	" " " .....	5	1	0	1260	49.75	...
" " (Sandy Lee) No. 7	" " " .....	5	1	0	1340	48.85	...
" " (Cranberry Clough) 6	" " " .....	8	1	0	960	55.68	...
" " (Crowstones) No. 3	" " " .....	5	1	0	1660	50.20	...
" " (Featherbed Moss) 1	" " " .....	5	1	0	1670	52.80	...
Rotherham (Thrybergh) .....	F. Oscar Kirby, Esq. C.E.	8	1	0	184	27.30	186
Chapelton (Potter Hill) .....	Mr. D. Bell .....	8	5	0	581	29.50	186
Doncaster (Firsby Reservoir) ...	F. Oscar Kirby, Esq. C.E.	8	1	4	189	28.44	181
" (Wadworth Hall) .....	Rev. J. C. Ross .....	8	1	0	190	28.90	204
Wentworth Woodhouse .....	Mr. A. Third .....	5	0	10	360	29.70	...
Swinton (Council Offices) .....	R. Fowler, Esq., C.E. ...	8	1	0	126	28.24	205
Mexborough .....	G. Fenwick Carter Esq. C.E.	5	1	6	58	25.83	173
Wortley .....	Great Central Rly. Co..	9	3	6	548	29.39	172
Langsett Moor (Pike Lowe) ...C	J. H. Taylor, Esq., C.E.	5	1	0	1358	50.67	...
" " (Range Moor) D	" " " .....	5	1	0	1040	47.73	...
" " (Midhope) .....	" " " .....	5	1	0	830	44.91	206

## DIVISION IX.—YORKSHIRE—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with .01 or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
W. RIDING (SOUTHERN)-(con.)						
Wortley (Service Reservoir).....	J. H. Taylor, Esq., C.E.	5	1 0	700	33·24	190
†Langsett .....	No. 1 L.S.M. Marsh, Esq., C.E.	8	4 3	960	40·79	206
† „ .....	No. 2 „ „ „	8	4 9	761	40·48	203
⁂ Mossley (Manor House Yard) ...	F. J. Dixon, Esq., C.E.	...	1 0	636	47·06	198
⁂ Wath-upon-Deerne (Chapel St.)	Dr. F. J. Burman .....	8	3 0	188	29·69	178
Bolton-upon-Deerne .....	T. Washington, Esq. ....	5	1 0	130	26·46	174
Worsborough .....	Great Central Rly. Co..	9	3 6	225	29·66	192
⁂ Stainborough (Wentworth Castle)	W. Fisher, Esq. ....	8	2 6	520	29·95	178
Doncaster (Hexthorpe Hall) ...	H. Morris, Esq. ....	5	0 8	18	26·08	...
„ .....	Great Central Rly. Co..	9	3 6	32	24·56	168
⁂ „ (Pumping Station) ...	F. Oscar Kirby, Esq. C.E.	8	1 2	30	27·29	176
Dunford Br. (Up. Windleden) M	H. Dearden, Esq., C.E.	12	2 2	1100	51·81	...
„ „ (Dearden Res.)...M	„ „ „	12	1 6	1244	50·87	...
„ „ Station .....	Great Central Rly. Co..	9	3 6	954	49·39	217
⁂ „ „ Reservoir .....	H. Dearden, Esq., C.E.	12	2 0	1111	54·24	219
Penistone .....	Great Central Rly. Co..	9	3 6	717	31·57?	...
„ (Hazlehead) .....	„ „ „	9	3 9	868	45·19	189
⁂ „ (Grammar School) ...	Joseph W. Fulford, Esq.	5	1 2	650	32·26	179
„ (Ingbirchworth Res.)	J. H. Taylor, Esq. C.E.	5	1 3	853	37·83	200
⁂ Barnsley (Church Street) .....	Dr. F. J. Sadler .....	5	5 2	350	30·21	202
„ (Jordan Hill) .....	J. H. Taylor, Esq., C.E.	8	1 3	460	29·12	148
„ .....	Great Central Rly. Co..	9	3 6	317	24·50	158
Cawthorne .....	Rev. C. T. Pratt .....	5	1 6	340	32·37	176
Cudworth (Lund Lane Sew. Wks.)	J. H. Taylor, Esq. ....	5	1 0	150	29·53	165
Doncaster (Wyndthorpe) .....	Hon. Mrs. Godfrey Chetwynd	5	0 11	13	24·39	...
⁂ Kirk Bramwith .....	H. A. Brundell, Esq. C.E.	5	1 0	17	26·21	207
Hemsworth Hall .....	Mr. T. Bendall .....	5	1 0	250	27·39	151
⁂ Ackworth (Hillthorpe) .....	Mrs. F. Hatchard .....	5	1 5	175	25·60	174
⁂ „ (Nostell Priory) .....	Mr. J. Easter .....	5	4 0	...	27·37	167
Goole (Swinefleet) .....	Mr. G. Harrison .....	5	5 6	10?	27·27	...
⁂ „ ( „ ) .....	A. B. Hobson, Esq. ...	5	1 0	18	26·20	202
⁂ „ .....	W. E. Grayburn, Esq.	5	2 0	18	24·11	148
WEST RIDING (CENTRAL).						
Greenfield (Upperwood Moor) ...	F. J. Dixon, Esq., C.E.	7	1 0	1518	53·30	...
„ (Chew Mount) .....	„ „ „	7	1 0	1600	60·10	...
⁂ „ (Yeoman Hey) .....	„ „ „	7	0 6	784	51·00	159
„ (Ashway Moss) .....	„ „ „	7	1 0	1607	39·40?	...
„ (Birchen Clough) .....	„ „ „	7	1 0	1017	55·70	...
Holmbridge (Yateholme Farm)...	O. J. Kirby, Esq., C.E.	7	1 0	861	60·70	...
„ (Holme Styas Res.)...	Mr. B. T. Woodcock ...	7	2 6	830	44·70	...
„ (Boshaw Whams Res.)	„ „ „	7	2 6	930	49·30	...
„ (Bilberry Reservoir)...	„ „ „	7	2 6	820	56·60	...
Saddleshworth Station .....	M. E. Prebble, Esq., C.E.	5	4 2	630	28·44?	...
Strinesdale [Oldham] .....	C. J. Batley, Esq., C.E.	5	4 0	815	39·93	206
Meltham (Harden Moss) .....	J. W. Schofield, Esq. ....	8	1 2	1212	51·61	...
„ ( „ „ ) new g.	„ „ „	8	1 0	1212	52·72	...

## DIVISION IX.—YORKSHIRE—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain.	Days with .01 or more recorded.
		Diameter	Height Above Ground		Height Above Sea Level	1909	
		in.	ft.	in.	feet.	inches.	
W. RIDING (CENTRAL)—(con.)							
Wessenden Head .....	J. W. Schofield, Esq...	8	1	0	1270 T	47·60	...
„ (Hollin Bank Moss)...	„ „ „ .....	8	1	0	1360 T	60·22?	...
„ (Great Butterley).....	„ „ „ .....	8	1	0	1110 T	48·20	...
„ (Bobus).....	„ „ „ .....	8	1	0	1200 T	45·44	...
Standedge(Castleshaw,Broadhead)	C. J. Batley, Esq., C.E.	8	4	6	876 T	45·24	208
† „ ( „ Cudworth)	„ „ „ .....	5	4	6	1410 T	34·23?	207
„ (Redbrook Res.) <i>old g.</i>	E. Prebble, Esq., C.E...	8	1	8	1150	49·80	...
„ ( „ „ ) <i>new g.</i>	„ „ „ .....	8	1	6	1150	49·33	...
Meltham (Brow Grains) .....	J. W. Schofield, Esq....	8	1	0	900 T	48·72	...
† Denshaw (Ox Hey) .....	C. J. Batley, Esq., C.E.	8	4	6	1030 T	45·63	194
† „ (New Year's Bridge)...	„ „ „ .....	8	4	0	1012 T	49·26	195
† „ (Ready Con Dean).....	„ „ „ .....	8	4	0	1414 T	47·54	195
Meltham (Royd Edge) .....	C. L. Brook, Esq. ....	8	1	0	585 T	54·05	...
„ (Harewood Lodge).....	„ „ „ „ .....	8	1	0	514 T	47·01	208
„ Grange .....	J. W. Schofield, Esq....	8	1	2	850 T	44·31	...
Marsden (Deer Hill) ..... <i>old g.</i>	„ „ „ „ .....	8	1	0	1149 T	47·02	...
„ ( „ „ ) ..... <i>new g.</i>	„ „ „ „ .....	8	1	0	1149 T	50·62	...
Wakefield (Woolley Park Gardens.)	Mr. T. Wells .....	5	1	0	400	30·52	159
„ Slaithwaite (Blackmoorfoot).....	J. W. Schofield, Esq....	8	1	0	800 T	51·36	219
„ (Inglewood) .....	J. Woodhead, Esq. ...	5	1	0	546 T	46·87	215
„ Wakefield (Walton Hall).....	E. Simpson, Esq. ....	5	1	0	140 T	22·95?	155
Huddersfield (Bankfield, Golcar)	J. R. Sykes, Esq. ....	5	1	0	400 T	39·31	182
„ (Cemetery) .....	Mr. J. Firth .....	8	1	0	410 T	36·28	197
„ (Dalton) .....	J. W. Robson, Esq. ...	8	1	0	350 T	31·00	184
„ Rishworth Moor (Gt. Walden Edge)	C. Clemesha Smith Esq C.E	5	0	10	1135 T	50·86	224
„ (Stott Hall) .....	„ „ „ „ .....	5	1	0	935 T	48·43	209
„ (Ringstone Res.) .....	„ „ „ „ .....	5	1	0	990 T	41·28	201
„ Moor (Greystones) ...	„ „ „ „ .....	5	1	0	1175 T	49·14	...
Soyland Moor (Summit) .....	„ „ „ „ .....	5	1	0	1290 T	44·88	...
„ „ (Baitings Gate) ...	„ „ „ „ .....	5	1	0	935 T	49·53	200
„ „ (Manshead) .....	„ „ „ „ .....	5	1	0	1240	48·80	...
Horbury (Highfields) .....	J. H. Green, Esq. ....	5	1	0	226 T	31·16	...
„ Mirfield (Cote Wall) .....	J. Watson-Kaye, Esq..	8	1	2	200	35·82	193
„ Ossett (Lowood House).....	Dr. W. Greenwood ...	5	0	6	350 T	25·44	160
„ Wakefield Prison .....	Roy. Meteorological Soc.	5	1	0	96 T	26·80	159
„ (Field Head).....	C. Clemesha Smith Esq C.E	5	1	0	250 T	25·05	...
„ (Stanley Grange) .....	H. S. Haworth, Esq....	5	1	0	235 T	26·39	193
Elland.....	P. H. Whitwam, Esq..	8	1	0	307 T	33·13	...
Batley (Staincliffe Reservoir) ...	O. J. Kirby, Esq., C.E.	7	1	0	492 T	22·95?	...
„ (Woodwell Depôt) .....	„ „ „ „ .....	8	1	0	301 T	26·12	153
„ Ardsley Reservoir .....	C. Clemesha Smith Esq C.E	5	1	2	395 T	26·22	180
„ (Jaw Hill).....	„ „ „ „ .....	5	1	0	315 T	24·57	...
„ Whitley Bridge (Roall Pump Stat.)	J. E. Pickard, Esq., C.E.	8	0	10	44 T	22·90	162
„ Sowerby Bridge (Brockwell Triangle)	W. Cyril Empson, Esq.	8	1	0	500 T	41·31	...
„ (Haugh End) No. 4	J. S. Rawson, Esq. ...	5	0	8	450 T	41·31	208
„ The Royd [Todmorden] .....	Press-cutting .....	...	...	...	...	51·14	227
„ Fielden Hospital [ „ ] .....	Mr. F. Rogers .....	5	1	0	650 T	43·08	196
„ Sourhall Hospital [ „ ] .....	„ „ „ „ .....	5	1	0	1020 T	53·84	197

## DIVISION IX.—YORKSHIRE—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with -01 or more recorded.
		Diameter	Height above Ground.		Height above Sea Level	
		in.	ft	in.	feet.	inches.
W. RIDING (CENTRAL)—(con.)						
D Halifax (Salterhebble) ..... (R)	R. Lyon, Esq. ....	11	4	0	255 T	32.42 170
D „ (Hall Ings, S. Owham) ..	Rev. G. E. Aspinall ...	5	0	7	750 T	29.10 204
„ (Thorpe) ..... No. 1, M	J. S. Rawson, Esq. ...	8	0	8	345 T	44.83 ...
D „ ( „ ) ..... No. 2 ...	„ „ „ „ .....	5	0	8	345 T	44.67 203
D† „ (Public Library) .....	E. Green, Esq. ....	8	1	0	625 T	35.69 199
„ (Albert) .....	R. J. Hartley, Esq., C.E.	5	1	0	795 T	36.82 ...
„ (Gibbet) .....	„ „ „ „ .....	5	6	0	568 T	36.61 ...
„ (Ramsden Wood) .....	„ „ „ „ .....	8	1	2	816 T	37.09 ...
Gomersall (Castle Hill) .....	A. J. Pyrah, Esq. ....	5	1	0	480	27.78 176
Hebden Bridge (Falling Royd) ..	A. R. Crossley, Esq. ....	4	1	0	479 T	44.39 207
D „ „ (Summerfield) .....	J. Hoyle, Esq. ....	5	1	0	800 T	42.17 209
Halifax (Castle Carr Lodge) .....	R. J. Hartley, Esq., C.E.	...	...	...	1060 T	43.07 ...
„ (Midgley Moor) ..... M	„ „ „ „ .....	7	0	6	1350 T	43.91 ...
„ (Warley Moor) ..... M	„ „ „ „ .....	7	0	6	1325 T	44.42 ...
„ (Ogden) ..... M	„ „ „ „ .....	8	1	3	990 T	41.97 ...
„ (Ovenden Moor) .....	„ „ „ „ .....	...	...	...	1375	47.93 ...
„ (Widdop) .....	„ „ „ „ .....	...	...	...	1050	42.31 ...
„ (Walshaw Dean Lodge) .....	„ „ „ „ .....	...	...	...	1040	49.18 ...
„ ( „ „ ) ..... M	„ „ „ „ .....	8	0	3	1380 T	46.84 ...
Pudsey (Fulneck) .....	Miss E. C. Lawford ...	5	1	0	490	28.59 ...
„ (Glenera) .....	Dr. F. H. Squire .....	5	1	0	521 T	27.93 ...
D§ Garforth (Manor Farm) .....	Prof. R. S. Seton .....	8	1	2	194 T	28.43 200
Bradford (Grange Road, Horton) ..	Mr. A. E. Chilton .....	5	5	0	450 T	34.32 220
„ (Queensbury) .....	R. J. Foster, Esq. ....	8	2	2	1050	37.08 197
„ (Brayshaw Reservoir) ..	J. Watson, Esq., C.E..	5	1	0	982 T	37.10 176
D „ (Lister Park) .....	Mr. H. Lander .....	8	1	0	440 T	34.87 196
„ (Thornton Moor Filters) ..	J. Watson, Esq., C.E..	5	1	0	1218 T	42.89 260
„ (Stubden Res.)...old g.	„ „ „ „ .....	8	1	0	1075 T	52.48 229
„ ( „ „ ) new g.	„ „ „ „ .....	8	1	0	1075 T	48.62 229
„ ( „ „ ) .....	„ „ „ „ .....	5	1	0	1071 T	47.10 229
„ (Nan Scar, Oxenhope) M	„ „ „ „ .....	5	1	0	1101 T	47.12 ...
„ (Stairs Top, „ ) M	„ „ „ „ .....	5	1	0	1401 T	45.73 ...
„ (Leeming Reservoir) M	„ „ „ „ .....	5	1	0	850 T	41.41 208
„ (Doe Park Res.)...old g.	„ „ „ „ .....	8	1	0	810 T	42.35 206
„ ( „ „ „ ) new g.	„ „ „ „ .....	5	1	0	811 T	37.84 206
„ (Leeshaw Res.) ..... M	„ „ „ „ .....	5	1	0	875 T	47.92 ...
„ (Chellow Dean Res.) ...	„ „ „ „ .....	5	1	0	645 T	33.50 202
„ ( „ Heights Res.) .....	„ „ „ „ .....	5	1	0	848	33.96 215
„ (Hewenden Res.)...old g.	„ „ „ „ .....	5	1	0	700 T	43.60 209
„ ( „ „ ) new g.	„ „ „ „ .....	5	1	0	701 T	42.46 211
„ (Heaton Res.)...old g.	„ „ „ „ .....	8	1	0	530 T	32.19 214
„ ( „ „ ) new g.	„ „ „ „ .....	5	1	0	531 T	31.59 214
Leeds (Wortley Res.) .....	C. G. Henzell, Esq., C.E.	8	0	9	307 T	26.08 189
„ (Knostrop) .....	„ „ „ „ .....	8	0	9	72 T	26.37 172
D „ (Holbeck) .....	Messrs. J. Rhodes & Co.	10	32	0	127 T	19.70 133
D „ ( „ W. Works Depot) ..	C. G. Henzell, Esq., C.E.	8	0	9	93 T	25.02 173
D „ (Museum) .....	H. Crowther, Esq. ....	10	46	0	177 T	24.43 180

## DIVISION IX.—YORKSHIRE—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with $\geq 0.1$ or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
W. RIDING (CENTRAL)—(con.)						
Leeds (Woodhouse Moor).....	C.G. Henzell, Esq., C.E.	8	0 9	307 $\pi$	27.60	186
„ (Weetwood Reservoir) ...	„ „ „	8	0 9	328 $\pi$	27.08	179
<sup>D</sup> „ { „ „ „ Lodge).....	F. P. Reay, Esq. ....	5	0 9	200 $\uparrow$	25.82	165
<sup>D</sup> „ (Allerton Hill) .....	T.E. Fenwick, Esq., C.E.	5	0 7	418 $\pi$	27.28	203
Shipley (Cragg End).....	Leeds & L'pool Canal Co.	8	1 0	304	29.97	...
<sup>D</sup> „ (West Point).....	A. M. Paterson, Esq....	5	0 6	382 $\pi$	32.23	199
<sup>D</sup> Oakworth (Oldfield Filters).....	W. Fowlds, Esq., C.E.	5	1 0	1008 $\pi$	42.41	213
Bingley (Gilstead Filters) .....	J. Watson, Esq., C.E..	5	1 0	572 $\pi$	28.48	177
<sup>D</sup> Adel (Lawns Wood) .....	Mr. S. R. Dyson.....	5	1 0	475 $\uparrow$	30.22	178
<sup>D</sup> Keighley (Long Lee).....	C. Croft, Esq. ....	8	1 0	755 $\uparrow$	31.90	197
Bingley (Sunnydale).....	J. Watson, Esq., C.E..	5	1 0	825	30.63	201
<sup>D</sup> Skipton (Silsden) .....	Mr. A. Elder .....	5	1 0	432 $\pi$	27.44	180
„ ( „ „ Reservoir) .....	J. Watson, Esq., C.E..	5	1 0	560 $\pi$	29.01	181
„ (Cringle's Reservoir) ...	„ „ „	5	1 0	760 $\uparrow$	29.52	181
<sup>+</sup> „ (Craven Herald Office)...	E. Townsend, Esq.....	8	2 4	360	35.82	213
<sup>+</sup> „ (Town Hall).....	A. E. W. Aldridge, Esq.	8	0 9	370 $\uparrow$	35.23	...
„ (Hawthorne Cottage) ...	Leeds & L'pool Canal Co.	8	1 0	380	32.64	...
Gargrave (Banks Hill Bank Newton)	„ „ „	8	1 0	545	38.56	...
„ (Ray Bridge Hill) .....	„ „ „	8	0 10	459	31.03	...
Skipton (Embsay Moor).....	A. E. W. Aldridge, Esq.	8	0 8	750	36.11	...
Gargrave (Great Scaunber Hill)..	Leeds & L'pool Canal Co.	8	0 9	676	32.62	...
Winterburn (Long Hill) .....	„ „ „	8	0 9	705	33.67	...
„ (Brown Hill).....	„ „ „	8	1 0	961	43.51	...
<sup>D</sup> Malham Tarn.....	Mr. T. Coulthard .....	8	1 0	1296 $\pi$	59.82	214
WEST RIDING (NORTHERN).						
Aberford (Lotherton Hall) .....	Mrs. Trench Gascoigne	8	1 0	200	24.84	150
<sup>D</sup> Saxton Vicarage.....	Rev. C. D. Ash .....	5	2 6	95	28.92	200
Adel (Eccup, South) .....	C.G. Henzell, Esq., C.E.	8	0 9	390 $\uparrow$	29.15	199
„ ( „ „ East) .....	„ „ „	8	0 9	375 $\pi$	30.47	196
Harewood (Arthington).....	„ „ „	8	0 9	139 $\pi$	34.78	175
<sup>D</sup> „ „ House .....	Countess of Harewood.	5	0 10	300	29.19	192
<sup>D</sup> Otley (Sewage Works) ..	C. F. Hodgson, Esq. ...	5	0 9	169 $\pi$	25.58	161
<sup>D</sup> Bolton-by-Bowland (Bolton Hall)	Mrs. Wright .....	8	0 6	300 $\uparrow$	46.35	172
<sup>D</sup> Ilkley (Silverwell Cottage) .....	Mr. T. C. Gill.....	5	1 0	904 $\pi$	39.44	186
<sup>D</sup> „ (Glen Rosa).....	F. A. Aykroyd, Esq....	8	1 1	450	34.12	205
<sup>D</sup> „ (Eaton Road) .....	A. Wilson, Esq.....	5	1 0	395 $\uparrow$	36.44	213
<sup>D</sup> „ (Brook Street) .....	G. W. Worfolk, Esq....	5	20 0	312 $\pi$	34.48	168
Pannal (Kirkby Overblow) .....	A. Rowntree, Esq.....	5	0 9	340 $\uparrow$	26.70	158
Leathley (Lindley Wood, S.) ...	C.G. Henzell, Esq., C.E.	8	0 9	312 $\uparrow$	31.88	221
„ ( „ „ „ N.) ...	„ „ „	8	0 9	320 $\uparrow$	31.95	221
<sup>D</sup> Ilkley (March Gill Reservoir) ...	C. F. Hodgson, Esq. ...	5	0 9	665 $\pi$	30.77	173
<sup>D</sup> <sup>+</sup> York (Mount Villas) .....	Mrs. Rowntree .....	5	1 0	70	24.43	191
<sup>D</sup> <sup>+</sup> „ (Cherry Hill) .....	Mrs. H. Richardson ...	5	1 6	50	25.85	181
<sup>+</sup> „ (Museum Gardens) .....	Oxley Grabham, Esq....	9	1 0	57	24.83	194
<sup>D</sup> „ (The Retreat) .....	Dr. H. J. Mackenzie ...	5	1 0	74 $\pi$	25.12	187
Slaidburn (Knowlmere Manor)...	W. Peel, Esq.....	5	1 0	417 $\pi$	65.02	...

DIVISION IX.—YORKSHIRE—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with $\geq 0.1$ or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
W. RIDING (NORTHERN)—( <i>con.</i> )						
Slaidburn (Hareden Brook) ... M	T. Cookson, Esq. ....	8	1 2	540	73.65	...
„ (Langden Brook) ... M	„ „ „ „ .....	8	1 2	556	73.40	...
„ (Whiteholme) .....	W. K. Wilkinson, Esq.	5	1 3	475 T	53.04	158
Skipton (Counter Hill)..... M	J. Watson, Esq., C.E....	5	1 0	951 T	29.25	...
„ (Chelker Reservoir).... M	„ „ „ „ .....	5	1 0	730 T	31.22	...
D Spofforth (Sewage Works) .....	F. Bagshaw, Esq., C.E.	8	1 0	184 T	26.40	202
Fewston (Timble Ings) .....	C. G. Henzell, Esq., C.E.	8	0 9	912 T	33.17	214
„ ( „ ) .....	„ „ „ „ .....	8	0 9	720 T	31.09	194
„ (Swinsty, E.) .....	„ „ „ „ .....	8	0 9	460 T	33.82	229
„ ( „ W.) .....	„ „ „ „ .....	8	0 9	425 T	34.52	229
„ South .....	„ „ „ „ .....	8	0 9	525 T	36.27	213
„ North .....	„ „ „ „ .....	8	0 9	525 T	35.47	213
„ (Blubberhouses) .....	„ „ „ „ .....	8	0 9	575 T	34.76	227
D Wetherby (Ribston Hall) .....	Mr. J. McClelland .....	5	1 2	130 T	28.87	189
Bolton Abbey Estate Office .....	A. Downs, Esq.....	5	1 2	350	37.33	195
Harrogate (Ten Acres Reservoir)	F. Bagshaw, Esq., C.E.	8	1 6	620 T	29.21	178
„ (Scargill Res., Bonny Cap)	„ „ „ „ .....	8	1 6	710 T	33.51	210
D „ ( „ „ ) .....	„ „ „ „ .....	8	1 0	646 T	34.26	209
„ (Beaver Dyke Reservoir)	„ „ „ „ .....	8	0 11	575 T	31.78	209
„ ( „ „ Wilson's Fm.)	„ „ „ „ .....	8	1 6	630 T	30.30	210
D§ „ (Harlow Moor Obsy.)	C. E. Rivers, Esq.....	5	1 0	480 T	31.97	207
„ ( „ Hill Res.) No. 1	F. Bagshaw, Esq., C.E.	8	1 0	589 T	28.35	188
„ (Irongate Bridge Res.)	„ „ „ „ .....	8	1 6	455 T	31.69	182
D „ (The Stray) .....	Mr. G. W. Gledhill ...	5	1 0	380	30.12	203
D „ (Park Parade) .....	„ „ „ „ .....	5	1 0	400	30.71	202
Slaidburn (Dunsop Houses) .....	W. Stubbs, Esq., C.E..	8	1 0	450 T	67.46	192
„ (Middle Knoll)..... M	„ „ „ „ .....	8	2 6	1298 T	59.80	...
„ (Brennand) .....	„ „ „ „ .....	8	1 0	820 T	74.36	199
„ (Whitendale) .....	„ „ „ „ .....	8	1 0	830 T	75.72	198
„ (Cabin Hill)..... M	„ „ „ „ .....	8	3 1	1559 T	69.09	...
„ (Baxton Fell) .....	„ „ „ „ .....	8	2 6	1540 T	65.64	...
D Goldsborough Hall .....	Mr. R. Goodall .....	5	1 0	118 T	30.14	200
Knaresborough (Water Tower)...	F. Bagshaw, Esq., C.E.	8	1 0	240 T	29.14	197
Barden Reservoir .....	J. Watson, Esq., C.E..	8	1 2	746 T	43.63	235
„ „ .....	„ „ „ „ .....	5	1 2	746 T	41.30	235
„ „ Upper .....	„ „ „ „ .....	5	1 0	1250 T	43.46	222
D Harrogate (Bilton Sewage Works)	F. Bagshaw, Esq., C.E.	5	1 0	208 T	28.58	201
D Nun Monkton (Priory) .....	H. Horsfield, Esq.....	5	0 6	45	25.70	190
D Birstwith (Swarecliffe) .....	Capt. C. S. Greenwood.	5	1 0	510 T	33.86	170
D „ (The Moss) .....	C. S. Dixon, Esq. ....	5	1 0	230	30.92	182
Ripley Castle Gardens .....	Mr. H. Fox .....	6	1 3	229	27.37	...
Burnsall (Thorpe Fell) .....	J. Watson, Esq., C.E..	5	1 0	1661 T	45.08	...
„ (Sandbed Beck) .....	„ „ „ „ .....	5	1 0	676 T	45.22	...
D „ Rectory .....	Rev. W. J. Stavert ...	8	4 7	503 T	43.38	219
Ouseburn (Thorpe Underwood Hall)	F. W. Slingsby, Esq....	5	1 1	60 T	24.31	168
D Settle (The Terrace) .....	J. W. Shepherd, Esq..	8	1 2	531 T	44.99	205
D§ „ (Giggleswick School).....	C. F. Mott, Esq. ....	8	1 0	500	44.05	190
D Pateley Bridge (Castle Stead) ...	Mr. C. May .....	5	1 0	410	37.84	200

## DIVISION IX.—YORKSHIRE—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain. 1909	Days with '01 or more recorded.
		Diameter	Height Above Ground.		Height Above Sea Level		
		in.	ft.	in.	feet.	inches.	
W. RIDING (NORTHERN)-(con.)							
Grimwith Reservoir ..... <i>old g.</i>	J. Watson, Esq., C.E..	8	1	0	890 $\pi$	42·61	227
" " ..... <i>new g.</i>	" " " "	5	1	0	893 $\pi$	41·14	228
D Grassington (Chapel Ho., Kilnsey)	G. E. Clayton, Esq. ...	5	3	0	670 $\pi$	52·17	208
Pateley Moor (Smaden Head) ...	C.G. Henzell, Esq., C.E.	8	0	9	784 $\pi$	32·24	213
Dallow Moor (High Skeldon) ...	" " "	5	0	9	674 $\pi$	32·51	218
† " " (Harper Hill) .....	" " "	5	0	9	858 $\pi$	34·84	214
D Ripon (Studley Royal Gardens).	O. H. Wade, Esq. ....	5	1	6	250	29·58	185
D " (The Red House) .....	F. D. Wise, Esq. ....	5	1	0	120	29·33	155
Ramsgill (Raygill House) .....	J. Watson, Esq., C.E..	5	1	0	925 $\tau$	47·96	166
" " .....	" " "	5	1	0	450 $\tau$	29·95?	...
D Arncliffe Vicarage .....	Rev. W. A. Shuffrey...	8	2	6	732 $\tau$	70·03	218
D " (Amerdale) .....	Miss A. A. Hammond..	8	1	6	742 $\tau$	58·78	219
D High Bentham .....	Mr. Bryan Holmes ....	5	1	0	412 $\tau$	42·13	201
Nidderdale (High Riggs) .....	J. Watson, Esq., C.E..	5	1	0	1010 $\tau$	44·70	190
" (East Gill Head) .....	" " "	5	1	0	1710 $\tau$	57·63	...
" (Rain Stang) .....	" " "	5	1	0	1470 $\tau$	42·51	...
" (Angram) .....	" " "	5	1	0	1150 $\tau$	41·85	210
" (New Houses) .....	" " "	5	1	0	755 $\tau$	44·19	175
† Kirkby Malzeard (Drovers' Inn)..	C.G. Henzell, Esq., C.E.	5	0	9	576 $\pi$	39·28	217
† " " (Hawset) .....	" " " "	8	0	9	820 $\pi$	36·57	224
" " (Hambleton Hill) .....	" " " "	8	0	9	1106 $\pi$	35·83	...
† " " (Bagwith Brae). .....	" " " "	5	0	9	703 $\pi$	35·07	212
" " (Stone & Ears Wham) .....	" " " "	8	0	9	1118 $\pi$	41·14	...
D Ripon (High Bank, Mickley) ...	Miss Harrison .....	5	1	6	225 $\tau$	30·20	177
Masham Moor (Benjy Guide)....	C.G. Henzell, Esq., C.E.	5	0	9	1411 $\pi$	38·42	...
† " " (Somerside) .....	" " "	5	0	9	928 $\pi$	35·66	173
† " " (High Sour Mire) .....	" " "	5	0	9	884 $\pi$	28·55?	178
" " (Spruce Gill) .....	" " "	5	0	9	1187 $\pi$	38·63	...
" " (Thorney Grane)..	" " "	5	0	9	1175 $\pi$	37·91	...
" " (Bracken Hill) ...	" " "	5	0	9	1450 $\pi$	37·65	...
† " " (Breary Bank) ...	" " "	5	0	9	600 $\pi$	34·97	201
" " (Healey) .....	" " "	5	0	9	542 $\pi$	31·20	179
† " " (Low Houses) .....	" " "	5	0	9	693 $\pi$	36·25	214
" " (Black Brunt) ...	" " "	5	0	9	1160 $\pi$	37·41	...
" " (Brown Beck) ...	" " "	5	0	9	1150 $\pi$	34·91	...
D " " (Roundhill Res.).	F. Bagshaw, Esq., C.E.	8	1	0	743 $\pi$	32·45	177
" " ( " Farm) .....	" " "	8	1	0	975	36·25	175
D Wharfedale (Oughtershaw Hall)	Miss Woodd .....	8	1	6	1175 $\tau$	70·43	187
Sedbergh (Dent Vicarage) .....	Mr. J. Mason .....	5	1	0	484 $\tau$	70·81	214
D " (Akay) .....	C. E. Taylor, Esq. ....	5	1	0	400 $\tau$	59·56	197
D " (Cemetery) .....	Mr. J. Anderson .....	5	1	0	374 $\pi$	54·44	213
" (Thorns Hall) .....	Miss Sedgwick ...	5	1	0	400 $\tau$	54·43	193
D " (Croasdale Beck) .....	W. Atkinson, Esq. ....	5	1	0	623 $\tau$	61·85	172
EAST RIDING.							
§ Patrington (Spurn Head) .....	Meteorological Office ...	8	1	0	27	24·02	166
" .....	W. B. Pugh, Esq. ....	5	2	6	46 $\pi$	28·10	...

DIVISION IX.—YORKSHIRE—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with $\geq 0.1$ or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
EAST RIDING—( <i>con.</i> )						
D Hull (Pearson Park).....	H. B. Witty, Esq.....	5	0 10	6	30.83	195
D „ (Springhead) .....	C. B. Newton, Esq., C.E.	5	1 0	16 $\nabla$	32.12	236
D Cottingham (Water Works).....	„ „ „ „ „ „	5	1 1	26 $\nabla$	29.40	181
D Beverley (East Riding Asylum).	Dr. M. A. Archdale ...	5	1 0	175 $\nabla$	33.84	202
„ (New Walk) .....	W. Evans, Esq., C.E...	5	3 0	38	31.64	210
„ (Hull Bridge).....	„ „ „ „ „ „	5	2 6	11 $\nabla$	29.83	199
D Market Weighton (Dalton Hall)	Mr. W. „ Jackson.....	5	1 6	150 $\nabla$	31.48	178
D § Deighton Grove [York] .....	Miss M. L. Whitehead.	5	2 0	40 $\nabla$	26.11	222
D Hornsea (Elim Lodge) .....	Mr. Guy Walker .....	8	1 6	30 $\nabla$	32.11	195
Brandesburton (Hempholm Lock)	W. Evans, Esq., C.E...	5	2 6	11 $\nabla$	30.19	208
D Pocklington (Warter) .....	Mrs. J. Coxon.....	5	1 10	230 $\nabla$	29.92	155
D Heslington [York] .....	Hon. L. de Yarburgh-Bateson	8	0 7	35	27.74	202
Dunnington Hall [York] .....	Miss Hildyard .....	8	1 2	110	26.23	186
§ Driffield (York Road) .....	W. E. Lovel, Esq. ...	5	1 0	76 $\nabla$	32.51	188
D „ (Highfield) .....	Mr. R. Marson .....	5	1 0	80	32.87	164
Wetwang .....	Rev. E. M. Cole .....	5	1 0	235 $\nabla$	30.41	178
D Thixendale .....	Rev. W. H. Fox .....	10	0 10	425 $\nabla$	32.76	211
D Lowthorpe (The Elms) .....	F. K. Hawes, Esq.....	5	1 0	63 $\nabla$	33.15	197
D Birdsall Gardens .....	Mr. J. Anderson.....	5	1 3	308	31.65	215
D Malton (The Leat House).....	W. R. Innes Hopkins Esq.	5	0 10	60	28.69	193
D Bridlington.....	S. R. Crofts, Esq. ....	5	1 0	59	32.78	203
D „ (Grammar School) ...	B. A. Farrow, Esq. ...	8	1 0	57 $\nabla$	29.89	173
D Rillington (Scampston Hall) ...	Mr. F. C. Puddle .....	5	1 6	102 $\nabla$	29.83	188
Hunmanby (Holly Bank).....	Miss Suter .....	5	1 2	...	30.09	...
D Filey (Deepdene) .....	A. V. Machin, Esq. ...	5	0 8	44 $\nabla$	32.54	203
NORTH RIDING.						
D Warthill (Brockfield Hall) .....	late W. Talbot Agar, Esq	5	2 0	60	26.10	230
Haxby (Moorlands) .....	(R) E. G. Tew, Esq.....	...	0 8	58 $\nabla$	24.99	163
Alne .....	R. Godfrey, Esq., C.E.	5	0 10	80	22.88	164
Terrington Hall.....	Mr. T. Suffield .....	5	1 5	300 $\nabla$	28.26	235
D New Malton .....	M. B. Slater, Esq. ....	10	0 10	139 $\nabla$	28.22	198
D § Hovingham Hall .....	Sir W. H. A. Worsley, Bt.	5	0 6	120 $\nabla$	33.84	181
D Thirsk (Dalton Parsonage) .....	Rev. G. H. Chilman ...	5	1 0	87 $\nabla$	24.20	201
D § Ampleforth Abbey.....	Rev. T. I. Barton, O.S.B.	...	1 0	350	27.57	153
D Thirsk (The Hall).....	Reginald Bell, Esq. ...	5	1 10	121 $\nabla$	25.85	185
„ (Mount St. John) <i>Snow g.</i>	A. J. Walker, Esq. ...	5	1 7	535 $\nabla$	26.93	...
D „ { „ „ „ } „ „ „	„ „ „ „ „ „	5	1 0	523 $\nabla$	27.36	196
„ { „ „ „ } <i>Cary g.</i>	„ „ „ „ „ „	5	1 0	523 $\nabla$	26.67	...
D „ { „ „ „ } „ „ „	„ „ „ „ „ „	5	1 10	542 $\nabla$	28.07	200
„ { „ „ „ } „ „ „	„ „ „ „ „ „	5	1 10	542 $\nabla$	26.89	...
„ (Boltby).....	„ „ „ „ „ „	5	0 7	495 $\nabla$	27.45	...
„ (Cliff Head, Boltby) No. 1 M	„ „ „ „ „ „	5	4 7	773 $\nabla$	23.51	...
„ { „ „ „ } „ „ „	„ „ „ „ „ „	5	1 4	772 $\nabla$	28.14	...
„ (Newbuilding) .....	G. S. Thompson, Esq..	8	1 3	600	29.64	156
D Thornton-le-Dale .....	A. Priestman, Esq. ...	5	1 0	150 $\nabla$	33.86	211

## DIVISION IX.—YORKSHIRE—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with .01 or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level		
		in.	ft. in.	fee .	inches.	
NORTH RIDING—(con.)						
D Pickering .....	Dr. J. L. Kirk .....	5	1 0	90	29.92	189
D Bedale (Burneston) .....	Rev. Canon J. T. Hartley .....	5	3 9	110 T	23.58	179
„ (Thorpe Perrow) .....	Mr. C. W. Tilly .....	8	1 6	140	29.74	193
D „ (Park House) .....	Miss M. Greenwood ...	5	1 1	180	26.92	212
„ (Newton House) ..	Mr. W. Paylor .....	5	2 6	125	24.16	...
D Northallerton (Thornton-le-Moor)	Col. R. W. Peckitt ...	5	1 0	136 T	27.83	192
Middleham Rectory .....	Rev. H. G. Topham ...		1 0	430	28.56	...
D Leyburn (Bolton Hall) .....	Mr. F. Scrivener .....	8	1 0	420 T	33.13	202
D Seamer (Irton Pumping Station)	W. Millhouse, Esq. C.E.	8	1 0	94 T	34.74	213
D Scarborough (Osgodby) .....	„ „ „ „	8	1 0	166 T	31.52	168
D§ „ „ .....	W. W. Larkin, Esq. ...	5	1 0	101	28.88	199
D „ (Manor Road) .....	H. W. Smith, Esq., C.E.	5	1 0	170 T	34.29	221
D „ (May Lodge) .....	Mrs. Kitson .....	5	0 4	150	34.04	228
D „ (Scalby) .....	Mrs. J. W. Rowntree ...	5	0 11	300 B	38.87	197
Muker (Gunnarside Lodge) .....	W. M. Christy, Esq. ...	5	1 0	900 T	47.97	...
D Northallerton (Osmotherley) .....	T. Yeoman, Esq. ....	8	0 8	660	31.99	186
D§ Rounton Grange .....	Mr. J. Hanagan .....	8	1 0	249	29.49	207
D Richmond (Sedbury Park) .....	G. Gilpin Brown, Esq..	5	1 0	450	29.34	203
D „ (Gilling West) .....	G. Roper, Esq. ....	5	1 3	303 T	28.62	162
Middleton Tyas .....	J. F. B. Baker, Esq. ...	5	0 10	380 T	27.37	...
Fylingdales (The Vicarage) .....	Rev. R. Jermyn Cooper	6	0 10	125	28.15	...
D Ingleby Manor .....	Lord De L'Isle .....	5	0 11	460 T	36.53	200
D „ Greenhow .....	P. Huntington, Esq. ...	5	1 0	448 T	35.16	211
D East Layton Hall .....	Mrs. Proud .....	11	1 0	575 T	27.75	151
D Stanwick Park [Darlington] .....	Mr. W. Higgle .....	5	1 1	300 T	27.66	197
D Forcett Park [ „ „ ] .....	Capt. P. M. French ...	11	1 0	351 T	29.81	192
D Sleights (Brook Park) .....	E. Isle Hubbard, Esq..	5	1 0	80 T	31.68	206
D Whitby (Park Hall, Aislaby) ..	Rev. J. H. Richardson..	5	1 0	500	35.68	240
D§ „ (Crescent Avenue) .....	T. Newbitt, Esq. ....	8	5 10	125	25.49	181
D Great Ayton (Easby Hall) .....	J. J. Emerson Esq., LL.D.	5	1 0	355	35.04	204
D Kildale Hall .....	R. B. Turton, Esq. ...	5	1 2	600 T	39.52	215
D Stokesley (Seamer) .....	J. Pounder, Esq. ....	5	1 4	250	30.81	159
D Whitby (Mulgrave Castle) .....	Mr. J. Corbett .....	5	1 0	410 T	33.38	211
D Guisborough (Lockwood Beck Res)	W. I'Anson, Esq., C.E.	8	1 0	632 T	36.02	214
D Middlesbrough (Ormesby) .....	W. Stewart Tailleur Esq	5	1 0	100 T	31.04	187
D „ (Linthorpe) .....	Mrs. C. L. Bell .....	8	1 0	48 T	28.73	189
D „ (Albert Park) ..	J. M. Parnaby, Esq. ...	8	1 0	30	27.30	181
D Saltburn-by-the-Sea (Skelton Castle)	Mr. J. R. Batty .....	5	0 9	272 T	30.29	199
D „ „ „ „ .....	W. Marston, Esq. ....	8	4 6	200	24.20?	181
Baldersdale (Blackton Reservoir)	Hugh Wilson, Esq. ...	5	1 0	935 T	38.00	...
„ (Balderhead) .....	„ „ „ „ .....	5	1 0	1360	44.70	...
D† „ (Hury Reservoir) ...	„ „ „ „ .....	5	1 0	866 T	35.26	177
Lunedale (Lunehead) .....	„ „ „ „ .....	5	1 0	1450	56.50	...
„ (Selset) .....	„ „ „ „ .....	5	1 0	924 T	39.40	...
D† „ (Grassholme Reservoir)	„ „ „ „ .....	5	1 0	936 T	40.17	180
D† Mickleton .....	No. 1 Dr. H. R. Mill .....	8	1 0	850	26.76	171
„ „ „ „ „ „ .....	No. 2 „ „ „ „ .....	8	1 0	860 ?	29.95	...
† „ (Lime Kiln Pasture) M	„ „ „ „ .....	8	1 0	1175 T	30.75	...

## DIVISION X.—NORTHERN COUNTIES.

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with $\geq 0.1$ or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
<b>DURHAM.</b>						
D Darlington (Hurworth Grange)..	Mrs. J. E. Backhouse...	5	1 0	161 $\nabla$	27.35	191
D „ (Cleveland Parade)..	W. W. Willmott, Esq.	5	1 3	160 $\nabla$	26.60	191
D „ (Hummersknott) ...	Mr. J. Short .....	5	1 0	200	25.86	151
D† Barnard Castle (County School)..	R. Hitchcock, Esq. ...	5	1 6	540 $\nabla$	27.13	182
D Gainford .....	Walter Scott, Esq. ...	5	1 0	260 $\nabla$	25.52	171
Stockton (Rimswell) .....	W. Anderson, Esq., C.E.	8	1 0	100 $\nabla$	28.70	191
D „ (Ropner Park) .....	M. H. Sykes, Esq. ....	5	1 9	61 $\nabla$	27.29	178
D „ (Londonderry Road) ...	W. B. Heberden, Esq. ...	8	4 1	46 $\nabla$	27.04	178
D Sedgfield (Hardwick) .....	Viscountess Boyne .....	...	...	325 ?	28.74	225
D Hurworth Burn (Crookfoot Res.)	T. Bower, Esq., C.E. ...	10	1 6	293 $\nabla$	29.11	206
D West Hartlepool (Lynn Street)..	Mr. H. Lamb .....	5	65 0	84	20.21	193
D „ „ (Water Works)	T. Bower, Esq., C.E. ...	10	1 0	35 $\nabla$	34.20	165
D „ „ (Bradgate) .....	G. H. Baines, Esq. ....	8	1 3	100 $\nabla$	36.43	202
D Hurworth Burn .....	T. Bower, Esq., C.E. ...	10	1 0	357 $\nabla$	28.42	207
D Hartlepool (Hart Reservoir) .....	Rev. „ „ „ .....	10	1 0	172 $\nabla$	27.83	193
D Willington Rectory .....	Rev. T. Urmson .....	5	1 0	285 $\nabla$	28.08	174
D Wolsingham (Martagon House)..	Miss F. E. Stobbs .....	5	1 0	464	31.41	190
D Stanhope (Parson Byer's Quarry)	Messrs. Bell Bros., Ltd.	5	6 8	846 $\nabla$	30.53	167
D Wearhead Station .....	Mr. R. Rust .....	5	0 6	1104	48.21	156
§ Durham Observatory .....	Meteorological Office ...	12	4 0	352	24.78	182
§ Ushaw (St. Cuthbert's College)..	Rev. Dr. C. Gelderd ...	5	0 9	600 $\nabla$	29.31	198
Pittington (Elemore Hall) .....	Miss Baker Baker .....	8	0 6	323 $\nabla$	31.45	...
D Weardale W.W. (Tunstall Res.)	R. Askwith, Esq., C.E.	8	1 2	724 $\nabla$	34.02	169
„ „ (Waskerley 6)	„ „ „ .....	8	4 2	1229 $\nabla$	26.33?	...
„ „ ( „ 3)	„ „ „ .....	8	4 6	1433 $\nabla$	30.19	...
„ „ ( „ 4)	„ „ „ .....	8	4 7	1321 $\nabla$	25.88?	...
„ „ ( „ 5)	„ „ „ .....	8	4 2	1244 $\nabla$	28.50?	...
D „ „ ( „ )	„ „ „ .....	8	0 11	1179 $\nabla$	34.67	207
„ „ ( „ 2)	„ „ „ .....	8	4 5	1367 $\nabla$	26.68?	...
„ „ ( „ 1)	„ „ „ .....	8	4 4	1317 $\nabla$	26.32?	...
D „ „ (Smiddy Shaw)	„ „ „ .....	8	1 3	1128 $\nabla$	36.31	202
D Consett Park Farm .....	J. D. Brown, Esq. ....	5	4 3	641 $\nabla$	28.10	164
Seaham (Dalton Pumping Sta.)..	A. B. E. Blackburn, Esq.	8	1 0	345 $\nabla$	28.14	198
Fence Houses (Chilton Moor) ...	V. W. Corbett, Esq. ...	5	1 4	186 $\nabla$	25.54	...
D Seaham Harbour .....	Mr. G. H. Aird .....	8	1 6	141	26.43	181
Chester-le-Street (Biddick Hall)	Mr. A. Bentley .....	5	1 0	150 $\nabla$	31.13	182
Ryhope Pumping Station .....	A. B. E. Blackburn, Esq.	8	1 1	228 $\nabla$	27.31	197
D Medomsley (Manor House) .....	H. Palmer, Esq. ....	5	1 0	746 $\nabla$	27.89	189
D Burnopfield (Leazes Hall) .....	H. F. Bulman, Esq. ...	5	1 0	585 $\nabla$	29.61	190
D† Sunderland (W. Hendon Ho.) No. 5	T. W. Backhouse, Esq.	5	1 0	130 $\nabla$	28.19	199
† „ „ „ „ „ No. 6	„ „ „ „ „	5	1 0	130 $\nabla$	28.25	198
D „ „ (Mowbray Park) .....	H. Renney, Esq., M.D.	5	1 0	105	26.96	169
„ „ (Claxheugh Grove) ...	J. P. Cornett, Esq. ....	5	2 6	90	29.78	...
D „ „ (The Cedars) .....	W. F. Vint, Esq. ....	5	0 6	115 $\nabla$	27.90	184
„ „ (Southwick Cemetery)	Mr. J. R. Hodgson .....	8	1 0	171 $\nabla$	30.40	177
D† Washington (Usworth School)...	H. W. Walbank, Esq. ...	5	1 0	284 $\nabla$	28.86	186
Sunderland (Boldon Rectory) ...	Rev. J. G. B. Knight...	5	0 9	100 ?	28.31	153

## DIVISION X.—NORTHERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain.	Days with .01 or more recorded.
		Diameter	Height Above Ground.		Height Above Sea Level	1909	
		in.	ft.	in.	feet.	inches.	
<b>DURHAM—(con.)</b>							
Sunderland (Cleadon Pumpg. Sta.)	A. B. E. Blackburn, Esq.	8	1	0	216 $\pi$	27.83	199
Ryton-on-Tyne .....	J. P. Dalton, Esq. ....	5	1	0	258 $\pi$	26.10	...
D " " (Balgonie House)	J. W. Smith, Esq., M.D.	5	1	6	258	25.52	156
<b>NORTHUMBERLAND.</b>							
D Haltwhistle (Bellister Castle) ...	J. M. Clark, Esq. ....	5	1	0	380	40.15	188
D " (Melkridge) .....	V. Corbett, Esq. ....	5	1	6	362 $\pi$	35.13	191
D Corbridge (Howden Dene) .....	J. H. Straker, Esq. ...	5	0	9	200 $\uparrow$	28.29	193
D Bardon Mill (Beltingham Vic.)...	Rev. H. C. Newbery ...	5	3	0	323	32.77	199
D Hexham (Beaufront Castle).....	Capt. J. H. Cuthbert, DSO	8	1	0	400	27.18	175
Newcastle (Lit. and Phil. Soc.)...	H. Richardson, Esq. ...	8	55	0	160	28.40	...
" (Chronicle Office) ...	Newcastle Chronicle ...	8	30	0	148	27.39	...
§ " (Northumberland Rd.)	N. H. Martin, Esq. ...	8	45	0	200	26.83	196
" (Leazes Park) .....	H. C. Hilton, Esq., C.E.	5	1	0	255 $\pi$	30.48	...
D " (Town Moor) .....	A. Wright, Esq. ....	5	2	0	201 $\pi$	29.78	199
" (Wellburn, Jesmond).	J. H. Holmes, Esq. ...	5	1	6	163 $\uparrow$	28.94	151
D Heddon-on-the-Wall Vicarage...	Rev. W. G. Pringle ...	5	1	0	420 $\uparrow$	28.98	199
§ North Shields (Dockwray Square)	Meteorological Office ...	8	1	4	117	28.62	199
D Tynemouth (Tyne Pier Works)...	J. Walker, Esq., C.E. ...	5	1	8	65 $\pi$	29.53	200
§ " (Percy Park) ... (R)	J. E. Burnett, Esq. ...	8	6	0	96 $\pi$	29.80	...
Stamfordham Vicarage .....	Rev. G. Evans-Gwynne	5	0	6	422 $\pi$	27.37	...
Whittle Dean (Newcastle W.W.)	A. L. Forster, Esq., C.E.	5	0	6	380	26.23	...
" " Filters ( " " )	" " "	5	1	1	353	26.38	191
Whittington ( " " )	" " "	8	0	9	528	26.55	...
Burnside ( " " )	" " "	5	0	9	419	27.39	...
N. Tyne (Green Crag) ( " " )	" " "	5	1	6	896 $\pi$	27.95	...
Ryal Cottage ( " " )	" " "	10	0	9	463	29.91	...
Hallington Village ( " " )	" " "	5	1	0	467 $\pi$	30.47	...
" Reservoirs ( " " )	" " "	5	1	0	470	28.97	182
" (Fawcett) ( " " )	" " "	5	1	2	537 $\pi$	28.39	...
" (Cheviot) ( " " )	" " "	5	1	2	576	28.59	...
Gunnerton Burn (Camphill) ( " " )	" " "	5	1	1	650 $\pi$	29.56	...
Colt Crag ( " " )	" " "	5	1	0	654	28.04	178
D Bellingham (High Green Manor)	Capt. C. Morrison-Bell	5	1	0	849 $\pi$	38.78	228
D Scots Gap (Wallington) .....	Mr. E. Keith .....	8	2	9	446 $\uparrow$	36.63	157
† Morpeth .....	T. Matheson, Esq. ....	8	1	6	100	26.69	...
D† " (Bothalhaugh Garden)...	Hon. & Rev. W. C. Ellis	5	1	10	35	29.90	208
† " { " " " " } M	" " " "	5	1	10	35	28.39	...
D† " { " " " " } M	" " " "	5	1	10	137	29.75	209
† " { " " " " } M	" " " "	5	1	10	135	30.27	...
D§ " (Cockle Park) ... ..	T. E. W. Dobson, Esq.	8	1	0	325 $\pi$	29.48	215
D Font Res. (Tynemouth W.W.) A	Duncan Munro, Esq. ....	10	1	0	620 $\pi$	30.12	196
D† Acklington (Broomhill Colliery)	S. Pedelty, Esq. ....	5	7	0	94	28.94	186
Rothbury (Brinkburn Priory) ...	Mrs. Hugh Fenwick ...	8	1	2	257 $\uparrow$	35.02	...
D§ " (Cragside) .....	Mr. W. Bertram .....	8	1	0	405 $\pi$	35.14	173

## DIVISION X.—NORTHERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with 0.1 or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
<b>NORTHUMBERLAND—(con.)</b>						
Redewater (Chattlehope) .....	A. L. Forster, Esq., C.E.	5	1 0	900	43.77	226
„ (Catcleugh) .....	„ „ „	5	1 0	819	41.49	226
§ Alnwick Castle .....	Meteorological Office ...	5	0 4	178	33.63	180
D Glanton (Glanton Pyke Gardens) .....	Mr. J. Henderson .....	8	4 2	521 T	32.40	201
D Howick Hall .....	Earl Grey, G.C.M.G. ...	8	0 10	121 T	32.81	197
Ilderton (Lilburn Tower) .....	A. B. Collingwood, Esq. ...	10	6 0	300 T	33.69	...
D „ ( „ Cottage) .....	N. D. Cowans, Esq. ...	5	1 0	340 T	34.02	187
Wooler (St. Ninians) .....	Dr. R. Walker .....	8	0 10	176 T	34.74	...
D „ (Doddington Vicarage) .....	Rev. J. G. Shotton .....	8	0 6	140 T	34.08	191
Bamburgh .....	T. W. Little, Esq. ....	5	1 0	75 L	29.96	...
D Pawston [Coldstream] .....	B. P. Selby, Esq. ....	8	1 0	328 T	37.08	195
Beal (Barmoor Castle) .....	Dr. T. Hodgkin .....	8	3 6	400	32.75	183
<b>CUMBERLAND.</b>						
D Millom (Leyfield) .....	Cedric Vaughan, Esq. C.E.	5	1 2	81 T	46.97	224
Ravenglass (The Grove) .....	Miss C. Marshall .....	5	1 2	84 T	46.29	183
§ Eskdale Green (Gatehouse) .....	„ „ „	5	0 10	215 T	63.63	200
Beckfoot .....	Rev. T. W. Fair .....	5	1 0	180 T	71.82	216
D Seascale (Whinthwaite) .....	Dr. R. Hellon .....	5	1 0	52 T	41.68	184
D Gosforth (Bolton Hall) .....	Col. J. R. Bain .....	5	1 8	135 T	56.00	199
D „ (Ellerslie) .....	W. H. Kitchen, Esq. ...	5	1 0	185 T	54.74	195
Braystones .....	H. H. Watson, Esq. ...	10	3 6	36 T	44.23	...
D Calder Abbey .....	T. H. Rymer, Esq. ....	8	1 3	230 T	51.68	193
Sprinkling Tarn .....	Dr. H. R. Mill .....	4	0 6	1985	100.10?	...
Styehead Tarn .....	M „ „ „	4	0 6	1472 T	108.80	...
The Stye B .....	M „ „ „	4	1 0	1077 T	169.00	...
„ C .....	M „ „ „	4	1 0	1077 T	176.30	...
„ D .....	M „ „ „	4	1 0	1077 T	139.40	...
Borrowdale (Seathwaite) .....	M „ „ „	4	0 6	422 T	127.79	...
„ ( „ ) weekly .....	„ „ „	5	1 0	422 T	127.65	...
D § „ ( „ ) .....	Royal Meteorological Soc	5	1 0	423 T	128.62	215
„ ( „ ) .....	Miss C. Marshall .....	5	1 0	423	112.97?	...
Ullscarf .....	M G. H. Hill, Esq., C.E..	7	1 8	2100 T	119.10	...
D Egremont (The Grange) .....	J. Sherwen, Esq. ....	5	1 0	351 T	62.31	222
D „ (Ringingstone) .....	Harold Adair, Esq. ...	5	1 0	260 T	55.53	206
D St. Bees (The Priory) .....	Rev. R. H. Snape .....	5	1 1	10 T	49.56	215
Cleator Moor Water Works .....	R. Robertson, Esq., C.E.	5	0 6	395 T	70.89	158
Helvellyn (Birkside) .....	M G. H. Hill, Esq., C.E..	7	1 3	1900 T	93.90	...
Wythburn .....	„ „ „	7	1 4	580 T	85.10	...
D Borrowdale (Grange) .....	Mr. J. Threlkeld .....	5	0 9	271 T	89.20	196
Armboth Fells (The Pewitts) .....	G. H. Hill, Esq., C.E..	7	1 6	1650 T	80.40	...
Helvellyn (Whiteside) .....	„ „ „	7	1 6	2100 T	78.50	...
Thirlmere (Dale Head Hall) .....	„ „ „	7	1 5	620 T	77.40	...
D Whitehaven (Scragill Reservoir) .....	E. E. Stiven, Esq., C.E.	8	1 0	188 T	48.12	207
D „ (Irish Street) .....	Dr. Eldon Pratt .....	5	1 1	21 T	47.31	200

## DIVISION X.—NORTHERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain.	Days with 41 or more recorded.
		Diameter	Height Above Ground.		Height Above Sea Level	1909	
		in.	ft.	in.	feet.	inches.	
<b>CUMBERLAND—(con.)</b>							
Distington (Gilgarran) .....	Mr. A. Kydd .....	5	4	9	470 T	47·66	185
Ullswater (Hallsteads) .....	Miss C. Marshall .....	5	2	0	497 T	50·67	178
D Keswick (Deer Close) .....	John Marshall, Esq. ..	7	1	9	300 T	63·24	207
„ (Derwent Island) <i>old g.</i>	„ „ „ „ „ „ „ „	5	0	7	280	61·83	208
„ „ „ „ „ „ „ „ <i>new g.</i>	„ „ „ „ „ „ „ „	5	0	6	290	59·63	208
D „ (York City & Co. Bank)	Mr. R. W. Mayson ...	5	1	6	265 T	60·55	202
D „ (Shu-le-crow) .....	A. Mitchell Dawson, Esq.	5	0	7	296 T	60·12	208
D „ (Crosthwaite School)...	H. Swinburn, Esq. ....	5	1	0	254 T	59·35	208
D Ullock .....	J. H. Walker, Esq. ...	5	1	0	313 T	56·27	203
D Workington (Winscales) .....	Mrs. J. A. Trench .....	5	1	6	440 T	45·03	193
D Cockermouth (Whinfell Hall)...	Mrs. F. M. Peile .....	5	0	1	255 T	61·17	210
„ (Brandlingill) .....	Mrs. Sewell .....	5	1	0	320 T	60·32	210
D „ (Shatton Hall) .....	Miss Irwin .....	5	1	0	300 T	47·84	230
D Threlkeld (Blencathra San.) .....	Dr. W. Goodchild .....	5	1	0	885 T	63·38	225
Camerton Vicarage .....	Rev. E. C. Bennett ...	5	1	0	200 T	45·93	...
D Bassenthwaite (Mirehouse) .....	Miss Spedding .....	5	1	1	300	53·05	213
„ (Higham) .....	Joseph Fisher, Esq. ....	5	0	9	500	51·23	...
D „ (Bassenfell) .....	Mrs. S. G. Rathbone ...	8	1	0	384	48·48	186
D Cockermouth (Broughton Grange)	G. S. Wilson, Esq. ...	5	1	3	209 T	46·05	196
Hutton John .....	Rt. Hon. The Speaker, MP	5	0	11	700 T	48·78	199
Penrith (Brunswick Rd. School)	R. J. Pollard, Esq. ....	5	1	0	450	32·60	...
„ (Fir Bank, Fell Lane) ..	T. Lester, Esq. ....	5	1	0	575 T	32·78	182
§ „ (Newton Rigg) .....	Meteorological Office ...	8	1	0	559	36·71	189
„ (Greystoke) .....	H. Walker, Esq. ....	5	1	3	650 T	45·35	...
D „ „ „ Belle Vue) ..	Miss E. A. Rowe .....	5	4	0	680 T	36·96	182
„ (Ennim) .....	Mrs. Hamlet Riley ...	8	0	6	660	43·85	176
„ (Inglewood) .....	H. F. Thompson, Esq. ..	5	1	0	550 T	36·70	174
D Bassenthwaite (Armathwaite Hall)	T. M. Hartley, Esq. ...	5	1	0	305 T	46·66	223
D Cockermouth (Isel Vicarage) ...	Rev. W. Vale Bagshawe	5	0	8	200 T	50·93	205
D Uldale (Chapel House Reservoir)	T. Strong, Esq. ....	8	1	0	600 T	51·89	192
D Penrith (Nunwick Hall) .....	Mrs. Heywood Thompson	5	1	0	298 T	34·48	182
D Aspatria (Agricultural College) ..	J. Smith Hill, Esq. ...	8	1	0	251	43·86	203
„ (Brayton Hall) .....	Sir Wilfrid Lawson Bart.	8	0	8	200	43·65	179
D Wigton (Brookfield) .....	J. Ransom Marsh, Esq.	5	0	9	124 T	41·61	201
D Alston (Lowbyer Manor House)	J. R. Walton, Esq. ...	5	1	0	920	47·62	213
Wreay Vicarage .....	Rev. A. R. Hall .....	5	2	0	310 T	35·32	177
D Geltsdale .....	H. C. Marks, Esq., C.E.	5	1	2	778 T	44·38	227
Carlisle (Rickerby) .....	late Miles MacInnes, Esq.	8	1	2	52 T	32·13	...
„ (Stanwix) .....	Sir Benjamin Scott ...	8	1	6	100 T	33·95	175
D „ (Newby Grange) .....	T. H. Hodgson, Esq. ....	5	0	8	64 T	34·55	185
§ „ (Scaleby Hall) .....	Royal Meteorological Soc	5	1	0	112	40·52	209
D Brampton (Denton House) .....	Miss B. Gardhouse .....	5	1	5	541 T	38·13	201
D Penton (Warwickland School) ..	W. Roden, Esq. ....	5	1	0	250 T	40·39	207
<b>WESTMORLAND.</b>							
Kirkby Lonsdale .....	J. R. Picard, Esq. ....	7	0	8	215 T	53·82	...
D „ „ (Casterton) .....	R. A. Clarke, Esq. ....	8	1	0	305	54·96	225

## DIVISION X.—NORTHERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain.	Days with $\geq 0.1$ or more recorded.
		Diameter	Height Above Ground.		Height Above Sea Level	1909	
		in.	ft.	in.	feet.	inches.	
WESTMORLAND—(con.)							
D Kirkby Lonsdale (Casterton).....	Miss Williams .....	5	1	0	320 $\pi$	54.87	205
Barbon (Underfell) .....	Miss C. E. Wilson .....	5	1	5	405 $\pi$	48.46	187
D „ Manor .....	A. Ford, Esq.....	6	1	3	650 $\pi$	53.60	174
D „ .....	Miss Wilkinson .....	5	1	0	310 $\pi$	53.72	183
D Milnthorpe (Leasgill) .....	T. A. Argles, Esq.....	5	0	8	130	48.77	198
D „ (Crosthwaite Vic.) .....	Rev. T. Heelis .....	5	1	0	160 $\pi$	57.77	202
D Kendal (Holmcroft) .....	R. Rhodes, Esq. ....	5	1	3	176 $\pi$	59.16	210
D „ (Ivy Garth) .....	R. J. Nelson, Esq.....	5	1	6	146 $\pi$	57.94	210
D „ (Birchfield) .....	H. W. Baron, Esq. ....	5	1	6	200	55.50	193
D „ (Ellergreen) .....	C. J. Cropper, Esq. ....	5	1	6	270 $\pi$	58.85	212
D Bowness (Lindeth Howe) .....	F. G. Senior, Esq.....	5	1	0	250 $\pi$	66.41	203
D „ (Fallbarrow) .....	J. Leeming, Esq. ....	8	1	0	155 $\pi$	65.66	191
Windermere .....	Miss C. Marshall .....	5	1	0	290 $\pi$	65.11	214
D „ (Fellside) .....	T. D. Lingard, Esq. ....	5	0	6	310 $\pi$	64.29	185
D „ (Holebird) .....	W. G. Groves, Esq. ....	5	1	0	483 $\pi$	72.44	222
D „ (Brockhole) .....	W. Gaddum, Esq. ....	5	1	6	145	70.61	215
D Ambleside (Skelwith Bridge) .....	A. J. Adams, Esq.....	5	1	9	190 $\pi$	92.59	198
Little Langdale (Fell Foot) ...M	Miss C. Marshall .....	5	2	2	380	115.00	...
Ambleside (White Craggs) .....	C. H. Hough, Esq.....	5	2	4	252	75.77	224
D „ (Gale House) .....	G. A. Johnston, Esq. M.D.	5	1	0	180 $\pi$	75.92	209
D „ (Lesketh How).....	Mrs. Benson .....	5	2	6	175 $\pi$	83.26	239
Elterwater Hall .....	Miss C. Marshall .....	5	1	1	200	94.21	205
Rydal (The Stepping Stones) ...	Gordon Wordsworth Esq	5	1	0	190	85.36	242
„ „ „ „ M	„ „ „	5	1	3	190	84.15	...
Loughrigg Fell .....	„ „ „	5	1	3	690	69.58?	...
D „ (High Close) .....	F. M. T. Jones Balme, Esq	8	0	9	553 $\pi$	87.90	195
D „ (Silverthwaite) No. 1	Miss A. Sharp .....	5	1	0	292 $\pi$	82.57	218
Ambleside (Rydal Farm) .....	Ralph Fletcher, Esq....	5	0	8	160	82.54	221
D Dungeon Ghyll .....	Miss C. Marshall .....	5	1	0	310	111.86	245
„ „ „ M	„ „ „	5	1	0	311	115.75	...
Mickleden .....	„ „ „	5	1	6	490	132.09	...
D Grasmere (The Wray) .....	Miss G. M. Simpson ...	5	1	0	221 $\pi$	93.61	222
Newbiggin (Brownber).....	J. Fothergill, Esq.....	5	1	6	842	34.45	...
D Kirkby Stephen (Redman House)	Mrs. T. Mason .....	5	1	0	574 $\pi$	39.25	183
Hayes Water (High Street) No. 3	Baldwin Latham Esq., CE	5	1	0	2600 $\pi$	65.29	...
„ „ „ No. 1	„ „ „	5	1	0	1750 $\pi$	75.93	...
„ „ „ No. 2	„ „ „	5	1	0	2000 $\pi$	52.81	...
Shap Vicarage .....	Rev. W. H. Crompton.	5	1	0	863 $\pi$	45.15	191
Grizedale (Ruthwaite Lodge) ...	Miss C. Marshall .....	8	1	6	1750	100.33	...
Patterdale Hall .....	„ „ „	5	1	3	490 $\pi$	84.35	193
„ (Greenside Mine).....	W. H. Borlase, Esq. ....	7	1	6	1000 $\pi$	81.75	...
D Appleby (Castle Bank) .....	C. R. Rivington, Esq. ...	5	1	2	440 $\pi$	37.21	194
Ullswater (Sharrow Bay) .....	Mr. G. Robinson .....	5	0	7	600	49.50	...
D Great Strickland (Greencroft) ...	Mrs. Whiteside .....	5	2	0	648 $\pi$	38.44	194
D Morland [Penrith].....	Miss M. F. Markham...	5	1	0	456 $\pi$	37.76	200
Lowther Castle [Penrith] .....	Mr. F. Clarke .....	8	4	0	760 $\pi$	31.17	173

## DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS.

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with .01 or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
<b>MONMOUTH.</b>						
§ Rumney .....	Roy. Meteorological Soc.	5	1 0	176 $\pi$	39.35	213
D Portskewett (Sudbrook) .....	W.K. Laurence, Esq. CE	8	0 10	22 $\uparrow$	32.74	163
Bassalleg (Bryn Hedydd) .....	Blethyn T. Rees, Esq. CE	5	0 8	333 $\pi$	45.53	179
Rogerstone (Rhiwderin) .....	L. Forestier-Walker Esq	5	1 3	250	45.61	209
D § Newport (Friar Street Yard) ..	C. Cullum, Esq. ....	5	6 0	32	42.72	178
D § „ (Ynis-y-fro) .....	„ „ „ .....	5	1 0	130 $\uparrow$	32.66?	174
D § „ (Pant-y-reos Res.) .....	„ „ „ .....	5	1 0	435	54.84	180
D „ (W.W., Llanvaches) ..	R.H. Haynes, Esq., C.E.	5	0 10	456 $\pi$	37.31	185
D „ (Wentwood) .....	„ „ „ .....	5	1 0	500 $\pi$	40.31	181
D Chepstow (Piercefield Park) .....	H. Clay, Esq. ....	5	1 6	310	36.13	171
D „ (Itton Court) .....	E. Curre, Esq. ....	5	1 0	390	38.59	181
D Llanfrechfa Grange .....	F. J. Mitchell Esq. ...	5	4 0	326 $\pi$	44.49	189
D Tredunnoch Rectory .....	Rev. C. T. Salusbury...	5	2 3	170 $\pi$	35.65	161
D § Newport (W.W., Newchurch) ..	R. H. Haynes, Esq., C.E.	5	1 0	550 $\pi$	40.94	178
Abersychan (The Hawthorns) ..	J. W. Mulligan, Esq, MD	5	1 0	755 $\uparrow$	49.98	188
§ „ (Glansychan) .....	Meteorological Office...	3	2 0	698	49.54	162
D Abertillery (Cwmtillery) .....	W. Y. Hobkirk, Esq... 5	1 0	970 $\uparrow$	60.89	194	
Tredegar (The Willows) .....	G.A. Brown, Esq., M.D.	8	1 0	1024 $\uparrow$	57.93	...
D Ebbw Vale (Iron Works) .....	F. Mills, Esq. ....	8	1 0	902 $\pi$	59.01	198
D Monmouth (The Hendre) .....	Mr. T. Coomber .....	8	1 0	176 $\uparrow$	26.83	177
D „ (Leasbrook) .....	Rev. Humphrey F. Hall	5	1 0	110	26.87	168
Abergavenny (Larchfield) .....	Dr. J. Glendinning ...	5	1 0	240 $\uparrow$	29.71	175
D † „ (The Chain) .....	W. Baker Gabb, Esq... 5	1 3	300	34.95	179	
§ „ .....	Meteorological Office ...	...	on roof	180	37.45	200
D Monmouth (Pentwyn) .....	Rev. Canon J. Harding	5	1 0	191 $\pi$	28.88	167
D Llantilio Court .....	Sir H. Mather-Jackson Bt	5	0 11	207	33.66	150
„ Crosseny (Brinderi) ..	The Misses Jackson ...	5	1 5	570	31.69	...
Pandy (Trewyn) .....	P. B. Barneby, Esq. ...	8	1 0	444 $\pi$	35.36	...
D † Grwyne Fawr (Coed Dias) .....	W. Baker Gabb, Esq... 5	1 0	1000 ?	48.71	254	
D † „ „ (Ffwydd Fwthog) ..	Baldwin Latham, Esq CE	5	0 8	1380 $\pi$	43.76?	235
D † Llanthony Abbey .....	„ „ „ .....	5	1 0	792 $\pi$	45.83	211
<b>GLAMORGAN.</b>						
Cowbridge (Fonmon Castle) .....	O. H. Jones, Esq. ....	8	1 2	130	35.48	187
D Barry W. W. (Biglis) .....	T.E. Franklin, Esq. C.E.	5	1 0	20 $\uparrow$	35.47	170
„ „ (Merthyr Dyfan Res.) ..	„ „ „ .....	5	1 0	300 $\uparrow$	37.97	...
„ „ (Pencoedtre Res.) ..	„ „ „ .....	5	1 0	200 $\uparrow$	36.62	...
„ „ (Dinas Powis Res.) ..	„ „ „ .....	5	1 0	165 $\uparrow$	35.59	...
D Lower Penarth .....	E. I. Evans, Esq., C.E.	5	1 0	67 $\pi$	37.45	222
D Penarth .....	„ „ „ .....	5	5 0	160 $\pi$	36.16	193
Cardiff (Cogan Pill, Llandough) ..	C.H. Priestley, Esq. C.E.	5	1 0	121 $\pi$	39.02	169
„ (Trade Street Depot) ..	„ „ „ .....	5	1 0	45	37.28	199
D „ (Park Place) .....	Dr. C. T. Vachell .....	5	1 0	42 $\pi$	38.33	220
D „ (Ely Pumping Station) ..	C.H. Priestley, Esq., CE	5	1 0	53 $\pi$	40.20	191
§ Porthcawl .....	Roy. Meteorological Soc.	8	1 0	44 $\pi$	35.39	176
D Llandaff (Howell's School) .....	Miss A. G. Winny .....	5	1 4	86 $\uparrow$	40.18	178
D † Cardiff (Penylan) .....	E. Walford, Esq., M.D.	5	1 0	204	38.70	207

DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with $\geq 0.1$ or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
<b>GLAMORGAN—(con.)</b>						
Cardiff (New Filters, Heath) ....	C.H. Priestley, Esq., C.E.	5	1 0	132	41.17	186
D „ (Llanishen Reservoir) ...	„ „ „	5	1 0	155	39.33	179
D „ (Lisvane Reservoir) .....	„ „ „	5	1 0	150	37.90	179
Cowbridge (Ash Hall) .....	E. Tudor Owen, Esq. ...	8	3 0	315 $\nabla$	42.89	169
D Llantrisant (Talygarn) .....	G. L. Clark, Esq. ....	5	4 3	250	55.32	179
D Penmaen (Cefn Mor) .....	R. A. Bostock, Esq. ...	5	1 5	300	41.33	180
D Oystermouth (Newton) .....	Rev. Secretan Jones ...	5	0 9	279 $\nabla$	39.35	186
D Mumbles (Bristol Ch. Yacht Club)	A. Denyer, Esq. ....	5	1 0	20	40.35	179
D § Port Talbot (Twyn-yr-hydd, Margam)	G. Lipscomb, Esq. ....	5	1 0	180 $\nabla$	42.22	186
Pontypridd (Maesderwen, Graig)	T. Bowen, Esq. ....	5	10 0	425 $\nabla$	48.58	159
D „ (Old Town Reservoir)	W. Jones, Esq. ....	5	1 0	300	49.61	...
D Porth (Cemetery Road) .....	D. Hawkins, Esq. ....	5	1 6	500 $\nabla$	66.02	166
D Caerphilly (Ystrad Mynach) ...	Lt.-Col. M. Lindsay ...	8	0 5	315 $\nabla$	50.18	172
D Swansea (Le Mayals) .....	J. E. Stevens, Esq. ...	5	0 9	265 $\nabla$	42.42?	158
D „ Harbour .....	A. O. Shenck, Esq., C.E.	12	14 9	46	49.66	189
D „ (Killay House) .....	M. B. Williams, Esq. ...	5	0 6	265 $\nabla$	44.83	173
D „ (The Knoll) .....	E. H. Perkins, Esq. ...	8	1 0	150 $\nabla$	43.15	199
D Briton Ferry (Brynsiriol) .....	H. A. Clarke, Esq. ...	5	1 0	33 $\nabla$	44.84	177
D Morriston (Glan-yr-afon) .....	Ll. J. Naysmith, Esq. ..	5	1 0	53 $\nabla$	47.02	185
D † Ystradyfodwg (Tyntyla Hospital)	J. D. Jenkins, Esq., M.D.	5	1 0	590 $\nabla$	63.49	163
D Neath .....	E. C. Pole, Esq. ....	5	1 0	204 $\nabla$	56.27	203
D „ (Fairy Land) .....	Major E. Ll. Green ...	5	1 9	175 $\nabla$	48.19	198
D Treharris Service Reservoir .....	T. F. Harvey, Esq., C.E.	5	1 0	865	46.06	189
Rhondda (Ferndale) .....	G. Childs, Esq. ....	5	1 0	830 $\nabla$	69.70	...
D Glyncorwg Colliery .....	Mr. C. Stephens .....	5	4 6	823 $\nabla$	87.83	176
D Mountain Ash (Maesydderwen) ..	M. Morgan, Esq. ....	5	1 0	483 $\nabla$	55.10	188
D „ „ (Darranlas Res.) ..	W. G. Thomas, Esq. ...	5	0 11	540	60.26	190
D „ „ (Clydach Res.) ...	„ „ „ „ „	5	1 0	930 $\nabla$	67.40	187
D † Treherbert (Bute Colliery) .....	Sir W. T. Lewis, Bart. ...	5	1 0	670	84.16	199
D † „ (Tyn-y-waun) .....	O. Thomas, Esq. ....	5	1 0	801	86.34	210
D † „ „ „ „ „	„ „ „ „ „	5	1 0	801	87.53	...
D Gorseinon (Penllergaer) .....	Sir J. T. D. Llewelyn, Bt.	5	3 0	240 $\nabla$	44.23	203
D Cwmaman Colliery .....	W. J. Heppell, Esq. ...	5	2 2	930 $\nabla$	60.46	203
D † Rhondda (Pont Lluest Wen Res.)	W. Jones, Esq. ....	5	1 0	1225	64.12	174
D † Aberdare (The Mardy) .....	Sir W. T. Lewis, Bart.	5	1 0	431	59.16	187
D Felindre (Lower Lliw Reservoir)	R. H. Wyrill, Esq., C.E.	8	1 3	426 $\nabla$	49.34	199
D „ (Upper „ „ „)	„ „ „ „ „	8	1 0	610	59.86	208
D Merthyr Tydfil (Penbryn Filters)	T. F. Harvey, Esq., C.E.	5	1 0	936	55.19	223
D Dowlais (Gwernllwyn) .....	R. C. Harrison, Esq. ...	5	1 6	1071 $\nabla$	55.72	194
D Ystalyfera (Wern School) .....	J. Williams, Esq. ....	5	1 3	240 $\nabla$	67.25	199
<b>CARMARTHEN.</b>						
D Llanelly (Old Market Yard) ...	G. Watkeys, Esq., C.E.	5	10 0	35 $\nabla$	40.70	212
D „ (Cwmlledi W.W.) .....	„ „ „ „ „	5	3 0	240 $\nabla$	48.30	222
D Llanddarog (Lletherllestry) .....	H. L. Puxley, Esq. ...	4	1 0	250 $\nabla$	46.91	194
D Carmarthen (The Friary) .....	L. M. Bowen-Jones, Esq.	5	1 5	62 $\nabla$	45.65	204
D † Llandilo (Golden Grove Gardens)	The Earl Cawdor .....	6	1 6	125 $\nabla$	45.54	198

## DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with .01 or more recorded.
		Diameter	Height Above Ground.		Height Above Sea Level	
		in.	ft.	in.	feet.	inches.
<b>CARMARTHEN—(con.)</b>						
D Llandilo (Cae-glas) .....	J. Lewes Thomas, Esq.	5	3	0	170 T	47·31 221
† „ (Dynevor Castle) .....	Lord Dynevor .....	8	1	0	202 T	50·03 216
§ Llandovery (Nantyalwgfaen) ...	Meteorological Office ...	5	1	0	249 T	49·48 208
D Llanwrda (Dolaucothy) .....	Gen. Sir J. Hills-Johnes	5	2	6	498 T	53·85 219
D Llanybyther (W. Wales Sanatorium)	Basil Adams, Esq. ....	5	1	0	850	53·40 237
<b>PEMBROKE.</b>						
Pembroke (Stackpole Court) .....	The Earl Cawdor .....	6	1	6	60 N	34·31 187
Tenby (Bryn Hyfryd) .....	J. T. C. Burgess, Esq..	5	1	6	100 P	40·21 152
§ St. Ann's Head .....	Meteorological Office ...	8	0	8	150	33·06 202
D Pembroke Dock .....	D. J. Morgan, Esq. ...	8	1	0	101 N	34·51 166
D „ „ (County School) .....	G. H. West, Esq. ....	5	1	0	85	38·37 189
D Saundersfoot (Hean Castle) .....	Herbert C. Lewis, Esq.	5	1	11	206 N	30·29 166
Haverfordwest (Picton Castle) ..	Sir C. E. G. Philipps, Bt.	5	0	10	138	43·69 200
D „ „ (Portfield) .....	J. W. Phillips, Esq. ...	5	1	0	220 T	38·90 199
D § „ „ (High Street) ...	„ „ „ „ „ „ „ „	5	1	0	95 T	41·04 178
D Whitland (Trewern) .....	G. Protheroe-Beynon Esq	5	3	0	30	45·84 167
D St. Davids .....	D. P. Williams, Esq....	5	1	0	216	31·61 183
D Treffgarne Hall .....	Col. R. O. Lloyd, R.E.	5	1	1	286 N	41·47 190
D Fishguard (Langton, Dwrbach) ..	J. C. Yorke, Esq. ....	5	1	0	320	43·08 210
D Newport (Llwyngwair) .....	G. B. Bowen, Esq. ....	8	1	1	40 T	41·88 174
D Castle Malgwyn [Llechryd] .....	Mr. H. Baldwin .....	5	1	0	...	39·95 193
<b>CARDIGAN.</b>						
D Lampeter (Falcondale) .....	Mr. W. Taylor .....	5	1	10	498	44·93 217
Nantneuadd [Abergwesyn] .....	Mr. W. Roberts .....	5	1	0	1290	64·50 ...
D Lampeter (Llanlear) .....	Miss Lewes .....	5	1	1	226	35·59 186
Tregaron (Maes-y-bettws) ... M	Dr. H. R. Mill .....	5	1	0	910	62·10 ...
Strata Florida (Towy-fechan) M	„ „ „ „ „ „ „ „	5	1	0	1330	69·25 ...
† Birmingham W.W. (Bwlchyrendre) M	E. Antony Lees, Esq...	5	1	0	1585	59·85 ...
„ „ „ „ (Claerddu) .....	„ „ „ „ „ „ „ „	5	1	0	1500	69·05 ...
D Strata Florida (Hafod) .....	T. J. Waddingham, Esq	5	1	0	580 T	55·08 217
Birmingham W.W. (Gwngu) ...	E. Antony Lees, Esq...	5	1	0	1650	68·90 ...
D „ „ „ „ (Abergwyngy) .....	„ „ „ „ „ „ „ „	5	1	0	1200	57·65 183
§ Aberystwyth (N. Parade) .....	A. Thomas, Esq. ....	8	2	6	20	32·96 188
D „ „ „ „ (Gogerddan) .....	Mr. W. Penwill .....	5	1	1	83 B	43·75 201
Plynlimon .....	Dr. H. R. Mill .....	5	1	0	1740	97·20 ...
<b>BRECON.</b>						
D Nanthir Reservoir [Aberdare] ...	O. Williams, Esq., C.E.	5	1	0	860 N	61·98 221
„ „ „ „ „ „ „ „ M	„ „ „ „ „ „ „ „	5	1	0	860 N	62·32 ...
† Pont Neath Vaughan [Glyn Neath]	W. N. Hogben, Esq. ...	5	1	5	297 N	60·87 208
D Cardiff W.W. (Llwynon Res.) ...	C. H. Priestley, Esq. C.E.	5	1	0	860	58·92 213
D † Ebbw Vale W.W. (Filters) No. 1	T. J. Thomas, Esq., C.E.	5	1	0	1413 N	61·68 211
† „ „ „ „ West g. No. 3	„ „ „ „ „ „ „ „	5	1	0	1468 N	64·46 212

# DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain.	Days with 01 or more recorded.
		Diameter	Height Above Ground.		Height Above Sea Level	1909	
		in.	ft.	in.	feet.	inches.	
BRECON—(con.)							
† Ebbw Vale W.W. N.W. g. No.2	T. J. Thomas, Esq., C.E.	5	1	0	1471	62.55	211
† " " " (Carno, S.)...	" " "	5	1	0	1236	56.62	209
† " " " ( " E.)...	" " "	5	1	0	1391	57.67	210
† " " " ( " W.)...	" " "	5	1	0	1412	62.07	212
† " " " ( " N.)...	" " "	5	1	0	1533	52.98	207
D† Taff Fechan (Pentwyn Res.) ...	T. F. Harvey, Esq., C.E.	5	1	0	1120	66.77	233
† " " " ( " " " )....M	" " "	5	1	0	1120	65.57	...
† Cardiff W.W. (Cwm Taff Fawr No.5)	C.H. Priestley, Esq. C.E.	5	1	0	1143	63.23	...
† " " " (Storey Arms, No. 4)	" " "	5	1	0	1430	63.94	...
" " " (Cwm Taff Fawr, No. 1)	" " "	5	1	0	2350	73.62	...
D† " " " (Cantref Res., No. 2)	" " "	5	1	0	1120	74.16	231
D† " " " (Beacons Res., No. 6)	" " "	5	1	0	1340	82.44	233
" " " (Nant Penig, No. 3)...	" " "	5	1	0	2000	91.11	...
D† Taff Fechan (Neuadd Res.) No.1	T. F. Harvey, Esq., C.E.	5	1	0	1462	76.85	226
† " " " ( " " " ) No.1M	" " "	5	1	0	1462	73.08	...
D† " " " ( " " " ) No.4	" " "	5	1	0	1487	87.37	226
D† " " " ( " " " ) No.4A	" " "	5	1	0	1487	87.97	226
† " " " ( " " " ) No.2M	" " "	5	1	0	1993	77.76	...
† " " " ( " " " ) No.5M	" " "	5	1	0	1515	61.82	...
† " " " ( " " " ) No.10	" " "	5	1	0	1700	72.83	...
D† " " " ( " " " ) No.11	" " "	5	1	0	1524	75.24	226
† " " " ( " " " ) No.7M	" " "	5	1	0	2017	78.15	...
† " " " ( " " " ) No.8M	" " "	5	1	0	1723	85.42	...
† " " " ( " " " ) No.3M	" " "	5	1	0	1843	61.44	...
" " " ( " " " ) No.3AM	" " "	5	1	0	1843	64.11	...
† " " " ( " " " ) No.9M	" " "	5	1	0	1997	61.65	...
† " " " ( " " " ) No.6M	" " "	5	1	0	2099	91.61	...
Crickhowell (Glanusk Park).....	Lord Glanusk.....	5	1	0	290	40.92	154
D† " " (Gwernvale) .....	E. Pirie Gordon, Esq. ...	5	1	0	393	37.69	191
" " (Penmyarth) .....	S.H. Cowper Coles, Esq.	5	1	0	330	37.51	202
Swansea W.W. (Nantyrwydd)...	R. H. Wyrill, Esq., C.E.	5	1	0	920	82.90	165
D " " (Bwlch) .....	" " "	8	1	0	1246	143.98	206
" " (Gihirych) .....	" " "	...	1	0	...	79.50	...
D " " (Cray Res.) No.1	" " "	5	1	0	1030	69.23	204
D " " ( " " )....(R)	" " "	11	2	0	1030	66.48	209
" " ( " " ) No.2	" " "	5	1	0	1015	81.17	...
Bwlch (Buckland Gardens) .....	Mr. A. J. Keen .....	5	1	0	179	43.25	...
† Talybont (Cui) .....	H. Jones Williams, Esq.	5	1	0	490	46.40	...
D† Brecon (New Inn) .....	Mr. W. Williams .....	5	1	0	810	55.81	158
† Cray Station .....	Mr. J. Jones .....	5	1	0	930	62.25	...
† Crickhowell (Cwmdu) .....	Mr. J. P. Edwards.....	5	1	0	430	35.60	...
† " (Ffordlas Farm) M	Mr. S. A. Gore .....	5	1	0	1170	47.20	...
† Cathedine Rectory.....	Rev. J. S. Jones.....	5	1	0	660	32.66	...
† Llanfrynach (Tymawr).....	Miss D. de Winton ...	5	1	0	450	38.29	183
† Crickhowell (Tal-y-maes).....	Dr. H. R. Mill .....	5	1	0	1250	50.90	...
D† Treacastle (Blaenau-hydfer) ...	" " " .....	5	1	0	1070	63.43	167
† Black Mountains (Waun Fach)...	Rev. R. P. Dansey.....	5	1	0	2650	59.00	...
† " " (Pen-y-Mallwyn)	Baldwin Latham, Esq. CE	5	1	0	2512	48.10	...

## DIVISION XI.—MONMOUTH, WALES AND THE ISLANDS—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with $\geq 0.1$ or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
<b>BRECON—(con.)</b>						
† Black Mountains (Taren-yr-Esgob)	Baldwin Latham, Esq. CE	5	1 0	2039	43.00	...
D† Trecastle (Lliwel Vicarage) .....	Rev. P. W. Green .....	5	1 0	740	51.00	181
D Talgarth (Bell Street) .....	F. J. Morgan, Esq. ....	5	10 9	421	34.59	165
† Llanfihangel Nant-Bran (Cwmcyngog)	Dr. H. R. Mill .....	5	1 0	790	45.18	...
† Merthyr-Cynog .....	M. Mr. W. Davies .....	5	1 0	1050	46.60	...
§ Gwernyfed Park [Glasbury] ...	Roy. Meteorological Soc.	5	1 6	375	32.39	203
† Upper Chapel (Tymawr) .....	Mrs. Probert .....	5	1 0	945	46.50	...
D Hay (Waunderwen) .....	Col. R. D. Garnons-Williams	5	1 4	400	31.33	168
Llanwrtyd Wells (Llandulas) M	Mr. W. Price .....	5	1 0	790	46.50	...
D† Llangammarch Wells .....	Dr. W. Black Jones ...	8	1 0	551	47.96	224
Builth Wells W.W. (Llangynog)	H. R. Fry, Esq. ....	5	1 0	1100	45.28	...
D „ „ (Tyn-y-berllan) ...	Dr. W. W. Baldock Fry	5	1 0	430	38.16	190
Llangammarch Wells (Beulah) M	Mr. S. Allen .....	5	1 0	650	45.44	...
Pen-graig [Newbridge] .....	M. Dr. H. R. Mill .....	5	1 0	960	53.20	...
Llysdimam [ „ „ ] .....	C. Venables Llewelyn Esq	5	1 3	646	43.71	223
† Birmingham W.W. (Nant-y-car) M	E. Antony Lees, Esq. ...	5	1 0	1545	77.25	...
† „ „ (Esgair Garthen) M	„ „ „ „ ...	5	1 0	1600	65.35	...
<b>RADNOR.</b>						
Welfield [Builth] .....	E. A. Thomas, Esq. ...	5	2 10	740	36.28	...
New Radnor (Glascwm) .....	M. Mr. G. Bufton .....	5	1 0	957	40.50	...
Builth Road (St. John's Vicarage)	Rev. J. L. Bryans .....	5	0 11	550	39.24	173
D§ Llandrindod Wells (Kimberley) ..	W. B. de Winton Esq. CIE	5	1 0	699	36.56	216
D New Radnor (Ednol) .....	the late Mr. W. Jones..	5	1 0	950	41.21	199
Radnor Forest (Great Rhos) .....	H. Langston, Esq. ....	5	1 6	2150	40.61?	...
D† Birmingham W.W. (Tyrmynydd)	E. Antony Lees, Esq. ...	5	1 0	832	57.57	214
D† „ „ (Nantgwillt). .....	„ „ „ „ ...	5	1 0	845	60.74	219
† „ „ (Esgair Gader) M	„ „ „ „ ...	5	1 0	1500	56.27	...
D† „ „ (Claerwen) .....	„ „ „ „ ...	5	1 0	1250	59.65	196
† „ „ (Tynant) .....	M. „ „ „ „ ...	5	1 0	1250	59.58	...
D† Rhayader (Greenfields) .....	Major N. H. Matthews	5	1 8	740	44.78	225
† „ „ Vicarage .....	Rev. L. H. Evans .....	5	1 0	720	45.63	185
† Birmingham W.W. (Cerrigllwydion) M	E. Antony Lees, Esq. ...	5	1 0	1700	72.55	...
† „ „ (Pen-y-gareg). .....	„ „ „ „ ...	5	1 0	1500	48.88?	...
† „ „ (Calettwr) ... M	„ „ „ „ ...	5	1 0	1500	66.33	...
† „ „ (Figin) .....	M. „ „ „ „ ...	5	1 0	1700	67.25	...
„ „ (Aberhenllan) M	„ „ „ „ ...	5	1 0	1250	52.35	...
Llanbister (Llananno) .....	Dr. H. R. Mill .....	5	1 0	900	41.50	...
<b>MONTGOMERY.</b>						
D Llangurig (Dernol) .....	Dr. H. R. Mill .....	5	1 0	850	54.37	178
„ „ (Esgair Clochfan) ...	„ „ „ „ .....	5	1 2	1330	45.20	...
„ „ -on-the-Hill .....	„ „ „ „ .....	5	1 2	1330	45.40	...
„ „ (Ystrad-olwyn-fawr) M	„ „ „ „ .....	8	1 0	950	39.10	...
„ „ ( „ „ „ ) M	„ „ „ „ .....	5	1 0	950	39.70	...
Llandinam (Plas Dinam) .....	Mr. D. Bowen .....	5	4 0	504	34.86	176

# DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with '01 or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
<b>MONTGOMERY—(con.)</b>						
d Newtown (Dolfor) .....	W. B. Pugh, Esq. ....	5	2 6	1027	32·91	178
" (Gregynog) .....	Lord Joicey .....	5	1 0	660 †	37·21	179
Garthbibio (Bwlch Tomlyd) ... M	Dr. H. R. Mill .....	5	1 0	1370 †	66·40	...
d Lake Vyrnwy .....	E. D. Marten, Esq. C.E. ...	5	0 7	770 †	53·35	205
" " (Bryn Gwyn) .....	J. Parry, Esq., C.E. ...	8	1 0	1311 †	52·59	...
d " " (Bank Cynon Isaf) .....	" " " .....	8	1 0	750 †	51·86	183
" " (Ty Uchaf) .....	" " " .....	8	1 0	860 †	52·60	...
" " (Heol-y-ffridd) No.1 .....	" " " .....	8	1 0	912 †	72·05	...
" " " " " No.2 .....	" " " .....	8	1 0	912 †	65·92	...
" " (Tyn-y-ffridd) ...	" " " .....	8	1 0	1010 †	50·20	...
" " (Lluestwen) .....	" " " .....	8	1 0	1667 †	62·65	...
" " (Llwynrhiw) .....	" " " .....	8	1 0	1428 †	72·09	...
" " (Craig-y-Gribbin)..	" " " .....	8	1 0	1100 †	58·78	...
" " (Eunant Bridge)...	" " " .....	8	1 0	830 †	68·45	...
" " (Carreg Goch) .....	" " " .....	8	1 0	1750 †	70·54	...
" " (Fawnog) .....	" " " .....	8	1 0	1315 †	52·24	...
<b>FLINT.</b>						
Cilcain .....	W. Simmons, Esq. ....	5	1 0	790 †	37·07	196
Hawarden .....	Great Central Rly. Co. ...	9	3 6	35	26·29	186
Flint (Soughton Hall, Northop). ...	John E. Bankes, Esq. ...	5	1 0	418	33·75	187
d " (Highfield, " ) .....	Rev. Canon A. Atkinson ...	5	1 0	400	29·93	175
† Bodfari (Nantlys) .....	P. P. Pennant, Esq. ...	5	1 6	173 †	28·03	185
d† " (Henblas) .....	Mrs. Scott Bankes .....	5	1 0	283 †	29·91	202
d " (Cae Gwyn) .....	Mrs. Morgan .....	5	0 5	550 †	32·43	235
d St. Asaph (St. Beuno's College). ...	St. Beuno's College ...	5	0 8	490 †	30·00	199
d " ( " " " " ) .....	" " " .....	8	1 0	480 †	30·03	199
Bagillt (Dee Bank 'Lead Works) ...	Messrs. Walkers, Parker & Co. ...	5	1 0	20	28·99	...
d Rhyl (Sewage Works) .....	Mr. J. Jones .....	8	1 0	31 †	27·66	193
Prestatyn (Edlestone House) ...	T. J. Scott, Esq. ....	5	0 6	30	29·88	...
<b>DENBIGH.</b>						
d Llangadwaladr (Penygwely Res.) ...	G. W. Lacey, Esq., C.E. ...	5	1 0	1094	35·74?	187
Glynceiriog .....	F. E. Rooper, Esq. ....	5	1 6	750 †	46·63	213
d Cerrig-y-Druidion (Garthmeilio) ...	Col. S. Parr Lynes .....	5	1 0	930	42·77	175
d† " " " (Bwlch-y-beudy) .....	Col. C. S. Mainwaring..	8	1 0	1050 †	44·37	186
Wrexham (Ty Mawr Reservoir). ...	F. Storr, Esq., C.E. ...	5	0 9	725 ?	39·31	177
" (Pack Saddle Res.) ...	" " " .....	5	0 9	370 †	33·24	183
" (Cae Llwyd Res.) ...	" " " .....	8	0 9	918 †	41·96	177
d " (Broughton) .....	J. Hall, Esq. ....	5	1 0	500 †	33·89	189
" (Gwersyllt) .....	S. H. V. Simmons, Esq. ...	5	1 0	283 †	28·69	...
Gresford (Trewythen) .....	Miss Howell Evans ...	5	1 0	350	28·05	175
" (Horsley Hall) .....	Alfred Ashworth, Esq. ...	5	1 0	135	23·99?	...
d Cyffylliog (Fachlwyd Hall) .....	Elliott S. Currey, Esq. ...	5	1 0	640 †	40·79	229
d Ruthin (Tymawr) .....	Maj.-Gen. C. L. Cary... ..	5	1 0	400	32·49	200
d " (Llanbedr Hall) .....	Dr. G. A. Crace-Calvert ...	5	1 0	451 †	29·55	189

## DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain. 1909	Days with .01 or more recorded.
		Diameter	Height Above Ground.		Height Above Sea Level		
		in.	ft.	in.	feet.	inches.	
<b>DENBIGH—(con.)</b>							
†Cerrig-y-Druidion (Hafod-llan-isaf)	Dr. H. R. Mill	5	1	2	1200	42·69	...
†Pentre Voelas (Nant Heilyn)	„ „ „	5	1	0	1225	50·78	217
†Cerrig-y-Druidion (Hafod-yr-Onen)	„ „ „	5	1	0	1175	46·56	214
†Nantglyn (Pant-y-maen)	M. W. Barker, Esq.	8	1	0	1320	48·10	...
†Llyn Bran	M. „ „ „	8	1	0	1428	52·57	...
†Llanrwst (County School)	Rev. J. I. Farr	5	1	4	55	48·18	210
†Llangerniew (Hafodunos)	Col. Sandbach	5	2	0	512	46·69	193
Llanefydd (Rhyl W.W., S.)	M. L. G. Hall, Esq., C.E.	5	1	0	600	36·83	...
„ { „ „ W.)	M. „ „ „	5	1	0	580	29·40	...
„ { „ „ E.)	M. „ „ „	5	1	0	570	31·19	...
„ (Plas Uchaf Res.)	„ „ „	5	1	0	485	32·29	179
„ (Glascoed Reservoir)	„ „ „	5	1	0	360	32·19	185
„ Llangynhafal (Plas Draw)	Col. C. J. Bromhead, C.B.	5	1	0	419	32·22	228
†Denbigh (Asylum)	W. Barker, Esq.	5	0	10	316	31·00	186
„ (Garn)	W. D. W. Griffith, Esq.	5	1	0	447	35·19	198
„ (Gallt-faenan)	Mr. J. B. Pritchard	5	0	5	400	35·54	...
Trefnant (Maes Elwy)	Major R. F. Birch	5	1	3	190	33·22	151
„ Tal-y-cafn (Bodnant Hall)	Mr. J. Saunderson	8	1	6	120	36·85	188
„ Colwyn Bay (Four Crosses)	W. Jones, Esq., C.E.	5	1	0	400	28·69	163
„ „ (Council Offices)	„ „ „	8	1	0	82	29·97	160
<b>MERIONETH.</b>							
†Towyn (Gothic House)	Dr. E. Lewys-Lloyd	5	1	0	11	36·85	195
„ (Peniarth)	Mr. G. Evans	9	1	0	25	47·59	193
Barmouth Railway Station	Mr. G. Wellings	8	1	2	30	40·65	...
„ Dolgelly (Bryntirion)	C. G. Beale, Esq.	5	0	10	50	59·78	195
†Bala (Eryl Aran)	Mrs. Burton	8	1	0	600	57·95	205
„ Aberdovey	Meteorological Office	8	1	0	22	35·69	201
†Llanderfel (Palé Gardens)	Mr. E. J. Edwards	8	1	0	606	44·25	211
„ Tan-y-bwlch (The Gardens)	Mr. J. Roberts	5	1	0	50	67·08	208
„ Blaenau Festiniog (Oakley Quarries)	Owen Jones, Esq.	5	10	0	1100	98·54	203
„ Corwen (Rûg Gardens)	Mr. J. S. Higgins	5	1	4	600	34·65	184
<b>CARNARVON.</b>							
[Bardsey Island]	Hon. F. G. Wynn	5	1	0	20	28·70	...
„ Abersoch	W. H. Winterbotham Esq.	8	1	0	100	42·36	195
†Criccieth (Talarvor)	Mrs. Griffith	5	2	0	49	34·35	...
†„ (Cefn-Maen)	Mr. F. Murchie	8	1	0	220	45·61	159
„ Pwllheli (Bodfean Hall)	Hon. F. G. Wynn	5	1	0	100	45·83	...
†Portmadoc (Wern Gardens)	R. M. Greaves, Esq.	5	1	0	90	51·64	...
„ Nantlle (Dorothea Quarries)	W. J. Griffith, Esq.	8	2	0	450	58·74	...
†Llandwrog (Glynllivon Park)	Hon. F. G. Wynn	5	1	0	100	41·25	...
„ { „ Nursery)	„ „	5	1	0	180	47·58	208
„ { „ Garden)	„ „	5	1	0	100	42·14	191
„ { „ Fort)	„ „	5	1	0	180	40·67	201
„ Snowdon (Wenallt)	No. 6 A. Lockwood, Esq.	5	1	0	1050	139·14	...

## DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(continued.)

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with 01 or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
<b>CARNARVON—(con.)</b>						
D Snowdon (Cwm Dyli).....No. 11	A. Lockwood, Esq.....	5	4 0	310 T	91·93	224
D „ (Old Road) .....No. 14	„ „ „ „.....	5	0 10	325 T	114·00	225
„ (Lliwedd) .....No. 2	„ „ „ „.....	5	0 10	1485 T	143·78	...
„ (Delta) .....No. 7	„ „ „ „.....	5	0 10	1435 T	150·94	...
„ (Glaslyn) .....No. 3	„ „ „ „.....	5	0 8	2050 T	129·72	...
„ (Lluchfa) .....No. 4	„ „ „ „.....	5	0 10	2500 T	148·47?	...
„ (Teyrn) .....No. 1	„ „ „ „.....	5	0 10	1080 T	140·66	...
„ (Crib Goch) ..... No. 8	„ „ „ „.....	5	1 3	2340 T	167·03	...
„ (Llyn Llydaw, N.) No. 5	„ „ „ „.....	5	1 0	1470 T	134·22	...
„ (Pen-y-Pass) ... No. 12	„ „ „ „.....	5	0 10	1170 T	134·21	...
„ (Pen-y-Gwryd)..No. 13	„ „ „ „.....	5	2 0	910 T	113·57	...
D† Bettws-y-Coed (Tyn-y-bryn) ...	Dr. Hugh W. Fox.....	8	2 6	153 T	50·59	219
Carnarvon (Belan Fort).....	Hon. F. G. Wynn.....	5	1 0	12 T	34·00	...
D† Lake Cowlyd (Llethyr Gwyn) C	T. B. Farrington Esq. CE	5	1 0	1700	83·78	221
D† „ „ (Gors-y-Llithrig) D	„ „ „ „.....	5	1 0	1900	81·84	221
D† „ „ (Ffrith Fawr) ... B	„ „ „ „.....	5	1 0	1700	82·50	220
D† „ „ („ „ Carreg Wen) A	„ „ „ „.....	5	1 0	1168	83·90	220
† „ „ (Upper Brwynog) No. 16	J. R. Gethin Jones, Esq.	5	1 0	1100	79·77	...
Eigiau, Upper.....No. 15	„ „ „ „.....	5	1 0	2000	128·30	...
„ Lake.....No. 3	„ „ „ „.....	5	1 0	1650	117·70	...
„ „ (Dam Site) .....	„ „ „ „.....	5	1 0	1280	99·50	...
Frith Rhos .....No. 17	„ „ „ „.....	5	1 0	1100	77·40	...
Dolgarog (Aluminium Works)...	„ „ „ „.....	5	1 0	22	50·82	...
Llanbedr-y-Cennin (Plasdulyn).	E. P. Stephenson Esq. CE	8	1 0	509 T	53·50	...
„ „ „ „ (Llyndulyn)	„ „ „ „.....	8	1 6	1632 T	98·50	...
D Bethesda (St. Ann's Vicarage) ..	Rev. W. Morgan .....	5	1 6	500	56·62	230
§ „ „ (Penrhyn Quarry) .....	E. A. Young, Esq.....	8	1 0	528 T	58·17	203
D Tal-y-Cafn (Caer Rhun) .....	Col. Thomas Gee .....	8	3 0	65 T	39·23	160
D Bangor (Penrhyn Castle Gdns)..	Mr. W. Speed.....	5	1 0	150 T	39·58	207
D Llanfairfechan .....	Mr. W. Timmins .....	5	1 0	144	35·88	195
Penmaenmawr (Mountain Res.)..	R. J. Hughes, Esq. ...	5	1 6	1200 T	46·56?	...
D „ „ (Council Offices).	„ „ „ „.....	5	1 6	100 T	35·98	186
D Conway (Bodlondeb) .....	Mr. W. H. Day .....	5	1 3	40	30·84	163
Deganwy (Y Berlfa).....(R)	Willoughby Gardner Esq	8	1 0	30 T	32·05	...
D† Llandudno .....	W. Little, Esq. ....	5	1 0	72 T	31·97	207
<b>ANGLESEY.</b>						
Llanddwyn Island.....	Hon. F. G. Wynn .....	5	1 0	40 T	27·93	...
D† Llangadwaladr (Bodorgan) .....	Mr. W. Pilgrim.....	5	1 0	100 ?	35·92	198
D Llangwilog (Trescawen) .....	J. H. Pritchard-Rayner, Esq.	5	1 0	239 T	45·29	192
† Holyhead (Sailors' Home) .....	Meteorological Office ...	8	1 0	48	37·88	191
D Bodedern (Pressaddfed) .....	Major W. A. Fox-Pitt.	5	0 11	150 T	40·25	195
Llantrisant Rectory .....	Rev. Daniel Morgan ...	5	1 6	300	39·95	186
D§ Llanerchymedd Llwydiarth Esgob	T. Prichard, Esq. ....	5	1 0	175 T	39·71	230
D Lligwy .....	Lord Boston .....	5	1 0	170	33·81	174

## DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with .01 or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level	1909	
<b>ISLE OF MAN.</b>						
Castletown (Langness) .....	Bd. of Northern Lights	8	1 0	75	28·43	...
„ (Derbyhaven) .....	F. Cottle, Esq. ....	5	0 10	10	41·00	...
Santon Vicarage .....	„ „ .....	5	0 10	250	37·44	...
D Douglas (Woodville).....	the late H. Story, Esq.	8	1 0	160 l	41·41	177
D „ (Borough Cemetery) ...	F. Cottle, Esq. ....	8	1 0	284 A	41·99	187
„ (Clypse, Onchan) .....	„ „ .....	8	1 0	450	49·61	...
„ (Baldwin) .....	„ „ .....	8	1 0	120	61·40	...
Bishops Court .....	„ „ .....	5	0 10	80	35·86	...
Ramsey .....	„ „ .....	8	1 3	18	46·84	176
Point of Ayre.....	Bd. of Northern Lights	3	4 6	116	30·70	...
<b>ISLES OF SCILLY.</b>						
§St. Mary's .....	Meteorological Office ...	8	1 6	20 l	26·95	182
„ „ .....	Cornwall County Council	...	...	...	28·29	167
Tresco Abbey .....	T.A.DorrienSmith, Esq.	11	3 0	40	25·67	185
<b>CHANNEL ISLANDS.</b>						
D JERSEY(St.Helier,St.LouisObsy.)	Rev.LouisFougerat,S.J.	8	5 0	180	28·46	175
§ „ St. Aubins .....	Meteorological Office ...	8	1 9	36	31·67	204
„ „ (Belle Vue)...	Miss M. M. Sumner ...	5	0 10	220	32·53	159
D GUERNSEY(S.Martins,LesBlanches)	B. T. Rowswell, Esq....	5	1 0	310 l	32·32	190
D „ ( „ Hautnez) ..	A.H.P. Davey, Esq.C.E.	5	0 8	343 A	30·81	180
„ (St. Peter-in-the-Wood) .....	A. Collenette, Esq. ...	...	...	...	29·78	175
D „ (Villiaze) .....	A.H.P. Davey, Esq.C.E.	5	0 6	337 A	32·72	176
D „ (St.PeterPort,St.Martin'sRd.)	A. Collenette, Esq.....	5	1 0	295 l	34·00	186
„ ( „ „ Rohais) .....	„ „ „ .....	...	...	145	33·95	192
D§ „ ( „ „ Villa Carey) ...	Dr. F. E. Carey ... ..	8	1 6	180 B	32·53	184
„ (St. Sampson, Richmond) ...	A. Collenette, Esq. ...	...	...	25	31·80	169
D „ (L'Ancrese, Les Mielles) ...	J. S. Hocart, Esq. ....	5	1 0	33 l	32·45	165
D ALDERNEY (Le Huret) .....	B. T. Rowswell, Esq....	5	1 0	245	32·99	157
D SARK (Vallée du Creux) .....	„ „ „ .....	5	1 0	320	26·13	146

## SCOTLAND.

## DIVISION XII.—SOUTHERN COUNTIES.

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with 0.1 or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
<b>WIGTOWN.</b>						
Mull of Galloway .....	Bd. of Northern Lights	...	...	327	33.18	...
D Whithorn .....	Dr. J. F. Smith .....	5	2 3	207	45.73	188
D „ (Cutroach) .....	J. G. Martin, Esq. ....	5	0 6	120	40.28	195
§ Port William (Blairbuie) .....	Scot. Meteorological Soc.	5	2 6	150	47.61	...
D Garliestown (Galloway House)...	Mr. J. Day .....	5	4 6	20	43.64	179
D § Logan House .....	K. McDouall, Esq. ...	7	0 8	80	40.52	194
D Stoneykirk (Ardwell House).....	Sir M. J. McT. Stewart, Bt	8	3 9	107	39.77	162
Port Patrick (Killantringan) ..	Bd. of Northern Lights	...	...	162	49.70	...
Loch Ryan Lighthouse .....	„ „ „	...	...	46	36.73	153
Corsewall .....	„ „ „	...	3 4	112	37.31	...
<b>KIRKCUDBRIGHT.</b>						
Little Ross .....	Bd. of Northern Lights	...	3 3	175	32.89	...
Kirkcudbright (Balmae) .....	The Countess of Selkirk	5	0 3	150	39.35	...
Auchencairn (Torr House) .....	W. Ovens, Esq. ....	5	0 8	50	56.62	...
§ Gatehouse (Cally) .....	Scot. Meteorological Soc.	5	1 0	120	39.39	209
D Dalbeattie (Kirkennan).....	Wellwood Maxwell, Esq.	5	0 9	30	51.83	215
„ (Little Richorn) .....	Mr. W. Kerr .....	5	0 9	54	48.49	171
Creetown (Cassencary) .....	JA Henryson-Caird, Esq	5	0 8	50	43.54	181
§ Kirkbean (Arbigland) .....	Scot. Meteorological Soc.	...	...	50	42.22	...
D Kirkpatrick Durham (Glenlair)..	Major W. Maxwell ...	5	0 6	250	57.74	180
D § Cargen [Dumfries] .....	R. F. Dudgeon, Esq. ....	5	0 4	80	52.65	148
D § Lochrutton (Dumfries W.W.)...	Nigel B. Wilson, Esq.	5	1 0	273	52.07	209
D Lincluden House [Dumfries] ..	Miss Young .....	5	1 0	60	47.27	201
D § Jardington [Dumfries].....	J. Rutherford, Esq. ...	5	1 0	70	44.48	175
Glenhead of Trool .....	J. McMillan, Esq. ....	5	0 11	320	69.80	...
D Dalry (Glendarroch) .....	Miss M. Barbour .....	5	0 11	192	54.86	203
D „ (Clenerie) .....	Mr. G. Geddes .....	8	0 10	850	60.63	190
D „ (The Old Garroch) .....	T. R. Bruce, Esq. ....	8	0 9	448	66.67	206
„ ( „ „ „ ) .....	„ „ „	5	1 0	448	64.44	...

## DIVISION XII.—SOUTHERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with '01 or more recorded.	
		Diameter	Height Above Ground.		Height Above Sea Level		1909
		in.	ft.	in.	feet.	inches.	
KIRKCUDBRIGHT—(con.)							
D Carsphairn (Shiel) .....	Mr. S. Wilson .....	5	1	0	850 T	79.02	217
D „ (Knockgray) .....	Miss Clark Kennedy ...	8	0	11	641 T	59.08	204
DUMFRIES.							
§ Ruthwell (Comlongan) .....	Scot. Meteorological Soc. ....	...	...	...	75 ?	41.68	...
§ Dumfries (Crichton Roy. Inst.)..	„ „ „ .....	...	...	...	155	43.55	...
§ „ (Ivy Bank) .....	„ „ „ .....	5	0	10	70 T	41.17	189
D Dalton (Kirkwood) .....	Arthur J. Steel, Esq. ....	5	0	8	245 T	49.65	192
D Lockerbie (Castle Milk) .....	Mr. J. Troup .....	5	0	9	199	45.52	174
Canonbie (Byreburnfoot) .....	Mr. David Crabbe .....	3	0	9	...	45.75	...
D § „ (Irvine House) .....	J. H. Milne Home, Esq. ....	5	0	6	200	49.74	190
D Lochmaben (Esthwaite) .....	W. J. Halliday, Esq. ....	5	1	0	166 B	45.13	184
Langholm (Westwater) .....	J. M. Elliot, Esq. ....	3	1	0	450 T	55.23	173
D „ (Drove Road) .....	Mrs. Jackson .....	5	0	9	270	50.66	152
§ Moniaive (Glencrosh) .....	Miss McMillan .....	5	1	2	350	55.69	208
D „ (Maxwelton House) ...	Rev. Sir E. Laurie, Bt. ...	5	1	6	400 A	52.16	200
D „ (Jarbruck) .....	Cecil E. Laurie, Esq. ....	8	1	2	350 T	59.42	198
D Langholm (Ewes, Burnfoot) ...	J. C. Little, Esq. ....	5	1	0	541 A	49.32	209
„ „ ( „ School) .....	Mr. J. C. Lyall .....	5	1	0	445 T	52.91	...
Eskdale (Castle O'er) .....	Miss L. M. Bell .....	3	0	8	640	46.10	...
§ „ Muir Observatory .....	Meteorological Office ...	8	0	8	778	51.20	...
D § Durrisdeer (Drumlanrig Gardens)	Mr. D. Inglis .....	5	0	9	187	47.99	208
Beattock (Kinnelhead) .....	J. Bartholomew, Esq. ....	5	1	0	820 T	59.20	...
Moffat (Craigielands) .....	Mr. L. Fraser .....	5	1	0	360 T	53.73	...
D „ (Auchen Castle) .....	Mr. J. Macgregor .....	5	0	6	500 T	52.55	184
D „ (Hope Lodge) .....	Miss Anstruther .....	5	1	0	450	47.74	186
D „ (Ericstane) .....	Mrs. J. J. Welsh .....	5	1	0	600 A	52.32	170
ROXBURGH.							
Teviothead (Skelfhill) .....	Miss Grieve .....	3	1	2	950 T	42.20	...
§ Hawick (Wolfelee) .....	Scot. Meteorological Soc. ....	5	0	10	587	31.36	...
D „ (Braxholme) .....	J. G. Winning, Esq. ....	5	0	6	457 A	33.25	194
D Jedburgh (Ploughlands) .....	J. Scott, Esq. ....	5	1	0	301 A	25.73	207
D „ (Anerum Bridge) .....	A. Finlayson, Esq. ....	5	2	0	229	29.72	191
§ Lilliesleaf School .....	A. Birrell, Esq. ....	5	4	0	470 T	27.00	...
§ St. Boswells (Elliston Gardens)...	Mr. H. C. Montgomerie ...	5	1	0	252	27.86	174
§ „ „ (Monksford) .....	A. Mitchell, Esq. ....	5	0	11	320	24.24	...
D „ „ (Fens) .....	J. J. Fairbairn, Esq. ....	5	1	6	260	26.07	162
Kelso (Springwood Nurseries) ...	Messrs. Laing & Mather ...	5	1	0	200	28.33	226
D „ „ ( „ Park) .....	Mr. W. Chaplin .....	5	1	3	130 L	26.74	167
D § „ (Broomlands) .....	J. Brunton, Esq. ....	8	1	2	205 T	24.61	165
D Melrose (Asylum) .....	Mr. A. C. Pattman ...	5	0	6	480 T	33.19	216
D „ „ ( „ ) .....	„ „ „ .....	5	1	0	480 T	32.14	216
§ „ „ (Drygrange) .....	Scot. Meteorological Soc. ....	...	...	...	450 ?	27.16	...
Smailholm (Sandyknowe) .....	Mr. J. E. Templeton ...	5	1	2	500	21.86?	...
D Chapel-on-Leader [Earlston] ...	Mr. Peter Smith .....	5	0	9	500	33.09	165

## DIVISION XIII.—SOUTH EASTERN COUNTIES.

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with '01 or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
<b>SELKIRK.</b>						
Meggat Head (Edinburgh W.W.) No. 1	Messrs. Leslie & Reid, C.E.	5	1 3	1496 $\nabla$	48·85?	...
D " Water (Cramilt Lodge) ...	Mr. A. Sim .....	5	0 4	1005 $\nabla$	52·39	221
D Selkirk (Whitmuir Hall) .....	C. W. Dunlop, Esq. ...	5	1 0	850	32·85	177
D " (Philiphaugh) .....	Mr. A. Cole .....	12	4 6	460	29·74	181
D " (The Hangingshaw) ...	Miss Johnstone of Alva	6	0 6	670 $\nabla$	35·59	167
D Galashiels (Abbotsford Rd.) .....	Dr. J. W. Somerville ...	5	0 8	416 $\nabla$	31·54	197
" (The Peel, Clovenfords)	W. R. Ovens, Esq. ....	6	1 6	500	35·61	...
" (Stantling Craigs) ...	Mr. J. Murray .....	12	1 3	800	39·29	...
<b>PEEBLES.</b>						
Ravensraig (Edinburgh W.W.) No. 3	Messrs. Leslie & Reid, C.E.	5	1 3	2258 $\nabla$	63·25?	...
Gameshope Loch ( " " ) No. 4	" " "	5	1 3	1860 $\nabla$	61·73?	...
Donald's Cleuch Head ( " " ) No. 11	" " "	5	1 3	...	70·89	...
Loch Craig Head ( " " ) No. 2	" " "	5	1 3	2627 $\nabla$	64·05?	...
D Gameshope Farm ( " " ) No. 5a	" " "	5	1 3	1538 $\nabla$	71·94?	232
" " " " " " " No. 5	" " "	8	1 3	1538 $\nabla$	64·58?	...
Garlet Hill ( " " ) No. 10	" " "	5	1 3	...	40·76?	...
D Talla Linns Foot ( " " ) No. 6a	" " "	5	1 3	966 $\nabla$	61·83	233
" " " " " " " No. 6	" " "	8	1 3	966 $\nabla$	60·57	...
Mathieside Cairn ( " " ) No. 9	" " "	5	1 3	...	38·15?	...
D Quarter Hill ( " " ) No. 7a	" " "	5	1 3	1196 $\nabla$	46·09?	201
" " " " " " " No. 7	" " "	8	1 3	1196 $\nabla$	46·40?	...
D Victoria Lodge ( " " ) No. 8	" " "	5	1 3	904 $\nabla$	46·91	205
" " " " " " " No. 8a M	" " "	8	1 3	904 $\nabla$	46·43	...
D Stobo (Dawyck Gardens) .....	Mr. J. Simpson .....	5	1 1	600 $\nabla$	42·07	185
§ " Castle .....	Scot. Meteorological Soc.	3	1 0	600	38·03	...
Peebles (Swinton Bank) .....	C. A. Ainslie, Esq. ...	5	0 5	600 B	33·43	...
D " " " " " " " (R)	" " "	8	4 6	600 B	32·98	192
Innerleithen (Leithen Lodge) ...	Mr. D. Clark .....	11	0 0	700 $\nabla$	46·39	...
§ Castlecraig [Dolphinton] .....	Scot. Meteorological Soc.	...	...	700 ?	38·94	...
D West Linton Rectory <i>Snowdon</i>	Rev. J. S. Begg .....	5	1 0	800 $\nabla$	40·51	223
D " " (Rutherford House)	Ewen Cameron, Esq. ...	5	3 9	970 $\nabla$	40·16	209
Eddlestone (Portmore Reservoir)	Messrs. Leslie & Reid, C.E.	11	0 6	1000	38·34	210
§ N. Esk Reservoir [Penicuik] ...	Mr. W. Tod .....	11	0 6	1150 $\nabla$	40·70	...
<b>BERWICK.</b>						
D Earlston (Cowdenknowes) .....	Mr. J. Robertson .....	5	0 10	360 $\nabla$	31·65	194
Coldstream (Lochton) .....	J. Aitchison, Esq. ....	5	1 0	151 B	26·86	...
D " (The Hirsell) .....	Mr. P. McAndrew .....	5	1 0	94 $\nabla$	28·99	167
D § Marchmont House .....	Mr. J. A. Wood .....	5	1 0	498 $\nabla$	34·21	191
D Duns Castle .....	Mr. J. R. Redpath .....	5	1 0	500	33·74	187
" (Manderston) .....	Mr. F. J. Marshall .....	8	1 6	356 $\nabla$	34·42	...

## DIVISION XIII.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with -01 or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
<b>BERWICK—(con.)</b>						
West Foulden .....	J. Hewat Craw, Esq....	5	1 0	250 T	28·34	...
St. Abb's Head .....	Bd. of Northern Lights	8	4 3	224	26·90	...
<b>HADDINGTON.</b>						
Garvald (Donolly Reservoir) ...	W. Ross Young, Esq., CE	11	1 6	560 A	36·51	...
D Drummure [Musselburgh] .....	Mr. J. Robson.....	5	1 0	75 T	26·92	186
D Whittingehame Gardens .....	Mr. J. Garrett .....	5	1 0	348 B	31·75	163
Garvald (Thorter Reservoir).....	W. Ross Young Esq. C.E.	12	1 6	...	34·77	...
§ Haddington (District Asylum)...	Scot. Meteorological Soc.	5	0 9	240	25·59	...
§ Prestonkirk (Beil) .....	" " " "	5	1 6	180	25·68	...
Dunbar (Barnsness) .....	Bd. of Northern Lights	...	...	120	25·34	148
§ Prestonkirk (Smeaton) .....	Scot. Meteorological Soc.	7	7 10	100	25·36	...
D Gosford House Gardens.....	Mr. W. Galloway .....	5	1 0	24	29·00	180
§ Aberlady Manse.....	Rev. J. Hart .....	5	0 11	15	25·74	...
D North Berwick Reservoir ... ..	W. Ross Young, Esq., CE	5	1 6	150 T	26·24	151
<b>MIDLOTHIAN.</b>						
Moorfoot Hills (Bowbate) .....	Messrs. Leslie & Reid, C.E.	11	0 6	2042	52·09	...
" " (Gladhouse Res.) .....	" " "	5	0 6	900	39·97	224
" " (Rosebery) .....	" " "	4	0 6	750	33·26	201
Pentland Hills (Crosswood) .....	" " "	5	1 0	950	42·67	...
Moorfoot Hills (Edgelaw).....	" " "	4	0 6	654	34·90	202
Pentland Hills (Harperrig) .....	" " "	5	0 6	900	42·51	...
" " (Harehill) .....	" " "	11	1 5	1470	42·67	...
" " (Loganlea) .....	" " "	8	1 4	850	42·89	...
§ West Calder (Addiewell) .....	Scot. Meteorological Soc.	5	0 6	600	39·00	...
D § Balerno (Cockburn Hill) .....	R. Cross, Esq.....	5	1 0	767 T	43·54	206
Pentland Hills (Glencorse Res.)..	Messrs. Leslie & Reid, C.E.	5	1 3	787	43·75	220
" " (Harlaw) .....	" " "	5	0 6	800	40·24	...
" " (Harbour Hill) ...	" " "	11	0 6	1112	41·05	...
" " (Clubbiedean Res.) .....	" " "	11	0 6	750	37·42	...
" " (Swanston) .....	" " "	11	0 6	550	35·69	...
Liberton (Alnwick Hill) .....	" " "	11	0 6	400	32·89	196
§ Dalkeith Gardens .....	Mr. J. Whytock.....	5	1 0	144	29·13	...
D † Edinburgh (R. Obs., Blackford Hill)	T. Heath, Esq. ....	8	1 0	442 A	29·57	181
D § Corstorphine House .....	Dr. T. N. Johnston ...	5	1 0	165	33·24	250
D Musselburgh (Levenhall) ....	Miss C. Husband .....	5	1 0	15 A	27·53	196
D † Edinburgh (Univ. Engin. Lab.)..	Prof. T. Hudson Beare.	5	1 0	240 T	30·08	186
† " ( " " " ) M	" " " "	5	1 0	240 T	30·03	...
D " (City Observatory)...	W. Peck, Esq. ....	8	1 0	349	27·62	180
† " (Charlotte Square)...	Messrs. Leslie & Reid, CE	11	1 6	190 T	28·01	...
† " ( " " " )...	" " " "	12	63 0	300	21·01	...
§ " (Streatham House)...	Scot. Meteorological Soc.	...	...	...	32·70	...
§ Leith .....	Meteorological Office ...	8	1 8	37	27·09	209
§ " (Navigation School).....	Scot. Meteorological Soc.	5	0 5	76	30·59	...
D Davidson's Mains (Broomfield)...	Mr. C. Comfort .....	5	0 10	42 L	28·04	167

## DIVISION XIII.—SOUTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain.	Days with '01 or more recorded.
		Diameter	Height Above Ground		Height Above Sea Level	1909	
		in.	ft.	in.	feet.	inches.	
LINLITHGOW.							
D Bathgate (Boghead House) .....	late J. R. Durham, Esq.	5	2	0	500	42·26	173
„ (Ballencrieff) ... No. 3	A. L. Reid, Esq.....	5	0	9	730 T	33·90	...
„ (Petershill) ..... No. 2	„ „ „ .....	5	0	9	710 T	35·27	...
D „ (Filters) ..... No. 1	„ „ „ .....	5	0	9	640 T	37·10	190
§ Uphall .....	Scot. Meteorological Soc.	5	0	10	380	37·29	...
Carribber Reservoir ..... M	John P. Lawrie, Esq...	5	0	7	425 T	36·93	...
D Craigie Hall [Cramond Bridge]...	Mr. J. Sutherland .....	8	0	8	...	29·68	186
D Linlithgow Academy.....	J. Beveridge, Esq.....	5	1	0	170 T	36·77	167
„ „ .....M	„ „ „ .....	5	1	0	170 T	41·50	...
D Dalmeny House .....	Mr. D. T. Johnston ...	8	0	5	55	28·10	178
Bo'ness (Neidpath Cottage) .....	Mr. J. Grant .....	5	3	0	200 T	27·74	...
D „ (Grange) .....	H. M. Cadell, Esq. ...	5	0	2	14	28·73	163

## DIVISION XIV.—SOUTH WESTERN COUNTIES.

## LANARK.

§ Leadhills .....	Scot. Meteorological Soc.	5	1	1	1300	59·37	...
Lamington (Cowgill Reservoir)...	J. Chisholm, Esq., C.E.	5	1	0	970 T	46·25	...
§ „ „ .....	Scot. Meteorological Soc.	5	1	4	800	40·75	...
D Biggar .....	J. Eunson, Esq.	8	1	0	691 T	37·03	199
D „ (Cambus Wallace) .....	T. W. M. Watson, Esq.	6	0	6	748 T	32·77	149
„ (Shieldhill) .....	Miss Dunlop	5	1	2	850 T	34·52	...
D „ „ „ .....	„ „ „	5	on roof		850 T	32·77	216
§ Strathaven (Kype) .....	Scot. Meteorological Soc.	...	...	...	...	47·60	...
Lanark (Rhyber Lodge) .....	R. Swann, Esq.	6	3	0	650	33·50	...
D Cleghorn .....	Mrs. Elliott Lockhart	5	0	6	720 T	37·30	167
D Carluke (Mauldsie Castle) .....	Mr. D. Bryson	5	1	0	140	37·24	159
Hamilton Water Works .....	Mr. W. H. Purdie	7	1	0	436 T	39·05	...
D „ (Laightstone Hall) .....	Rev. T. M. B. Paterson	5	1	9	260 T	38·78	175
D Motherwell (Dalzell Gardens) ...	Mr. W. Mackie	6	5	6	170	33·61	168
D § Busby (Thornton Hall) .....	A. Henderson Bishop Esq	6	1	0	440	40·08	186
D § Bothwell .....	Dr. J. T. Wilson	5	0	9	150 T	29·63	165
↪ Glasgow (Tollcross Park) .....	J. Whitton, Esq.	5	0	6	85	38·87	...
„ Green .....	„ „ „	5	0	6	35	35·17	...
„ (Bellahouston Park) ...	„ „ „	5	0	6	160	33·94	...
† „ (Botanic Gardens) .....	„ „ „	5	0	6	110	37·85	...
„ (Alexandra Park) .....	„ „ „	5	0	6	141	37·74	...
„ (George Square) .....	„ „ „	8	6	0	40	36·97	...
„ (Kelvingrove Park) ...	„ „ „	5	0	6	48	38·65	...
„ (Ruchill Park) .....	„ „ „	5	0	6	220	39·96	...
D § „ (Belvedere Hospital) ...	Dr. A. Johnston	5	1	1	60 T	34·83	169
D § „ Observatory .....	(R) Prof. L. Becker	11	2	0	182	39·28	187
„ (Springburn Park) .....	J. Whitton, Esq.	5	0	6	361	39·85	...
Airdrie (Forrestburn Reservoir).	J. Frew, Esq.	6	0	6	720 T	42·70	...
„ „ „ .....	J. Chisholm, Esq., C.E.	5	1	0	402 T	41·19	...
D „ (Hillend Reservoir) .....	Mr. W. A. Ritchie	6	4	6	620 T	39·97	188
§ Roughrigg Res. [Slamannan] ...	J. Chisholm, Esq., C.E.	5	1	0	661 T	40·39	...

## DIVISION XIV.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with $\geq 0.1$ or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
AYR.						
Ballantrae (Glendrishraig).....	P. Murdoch, Esq. ....	10	4 0	42	40.14	174
Barrhill (Dochroyle).....	M. Mr. J. Scott .....	6	0 6	548 $\nabla$	39.54	...
d § Colmonell (Knockdolian) .....	Mr. A. Ogg .....	5	1 0	150	39.54	193
d § Girvan (Pinnmore) ..	Hugh Hamilton, Esq. ....	5	0 5	207 $\uparrow$	50.63	228
Barr Manse .....	Rev. G. Dods .....	5	1 0	330	50.53	...
Girvan (Glendoune Gardens) ..	Mr. J. Simons .....	5	1 0	100 $\uparrow$	43.22	184
Ailsa Craig .....	Bd. of Northern Lights	3	5 0	..	35.70	168
Loch Finlas .....	J. Young, Esq., C.E. ....	5	1 0	849 $\nabla$	68.27	...
Turnberry .....	Bd. of Northern Lights	...	...	...	34.45	...
d § Dalrymple (Bow Hill) ..	A. Gillespie, Esq. ....	5	0 8	978	51.95	215
d Maybole (Culzean Gardens) .....	Mr. D. Murray .....	9	3 0	200	39.70	159
„ (Knockdon Farm) .....	Mr. W. Muir .....	5	2 0	344	41.79	...
„ ( „ Glenhead) ..	„ „ „ .....	8	1 2	500	41.62	...
Ayr (Doonside) .....	W. H. Dunlop, Esq. ....	5	1 0	90	41.81	195
d „ (Doonholm) .....	J. Kennedy, Esq. ....	5	1 0	90	40.57	180
d Mauchline (Catrine) .....	Messrs. J. Finlay & Co.	6	1 0	301 $\uparrow$	41.92	160
§ Kilmarnock .....	Scot. Meteorological Soc.	5	1 0	74	44.74	188
d „ (Agricultural College) ..	Prof. R. A. Berry .....	8	1 2	40	40.76	166
„ (North Craig Res.) ..	R. Blackwood, Esq. ....	12	1 0	319 $\nabla$	46.70	...
§ Saltcoats .....	Scot. Meteorological Soc.	...	...	...	38.20	...
Stevenson (Greenhead Filters) ..	Gilbert Christie, Esq., C.E.	11	1 0	186 $\nabla$	39.60	...
d Dalry (Blair) .....	Mr. W. Mair .....	5	1 3	155 $\uparrow$	52.03?	196
d „ (Mount Pleasant) .....	Archibald Shanks, Esq.	5	1 1	290 $\nabla$	44.86	208
„ (Munnoch Reservoir) .....	Gilbert Christie, Esq., C.E.	11	1 3	325 $\nabla$	51.00	...
„ (Caaf Reservoir) .....	„ „ „ .....	9	1 0	515 $\nabla$	61.55	...
„ W.W. (Filters) .....	Mr. W. Wightman ..	5	1 0	320 $\nabla$	48.66	204
„ „ (Thirdpart) ..	M. Mr. R. King .....	5	1 0	560 $\nabla$	54.15	...
„ (Camphill Reservoir) .....	James Lee, Esq., C.E. ....	12	1 6	611	58.00	...
Shaws Water Works (Kelly Dam)	D. Macalister, Esq., C.E.	6	1 0	640	66.20	...
„ „ (Knockencorsan) ..	„ „ „ .....	6	1 0	1040	61.10	...
RENFREW.						
Lochwinnoch (Garthland) .....	H. Macdowall, Esq. ....	5	0 11	150	68.52	...
„ (Castlesemples) .....	Mr. C. Jamieson .....	7	26 0	240	49.40	188
Calder Glen .....	Troon Times .....	...	...	...	65.64	...
Gorbals Dist. W.W. (Ryat Lynn)	J. R. Sutherland, Esq., C.E.	8	0 5	310	50.95	...
„ „ „ (Waulk Glen) ..	„ „ „ .....	12	0 5	280	49.35	...
„ „ „ (Middleton) ..	„ „ „ .....	12	0 5	550	58.55	...
„ „ „ (Nether Cairn) ..	„ „ „ .....	12	0 5	700	61.20	...
Paisley W.W. (Stanely) .....	James Lee, Esq., C.E. ....	12	1 0	190	43.37	...
„ „ (Back Thornley Muir) ..	„ „ „ .....	12	1 0	646	51.03	...
„ „ (Muirhead) .....	„ „ „ .....	12	1 0	482 $\nabla$	58.34	...
„ „ (Springside) .....	„ „ „ .....	12	1 0	532 $\nabla$	65.71	...
d Glasgow (Queen's Park) .....	J. Whitton, Esq. ....	8	0 9	144 $\nabla$	38.26	178
„ (Maxwell Park) .....	„ „ „ .....	5	0 6	69	38.51	...
Paisley (Crookston House) .....	Mrs. Hotchkis .....	5	0 5	50	39.55	...
† „ (The Coats Observatory)	Scot. Meteorological Soc.	10	1 8	107	45.17	...
Wemyss Bay (Kelly) .....	J. Clark-Neill, Esq. ....	...	...	...	44.00	...

## DIVISION XIV.—SOUTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with $\geq 1$ or more recorded.
		Diameter	Height Above Ground	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
RENFREW—(con.)						
§ Kilmalcolm Waterworks .....	D. S. Carson, Esq. ....	...	...	500 ?	74.19	...
Shaws W.W. (Duchall Moor) ...	D. Macalister, Esq., C.E.	6	1 0	1150	77.50	...
„ „ (Creuch Hill) .....	„ „ „ .....	6	1 0	1350	67.00	...
„ „ (Largs Road) .....	„ „ „ .....	5	1 0	910	56.54	...
„ „ (Green Water) ...	„ „ „ .....	6	1 0	788 $\nabla$	64.10	...
§ Kilmalcolm (St. Oswald's) ... (R)	D. S. Carson, Esq. ....	...	1 0	350	53.38	...
§ Douglass Res. (Port Glasgow W.W.)	James Murray, Esq. ...	5	1 6	540 $\nabla$	49.83	...
§ Auchendores Res. ( „ „ „ )	„ „ „ .....	5	1 6	320 $\nabla$	46.63	...
Shaws W.W. (Gryfe Reservoir) ..	D. Macalister, Esq., C.E.	6	1 0	640 $\nabla$	66.80	...
„ „ (Mansfield) .....	„ „ „ .....	5	1 0	573 $\nabla$	64.88	212
„ „ (Compensation Res.)	„ „ „ .....	5	1 0	600	67.67	246
„ „ (Loch Thom) .....	„ „ „ .....	5	1 0	643 $\nabla$	69.82	246
„ „ (Shielhill) .....	„ „ „ .....	6	1 0	962 $\nabla$	68.30	...
„ „ (Darnduff Moor)....	„ „ „ .....	6	1 0	850	67.70	...
„ „ (Spango Burn) ...	„ „ „ .....	6	0 9	757 $\nabla$	65.30	...
„ „ (Hole Glen).....	„ „ „ .....	5	1 0	603	61.80	225
„ „ (New Yetts Dam) ..	„ „ „ .....	5	1 0	800	64.90	228
D Port Glasgow (Elmworth) .....	A. F. Gray, Esq. ....	5	1 3	107	57.52	207
D § Greenock (Prospect Hill) .....	D. Macalister, Esq., C.E.	5	1 0	233	60.84	203
Bishopton (Ingliston) .....	D. Cross, Esq. ....	5	1 0	195	45.92	...
Langbank (East Bank Gardens).	A. Cross, Esq. ....	5	2 6	150	47.72	...

## DIVISION XV.—WEST MIDLAND COUNTIES.

## DUMBARTON.

D § Dumbarton (Leven Shipyard) ...	Messrs W. Denny & Bros.	5	1 0	9 $\nabla$	47.46	184
D Duntocher (Cochno Filters) .....	T. L. Rae, Esq., C.E. ...	5	1 0	400 $\nabla$	46.64	196
Kilpatrick Hills (Greenside Res.)	„ „ „ .....	5	1 0	876 $\nabla$	51.80	...
„ „ (Loch Cochno)...	„ „ „ .....	5	1 0	909 $\nabla$	53.78	...
„ „ (Jaw Reservoir)	„ „ „ .....	5	1 0	912 $\nabla$	58.64	...
„ „ (Burncrooks Res.)	„ „ „ .....	5	1 0	825 $\nabla$	40.26?	...
D Renton (Carman Reservoir) .....	Mr. Chas. Brown .....	8	4 0	292	47.77	179
D Cardross (Kilmahew) .....	Claud A. Allan, Esq. ...	5	1 0	130 $\nabla$	46.01	171
D Helensburgh (Fernigair House) ..	J. Andrew, Esq., C.E. ..	6	0 6	18	51.87	189
D „ „ (Water Works) ...	„ „ „ .....	6	0 6	300	42.60?	202
§ Roseneath (Achnashie) .....	Scot. Meteorological Soc.	6	1 0	25	59.40	...
Garelochhead (Aikenshaw) .....	Mr. W. S. Turnbull ...	6	1 0	32	60.70	...
Glen Finlas Reservoir .....	Mr. Daniel Murray ...	5	1 0	750	78.64	...
Arrochar House.....(R)	Mr. J. Thomson .....	6	1 3	50	71.15?	...

## STIRLING.

D Torrance (Glenorchard).....	Miss Bartholomew .....	5	1 6	200	44.13	199
Strathblane (Mugdock Reservoir)	J. R. Sutherland, Esq. CE	8	0 6	320	47.00	...
„ „ (Craigend Castle) ...	C. Stirling, Esq. ....	5	1 2	533 $\nabla$	54.21	...

## DIVISION XV.—WEST MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with '01 or more recorded.	
		Diameter	Height Above Ground		Height Above Sea Level		1909
		in.	ft.	in.	feet.	inches.	
STIRLING—(con.)							
Strathblane (Craigbarnet).....	Capt. G.H. Miller Stirling	6	0	6	300 T	53·50	...
D „ (The Manse) .....	Rev. W. B. Moyes.....	5	0	6	235 T	58·30	190
D Kilsyth (Currymire) .....	James Smith, Esq. ...	5	1	2	200	54·10	206
Muiravonside Ho. [Linlithgow].	Mr. C. Leeder.....	5	4	8	175	39·06	...
D Polmont (Vellore).....(R)	W. Brown, Esq.....	8	4	6	320 T	33·80	196
D Falkirk (Inglewood, Laurieston)	W. Ballantine, Esq. ...	5	1	3	133 T	40·58	150
D „ (Westbank) .....	A. Nimmo, Esq.....	5	0	9	75	38·01	188
D „ (Burgh Buildings) .....	David Ronald, Esq., C.E.	5	1	0	107 T	33·49	175
„ (Ardenlea) .....	J. Aitken, Esq., F.R.S.	5	1	0	105 T	38·98	192
„ (Kerse)..... No. 1	C. Brown, Esq. ....	8	1	0	18 T	33·50	...
„ „ „ „ „ No. 2	„ „ „ „ „	5	0	10	18 T	32·14	...
D „ (Cauldhame) .....	David Ronald, Esq., C.E.	5	1	0	73 T	35·20	183
Little Denny Reservoir .....	C. Massie, Esq. ....	8	1	0	326	45·70	...
„ „ Filters .....	„ „ .....	8	1	0	268 T	42·81	...
Kilsyth (Faughlin Res.) .....	„ „ .....	8	1	0	707 T	57·56	...
§ Bannockburn (Auchenbowie) ...	Scot. Meteorological Soc.	6	1	0	280	46·85	...
Earlsburn Reservoir .....	C. Massie, Esq. ....	8	1	0	1202 T	60·55	...
D Stirling (Touch Reservoir) No. 1	A. H. Goudie, Esq. ...	8	2	6	765	48·47	206
„ „ „ „ „ No. 2	„ „ „ „ „	...	...	...	765	47·81	206
D § Buchlyvie (The Manse).....	Rev. J. A. Macdonald..	5	1	3	118 T	53·97	239
Gargunnoch House .....	C. Stirling, Esq.....	5	5	8	85 T	41·07	...
D Kippen (Arngomery) .....	Mr. P. McCowan .....	5	4	2	150	46·60	159
† Bridge of Allan (The Lea) .....	Laurence Pullar, Esq...	5	1	0	110	38·99	205
Ben Lomond (Hd. of Duchray Val.)	J. R. Sutherland, Esq. CE	...	...	...	1800	76·00	...
Loch Arklet (Corriehichon) .....	„ „ „ „ „	...	...	...	870	80·30	...
„ „ (Corriearklet) .....	„ „ „ „ „	...	...	...	950	81·30	...
Glengyle .....	„ „ „ „ „	...	...	...	380	75·70	...
BUTE.							
Arran (Pladda) .....	Bd. of Northern Lights	...	...	...	130	45·62	...
„ „ (Pillar Rock, Holy Island)	„ „ „ „ „	3	0	3	46	49·72	163
D „ „ (Brodick, U.F. Manse) ...	Rev. A. Sutherland ...	5	1	0	150 P	64·44	201
„ „ „ „ „ (Strabane) .....	A. Hugh Douglas, Esq.	5	1	5	25	66·53	...
D Rothesay (Crichton Road) .....	H. Lauder, Esq.....	5	4	0	97	49·52	204
§ „ „ (Glenburn).....	Scot. Meteorological Soc.	5	1	0	95	49·65	217
Port Bannatyne (Ettrickdale) ...	Lt.-Col. M. R. Gray Buchanan	5	1	0	190 B	50·94	217
ARGYLL—(MAINLAND.)							
Mull of Kintyre .....	Bd. of Northern Lights	...	...	...	279 P	41·57	151
D Campbeltown (Witchburn) .....	Mr. John Giffen .....	5	1	2	75	42·25	241
§ „ „ (The Rectory).....	Scot. Meteorological Soc.	5	2	1	30 P	41·63	...
„ „ (Devaar) .....	Bd. of Northern Lights	...	3	4	120 P	40·69	154
D Kintyre (Killean Manse, Muasdale)	Rev. D. J. Macdonald..	5	1	0	30 B	39·52	204
„ „ (Largie Castle) .....	J. R. M. Macdonald, Esq.	5	1	0	160 T	40·21	...
„ „ (Skipness Castle) ...	Mr. P. McLean ...	5	1	6	27 L	45·17	...

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## DIVISION XV.—WEST MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain. 1909	Days with 41 or more recorded.
		Diameter	Height above Ground.		Height above Sea Level		
		in.	ft.	in.	feet.	inches.	
ARGYLL—(MAINLAND)—(con.)							
D Kintyre (Glenreasdell Mains) ...	Ronald S. Ker, Esq. ...	5	1	0	149 T	45·61	207
D „ (Bunawe Cottage, Tarbert) ...	Mr. D. M. McIlriach ...	5	0	10	150 ?	63·69	194
D „ (Carse, „) ...	J. Birkmyre, Esq., jun. ...	6	1	6	20	43·69	235
D Tighnabruaich (Craigandaraich) ...	J. S. Paton, Esq. ....	12	5	0	50 B	52·77	212
D Dunoon (Reservoir) .....	W. Rodger, Esq., C.E. ...	4	3	6	245 A	74·24	203
D „ (Redhurst) .....	Dr. J. Banks .....	5	1	6	60	75·20	205
D „ (Grammar School) .....	J. MacGregor, Esq. ...	5	1	5	56 A	65·43?	...
D Holy Loch (Ardnadam) .....	Rev. J. Cairns Mitchell ...	5	1	0	66 B	75·12	211
D Loch Fyne (Otter Ferry) .....	Mrs. Stewart ...	5	1	0	37 T	42·36?	202
D Loch Eck (Benmore) .....	H. J. Younger, Esq. ...	5	1	3	40	82·13	177
D Ardrishaig (Canal Office) .....	L. J. Groves, Esq., C.E. ...	5	1	0	44	60·98	206
D Lochgilphead (Poltalloch) .....	Mr. D. S. Melville .....	5	1	2	135	54·16	216
§ Loch Fyne (Castle Lachlan) .....	Scot. Meteorological Soc. ...	...	...	...	...	62·14	...
D „ „ (Furnace) .....	Mr. W. Nicol .....	5	3	0	15 L	66·68	210
D „ „ ( „ „ Brenchoillie) .....	A. E. Lewis, Esq. ....	5	1	0	240 ?	79·81	198
D Strachur (Tombuidhe) .....	J. Robertson, Esq. ....	5	1	0	180 T	69·60	194
D† Lochgoilhead (Nuthill) .....	G. Murray Knox, Esq. ...	5	1	0	15	69·55	211
D† Inveraray (Newtown) .....	Mrs. Little .....	5	1	0	17	68·45	228
D† „ (Castle Gardens) .....	A. E. Lewis, Esq. ....	5	1	0	40	77·46	230
D† „ (Stronshira) .....	Rev. P. N. Mackichan..	5	1	0	10	68·80	225
D§ Ardninglas .....	Sir Andrew Noble, Bt. ...	8	1	6	37 A	69·60	233
D Kilmelfort (Arduaine) .....	J. A. Campbell, Esq. ...	5	0	10	23 L	55·52	215
D† Glen Aray (Ladyfield) .....	A. E. Lewis, Esq. ....	5	1	0	400 ?	87·67	184
Glen Shira (Drimlie) .....	Rev. P. N. Mackichan..	5	1	6	400	79·61	...
D Dalmally (School House) .....	A. Allison, Esq. ....	5	1	7	150 T	80·51	223
† Oban .....	Meteorological Office ...	8	1	0	16	48·74	203
D Morvern (Ardtornish) .....	G. C. Sellar, Esq. ....	5	1	3	40	68·88	241
§ Appin (Airds) .....	Mr. A. McLachlan .....	5	0	11	15	42·84	...
D Morvern (Kingairloch) .....	G. Herbert Strutt, Esq. ...	5	1	0	40 ?	87·16	220
D „ (Drimnin) .....	Mrs. Gordon .....	5	1	0	225	56·97	258
D Ballachulish House .....	F. C. Beresford Drummond Esq	5	1	0	56 A	69·71	216
D „ (Glencoe) .....	J. D. Sutherland, Esq. ...	...	6	0	100	71·58	184
D§ Strontian (Laudale) .....	J. A. Fletcher, Esq. ...	4	1	0	15 A	81·72	219
D§ Loch Sunart (Glenborrodale) ...	C. D. Rudd, Esq. ....	5	0	2	60 L	61·73	224
Glenleven (Blackwater Ho.) No. 4	Loch Leven Power Co. ...	8	1	0	1040 ?	69·24	...
D „ „ ( „ „ Dam) No. 2	„ „ „ „	8	1	0	1072	67·67	221
D „ „ (Invercann) .....	„ „ „ „	8	1	0	1100 ?	61·88	...
D „ „ (Kinlochleven) .....	„ „ „ „	8	1	0	140	80·32	245
Ardnamurchan .....	Bd. of Northern Lights	8	4	3	180	48·77	...
D Ardgour .....	Capt. A. J. N. Maclean	5	0	10	65 B	87·92	240
Loch Eil (Corran) .....	Bd. of Northern Lights	3	1	6	38	71·13	172
ARGYLL—(INSULAR.)							
D Islay (Tighcargaman, Port Ellen)	Peter Reid, Esq. ....	5	1	8	24	44·48	226
D „ (Ardbeg) .....	C. E. Hay, Esq. ....	5	7	0	46 L	45·59	251
„ (Rhinn) .....	Bd. of Northern Lights	7	3	6	150	35·37	162
„ (Lochindaul) .....	„ „ „	3	0	6	52	48·82	...

## DIVISION XV.—WEST MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with .01 or more recorded.	
		Diameter	Height Above Ground		Height Above Sea Level		1909
		in.	ft.	in.	feet.	inches.	
ARGYLL—(INSULAR)—(con.)							
Islay (McArthurshead) .....	Bd. of Northern Lights	3	0	4	128	56·77	151
D „ (Eallabus) .....	J. Laughton, Esq. ....	5	1	0	68 I	47·90	243
„ (Rhuvaal) .....	Bd. of Northern Lights	3	1	3	147	38·38	181
Jura (Ardfin) .....	Miss Campbell .....	5	1	0	160	48·63	216
„ (Fladda) .....	Bd. of Northern Lights	3	1	0	42	40·02	...
Lismore (Mousedale) .....	„ „ „	7	3	10	105	40·81	164
§ Eriska Island .....	Scot. Meteorological Soc.	5	1	6	30	58·66	...
† Mull (Bunessan) .....	M Duncan Cameron, Esq.	5	1	4	50 B	80·17	...
§ „ (Lochbuie Castle) .....	Mr. W. J. Burrell .....	8	1	2	20	81·67	217
D „ (Ulva) .....	F. W. Clark, Esq. ....	5	1	0	30 A	60·32	257
† „ (Knock) .....	M Duncan Cameron, Esq.	5	1	4	50	85·30?	...
D† „ (Gruline) .....	J. W. Melles, Esq. ...	8	1	0	101 ?	71·95	253
D „ (Quinish) .....	J. N. Forsyth, Esq. ...	5	1	3	35 B	49·44	228
„ (Glengorm) .....	the late F. Morgan, Esq.	5	0	11	300	50·69	...
„ Sound of .....	Bd. of Northern Lights	3	1	4	55	57·81	183
Sanda .....	„ „ „	...	...	...	165	35·23	...

## DIVISION XVI.—EAST MIDLAND COUNTIES.

## CLACKMANNAN.

Alloa (Mar Street).....	A. Mitchell, Esq. ....	5	0	6	70	32·27	...
„ W.W. (Gartmorn Res.)...	Andrew Mackie, Esq. CE	11	1	0	172 A	34·85	...
D Alva House.....	Miss Johnstone of Alva	5	1	6	180	42·96	193
D Dollar (Dollarbeg).....	James Bleloch, Esq. ...	5	0	9	265 I	40·91	192
D§ „ (Academy) .....	Mr. A. Blackwood .....	9	1	0	178	40·74	142

## KINROSS.

Blairingone Manse [Dollar] .....	Rev. J. F. Cameron ...	5	1	6	300 I	41·59	190
D Loch Leven Sluice .....	Mr. W. Hay .....	8	0	9	360 I	36·50	165
Kinross House .....	(R) Mr. James Kirk... ..	8	3	8	377 I	41·09	...

## FIFE.

§ Inchkeith .....	Bd. of Northern Lights	...	...	...	160	24·75	...
D Dunfermline (Broomhall Gardens) .....	Mr. J. Mitchell .....	5	1	0	15 I	30·54	173
D Culross (Westgrange) .....	J. J. Dalgleish, Esq....	5	0	2	116 A	34·30	175
D Dunfermline (Keavil) .....	„ „ „	5	0	2	150	29·95	157
Carnock (Luscar House) ... No. 1	A. Mitchell, Esq. ....	5	0	10	430 I	36·69	...
„ „ „ No. 2	„ „ „	5	0	10	430 I	36·33	...
„ (Craigluscar) .....	W. R. Maxwell, Esq....	12	0	4	280 A	40·80	...
§ Leslie (Lothrie Reservoir).....	Scot. Meteorological Soc.	5	0	5	702	36·27	...
Largo (Carlton) .....	Mr. E. Tate .....	5	2	6	150 I	32·92	189
„ (Roselea) .....	Miss E. V. Baxter .....	...	...	...	...	31·08	...

DIVISION XVI.—EAST MIDLAND COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with $\geq 0.1$ or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
FIFE—( <i>con.</i> )						
D Colinsburgh Manse .....	Rev. Robert Dick .....	5	2 0	130 T	31.21	176
„ (Balchrystie) .....	Mrs. Anstruther .....	5	4 0	130 T	32.60	...
D „ (Balcarres) .....	Mr. J. M. Paul .....	5	1 0	300 T	32.82	188
D Carnbee (Ovenstone W.W.) .....	A. P. Watson, Esq. ...	5	1 0	168 A	27.06	159
§ Cupar (Clatto Reservoir) .....	Scot. Meteorological Soc. ...	...	...	...	32.55	...
D „ (Fife & Kinross Asylum) ..	W. Swinton, Esq. ....	5	1 0	210	33.59	196
§ Crail (Cambo) .....	Col. Sir W. Erskine, Bt.	8	1 0	50 B	26.31	...
D St. Andrews (Waterworks) .....	W. Watson, Esq. ....	5	1 0	217 A	28.05	172
„ „ (Greenside Place) .....	J. Wilson, Esq. ....	5	0 5	50 T	30.77	...
D „ „ (Queen's Gardens) ..	Miss Macadam .....	5	1 0	55 B	32.50	200
Kilmany (Mountquhanie House) ..	Mr. David Dinwoodie...	3	1 0	350 B	30.04	...
D Tayport (Lighthouse) .....	J. H. Thompson, Esq., CE	5	1 0	27	25.79	154
PERTH.						
Aberfoyle (The Inn) .....	J. R. Sutherland, Esq. CE	8	0 6	60	54.55	...
Ochertyre [Stirling] .....	Capt. C. M. Dundas, R.N.	5	1 0	18 T	38.13	...
D Doune (Gartincaber) .....	G. Burn Murdoch, Esq.	5	1 0	200 T	40.53	182
D „ .....	Rev. G. S. Mackay .....	5	1 0	125 A	39.88	188
Dunblane (Lynns Farm) .....	J. A. Stirling, Esq. ....	5	1 0	550	41.57	...
§ Lanrick Castle .....	Scot. Meteorological Soc. ...	...	...	190 ?	38.24	...
D Glendevon (Tormaukin) .....	Mr. W. Phillips .....	5	0 10	770 T	52.73	161
„ (Glensherup) .....	W. R. Maxwell, Esq. ...	12	0 4	745 T	46.66	...
Loch Dhu .....	J. R. Sutherland, Esq. CE	8	0 6	325	73.90	...
Ledard .....	„ „ „	...	...	1500	57.65	...
Loch Drunkie .....	„ „ „	8	0 6	420	61.75	...
Loch Vennachar .....	„ „ „	8	0 6	275	51.30	...
Bridge of Turk .....	„ „ „	8	0 6	275	57.60	...
Doune (Cauldhame) .....	J. Forbes, Esq. ....	5	1 0	830	50.56	183
Loch Katrine (Tunnel Hill Top) ..	J. R. Sutherland, Esq. CE	8	0 6	830	62.20	...
Callander (Leny House) .....	J. H. Buchanan, Esq. ...	5	0 6	340 T	57.00	...
Braco (Nether Cambushinnie) ..	J. W. Stirling, Esq. ...	5	0 10	380 T	44.29	...
Bridge of Earn (Ballendrick) ..	R. Richardson, Esq. ...	3	1 0	50	30.16	...
§ Balquhider (Blaircreach) .....	J. Carnegie, Esq. ....	5	1 0	460	85.27	...
D § „ „ (Stronvar) .....	„ „ „	5	1 0	422 T	67.51	185
D Lochearnhead (Ardvorlich) .....	Col. J. Stewart, C.I.E..	5	1 0	325 T	56.71	190
§ Comrie (Clathick) .....	Scot. Meteorological Soc. ...	5	1 0	300	42.12	...
D § Crieff (Strathearn Hydro.) .....	Dr. T. H. Meikle .....	5	1 0	436 T	38.31	196
D Perth (Craigie Road) .....	Sydney Wilson, Esq. ...	5	1 0	56 T	31.23	173
D § „ (Laurelbank) .....	A. M. Rodger, Esq. ...	5	1 0	85 A	29.70	176
Killin (Auchmore House) .....	Mr. F. G. Small .....	5	1 0	400 T	48.61?	...
§ Dunsinnan .....	J. Mackay Bernard, Esq.	...	...	400 ?	30.08	...
D Coupar Angus .....	Mr. J. Robertson .....	5	1 3	183 T	26.71	183
D § Glenlyon (Meggernie Castle) ..	Mr. W. Taylor .....	5	1 0	760	52.14	181
§ Blairgowrie (Rattray) .....	Mr. A. Wallace .....	5	0 10	194	27.45	...
§ Dunkeld (Snaigow) .....	Scot. Meteorological Soc. ...	...	...	...	29.14	...

## DIVISION XVI.—EAST MIDLAND COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with 0.1 or more recorded.
		Diameter	Height Above Ground.		Height Above Sea Level	
		in.	ft.	in.	feet.	inches.
PERTH—(con.)						
D Aberfeldy (Dall Avon) .....	Dr. N. D. Mackay .....	5	1	0	300	33.66
D „ (Dunros) .....	H. W. Johnston, Esq..	5	1	0	400	32.89
D Blairgowrie (Ballintuin House) ..	Miss M. A. McDonald..	5	1	4	600	35.21
§ Rannoch Station .....	Scot. Meteorological Soc.	5	1	0	950 ?	50.97
D Blair Atholl .....	Mr. A. Cameron .....	5	1	0	420	30.82
FORFAR.						
D Buddonness (Low Light) .....	J. H. Thompson, Esq., CE	5	1	0	17	28.61
D § Dundee (Harbour) .....	„ „ „	5	0	10	14	27.38
D Broughty Ferry (Tayside Cottage) ..	Mr. A. Robb .....	5	5	6	25	24.89
§ Dundee (Eastern Necropolis) ...	Mr. J. Carnochan .....	3	0	4	199 T	25.95
D § „ ( „ „ „ ) ...	„ „ „	5	1	0	199 T	26.36
„ (Dens Works) ... roof g.	Messrs. Baxter Bros. ...	5	1	5	119 T	28.77
D „ (Camperdown Works) ...	Messrs. Cox Bros. ...	5	3	8	290	25.48
D § „ (Balruddery) .....	J. Martin White, Esq..	5	1	0	266 T	28.85
D § Kettins School .....	W. Andrew, Esq. ....	5	1	0	218 T	28.90
D Craigton .....	G. Baxter, Esq., C.E. ...	8	1	0	484	29.52
„ .....	M „ „ „	11	3	0	484	29.17
„ (Hillhead) .....	M „ „ „	11	3	0	570	31.72
Crombie Reservoir .....	M „ „ „	11	3	0	522 T	32.77
D § Arbroath (Dishland Hill) .....	Mr. J. Campbell .....	5	1	0	69 T	23.54
„ (Muirheads Reservoir) ..	P. C. Smith, Esq., C.E.	5	1	0	251 T	24.02
Glamis Castle .....	Mr. T. Wilson .....	5	1	6	250	27.17
D § Forfar (Lilyfield) .....	D. M. Mackie, Esq. ...	5	0	5	225 T	28.32
„ (Little Causeway) .....	J. Watson Craik, Esq..	8	4	6	218 T	27.53
Kirriemuir (Eskhill) .....	Admiral E. Drummond	5	0	9	320 T	27.93
„ (Lintrathen) .....	M G. Baxter, Esq., C.E..	8	1	0	700	31.70
D „ ( „ „ „ ) .....	„ „ „ „	8	1	0	700	32.40
„ ( „ „ „ „ ) .....	M „ „ „ „	8	1	0	700	31.00
§ „ ( „ „ „ „ ) .....	M „ „ „ „	8	1	0	1482	27.00?
§ „ ( „ „ „ „ ) .....	M „ „ „ „	8	1	0	1500	26.30?
§ „ ( „ „ „ „ ) .....	M „ „ „ „	8	1	0	1491	27.50?
Forfar W.W. (Den of Ogil) .....	J. Watson Craik, Esq.	12	2	6	633 T	27.80
D § Glen Prosen (Pearsie) .....	E. M. Wedderburn, Esq.	5	1	0	600 T	31.54
§ „ „ (Lednathie) .....	Mr. W. G. Lindsay ...	5	1	0	720	33.52
Montroseness .....	Bd. of Northern Lights	3	1	0	124	24.19
D Montrose (Melville Gardens) ...	S. L. Christie, Esq. ...	5	9	0	20 T	22.80
§ „ (Sunnyside Asylum) ...	Dr. J. G. Havelock ...	5	0	10	200	28.37
D „ (Kinnaber W.W.) .....	S. L. Christie, Esq. ...	5	1	0	38 T	27.44
Brechin (Stracathro Gardens) ...	Mr. A. Dunlop .....	5	1	0	200 T	28.23

## DIVISION XVII.—NORTH EASTERN COUNTIES.

## KINCARDINE.

§ Laurencekirk (Johnstone Lodge) ..	Scot. Meteorological Soc.	...	...	...	33.62?	...
D Fettercairn (The Burn) .....	Col. C. McInroy, C.B. ...	5	0	11	250	34.26

## DIVISION XVII.—NORTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with '01 or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level		
		in.	ft. in.	feet.	inches.	
<b>KINCARDINE—(con.)</b>						
Fettercairn.....	D. J. Young, Esq.....	5	1 0	230 T	32·31	...
„ (Fasque Gardens) ...	Sir J.R. Gladstone, Bart.	5	1 0	320 T	36·47	149
Strachan (Bridge of Dye).....	„ „ „ „	5	0 6	540 T	45·70	175
D Stonehaven (Mains of Cowie) ...	John Hart, Esq.....	5	1 0	80	30·26	183
D Crathes (Cross Roads, Durris) ...	A. Macdonald, Esq. ...	5	1 0	420 T	33·94	205
Durris House [Drumoak].....(R)	Mr. A. Reid .....	5	3 6	200 ?	32·62	...
D† Banchory (Invercannie) .....	W. Dyack, Esq., C.E..	12	0 10	205 T	36·35	176
§ Crathes (Pinewood) .....	J. Smith, Esq. ....	5	1 0	145 T	33·53	185
D „ (Woodbank Cottage)....	Mr. D. Murchison .....	5	0 6	165 T	33·30	182
Banchory (Hirn) .....	Mr. W. Caird .....	5	1 0	287 T	33·60	...
Girdleness .....	Bd. of Northern Lights	7	4 0	185	29·05	...
<b>ABERDEEN.</b>						
† Braemar (Geldie Cottage)...No. 2	W. Dyack, Esq., C.E..	5	1 0	1425	41·32	...
† „ (Canmore) .....	M. A. M. Shirran, Esq. ...	8	0 9	1114 T	35·02	...
† „ (Bank) .....	M. „ „ „ „	5	1 0	1114 T	33·77	...
† „ (Derry Lodge)... No. 6	W. Dyack, Esq., C.E..	5	1 0	1400	39·74	...
Ben Muich Dhui (Carn à Mhaim) No. 5	„ „ „ „	5	1 0	2700	50·90	...
D† Balmoral Castle Gardens .....	Mr. J. M. Troup.....	8	1 0	927 T	30·83	164
§ Abergeldie Castle .....	Scot. Meteorological Soc.	...	...	...	33·32	...
Ballater .....	W. Dyack, Esq., C.E..	5	1 0	675 ?	33·19	...
D† Glen Gairn (Gairn Shiel Lo.) No 14	„ „ „ „	5	1 0	1100	35·96	202
† „ „ (Corndavon Lodge) No 13	„ „ „ „	5	1 0	1500	38·99	...
D† Cromar (Logie Coldstone School)...	J. B. Anderson, Esq....	5	1 0	608 T	31·84	213
D† „ „ „ „ „ (Loanhead)	Mr. A. Farquharson ...	5	1 0	743 T	32·80	214
§ „ „ „ „ „ (Tillypronie) .....	Mr. R. Littlejohn .....	5	1 0	1120 T	31·65	216
Upper Don (Delnadamp) No. 15	W. Dyack, Esq., C.E..	5	1 0	1850	43·00	...
D† Aberdeen (Cranford House) .....	D. McHardy, Esq. ...	5	1 0	120 T	33·36	212
† „ „ (Duthie Park) .....	Scot. Meteorological Soc.	5	1 0	44	31·32	...
§ „ „ „ (King's College) .....	Meteorological Office...	8	2 0	90	30·38	212
Towie (Culquoich) .....	late Col. J. Allardyce...	5	1 0	800	33·07	...
D† Strathdon Schoolhouse .....	J. B. Innes, Esq. ....	5	1 0	980 T	37·57	217
D† „ „ (Estate Office) .....	C. Christie, Esq. ....	5	1 2	990 T	37·53	237
D Alford (Lynturk Manse) .....	Rev. J. B. Duncan.....	5	1 0	600 T	35·89	214
D Monymusk (The Manse) .....	Rev. Dr. Macpherson...	5	1 0	280 T	33·82	213
D Dyce (Parkhill House) .....	Dr. J. E. Crombie .....	5	0 11	200 T	33·30	231
D Inch (Thornhill) .....	J. Bisset, Esq.....	8	1 0	430 T	34·21	219
§ Ellon (Avonbank) .....	T. F. Jamieson, Esq....	5	1 0	55	33·06	...
D§ Fyvie Castle .....	Col. C. R. Burn .....	5	0 6	200 ?	39·27	191
D Drumblade (Public School) .....	G. Harper, Esq.....	5	1 6	485 T	36·19	228
D Huntley (Union Bank).....	Alex. Smith, Esq. ....	5	1 0	450 T	37·89	190
D „ „ (Cruchie).....	John Joss, Esq. ....	5	4 0	400 T	34·20	215
§ Buchanness .....	Bd. of Northern Lights	3	3 0	130	27·98	...
D New Deer Schoolhouse .....	H. Cowie, Esq. ....	5	1 0	397 T	34·89	219

## DIVISION XVII.—NORTH EASTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with $\geq 0.1$ or more recorded.	
		Diameter	Height Above Ground.		Height Above Sea Level		1909
		in.	ft.	in.	feet.	inches.	
BANFF.							
D Dufftown (Victoria Terrace) ...	Miss Walker .....	5	2	0	579 $\nearrow$	42.23	251
Aberlour Orphanage .....	J. F. McGowan, Esq....	...	...	...	...	33.91	...
§ Craigellachie .....	Scot. Meteorological Soc.	3	0	1	339 $\uparrow$	32.55	...
D Keith Station .....	Mr. John Lyon .....	5	1	0	364 $\uparrow$	36.33	223
Cullen House .....	Mr. A. Morton .....	5	1	0	100 $\uparrow$	32.50	...
ELGIN OR MORAY.							
Grantown-on-Spey .....	Mr. W. Duncan.....	5	1	1	712 $\nearrow$	34.99	192
Archiestown (Benview).....	Mr. J. Milne .....	5	1	0	750 $\uparrow$	35.42	187
Kinloss .....	J. Mackessack, Esq. ...	5	1	3	23 $\uparrow$	25.56	...
D § Gordon Castle.....	Mr. C. Webster .....	5	1	0	107 $\nearrow$	32.63	213
Elgin (The Manse).....	Rev. Dr. R. Macpherson	6	1	3	38 $\uparrow$	26.60	...
D Duffus House .....	late Sir A. Dunbar, Bart.	5	1	0	55 $\nearrow$	25.30	185
NAIRN.							
D Ardclach (Glenferness).....	Mr. A. Mackenzie .....	8	1	6	750 $\uparrow$	35.19	151
Cawdor .....	J. Birnie, Esq. ....	5	1	0	250 $\uparrow$	28.69	...
D „ Castle..... (R)	The Earl Cawdor .....	8	4	3	225 $\uparrow$	32.45	177
Nairn (Achareidh).....	H. A. Clarke, Esq.....	8	1	0	59 $\uparrow$	26.59	220
§ „ (Delnies) .....	Meteorological Office...	8	1	9	84	27.60	233
„ (Balnaferry) .....	W. Fraser, Esq.....	...	...	...	...	26.81	...

## DIVISION XVIII.—NORTH WESTERN COUNTIES.

WEST INVERNESS.									
D	North Ballachulish (Alltshellach)	B.Chinnery-Haldane Esq	5	2	1	80	65.04	226	
	Glenleven (Chiaron) .....No. 3	Loch Leven Power Co..	8	1	0	1200 ?	67.58	...	
	„ (Cam Bridge) ...No. 5	„ „ „	8	1	0	1260 ?	60.12	...	
D	Moidart (Kinlochmoidart).....	J. C. Stewart, Esq.....	5	1	3	13	67.61	217	
§	„ (Roshven) .....	Scot.Meteorological Soc. ....	...	...	...	...	70.92	...	
D§	Fort William (Atholl Bank).....	W. T. Kilgour, Esq. ...	5	1	0	171 $\nearrow$	66.88	239	
	Loch Shiel (Glenfinnan) .....	Col. J. A. Macdonald...	5	0	8	50 ?	102.56	232	
D	Eigg (Kildonan).....	Mrs. Glendinning .....	5	1	0	35	51.69	194	
	Barra (Barrahead).....	Bd. of Northern Lights	7	3	0	683	22.74?	162	
§	„ (Castle Bay) .....	Meteorological Office...	...	...	...	38	34.24	252	
	Spean Bridge (Spean Lodge) ...	Miss W. Davy .....	5	1	5	204	52.77	199	
D	Arisaig House .....	Mr. W. Grant .....	5	1	0	30 ?	57.59	233	
	Loch Morar (Meoble Lodge).....	E. M. Crosfield, Esq....	8	1	3	104 $\uparrow$	92.70	...	
	Loch Lochy (Invergloy) .....	Major G. J. Bailey.....	5	1	0	200	45.04	225	
D§	Loch Arkaig (Achnacarry) .....	Charles Mackenzie, Esq.	5	1	0	110	66.10	223	
D§	„ „ (Glen Dessary) .....	„ „ „	5	1	0	300 $\uparrow$	93.18	209	

## DIVISION XVIII.—NORTH WESTERN COUNTIES—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with 0.1 or more recorded.
		Diameter	Height Above Ground.	Height Above Sea Level	1909	
		in.	ft. in.	feet.	inches.	
<b>WEST INVERNESS—(con.)</b>						
D Loch Nevis (Inverie) .....	Mr. J. Huggins .....	5	0 6	10	76.76	251
D Glenelg Manse .....	Rev. A. Mactaggart ...	5	1 0	85 $\pi$	54.96	271
D Skye (Scalpay Island) .....	Mr. D. Gunn .....	5	1 0	4	65.70	246
§ „ (Glendrynoch, L. Harport) ..	Rev. H. Harbord .....	5	1 0	40	62.70	...
§ „ (Lynedale) .....	Scot. Meteorological Soc. ...	...	...	100 ?	54.69	...
N. Uist (Monach) .....	Bd. of Northern Lights	8	5 6	150	37.63	206
D „ (Lochmaddy) .....	W.S. Hetherington, Esq.	5	0 9	20	41.27	203
Harris (Island Glass) ...	Bd. of Northern Lights	7	4 2	130	38.32	174
D „ (West Tarbert) .....	J. Fraser, Esq. ....	5	1 6	33 $\downarrow$	67.75	240
<b>EAST INVERNESS.</b>						
§ Loch Quoich (Laon) .....	W. M. Christy, Esq. ...	5	1 6	650 $\uparrow$	151.10	...
D § „ „ (Kinlochquoich) ...	Charles Mackenzie, Esq.	5	1 0	560 $\pi$	112.48	218
D „ „ (Glenquoich) .....	Mr. D. Grant .....	5	1 2	569 $\pi$	98.60	242
§ Glen Garry (Inchlaggan) .....	Scot. Meteorological Soc. ...	...	...	...	53.15	...
Invergarry .....	Mrs. Ellice .....	5	1 0	130 ?	58.01	...
§ Kingussie .....	Scot. Meteorological Soc. ...	5	1 0	828	26.01 ?	215
D § Fort Augustus (St. Benedict's) ...	Rev. C. von Dieckhoff..	5	1 0	68 $\pi$	37.44	202
D Alvey Manse .....	Rev. J. Anderson .....	5	1 0	760 $\uparrow$	28.61	187
Loch Ness (Killin, Whitebridge) ..	British Aluminium Co.	5	1 0	1200	38.10	...
D „ „ (Garthbeg) .....	„ „ „	5	1 0	645 $\uparrow$	33.37	191
„ „ (Foyers) .....	„ „ „	8	1 6	52	33.92	...
„ „ (Aberchalder) .....	„ „ „	5	1 0	700 $\uparrow$	31.43	...
D „ „ (Drumnadrochit) .....	Mr. Angus Grant .....	5	1 0	138 $\pi$	32.04	234
D § Inverness (High School) .....	W.G. MacConnachie Esq	5	1 0	98 $\uparrow$	26.36	161
<b>WEST ROSS &amp; CROMARTY.</b>						
Applecross Gardens .....	Mr. D. McCowan .....	5	1 0	70 $\pi$	53.41	...
D § Glencarron .....	Mr. D. D. Munro .....	5	1 0	504 $\pi$	71.01	256
D Loch Torridon (Bendamph) .....	The Earl of Lovelace ...	5	0 5	20 $\pi$	75.69	234
D § Kinlochewe .....	Mr. A. MacLennan .....	...	...	...	68.34	216
D Gairloch (The Manse) .....	Rev. D. Maclean .....	5	1 0	40 $\downarrow$	44.25	228
Loch Vraon .....	Lady Fowler .....	8	0 7	750	57.91	...
Loch Drome .....	„ „ .....	8	0 7	850 $\uparrow$	66.67	...
Braemore House .....	„ „ .....	8	0 7	750	60.52	...
D Poolewe (Inverewe Gardens) ...	Mr. R. B. Campbell ...	5	0 6	20	51.62	219
D Ullapool (Drumruinie) .....	G. Wotherspoon, Esq. ...	5	2 6	400	84.37 ?	253
D „ (Inverpolly Lodge) .....	„ „ „	5	4 0	29	41.65 ?	216
§ Stornoway .....	Meteorological Office ...	8	1 0	52	46.19	274
„ (Tiumpanhead) .....	Bd. of Northern Lights	...	...	170	43.42	161
„ (Butt of Lewis) .....	„ „ „	8	4 6	170	36.80	185

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with <sup>or</sup> more recorded.	
		Diameter	Height Above Ground.	Height Above Sea Level	1909		
		in.	ft.	in.	feet.	inches.	
EAST ROSS & CROMARTY.							
Glenshiel (Cluanie Lodge) .....	Mr. T. Kirkwood .....	5	0	9	800 $\uparrow$	66·58	...
Achnashellach (Glenuaig) .....	W. M. Christy, Esq. ...	5	1	0	1150 $\uparrow$	107·00	...
$\nabla$ Fortrose (Hollyside) .....	A. Thom, Esq. ....	6	1	0	80	19·45	181
$\S$ Strathpeffer .....	Meteorological Office...	...	...	...	210	29·37	222
$\nabla$ Achterneed (Glen Skiach) .....	Mr. T. Dalling .....	5	1	6	...	36·56	170
$\nabla$ Evanton (Novar Gardens) .....	Mr. A. Edmondstone ...	5	0	6	...	36·96	229
Cromarty .....	Bd. of Northern Lights	3	1	0	28	24·95	152
$\nabla$ Kildary (Tarbat Gardens) .....	Mr. C. Dyer .....	5	1	0	15	29·00	172
$\nabla$ Alness (Ardross Castle) .....	Mr. W. L. Minty .....	5	1	0	450 $\nabla$	38·04	232
Fearn (Lower Pitkerrie) .....	R. Gordon, Esq., C.E..	5	1	0	95	21·19	...
Tarbatness .....	Bd. of Northern Lights	8	4	0	175	18·79	...

SUTHERLAND.

D Invershin .....	G. Young, Esq. ....	5	4	0	20	1	31-14	177
D Dunrobin Castle.....	Mr. D. Melville. ....	5	1	0	14	1	31-45	177
§ " " .....	M " " " " .....	3	0	9	14	1	28-40	...
§ Kinbrace (Borrobol) .....	Scot. Meteorological Soc. ....	...	...	...	350	?	35-25	...
Altnaharra .....	Rev. G. Mackay.....	5	1	0	300	1	40-03	214
D Loch Stack (Ardchullin) .....	Mr. J. Munro .....	5	1	0	160	1	62-54	266
D Strath More (Altnacaillich) .....	Mr. Duncan Fraser ...	5	1	0	60	1	60-06	246
D Bettyhill.....	Mr. Evander Mackay...	5	1	0	100	...	37-77	207
D Melvich .....	Mr. A. MacIntosh .....	5	1	0	...	...	36-43	210
Cape Wrath .....	Bd. of Northern Lights	7	4	8	400	...	37-65	216

n\$ Berriedale (Langwell) .....	Mr. G. King .....	6	1	0	150 T	32·97	149
\$ Wick .....	Meteorological Office...	8	1	9	77	33·55	261
„ (Nosshead) .....	Bd. of Northern Lights	...	...	...	175	26·43	169
D Thurso (Buckies) .....	J. H. M. Davidson, Esq.	5	0	11	240 ?	39·45	240
\$ Reay (Sandside) .....	Meteorological Office ...	8	1	0	56 T	36·86	222
D Castletown (The Clett) .....	Capt. J. Calder .....	5	1	0	73 T	37·56	265
Thurso (Holburn Head) .....	Bd. of Northern Lights	3	0	8	75 ?	31·13	203
Dunnet Head .....	„ „ „	3	1	0	246	27·66	162
Stroma .....	„ „ „	...	...	...	104	30·69	159
Pentland Skerries .....	„ „ „	7	3	9	170	27·30	...

Hoy (Cantickhead) .....	Bd. of Northern Lights	3	1	0	115	34-35	206
„ (Graemsay Sound, East=High)	„ „ „	5	0	4	115	39-49	220
„ ( „ „ West=Low)	„ „ „	8	4	3	55	35-93	214
§ Pomona (Deerness) .....	Scot. Meteorological Soc.	5	1	0	161	36-36	228

DIVISION XIX.—NORTHERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain.	Days with $\geq 0.1$ or more recorded.
		Diameter	Height Above Ground.		Height Above Sea Level	1909	
		in.	ft.	in.	feet.	inches.	
ORKNEY—(con.)							
§ Pomona (Kirkwall) .....	A. G. Spence, Esq. ...	5	1	0	130	42.70	240
Hellyar Holm.....	Bd. of Northern Lights	3	1	0	60	32.52	172
Shapinsay (Balfour Castle) .....	Mr. W. Liddell .....	5	0	6	50	31.41	...
Sanday (Start Point).....	Bd. of Northern Lights	3	1	0	80	33.21	...
Westray (Noup Head) .....	“ “ “	3	1	0	260	28.96	193
North Ronaldshay .....	“ “ “	3	0	4	140	30.10	184
SHETLAND.							
Fair Isle, North.....	Bd. of Northern Lights	...	...		262	29.76	...
§ Sumburgh Head (Dunrossness)..	Meteorological Office...	8	1	0	126	32.17	281
Bressay .....	Bd. of Northern Lights	3	1	0	105	33.73	167
§ Lerwick .....	Scot. Meteorological Soc.	5	1	0	30	32.51	...
Sule Skerry .....	Bd. of Northern Lights	3	0	6	113	34.42	234
§ Northmavine (Lochend) .....	Scot. Meteorological Soc.	5	1	10	10	41.32	...
§ Fetlar (The Manse) .....	Rev. J. A. Campbell ...	5	1	0	30 1	34.54	257
§ Unst (Balta Sound, Halligarth)..	Dr. T. Edmondstone Saxby..	5	1	0	31 7	36.02	284



## DIVISION XX.—MUNSTER—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain.	Days with .01 or more recorded.
		Diameter	Height Above Ground		Height Above Sea Level	1909	
		in.	ft.	in.	feet.	inches.	
WATERFORD.							
D Lismore Castle .....	J. E. Penrose, Esq. ....	8	2	9	115 A	35.99	156
D Knockaderry .....	No. 1 late M. J. Fleming, Esq. CE	5	7	7	247 T	34.76	147
D " .....	No. 2 " " " "	5	7	7	247 T	34.79	147
D† Waterford (Whitfield Court) .....	Major H. Chavasse. ....	5	0	7	67 A	34.79	170
D† " (Brook Lodge) .....	C. P. Bolton, Esq., C.E. ....	5	1	0	104 T	36.67	176
† " (St. Andrew's Terrace) .....	E. A. White, Esq. ....	5	1	0	28	33.49	167
† " .....	Meteorological Office ...	5	1	0	20 ?	34.44	175
D† " (Tycor Waterworks). .....	late M. J. Fleming, Esq. CE	5	0	7	171 T	35.10	147
D Portlawn (Mayfield) .....	J. Anderson, Esq. ....	5	4	0	70	36.67	189
" (The Gardens, Curraghmore) .....	Mr. D. Crombie .....	5	1	0	95	36.60	146
D Glenam [Clonmel] .....	Miss Grubb. ....	8	1	4	80 T	35.74	204
D Sheskin [Carrick-on-Suir] .....	J. Ernest Grubb, Esq. ...	8	1	4	542 A	37.41	178
TIPPERARY.							
D Clonmel (Bruce Villa) .....	J. H. Grubb, Esq. ....	5	1	3	110 T	32.02	193
§ Cahir (Bengurragh) .....	Roy. Meteorological Soc. ....	5	1	0	199 A	36.58	225
" Abbey .....	Mrs. W. Rochfort .....	5	0	6	...	38.43	180
D Dundrum (The Rectory) .....	Rev. B. J. du Boe .....	5	1	2	300 T	36.11	175
D Ballina [Killaloe] .....	F. Dudley Fletcher, Esq. CE	5	2	0	...	40.75	192
D Nenagh (Traverston) .....	Miss Norris. ....	5	1	0	...	39.89	228
" (Kilboy) .....	The Lady Dunalley ...	8	1	0	326	40.71	215
D " (Castle Lough) .....	S. G. J. Parker-Hutchinson Esq.	5	1	3	120 T	33.72	198
D " (Highlands) .....	John Mounsey, Esq. ....	5	1	2	470 T	30.29	208
D Roscrea (Timoney Park) .....	S. G. J. Parker-Hutchinson Esq.	5	1	0	475 T	35.13	221
LIMERICK.							
§ Foynes .....	Meteorological Office. ....	5	1	0	104	36.09	275
D Limerick (Glenview) .....	T. Fox Russell, Esq. ....	5	2	2	350 T	31.12	186
† " (Derravoher) .....	Sir A. W. Shaw. ....	5	1	0	40 T	35.44	224
† " (George Street) .....	J. Horan, Esq. ....	5	1	0	52 A	36.48	205
" (St. Michael's School). .....	Ven Archdeacon Wynne ..	8	2	0	100 ?	36.60	...
Cappermore (Glenstal Castle) .....	Mr. J. Murphy .....	8	1	0	500 ?	42.55	223
CLARE.							
D Carrigaholt Castle .....	W. C. V. Burton, Esq. ....	5	1	0	16 T	34.33	224
D Killadysert (Paradise Hill) .....	F. B. Henn, Esq. ....	5	0	11	125 A	44.90	203
D § Newmarket-on-Fergus (Carrigoran) ..	W. W. A. Fitzgerald Esq.	5	1	0	86 T	40.03	207
D " " (Fenloe). .....	Maj. S. C. Hickman ...	5	1	2	100	35.03	223
D Broadford (Hurdlestown) .....	Colonel W. A. Bentley. ....	5	1	0	167 A	40.06	223
D § Inagh (Mount Callan) .....	Lt.-Col. F. Tottenham. ..	5	1	0	480	58.48	223
D Miltown Malbay .....	M. Molohan, Esq. ....	5	1	0	400 T	40.78	235
D Ennistymon House .....	H. V. Macnamara, Esq. ....	5	1	0	37 A	44.19	218
D " Rectory .....	Rev. C. W. McDowell. ....	5	1	0	131 A	43.43	173
D Scarriiff (Woodpark) .....	R. F. Hibbert, Esq. ...	5	1	0	170 A	37.77	225

## DIVISION XXI.—LEINSTER.

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain.	Days with '01 or more recorded.
		Diameter	Height Above Ground		Height Above Sea Level	1909	
		in.	ft.	in.	feet.	inches.	
WEXFORD.							
D Fethard-on-Sea Rectory .....	Rev. W. F. A. Ellison..	5	1	0	40 L	32.43	185
Wexford (Reclaimed Lands) ...	Mr. W. Thomas.....	8	1	3	—3 T	21.58?	...
D† „ (Bann-aboo) .....	Col. J. R. Magrath ...	8	4	0	15	36.60	157
D Templeudigan (Ballindoney) ...	Janssen Budgen, Esq...	5	1	0	434 B	36.96	162
D Enniscorthy (Ballyhyland) .....	Mrs. Moffat.....	5	1	0	365 T	40.31	216
D „ (Summerville) .....	W. Waring, Esq. ....	5	6	10	106 T	32.40	173
Oulart (Wells) .....	C. M. Doyne, Esq.....	5	1	0	207 T	37.97?	...
Enniscorthy (Woodbrook).....	Rev. Canon Blacker ...	5	1	0	350 T	41.63	160
D Gorey (Courtown House) .....	The Earl of Courtown..	5	3	0	80 T	32.99	161
KILKENNY.							
D Rockenham [Waterford] .....	A. E. Graves, Esq.....	5	1	0	140 T	34.77	179
Inistioge (Woodstock) .....	E. K. B. Tighe, Esq....	6	1	0	400 T	34.78	...
§ Kilkenny Castle .....	Meteorological Office...	8	1	0	208	30.05	193
† „ (Lavistown House) ...	Miss Butler.....	5	2	5	170	28.89	163
D Goresbridge (Barraghcore House)	H. de M. Fleming, Esq.	5	1	0	130 T	29.95	205
D Castlecomer House.....	R. H. Prior-Wandesforde, Esq	5	0	9	380	36.31	174
WICKLOW.							
D Shillelagh (Coollattin Gardens)...	Duncan Brough, Esq...	5	0	7	400	37.66	180
D Rathdrum (Avondale) .....	A. C. Forbes, Esq.....	5	0	3	420 T	38.42	185
D Rathnew (Clonmannon) .....	Rev. W. H. A. Truell..	5	1	0	27	32.14	181
D† Laragh (Glendalough) .....	Wyndham H Wynne Esq	5	2	9	460 T	52.51	205
Roundwood (Vartry Lodge) .....	Spencer Harty, Esq., CE	5	1	0	720	38.46	...
„ .....	„ „ „	5	1	6	800 T	37.61	...
„ (Knockatemple).....	„ „ „	5	1	6	760 T	36.95	...
D Newcastle (Killadreenan) .....	Dr. „ Launcelot T. Burra	8	1	2	260 T	33.81	173
Tithewere .....	Spencer Harty, Esq., CE	5	1	6	1000 T	36.78	...
Annacarter .....	„ „ „	5	1	6	750 T	37.28	...
Greystones (Knockdolian).....	Sir J. W. Moore, M.D.	5	1	2	68 T	33.00	160
„ (Clonsilla) .....	„ „ „	5	0	8	50 T	31.40	168
D† Bray (Fassaroe) ...	R. M. Barrington, Esq.	10	5	0	250	34.76	185
„ „ „ .....	„ „ „	5	1	0	250	32.86	...
„ (Pembroke Lodge) .....	Mrs. Scott .....	5	2	0	155 T	29.95	167
CARLOW.							
Bagnalstown (Fenagh House) ...	D. R. P. Beresford, Esq	5	1	0	340	31.29	187
„ „ „ M .....	„ „ „	5	1	0	340	29.39	...
D Tulow (Hardymount) .....	Capt. C. L. Connellan...	5	1	3	300 T	30.63	173
Carlow (Browne's Hill).....	Major Browne Clayton.	5	1	0	291 T	29.03	...
D „ (Dublin Street) .....	A. G. Hayward, Esq...	5	1	0	200 ?	34.83	167

## DIVISION XXI.—LEINSTER—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with 0.1 or more recorded.
		Diameter	Height Above Ground		Height Above Sea Level	
		in.	ft.	in.	feet.	inches.
<b>QUEEN'S COUNTY.</b>						
Sunnyside [Carlow] .....	E. Shackleton, Esq. ...	5	1	0	183	29.67 ...
D Abbey Leix (Blandsfort) .....	H. Bland, Esq. ....	5	2	6	532 $\pi$	36.33 204
D Mountrath (Castletown) .....	Col. W. Dunne, C.B....	5	3	0	452 $\uparrow$	33.28 189
D „ (Ballyfin) .....	Mr. J. B. McLaren ...	8	1	0	600 $\uparrow$	40.98 216
<b>KING'S COUNTY.</b>						
D§ Birr Castle .....	No. 1 Dr. O. Boeddicker .....	8	1	0	183	30.39 214
D§ „ „ .....	No. 2 „ „ „ .....	8	1	0	183	29.02 215
D Victoria Lock [Meelick] .....	F. Dudley Fletcher Esq. CE	5	2	0	119	27.45 178
Tullamore (St. Catherine's) .....	Rev. R. S. Craig .....	5	1	0	201 $\uparrow$	33.24 ...
<b>KILDARE.</b>						
D Castledermot .....	Very Rev. M. Walsh...	5	2	8	...	30.80 174
D Monasterevan (Moore Abbey) ...	Mr. C. Pilgrim .....	5	1	0	236 $\uparrow$	33.65 206
D „ (Umeras) .....	G. Balkwill, Esq. ....	5	0	9	247 $\pi$	31.19 195
D Straffan House .....	Mr. F. Bedford .....	5	2	0	240 $\pi$	29.43 188
D Clongowes Wood College .....	Rev. J. J. Nerney, S.J.	8	1	0	238 $\uparrow$	29.44 211
Kilcock (Knockanally) .....	W. C. Coates, Esq. ....	5	1	0	290 $\uparrow$	34.94 ...
<b>DUBLIN.</b>						
D Glen-na-Smoel (Rathmines W.W.)	F. P. Dixon, Esq., C.E.	5	1	0	514 $\pi$	48.88 215
Carrickmines (Claremont) .....	John Read, Esq. ....	5	0	11	350	26.27 ...
Killiney (Clonevin) .....	R. O'B. Furlong, Esq. CB	5	1	0	250 $\uparrow$	25.36 174
D Foxrock (Hillside) .....	G. M. W. Hill, Esq. ...	5	1	0	245 $\uparrow$	29.84 195
† Blackrock (Charleville) .....	Miss C. Pim .....	5	1	0	260 ?	24.68 ...
D Dundrum (Manor Mill Lodge) ...	G. B. Edmondson, Esq.	5	1	3	192	26.80 183
D „ (Lynton) .....	Sir J. W. Moore, M.D.	5	1	0	200 ?	28.05 194
D Kingstown (Harbour Yard) .....	R. D. Gray, Esq., C.E..	8	1	0	52 $\pi$	23.92 138
Rathmines (Terenure) .....	F. P. Dixon, Esq., C.E.	5	0	6	125 $\pi$	25.82 174
D „ (Leinster Road) .....	E. H. Cannon, Esq. ...	5	0	11	125 $\pi$	27.18 190
D „ (Ormond Road) .....	W. R. Stephens, Esq. C.E.	5	1	0	99 $\pi$	25.93 181
Donnybrook (Belmont Avenue) ..	Douglas Waring, Esq..	5	0	9	100 ?	26.11 169
Dublin (Leeson Park) .....	Sir J. W. Moore, M.D.	5	1	4	75 ?	26.69 187
D† „ (FitzWilliam Square) ...	„ „ „ .....	8	1	6	54 $\uparrow$	26.94 192
D† „ (Trinity College) .....	Prof. W. E. Thrift ..	8	1	0	13 $\pi$	25.85 166
D† „ (Phoenix Park) .....	Ordnance Survey Office	8	1	0	155 $\pi$	26.42 197
D Drumcondra (St. Patrick's College)	Rev. Peter Byrne .....	8	0	10	...	27.23 180
D Glasnevin (Roy. Botanic Gardens)	F. W. Moore, Esq. ...	8	1	0	55 $\uparrow$	28.40 198
D Howth (Balkill Reservoir) .....	Messrs. Kaye-Parry & Ross, CE	8	1	0	304 $\pi$	26.13 150
D Malahide (Seamount) .....	J. G. Jameson, Esq. ...	5	1	0	150 $\uparrow$	26.44 173
D „ (The Green) .....	T. Bateman, Esq. ....	5	1	0	25 $\uparrow$	25.25 173
D Lambay Island .....	Hon. Cecil Baring .....	5	1	0	20	25.56 169
D† Skerries (Milverton Hall) .....	Capt. E. G. Woods .....	5	1	0	190 $\uparrow$	25.05 170
D† Balbriggan (Ardgillan) ... No. 1	Capt. E. R. Taylor .....	5	1	0	211 $\uparrow$	27.34 178
† „ ( „ ) ... No. 3	„ „ „ .....	5	1	0	211 $\uparrow$	27.43 ...

## DIVISION XXI.—LEINSTER—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.				Depth of Rain. 1909	Days with '91 or more recorded.
		Diameter	Height Above Ground		Height Above Sea Level		
		in.	ft.	in.	feet	inches.	
<b>MEATH.</b>							
D Dunboyne (Stirling, Clonee).....	Mr. J. Pilkington .....	8	1	0	231 T	30·46	179
D Summerhill House.....	Lord Langford .....	5	1	0	372 T	35·12	210
Athboy .....	C. P. Coghill, Esq.....	8	1	3	227	33·75	170
D Navan (Durhamstown) .....	Miss M. Roberts.....	5	0	8	...	32·88	210
Drogheda (Mullacroghan).....	W. B. Hill, Esq. ....	5	1	6	300	29·39	165
D Kells (Headfort).....	The Marquis of Headfort	10	0	6	227	32·54	179
D Moynalty (Westland) .....	W. A. Barnes, Esq. ...	5	1	2	260 T	35·83	208
D Drumconrath (Aclare House) (R)	late Adm. Singleton, C.B.	10	2	6	119 T	29·26	206
<b>WESTMEATH.</b>							
D Athlone .....	F Dudley Fletcher Esq CE	5	2	0	128 T	27·11	163
D „ (Twyford) .....	J. P. Hodson, Esq.....	5	5	0	188 T	30·76	206
D Moate (Coolatore) .....	H. A. S. Upton, Esq...	5	1	6	370	35·34	210
D Mullingar (Belvedere) .....	Mr. J. Bayliss .....	5	1	0	367 T	35·16	167
D „ (Ballynegall) .....	Mr. J. Campbell.....	5	1	3	...	34·97	206
Rathowen (Cromlyn) .....	(R) Miss C. M. Battersby...	8	1	6	250 T	32·28	182
D Castlepollard (Pakenham Hall)...	Mr. G. Bogie .....	5	1	6	300 ?	34·28	209
D Coole (Mayne Rectory) .....	Rev. R. Butler .....	5	1	0	300	32·55	200
<b>LOUTH.</b>							
D Ardee (Lissrenny) ..	T. F. Filgate, Esq.....	8	0	10	75 T	28·34	191
Dundalk (Farndreg) .....	J. Barton, Esq. ....	5	1	6	90 T	30·89	...
D „ (Mount Pleasant) ..	Telford Macneill, Esq...	5	1	0	60 T	28·79	201
D Greenore .....	T. Chambers, Esq., C.E.	5	1	0	4 L	34·21	194
<b>LONGFORD.</b>							
D Ballymahon (New Castle).....	Col. W. H. King-Harman	4	2	5	250 T	33·61	194
D Cloondraha .....	F Dudley Fletcher Esq CE	5	2	0	130	30·14	227
Edgeworthstown (Currygrane Ho.)	J. M. Wilson, Esq. ...	5	1	0	275 T	38·49	157

## DIVISION XXII.—CONNAUGHT.

## GALWAY.

D Galway (University College) ...	W. Hare, Esq. ....	16	9	0	30	28·84	197
D Ballinasloe .....	W. H. Kempster, Esq.	5	2	6	160 T	31·67	222
D „ (District Asylum) ...	Dr. J. St. L. Kirwan ...	5	1	0	154 T	31·10	197
D Woodlawn .....	Mr. J. Laurie .....	5	3	6	300 T	39·53	211
Ahascragh (Clonbrock) .....	Lord Clonbrock, K.P...	10	5	6	200 T	34·19	...
Tuam (Castle Hacket) .....	P. B. Bernard, Esq. ...	5	1	6	...	37·27	...
„ (Gardenfield) .....	M H. Kirwan, Esq. ....	5	1	0	155 T	39·11	...
„ ( „ ) .....	„ „ „ .....	5	6	0	160 T	39·31	228
„ ( „ ) .....	„ „ „ .....	5	1	0	155 T	39·20	...
„ ( „ ) .....	„ „ „ .....	5	1	0	155 T	39·20	...

## DIVISION XXII.—CONNAUGHT—(continued).

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with '01 or more recorded.
		Diameter	Height Above Ground.		Height Above Sea Level	
		in.	ft.	in.	feet.	inches.
<b>ROSCOMMON.</b>						
D Strokestown (Castlenode) .....	W. J. Walpole, Esq....	5	2	0	150 T	32·75 171
D Albert Lock [Jamestown] .....	F Dudley Fletcher Esq CE	5	2	0	146 A	30·38 181
<b>MAYO.</b>						
D Cong (The Glebe) .....	Rev. Canon R. Y. Lynn	5	1	11	112 A	46·02 232
Ballinrobe (Cranmore) ... ..	Miss Knox .....	5	0	9	99	44·96 ...
Westport House .....	The Marquis of Sligo ...	12	0		40	38·69 ...
D „ (St. Helen's) .....	Miss Kelly .....	6	0	11	35 A	42·48 242
§ Newport (Mallaranny) .....	Meteorological Office...	5	1	0	120	51·44 ...
D „ (Burrishoole House) ...	H.M. Anketell Jones Esq	5	3	0	30	47·68 231
D Dugort (Slievemore Hotel) .....	Mrs. J. R. Sheridan ...	5	1	0	50 ?	62·88 222
§ Blacksod Point .....	Meteorological Office...	8	0	10	37	50·38 263
D Crossmolina (Enniscoe) .....	J. Pratt, Esq .....	5	0	11	74 T	49·64 258
<b>SLIGO.</b>						
D § Collooney (Markree Observatory)	J. R. Armstrong, Esq..	5	1	0	127 A	40·72 238
§ „ ( „ „ ) „ „ „	„ „ „	5	16	6	143 A	36·84 226
<b>LEITRIM.</b>						
D Ruskey .....	F Dudley Fletcher Esq CE	5	2	0	139 A	30·43 221
D Mohill (Drumkilla) .....	Rev. H. Justice .....	5	1	0	300 B	36·19 214
Drumshanbo (Lough Allen Sluices)	F Dudley Fletcher Esq CE	5	2	0	169 A	32·58 ...

## DIVISION XXIII.—ULSTER.

<b>CAVAN.</b>						
D Killeshandra (Drom Mullac) ...	Miss Prudence M. Lough	5	2	0	280 T	36·76 219
D Belturbet (Cloverhill) .....	Mrs. Sanderson .....	5	1	0	202 A	32·77 197
D Ballyconnell House .....	Surg.-Gen. S.B. Roe, CB	8	1	2	196 A	42·14 221
<b>FERMANAGH.</b>						
D Newtownbutler (Crom Castle) ...	Mr. A. Reid .....	5	0	9	174 T	37·12 194
Enniskillen (Portora) .....	W. N. Tetley, Esq. ...	5	1	0	251 T	39·01 ...
Belleek .....	J. Beacom, Esq .....	5	1	5	150 B	44·57 226

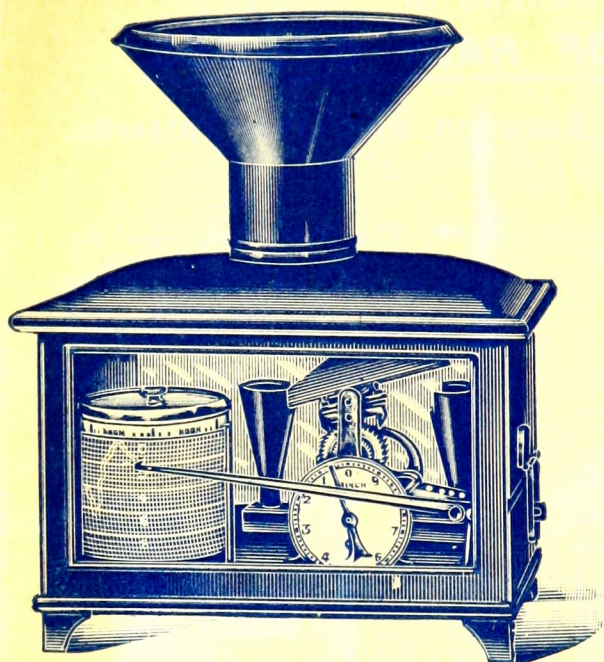
STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain. 1909	Days with '01 or more recorded.	
		Diameter	Height Above Ground.				Height Above Sea Level
		in.	ft.	in.	feet.	inches.	
<b>MONAGHAN.</b>							
D Dartrey [Cootehill] .....	The Earl of Dartrey ...	5	2	6	265	35·87	184
D Monaghan (Rowantree House)...	Dr. J. Campbell Hall...	5	5	6	240	29·31	180
<b>ARMAGH.</b>							
D Bridge Street [Newry] .....	J. L. D. Meares, Esq. C.E.	5	0	9	22 A	34·55	199
D Tanderagee .....	Dr. J. Taylor .....	5	1	6	198 T	33·48	202
" .....	" .....	8	1	6	198 T	33·42	...
D Armagh Observatory .....	Dr. J. L. E. Dreyer ...	8	1	0	210 A	28·88	207
D Loughgall (Manor House) .....	Mrs. Cope .....	5	1	0	210 T	28·71	201
D Lurgan (Belle Vue) .....	S. A. Bell, Esq. ....	5	0	5	200 T	27·69	192
<b>DOWN.</b>							
D Warrenpoint (The Manor House)	Lt.-Col. A. W. Mansergh	8	1	4	40 A	34·65	182
Mourne Mountains (Fofanny Res.)	J. H. H. Swiney, Esq. C.E.	5	1	0	938	64·05	...
D Newcastle (Tullymore Park) ...	Earl of Roden .....	5	1	0	276 T	46·26	182
D Rathfryland (Ballynagappoge)...	J. Smyth, Esq., C.E....	5	1	0	300	28·61	162
D Castlewellan (Lough Island Res.)	" .....	5	1	0	440 T	40·28	203
Banbridge (Katesbridge) .....	A. A. Mulligan, Esq...	5	1	0	230 T	27·13	152
D Seaforde .....	Major W. G. Forde ...	8	0	5	180 A	38·66	189
D Banbridge (Corbet Reservoir) ...	J. Smyth, Esq., C.E....	5	1	0	234	27·02	151
D " (Milltown) .....	" .....	8	0	8	200 T	29·12	183
D Moyallon House [Portadown] ...	Miss M. K. Richardson.	5	0	5	130 T	30·72	197
§ Donaghadee .....	Meteorological Office...	8	1	6	40	32·09	204
<b>ANTRIM.</b>							
D Lisburn (Ulster Provincial School)	J. Woolman, Esq. ....	5	1	6	208	43·42	211
Stonyford (Belfast W. W.) ...	F. W. McCullough Esq. CE	5	1	6	437 A	33·26	201
D† Belfast (Queen's University) ...	Mr. G. Robinson ...	5	1	0	62 A	36·88	225
D† " (Springfield) .....	Miss Firth .....	5	1	0	150 T	39·44	216
" (Oldpark Filters) .....	F. W. McCullough Esq CE	5	3	6	203 A	32·38	209
Antrim (Ardnaveigh) .....	H. B. Murray, Esq. ...	7	1	0	210	32·11	199
Carrickfergus (Dorisland) .....	F. W. McCullough Esq CE	5	1	0	250 A	35·86	206
" (South Woodburn) .....	" .....	5	1	0	640 A	41·66	235
" (North " ) .....	" .....	5	1	0	735 A	44·63	241
" (Copeland) .....	" .....	5	1	0	424 A	33·52	220
" (Lough Mourne) ...	" .....	5	1	0	596 A	40·65	241
D Ballymena (Harryville) .....	J. R. Williams, Esq. ...	5	1	5	150 T	41·71	251
D Broughshane (Quolie) .....	H. O'Hara, Esq., C.E..	5	1	4	893	44·66	244
§ Glenarm Castle .....	Meteorological Office...	8	0	9	45	40·77	194
Ballymoney (Balamore) .....	George Smyth, Esq. ...	5	1	5	50 T	31·06	248
Stranocum (Gardenvale) .....	A. McNeill, Esq. ....	5	1	0	160	40·34	224
D Bushmills (Dundarave) .....	Sir F. E. Macnaghten, Bt	5	1	0	162 T	34·29	198

## DIVISION XXIII.—ULSTER—(continued).

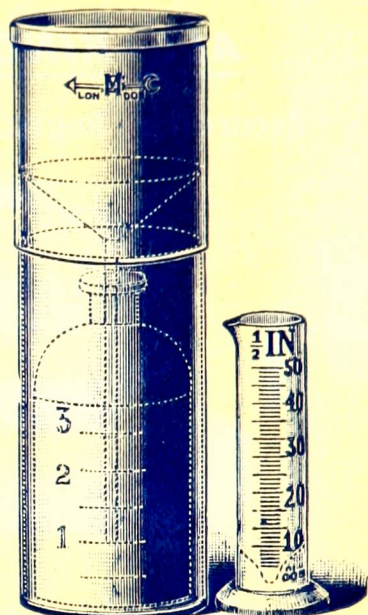
STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days with $\geq 0.1$ or more recorded.
		Diameter	Height Above Ground.		Height Above Sea Level	1909
		in.	ft.	in.	feet.	inches.
<b>LONDONDERRY.</b>						
D Garvagh (Moneydig) .....	H. R. Morrison, Esq....	5	1	0	121 T	36.20 221
D Londonderry (Creggan Res.).....	Mr. J. Hutchison .....	8	1	0	320 T	43.27 262
„ (Dunruadh) .....	J. H. Welch, Esq.....	5	0	6	130 T	40.69 229
Limavady (Drenagh) .....	M.M. McCausland, Esq..	5	1	6	80 T	37.43 248
D Bellarena.....	Dowager Lady Heygate	5	1	3	7	38.95 235
<b>TYRONE.</b>						
D Omagh (Edenfel) .....	Lt.-Col. J. B. Buchanan	8	1	0	280 T	37.79 221
D Cookstown (Lissan) .....	J. H. Staples, Esq.....	5	0	10	300	36.46 255
D Newtown Stewart (Barons Court)	R. Bell, Esq. ....	5	1	0	250 T	42.08 245
D Sion Mills (Sion House) .....	Miss G. I. Herdman ...	5	1	6	100 ?	39.24 223
<b>DONEGAL.</b>						
D Killybegs (White House) .....	Mrs. Brooke .....	5	1	5	30	66.16 237
D§ „ (Faiafannan) .....	J. C. Ward, Esq. ....	6	1	6	221 T	78.71 237
D Convoy .....	Rev. Preb. K. Thompson	5	0	9	150 T	49.50 248
D Letterkenny (District Asylum)..	E. E. Moore, Esq., M.D.	5	1	0	183 T	48.66 247
D Milford (The Manse) .....	Rev. W. J. Young.....	5	1	6	150	44.19 256
D Mulroy Gardens .....	Mr. Jas. Smith .....	5	0	8	...	49.76 193
D Buncrana (Rockfort).....	T. Colquhoun, Esq. ...	5	1	0	55 T	40.00 202
Ardnadrean Rectory.....	Rev. W. S. Griffith ...	5	1	1	24 T	44.37 ...
D Dunfanaghy (St. Helen's).....	J. J. MacGrath, Esq....	8	1	0	55 T	48.66 242
D Fanad (Tamney Rectory) .....	Rev. A.C. Digby French	5	4	0	115 T	43.66 256
D Dunfanaghy (Horn Head) .....	C. F. Stewart, Esq. ...	5	2	0	163	47.35 264
D Lough Swilly (Carrablagh) .....	Rev. A.C. Digby French	5	1	0	130	52.94 243
§ Malin Head .....	Meteorological Office...	8	1	0	220	32.30 236



TRADE  MARK.



**RECORDING RAIN GAUGE.**

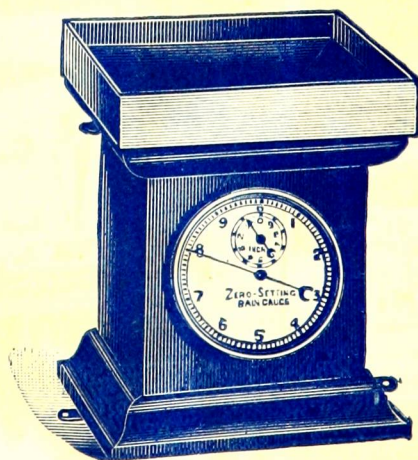


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